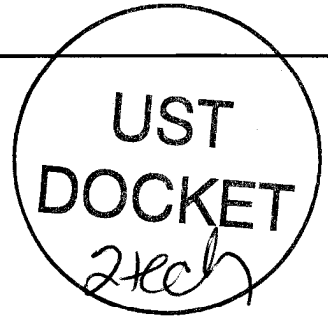


Spero Corporation

Professional Environmental and Engineering Services



TIER I ASSESSMENT

Prepared For:

Morris Oil Company

UST Site ID # 08641

Release No. 2

RECEIVED

Maia

JUN 10 2004

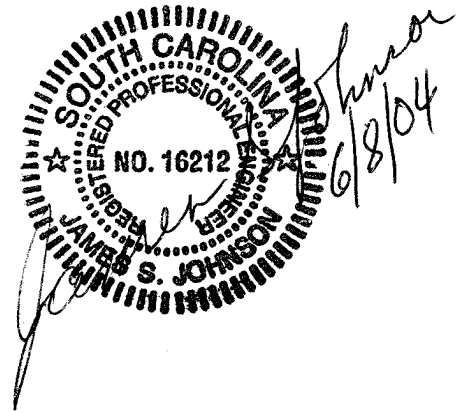
UNDERGROUND STORAGE
TANK PROGRAM

Site Location:

**429 Alexander Avenue
Spartanburg, SC**

Prepared by:

**Spero Corporation
119 Southeast Main Street
Simpsonville, North Carolina 29681**



June 4, 2004



TIER I ASSESSMENT REPORT OF FINDINGS

I. INTRODUCTION

A. Owner/Operator Information

Facility name Morris Oil Company UST Permit # 08641
Name Don Morris
Address 429 ALEXANDER AVE, Spartanburg, SC 29304
Telephone Number (include area code) (864) 585-9203

B. Property Owner Information

Name (if different from above) Same as above
Address 346 UNION STREET, SPARTANBURG, SC. 29304
Telephone Number (include area code) _____

C. Contractor Information

Name Spero Corporation SCDHEC Certification # _____
Address 119 SE Main Street, Simpsonville, SC 29681
Telephone Number (include area code) (864) 963-5500

D. Facility Information

Address 429 Alexander Avenue, Spartanburg, SC
Description of Adjacent Land Use (Commercial, residential, rural, etc.) Include documentation (e.g. zoning regulations) as appropriate.

The site and adjacent properties are commercial facilities

Predicted Future Land Use (include site and adjacent area) No changes in land use are anticipated at this time.

E. Facility History

Date Release Reported to SCDHEC 6/8/99 (Release # 2)

Estimated Quantity of Product Released Unknown

Cause of Release hole in tank discovered upon removal

tank # 9)

| UST # | Product | Date Installed | Currently in use (Yes or No) | If not in use, Date Removed |
|-------|----------|----------------|---------------------------------|--------------------------------|
| 1 | gasoline | ~ 1960 | No | 6/99 |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |

Other Releases at this site? Yes No
 If yes, Date Release Reported to SCDHEC 6/8/99 (Release # 1)
 Status of Release On-going
 No Further Action Date _____

II. SITE CHARACTERISTICS

A. Site Geography

Describe the topography of the site and surrounding area (slope, vegetation, bodies of water, major land features, etc.)

The site slopes gently from the eastern corner of the site to the west. The difference in elevation across the site is approximately 12 feet. There are no bodies of water on the site.

Mean Elevation of Site 768

Additional Comments _____

B. Exposure Analysis

Describe all potential receptors and preferential pathways within a 1000-foot radius of the site.

| Description of Receptor | Distance/Direction from Site |
|-------------------------|------------------------------|
| | |
| | |

| | |
|--|--|
| | |
| | |
| | |
| | |

Provide any additional comments necessary to complete the exposure analysis No
potential receptors were identified within a 1000'
radius of the site.

C. Utilities Survey

List the utilities on site, and adjacent to the site within a 250-foot radius, that could serve as exposure points or as preferential pathways.

| Utility | On-site or Distance/Direction from site | Depth to Utility |
|-------------------|---|-----------------------------|
| Sanitary sewer | On-site | (typically 4-5') Unknown |
| | | |
| | | |
| | | |
| | | |
| | | |

Additional Comments We do not expect the sanitary sewer lines
to provide a pathway for contaminants. Groundwater
depths are greater than 14 feet.

D. Site Geology

Provide a brief description of the regional geology and hydrogeology Spartanburg County
is mainly on the Piedmont Plateau. The general slope
is southeastward, which is the general direction of the main
drainageways. Thirteen geologic formations are in Spartanburg
County. These formations are made up of alluvium, fine-grained
rocks, medium-grained rocks, fine to coarse grained rocks and
coarse grained rocks

Provide a brief description of the site specific geology and stratigraphy Soils at the site
are classified as Cecil sandy loam, 2 to 6 percent slopes, eroded.

to steep
These are very deep, well-drained, nearly level soils on Piedmont uplands. These soils have a sandy loam surface layer about 7 inches thick. The subsoil is dominantly red clay and clay loam 43 inches thick. The underlying material is multi-colored, loamy saprolite of felsic crystalline rock.

E. Soil Boring Data

Drilling Dates 3/26/04 and 3/29/04

Provide a brief justification for the location of the soil borings

SB-1 as per Tier I requirements

SB-2 as per Tier I requirements

SB-3 as per Tier I requirements

SB-4 as per Tier I requirements

SB-5 as per Tier I requirements

SB-~~7~~ as per Tier I requirements

SB-~~8~~ as per Tier I requirements

SB-~~9~~ as per Tier I requirements

Standard Operating Procedure for Field Screening:

During drilling, cuttings were screened with an Organic Vapor Analyzer (OVA). Soil samples were collected at specified intervals and put into plastic bags. Samples were approximately 25 grams. Samples were screened and readings recorded.

Complete the table below for each soil boring.

UST Area Borings -

Borehole SB- 2 Sampling Date- 3/26/04 Sample Depth- 20

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 2.5 | 90 ppm | Red brown sandy silt | moist, petroleum odor |
| 5 | 550 | Red brown sandy silt | " |
| 10 | 950 | Brown sandy silt | " |
| 15 | 1000+ | Brown sandy silt | " |
| 20 | into water table | Tan brown sandy silt | " |
| | | | |

Borehole SB- 3 Sampling Date- 3/26/04 Sample Depth- 25

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 5 | 1000+ | Red brown sandy silt | moist, petroleum odor |
| 10 | 20 | Tan brown sandy silt | " |
| 15 | 200 | Red tan sandy silt | " |
| 20 | 1000+ | Brown sandy silt | " |
| 25 | 200 | Brown silt w/sand | " |
| | | | |

Piping and Dispenser Area Borings -

Borehole SB- 4 Sampling Date- 3/29/04 Sample Depth- 10

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 2.5 | 50 ppm | Red brown sandy silt w/clay | moist, petroleum odor |
| 5 | 1000+ | Red tan clayey silt | " |
| 7.5 | 1000+ | Red brown clayey silt | " |
| 10 | 1000+ | Tan brown sandy silt | " |
| | | | |
| | | | |

Borehole SB- 5 Sampling Date- 3/29/04 Sample Depth- 10

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 2.5 | 20 | Red clayey silt | moist, petroleum odor |
| | | | |

| SB-5 (cont'd) | | | |
|---------------|-------|--------------------|-------------------------|
| 5 | 250 | Red silty clay | moist petroleum odor |
| 7.5 | 550 | Red tan sandy silt | " |
| 10 | 1000+ | Red tan sandy silt | " |
| | | | |

Borehole SB-7 **Sampling Date-3/29/04** **Sample Depth- 10**

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 2.5 | 10 | Red brown clayey silt | moist, petroleum odor |
| 5 | 1000+ | Red brown clayey silt | " |
| 7.5 | 140 | Red brown sandy silt | " |
| 10 | 1000+ | Red tan sandy silt | " |
| | | | |
| | | | |

Borehole SB-8 **Sampling Date-3/29** **Sample Depth- 10**

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 2.5 | ND | Red brown silt | moist petroleum odor |
| 5 | ND | Tan brown silt | " |
| 7.5 | ND | Red brown sandy silt | " |
| 10 | ND | Red brown sandy silt | " |
| | | | |
| | | | |

Borehole SB-9 **Sampling Date-3/29** **Sample Depth- 20**

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 5 | ND | Brown Red sandy silt | moist petroleum odor |
| 10 | ND | Tan red silt | " |
| 15 | 80 | Tan brown silt w/sand | " |
| 20 | 1000+ | Tan brown silt w/sand | " |

| | | | |
|--|--|--|--|
| | | | |
| | | | |

Background Boring -

Borehole SB- 1 Sampling Date- 3/26/04 Sample Depth- 10

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 2.5 | ND | Red brown Sandy silt | moist, Petroleum odor |
| 5 | ND | Red brown Silty sand | " |
| 7.5 | ND | Tan brown Sandy silt | " |
| 8.5 | 300 ppm | Tan brown Sandy silt | " |
| 10 | 400 | Tan brown Sandy silt | " |
| | | | |

* SB- 6 hit auger refusal

Enter the soil analytical data for each soil boring for all COC in the table below and on the following page. Enter the appropriate RBSL for the soil type from Tables 4 through 8 in SCDHEC Risk-Based Corrective Action (RBCA) for Petroleum Releases Guidance Document.

| CoC | RBSL | SB-1 | SB-2 | SB-3 | SB-4 | SB-5 | SB-9 | SB-7 | SB-8 |
|---------------------------|------|-------|--------|-------|--------|--------|-------|-------|-------|
| Benzene | | 0.134 | 2.83 | 0.112 | 92.8 | 5.67 | ND | 24.9 | ND |
| Toluene | | 0.447 | 16.6 | 0.561 | 867 | 223 | ND | 168 | .0086 |
| Ethylbenzene | | 0.189 | 27.2 | 0.361 | 226 | 69.8 | ND | 71 | ND |
| Xylenes | | 0.584 | 130 | 1.57 | 1100 | 333 | .0029 | 333 | .0047 |
| Total BTEX | N/A | 1.354 | 176.63 | 2.604 | 2285.8 | 631.47 | .0029 | 596.9 | .0133 |
| Naphthalene | | 0.218 | 21.9 | 0.387 | 90.2 | 27 | ND | 25.4 | ND |
| Benzo(a)anthracene | | ND | ND | ND | ND | ND | ND | ND | ND |
| Benzo(b)fluoranthene | | ND | ND | ND | ND | ND | ND | ND | ND |
| Benzo(k)fluoranthene | | ND | ND | ND | ND | ND | ND | ND | ND |
| Chrysene | | ND | ND | ND | ND | ND | ND | ND | ND |
| Dibenz(a,h)anthracene | | ND | ND | ND | ND | ND | ND | ND | ND |
| TPH (EPA 3550) | N/A | 33.7 | 960 | 14.7 | 2420 | 142 | ND | 413 | ND |
| ? TOC (Background boring) | N/A | ND | ND | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | |

Discuss the horizontal and vertical extent of COC in the soil Concentration of COC's generally increase with depth.

Additional Comments _____

F. Chemicals of Concern - Ground Water

Provide well installation information in the table below.

| MW # | Installation Date | Development Date | Sampling Date |
|------|-------------------|------------------|-------------------|
| 3 | 4/1/04 | 4/6/04 | NA - Free Product |

| | | | |
|---|--------|--------|-------------------|
| 4 | 4/1/04 | 4/6/04 | NA - Free Product |
| 5 | 4/1/04 | 4/6/04 | 4/7/04 |
| | | | |

* MW-1 and MW-2 were installed by others during IGWA, dated 11/00.
Enter the soil analytical data for each monitoring well for all CoC in the table below.

| CoC | MW-3 | MW-4 | MW-5 | MW- |
|-----------------------|-------|--------|--------|-----|
| Depth of sample | 10 | 15 | 10 | |
| Benzene | 0.134 | 2.83 | ND | |
| Toluene | 0.447 | 16.6 | ND | |
| Ethylbenzene | 0.189 | 27.2 | ND | |
| Xylenes | 0.584 | 130 | 0.0029 | |
| Total BTEX | 1.354 | 176.63 | 0.0029 | |
| Naphthalene | 0.218 | 21.9 | ND | |
| Benzo(a)anthracene | ND | ND | ND | |
| Benzo(b)fluoranthene | ND | ND | ND | |
| Benzo(k)fluoranthene | ND | ND | ND | |
| Chrysene | ND | ND | ND | |
| Dibenz(a,h)anthracene | ND | ND | ND | |
| Lead | | | | |
| EDB | | | | |

Summarize the monitoring well and ground-water data in the table below.

| MW # | TOC Elevation (ft) | Screened Interval (ft) | Depth to Water (ft) | Water Table Elevation (ft) |
|------|--------------------|------------------------|---------------------|----------------------------|
| 1 | 102.91 | 17.0 - 27.0 | 11.41 | 91.5 |
| 2 | 96.59 | 22.1 - 32.1 | 16.05 | 80.54 |
| 3 | 104.74 | 14 - 24 | 14.41 | 90.33 |
| 4 | 99.09 | 13 - 23 | 15.40 | 83.69 |
| 5 | 94.66 | 13 - 23 | 15.42 | 79.24 |

Enter field data measurements (temperature, pH, conductivity) taken during well purging on the form provided. Complete for each well.

Enter dissolved oxygen measurements for each well in the table below.

| Monitoring Well # | MW-1 | MW-2 | MW-5 | MW-3 | MW-4 |
|-------------------------|------|------|------|------|------|
| Dissolved Oxygen (mg/l) | 4.80 | 6.43 | 4.32 | NA | NA |

Enter the ground water analytical data for each monitoring well for all CoC in the table below. If free product is present, indicate the measured thickness to the nearest 0.01 feet.

| CoC | RBSL (ug/l) | MW-1 | MW-2 | MW-5 | MW-3 | MW-4 |
|------------------------|-------------|------|------|------|-------|-------|
| Free Product Thickness | None | None | None | None | 0.01' | 0.02' |
| Benzene | 5 | 317 | 658 | 1170 | NA | NA |

| | | MW-1 | MW-2 | MW-5 | MW-3 | MW-4 |
|-----------------------|---------------|--------|--------|--------|------|------|
| Toluene | 1,000 | 14.8 | 43.9 | 340 | NA | NA |
| Ethylbenzene | 700 | 790 | 198 | 1080 | NA | NA |
| Xylenes | 10,000 | 626 | 977 | 1500 | NA | NA |
| Total BTEX | N/A | 1677.8 | 1176.9 | 4090 | NA | NA |
| MTBE | 40 | 2.1 | 84.3 | 39.2 | NA | NA |
| Naphthalene | 25 | 373 | 137 | 443 | NA | NA |
| Benzo(a)anthracene | 10 | ND | ND | ND | NA | NA |
| Benzo(b)flouranthene | 10 | ND | ND | ND | NA | NA |
| Benzo(k)flouranthene | 10 | ND | ND | ND | NA | NA |
| Chrysene | 10 | ND | ND | ND | NA | NA |
| Dibenz(a,h)anthracene | 10 | ND | ND | ND | NA | NA |
| Ferrous Iron | N/A | 1310 | 2160 | 78,400 | NA | NA |
| Lead | Site Specific | 19.0 | 19.0 | 985 | NA | NA |
| Nitrates | N/A | ND | 0.820 | ND | NA | NA |
| Sulfates | N/A | ND | 3.20 | ND | NA | NA |

Additional Comments _____

G. Aquifer Characteristics

Hydraulic Conductivity 5.29 (10⁻⁴) cm/sec

Hydraulic Gradient 0.045

Porosity 60%

* Estimated Seepage Velocity 4.0 x 10⁻⁵

Complete the slug test form and include in Appendix D of the report. Include all data, graphs, and equations used to derive the aquifer characteristics and hydrologic parameters (hydraulic conductivity, seepage velocity, hydraulic gradient, etc.) in Appendix D.

* seepage velocity $q_s = v = -Ki/\theta$

$q_s = v =$ seepage velocity [L/T]

$K =$ hydraulic conductivity [L/T]

$i =$ hydraulic gradient [L/L]

$\theta =$ porosity [L/L]

III. Tier I Evaluation

A. CURRENT LAND USE - Identify any potential receptors or human exposure pathways (e.g. basements, contaminated soils from UST closures, etc.) within a 1000-foot radius for current land use. Complete the table below. Additional sheets may be attached if necessary.

| Media (for exposure) | Exposure Route | Pathway Selected for Evaluation? (Yes or No) | Exposure point or Reason for Non-Selection | Data Requirements (IF pathway selected) |
|----------------------|--------------------------|---|--|---|
| Air | Inhalation | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| | Explosion Hazard | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| Ground-Water | Ingestion | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| | Dermal Contact | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| | Inhalation | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| Surface Water | Ingestion | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| | Dermal contact | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| | Inhalation | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| Surficial Soil | Ingestion | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| | Dermal contact | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| | Inhalation | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| | Leaching to Ground-Water | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| Subsurface Soil | Ingestion | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| | Dermal contact | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| | Volatile Inhalation | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |
| | Leaching to Ground-Water | Yes <input type="radio"/> No <input checked="" type="radio"/> | | |

B. FUTURE LAND USE - Identify any potential receptors or human exposure pathways (e.g. basements, contaminated soils from UST closures, etc.) within a 1000-foot radius for projected future land use. Complete the table below. Additional sheets may be attached if necessary

| Media (for exposure) | Exposure Route | Pathway Selected for Evaluation? (Yes or No) | Exposure point or Reason for Non-Selection | Data Requirements (IF pathway selected) |
|----------------------|----------------|--|--|---|
|----------------------|----------------|--|--|---|

| | | | | | |
|-----------------|--------------------------|-----|-------------------------------------|--|--|
| Air | Inhalation | Yes | <input checked="" type="radio"/> No | | |
| | Explosion Hazard | Yes | <input checked="" type="radio"/> No | | |
| Ground-Water | Ingestion | Yes | <input checked="" type="radio"/> No | | |
| | Dermal Contact | Yes | <input checked="" type="radio"/> No | | |
| | Inhalation | Yes | <input checked="" type="radio"/> No | | |
| Surface Water | Ingestion | Yes | <input checked="" type="radio"/> No | | |
| | Dermal contact | Yes | <input checked="" type="radio"/> No | | |
| | Inhalation | Yes | <input checked="" type="radio"/> No | | |
| Surficial Soil | Ingestion | Yes | <input checked="" type="radio"/> No | | |
| | Dermal contact | Yes | <input checked="" type="radio"/> No | | |
| | Inhalation | Yes | <input checked="" type="radio"/> No | | |
| | Leaching to Ground-Water | Yes | <input checked="" type="radio"/> No | | |
| Subsurface Soil | Ingestion | Yes | <input checked="" type="radio"/> No | | |
| | Dermal contact | Yes | <input checked="" type="radio"/> No | | |
| | Inhalation | Yes | <input checked="" type="radio"/> No | | |
| | Leaching to Ground-Water | Yes | <input checked="" type="radio"/> No | | |

Recommendations for further action

Ter II / Expanded Assessment

IV. Maps and Figures

Complete and attach all maps and appendices as outlined below.

A. Figures

All maps must include the following :

- the facility name,
- address,
- SCDHEC UST Permit number,
- date
- bar scale,
- north arrow.

1. Figure 1 - Topographic Map

Prepare a copy of the relevant portion of the appropriate United States Geological Survey 7.5 minute topographic map. Indicate the location of the site and location of any receptors (e.g., marsh, ground-water well, city water well, etc.).

2. Figure 2 - Scaled Site Location Map

Prepare a site location map identifying the site and any pertinent property boundaries (residential and commercial), streets, receptors, etc. within a 500 foot radius.

3. Figure 3 - Surveyed Site Map

Prepare a site base map to scale and plot all the utilities. This map will include:

- a. Location of property lines.
- b. Streets and highways (indicate names).
- c. Location of buildings.
- d. Paved areas on or adjacent to site.
- e. Location of all present and former above ground and underground storage tanks and associated lines, pumps, and dispensers.
- f. Underground utilities on or adjacent to site (sewer, water, telephone, gas, electric, etc.).
- g. Location of any other potential receptors.
- h. Eight soil boring locations.
- i. Three monitoring well locations.
- j. Survey datum location.

4. Figure 4 - Soil COC Site Map

Prepare a COC site map from a copy of Figure 3. Add all accompanying soil data. The soil analytical data will be plotted adjacent to each soil boring (SB) using the following format:

| | |
|----------------------|--|
| SB # | |
| Sample Depth (ft) | |
| Benzene (mg/kg) | |
| Toluene (mg/kg) | |
| Ethylbenzene (mg/kg) | |
| Xylenes (mg/kg) | |
| PAHs (mg/kg) | |

5. Figure 5 - Ground Water COC Site Map

Prepare a COC site map from a copy of Figure 3. Add potentiometric surface (elevation) data, an arrow indicating ground water flow direction, and accompanying ground-water data. The ground-water data should be plotted adjacent to the monitoring wells (MW) using the following format:

| | |
|------------------------|--|
| MW # | |
| Ground water elevation | |
| Benzene (ug/l) | |
| Toluene (ug/l) | |
| Ethylbenzene (ug/l) | |

| | |
|----------------|--|
| Xylenes (ug/l) | |
| PAHs (ug/l) | |

B. Appendices

1. Appendix A - Soil Boring Logs

The soil boring logs should indicate lithology, water level (if encountered), split-spoon sample intervals and field screening results. Also, the presence of hydrocarbon odors and qualitative indication of soil conditions (dry, moist, wet, saturated, etc) should be noted on the logs.

2. Appendix B - Monitoring Well Construction Logs

The monitoring well constructions logs must include all information as outlined in the S.C. Well Standards and Regulations R.61-71.11E(2). Additionally, a copy of DHEC Form 1903 (Water Well Record) should be included for each monitoring well installed.

3. Appendix C - Chain of Custody and Laboratory Forms

A copy of the completed chain of custody, certificates of analysis and field sampling logs should be attached. The sampling logs should note the location and type of each sample submitted for analysis. The laboratory certificates of analysis should include the analytical results, the reporting limit, the analytical method utilized, and the laboratory certification number.

4. Appendix D - Slug Test Data Form

The slug test summary forms, and all data, graphs, and equations that were used to derive the aquifer characteristics and hydrologic parameters should be included.

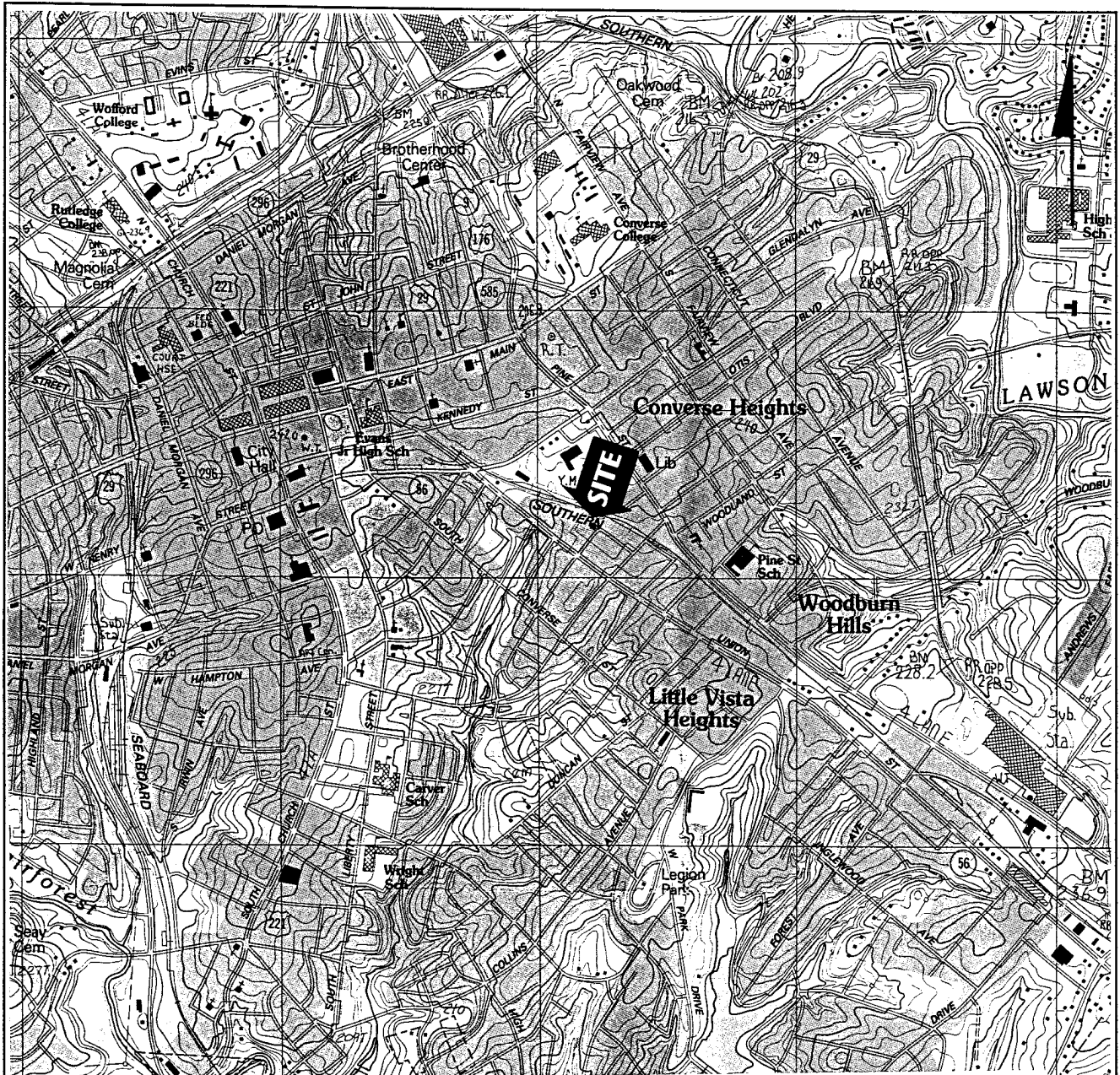
5. Appendix E - Soil and Water Disposal Manifests

6. Appendix F - Copy of Zoning Regulations

7. Appendix G - Copy of Tax Map

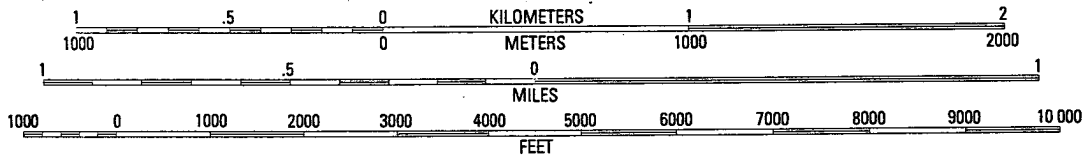
The tax map should be accompanied by the list of names and addresses of adjacent property owners.

Figures



SCALE 1:24 000

INTERIOR—GEOLOGICAL SURVEY



CONTOUR INTERVAL 3 METERS
 CONTROL ELEVATIONS SHOWN TO THE NEAREST 0.1 METER
 OTHER ELEVATIONS SHOWN TO THE NEAREST METER

To convert meters to feet multiply by 3.2808
 To convert feet to meters multiply by .3048

Spero Corporation

119 SE Main Street, Simpsonville, South Carolina 29681
 (864)963-5500 1-800-955-7634 fax (864)228-9100

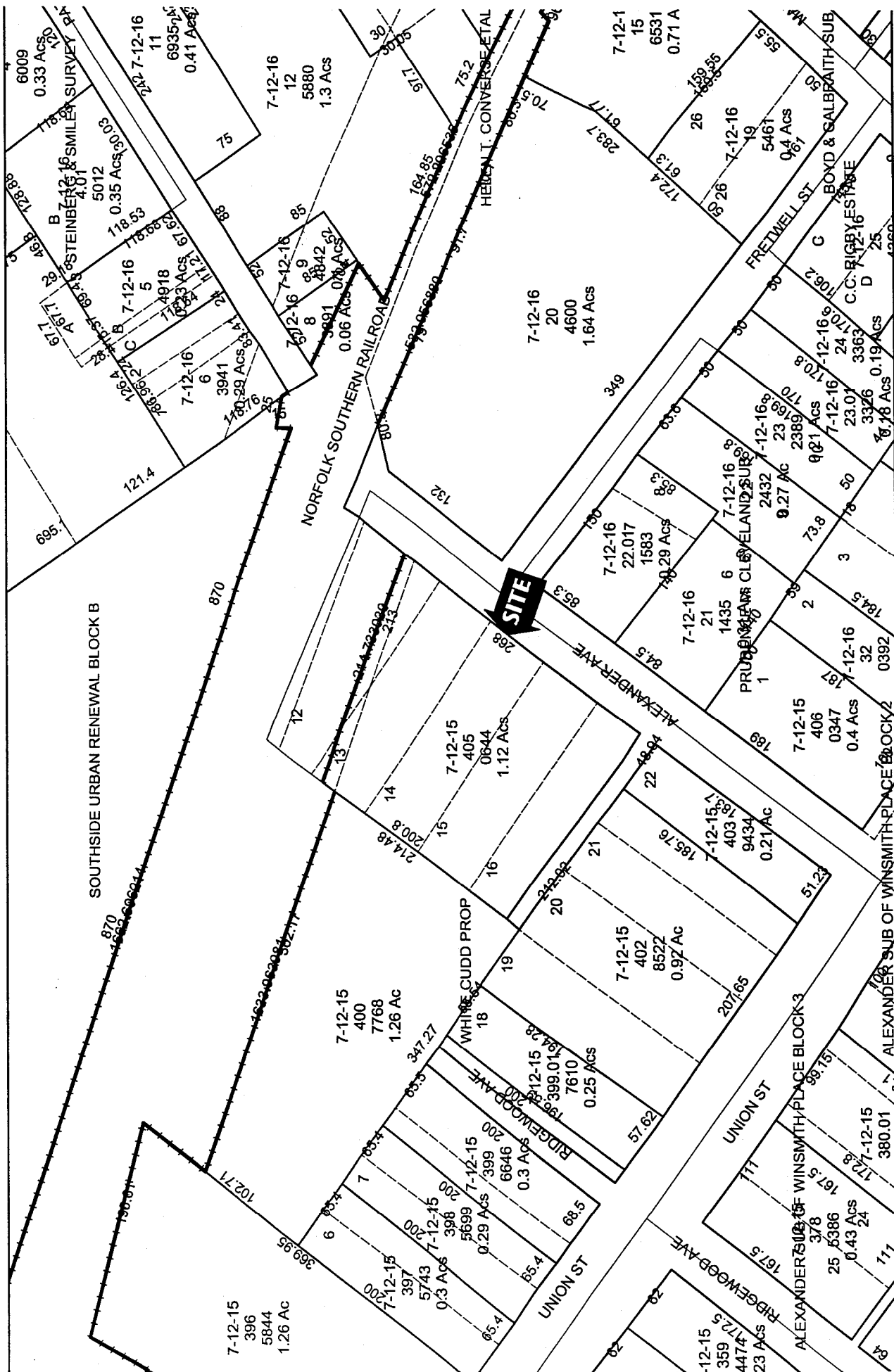
Professional Engineering & Environmental Services

Project: Morris Oil Company / UST Permit #08641

429 Alexander Avenue
 Spartanburg, South Carolina 29304

Date: May 15, 2004 Reviewed By: S. Johnson

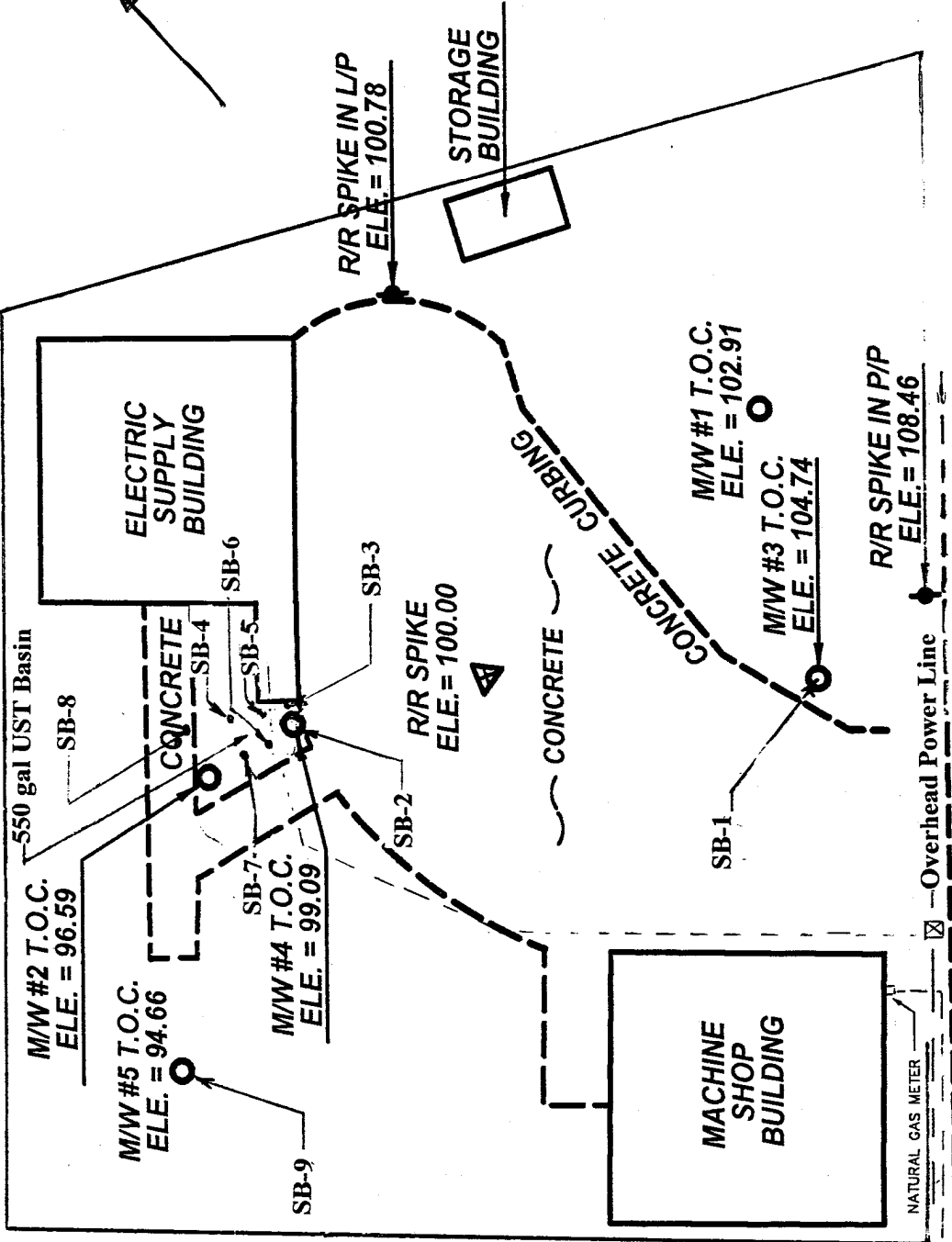
USGS Topographic Map
Spartanburg, SC Quadrangle



Morris Oil Company
 UST Permit #08641
 429 Alexander Avenue
 Spartanburg, SC 29306

FIGURE 2

ADDRESS: #429 ALEXANDER AV.
SPARTANBURG S.C.



ALEXANDER AVENUE

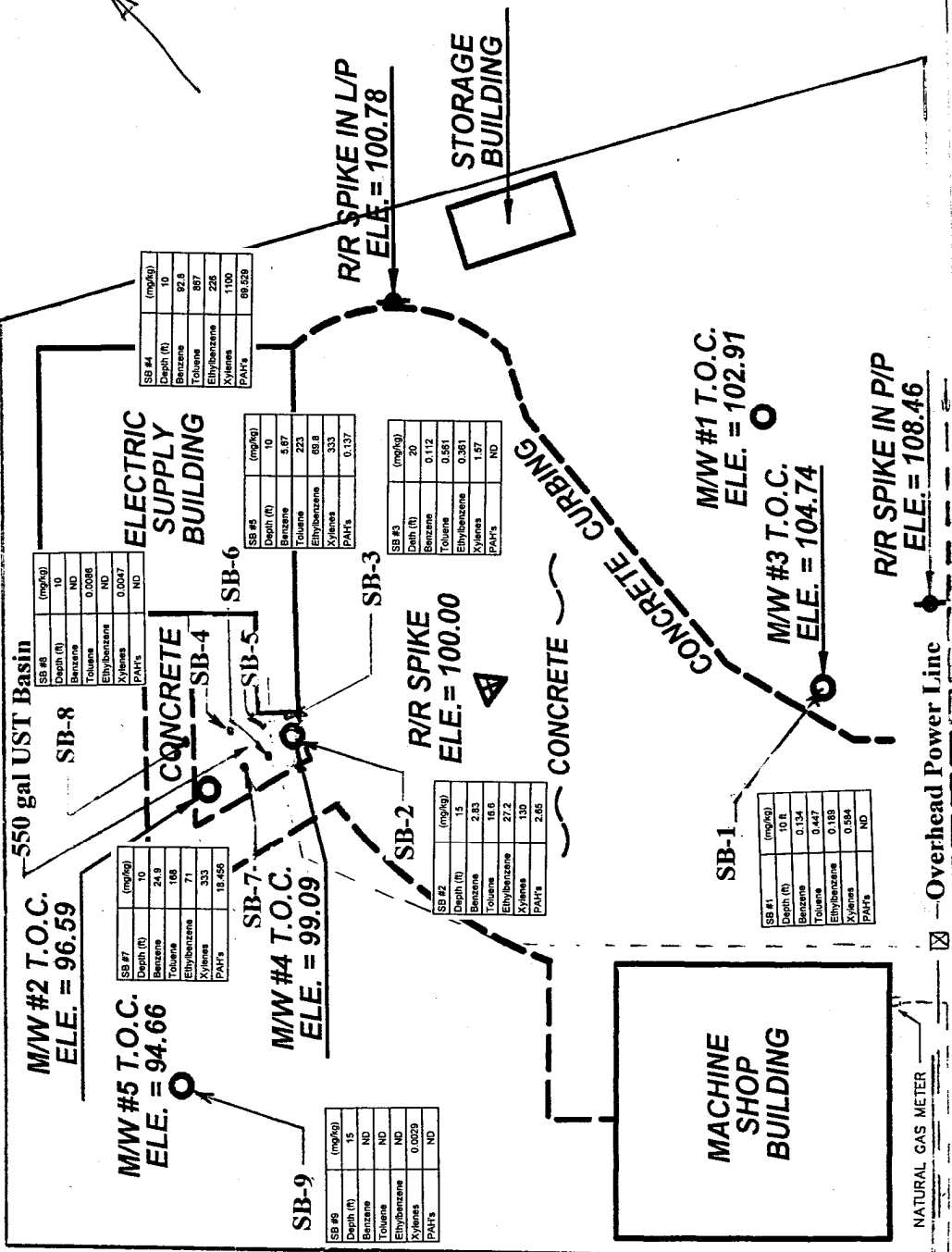
SITE LAYOUT MAP
U.S.T. SITE I.D. No. 08641
SPARTANBURG COUNTY, SOUTH CAROLINA
MAY 3, 2004

SCALE 1" = 40'



FIGURE 3

ADDRESS: #429 ALEXANDER AV.
SPARTANBURG S.C.



Soil COC Site Map

U.S.T. SITE I.D. No. 08641
SPARTANBURG COUNTY, SOUTH CAROLINA
MAY 3, 2004
SCALE 1" = 40'



FIGURE 4

ADDRESS: #429 ALEXANDER, SPARTANBURG S.C.

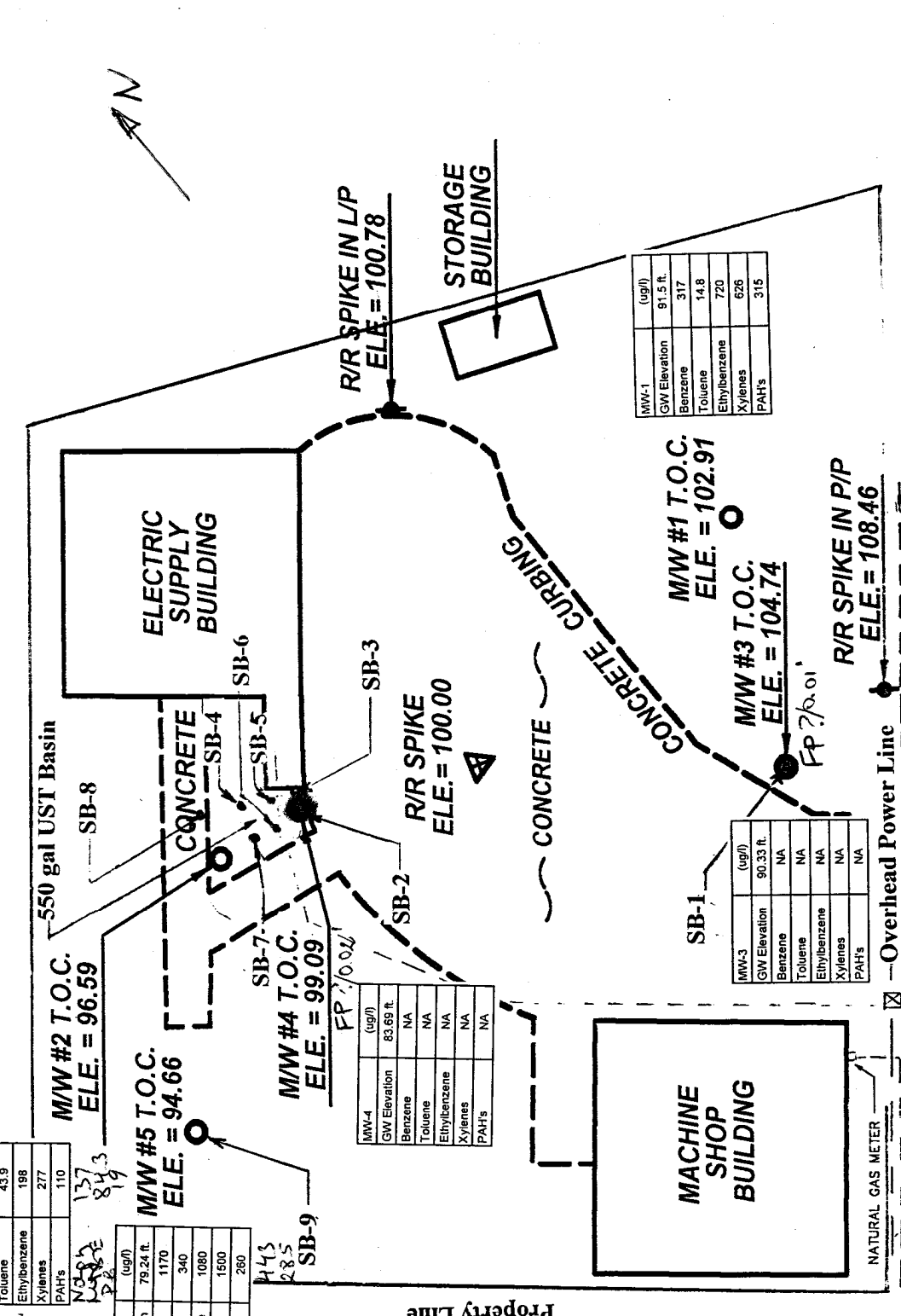
| | | |
|------|--------------|-----------|
| MW-1 | GW Elevation | 80.54 ft. |
| | Benzene | 688 |
| | Toluene | 43.9 |
| | Ethylbenzene | 198 |
| | Xylenes | 277 |
| | PAH's | 110 |

| | | |
|------|--------------|-----------|
| MW-5 | GW Elevation | 79.24 ft. |
| | Benzene | 1170 |
| | Toluene | 340 |
| | Ethylbenzene | 1080 |
| | Xylenes | 1500 |
| | PAH's | 280 |

| | | |
|------|--------------|-----------|
| MW-4 | GW Elevation | 83.69 ft. |
| | Benzene | NA |
| | Toluene | NA |
| | Ethylbenzene | NA |
| | Xylenes | NA |
| | PAH's | NA |

| | | |
|------|--------------|----------|
| MW-1 | GW Elevation | 91.5 ft. |
| | Benzene | 317 |
| | Toluene | 14.8 |
| | Ethylbenzene | 720 |
| | Xylenes | 626 |
| | PAH's | 315 |

| | | |
|------|--------------|-----------|
| MW-3 | GW Elevation | 90.33 ft. |
| | Benzene | NA |
| | Toluene | NA |
| | Ethylbenzene | NA |
| | Xylenes | NA |
| | PAH's | NA |



Ground Water COC Site Map
 U.S.T. SITE I.D. No. 08641
 SPARTANBURG COUNTY, SOUTH CAROLINA
 MAY 3, 2004
 SCALE 1" = 40'

ALEXANDER AVENUE

FIGURE 5



Appendix A
Soil Boring Logs

Complete the table below for each soil boring.

UST Area Borings -

Borehole SB-1

Sampling Date- 3/26/04 Sample Depth-

Converted to MW-3 (background)

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 0.5 | ND | reddish brown sandy silt | moist petro odor |
| 5 | ND | reddish tan silty sand | " |
| 7.5 | ND | tannish brown sandy silt | " |
| 10 | 400 ppm | " | " |
| 8.5 (Flight) | 300 ppm | | |

Borehole SB-2

Sampling Date- 3/26/04 Sample Depth-

MW-4 tank area

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 0.5 | 90 | reddish brown sandy silt | moist petroleum (strong) |
| 5.0 | 550 | " | " |
| 10 | 950 | brown | " |
| 15.0 | 950 +1000 | sandy silt | " |
| 20.0 | 950 | tannish brown sandy silt | " |

into water table

Piping and Dispenser Area Borings -

Borehole SB-3

Sampling Date- 3/29/04 Sample Depth-

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 5 | 1000+ | reddish brown sandy silt | moist petro odor |
| 10 | 20 | tannish brown sandy silt | " |
| 15 | 200 | reddish tan | " |
| 20 | 1000+ | brown sandy silt | " |
| 25 | 200 | brown silt w/ sand | " |

Borehole SB-4

Sampling Date-

Sample Depth-

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| | | | |

| | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Borehole SB- 4 **Sampling Date- 3/29/04** **Sample Depth-**

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 2.5 | 50 1000 | reddish brown sandy silt w/ clay | Petro odors |
| 5 | >1000 | reddish tan clayey silt | " |
| 7.5 | >1000 | reddish brown " | " |
| 10 | >1000 | tannish brow sandy silt | " |
| | | | |
| | | | |

Borehole SB- 5 **Sampling Date- 3/29** **Sample Depth-**

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 2.5 | 20 | red clayey silt | moist petro odor |
| 5.0 | 250 | red silty clay | " |
| 7.5 | 550 | reddish tan sandy silt | " |
| 10 | 1000 | " | " |
| | | | |
| | | | |

Borehole SB- 6 **Sampling Date-** **Sample Depth-**

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 3 | 20 | reddish brown clayey silt | moist petro |
| Auger Refusal | | | |
| | | | |
| | | | |

| | | | |
|--|--|--|--|
| | | | |
| | | | |

Background Boring -

Borehole SB-7

Sampling Date- 3/29 Sample Depth-

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 2.5 | 10 | reddish brown clayey silt | moist petro odor (strong) |
| 5.0 | >1000 | " | " |
| 7.5 | 140 | reddish brown sandy silt | " |
| 10.0 | >1000 | reddish tan sandy silt | " |
| | | | |
| | | | |

Complete the table below for each soil boring.

UST Area Borings -

Borehole SB- 8 **Sampling Date- 3/29** **Sample Depth-**

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 2.5 | ND | reddish brown silt | moist petrol |
| 5 | ND | tannish brown silt | " |
| 7.5 | ND | reddish brown sandy silt | " |
| 10 | ND | " | " |
| | | | |
| | | | |

Borehole SB- 9 **Sampling Date- 3/29** **Sample Depth-**

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| 5 | ND | reddish brownish red sandy silt | moist petro odor |
| 10 | ND | tannish red silt | " |
| 15 | 80 | tannish brown silt w/ sandy | " |
| 30' | >1000 | | |
| | | | |
| | | | |

Cross gradient

Piping and Dispenser Area Borings -

Borehole SB- 12 **Sampling Date-** **Sample Depth-**

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Borehole SB- **Sampling Date-** **Sample Depth-**

| Split Spoon Interval (ft.) | Field Screening Results (mg/kg) | Lithology (soil type, color, rocks/ minerals present) | Soil Conditions (dry, moist, etc; petroleum odor) |
|----------------------------|---------------------------------|---|---|
| | | | |



Appendix B
MW Construction Logs



Appendix C
Chain of Custody and
Laboratory Forms

TestAmerica

ANALYTICAL TESTING CORPORATION

Nashville Division
2960 Foster Creighton
Nashville, TN 37204

Phone: 615-726-0177
Fax: 615-726-3404

369584

To assist us in using the proper analytical methods,
is this work being conducted for regulatory purposes?
Compliance Monitoring Yes/SC

Client Name: Spero Corp Client #: 2213
Address: 119 SE Main St
City/State/Zip Code: Simpsonville, SC 29681
Project Manager: Stan Johnson
Telephone Number: 864-963-5300 Fax: 864-228-9100
Sampler Name: (Print Name) James S Johnson
Sampler Signature: James S Johnson
Project Name: SC ID # 8641 (Don Morris)
Project #: 03-10042
Site/Location ID: D8641 State: SC
Report To: Spero
Invoice To: Spero
Quote #: PO#: 04-PO30112

| TAT Standard Rush (surcharges may apply) | Date Needed: | Y N | SAMPLE ID | Date Sampled | Time Sampled | G = Grab, C = Composite | Matrix Preservation & # of Containers | | | | | | Other (Specify No B.S. etc) | Analyze For: | QC Deliverables | REMARKS |
|--|--------------|-----|------------|--------------|--------------|-------------------------|---------------------------------------|--|-----------------|---------------|------------------|-----|-----------------------------|--------------|-----------------|---------|
| | | | | | | | Field Filtered | SL - Sludge DW - Drinking Water GW - Groundwater S - Soil/Solid | MW - Wastewater | Specify Other | HNO ₃ | HCl | | | | |
| | 3/26/04 | | S B 1 - 10 | 10:15A | G | | | | | | | | | | | 4799 |
| | " | | S B 2 - 15 | 12:40P | G | | | | | | | | | | | 00 |
| | " | | S B 3 - 20 | 2:30P | G | | | | | | | | | | | 01 |
| | 3/29/04 | | S B 4 - 10 | 11:15A | G | | | | | | | | | | | 02 |
| | " | | S B 5 - 10 | 11:50A | G | | | | | | | | | | | 03 |
| | " | | S B 7 - 10 | 1:00P | G | | | | | | | | | | | 04 |
| | " | | S B 8 - 10 | 2:15P | G | | | | | | | | | | | 05 |
| | " | | S B 9 - 15 | 3:07P | G | | | | | | | | | | | 06 |
| | 3/29/04 | | S B 1 - 20 | 5:00P | G | | | | | | | | | | | 4727 |

Special instructions:

LABORATORY COMMENTS:

Init Lab Temp: _____
Rec Lab Temp: 56
Custody Seals: Y N N/A
Bottles Supplied by Test America: Y N
Method of Shipment: _____

| | | | | | |
|---|----------------------|--------------------|---------------------------------|----------------------|-------------------|
| Relinquished By: <u>James S Johnson</u> | Date: <u>3/29/04</u> | Time: <u>7:20P</u> | Received By: <u>[Signature]</u> | Date: <u>3/30/04</u> | Time: <u>8:00</u> |
| Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: | Time: |

4/10/04

CASE NARRATIVE

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: SC ID #8641 (DON MORRIS)
Project Number: 03-10042.
Laboratory Project Number: 369584.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

Page 1

| Sample Identification | Lab Number | Collection Date |
|-----------------------|------------|-----------------|
| SB1-10 | 04-A47199 | 3/26/04 |
| SB2-15 | 04-A47200 | 3/26/04 |
| SB3-20 | 04-A47201 | 3/26/04 |
| SB4-10 | 04-A47202 | 3/29/04 |
| SB5-10 | 04-A47203 | 3/29/04 |
| SB7-10 | 04-A47204 | 3/29/04 |
| SB8-10 | 04-A47205 | 3/29/04 |
| SB9-15 | 04-A47206 | 3/29/04 |
| SB1-20 | 04-A47207 | 3/29/04 |

Sample Identification Lab Number Collection Date

These results relate only to the items tested.
This report shall not be reproduced except in full and with
permission of the laboratory.

Report Approved By: *Gail A. Lage* Report Date: 4/10/04

| | |
|---|--------------------------|
| Johnny A. Mitchell, Operations Manager | Gail A. Lage, QA/QC |
| Michael H. Dunn, M.S., Technical Director | Glenn L. Norton, QA/QC |
| Pamela A. Langford, Technical Serv | Kelly S. Comstock, QA/QC |
| Eric S. Smith, QA/QC | Roxanne L. Connor, QA/QC |

Laboratory Certification Number: 84009

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or the employee or agent responsible for delivering this material to the intended recipient, you are
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If you have received this material in error, please notify us immediately at 615-726-0177.

ANALYTICAL REPORT

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

Lab Number: 04-A47199
Sample ID: SB1-10
Sample Type: Soil
Site ID: 08641

Project: 03-10042
Project Name: SC ID #8641 (DON MORRIS)
Sampler: JAMES JOHNSON

Date Collected: 3/26/04
Time Collected: 10:15
Date Received: 3/30/04
Time Received: 8:00
Page: 1

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|---------------------------------------|--------|-------|--------------|------------|---------------|---------------|------------|--------|-------|
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| % Dry Weight | 86.4 | % | | 1 | 3/30/04 | 9:27 | B. Plett | CLP | 8198 |
| *ORGANIC PARAMETERS* | | | | | | | | | |
| TPH (Diesel Range) | 33.7 | mg/kg | 11.7 | 1 | 4/ 2/04 | 11:12 | M. Jarrett | 8015B | 76 |
| Naphthalene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Acenaphthene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Anthracene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Fluoranthene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Fluorene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Pyrene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Benzo(a)anthracene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Benzo(a)pyrene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Benzo(b)fluoranthene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Benzo(k)fluoranthene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Chrysene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Dibenzo(a,h)anthracene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Indeno(1,2,3-cd)pyrene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Acenaphthylene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Benzo(g,h,i)perylene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| Phenanthrene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:21 | R. Beard | 8270C | 1747 |
| *VOLATILE ORGANICS* | | | | | | | | | |
| Benzene | 0.134 | mg/kg | 0.0726 | 50 | 4/ 8/04 | 12:47 | D. Jones | 8260B | 9174 |
| Ethylbenzene | 0.189 | mg/kg | 0.0726 | 50 | 4/ 8/04 | 12:47 | D. Jones | 8260B | 9174 |
| Naphthalene | 0.218 | mg/kg | 0.182 | 50 | 4/ 8/04 | 12:47 | D. Jones | 8260B | 9174 |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47199
Sample ID: SB1-10
Project: 03-10042
Page 2

| Analyte | Result | Units | Report | Dil | Analysis | | Analyst | Method | Batch |
|--------------------------------|--------|-------|--------|-----|----------|-------|-----------|--------|-------|
| | | | Limit | | Factor | Date | | | |
| Toluene | 0.447 | mg/kg | 0.0726 | 50 | 4/ 8/04 | 12:47 | D. Jones | 8260B | 9174 |
| Xylenes (Total) | 0.584 | mg/kg | 0.0726 | 50 | 4/ 8/04 | 12:47 | D. Jones | 8260B | 9174 |
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| TOC | ND | mg/kg | 1000 | 1 | 4/ 1/04 | 9:03 | S. Duncan | 9060M | 8349 |

Sample Extraction Data

| Parameter | Wt/Vol | | Date | Time | Analyst | Method |
|-------------------|-----------|-------------|---------|-------|-----------|--------|
| | Extracted | Extract Vol | | | | |
| BNA's | 29.8 gm | 1.0 ml | 3/31/04 | | M. Ricke | 3550 |
| EPH/DRO | 24.7 gm | 1.0 ml | 3/31/04 | | K. Turner | 3550 |
| Volatile Organics | 7.97 g | 5.0 ml | 3/26/04 | 10:15 | Fitzwater | 5035 |

| Surrogate | % Recovery | Target Range |
|---------------------------|------------|--------------|
| TPH Hi Surr., o-Terphenyl | 81. | 35. - 135. |
| VOA Surr 1,2-DCA-d4 | 95. | 71. - 128. |
| VOA Surr 1,2-DCA-d4 | 95. | 59. - 134. |
| VOA Surr Toluene-d8 | 94. | 77. - 119. |
| VOA Surr Toluene-d8 | 94. | 67. - 129. |
| VOA Surr, 4-BFB | 104. | 79. - 123. |
| VOA Surr, 4-BFB | 104. | 60. - 134. |
| VOA Surr, DBFM | 91. | 78. - 124. |
| VOA Surr, DBFM | 91. | 67. - 126. |
| BNA Surr-Nitrobenzene-d5 | 55. | 10. - 164. |
| BNA Surr-2-Fluorobiphenyl | 58. | 51. - 96. |
| BNA Surr-Terphenyl-d14 | 66. | 52. - 106. |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47199
Sample ID: SB1-10
Project: 03-10042
Page 3

LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

= Recovery outside Laboratory historical or method prescribed limits.

All reported results for metals or Organic analyses have been corrected for dry weight.

Extracted TOC result corrected for dry weight.

End of Sample Report.

ANALYTICAL REPORT

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

Lab Number: 04-A47200
Sample ID: SB2-15
Sample Type: Soil
Site ID: 08641

Project: 03-10042
Project Name: SC ID #8641 (DON MORRIS)
Sampler: JAMES JOHNSON

Date Collected: 3/26/04
Time Collected: 12:40
Date Received: 3/30/04
Time Received: 8:00
Page: 1

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|--------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| % Dry Weight | 80.8 | % | | 1 | 3/30/04 | 9:27 | B.Plett | CLP | 8198 |
| *ORGANIC PARAMETERS* | | | | | | | | | |
| TPH (Diesel Range) | 960 | mg/kg | 245 | 20 | 4/ 2/04 | 11:28 | M.Jarrett | 8015B | 76 |
| Naphthalene | 2.65 | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Acenaphthene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Anthracene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Fluoranthene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Fluorene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Pyrene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Benzo (a) anthracene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Benzo (a) pyrene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Benzo (b) fluoranthene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Benzo (k) fluoranthene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Chrysene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Dibenzo (a, h) anthracene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Indeno (1, 2, 3-cd) pyrene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Acenaphthylene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Benzo (g, h, i) perylene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| Phenanthrene | ND | mg/kg | 0.082 | 1 | 4/ 4/04 | 20:28 | R. Beard | 8270C | 1747 |
| *VOLATILE ORGANICS* | | | | | | | | | |
| Benzene | 2.83 | mg/kg | 0.145 | 100 | 4/ 8/04 | 13:17 | D. Jones | 8260B | 9174 |
| Ethylbenzene | 27.2 | mg/kg | 1.45 | 1000 | 4/ 8/04 | 15:46 | D. Jones | 8260B | 357 |
| Naphthalene | 21.9 | mg/kg | 3.61 | 1000 | 4/ 8/04 | 15:46 | D. Jones | 8260B | 357 |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47200
Sample ID: SB2-15
Project: 03-10042
Page 2

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|--------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| Toluene | 16.6 | mg/kg | 1.45 | 1000 | 4/ 8/04 | 15:46 | D. Jones | 8260B | 357 |
| Xylenes (Total) | 130 | mg/kg | 1.45 | 1000 | 4/ 8/04 | 15:46 | D. Jones | 8260B | 357 |
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| TOC | ND | mg/kg | 1000 | 1 | 4/ 1/04 | 9:03 | S. Duncan | 9060M | 8349 |

Sample Extraction Data

| Parameter | Wt/Vol | | Date | Time | Analyst | Method |
|-------------------|-----------|-------------|---------|-------|-----------|--------|
| | Extracted | Extract Vol | | | | |
| BNA's | 30.2 gm | 1.0 ml | 3/31/04 | | M. Ricke | 3550 |
| EPH/DRO | 25.2 gm | 1.0 ml | 3/31/04 | | K. Turner | 3550 |
| Volatile Organics | 8.55 g | 5.0 ml | 3/26/04 | 12:40 | Fitzwater | 5035 |

| Surrogate | % Recovery | Target Range |
|---------------------------|------------|--------------|
| VOA Surr 1,2-DCA-d4 | 82. | 71. - 128. |
| VOA Surr 1,2-DCA-d4 | 82. | 59. - 134. |
| VOA Surr Toluene-d8 | 98. | 77. - 119. |
| VOA Surr Toluene-d8 | 98. | 67. - 129. |
| VOA Surr, 4-BFB | 101. | 79. - 123. |
| VOA Surr, 4-BFB | 101. | 60. - 134. |
| VOA Surr, DBFM | 85. | 78. - 124. |
| VOA Surr, DBFM | 85. | 67. - 126. |
| BNA Surr-Nitrobenzene-d5 | 64. | 10. - 164. |
| BNA Surr-2-Fluorobiphenyl | 69. | 51. - 96. |
| BNA Surr-Terphenyl-d14 | 60. | 52. - 106. |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47200

Sample ID: SB2-15

Project: 03-10042

Page 3

LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

= Recovery outside Laboratory historical or method prescribed limits.

All reported results for metals or Organic analyses have been corrected for dry weight.

Extracted TOC result corrected for dry weight.

The TRPH-Diesel surrogate was diluted out due to sample matrix.

End of Sample Report.

ANALYTICAL REPORT

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

Lab Number: 04-A47201
Sample ID: SB3-20
Sample Type: Soil
Site ID: 08641

Project: 03-10042
Project Name: SC ID #8641 (DON MORRIS)
Sampler: JAMES JOHNSON

Date Collected: 3/26/04
Time Collected: 14:30
Date Received: 3/30/04
Time Received: 8:00
Page: 1

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|---------------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| % Dry Weight | 86.4 | % | | 1 | 3/30/04 | 9:27 | B.Plett | CLP | 8198 |
| *ORGANIC PARAMETERS* | | | | | | | | | |
| TPH (Diesel Range) | 14.7 | mg/kg | 11.5 | 1 | 4/ 2/04 | 11:43 | M.Jarrett | 8015B | 76 |
| Naphthalene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Acenaphthene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Anthracene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Fluoranthene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Fluorene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Pyrene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Benzo(a)anthracene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Benzo(a)pyrene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Benzo(b)fluoranthene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Benzo(k)fluoranthene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Chrysene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Dibenzo(a,h)anthracene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Indeno(1,2,3-cd)pyrene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Acenaphthylene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Benzo(g,h,i)perylene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| Phenanthrene | ND | mg/kg | 0.076 | 1 | 4/ 1/04 | 23:48 | R. Beard | 8270C | 1747 |
| *VOLATILE ORGANICS* | | | | | | | | | |
| Benzene | 0.112 | mg/kg | 0.0656 | 50 | 4/ 8/04 | 13:47 | D. Jones | 8260B | 9174 |
| Ethylbenzene | 0.361 | mg/kg | 0.0656 | 50 | 4/ 8/04 | 13:47 | D. Jones | 8260B | 9174 |
| Naphthalene | 0.387 | mg/kg | 0.164 | 50 | 4/ 8/04 | 13:47 | D. Jones | 8260B | 9174 |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47201
Sample ID: SB3-20
Project: 03-10042
Page 2

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|--------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| Toluene | 0.561 | mg/kg | 0.0656 | 50 | 4/ 8/04 | 13:47 | D. Jones | 8260B | 9174 |
| Xylenes (Total) | 1.57 | mg/kg | 0.0656 | 50 | 4/ 8/04 | 13:47 | D. Jones | 8260B | 9174 |
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| TOC | ND | mg/kg | 1000 | 1 | 4/ 1/04 | 9:03 | S. Duncan | 9060M | 8349 |

Sample Extraction Data

| Parameter | Wt/Vol | | Date | Time | Analyst | Method |
|-------------------|-----------|-------------|---------|-------|-----------|--------|
| | Extracted | Extract Vol | | | | |
| BNA's | 30.1 gm | 1.0 ml | 3/31/04 | | M. Ricke | 3550 |
| EPH/DRO | 25.1 gm | 1.0 ml | 3/31/04 | | K. Turner | 3550 |
| Volatile Organics | 8.82 g | 5.0 ml | 3/26/04 | 14:30 | Fitzwater | 5035 |

| Surrogate | % Recovery | Target Range |
|---------------------------|------------|--------------|
| TPH Hi Surr., o-Terphenyl | 90. | 35. - 135. |
| VOA Surr 1,2-DCA-d4 | 86. | 71. - 128. |
| VOA Surr 1,2-DCA-d4 | 86. | 59. - 134. |
| VOA Surr Toluene-d8 | 96. | 77. - 119. |
| VOA Surr Toluene-d8 | 96. | 67. - 129. |
| VOA Surr, 4-BFB | 108. | 79. - 123. |
| VOA Surr, 4-BFB | 108. | 60. - 134. |
| VOA Surr, DEFM | 86. | 78. - 124. |
| VOA Surr, DEFM | 86. | 67. - 126. |
| BNA Surr-Nitrobenzene-d5 | 51. | 10. - 164. |
| BNA Surr-2-Fluorobiphenyl | 55. | 51. - 96. |
| BNA Surr-Terphenyl-d14 | 64. | 52. - 106. |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47201
Sample ID: SB3-20
Project: 03-10042
Page 3

LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

= Recovery outside Laboratory historical or method prescribed limits.

All reported results for metals or Organic analyses have been corrected for dry weight.

Extracted TOC result corrected for dry weight.

End of Sample Report.

ANALYTICAL REPORT

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

Lab Number: 04-A47202
Sample ID: SB4-10
Sample Type: Soil
Site ID: 08641

Project: 03-10042
Project Name: SC ID #8641 (DON MORRIS)
Sampler: JAMES JOHNSON

Date Collected: 3/29/04
Time Collected: 11:15
Date Received: 3/30/04
Time Received: 8:00
Page: 1

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|---------------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| % Dry Weight | 79.5 | % | | 1 | 3/30/04 | 9:27 | B.Plett | CLP | 8198 |
| *ORGANIC PARAMETERS* | | | | | | | | | |
| TPH (Diesel Range) | 2420 | mg/kg | 249 | 20 | 4/ 2/04 | 12:00 | M.Jarrett | 8015B | 76 |
| Naphthalene | 68.4 | mg/kg | 2.08 | 25 | 4/ 4/04 | 20:01 | R. Beard | 8270C | 1747 |
| Acenaphthene | 0.245 | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Anthracene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Fluoranthene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Fluorene | 0.303 | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Pyrene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Benzo(a)anthracene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Benzo(a)pyrene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Benzo(b)fluoranthene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Benzo(k)fluoranthene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Chrysene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Dibenzo(a,h)anthracene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Indeno(1,2,3-cd)pyrene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Acenaphthylene | 0.083 | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Benzo(g,h,i)perylene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| Phenanthrene | 0.498 | mg/kg | 0.083 | 1 | 4/ 2/04 | 0:15 | R. Beard | 8270C | 1747 |
| *VOLATILE ORGANICS* | | | | | | | | | |
| Benzene | 92.8 | mg/kg | 8.75 | 5000 | 4/ 8/04 | 17:16 | D. Jones | 8260B | 357 |
| Ethylbenzene | 226 | mg/kg | 8.75 | 5000 | 4/ 8/04 | 17:16 | D. Jones | 8260B | 357 |
| Naphthalene | 90.2 | mg/kg | 21.9 | 5000 | 4/ 8/04 | 17:16 | D. Jones | 8260B | 357 |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47202
Sample ID: SB4-10
Project: 03-10042
Page 2

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|--------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| Toluene | 867 | mg/kg | 8.75 | 5000 | 4/ 8/04 | 17:16 | D. Jones | 8260B | 357 |
| Xylenes (Total) | 1100 | mg/kg | 8.75 | 5000 | 4/ 8/04 | 17:16 | D. Jones | 8260B | 357 |
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| TOC | ND | mg/kg | 1000 | 1 | 4/ 1/04 | 9:03 | S. Duncan | 9060M | 8349 |

Sample Extraction Data

| Parameter | Wt/Vol | | Date | Time | Analyst | Method |
|-------------------|-----------|-------------|---------|-------|-----------|--------|
| | Extracted | Extract Vol | | | | |
| BNA's | 29.7 gm | 1.0 ml | 3/31/04 | | M. Ricke | 3550 |
| EPH/DRO | 25.2 gm | 1.0 ml | 3/31/04 | | K. Turner | 3550 |
| Volatile Organics | 7.18 g | 5.0 ml | 3/29/04 | 11:15 | Fitzwater | 5035 |

| Surrogate | % Recovery | Target Range |
|---------------------------|------------|--------------|
| VOA Surr 1,2-DCA-d4 | 81. | 71. - 128. |
| VOA Surr 1,2-DCA-d4 | 81. | 59. - 134. |
| VOA Surr Toluene-d8 | 99. | 77. - 119. |
| VOA Surr Toluene-d8 | 99. | 67. - 129. |
| VOA Surr, 4-BFB | 101. | 79. - 123. |
| VOA Surr, 4-BFB | 101. | 60. - 134. |
| VOA Surr, DBFM | 83. | 78. - 124. |
| VOA Surr, DBFM | 83. | 67. - 126. |
| BNA Surr-Nitrobenzene-d5 | 30. | 10. - 164. |
| BNA Surr-2-Fluorobiphenyl | 61. | 51. - 96. |
| BNA Surr-Terphenyl-d14 | 71. | 52. - 106. |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47202
Sample ID: SB4-10
Project: 03-10042
Page 3

LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

= Recovery outside Laboratory historical or method prescribed limits.

All reported results for metals or Organic analyses have been corrected for dry weight.

Extracted TOC result corrected for dry weight.

The TRPH-Diesel surrogate was diluted out due to sample matrix.

End of Sample Report.

ANALYTICAL REPORT

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

Lab Number: 04-A47203
Sample ID: SB5-10
Sample Type: Soil
Site ID: 08641

Project: 03-10042
Project Name: SC ID #8641 (DON MORRIS)
Sampler: JAMES JOHNSON

Date Collected: 3/29/04
Time Collected: 11:58
Date Received: 3/30/04
Time Received: 8:00
Page: 1

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|--------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| % Dry Weight | 81.9 | % | | 1 | 3/30/04 | 9:27 | B.Plett | CLP | 8198 |
| *ORGANIC PARAMETERS* | | | | | | | | | |
| TPH (Diesel Range) | 142 | mg/kg | 12.1 | 1 | 4/ 2/04 | 12:16 | M.Jarrett | 8015B | 76 |
| Naphthalene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Acenaphthene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Anthracene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Fluoranthene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Fluorene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Pyrene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Benzo(a)anthracene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Benzo(a)pyrene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Benzo(b)fluoranthene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Benzo(k)fluoranthene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Chrysene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Dibenzo(a,h)anthracene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Indeno(1,2,3-cd)pyrene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Acenaphthylene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Benzo(g,h,i)perylene | ND | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| Phenanthrene | 0.137 | mg/kg | 0.081 | 1 | 4/ 2/04 | 0:41 | R. Beard | 8270C | 1747 |
| *VOLATILE ORGANICS* | | | | | | | | | |
| Benzene | 5.67 | mg/kg | 0.851 | 500 | 4/ 8/04 | 14:47 | D. Jones | 8260B | 9174 |
| Ethylbenzene | 69.8 | mg/kg | 0.851 | 500 | 4/ 8/04 | 14:47 | D. Jones | 8260B | 9174 |
| Naphthalene | 27 | mg/kg | 2.12 | 500 | 4/ 8/04 | 14:47 | D. Jones | 8260B | 9174 |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47203
Sample ID: SB5-10
Project: 03-10042
Page 2

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|--------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| Toluene | 223 | mg/kg | 8.51 | 5000 | 4/ 8/04 | 17:45 | D. Jones | 8260B | 357 |
| Xylenes (Total) | 333 | mg/kg | 8.51 | 5000 | 4/ 8/04 | 17:45 | D. Jones | 8260B | 357 |
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| TOC | ND | mg/kg | 1000 | 1 | 4/ 1/04 | 9:03 | S. Duncan | 9060M | 8349 |

Sample Extraction Data

| Parameter | Wt/Vol | | Date | Time | Analyst | Method |
|-------------------|-----------|-------------|---------|-------|-----------|--------|
| | Extracted | Extract Vol | | | | |
| BNA's | 29.7 gm | 1.0 ml | 3/31/04 | | M. Ricke | 3550 |
| EPH/DRO | 25.2 gm | 1.0 ml | 3/31/04 | | K. Turner | 3550 |
| Volatile Organics | 7.17 g | 5.0 ml | 3/29/04 | 11:58 | Fitzwater | 5035 |

| Surrogate | % Recovery | Target Range |
|---------------------------|------------|--------------|
| TPH Hi Surr., o-Terphenyl | 58. | 35. - 135. |
| VOA Surr 1,2-DCA-d4 | 81. | 71. - 128. |
| VOA Surr 1,2-DCA-d4 | 81. | 59. - 134. |
| VOA Surr Toluene-d8 | 101. | 77. - 119. |
| VOA Surr Toluene-d8 | 101. | 67. - 129. |
| VOA Surr, 4-BFB | 101. | 79. - 123. |
| VOA Surr, 4-BFB | 101. | 60. - 134. |
| VOA Surr, DBFM | 86. | 78. - 124. |
| VOA Surr, DBFM | 86. | 67. - 126. |
| BNA Surr-Nitrobenzene-d5 | 44. | 10. - 164. |
| BNA Surr-2-Fluorobiphenyl | 60. | 51. - 96. |
| BNA Surr-Terphenyl-d14 | 70. | 52. - 106. |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47203
Sample ID: SB5-10
Project: 03-10042
Page 3

LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

= Recovery outside Laboratory historical or method prescribed limits.

All reported results for metals or Organic analyses have been corrected for dry weight.

Extracted TOC result corrected for dry weight.

The TRPH-Diesel surrogate was diluted out due to sample matrix.

End of Sample Report.

ANALYTICAL REPORT

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

Lab Number: 04-A47204
Sample ID: SB7-10
Sample Type: Soil
Site ID: 08641

Project: 03-10042
Project Name: SC ID #8641 (DON MORRIS)
Sampler: JAMES JOHNSON

Date Collected: 3/29/04
Time Collected: 13:00
Date Received: 3/30/04
Time Received: 8:00
Page: 1

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|--------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| % Dry Weight | 80.3 | % | | 1 | 3/30/04 | 9:27 | B.Plett | CLP | 8198 |
| *ORGANIC PARAMETERS* | | | | | | | | | |
| TPH (Diesel Range) | 413 | mg/kg | 123 | 10 | 4/ 2/04 | 12:32 | M.Jarrett | 8015B | 76 |
| Naphthalene | 18.3 | mg/kg | 0.411 | 5 | 4/ 2/04 | 21:19 | R. Beard | 8270C | 1747 |
| Acenaphthene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Anthracene | 0.156 | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Fluoranthene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Fluorene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Pyrene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Benzo(a)anthracene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Benzo(a)pyrene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Benzo(b)fluoranthene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Benzo(k)fluoranthene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Chrysene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Dibenzo(a,h)anthracene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Indeno(1,2,3-cd)pyrene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Acenaphthylene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Benzo(g,h,i)perylene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| Phenanthrene | ND | mg/kg | 0.082 | 1 | 4/ 2/04 | 1:08 | R. Beard | 8270C | 1747 |
| *VOLATILE ORGANICS* | | | | | | | | | |
| Benzene | 24.9 | mg/kg | 0.788 | 500 | 4/ 8/04 | 15:16 | D. Jones | 8260B | 9174 |
| Ethylbenzene | 71 | mg/kg | 0.788 | 500 | 4/ 8/04 | 15:16 | D. Jones | 8260B | 9174 |
| Naphthalene | 25.4 | mg/kg | 1.97 | 500 | 4/ 8/04 | 15:16 | D. Jones | 8260B | 9174 |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47204
Sample ID: SB7-10
Project: 03-10042
Page 2

| Analyte | Result | Units | Report | Dil | Analysis | | Analyst | Method | Batch |
|--------------------------------|--------|-------|--------|------|----------|-------|-----------|--------|-------|
| | | | Limit | | Factor | Date | | | |
| Toluene | 168 | mg/kg | 7.88 | 5000 | 4/ 8/04 | 18:15 | D. Jones | 8260B | 357 |
| Xylenes (Total) | 333 | mg/kg | 7.88 | 5000 | 4/ 8/04 | 18:15 | D. Jones | 8260B | 357 |
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| TOC | ND | mg/kg | 1000 | 1 | 4/ 1/04 | 9:03 | S. Duncan | 9060M | 8349 |

Sample Extraction Data

| Parameter | Wt/Vol | | Date | Time | Analyst | Method |
|-------------------|-----------|-------------|---------|-------|-----------|--------|
| | Extracted | Extract Vol | | | | |
| BNA's | 30.5 gm | 1.0 ml | 3/31/04 | | M. Ricke | 3550 |
| EPH/DRO | 25.4 gm | 1.0 ml | 3/31/04 | | K. Turner | 3550 |
| Volatile Organics | 7.90 g | 5.0 ml | 3/29/04 | 13:00 | Fitzwater | 5035 |

| Surrogate | % Recovery | Target Range |
|---------------------------|------------|--------------|
| VOA Surr 1,2-DCA-d4 | 83. | 71. - 128. |
| VOA Surr 1,2-DCA-d4 | 83. | 59. - 134. |
| VOA Surr Toluene-d8 | 98. | 77. - 119. |
| VOA Surr Toluene-d8 | 98. | 67. - 129. |
| VOA Surr, 4-BFB | 101. | 79. - 123. |
| VOA Surr, 4-BFB | 101. | 60. - 134. |
| VOA Surr, DBFM | 84. | 78. - 124. |
| VOA Surr, DBFM | 84. | 67. - 126. |
| BNA Surr-Nitrobenzene-d5 | 6. # | 10. - 164. |
| BNA Surr-2-Fluorobiphenyl | 63. | 51. - 96. |
| BNA Surr-Terphenyl-d14 | 70. | 52. - 106. |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47204
Sample ID: SB7-10
Project: 03-10042
Page 3

LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

= Recovery outside Laboratory historical or method prescribed limits.

All reported results for metals or Organic analyses have been corrected for dry weight.

Extracted TOC result corrected for dry weight.

The TRPH-Diesel surrogate was diluted out due to sample matrix.

End of Sample Report.

ANALYTICAL REPORT

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

Lab Number: 04-A47205
Sample ID: SB8-10
Sample Type: Soil
Site ID: 08641

Project: 03-10042
Project Name: SC ID #8641 (DON MORRIS)
Sampler: JAMES JOHNSON

Date Collected: 3/29/04
Time Collected: 14:15
Date Received: 3/30/04
Time Received: 8:00
Page: 1

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|---------------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| % Dry Weight | 70.0 | % | | 1 | 3/30/04 | 9:27 | B.Plett | CLP | 8198 |
| *ORGANIC PARAMETERS* | | | | | | | | | |
| TPH (Diesel Range) | ND | mg/kg | 14.6 | 1 | 4/ 2/04 | 0:56 | M.Jarrett | 8015B | 1474 |
| Naphthalene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Acenaphthene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Anthracene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Fluoranthene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Fluorene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Pyrene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Benzo(a)anthracene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Benzo(a)pyrene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Benzo(b)fluoranthene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Benzo(k)fluoranthene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Chrysene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Dibenzo(a,h)anthracene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Indeno(1,2,3-cd)pyrene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Acenaphthylene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Benzo(g,h,i)perylene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| Phenanthrene | ND | mg/kg | 0.094 | 1 | 4/ 1/04 | 22:27 | R. Beard | 8270C | 1747 |
| *VOLATILE ORGANICS* | | | | | | | | | |
| Benzene | ND | mg/kg | 0.002 | 1 | 4/ 8/04 | 14:54 | J. Adams | 8260B | 9038 |
| Ethylbenzene | ND | mg/kg | 0.002 | 1 | 4/ 8/04 | 14:54 | J. Adams | 8260B | 9038 |
| Naphthalene | ND | mg/kg | 0.00484 | 1 | 4/ 8/04 | 14:54 | J. Adams | 8260B | 9038 |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47205
Sample ID: SB8-10
Project: 03-10042
Page 2

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|--------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| Toluene | 0.0086 | mg/kg | 0.002 | 1 | 4/ 8/04 | 14:54 | J. Adams | 8260B | 9038 |
| Xylenes (Total) | 0.0047 | mg/kg | 0.002 | 1 | 4/ 8/04 | 14:54 | J. Adams | 8260B | 9038 |
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| TOC | ND | mg/kg | 1000 | 1 | 4/ 1/04 | 9:03 | S. Duncan | 9060M | 8349 |

Sample Extraction Data

| Parameter | Wt/Vol | | Date | Time | Analyst | Method |
|-------------------|-----------|-------------|---------|-------|-----------|--------|
| | Extracted | Extract Vol | | | | |
| BNA's | 30.4 gm | 1.0 ml | 3/31/04 | | M. Ricke | 3550 |
| EPH/DRO | 24.5 gm | 1.0 ml | 3/31/04 | | M. Ricke | 3550 |
| Volatile Organics | 7.38 g | 5.0 ml | 3/29/04 | 14:15 | Fitzwater | 5035 |

| Surrogate | % Recovery | Target Range |
|---------------------------|------------|--------------|
| TPH Hi Surr., o-Terphenyl | 93. | 35. - 135. |
| VOA Surr 1,2-DCA-d4 | 102. | 59. - 134. |
| VOA Surr Toluene-d8 | 89. | 67. - 129. |
| VOA Surr, 4-BFB | 100. | 60. - 134. |
| VOA Surr, DBFM | 117. | 67. - 126. |
| BNA Surr-Nitrobenzene-d5 | 64. | 10. - 164. |
| BNA Surr-2-Fluorobiphenyl | 64. | 51. - 96. |
| BNA Surr-Terphenyl-d14 | 70. | 52. - 106. |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47205
Sample ID: SB8-10
Project: 03-10042
Page 3

LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

= Recovery outside Laboratory historical or method prescribed limits.

All reported results for metals or Organic analyses have been corrected for dry weight.
Extracted TOC result corrected for dry weight.

End of Sample Report.

ANALYTICAL REPORT

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

Lab Number: 04-A47206
Sample ID: SB9-15
Sample Type: Soil
Site ID: 08641

Project: 03-10042
Project Name: SC ID #8641 (DON MORRIS)
Sampler: JAMES JOHNSON

Date Collected: 3/29/04
Time Collected: 15:07
Date Received: 3/30/04
Time Received: 8:00
Page: 1

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|---------------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| % Dry Weight | 79.7 | % | | 1 | 3/30/04 | 9:27 | B.Plett | CLP | 8198 |
| *ORGANIC PARAMETERS* | | | | | | | | | |
| TPH (Diesel Range) | ND | mg/kg | 12.7 | 1 | 4/ 2/04 | 1:12 | M.Jarrett | 8015B | 1474 |
| Naphthalene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Acenaphthene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Anthracene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Fluoranthene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Fluorene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Pyrene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Benzo(a)anthracene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Benzo(a)pyrene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Benzo(b)fluoranthene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Benzo(k)fluoranthene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Chrysene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Dibenzo(a,h)anthracene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Indeno(1,2,3-cd)pyrene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Acenaphthylene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Benzo(g,h,i)perylene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| Phenanthrene | ND | mg/kg | 0.083 | 1 | 4/ 2/04 | 1:35 | R. Beard | 8270C | 1747 |
| *VOLATILE ORGANICS* | | | | | | | | | |
| Benzene | ND | mg/kg | 0.0014 | 1 | 4/ 8/04 | 15:25 | J. Adams | 8260B | 9038 |
| Ethylbenzene | ND | mg/kg | 0.0014 | 1 | 4/ 8/04 | 15:25 | J. Adams | 8260B | 9038 |
| Naphthalene | ND | mg/kg | 0.00355 | 1 | 4/ 8/04 | 15:25 | J. Adams | 8260B | 9038 |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47206
Sample ID: SB9-15
Project: 03-10042
Page 2

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|--------------------------------|--------|-------|--------------|------------|---------------|---------------|-----------|--------|-------|
| Toluene | ND | mg/kg | 0.0014 | 1 | 4/ 8/04 | 15:25 | J. Adams | 8260B | 9038 |
| Xylenes (Total) | 0.0029 | mg/kg | 0.0014 | 1 | 4/ 8/04 | 15:25 | J. Adams | 8260B | 9038 |
| *GENERAL CHEMISTRY PARAMETERS* | | | | | | | | | |
| TOC | ND | mg/kg | 1000 | 1 | 4/ 1/04 | 9:03 | S. Duncan | 9060M | 8349 |

Sample Extraction Data

| Parameter | Wt/Vol | | Date | Time | Analyst | Method |
|-------------------|-----------|-------------|---------|-------|-----------|--------|
| | Extracted | Extract Vol | | | | |
| BNA's | 30.2 gm | 1.0 ml | 3/31/04 | | M. Ricke | 3550 |
| EPH/DRO | 24.7 gm | 1.0 ml | 3/31/04 | | M. Ricke | 3550 |
| Volatile Organics | 8.82 g | 5.0 ml | 3/29/04 | 15:07 | Fitzwater | 5035 |

| Surrogate | % Recovery | Target Range |
|---------------------------|------------|--------------|
| TPH Hi Surr., o-Terphenyl | 91. | 35. - 135. |
| VOA Surr 1,2-DCA-d4 | 104. | 59. - 134. |
| VOA Surr Toluene-d8 | 92. | 67. - 129. |
| VOA Surr, 4-BFB | 101. | 60. - 134. |
| VOA Surr, DBFM | 117. | 67. - 126. |
| BNA Surr-Nitrobenzene-d5 | 64. | 10. - 164. |
| BNA Surr-2-Fluorobiphenyl | 60. | 51. - 96. |
| BNA Surr-Terphenyl-d14 | 65. | 52. - 106. |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A47206
Sample ID: SB9-15
Project: 03-10042
Page 3

LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

= Recovery outside Laboratory historical or method prescribed limits.

All reported results for metals or Organic analyses have been corrected for dry weight.
Extracted TOC result corrected for dry weight.

End of Sample Report.

ANALYTICAL REPORT

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

Lab Number: 04-A47207
Sample ID: SB1-20
Sample Type: Soil
Site ID: 08641

Project: 03-10042
Project Name: SC ID #8641 (DON MORRIS)
Sampler: JAMES JOHNSON

Date Collected: 3/29/04
Time Collected: 17:00
Date Received: 3/30/04
Time Received: 8:00
Page: 1

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|---------|--------|-------|--------------|------------|---------------|---------------|---------|--------|-------|
|---------|--------|-------|--------------|------------|---------------|---------------|---------|--------|-------|

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
= Recovery outside Laboratory historical or method prescribed limits.
All results reported on a wet weight basis.

End of Sample Report.

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID #8641 (DON MORRIS)

Page: 1

Laboratory Receipt Date: 3/30/04

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on a true sample matrix. Laboratory reagent water was used for QC purposes.

| Analyte | units | Orig. Val. | MS Val | Spike Conc | Recovery | Target Range | Q.C. Batch | Spike Sample |
|---------------------------|-------|------------|--------|------------|----------|--------------|------------|--------------|
| **UST ANALYSIS** | | | | | | | | |
| TPH (Diesel Range) | mg/kg | 33.1 | 67.0 | 40.0 | 85 | 33. - 146. | 76 | 04-A47366 |
| TPH (Diesel Range) | mg/kg | < 10.0 | 38.6 | 40.0 | 96 | 33. - 146. | 1474 | BLANK |
| Naphthalene | mg/kg | < 0.066 | 0.759 | 1.67 | 45 | 34. - 111. | 1747 | '47205 |
| Acenaphthene | mg/kg | < 0.066 | 0.792 | 1.67 | 47 | 39. - 116. | 1747 | '47205 |
| Anthracene | mg/kg | < 0.066 | 0.891 | 1.67 | 53 | 41. - 118. | 1747 | '47205 |
| Fluoranthene | mg/kg | < 0.066 | 0.891 | 1.67 | 53 | 42. - 123. | 1747 | '47205 |
| Fluorene | mg/kg | < 0.066 | 0.825 | 1.67 | 49 | 40. - 120. | 1747 | '47205 |
| Pyrene | mg/kg | < 0.066 | 0.957 | 1.67 | 57 | 40. - 125. | 1747 | '47205 |
| Benzo(a)anthracene | mg/kg | < 0.066 | 0.957 | 1.67 | 57 | 42. - 123. | 1747 | '47205 |
| Benzo(a)pyrene | mg/kg | < 0.066 | 0.924 | 1.67 | 55 | 41. - 123. | 1747 | '47205 |
| Benzo(b)fluoranthene | mg/kg | < 0.066 | 0.858 | 1.67 | 51 | 40. - 123. | 1747 | '47205 |
| Benzo(k)fluoranthene | mg/kg | < 0.066 | 0.957 | 1.67 | 57 | 42. - 130. | 1747 | '47205 |
| Chrysene | mg/kg | < 0.066 | 0.957 | 1.67 | 57 | 40. - 123. | 1747 | '47205 |
| Dibenzo(a,h)anthracene | mg/kg | < 0.066 | 1.06 | 1.67 | 63 | 16. - 139. | 1747 | '47205 |
| Indeno(1,2,3-cd)pyrene | mg/kg | < 0.066 | 1.02 | 1.67 | 61 | 12. - 138. | 1747 | '47205 |
| Acenaphthylene | mg/kg | < 0.066 | 0.792 | 1.67 | 47 | 39. - 116. | 1747 | '47205 |
| Benzo(g,h,i)perylene | mg/kg | < 0.066 | 0.990 | 1.67 | 59 | 9. - 144. | 1747 | '47205 |
| Phenanthrene | mg/kg | < 0.066 | 0.858 | 1.67 | 51 | 39. - 119. | 1747 | '47205 |
| **VOA PARAMETERS** | | | | | | | | |
| Benzene | mg/kg | < 0.0003 | 0.0495 | 0.0500 | 99 | 33 - 139 | 9038 | blank |
| Benzene | mg/kg | < 0.0003 | 0.0427 | 0.0500 | 85 | 33 - 139 | 9174 | blank |
| Toluene | mg/kg | < 0.0008 | 0.0459 | 0.0500 | 92 | 18 - 150 | 9038 | blank |
| Toluene | mg/kg | < 0.0008 | 0.0509 | 0.0500 | 102 | 18 - 150 | 9174 | blank |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID #8641 (DON MORRIS)

Page: 2

Laboratory Receipt Date: 3/30/04

Matrix Spike Duplicate

| Analyte | units | Orig. Val. | Duplicate | RPD | Limit | Q.C. Batch |
|---------------------------|-------|------------|-----------|-------|-------|------------|
| **UST PARAMETERS** | | | | | | |
| TPH (Diesel Range) | mg/kg | 67.0 | 66.7 | 0.45 | 50. | 76 |
| TPH (Diesel Range) | mg/kg | 38.6 | 36.6 | 5.32 | 50. | 1474 |
| Naphthalene | mg/kg | 0.759 | 0.858 | 12.24 | 38. | 1747 |
| Acenaphthene | mg/kg | 0.792 | 0.858 | 8.00 | 40. | 1747 |
| Anthracene | mg/kg | 0.891 | 0.924 | 3.64 | 34. | 1747 |
| Fluoranthene | mg/kg | 0.891 | 0.957 | 7.14 | 42. | 1747 |
| Fluorene | mg/kg | 0.825 | 0.891 | 7.69 | 40. | 1747 |
| Pyrene | mg/kg | 0.957 | 0.990 | 3.39 | 37. | 1747 |
| Benzo(a) anthracene | mg/kg | 0.957 | 0.990 | 3.39 | 35. | 1747 |
| Benzo(a) pyrene | mg/kg | 0.924 | 0.957 | 3.51 | 36. | 1747 |
| Benzo(b) fluoranthene | mg/kg | 0.858 | 0.924 | 7.41 | 40. | 1747 |
| Benzo(k) fluoranthene | mg/kg | 0.957 | 0.957 | 0.00 | 36. | 1747 |
| Chrysene | mg/kg | 0.957 | 0.957 | 0.00 | 34. | 1747 |
| Dibenzo(a,h) anthracene | mg/kg | 1.06 | 1.06 | 0.00 | 37. | 1747 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 1.02 | 1.06 | 3.85 | 40. | 1747 |
| Acenaphthylene | mg/kg | 0.792 | 0.858 | 8.00 | 42. | 1747 |
| Benzo(g,h,i)perylene | mg/kg | 0.990 | 0.957 | 3.39 | 37. | 1747 |
| Phenanthrene | mg/kg | 0.858 | 0.891 | 3.77 | 34. | 1747 |
| **VOA PARAMETERS** | | | | | | |
| Benzene | mg/kg | 0.0495 | 0.0481 | 2.87 | 43. | 9038 |
| Benzene | mg/kg | 0.0427 | 0.0438 | 2.54 | 43. | 9174 |
| Toluene | mg/kg | 0.0459 | 0.0433 | 5.83 | 48. | 9038 |
| Toluene | mg/kg | 0.0509 | 0.0527 | 3.47 | 48. | 9174 |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID #8641 (DON MORRIS)

Page: 3

Laboratory Receipt Date: 3/30/04

| | | | |
|---------------------|-------|------|------|
| VOA Surr 1,2-DCA-d4 | % Rec | 90. | 9038 |
| VOA Surr 1,2-DCA-d4 | % Rec | 88. | 9174 |
| VOA Surr Toluene-d8 | % Rec | 93. | 9038 |
| VOA Surr Toluene-d8 | % Rec | 97. | 9174 |
| VOA Surr, 4-BFB | % Rec | 100. | 9038 |
| VOA Surr, 4-BFB | % Rec | 92. | 9174 |
| VOA Surr, DBFM | % Rec | 114. | 9038 |
| VOA Surr, DBFM | % Rec | 87. | 9174 |

Laboratory Control Data

| Analyte | units | Known Val. | Analyzed Val | % Recovery | Target Range | Q.C. Batch |
|---------------------------|-------|------------|--------------|------------|--------------|------------|
| **UST PARAMETERS** | | | | | | |
| TPH (Diesel Range) | mg/kg | 40.0 | 35.5 | 89 | 48 - 135 | 76 |
| TPH (Diesel Range) | mg/kg | 40.0 | 36.8 | 92 | 48 - 135 | 1474 |
| **UST PARAMETERS** | | | | | | |
| Naphthalene | mg/kg | 1.67 | 1.12 | 67 | 34 - 111 | 1747 |
| Acenaphthene | mg/kg | 1.67 | 1.22 | 73 | 39 - 116 | 1747 |
| Anthracene | mg/kg | 1.67 | 1.32 | 79 | 41 - 118 | 1747 |
| Fluoranthene | mg/kg | 1.67 | 1.39 | 83 | 42 - 123 | 1747 |
| Fluorene | mg/kg | 1.67 | 1.22 | 73 | 40 - 120 | 1747 |
| Pyrene | mg/kg | 1.67 | 1.45 | 87 | 40 - 125 | 1747 |
| Benzo(a)anthracene | mg/kg | 1.67 | 1.39 | 83 | 42 - 123 | 1747 |
| Benzo(a)pyrene | mg/kg | 1.67 | 1.52 | 91 | 41 - 123 | 1747 |
| Benzo(b)fluoranthene | mg/kg | 1.67 | 1.58 | 95 | 40 - 123 | 1747 |
| Benzo(k)fluoranthene | mg/kg | 1.67 | 1.39 | 83 | 42 - 130 | 1747 |
| Chrysene | mg/kg | 1.67 | 1.39 | 83 | 40 - 123 | 1747 |
| Dibenzo(a,h)anthracene | mg/kg | 1.67 | 1.72 | 103 | 16 - 139 | 1747 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 1.67 | 1.65 | 99 | 12 - 138 | 1747 |
| Acenaphthylene | mg/kg | 1.67 | 1.22 | 73 | 39 - 116 | 1747 |
| Benzo(g,h,i)perylene | mg/kg | 1.67 | 1.52 | 91 | 9 - 144 | 1747 |
| Phenanthrene | mg/kg | 1.67 | 1.29 | 77 | 39 - 119 | 1747 |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID #8641 (DON MORRIS)

Page: 4

Laboratory Receipt Date: 3/30/04

****VOA PARAMETERS****

| | | | | | | |
|---------------------|-------|--------|--------|-----|----------|------|
| Benzene | mg/kg | 0.0500 | 0.0433 | 87 | 69 - 128 | 357 |
| Benzene | mg/kg | 0.0500 | 0.0514 | 103 | 69 - 128 | 9038 |
| Benzene | mg/kg | 0.0500 | 0.0433 | 87 | 69 - 128 | 9174 |
| Ethylbenzene | mg/kg | 0.0500 | 0.0556 | 111 | 72 - 125 | 357 |
| Ethylbenzene | mg/kg | 0.0500 | 0.0478 | 96 | 72 - 125 | 9038 |
| Ethylbenzene | mg/kg | 0.0500 | 0.0556 | 111 | 72 - 125 | 9174 |
| Naphthalene | mg/kg | 0.0500 | 0.0513 | 103 | 58 - 143 | 357 |
| Naphthalene | mg/kg | 0.0500 | 0.0523 | 105 | 58 - 143 | 9038 |
| Naphthalene | mg/kg | 0.0500 | 0.0513 | 103 | 58 - 143 | 9174 |
| Toluene | mg/kg | 0.0500 | 0.0528 | 106 | 74 - 123 | 357 |
| Toluene | mg/kg | 0.0500 | 0.0470 | 94 | 74 - 123 | 9038 |
| Toluene | mg/kg | 0.0500 | 0.0528 | 106 | 74 - 123 | 9174 |
| Xylenes (Total) | mg/kg | 0.150 | 0.170 | 113 | 70 - 128 | 357 |
| Xylenes (Total) | mg/kg | 0.150 | 0.148 | 99 | 70 - 128 | 9038 |
| Xylenes (Total) | mg/kg | 0.150 | 0.170 | 113 | 70 - 128 | 9174 |
| VOA Surr 1,2-DCA-d4 | % Rec | | | 90 | 71 - 128 | 9626 |
| VOA Surr 1,2-DCA-d4 | % Rec | | | 90 | 71 - 128 | 9634 |
| VOA Surr 1,2-DCA-d4 | % Rec | | | 90 | 59 - 134 | 357 |
| VOA Surr 1,2-DCA-d4 | % Rec | | | 87 | 59 - 134 | 9038 |
| VOA Surr 1,2-DCA-d4 | % Rec | | | 90 | 59 - 134 | 9174 |
| VOA Surr Toluene-d8 | % Rec | | | 98 | 77 - 119 | 9626 |
| VOA Surr Toluene-d8 | % Rec | | | 98 | 77 - 119 | 9634 |
| VOA Surr Toluene-d8 | % Rec | | | 98 | 67 - 129 | 357 |
| VOA Surr Toluene-d8 | % Rec | | | 93 | 67 - 129 | 9038 |
| VOA Surr Toluene-d8 | % Rec | | | 98 | 67 - 129 | 9174 |
| VOA Surr, 4-BFB | % Rec | | | 91 | 79 - 123 | 9626 |
| VOA Surr, 4-BFB | % Rec | | | 91 | 79 - 123 | 9634 |
| VOA Surr, 4-BFB | % Rec | | | 91 | 60 - 134 | 357 |
| VOA Surr, 4-BFB | % Rec | | | 99 | 60 - 134 | 9038 |
| VOA Surr, 4-BFB | % Rec | | | 91 | 60 - 134 | 9174 |
| VOA Surr, DBFM | % Rec | | | 87 | 78 - 124 | 9626 |
| VOA Surr, DBFM | % Rec | | | 87 | 78 - 124 | 9634 |
| VOA Surr, DBFM | % Rec | | | 87 | 67 - 126 | 357 |
| VOA Surr, DBFM | % Rec | | | 118 | 67 - 126 | 9038 |
| VOA Surr, DBFM | % Rec | | | 87 | 67 - 126 | 9174 |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID #8641 (DON MORRIS)

Page: 5

Laboratory Receipt Date: 3/30/04

****MISC PARAMETERS****

| | | | | | | |
|-----|-------|-------|-------|----|----------|------|
| TOC | mg/kg | 29900 | 28600 | 96 | 65 - 135 | 8349 |
|-----|-------|-------|-------|----|----------|------|

Duplicates

| Analyte | units | Orig. Val. | Duplicate | RPD | Limit | Q.C. Batch | Sample Dup'd |
|---------|-------|------------|-----------|-------|-------|------------|--------------|
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| TOC | mg/kg | < 1000 | < 1000 | N/A | 25. | 8349 | 04-A47199 |

Blank Data

| Analyte | Blank Value | Units | Q.C. Batch | Date Analyzed | Time Analyzed |
|---------|-------------|-------|------------|---------------|---------------|
| ----- | ----- | ----- | ----- | ----- | ----- |

****UST PARAMETERS****

| | | | | | |
|------------------------|---------|-------|------|---------|-------|
| TPH (Diesel Range) | < 10.0 | mg/kg | 76 | 4/ 1/04 | 16:29 |
| TPH (Diesel Range) | < 10.0 | mg/kg | 1474 | 4/ 1/04 | 23:52 |
| Naphthalene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Acenaphthene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Anthracene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Fluoranthene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Fluorene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Pyrene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Benzo(a)anthracene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Benzo(a)pyrene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Benzo(b)fluoranthene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Benzo(k)fluoranthene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Chrysene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Dibenzo(a,h)anthracene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Indeno(1,2,3-cd)pyrene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Acenaphthylene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID #8641 (DON MORRIS)

Page: 6

Laboratory Receipt Date: 3/30/04

Blank Data

| Analyte | Blank Value | Units | Q.C. Batch | Analysis Date | Analysis Time |
|----------------------|-------------|-------|------------|---------------|---------------|
| Benzo(g,h,i)perylene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| Phenanthrene | < 0.066 | mg/kg | 1747 | 4/ 1/04 | 18:00 |
| **VOA PARAMETERS** | | | | | |
| Benzene | < 0.0003 | mg/kg | 357 | 4/ 8/04 | 12:17 |
| Benzene | < 0.0003 | mg/kg | 9038 | 4/ 8/04 | 13:22 |
| Benzene | < 0.0003 | mg/kg | 9174 | 4/ 8/04 | 12:17 |
| Ethylbenzene | < 0.0005 | mg/kg | 357 | 4/ 8/04 | 12:17 |
| Ethylbenzene | < 0.0005 | mg/kg | 9038 | 4/ 8/04 | 13:22 |
| Ethylbenzene | < 0.0005 | mg/kg | 9174 | 4/ 8/04 | 12:17 |
| Naphthalene | < 0.00100 | mg/kg | 357 | 4/ 8/04 | 12:17 |
| Naphthalene | 0.00130 | mg/kg | 9038 | 4/ 8/04 | 13:22 |
| Naphthalene | < 0.00100 | mg/kg | 9174 | 4/ 8/04 | 12:17 |
| Toluene | < 0.0008 | mg/kg | 357 | 4/ 8/04 | 12:17 |
| Toluene | < 0.0008 | mg/kg | 9038 | 4/ 8/04 | 13:22 |
| Toluene | < 0.0008 | mg/kg | 9174 | 4/ 8/04 | 12:17 |
| Xylenes (Total) | < 0.0013 | mg/kg | 357 | 4/ 8/04 | 12:17 |
| Xylenes (Total) | < 0.0013 | mg/kg | 9038 | 4/ 8/04 | 13:22 |
| Xylenes (Total) | < 0.0013 | mg/kg | 9174 | 4/ 8/04 | 12:17 |
| VOA Surr 1,2-DCA-d4 | 92. | % Rec | 9626 | 4/ 8/04 | 12:17 |
| VOA Surr 1,2-DCA-d4 | 92. | % Rec | 9634 | 4/ 8/04 | 12:17 |
| VOA Surr 1,2-DCA-d4 | 92. | % Rec | 357 | 4/ 8/04 | 12:17 |
| VOA Surr 1,2-DCA-d4 | 104. | % Rec | 9038 | 4/ 8/04 | 13:22 |
| VOA Surr 1,2-DCA-d4 | 92. | % Rec | 9174 | 4/ 8/04 | 12:17 |
| VOA Surr Toluene-d8 | 94. | % Rec | 9626 | 4/ 8/04 | 12:17 |
| VOA Surr Toluene-d8 | 94. | % Rec | 9634 | 4/ 8/04 | 12:17 |
| VOA Surr Toluene-d8 | 94. | % Rec | 357 | 4/ 8/04 | 12:17 |
| VOA Surr Toluene-d8 | 92. | % Rec | 9038 | 4/ 8/04 | 13:22 |
| VOA Surr Toluene-d8 | 94. | % Rec | 9174 | 4/ 8/04 | 12:17 |
| VOA Surr, 4-BFB | 99. | % Rec | 9626 | 4/ 8/04 | 12:17 |
| VOA Surr, 4-BFB | 99. | % Rec | 9634 | 4/ 8/04 | 12:17 |
| VOA Surr, 4-BFB | 99. | % Rec | 357 | 4/ 8/04 | 12:17 |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID #8641 (DON MORRIS)

Page: 7

Laboratory Receipt Date: 3/30/04

Blank Data

| Analyte | Blank Value | Units | Q.C. Batch | Analysis Date | Analysis Time |
|-----------------|-------------|-------|------------|---------------|---------------|
| VOA Surr, 4-BFB | 101. | % Rec | 9038 | 4/ 8/04 | 13:22 |
| VOA Surr, 4-BFB | 99. | % Rec | 9174 | 4/ 8/04 | 12:17 |
| VOA Surr, DBFM | 90. | % Rec | 9626 | 4/ 8/04 | 12:17 |
| VOA Surr, DBFM | 90. | % Rec | 9634 | 4/ 8/04 | 12:17 |
| VOA Surr, DBFM | 90. | % Rec | 357 | 4/ 8/04 | 12:17 |
| VOA Surr, DBFM | 120. | % Rec | 9038 | 4/ 8/04 | 13:22 |
| VOA Surr, DBFM | 90. | % Rec | 9174 | 4/ 8/04 | 12:17 |

MISC PARAMETERS

| | | | | | |
|-----|--------|-------|------|---------|------|
| TOC | < 1000 | mg/kg | 8349 | 4/ 1/04 | 9:03 |
|-----|--------|-------|------|---------|------|

= Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 369584

370762

Nashville Division
2960 Foster Creighton
Nashville, TN 37204

Phone: 615-726-0177
Fax: 615-726-3404

TestAmerica

ANALYTICAL TESTING CORPORATION

To assist us in using the proper analytical methods,
is this work being conducted for regulatory purposes?
Compliance Monitoring yes - SC

Client Name: Spero Corp Client #: 2213

Address:

Project Name: SC ID# 8641

City/State/Zip Code:

Project #: 03-10042

Project Manager:

Site/Location ID: 08641 State: SC

Telephone Number:

Report To: Spero

Sampler Name: (Print Name) Stan Johnson

Invoice To: Spero

Sampler Signature: [Signature]

Quote #: 880311799 PO#: D310042-2

| SAMPLE ID | Date Sampled | Time Sampled | Field Filtered | Matrix | Preservation & # of Containers | Matrix | Analyze For: | QC Deliverables | | | | |
|---------------------|--------------|--------------|----------------|--------|--------------------------------|--------|---|--------------------------|--------------------------|--------------------------|--------------------------|--------|
| | | | | | | | | None | Level 2 | Level 3 | Level 4 | Other: |
| --- MW-5 | 4/7/04 | 9:45A | G | GW | 3 | 3 | Methane Total Lead Ferrois IRON Dissolved O ₂ CO ₂ PHH BTEX/NAPTH/MTBE/EB Nitrat es Sulfates | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 52485 |
| --- MW-2 | 4/7/04 | 10:50A | G | GW | 3 | 3 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6 |
| --- MW-1 | 4/7/04 | 12:10P | G | GW | 3 | 3 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 52487 |
| --- | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| --- | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| --- | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| --- | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| --- | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| --- | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

LABORATORY COMMENTS:
Init Lab Temp: SIR
Rec Lab Temp: SIR
Custody Seals: N N/A
Bottles Supplied by Test America: Y N
Method of Shipment:

Special Instructions:
DO NOT - Run out of Hold Time

| | | | | | |
|--------------------------------------|---------------------|--------------------|--------------|-------|-------|
| Relinquished By: <u>Stan Johnson</u> | Date: <u>4/7/04</u> | Time: <u>4:30P</u> | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: | Time: |

4/16/04

CASE NARRATIVE

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: SC ID#8641
Project Number: 03-10042.
Laboratory Project Number: 370762.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

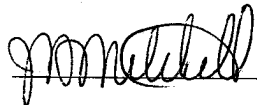
Page 1

| Sample Identification | Lab Number | Collection Date |
|-----------------------|------------|-----------------|
| MW-5 | 04-A52685 | 4/ 7/04 |
| MW-2 | 04-A52686 | 4/ 7/04 |
| MW-1 | 04-A52687 | 4/ 7/04 |

| Sample Identification | Lab Number | Collection Date |
|-----------------------|------------|-----------------|
| ----- | ----- | ----- |

These results relate only to the items tested.
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permission of the laboratory.

Report Approved By:



Report Date: 4/16/04

Johnny A. Mitchell, Operations Manager
Michael H. Dunn, M.S., Technical Director
Pamela A. Langford, Technical Serv
Eric S. Smith, QA/QC

Gail A. Lage, QA/QC
Glenn L. Norton, QA/QC
Kelly S. Comstock, QA/QC
Roxanne L. Connor, QA/QC

Laboratory Certification Number: 84009

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ANALYTICAL REPORT

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

Lab Number: 04-A52685
Sample ID: MW-5
Sample Type: Water
Site ID: 08641

Project: 03-10042
Project Name: SC ID#8641
Sampler: STAN JOHNSON

Date Collected: 4/ 7/04
Time Collected: 9:45
Date Received: 4/ 8/04
Time Received: 8:00
Page: 1

| Analyte | Result | Units | Report | Dil | Analysis | | Analyst | Method | Batch |
|------------------------|--------|-------|--------|--------|----------|-------|------------|--------|-------|
| | | | Limit | Factor | Date | Time | | | |
| *ORGANIC PARAMETERS* | | | | | | | | | |
| Naphthalene | 260. | ug/L | 10.0 | 5.0 | 4/13/04 | 12:22 | D. Harris | 8270C | 1491 |
| Acenaphthene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Anthracene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Fluoranthene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Fluorene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Pyrene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Benzo(a)anthracene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Benzo(a)pyrene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Benzo(b)fluoranthene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Benzo(k)fluoranthene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Chrysene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Dibenzo(a,h)anthracene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Indeno(1,2,3-cd)pyrene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Acenaphthylene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Benzo(g,h,i)perylene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| Phenanthrene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:01 | D. Harris | 8270C | 1491 |
| *VOLATILE ORGANICS* | | | | | | | | | |
| Benzene | 1170 | ug/L | 10.0 | 10.0 | 4/15/04 | 7:37 | D. Jones | 8260B | 6005 |
| Toluene | 340. | ug/L | 10.0 | 10.0 | 4/15/04 | 7:37 | D. Jones | 8260B | 6005 |
| Ethylbenzene | 1080 | ug/L | 10.0 | 10.0 | 4/15/04 | 7:37 | D. Jones | 8260B | 6005 |
| Xylenes (Total) | 1500 | ug/L | 10.0 | 10.0 | 4/15/04 | 7:37 | D. Jones | 8260B | 6005 |
| 1,2-Dibromoethane | ND | ug/L | 1.00 | 1.0 | 4/13/04 | 15:38 | S. Roberts | 8260B | 4675 |
| Methyl-t-butyl ether | 39.2 | ug/L | 1.0 | 1.0 | 4/13/04 | 15:38 | S. Roberts | 8260B | 4675 |
| Naphthalene | 443. | ug/L | 50.0 | 10.0 | 4/15/04 | 7:37 | D. Jones | 8260B | 6005 |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A52685
Sample ID: MW-5
Project: 03-10042
Page 2

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|--------------------------------------|--------|-------|--------------|------------|---------------|---------------|------------|------------|-------|
| *MISCELLANEOUS GC PARAMETERS* | | | | | | | | | |
| Methane | ND | ug/L | 26. | 1.0 | 4/ 9/04 | 15:26 | K. Roberso | RSK175M | 8203 |
| Carbon Dioxide | 146000 | ug/L | 3000 | 1.0 | 4/ 9/04 | 14:48 | T. Beverly | SM4500CO2C | 9179 |
| *METALS* | | | | | | | | | |
| Ferrous Iron | 78400 | ug/L | 5000 | 50.0 | 4/ 8/04 | 17:04 | W. Choate | 3500D | 8364 |
| Lead | 285. | ug/L | 25.0 | 1.0 | 4/ 9/04 | 12:01 | G.McCord | 6010B | 8618 |
| *MISCELLANEOUS CHEMISTRY* | | | | | | | | | |
| Nitrate-N as N | ND | mg/L | 0.100 | 1.0 | 4/ 8/04 | 18:45 | W. Choate | 353.2 | 9049 |
| Sulfate | ND | mg/L | 1.00 | 1.0 | 4/ 8/04 | 1:34 | M.Shockley | 9038 | 8447 |
| Dissolved Oxygen | 4.32 | mg/L | 1.00 | 1.0 | 4/ 8/04 | 22:15 | J. Staten | 360.1 | 8372 |

Sample Extraction Data

| Parameter | Wt/Vol | | Date | Time | Analyst | Method |
|-----------|-----------|-------------|---------|------|-----------|----------|
| | Extracted | Extract Vol | | | | |
| BNA's | 1000 ml | 1.0 ml | 4/ 9/04 | | K. Turner | 3510/625 |

| Surrogate | % Recovery | Target Range |
|---------------------------|------------|--------------|
| VOA Surr 1,2-DCA-d4 | 79. | 71. - 128. |
| VOA Surr Toluene-d8 | 96. | 77. - 119. |
| VOA Surr, 4-BFB | 96. | 79. - 123. |
| VOA Surr, DBFM | 90. | 78. - 124. |
| BNA Surr-Nitrobenzene-d5 | 63. | 25. - 121. |
| BNA Surr-2-Fluorobiphenyl | 73. | 33. - 111. |
| BNA Surr-Terphenyl-d14 | 79. | 11. - 139. |
| Surr - Acetylene | 101. | 70. - 130. |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A52685
Sample ID: MW-5
Project: 03-10042
Page 3

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
= Recovery outside Laboratory historical or method prescribed limits.
M = Method RSK175M/8015BM modified for use with Headspace analyzer.
Sample for Ferrous Iron analysis received outside method prescribed holding time.

End of Sample Report.

ANALYTICAL REPORT

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

Lab Number: 04-A52686
Sample ID: MW-2
Sample Type: Water
Site ID: 08641

Project: 03-10042
Project Name: SC ID#8641
Sampler: STAN JOHNSON

Date Collected: 4/ 7/04
Time Collected: 10:50
Date Received: 4/ 8/04
Time Received: 8:00
Page: 1

| Analyte | Result | Units | Report | Dil | Analysis | | Analyst | Method | Batch |
|------------------------|--------|-------|--------|--------|----------|-------|------------|--------|-------|
| | | | Limit | Factor | Date | Time | | | |
| *ORGANIC PARAMETERS* | | | | | | | | | |
| Naphthalene | 110. | ug/L | 4.0 | 2.0 | 4/13/04 | 12:48 | D. Harris | 8270C | 1491 |
| Acenaphthene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Anthracene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Fluoranthene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Fluorene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Pyrene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Benzo(a)anthracene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Benzo(a)pyrene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Benzo(b)fluoranthene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Benzo(k)fluoranthene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Chrysene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Dibenzo(a,h)anthracene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Indeno(1,2,3-cd)pyrene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Acenaphthylene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Benzo(g,h,i)perylene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| Phenanthrene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:27 | D. Harris | 8270C | 1491 |
| *VOLATILE ORGANICS* | | | | | | | | | |
| Benzene | 658. | ug/L | 10.0 | 10.0 | 4/14/04 | 21:43 | D. Jones | 8260B | 6000 |
| Toluene | 43.9 | ug/L | 1.0 | 1.0 | 4/13/04 | 16:08 | S. Roberts | 8260B | 4675 |
| Ethylbenzene | 198. | ug/L | 10.0 | 10.0 | 4/14/04 | 21:43 | D. Jones | 8260B | 6000 |
| Xylenes (Total) | 277. | ug/L | 1.0 | 1.0 | 4/13/04 | 16:08 | S. Roberts | 8260B | 4675 |
| 1,2-Dibromoethane | ND | ug/L | 1.00 | 1.0 | 4/13/04 | 16:08 | S. Roberts | 8260B | 4675 |
| Methyl-t-butyl ether | 84.3 | ug/L | 1.0 | 1.0 | 4/13/04 | 16:08 | S. Roberts | 8260B | 4675 |
| Naphthalene | 137. | ug/L | 5.00 | 1.0 | 4/13/04 | 16:08 | S. Roberts | 8260B | 4675 |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A52686
Sample ID: MW-2
Project: 03-10042
Page 2

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|--------------------------------------|--------|-------|--------------|------------|---------------|---------------|------------|------------|-------|
| *MISCELLANEOUS GC PARAMETERS* | | | | | | | | | |
| Methane | ND | ug/L | 26. | 1.0 | 4/ 8/04 | 15:29 | K. Roberso | RSK175M | 8203 |
| Carbon Dioxide | 58600 | ug/L | 3000 | 1.0 | 4/ 9/04 | 14:48 | T. Beverly | SM4500CO2C | 9179 |
| *METALS* | | | | | | | | | |
| Ferrous Iron | 2160 | ug/L | 100. | 1.0 | 4/ 8/04 | 17:04 | W. Choate | 3500D | 8364 |
| Lead | 19.0 | ug/L | 5.0 | 1.0 | 4/ 9/04 | 12:01 | G.McCord | 6010B | 8618 |
| *MISCELLANEOUS CHEMISTRY* | | | | | | | | | |
| Nitrate-N as N | 0.820 | mg/L | 0.100 | 1.0 | 4/ 8/04 | 18:47 | W. Choate | 353.2 | 9049 |
| Sulfate | 3.20 | mg/L | 1.00 | 1.0 | 4/ 8/04 | 1:34 | M.Shockley | 9038 | 8447 |
| Dissolved Oxygen | 6.43 | mg/L | 1.00 | 1.0 | 4/ 8/04 | 22:15 | J. Staten | 360.1 | 8372 |

Sample Extraction Data

| Parameter | Wt/Vol Extracted | Extract Vol | Date | Time | Analyst | Method |
|-----------|---------------------|-------------|---------|------|-----------|----------|
| BNA's | 1000 ml | 1.0 ml | 4/ 9/04 | | K. Turner | 3510/625 |

| Surrogate | % Recovery | Target Range |
|---------------------------|------------|--------------|
| VOA Surr 1,2-DCA-d4 | 82. | 71. - 128. |
| VOA Surr Toluene-d8 | 100. | 77. - 119. |
| VOA Surr, 4-BFB | 97. | 79. - 123. |
| VOA Surr, DBFM | 87. | 78. - 124. |
| BNA Surr-Nitrobenzene-d5 | 63. | 25. - 121. |
| BNA Surr-2-Fluorobiphenyl | 75. | 33. - 111. |
| BNA Surr-Terphenyl-d14 | 68. | 11. - 139. |
| Surr - Acetylene | 73.0 | 70. - 130. |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A52686
Sample ID: MW-2
Project: 03-10042
Page 3

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
= Recovery outside Laboratory historical or method prescribed limits.
M = Method RSK175M/8015BM modified for use with Headspace analyzer.
Sample for Ferrous Iron analysis received outside method prescribed holding time.
Benzene LCS for batch 6002 was below laboratory historical limits but was within method default limits of 70% - 130%.

End of Sample Report.

ANALYTICAL REPORT

SPERO CORPORATION 2213
STAN JOHNSON
119 SE MAIN
SIMPSONVILLE, SC 29681

Lab Number: 04-A52687
Sample ID: MW-1
Sample Type: Water
Site ID: 08641

Project: 03-10042
Project Name: SC ID#8641
Sampler: STAN JOHNSON

Date Collected: 4/ 7/04
Time Collected: 12:10
Date Received: 4/ 8/04
Time Received: 8:00
Page: 1

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|-----------------------------|--------|-------|--------------|------------|---------------|---------------|------------|--------|-------|
| *ORGANIC PARAMETERS* | | | | | | | | | |
| Naphthalene | 315. | ug/L | 10.0 | 5.0 | 4/13/04 | 13:14 | D. Harris | 8270C | 1491 |
| Acenaphthene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Anthracene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Fluoranthene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Fluorene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Pyrene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Benzo(a)anthracene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Benzo(a)pyrene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Benzo(b)fluoranthene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Benzo(k)fluoranthene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Chrysene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Dibenzo(a,h)anthracene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Indeno(1,2,3-cd)pyrene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Acenaphthylene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Benzo(g,h,i)perylene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| Phenanthrene | ND | ug/L | 2.0 | 1.0 | 4/10/04 | 15:53 | D. Harris | 8270C | 1491 |
| *VOLATILE ORGANICS* | | | | | | | | | |
| Benzene | 317. | ug/L | 10.0 | 10.0 | 4/14/04 | 23:13 | D. Jones | 8260B | 6000 |
| Toluene | 14.8 | ug/L | 1.0 | 1.0 | 4/13/04 | 16:38 | S. Roberts | 8260B | 4675 |
| Ethylbenzene | 720. | ug/L | 10.0 | 10.0 | 4/14/04 | 23:13 | D. Jones | 8260B | 6000 |
| Xylenes (Total) | 626. | ug/L | 10.0 | 10.0 | 4/14/04 | 23:13 | D. Jones | 8260B | 6000 |
| 1,2-Dibromoethane | ND | ug/L | 1.00 | 1.0 | 4/13/04 | 16:38 | S. Roberts | 8260B | 4675 |
| Methyl-t-butyl ether | 2.1 | ug/L | 1.0 | 1.0 | 4/13/04 | 16:38 | S. Roberts | 8260B | 4675 |
| Naphthalene | 373. | ug/L | 50.0 | 10.0 | 4/14/04 | 23:13 | D. Jones | 8260B | 6000 |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A52687
Sample ID: MW-1
Project: 03-10042
Page 2

| Analyte | Result | Units | Report Limit | Dil Factor | Analysis Date | Analysis Time | Analyst | Method | Batch |
|--------------------------------------|--------|-------|--------------|------------|---------------|---------------|-------------|------------|-------|
| *MISCELLANEOUS GC PARAMETERS* | | | | | | | | | |
| Methane | 185. | ug/L | 26. | 1.0 | 4/ 8/04 | 15:32 | K. Roberso | RSK175M | 8203 |
| Carbon Dioxide | 131000 | ug/L | 3000 | 1.0 | 4/ 9/04 | 14:48 | T. Beverly | SM4500CO2C | 9179 |
| *METALS* | | | | | | | | | |
| Ferrous Iron | 1310 | ug/L | 100. | 1.0 | 4/ 8/04 | 17:04 | W. Choate | 3500D | 8364 |
| Lead | 19.0 | ug/L | 5.0 | 1.0 | 4/ 9/04 | 12:01 | G. McCord | 6010B | 8618 |
| *MISCELLANEOUS CHEMISTRY* | | | | | | | | | |
| Nitrate-N as N | ND | mg/L | 0.100 | 1.0 | 4/ 8/04 | 18:48 | W. Choate | 353.2 | 9049 |
| Sulfate | ND | mg/L | 1.00 | 1.0 | 4/ 8/04 | 1:34 | M. Shockley | 9038 | 8447 |
| Dissolved Oxygen | 4.80 | mg/L | 1.00 | 1.0 | 4/ 8/04 | 22:15 | J. Staten | 360.1 | 8372 |

Sample Extraction Data

| Parameter | Wt/Vol Extracted | Extract Vol | Date | Time | Analyst | Method |
|-----------|---------------------|-------------|---------|------|-----------|----------|
| BNA's | 1000 ml | 1.0 ml | 4/ 9/04 | | K. Turner | 3510/625 |

| Surrogate | % Recovery | Target Range |
|---------------------------|------------|--------------|
| VOA Surr 1,2-DCA-d4 | 84. | 71. - 128. |
| VOA Surr Toluene-d8 | 98. | 77. - 119. |
| VOA Surr, 4-BFB | 100. | 79. - 123. |
| VOA Surr, DBFM | 86. | 78. - 124. |
| BNA Surr-Nitrobenzene-d5 | 67. | 25. - 121. |
| BNA Surr-2-Fluorobiphenyl | 74. | 33. - 111. |
| BNA Surr-Terphenyl-d14 | 74. | 11. - 139. |
| Surr - Acetylene | 103. | 70. - 130. |

Sample report continued . . .

ANALYTICAL REPORT

Laboratory Number: 04-A52687
Sample ID: MW-1
Project: 03-10042
Page 3

LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

= Recovery outside Laboratory historical or method prescribed limits.

M = Method RSK175M/8015BM modified for use with Headspace analyzer.

Sample for Ferrous Iron analysis received outside method prescribed holding time.

Benzene LCS for batch 6002 was below laboratory historical limits but was within method default limits of 70% - 130%.

End of Sample Report.

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID#8641

Page: 1

Laboratory Receipt Date: 4/ 8/04

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

| Analyte | units | Orig. Val. | MS Val | Spike Conc | Recovery | Target Range | Q.C. Batch | Spike Sample |
|---------------------------|-------|------------|--------|------------|----------|--------------|------------|--------------|
| **UST ANALYSIS** | | | | | | | | |
| Naphthalene | mg/l | < 0.0007 | 0.0380 | 0.0500 | 76 | 32. - 101. | 1491 | Blank |
| Naphthalene | mg/l | < 0.0007 | 0.0380 | 0.0500 | 76 | 32. - 101. | 1491 | Blank |
| Acenaphthene | mg/l | < 0.0008 | 0.0380 | 0.0500 | 76 | 40. - 113. | 1491 | Blank |
| Anthracene | mg/l | < 0.0009 | 0.0420 | 0.0500 | 84 | 48. - 122. | 1491 | Blank |
| Fluoranthene | mg/l | < 0.0008 | 0.0410 | 0.0500 | 82 | 48. - 127. | 1491 | Blank |
| Fluorene | mg/l | < 0.0008 | 0.0380 | 0.0500 | 76 | 45. - 120. | 1491 | Blank |
| Pyrene | mg/l | < 0.0009 | 0.0430 | 0.0500 | 86 | 49. - 127. | 1491 | Blank |
| Benzo(a)anthracene | mg/l | < 0.0009 | 0.0390 | 0.0500 | 78 | 49. - 126. | 1491 | Blank |
| Benzo(a)pyrene | mg/l | < 0.0008 | 0.0440 | 0.0500 | 88 | 48. - 126. | 1491 | Blank |
| Benzo(b)fluoranthene | mg/l | < 0.0007 | 0.0420 | 0.0500 | 84 | 45. - 127. | 1491 | Blank |
| Benzo(k)fluoranthene | mg/l | < 0.0009 | 0.0360 | 0.0500 | 72 | 46. - 134. | 1491 | Blank |
| Chrysene | mg/l | < 0.0010 | 0.0410 | 0.0500 | 82 | 48. - 126. | 1491 | Blank |
| Dibenzo(a,h)anthracene | mg/l | < 0.0008 | 0.0670 | 0.0500 | 134 | 31. - 149. | 1491 | Blank |
| Indeno(1,2,3-cd)pyrene | mg/l | < 0.0008 | 0.0630 | 0.0500 | 126 | 26. - 147. | 1491 | Blank |
| Acenaphthylene | mg/l | < 0.0008 | 0.0390 | 0.0500 | 78 | 41. - 112. | 1491 | Blank |
| Benzo(g,h,i)perylene | mg/l | < 0.0007 | 0.0660 | 0.0500 | 132 | 26. - 152. | 1491 | Blank |
| Phenanthrene | mg/l | < 0.0008 | 0.0410 | 0.0500 | 82 | 47. - 122. | 1491 | Blank |
| **VOA PARAMETERS** | | | | | | | | |
| Benzene | mg/l | < 0.0005 | 0.0413 | 0.0500 | 83 | 73 - 135 | 6000 | blank |
| Benzene | mg/l | < 0.0005 | 0.0439 | 0.0500 | 88 | 73 - 135 | 6005 | blank |
| Toluene | mg/l | 0.0148 | 0.0710 | 0.0500 | 112 | 69 - 139 | 4675 | 04-A52687 |
| Toluene | mg/l | < 0.0006 | 0.0552 | 0.0500 | 110 | 69 - 139 | 6005 | blank |
| VOA Surr 1,2-DCA-d4 | % Rec | | | | 78 | 71 - 128 | 6000 | |
| VOA Surr 1,2-DCA-d4 | % Rec | | | | 85 | 71 - 128 | 6005 | |
| VOA Surr Toluene-d8 | % Rec | | | | 93 | 77 - 119 | 6000 | |
| VOA Surr Toluene-d8 | % Rec | | | | 100 | 77 - 119 | 6005 | |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID#8641

Page: 2

Laboratory Receipt Date: 4/ 8/04

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on a true sample matrix. Laboratory reagent water was used for QC purposes.

| Analyte | units | Orig. Val. | MS Val | Spike Conc | Recovery | Target Range | Q.C. Batch | Spike Sample |
|----------------------------|-------|------------|--------|------------|----------|--------------|------------|--------------|
| VOA Surr, 4-BFB | % Rec | | | | 96 | 79 - 123 | 6000 | |
| VOA Surr, 4-BFB | % Rec | | | | 94 | 79 - 123 | 6005 | |
| VOA Surr, DBFM | % Rec | | | | 88 | 78 - 124 | 6000 | |
| VOA Surr, DBFM | % Rec | | | | 87 | 78 - 124 | 6005 | |
| BNA Surr-Nitrobenzene-d5 | % Rec | | | | 68 | 25 - 121 | 1491 | |
| BNA Surr-2-Fluorobiphenyl | % Rec | | | | 72 | 33 - 111 | 1491 | |
| BNA Surr-Terphenyl-d14 | % Rec | | | | 85 | 11 - 139 | 1491 | |
| **METALS** | | | | | | | | |
| Ferrous Iron | mg/l | 1.88 | 2.69 | 1.00 | 81 | 80 - 120 | 8364 | 04-A52571 |
| Ferrous Iron | mg/l | 1.88 | 2.70 | 1.00 | 82 | 80 - 120 | 8364 | 04-A52571 |
| Lead | mg/l | < 0.0050 | 0.0540 | 0.0500 | 108 | 80 - 120 | 8618 | '52382 |
| **MISC PARAMETERS** | | | | | | | | |
| Nitrate-N as N | mg/l | 1.21 | 7.19 | 6.00 | 100 | 80 - 120 | 9049 | 04-A52621 |
| Nitrate-N as N | mg/l | 1.21 | 7.17 | 6.00 | 99 | 80 - 120 | 9049 | 04-A52621 |
| Sulfate | mg/l | 11.2 | 32.1 | 20.0 | 104 | 80 - 120 | 8447 | 04-A52620 |
| Methane | mg/L | < 0.026 | 1.39 | 1.33 | 105 | 40 - 140 | 8203 | 04-A51687 |

Matrix Spike Duplicate

| Analyte | units | Orig. Val. | Duplicate | RPD | Limit | Q.C. Batch |
|---------------------------|-------|------------|-----------|-------|-------|------------|
| **UST PARAMETERS** | | | | | | |
| Naphthalene | mg/l | 0.0380 | 0.0420 | 10.00 | 44. | 1491 |
| Acenaphthene | mg/l | 0.0380 | 0.0410 | 7.59 | 42. | 1491 |
| Anthracene | mg/l | 0.0420 | 0.0440 | 4.65 | 35. | 1491 |
| Fluoranthene | mg/l | 0.0410 | 0.0430 | 4.76 | 38. | 1491 |
| Fluorene | mg/l | 0.0380 | 0.0410 | 7.59 | 38. | 1491 |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID#8641

Page: 3

Laboratory Receipt Date: 4/ 8/04

Matrix Spike Duplicate

| Analyte | units | Orig. Val. | Duplicate | RPD | Limit | Q.C. Batch |
|---------------------------|-------|------------|-----------|-------|-------|------------|
| Pyrene | mg/l | 0.0430 | 0.0420 | 2.35 | 36. | 1491 |
| Benzo (a) anthracene | mg/l | 0.0390 | 0.0420 | 7.41 | 37. | 1491 |
| Benzo (a) pyrene | mg/l | 0.0440 | 0.0450 | 2.25 | 37. | 1491 |
| Benzo (b) fluoranthene | mg/l | 0.0420 | 0.0390 | 7.41 | 38. | 1491 |
| Benzo (k) fluoranthene | mg/l | 0.0360 | 0.0400 | 10.53 | 36. | 1491 |
| Chrysene | mg/l | 0.0410 | 0.0420 | 2.41 | 38. | 1491 |
| Dibenzo (a,h) anthracene | mg/l | 0.0670 | 0.0700 | 4.38 | 45. | 1491 |
| Indeno (1,2,3-cd) pyrene | mg/l | 0.0630 | 0.0660 | 4.65 | 43. | 1491 |
| Acenaphthylene | mg/l | 0.0390 | 0.0420 | 7.41 | 39. | 1491 |
| Benzo (g,h,i) perylene | mg/l | 0.0660 | 0.0690 | 4.44 | 47. | 1491 |
| Phenanthrene | mg/l | 0.0410 | 0.0430 | 4.76 | 38. | 1491 |
| **VOA PARAMETERS** | | | | | | |
| Benzene | mg/l | 0.0413 | 0.0417 | 0.96 | 21. | 6000 |
| Benzene | mg/l | 0.0439 | 0.0418 | 4.90 | 21. | 6005 |
| Toluene | mg/l | 0.0710 | 0.0715 | 0.70 | 24. | 4675 |
| Toluene | mg/l | 0.0552 | 0.0488 | 12.31 | 24. | 6005 |
| VOA Surr 1,2-DCA-d4 | % Rec | | 82. | | | 6000 |
| VOA Surr 1,2-DCA-d4 | % Rec | | 81. | | | 6005 |
| VOA Surr Toluene-d8 | % Rec | | 97. | | | 6000 |
| VOA Surr Toluene-d8 | % Rec | | 93. | | | 6005 |
| VOA Surr, 4-BFB | % Rec | | 95. | | | 6000 |
| VOA Surr, 4-BFB | % Rec | | 92. | | | 6005 |
| VOA Surr, DBFM | % Rec | | 87. | | | 6000 |
| VOA Surr, DBFM | % Rec | | 89. | | | 6005 |
| BNA Surr-Nitrobenzene-d5 | % Rec | | 77. | | | 1491 |
| BNA Surr-2-Fluorobiphenyl | % Rec | | 80. | | | 1491 |
| BNA Surr-Terphenyl-d14 | % Rec | | 86. | | | 1491 |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID#8641

Page: 4

Laboratory Receipt Date: 4/ 8/04

****METALS****

| | | | | | | |
|--------------|------|--------|--------|------|----|------|
| Ferrous Iron | mg/l | 2.69 | 2.70 | 0.37 | 20 | 8364 |
| Lead | mg/l | 0.0540 | 0.0550 | 1.83 | 20 | 8618 |

****MISC PARAMETERS****

| | | | | | | |
|----------------|------|------|------|------|----|------|
| Methane | mg/L | 1.39 | 1.38 | 0.72 | 50 | 8203 |
| Nitrate-N as N | mg/l | 7.19 | 7.17 | 0.28 | 20 | 9049 |
| Sulfate | mg/l | 32.1 | 32.6 | 1.55 | 20 | 8447 |

Laboratory Control Data

| Analyte | units | Known Val. | Analyzed Val | % Recovery | Target Range | Q.C. Batch |
|---------|-------|------------|--------------|------------|--------------|------------|
|---------|-------|------------|--------------|------------|--------------|------------|

****UST PARAMETERS****

| | | | | | | |
|----------------------------|------|--------|--------|-------|----------|------|
| Naphthalene | mg/l | 0.0500 | 0.0430 | 86 | 32 - 101 | 1491 |
| Acenaphthene | mg/l | 0.0500 | 0.0440 | 88 | 40 - 113 | 1491 |
| Anthracene | mg/l | 0.0500 | 0.0490 | 98 | 48 - 122 | 1491 |
| Fluoranthene | mg/l | 0.0500 | 0.0470 | 94 | 48 - 127 | 1491 |
| Fluorene | mg/l | 0.0500 | 0.0450 | 90 | 45 - 120 | 1491 |
| Pyrene | mg/l | 0.0500 | 0.0500 | 100 | 49 - 127 | 1491 |
| Benzo (a) anthracene | mg/l | 0.0500 | 0.0450 | 90 | 49 - 126 | 1491 |
| Benzo (a) pyrene | mg/l | 0.0500 | 0.0470 | 94 | 48 - 126 | 1491 |
| Benzo (b) fluoranthene | mg/l | 0.0500 | 0.0440 | 88 | 45 - 127 | 1491 |
| Benzo (k) fluoranthene | mg/l | 0.0500 | 0.0390 | 78 | 46 - 134 | 1491 |
| Chrysene | mg/l | 0.0500 | 0.0480 | 96 | 48 - 126 | 1491 |
| Dibenzo (a, h) anthracene | mg/l | 0.0500 | 0.0770 | 154 # | 31 - 149 | 1491 |
| Indeno (1, 2, 3-cd) pyrene | mg/l | 0.0500 | 0.0730 | 146 | 26 - 147 | 1491 |
| Acenaphthylene | mg/l | 0.0500 | 0.0470 | 94 | 41 - 112 | 1491 |
| Benzo (g, h, i) perylene | mg/l | 0.0500 | 0.0740 | 148 | 26 - 152 | 1491 |
| Phenanthrene | mg/l | 0.0500 | 0.0470 | 94 | 47 - 122 | 1491 |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID#8641

Page: 5

Laboratory Receipt Date: 4/ 8/04

****VOA PARAMETERS****

| | | | | | | |
|---------------------------|-------|--------|--------|------|----------|------|
| Benzene | mg/l | 0.0500 | 0.0383 | 77 # | 81 - 121 | 6000 |
| Benzene | mg/l | 0.0500 | 0.0424 | 85 | 81 - 121 | 6005 |
| 1,2-Dibromoethane | mg/l | 0.0500 | 0.0552 | 110 | 77 - 136 | 4675 |
| Ethylbenzene | mg/l | 0.0500 | 0.0496 | 99 | 78 - 126 | 6000 |
| Ethylbenzene | mg/l | 0.0500 | 0.0556 | 111 | 78 - 126 | 6005 |
| Naphthalene | mg/l | 0.0500 | 0.0538 | 108 | 53 - 152 | 4675 |
| Naphthalene | mg/l | 0.0500 | 0.0528 | 106 | 53 - 152 | 6000 |
| Naphthalene | mg/l | 0.0500 | 0.0526 | 105 | 53 - 152 | 6005 |
| Toluene | mg/l | 0.0500 | 0.0548 | 110 | 77 - 125 | 4675 |
| Toluene | mg/l | 0.0500 | 0.0516 | 103 | 77 - 125 | 6005 |
| Xylenes (Total) | mg/l | 0.150 | 0.164 | 109 | 78 - 127 | 4675 |
| Xylenes (Total) | mg/l | 0.150 | 0.148 | 99 | 78 - 127 | 6000 |
| Xylenes (Total) | mg/l | 0.150 | 0.162 | 108 | 78 - 127 | 6005 |
| Methyl-t-butyl ether | mg/l | 0.0500 | 0.0507 | 101 | 68 - 134 | 4675 |
| Methane | mg/L | 1.33 | 1.29 | 97 | 79 - 121 | 8203 |
| Carbon Dioxide | mg/l | 100. | 99.9 | 100 | 90 - 110 | 9179 |
| VOA Surr 1,2-DCA-d4 | % Rec | | | 82 | 71 - 128 | 6000 |
| VOA Surr 1,2-DCA-d4 | % Rec | | | 80 | 71 - 128 | 6005 |
| VOA Surr Toluene-d8 | % Rec | | | 99 | 77 - 119 | 6000 |
| VOA Surr Toluene-d8 | % Rec | | | 96 | 77 - 119 | 6005 |
| VOA Surr, 4-BFB | % Rec | | | 96 | 79 - 123 | 6000 |
| VOA Surr, 4-BFB | % Rec | | | 94 | 79 - 123 | 6005 |
| VOA Surr, DBFM | % Rec | | | 88 | 78 - 124 | 6000 |
| VOA Surr, DBFM | % Rec | | | 86 | 78 - 124 | 6005 |
| BNA Surr-Nitrobenzene-d5 | % Rec | | | 78 | 25 - 121 | 1491 |
| BNA Surr-2-Fluorobiphenyl | % Rec | | | 86 | 33 - 111 | 1491 |
| BNA Surr-Terphenyl-di4 | % Rec | | | 94 | 11 - 139 | 1491 |

****METALS****

| | | | | | | |
|--------------|------|--------|--------|-----|----------|------|
| Ferrous Iron | mg/l | 1.00 | 1.05 | 105 | 80 - 120 | 8364 |
| Lead | mg/l | 0.0500 | 0.0540 | 108 | 80 - 120 | 8618 |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID#8641

Page: 6

Laboratory Receipt Date: 4/ 8/04

****MISC PARAMETERS****

| | | | | | | |
|----------------|------|------|------|-------|----------|------|
| Nitrate-N as N | mg/l | 6.00 | 5.86 | 98 | 88 - 113 | 9049 |
| Sulfate | mg/l | 25.0 | 26.4 | 106 # | 91 - 105 | 8447 |

Duplicates

| Analyte | units | Orig. Val. | Duplicate | RPD | Limit | Q.C. Batch | Sample Dup'd |
|----------------|-------|------------|-----------|------|-------|------------|--------------|
| Ferrous Iron | mg/l | 1.31 | 1.32 | 0.76 | 15. | 8364 | 04-A52687 |
| Nitrate-N as N | mg/l | 0.130 | 0.140 | 7.41 | 15. | 9049 | 04-A52583 |
| Sulfate | mg/l | < 1.00 | < 1.00 | N/A | 15. | 8447 | 04-A52687 |
| Carbon Dioxide | mg/l | 131. | 128. | 2.32 | 15. | 9179 | 04-A52687 |

Blank Data

| Analyte | Blank Value | Units | Q.C. Batch | Date Analyzed | Time Analyzed |
|---------|-------------|-------|------------|---------------|---------------|
|---------|-------------|-------|------------|---------------|---------------|

****UST PARAMETERS****

| | | | | | |
|------------------------|----------|------|------|---------|-------|
| Naphthalene | < 0.0007 | mg/l | 1491 | 4/10/04 | 13:18 |
| Acenaphthene | < 0.0008 | mg/l | 1491 | 4/10/04 | 13:18 |
| Anthracene | < 0.0009 | mg/l | 1491 | 4/10/04 | 13:18 |
| Fluoranthene | < 0.0008 | mg/l | 1491 | 4/10/04 | 13:18 |
| Fluorene | < 0.0008 | mg/l | 1491 | 4/10/04 | 13:18 |
| Pyrene | < 0.0009 | mg/l | 1491 | 4/10/04 | 13:18 |
| Benzo(a)anthracene | < 0.0009 | mg/l | 1491 | 4/10/04 | 13:18 |
| Benzo(a)pyrene | < 0.0008 | mg/l | 1491 | 4/10/04 | 13:18 |
| Benzo(b)fluoranthene | < 0.0007 | mg/l | 1491 | 4/10/04 | 13:18 |
| Benzo(k)fluoranthene | < 0.0009 | mg/l | 1491 | 4/10/04 | 13:18 |
| Chrysene | < 0.0010 | mg/l | 1491 | 4/10/04 | 13:18 |
| Dibenzo(a,h)anthracene | < 0.0008 | mg/l | 1491 | 4/10/04 | 13:18 |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID#8641

Page: 7

Laboratory Receipt Date: 4/ 8/04

Blank Data

| Analyte | Blank Value | Units | Q.C. Batch | Analysis Date | Analysis Time |
|------------------------|-------------|-------|------------|---------------|---------------|
| Indeno(1,2,3-cd)pyrene | < 0.0008 | mg/l | 1491 | 4/10/04 | 13:18 |
| Acenaphthylene | < 0.0008 | mg/l | 1491 | 4/10/04 | 13:18 |
| Benzo(g,h,i)perylene | < 0.0007 | mg/l | 1491 | 4/10/04 | 13:18 |
| Phenanthrene | < 0.0008 | mg/l | 1491 | 4/10/04 | 13:18 |
| **VOA PARAMETERS** | | | | | |
| Benzene | < 0.0005 | mg/l | 6000 | 4/14/04 | 15:01 |
| Benzene | < 0.0005 | mg/l | 6005 | 4/15/04 | 3:10 |
| 1,2-Dibromoethane | < 0.00040 | mg/l | 4675 | 4/13/04 | 11:40 |
| Ethylbenzene | < 0.0003 | mg/l | 6000 | 4/14/04 | 15:01 |
| Ethylbenzene | < 0.0003 | mg/l | 6005 | 4/15/04 | 3:10 |
| Naphthalene | 0.00220 | mg/l | 4675 | 4/13/04 | 11:40 |
| Naphthalene | 0.00220 | mg/l | 6000 | 4/14/04 | 15:01 |
| Naphthalene | 0.00230 | mg/l | 6005 | 4/15/04 | 3:10 |
| Toluene | < 0.0006 | mg/l | 4675 | 4/13/04 | 11:40 |
| Toluene | < 0.0006 | mg/l | 6005 | 4/15/04 | 3:10 |
| Xylenes (Total) | < 0.0009 | mg/l | 4675 | 4/13/04 | 11:40 |
| Xylenes (Total) | < 0.0009 | mg/l | 6000 | 4/14/04 | 15:01 |
| Xylenes (Total) | < 0.0009 | mg/l | 6005 | 4/15/04 | 3:10 |
| Methyl-t-butyl ether | < 0.0005 | mg/l | 4675 | 4/13/04 | 11:40 |
| VOA Surr 1,2-DCA-d4 | 79. | % Rec | 6000 | 4/14/04 | 15:01 |
| VOA Surr 1,2-DCA-d4 | 80. | % Rec | 6005 | 4/15/04 | 3:10 |
| VOA Surr Toluene-d8 | 102. | % Rec | 6000 | 4/14/04 | 15:01 |
| VOA Surr Toluene-d8 | 94. | % Rec | 6005 | 4/15/04 | 3:10 |
| VOA Surr, 4-BFB | 100. | % Rec | 6000 | 4/14/04 | 15:01 |
| VOA Surr, 4-BFB | 100. | % Rec | 6005 | 4/15/04 | 3:10 |
| VOA Surr, DBFM | 85. | % Rec | 6000 | 4/14/04 | 15:01 |
| VOA Surr, DBFM | 85. | % Rec | 6005 | 4/15/04 | 3:10 |

Project QC continued . . .

PROJECT QUALITY CONTROL DATA

Project Number: 03-10042

Project Name: SC ID#8641

Page: 8

Laboratory Receipt Date: 4/ 8/04

| | | | | | |
|---------------------------|----------|-------|------|---------|-------|
| BNA Surr-Nitrobenzene-d5 | 73. | % Rec | 1491 | 4/10/04 | 13:18 |
| BNA Surr-2-Fluorobiphenyl | 73. | % Rec | 1491 | 4/10/04 | 13:18 |
| BNA Surr-Terphenyl-d14 | 84. | % Rec | 1491 | 4/10/04 | 13:18 |
| **METALS** | | | | | |
| Ferrous Iron | < 0.100 | mg/l | 8364 | 4/ 8/04 | 17:04 |
| Lead | < 0.0029 | mg/l | 8618 | 4/ 9/04 | 12:01 |
| **MISC PARAMETERS** | | | | | |
| Nitrate-N as N | < 0.100 | mg/l | 9049 | 4/ 8/04 | 18:39 |
| Sulfate | < 1.00 | mg/l | 8447 | 4/ 8/04 | 1:34 |
| Methane | < 0.026 | mg/L | 8203 | 4/ 8/04 | 14:09 |
| Carbon Dioxide | < 5.0 | mg/l | 9179 | 4/ 9/04 | 14:48 |

= Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 370762



Appendix D

Slug Test Data

Morris Oil Company
 429 Alexander Avenue
 Spartanburg, SC 29306
 UST Permit #08641

Table 1
Slug Test Data (4/12/04)
MW-3

| Time After Test Began (sec) | Depth to Water (feet) | Depth to Water Minus Depth to Water Before Test Began (feet) | Head Ratio (H/Ho) |
|------------------------------------|------------------------------|--|--------------------------|
| Before Test Began | 15.19 | 0 | |
| 0 | 18.13 | 2.94 | 1 |
| 15 | 17.90 | 2.71 | 0.922 |
| 30 | 17.95 | 2.76 | 0.939 |
| 45 | 17.52 | 2.33 | 0.793 |
| 60 | 17.44 | 2.25 | 0.765 |
| 75 | 17.28 | 2.09 | 0.711 |
| 90 | 17.21 | 2.02 | 0.687 |
| 105 | 17.27 | 2.08 | 0.707 |
| 120 | 17.11 | 1.92 | 0.653 |
| 135 | 17.09 | 1.90 | 0.646 |
| 150 | 17.07 | 1.88 | 0.639 |
| 165 | 17.04 | 1.85 | 0.629 |
| 180 | 17.02 | 1.83 | 0.622 |
| 195 | 16.99 | 1.80 | 0.612 |
| 210 | 16.97 | 1.78 | 0.605 |
| 240 | 16.92 | 1.73 | 0.588 |
| 270 | 16.89 | 1.70 | 0.578 |
| 300 | 16.83 | 1.64 | 0.558 |
| 330 | 16.80 | 1.61 | 0.548 |
| 360 | 16.78 | 1.59 | 0.541 |
| 420 | 16.68 | 1.49 | 0.507 |
| 480 | 16.65 | 1.46 | 0.497 |
| 540 | 16.60 | 1.41 | 0.480 |
| 600 | 16.55 | 1.36 | 0.463 |
| 660 | 16.50 | 1.31 | 0.446 |
| 720 | 16.45 | 1.26 | 0.429 |
| 780 | 16.40 | 1.21 | 0.412 |
| 1080 | 16.22 | 1.03 | 0.350 |
| 1680 | 15.88 | 0.69 | 0.235 |
| 2880 | 15.57 | 0.38 | 0.129 |
| 4080 | 15.39 | 0.20 | 0.068 |

Morris Oil Company
429 Alexander Avenue
Spartanburg, SC 29306
UST Permit #08641

Table 2
Slug Test Data (4/12/04)

MW-4

| Time After Test Began (sec) | Depth to Water (feet) | Depth to Water Minus Depth to Water Before Test Began (feet) | Head Ratio (H/Ho) |
|------------------------------------|------------------------------|--|--------------------------|
| Before Test Began | 16.55 | 0 | |
| 0 | 17.28 | 0.73 | 1 |
| 15 | 17.10 | 0.55 | 0.753 |
| 30 | 17.04 | 0.49 | 0.671 |
| 45 | 16.97 | 0.42 | 0.575 |
| 60 | 16.93 | 0.38 | 0.521 |
| 75 | 16.89 | 0.34 | 0.465 |
| 90 | 16.87 | 0.32 | 0.438 |
| 105 | 16.84 | 0.29 | 0.397 |
| 120 | 16.82 | 0.27 | 0.370 |
| 135 | 16.81 | 0.26 | 0.356 |
| 150 | 16.80 | 0.25 | 0.342 |
| 165 | 16.79 | 0.24 | 0.329 |
| 180 | 16.77 | 0.22 | 0.301 |
| 240 | 16.72 | 0.17 | 0.233 |
| 300 | 16.69 | 0.14 | 0.192 |
| 360 | 16.65 | 0.10 | 0.137 |
| 660 | 16.60 | 0.05 | 0.068 |
| 720 | 16.55 | 0 | 0 |

Morris Oil Company
429 Alexander Avenue
Spartanburg, SC 29306
UST Permit #08641

Table 3
Slug Test Data (4/12/04)

MW-5

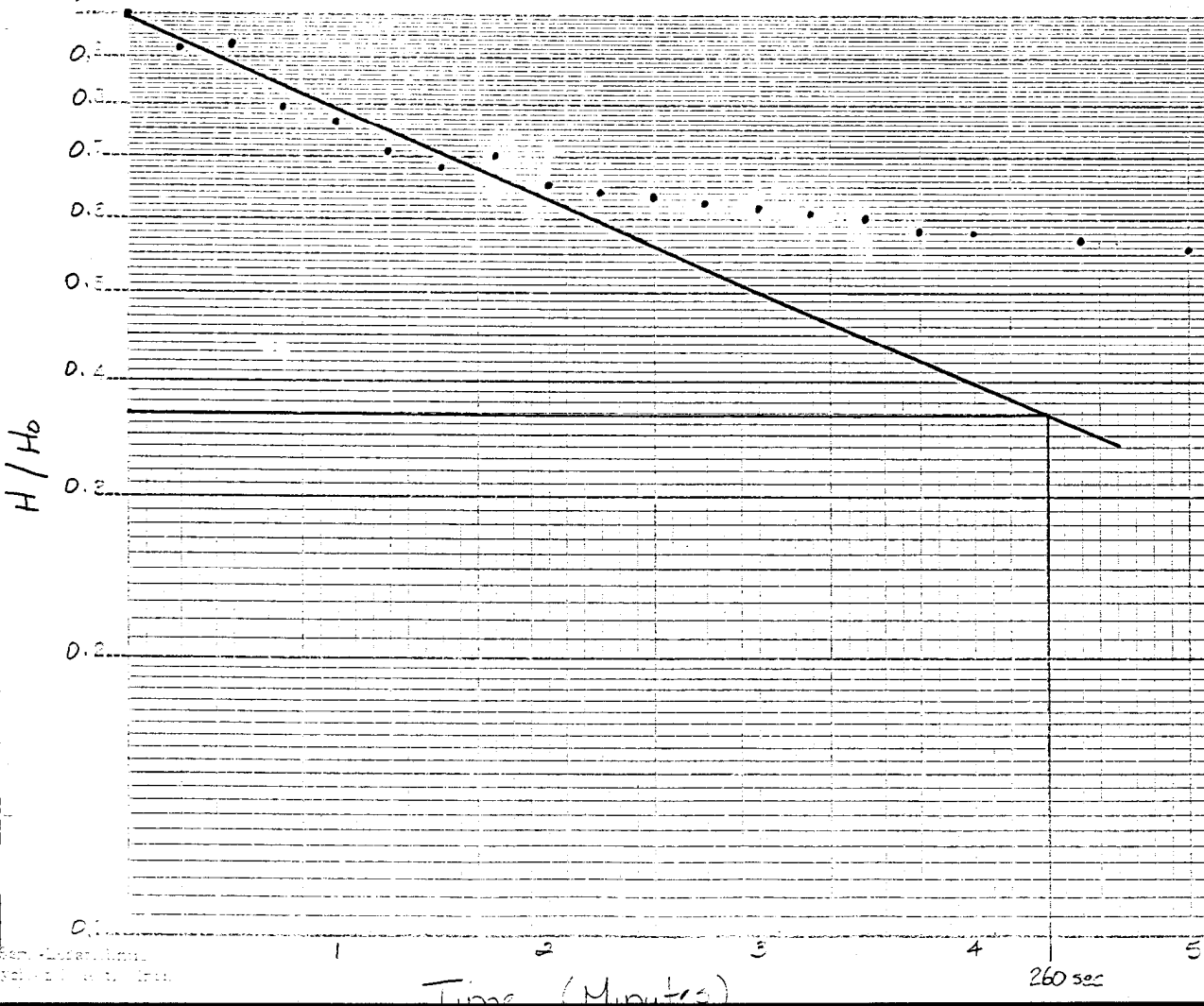
| Time After Test Began (sec) | Depth to Water (feet) | Depth to Water Minus Depth to Water Before Test Began (feet) | Head Ratio (H/Ho) |
|------------------------------------|------------------------------|--|--------------------------|
| Before Test Began | 16.49 | 0 | |
| 0 | 19.00 | 2.51 | 1 |
| 15 | 18.81 | 2.32 | 0.924 |
| 30 | 18.65 | 2.16 | 0.861 |
| 45 | 18.45 | 1.96 | 0.781 |
| 60 | 18.35 | 1.86 | 0.741 |
| 75 | 18.24 | 1.75 | 0.697 |
| 90 | 18.11 | 1.62 | 0.645 |
| 105 | 17.99 | 1.50 | 0.598 |
| 120 | 17.86 | 1.37 | 0.546 |
| 135 | 17.79 | 1.30 | 0.518 |
| 150 | 17.73 | 1.24 | 0.494 |
| 165 | 17.67 | 1.18 | 0.470 |
| 180 | 17.62 | 1.13 | 0.450 |
| 195 | 17.60 | 1.11 | 0.442 |
| 210 | 17.56 | 1.07 | 0.426 |
| 225 | 17.52 | 1.03 | 0.410 |
| 240 | 17.50 | 1.01 | 0.402 |
| 300 | 17.40 | 0.91 | 0.363 |
| 360 | 17.30 | 0.81 | 0.323 |
| 1260 | 17.00 | 0.51 | 0.203 |
| 2160 | 16.91 | 0.42 | 0.167 |

Slug Test Data MW-3

$$K = 2.15 \cdot (10^{-4}) \text{ cm/sec}$$

$$K = \frac{r^2 \ln(L/R)}{2LT_0}$$

- where r = radius of the well or piezometer casing
 L = length of the saturated portion of the screen or filter pack
 (see what follows)
 R = radius of the screen or screen plus filter pack (see what follows)
 T_0 = basic time lag, which is read from the graph, as described earlier
 K = hydraulic conductivity of the formation



Slug Test Data MW-4

$$K = 5.29 \cdot (10^{-4}) \text{ cm/sec}$$

$$K = \frac{r^2 \ln(L/R)}{2LT_0}$$

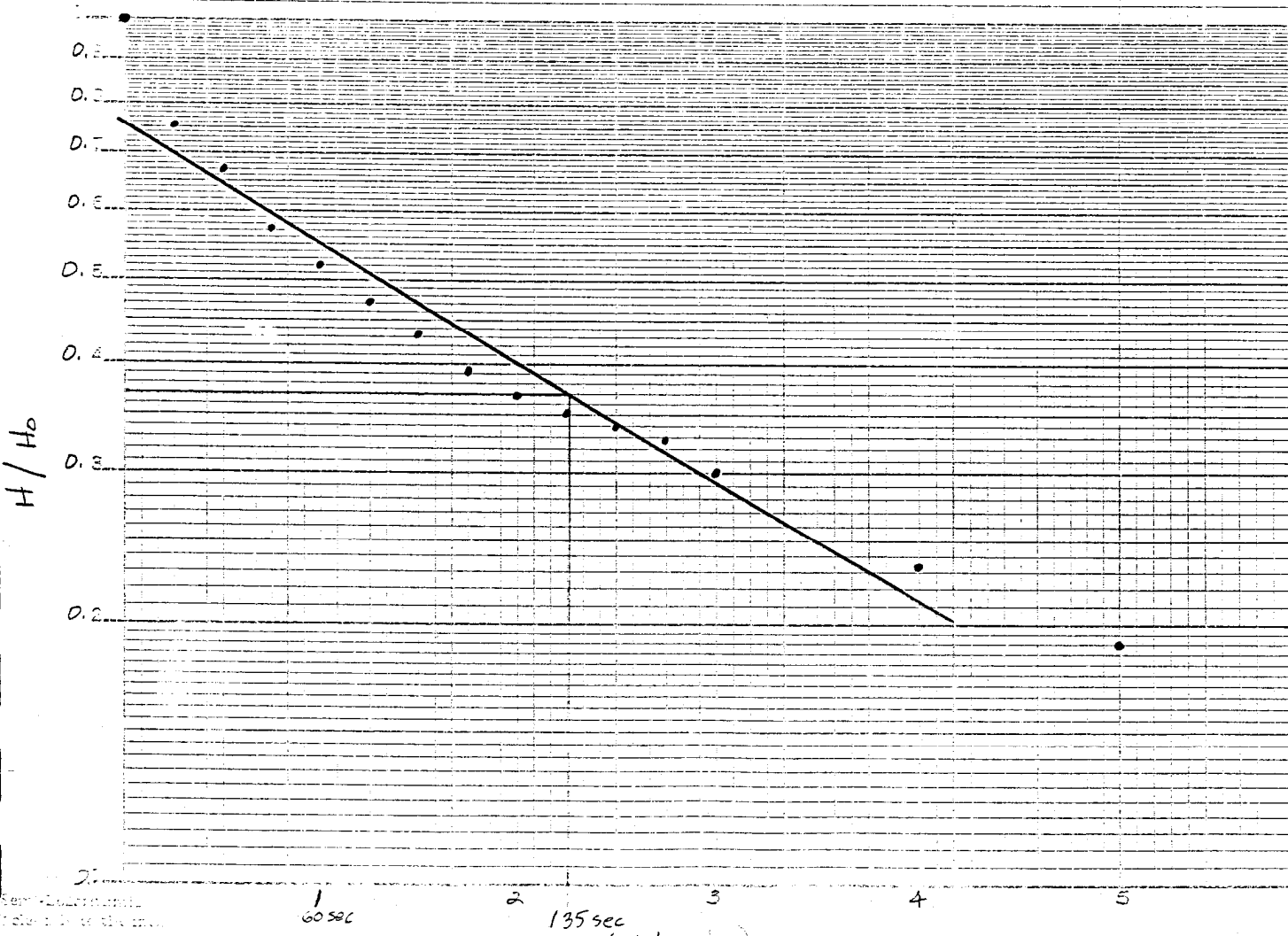
where r = radius of the well or piezometer casing

L = length of the saturated portion of the screen or filter pack
(see what follows)

R = radius of the screen or screen plus filter pack (see what follows)

T_0 = basic time lag, which is read from the graph, as described earlier

K = hydraulic conductivity of the formation

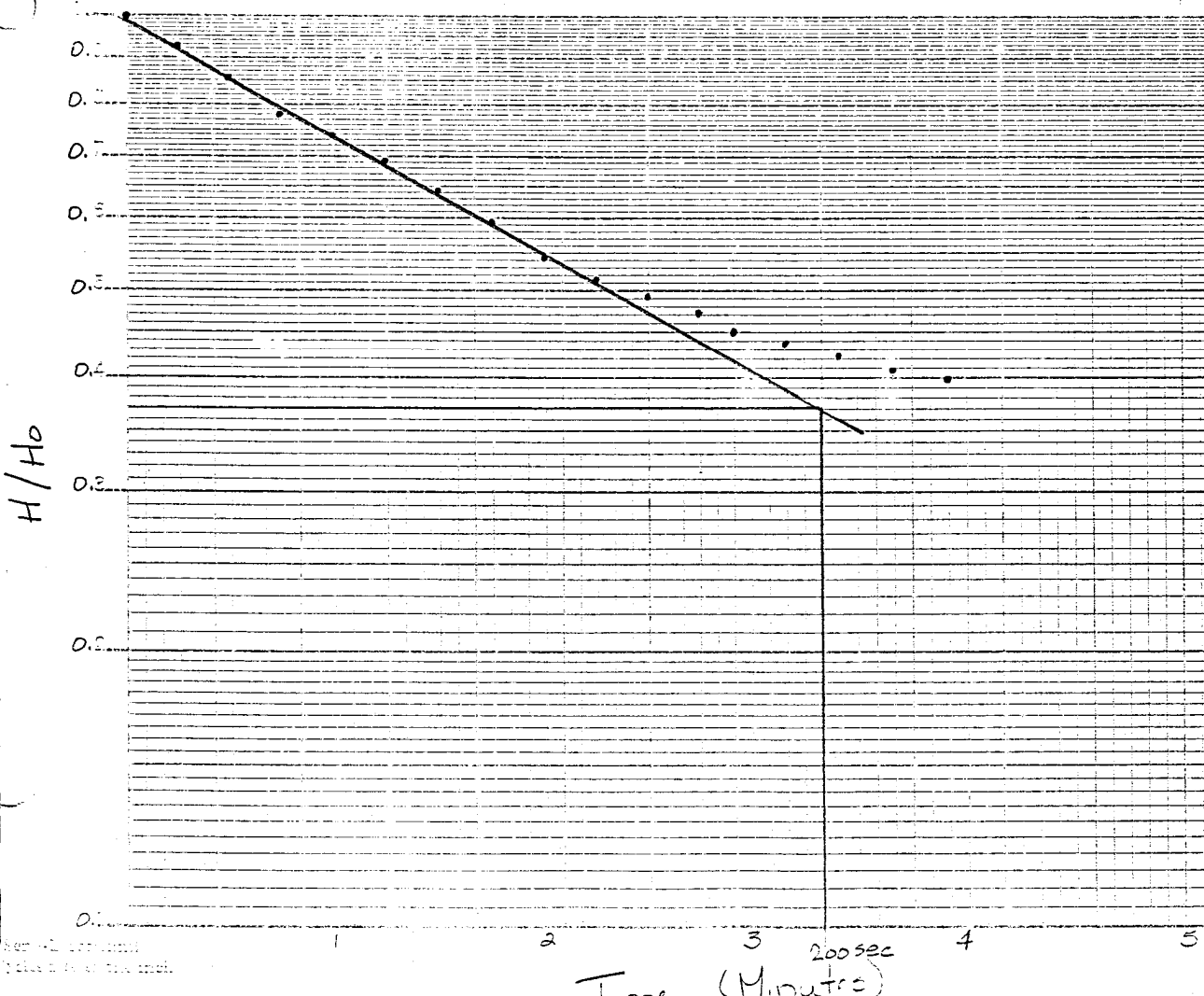


Slug Test Data MW-5

$$K = 3.54 \cdot (10^{-4}) \text{ cm/sec}$$

$$K = \frac{r \ln(L/R)}{2LT_0}$$

- where r = radius of the well or piezometer casing
- L = length of the saturated portion of the screen or filter pack
(see what follows)
- R = radius of the screen or screen plus filter pack (see what follows)
- T_0 = basic time lag, which is read from the graph, as described earlier
- K = hydraulic conductivity of the formation





U.S. Environmental Protection Agency

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Hydraulic Gradient

Hydraulic Gradient $i = (h_2 - h_1)/d$

i = Hydraulic Gradient [L/L]

h_1 = Upgradient Head [L]

h_2 = Downgradient Head [L]

d = Distance Between Wells [L]

Site Name

Date

Distance Unit

Distance Between Wells

Head Unit

Upgradient Water Level (h_1)

Downgradient Water Level (h_2)

Gradient (i)

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Appendix E
Disposal Manifests

BILL OF LADING/MANIFEST

1. Shipper's US EPA ID No. (If Applicable)

Document No.

2. Page 1 of 1

3. Shipper's Name and Mailing Address

CESOG
MORRIS COMP.
429 ALEXANDER ST

4. Shipper's Phone (

864 963-5500

SPARTANBURG

SC 29306

5. Transporter 1 Company Name

~~SAFETY-KLEEN SYSTEMS, INC~~

6.

US EPA ID Number

A. Transporter's Phone

8.

~~TXR000650930~~
US EPA ID Number

B. Transporter's Phone

864 879-0832

9. Designated Facility Name and Site Address

000630
SAFETY-KLEEN SYSTEMS, INC.
130-A FRONTAGE ROAD
LEXINGTON, SC 29073

10.

US EPA ID Number

C. Facility's Phone

SCD077995488

803 356-4061

11. Shipping Name and Description

HM

12. Containers
No. Type

13. Total
Quantity

14. Unit
Wt/Vol

a. NOT USDOT OR USEPA REGULATED MATERIAL
(PIT SLUDGE, OIL, WATER)

003

DM

0.472

P

15. Special Handling Instruction and Additional Information

EMERGENCY RESP 800-468-1760 (24 HR). MFST R/T#104823706 0002-9113-09
IF UNDELIVERABLE RETURN TO GENERATOR.
SK CORP AUTHORIZED TO RETAIN LICENSED SUBSEQUENT CARRIERS AS NECESSARY.

SKDOT# A: 170205 B:

C:

D:

16a. US DOT HAZARDOUS MATERIALS SHIPPER'S CERTIFICATION:

*This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Printed/Typed Name

Signature required here if US DOT regulated

Month Day Year

16b. NON-REGULATED SHIPPER'S CERTIFICATION: I certify the materials described above on this form are not subject to federal regulations for Transportation or Disposal.

Printed/Typed Name

Sign here if material is not DOT regulated

Month Day Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of materials covered by this form except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

IN EVENT OF EMERGENCY CALL
1-800-468-1760 (24 hours)



Appendix F

Zoning Regulations

**B-4 Districts
(Heavy Commercial)**

These districts furnish goods and services which are mainly used in support of retail trade for the City and the region. The principal activities located here are wholesaling, warehousing, transportation, heavy business services, distribution, and some incidental processing. Such functions are generally located in such a position that they can support the Central Business District and at the same time concentrate their heavy traffic requirements near the main arteries for movement of goods and services.

**I-1 Districts
(Light Industrial)**

These districts are intended for industrial uses, which are not offensive to nearby commercial or residential uses, and for business uses which generally support and are integrated with these industrial uses. Further development of residences is prohibited from these districts to prevent residences from being established under strongly adverse conditions and to conserve the supply of industrial land.

**I-2 Districts
(Heavy Industrial)**

These districts are for heavy industrial activities which may be offensive, or incompatible, if located near commercial or residential uses and for limited business uses which support, or are compatible with, these heavy industrial activities. Further development of residences is prohibited from these districts to prevent residences from being established under strongly adverse conditions and to conserve the supply of industrial land.

§ 202. INTERPRETATION OF THE ZONING MAP.

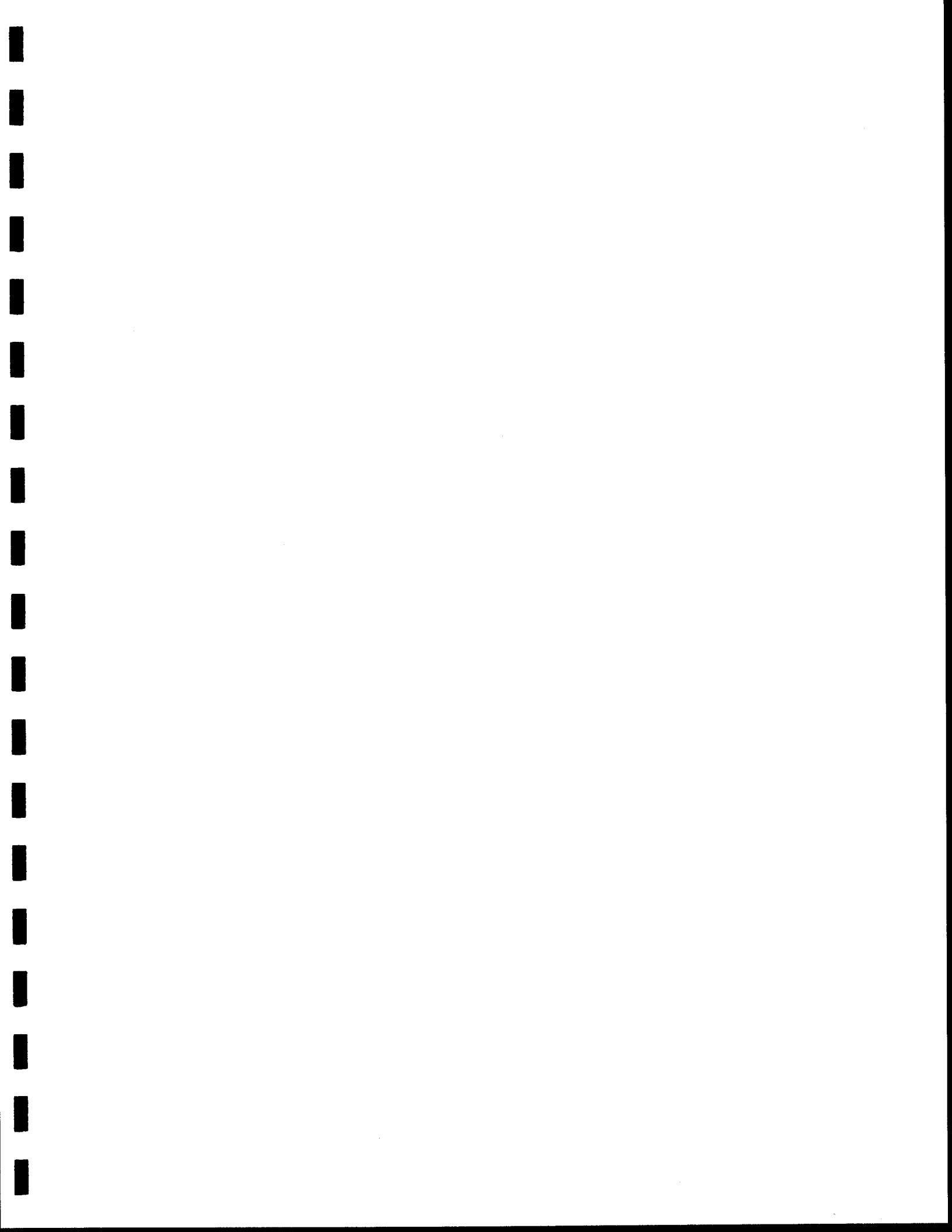
The Zoning Administrator shall interpret the Zoning Map according to the following guide:

- A. Where such district boundaries are indicated as approximately following center lines of streets and alleys, lot lines, stream center lines, property lines or corporate limit lines, such lines shall be considered to be such boundaries.
- B. In unsubdivided property or where a district boundary divides a lot, or where the dimension is not shown on the official Zoning Map, the Zoning Administrator shall determine the location of the zoning line by use of the appropriate scale.

§ 203. DISTRICT BOUNDARIES ESTABLISHED.

The boundaries of each district are indicated upon the Zoning Map of the City of Spartanburg, South Carolina, dated August 6th, 1973, which is hereto attached and made a part of this Ordinance. Said map and all notations, references and other information shown thereon shall be as much a part of this Ordinance as if all were fully described herein.

The boundaries of each district are more particularly shown on Supplementary Zoning Map Sheets, the cover sheet of which is dated August 6th, 1973, and copies of which are on file in the



Section IV: District Area and Dimensional Requirements

§ 401 - (A) Table of Area Dimensional Requirements By District

These Standards Apply Only to One Residential Structure on a Zoning Lot (*8)

MINIMUM YARD REQUIREMENTS

| Zoning District | Max. Bldg. Height (Feet) | Min. Lot Area (Square Ft.) | Min. Lot Per Dwelling Unit (Square Ft.) | Min. Lot Width At Lot Line For Lots Not On The Radius Of A Cul-De-Sac (Ft.) (*9) | Min. Lot Width At Front Bldg. Line On The Radius Of A Cul-De-Sac (Ft.) (*9) | Max. Bldg. Coverage (As a %) | FRONT | REAR | INTERIOR SIDE (*1) | STREET SIDE (*2) | Max. Gross Floor Area |
|---------------------|--------------------------|----------------------------|---|--|---|------------------------------|------------|-------------------|--------------------|-------------------|-----------------------|
| R-15 | 35/A | 15,000 | 15,000 | 90 | 80 | 15 | 40/B | 40 | 15/M (*11) | 15/C | |
| R-12 | D | 12,000 | 10,000 | 80 | 80 | 25 | 35/B | 30 | 10 | 15/C | |
| R-8 | D | 8,000 | | 60 | 50 | 30 | 30/B | 30 | 8 | 15/C | |
| SFD (*10) | | | | | | | | | | | |
| R-8 | D | 8,000 | 6,000 | 60 | 50 | 30 | 30/B | 30 | 8 | 15/C | |
| R-6 (*14) | D | 4,000 | 2,000/F | 50 | 50 | 40 | 15/B | 20 | 5 | 15/C | |
| GID/ LOD (*13)(*14) | E | 4,000 (*5) | 2,000 (*5) | 50 40 | 50 40 | 50/G 50/G (*6) | 25/H 15 | 15/L 15/L (*5) | 10/L 5 (*5) | 15/C 15/C (*4) | |
| LC (*12) | 35/A | 21,780 Or ½ Acre | | | | | 35 | 30 | 10 | 10/C | |
| B-1 | 35/A | | 1,800 | | 50 | | 25 | 10 | 5/I | 15/J | K |
| B-2 | | (*7) | | | 50 | | | | | (*3) | |
| B-3 | | | 800 | | 50 | | 15 | | | 10/J | K |
| B-4 | | | 800 | | 50 | | 25 | | | 10/J | K |
| I-1 | | | | | | | 25 | 15 | 15 | 25 | K |
| I-2 | | | | | | | 25 | 15 | 15 | 25 | K |

LEGEND: Letters A thru M are defined in Subsection 403.1

Note: "Spacing Of Structures: See Subsection 501.13 (B)(6)

• No individual structure shall have a floor area greater than 12,000 square feet.

*1 - INTERIOR SIDE: A side yard not abutting a street right-of-way.

*2 - SIDE STREET: A side yard that abuts a street right-of-way.

*3 (Amended by Council 9/8/75)

*4 (Further Amended by Council 11/21/77)

*5 (Further Amended by Council 10/2/78)

*6 (Further Amended by Council 3/12/79)

*7 (Further Amended by Council 5/5/80)

*8 Further Amended by Council 3/23/81

*9 (Further Amended by Council 9/5/89)

BLANK SPACE: No requirement.

*10 (Further Amended by Council 2/10/92)

*11 (Further Amended by Council 5/11/98)

*12 (Further Amended by Council 12/12/94)

*13 (Further Amended by Council 10/8/01)

*14 (Further Amended by Council 11/25/02)

*15 (Further Amended by Council 1/27/03)

Section IV: District Area and Dimensional Requirements

§ 401 - (B) Table of Area Dimensional Requirements By District
 These Standards Apply to One or More Commercial Buildings on a Zoning Lot (*8)

| Zoning District | Max. Bldg. Height (Feet) | Min. Lot Area (Square Ft.) | Min. Lot Per Dwelling Unit (Square Ft.) | Min. Lot Width At Lot Line For Lots Not On The Radius Of A Cul-De-Sac (Ft.) (*9)(*15) | Min. Lot Width At Front Bldg. Line On The Radius Of A Cul-De-Sac (Ft.) (*9) | Max. Bldg. Coverage (As a %) | FRONT | REAR | INTERIOR SIDE (*1) | STREET SIDE (*2) | Max. Gross Floor Area |
|--------------------|--------------------------|--------------------------------|---|---|---|------------------------------|-------|------------|--------------------|------------------|-----------------------|
| GID/LOD (*13)(*14) | E | 6,000 | 4,000 | 100 | 50 | 50/G | 25/H | 15/L | 10/L | 15/C | |
| LC (*12) | 35/A | (*5) 21,780 Or ½ Acre | (*5) | 100 | 50 | (*6) | 35 | (*5) 30 | (*5) 10 | (*4) 10/C | |
| B-1 | 35/A | | 1,800 | 100 | 50 | | 25 | 10 | 5/I | 15/J | K |
| B-2 | | (*7) | | 100 | 50 | | | | | (*3) | |
| B-3 | | | 800 | 100 | 50 | | 15 | | | 10/J | K |
| B-4 | | | 800 | 100 | 50 | | 25 | | | 10/J | K |
| I-1 | | | | 100 | 50 | | 25 | 15 | 15 | 25 | K |
| I-2 | | | | 100 | 50 | | 25 | 15 | 15 | 25 | K |

LEGEND: Letters A thru M are defined in Subsection 403.1
 Note: "Spacing Of Structures: See Subsection 501.13 (B)(6)
 BLANK SPACE: No requirement.

• No individual structure shall have a floor area greater than 12,000 square feet.

*1 - INTERIOR SIDE: A side yard not abutting a street right-of-way.

*2 - SIDE STREET: A side yard that abuts a street right-of-way.

Section 303: District Use Tables

303.5 TABLE OF PERMITTED USES (****)

| A. COMMERCIAL USES | GID | LOD | LC | B-1 | B-2 | B-3 | B-4 | I-1 | I-2 |
|---|-----|-----|----|-----|-----|-----|-----|-----|-----|
| 1. Airport | | | | | | | | SE | SE |
| 2. Amusement Center, (inside) excluding video poker and video casinos | | | | P | P | | P | P | P |
| 3. Amusement Park, Amusement Arcade, Kiddy Land, and Go-Carts (See also Fair, Carnival, Rodeo) | | | | | | P | P | P | P |
| 4. Animal Breeding and Sales, with no animals to be located within 500 feet of any residentially zoned property or fifty (50) feet from any property line | | | | | | | | P | P |
| 5. Animal Kennel - a fully enclosed building with soundproofed exterior walls in accordance with the Building Code for the temporary lodging and boarding of domestic house pets. Outdoor kennels and cages are permitted. Medical treatment, clipping, and grooming are permitted, as is retail sale of pet products and accessories (see Veterinary Clinic and Veterinary Hospital in Table B, 40 and 41 below) | | | | | | P | P | P | P |
| 6. Antique Store | | | P | P | P | P | P | P | P |
| 7. Automatic Teller Machine (freestanding) | | P | P | P | P | P | P | P | P |
| 8. Auction House | | | | | | | P | P | P |
| 9. Auto, Boat, and Farm Equipment Sales | | | | | P | P | P | P | P |
| 10. Auto, Body Shop | | | | | | | P | P | P |
| 11. Auto, Car Wash (Automatic) – No automatic car wash shall abut residentially zoned land and shall be at least 100 feet from any residential zone measured from property line to property line (See Section 108 for full definition)(**)(***) | | | | P | | P | P | P | P |
| 12. Auto, Car Wash (Other than Automatic Car Wash as defined above) (*) (***) | | | | | | P | P | P | P |
| 13. Auto, Gas Station – Full or Self-Service | | | | P | P | P | P | P | P |
| 14. Auto, Oil Change Center | | | | P | P | P | P | P | P |
| 15. Auto, Parts Store | | | | P | P | P | P | P | P |
| 16. Auto, Racing | | | | | | | | | SE |

* (Further Amended by Council 4/8/86)
 ** (Amended by Council 7/10/00)

*** (Further Amended by Council 6/11/01)
 **** (Further Amended by Council 10/8/01)

Section 303: District Use Tables

| A. COMMERCIAL USES (CONTINUED) | GID | LOD | LC | B-1 | B-2 | B-3 | B-4 | I-1 | I-2 |
|--|------------|------------|-----------|------------|------------|------------|------------|------------|------------|
| 17. Auto, Rental – rental of cars, trucks, and trailers with inventory is limited as follows: (1) no more than ten car can be parked on the property at one time; (2) no more than five trucks can be parked on the property at one time. No truck shall have more than two axles nor have a gross vehicle weight exceeding 32,000 lb.; (3) only trailers utilized for transporting a single car can be located on the property and no more than five trailers at one time | | | | P | | | | | |
| 18. Auto, Rental | | | | | P | P | P | P | P |
| 19. Auto Repair (Heavy) – including but not limited to auto body/painting, and engine transmission/overhauls, and/or overnight storage of vehicles (**) | | | | | | P | P | P | P |
| 20. Auto Repair (Light) – including the purchase, service or replacement of such items such as: brakes, mufflers, tires, tune-ups, oil changes, air-conditioning systems, and/or small auto parts. The servicing of a vehicle is usually completed in one business day and has no outdoor storage (**) | | | | P | P | P | P | P | P |
| 21. Bank, Credit Union, Savings & Loan Association, Credit Bureau, Credit Counseling, Stock Broker, Finance Company, and other Financial Services (includes drive-in's) | | P | P | P | P | P | P | P | P |
| 22. Bar or Tavern (See also Dance Hall or Dance Club) | | | | P | P | P | P | P | P |
| 23. Beauty or Barber Shop | | P | P | P | P | P | P | P | P |
| 24. Boat and Farm Equipment Repair and Storage | | | | | | | P | P | P |
| 25. Bingo Parlor | | | | P | P | P | P | P | P |
| 26. Bookstore | | | CU | P | P | P | P | P | P |
| 27. Bus Passenger Station (intercity) | | | | | P | P | P | P | P |
| 28. Bus Shelters | P | P | P | P | P | P | P | P | P |
| 29. Bus Terminal and Transfer Facility | | | | | P | P | P | P | P |
| 30. Carpet Store | | | | P | P | P | P | P | P |
| 31. Caterer | | | | P | P | P | P | P | P |
| 32. Cellular Telephone Sales (see * below)* | | | CU | P | P | P | P | P | P |
| 33. Clothing, sale or rental | | | CU | P | P | P | P | P | P |
| 34. Clothing Storage Establishment | | | CU | P | P | P | P | P | P |

* (Amended by City Council 2/8/99)

** (Amended by City Council 12/11/00)

Section 303: District Use Tables

| A. COMMERCIAL USES (CONTINUED) | GID | LOD | LC | B-1 | B-2 | B-3 | B-4 | I-1 | I-2 |
|---|------------|------------|-----------|------------|------------|------------|------------|------------|------------|
| 35. Convenience Store | | | | P | P | P | P | P | P |
| 36. Convenience Store With Gas Pump(s) | | | | P | P | P | P | P | P |
| 37. Copy, Blueprint, Fax, Engraving, and/or Mail Box Center (commercial) | | | CU | P | P | P | P | P | P |
| 38. Courier/Messenger Service | | P | | P | P | P | P | P | P |
| 39. Dance Hall or Dance Club | | | | P | P | P | P | P | P |
| 40. Delicatessen, Coffee Shop, and Food Specialty Store (**) | | | CU | P | P | P | P | P | P |
| 41. Dry Cleaner | | | | P | P | P | P | P | P |
| 42. Drug Store | | | CU | P | P | P | P | P | P |
| 43. Exterminator and Outdoor Building Cleaners | | | | | | | P | P | P |
| 44. Fair, Carnival, Rodeo, etc. | | | | | P | | P | P | P |
| 45. Farmers Market | | | | | P | | P | P | P |
| 46. Flea Market and Open Air Retail Sales | | | | | | P | P | P | P |
| 47. Furniture and Piano Store (**) | | | CU | P | P | P | P | P | P |
| 48. Gift Shop/Jewelry Store (*) | | | CU | P | P | P | P | P | P |
| 49. Greenhouse, Nursery, or Farm and Garden Supply | | | | P | P | P | P | P | P |
| 50. Grocery Store or Retail Bakery | | | | P | P | P | P | P | P |
| 51. Hardware Store | | | CU | P | P | P | P | P | P |
| 52. Health Club (commercial) | | | | P | P | P | P | P | P |
| 53. Heliport | | | | | P | P | P | P | P |
| 54. Hotel/Motel | | | | P | P | P | P | P | |
| 55. Indoor Racquet Courts (See also Tennis Club) | | | | P | P | P | P | P | P |
| 56. Insurance Company or Agency | | P | P | P | P | P | P | P | P |
| 57. Janitorial Service (indoor storage only) | | | | P | P | P | P | P | P |
| 58. Laboratory, medical or dental | | P | | P | P | P | P | P | P |
| 59. Laundry Pick Up Station | | P | | P | P | P | P | P | P |
| 60. Laundromat | | | | P | P | P | P | P | P |
| 61. Liquor Store | | | | P | P | P | P | P | P |
| 62. Locksmith | | | | P | P | P | P | P | P |
| 63. Machinery Sales | | | | P | P | P | P | P | P |
| 64. Manufactured and Modular Homes, and RVs, sale or rental | | | | | | | P | P | P |
| 65. Miniature Golf and Batting Cages | | | | P | P | P | P | P | P |
| 66. Mini-warehouses – Self Storage Facility | | | | SE | P | P | P | P | P |
| 67. Monument Sales, with incidental processing to order but excluding the shaping of stones and similar processes | | | | | | P | P | P | P |
| 68. Motorcycle Service and Sales | | | | P | P | P | P | P | P |
| 69. Movie Theater, indoor | | | | P | P | P | P | P | P |
| 70. Movie Theater, outdoor | | | | | | P | P | P | P |
| 71. Office Equipment and Supply | | | CU | P | P | P | P | P | P |
| 72. Parcel and Express Delivery Service (Also see Post Office) | | | | | | P | P | P | P |

* (Amended by City Council 2/14/00)

** (Further Amended by Council 5/24/04)

Section 303: District Use Tables

| A. COMMERCIAL USES (CONTINUED) | GID | LOD | LC | B-1 | B-2 | B-3 | B-4 | I-1 | I-2 |
|--|------------|------------|-----------|------------|------------|------------|------------|------------|------------|
| 73. Paint Store | | | | P | P | P | P | P | P |
| 74. Parking Garage (commercial) | | | | | P | | | | |
| 75. Pawn Shop | | | | P | P | P | P | P | P |
| 76. Personal Services – including but not limited to the following: tailor, dressmaker, travel agency, photographer, and diet centers | | P | P | P | P | P | P | P | P |
| 77. Pet Shop | | | | P | P | P | P | P | P |
| 78. Photography Studio | | P | P | P | P | P | P | P | P |
| 79. Plumbing and Heating Supply (see Industrial Section) | | | | | | | | | |
| 80. Pool Hall and Bowling Alley | | | | P | P | P | P | P | P |
| 81. Railroad Passenger Station | | | | | | | P | P | P |
| 82. Rental of Equipment | | | | P | P | P | P | P | P |
| 83. Repair Shop (inside, small items) - excluding auto, boat, farm equipment or other large items | | | CU | P | P | P | P | P | P |
| 84. Repair Shop (outside, small items) - excluding auto, boat, farm equipment or other large items | | | | | | | P | P | P |
| 85. Repair Shop (inside, large items) - excluding auto, boat, farm equipment or other large items | | | | | P | P | P | P | P |
| 86. Repair Shop (outside, large items) - excluding auto, boat, farm equipment or other large items | | | | | | | P | P | P |
| 87. Restaurant - meeting all applicable health standards and located principally within a structure having historical or architectural significance. The exterior facade of the building shall not be altered but may be rehabilitated provided the architecture is not changed. A building is deemed to be of historical significance if it is eligible to be placed on the National Register of Historic Places and is of architectural significance if its design is an example of Romanesque, Gothic, Medieval, Renaissance, Victorian, American Colonial, Greek Revival, French (country and formal), English (half timber and cottage) or Spanish. | | SE | | | | | | | |
| 88. Restaurant | | | | P | P | P | P | P | P |
| 89. Retail Store | | | | P | P | P | P | P | P |
| 90. Sexually Oriented Business (See Section 511 for requirements) | | | | | | | | P | P |
| 91. Shoe Repair | | | | P | P | P | P | P | P |
| 92. Skating Rink (commercial) | | | | P | P | P | P | P | P |
| 93. Tanning Salon | | P | P | P | P | P | P | P | P |
| 94. Taxi dispatching station and terminals | | | | | P | P | P | P | P |
| 95. Tennis Club (See also Indoor Racquet Courts) | | | | P | P | P | P | P | P |
| 96. Truck or Rail Freight Yard or Terminal | | | | | | | P | P | P |

Section 303: District Use Tables

| A. COMMERCIAL USES (CONTINUED) | GID | LOD | LC | B-1 | B-2 | B-3 | B-4 | I-1 | I-2 |
|---|------------|------------|-----------|------------|------------|------------|------------|------------|------------|
| 97. Shopping Center/Mall (60,000 sq. ft. or above) | | | | P | P | P | P | P | P |
| 98. Strip Shopping Center (60,000 sq. ft. or below) | | | | P | P | P | P | P | P |
| 99. Video Casinos (See Section 512 for requirements and ^Σ below) | | | | | | | | P | P |
| 100. Video Store | | | | P | P | P | P | P | P |

| B. OFFICE, INSTITUTIONAL/PUBLIC AND QUASI-PUBLIC USES | GID | LOD | LC | B-1 | B-2 | B-3 | B-4 | I-1 | I-2 |
|---|------------|------------|-----------|------------|------------|------------|------------|------------|------------|
| 1. Assisted Living Facility | P | P | | P | P | P | P | | |
| 2. Auditorium, Convention Center, Coliseum, and/or Stadium (indoor or outdoor) | P | P | | | P | P | P | P | P |
| 3. Cemeteries, Pet Cemeteries, Mausoleums, Memorial Gardens and Columbariums, provided, however that columbariums and memorial gardens may be permitted only in Zone B-2 if ancillary to a cemetery established prior to the adoption of the Zoning Ordinance on August 6, 1973 | P | | | P | P | P | P | P | P |
| 4. Children's Home or Shelter | P | | | | | | | | |
| 5. Church, Synagogue, or Mosque, and other places of worship | P | | P | P | P | P | P | P | P |
| 6. Club or Lodge | P | | | P | P | P | P | P | |
| 7. College or University | P | | | P | | P | P | | |
| 8. Communication Towers and Antennas as defined in the Zoning Ordinance and to include freestanding, building-mounted, and stealth towers/antennas | SE | SE | SE | P | SE | P | P | P | P |
| 9. Community Center | P | P | P | P | P | P | P | P | |
| 10. Convention Center | | | | P | P | P | P | P | P |
| 11. Day Care Center/Kindergarten (child or adult) | P | P | P | P | P | P | P | P | |
| 12. Dental Office | | P | P | P | P | P | P | P | P |
| 13. Doctor Office | | P | P | P | P | P | P | P | P |
| 14. Drug and Alcohol Treatment Center | P | | | P | P | P | P | P | P |
| 15. Emergency Medical Service Station | P | P | | P | | P | P | P | P |
| 16. Fire or Police Station | | | | P | P | P | P | P | P |
| 17. Funeral Home, Mortuary, or Crematorium | | P | | P | P | P | P | P | P |
| 18. Golf Course and/or Driving Range | | P | | P | P | P | P | P | P |
| 19. Government buildings, <u>except</u> garages, repair, or storage yards, industrial type operations or operations requiring heavy and frequent movement of trucks. The use shall permit occasional shows such as coin, antique, card, and similar activities as incidental uses | P | P | P | P | P | P | P | P | P |

^Σ (Amended by Council 9/13/99)

Section 303: District Use Tables

| B. OFFICE, INSTITUTIONAL/PUBLIC AND QUASI-PUBLIC USES | GID | LOD | LC | B-1 | B-2 | B-3 | B-4 | I-1 | I-2 |
|---|------------|------------|-----------|------------|------------|------------|------------|------------|------------|
| 20. Government buildings, including garages, repair, or storage yards, industrial type operations or operations requiring heavy and frequent movement of trucks. The use shall permit occasional shows such as coin, antique, card, and similar activities as incidental uses | | | | P | P | P | P | P | P |
| 21. Gymnasium, institutional (also see Health Club) | P | P | | P | P | P | P | P | P |
| 22. Hospital | P | | | P | | P | P | P | P |
| 23. Interior design and decorative art galleries if located within a structure having historical or architectural significance. The exterior facade of the building shall not be altered but may be rehabilitated provided the architecture is not changed. A building is deemed to be of historical significance if it is eligible to be placed on the National Register of Historic Places and is of architectural significance if its design is an example of Romanesque, Gothic, Medieval, Renaissance, Victorian, American Colonial, Greek Revival, French (country and formal), English (half timber and cottage) or Spanish. | | SE | P | P | P | P | P | P | P |
| 24. Jail | | | | | P | | | | |
| 25. Library | P | P | P | P | P | P | P | P | P |
| 26. Massage Therapy, Therapeutic Steam Bath, or Day Spa | | P | | P | P | P | P | P | P |
| 27. Museum | P | P | P | P | P | P | P | P | P |
| 28. Nursing Home or Convalescent Center | P | P | | P | P | P | P | | |
| 29. Office: professional, business, administrative, executive, and other offices having no storage of stock in trade (other than samples) or heavy equipment, and no sales of commodities on the premises | | P | P | P | P | P | P | P | P |
| 30. Park, Athletic Field, Botanical Garden, Playground, public or private | P | P | P | P | P | P | P | P | P |
| 31. Public Utility Transmission and Distribution Lines, Transmission Stations, Substations, Electric Transmission Towers, Water Tanks, Water Towers, and Telephone Exchange, but <i>not</i> Service or Storage Yards, <i>nor</i> Cellular or Personal Communication Services Communication Towers | P | P | | P | P | P | P | P | P |

Section 303: District Use Tables

| B. OFFICE, INSTITUTIONAL/PUBLIC AND QUASI-PUBLIC USES | GID | LOD | LC | B-1 | B-2 | B-3 | B-4 | I-1 | I-2 |
|--|------------|------------|-----------|------------|------------|------------|------------|------------|------------|
| 32. Radio and Television Stations with on-site transmitting/receiving towers or antennas. No towers or antennas shall be permitted in Zone B-2 if the tower or antenna constitutes the principal use of the property | | P | | | P | P | P | P | P |
| 33. Radio and Television Stations and Studios excluding transmitting/receiving towers or antennas | | P | | P | P | P | P | P | P |
| 34. Research and Development Facility | | P | | P | P | P | P | P | P |
| 35. School, Beauty, Music, Art, or Dance | | P | | P | P | P | P | P | P |
| 36. School, Elementary, Junior High, or High School | P | | | P | | P | P | P | P |
| 37. School, Trade, Vocational, or Business | P | | | P | P | P | P | P | P |
| 38. Theater, indoor or outdoor, and/or Artistic Programs and Events (excluding motion picture theaters) | P | P | P | P | P | P | P | P | |
| 39. Utility Company Offices | | P | P | P | P | P | P | P | P |
| 40. Veterinary Clinic - (a fully enclosed building) used for the medical treatment of domestic house pets and allowing for their overnight treatment and/or observation until the veterinary doctor releases the same. <u>Outdoor kennels and cages are not permitted.</u> The overnight lodging of pets, if not medically necessary, is prohibited, as are clipping (except where medically necessary), grooming, and retail sale of pet products and accessories (See Animal Kennels under Section 303.5. Commercial Uses) | | P | | P | P | P | P | P | P |
| 41. Veterinary Hospital – the same as number 40, Veterinary Clinic above, except that both indoor and outdoor lodging of animals, as well as exterior kennels are permitted. | | | | | | P | P | P | P |

Section 303: District Use Tables

| C. RESIDENTIAL USES | GID | LOD | LC | B-1 | B-2 | B-3 | B-4 | I-1 | I-2 |
|--|------------|------------|-----------|------------|------------|------------|------------|------------|------------|
| 1. Residential, Single-Family, Patio Home and Condominium (*)(**) | P | P (1) | P | | | | | | |
| 2. Residential, Two Family Dwelling | P | P | P | | | | | | |
| 3. Residential, Multifamily | | | | P | P | P | P | | |
| 4. Bed and Breakfast - meeting all applicable health standards and located principally within a structure having historical or architectural significance. The exterior of the facade of the building shall not be altered but may be rehabilitated provided the architecture is deemed to have architectural and historical significance or if it is listed on the National Register of Historic Places or if its design is an example of Romanesque, Gothic, Medieval, Renaissance, Victorian, American Colonial, Greek Revival, French (country and formal), English (half timber and cottage) or Spanish (*) | | .SE | P | | P | | | | |
| 5. Boarding or Rooming House | | | | | | P | P | | |
| 6. Convent and Monastery | P | | | | P | | | | |
| 7. Fraternity or Sorority (off campus) | P | | | P | P | P | P | P | P |
| 8. Group Home | P | | P | P | P | P | P | P | P |
| 9. Mobile Home Park | | | | | | P | P | | |

1 – Patio homes and condominiums are permitted as a conditional use, with a minimum lot area of four thousand (4,000 square feet. See Sections 403.1.N and 303.2.

* (Amended by Council 5/14/01)

** (Amended by Council 11/25/02)

Section 303: District Use Tables

| D. INDUSTRIAL USES | GID | LOD | LC | B-1 | B-2 | B-3 | B-4 | I-1 | I-2 |
|---|------------|------------|-----------|------------|------------|------------|------------|------------|------------|
| 1. Auto Holding Area - an area used by a wrecker service approved by the Spartanburg Public Safety Department for the storage of wrecked and disabled vehicles for a period not to exceed twenty (20) days from the date the vehicle was towed to the area by the wrecker service. | | | | P | P | P | P | P | P |
| 2. Auto Storage Yard - provided such storage yard is totally enclosed with sight proof screening such as a fence with slats and/or preferably natural vegetation. Gates and doors shall be of sight proof construction as well. Maximum storage period shall be 90 days after which time the vehicles shall be removed from the premises. Under unusual circumstances, the Zoning Administrator and/or Chief of Police may extend the holding period. | | | | | | | | | P |
| 3. Bottling Works and Wholesale Beverage Distributor | | | | | | | P | P | P |
| 4. Building, electrical, plumbing, and mechanical supplies and materials, glass sales and installation <u>without outside storage</u> of lumber, bricks, cement blocks, or other materials | | | | | | P | P | P | P |
| 5. Building, electrical, plumbing, and mechanical supplies and materials, glass sales and installation <u>with outside storage</u> of lumber, bricks, cement blocks, or other materials | | | | | | | P | P | P |
| 6. Candy Products and Manufacture | | | | | P | | P | P | P |
| 7. Clothing Manufacture (finished product-assembling garment) | | | | | | | P | P | P |
| 8. Cold Storage Facility | | | | | | | P | P | P |
| 9. Commercial Laundry Plant, or dyeing or diaper service | | | | | | | P | P | P |
| 10. Dairy Products processing, bottling, and distribution, cream manufacture, all wholesale basis | | | | | | | P | P | P |
| 11. Electric Equipment Assembly | | | | | | | | P | P |
| 12. Food Processing, in wholesale quantity except for meat, fish, poultry, vinegar and yeast | | | | | | | P | P | P |
| 13. Furniture Manufacturing | | | | | | | | P | P |
| 14. Handicrafts, manufacture and sale at retail or wholesale of those handicrafts which are manufactured predominantly by hand and involve the application of artistic skill | | | | | P | P | P | P | P |

Section 303: District Use Tables

| D. INDUSTRIAL USES (CONTINUED) | GID | LOD | LC | B-1 | B-2 | B-3 | B-4 | I-1 | I-2 |
|--|------------|------------|-----------|------------|------------|------------|------------|------------|------------|
| 15. Gunsmith | | | | | | P | P | P | P |
| 16. Ice Manufacture | | | | | | | P | P | P |
| 17. Industrial Research | | | | | | P | P | P | P |
| 18. Leathergoods Manufacture | | | | | | | | P | P |
| 19. Junkyard | | | | | | | | | SE |
| 20. Light mechanical or industrial operations not offensive, obnoxious, or detrimental to neighboring uses by reason of dust, smoke, noise, odor, vibration, or effluents. | | | | | | | | P | P |
| 21. Light Sheet Metal Products such as ventilating ducts and eaves | | | | | | | | P | P |
| 22. Lumberyard | | | | | | | P | P | P |
| 23. Machine Shop | | | | | | | | P | P |
| 24. Meat Processing and Packing, <u>excluding slaughter</u> | | | | | | | | | P |
| 25. Newspaper or Magazine, publishing or distribution | | | | | P | P | P | P | P |
| 26. Optical and Scientific Instrument Manufacture | | | | | P | P | P | P | P |
| 27. Outside Storage, heavy materials and equipment | | | | | | | | P | P |
| 28. Pharmaceutical Manufacture | | | | | | | P | P | P |
| 29. Pottery and Porcelain Manufacture | | | | | | | | P | P |
| 30. Public Utility Storage Yard | | | | P | P | P | P | P | P |
| 31. Recycling Center | | | | | | | P | P | P |
| 32. Roofing and Tinsmith Shop | | | | P | P | P | P | P | P |
| 33. Sign Manufacture | | | | | P | | | P | P |
| 34. Solid and Hazardous Waste Transfer Facility | | | | | | | | P | P |
| 35. Tobacco Manufacture and Storage | | | | | | | | P | P |
| 36. Textile Manufacture | | | | | | | | P | P |
| 37. Tire Recapping and Retreading | | | | | | | | P | P |
| 38. Warehouse, or Moving and Storage Establishments | | | | | P | | P | P | P |
| 39. Welding Shops | | | | | | | P | P | P |
| 40. Wholesaling or Distribution, including the handling of stock and incidental retail | | | | | | P | P | P | P |
| 41. Wholesale Bakery | | | | | | | | P | P |

Section 303: District Use Tables

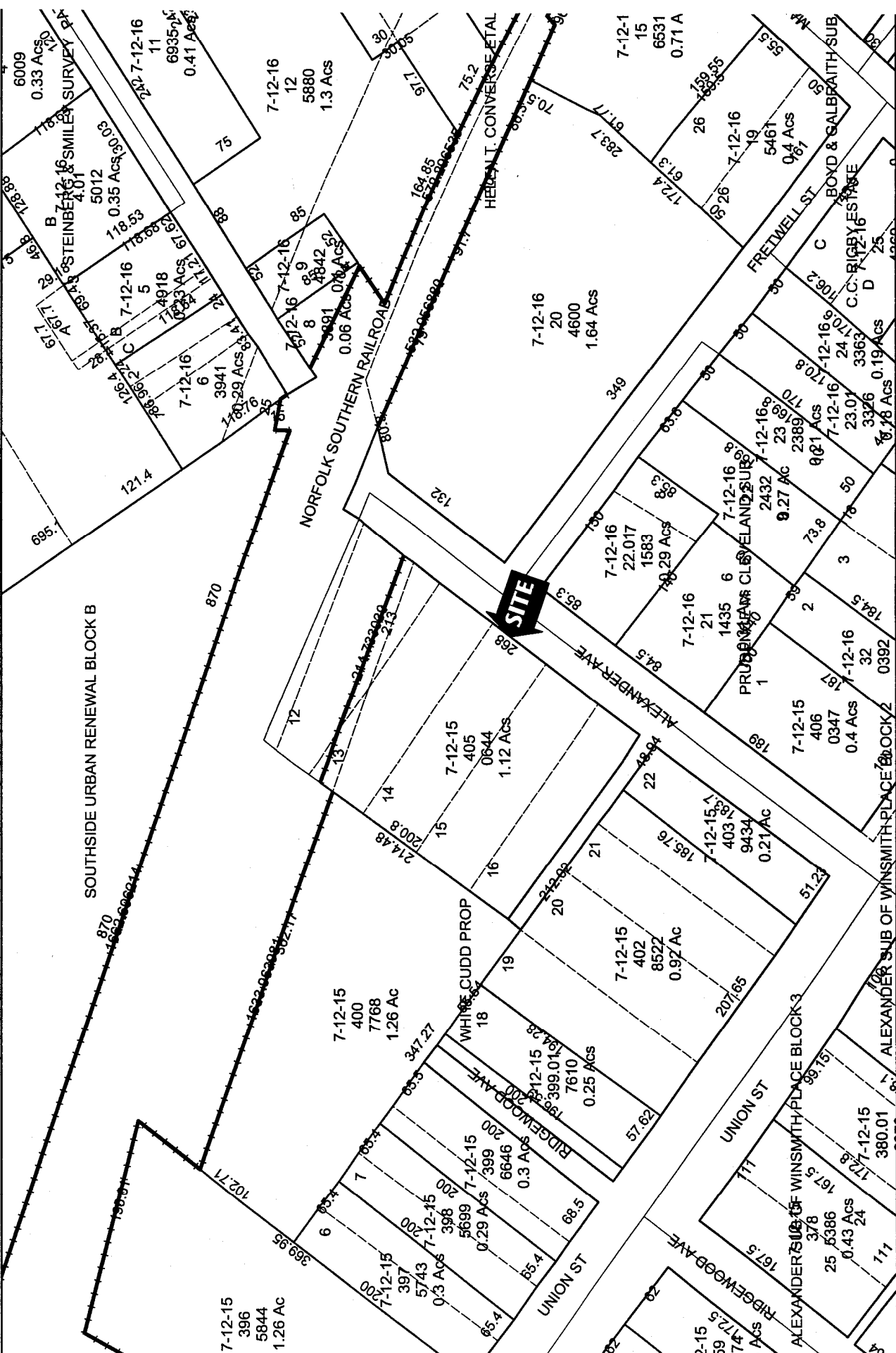
303.6 TABLE OF PERMITTED USES, EXCLUSIVE TO ZONE I-2

| Heavy Industrial District | I-2 |
|--|------------|
| 1. Heavy Mechanical or Industrial Operation that is not offensive, obnoxious, or detrimental to neighboring uses by reason of dust, smoke, vibration, noise, odor, or effluents; <u>OR</u> a use not specifically listed as a special exception or prohibited use. | P |
| 2. Asphalt manufacturing or refining or preparation except when incidental to construction | SE |
| 3. Coal tar or mineral dye manufacture or tar distillation (except as by-products of public utility gas or power manufacture; and the products or by-products of any plant which furnishes gas, gas material or power to a public utility or for public distribution | SE |
| 4. Fuels and Chemicals – outdoor storage of fuels, chemicals (whether in tanks or other containers) except as incidental or accessory to other permitted uses. | SE |
| 5. Junk yards providing all conditions set below are met: (i) no material shall be placed in any junk yard in such a manner that it is capable of being transferred out of the junk yard by wind, water, or other causes; (ii) any land or structure which has not been used as a junk yard, or whose use as a junk yard has been abandoned for a period of at least three months shall not be used as a junk yard except by special exception under Section VI of this ordinance; (iii) all paper, rags, cloth and other fibers, and activities involving the same, and other than loading or unloading, shall be within fully enclosed buildings; and (iv) in order to lessen the adverse effects of adjoining property, reduce wind blown trash, prevent hazards to children, and create a more healthful environment, suitable screening such as a screen planting or fencing will be required as a condition set in approving a junk yard as a special exception. | SE |

303.7 TABLE OF PROHIBITED USES

| The Following Are Prohibited Uses Within The Corporate Limits Of The City Of Spartanburg, SC |
|--|
| 1. Acid Manufacturer |
| 2. Celluloid or pyroxylin manufacture or explosive or inflammable cellulose or pyroxylin products manufacturer |
| 3. Cement, lime gypsum, or plaster of Paris manufacture |
| 4. Creosote manufacture or treatment |
| 5. Distillation of bones |
| 6. Emery cloth, sand paper, carborundum or pumice manufacturer |
| 7. Explosives, manufacturer or storage |
| 8. Fertilizer manufacturer from organic materials or its compounding for sale |
| 9. Garbage, offal, or dead animal reduction or dumping |
| 10. Gas manufacturer |
| 11. Glue manufacture |
| 12. Manufacture of poison gases, bleaching powder, or chlorine except as incidental to other permitted uses |
| 13. Nitrating processes |
| 14. Petroleum refining |
| 15. Pulp manufacturer or any other operation, which releases obnoxious odors. |
| 16. Rendering |
| 17. Stock yards or slaughter of animals |
| 18. Wood distillation |

Appendix G
Tax Map



SOUTHSIDE URBAN RENEWAL BLOCK B

NORFOLK SOUTHERN RAILROAD

SITE

WHITE CUDD PROP

ALEXANDER SUB OF WINSMITH PLACE BLOCK 3

ALEXANDER SUB OF WINSMITH PLACE BLOCK 2

BOYD & GALBRAITH SUB
C.C. RIGBY ESTATE

PRUDEN & CLEVELAND SUB

HERBERT I. CONVERSE ETAL

B Z 12-16 STEINBERG & SMILES SURVEY PT

7-12-15
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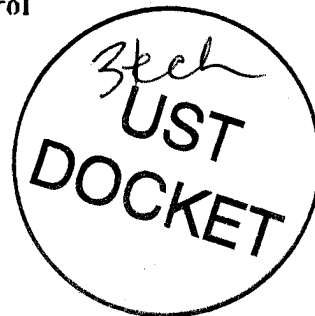
Spero Corporation

Professional Environmental and Engineering Services

November 18, 2004

Ms. Maia Milenkova
South Carolina Department of Health and Environmental Control
UST Section
2600 Bull Street
Columbia, South Carolina 29201

RE: Tier I Assessment (addendum)
Morris Oil Company (Release #2)
Permit ID #08641



Dear Ms. Milenkova:

Attached please find the corrected/added items for the above referenced Tier I Assessment. Please find attached:

1. Summary of Slug Test Form
2. Grain Size Distribution Report
3. Water Well Records (3)
4. Figure 5 - Groundwater COC Site Map

On the Summary of Slug Test form, the effective radius of the wells has not been determined at the time of this letter. Stan Johnson will send this as soon as completed. If you have any questions, or need further information, please do not hesitate to contact me.

Sincerely,

Lisa Trull

Lisa Trull
Spero Corporation

RECEIVED

NOV 18 2004

UNDERGROUND STORAGE
TANK PROGRAM

RECEIVED

NOV 18 2004



Summary of Slug Test **UNDERGROUND STORAGE TANK PROGRAM**
 Division of Underground Storage Tank Management

Site Data

UST Permit #: 02641 County: Spartanburg
 Facility Name: Morris Oil Company

Slug Data

See Appendix D Table _____ Figure _____ for a list of all data measurements. (water level logs, etc. (complete as appropriate)).

Water Level Recovery Data was measured by manually w/ water level indicator
 [Hermit Data Logger, Manually with Water Level Indicator, etc. (list method)].

Complete the following table for each well tested.

COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED

| Slug Test Conducted in Well(s) Number | MW-3 | MW-4 | MW-5 |
|--|-------|-------|-------|
| Initial Rise/Drawdown in Well (feet) | 2.94 | 0.73 | 5.81 |
| Radius of Well Casing (feet) | 0.083 | 0.083 | 0.083 |
| Effective Radius of Well (feet) | | | |
| Static Saturated Aquifer Thickness (feet) | 9 | 7 | 7 |
| Length of Well Screen (feet) | 10 | 10 | 10 |
| Static Height of Water Column in Well (ft) | 8.81 | 6.45 | 6.51 |

Calculations

See Appendix D Table _____ Figure _____ for calculations (complete as appropriate).

The method for aquifer calculations was Bouwer - Rice (i.e. Bouwer-Rice, Cooper, etc.).

Calculated values by well were as follows:

| Slug Test Conducted in Well(s) Number | MW-3 | MW-4 | MW-5 |
|---------------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Hydraulic Conductivity | 5.15 (10 ⁻⁴) cm/sec | 5.29 (10 ⁻⁴) cm/sec | 3.54 (10 ⁻⁴) cm/sec |

Thickness of the aquifer used to calculate hydraulic conductivity was 7 feet.

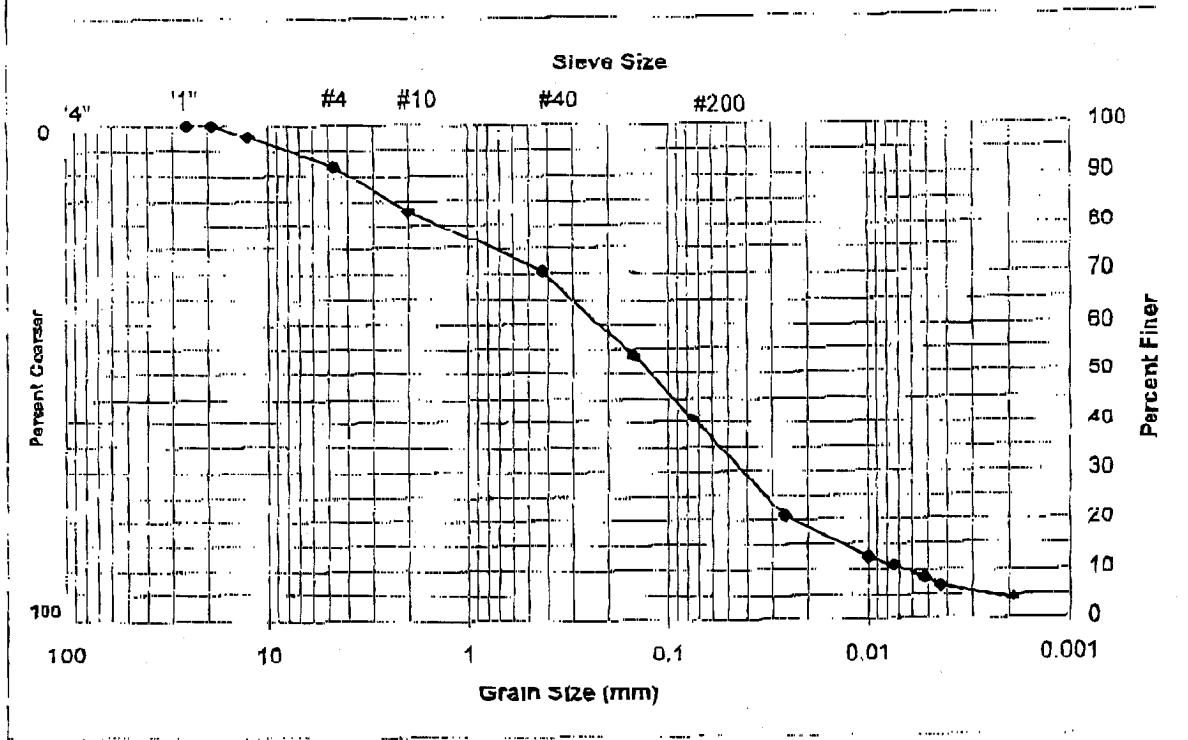
The aquifer is _____ contained _____ semi-confined water table (check as appropriate).

The estimated seepage velocity is 4.0 x 10⁻⁵ feet per year based on

a hydraulic conductivity of 5.29 x 10⁻⁴ cm/sec, a hydraulic gradient of 0.045 and

a porosity of 60 percent for silty sand soil (list type i.e., silty sand, clay, etc).

GRAIN SIZE DISTRIBUTION REPORT ASTM D 422



PERCENT FINER

| SAMPLE ID | Sieve Sizes for Mechanical Analysis | | | | | | | | Diameters for Hydrometer Analysis (mm) | | | | | |
|------------|-------------------------------------|---------|---------|-------------|-----|-----|------|-------------|--|------|------------|-------|-------|-------|
| | 1 (in) | 75 (in) | 50 (in) | #4 | #10 | #40 | #100 | #200 | 0.025 | 0.01 | 0.007 | 0.005 | 0.004 | 0.002 |
| 04A 171787 | 100 | 100 | 98 | 92 | 83 | 70 | 53 | 41 | 21 | 12 | 11 | 8 | 7 | 4 |
| J 1158 | 8% GRAVEL | | | 51% SAND | | | | 33% SILT | | | 8% CLAY | | | |

PROJECT: TEST AMERICA
395552

PROJECT #: 04-4831
DATE: NOVEMBER 10, 2004

BEAVER ENGINEERING, INC.
7378 COCKRILL BEND BLVD.
NASHVILLE, TN 37209
(615) 350-8124

SB-2 @ 15'



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. LOCATION OF WELL.
 Street Address: 409 Alexander Avenue
 County: Spartanburg City: Spartanburg Sp: 29306
 Latitude: _____ Longitude: _____

7. WELL OWNER NAME: Morris ^{Down} (last) ^(first)
 Address: 346 Union Street
Spartanburg, SC 29304
 Telephone Work (803) 585-9003 Home: _____

8. Well Driller: TIM REID Cert. No.: 955
 Address: 143 BEN FRANK RD. PICKENS, S.C. 29671
 Telephone No.: 864 878-4667

2. System Name: _____ System Number: _____

9. Permit Number: _____

3. WELL DEPTH (completed) _____ Date Started: 03-26-04
24' ft. Date Completed: 03-29-04

10. USE:
 Residential Public Supply Process
 Irrigation Air Conditioning Emergency
 Test Well Monitor Well Replacement

4. Mud Rotary Jetted Bored
 Dug Air Rotary Driven
 Cable tool Other AUGER

11. CASING: Threaded Welded
 Diam.: 2
 Type: PVC Galvanized
 Steel Other _____
2 in. to 14 ft. depth
 _____ in. to _____ ft. depth
 Height: Above/Below Surface _____ ft.
 Weight SEHO TO lb./ft.
 Drive Shoe? Yes No

5. CUTTING SAMPLES: Yes No
 Geophysical Log: Yes (please enclose) No

| Formation Description | *Thickness of Stratum | Depth to Bottom of Stratum |
|---------------------------------|-----------------------|----------------------------|
| Red brown sandy silt | 3.5 ft | 3.5 ft |
| Red brown silty sandy | 2.5 ft | 6 ft |
| Tan brown sandy silt | 21.5 ft | 24 ft |
| <u>Boring terminated at 24'</u> | | |
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| | | |
| *Indicate Water Bearing Zones | | |
| (Use a 2nd sheet if needed) | | |

12. SCREEN
 Type: PVC Diam.: 2"
 Slot/Gauge: .010 Length: 10'
 Set Between: 24 ft. and 14 ft. **NOTE: MULTIPLE SCREENS USE SECOND SHEET**
 _____ ft. and _____ ft.
 Sieve Analysis Yes (please enclose) No

13. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

14. PUMPING LEVEL Below Land Surface.
 _____ ft. after _____ hrs. Pumping _____ G.P.M.
 Pumping Test: Yes (please enclose) No
 Yield: _____

15. WATER QUALITY
 Chemical Analysis Yes No Bacterial Analysis Yes No
 Please enclose lab results.

16. ARTIFICIAL FILTER (filter pack) Yes No
 Installed from 24 ft. to 11 ft.
 Effective size # 2 Uniformity Coefficient _____

17. WELL GROUDED? Yes No
 Neat Cement Sand Cement Concrete Other _____
 Depth: From 9 ft. to SURFACE ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
 Type well disinfected Yes Type: _____
 _____ upon completion No Amount: _____

19. PUMP: Date installed: _____ Not installed
 Mr. Name: _____ Model No.: _____
 H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm
 TYPE: Submersible Jet (shallow) Turbine
 Jet (deep) Reciprocating Centrifugal

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

6. REMARKS:
MW-3

Signed: _____ Date: 11/18/04
 Authorized Representative



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. LOCATION OF WELL:
 Street Address: 429 Alexander Avenue
 County: Spartanburg City: Spartanburg Zip: 29306
 Latitude: _____ Longitude: _____

7. WELL OWNER NAME: Morris Don
(last) (first)
 Address: 346 Union Street
Spartanburg, SC 29304
 Telephone Work: (864) 585-4203 Home: _____

8. Well Driller: TIM REID Cert. No.: 955
 Address: 143 BEN FRANKLIN PILKENS, S.C. 29671
 Telephone No.: 864-878-4267

2. System Name: _____ System Number: _____

3. WELL DEPTH (completed) Date Started: 03-26
23 ft. Date Completed: 03-30-04

9. Permit Number: _____

10. USE:
 Residential Public Supply Process
 Irrigation Air Conditioning Emergency
 Test Well Monitor Well Replacement

4. Mud Rotary Jetted Bored
 Dug Air Rotary Driven
 Cable tool Other Auger

11. CASING: Threaded Welded
 Diam.: 2
 Type: PVC Galvanized
 Steel Other _____
2 in. to 1.7 ft. depth
 in. to _____ ft. depth

Height: Above/Below
 Surface +6.11 ft.
 Weight 5 CHD. 40 lb./ft.
 Drive Shoe? Yes No

5. CUTTING SAMPLES: YES NO
 Geophysical Logs: Yes (please enclose) No

12. SCREEN
 Type: PVC Diam.: 2
 Slot/Cauge: 10/10 Length: 10'
 Set Between: 2.3 ft. and 13 ft. **NOTE: MULTIPLE SCREENS
USE SECOND SHEET**
 Sieve Analysis Yes (please enclose) NO

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
|-----------------------------|----------------------|----------------------------|
| Red brown sandy silt w/clay | 4 ft | 4 ft |
| Red tan clayey silt | 1.5 ft | 5.5 ft |
| Red brown clayey silt | 3.5 ft | 9.0 ft |
| Tan brown sandy silt | 14 ft | 23 ft |
| | | |
| Boring terminated at 33' | | |
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*Indicate Water Bearing Zones
(Use a 2nd sheet if needed)

13. STATIC WATER LEVEL
14.5 ft. below land surface after 24 hours

14. PUMPING LEVEL Below Land Surface.
 _____ ft. after _____ hrs. Pumping _____ G.P.M.
 Pumping Test: Yes (please enclose) No
 Yield: _____

15. WATER QUALITY
 Chemical Analysis Yes No Bacterial Analysis Yes No
 Please enclose lab results.

16. ARTIFICIAL FILTER (filter pack) Yes No
 Installed from 23 ft. to 11 ft.
 Effective size #2 Uniformity Coefficient _____

17. WELL GROUTED? Yes No
 Neat Cement Sand Cement Concrete Other _____
 Depth: From 9 ft. to SURFACE ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 _____ Type well disinfected Yes Type: _____
 _____ upon completion No Amount: _____

19. PUMP: Date Installed: _____ Not installed
 Mfr. Name: _____ Model No.: _____
 H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm
 TYPE: Submersible Jet (shallow) Turbine
 Jet (deep) Reciprocating Centrifugal

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

6. REMARKS:
ANW-4

Signed: 
 Authorized Representative Date: 04/01/04

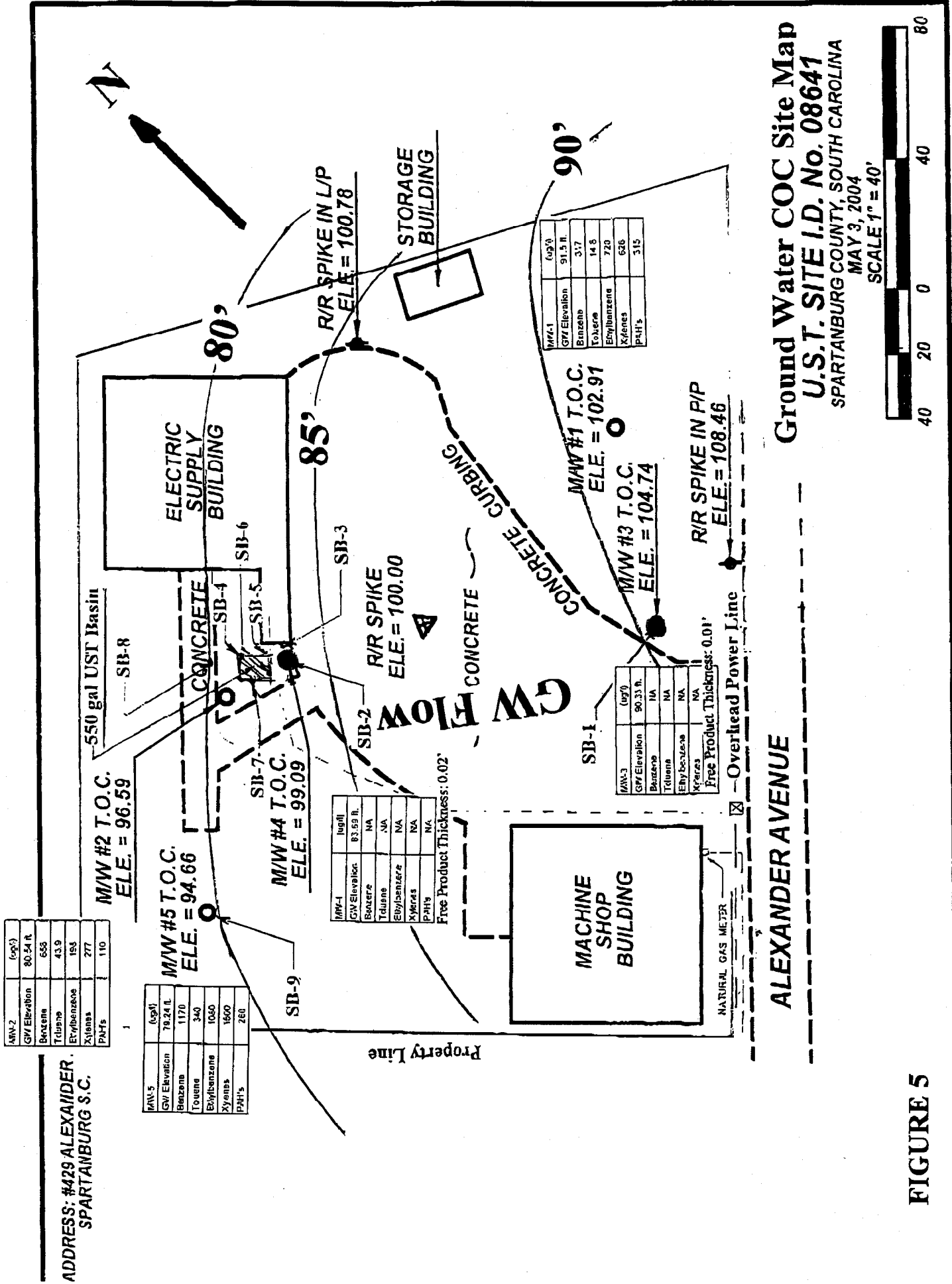


FIGURE 5

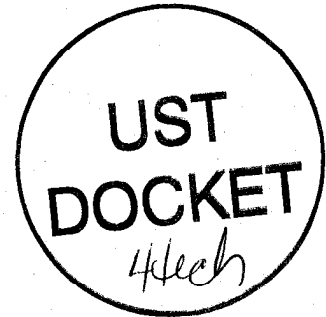


C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

MORRIS OIL CO
PO BOX 2843
SPARTANBURG SC 29304-2843

JUN 14 2010



Re: **Notice of Alleged Violation**
Morris Oil Company, 427 Alexander Ave., Spartanburg, SC
UST Permit # 08641
Release # 1 and release # 2 reported: June 8, 1999
Spartanburg County

To Whom It May Concern:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control directed Morris Oil Co. to submit an assessment plan in November 2004 with the due date on December 27, 2004. To date the required plan has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessment must be conducted as chemicals of concern are above the risk-based-screening levels.

Implementation of this scope of work should proceed upon receipt of this correspondence. The assessment plan must be submitted within 30 days from the date of this letter. If the plan is not received in accordance with this schedule, this office will be forced to initiate enforcement action. Further, our records indicate that an Owner/Operator Lead Information Form has not been filed for the facility. The enclosed form should be completed and returned to the Division.

On all correspondence regarding this site, please reference UST Permit # 08641. If you have any questions concerning this correspondence, please call me at (803) 896-6664. I can also be reached by email at milenkmp@dhec.sc.gov or by fax at (803) 896-6245.

Sincerely,

Maia Milenkova, Hydrogeologist
Assessment Section
UST Management Division
Bureau of Land and Waste Management

Enc: Owner /Operator Lead Information Form
cc: Technical File (w/out enc)
Spero Corporation, 119 SE Main Street, Simpsonville, SC 29681(w/out enc)

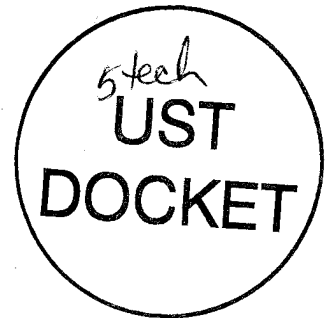


C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

ESTATE OF DON MORRIS
C/O MR LARRY MORRIS
346 UNION STREET
SPARTANBURG SC 29306

MAR 07 2011



Re: Right of Entry to the Property
Morris Oil Company, 427 Alexander Ave., Spartanburg, SC
UST Permit # 08641
Release # 1 and release #2 reported: June 8, 1999
Tier I Assessment report received: June 10, 2004
Spartanburg County

Dear Mr. Morris:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the technical file for the referenced facility. The file data indicates that petroleum constituents from the former underground storage tanks adversely impacted the soil and groundwater. Currently, both releases reported at the referenced facility have a priority classification of 3B. The State Underground Petroleum Environmental Response Bank (SUPERB) funds will be available in the future, to implement the next necessary scope of work. The scope of work to be implemented is a Tier II Assessment for both releases. As Mr. Don Morris is unable to fulfill the necessary requirements to address this problem, all future activities associated with the release will be conducted by the Department using its own certified environmental contractors. **In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations the assessment must be conducted as documented chemicals of concern are above the risk-based-screening levels**

If you are the current property owner, or an authorized representative for that person, complete the enclosed Right-of-Entry form and return it within 10 days of the date of this correspondence. Thank you for your time and cooperation in this matter.

On all correspondence or inquiries regarding this project, please reference UST Permit #08641. If you have any questions, please feel free to contact me at (803) 896-6664.

Sincerely,

Maia Milenkova, Hydrogeologist
Assessment Section
UST Management Division
Bureau of Land and Waste Management

enc: Right of Entry Form
cc: Technical File (no enc.)
SCDHEC/UST/03/03/11/MPM

RIGHT-OF-ENTRY FORM

PROPERTY OWNER

UST Permit # 08641

If you are the Property Owner or are the authorized representative for that person, but did not own the former or existing underground storage tanks at the time the release was reported, please complete this form.

I, _____, certify that I am the legal owner of the property identified below or serve as the authorized representative for the property owner. I authorize the South Carolina Department of Health and Environmental Control (SCDHEC), or a contractor selected by SCDHEC, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that SCDHEC will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

Name of Facility Morris Oil Company Phone # _____

Street Address of Facility: 427 Alexander Avenue

Town, City, District, Suburb Spartanburg, SC

Name of nearest intersecting street, road, highway, alley _____

_____ Is this facility within the city limits? (yes or no) _____

Does a public water or sewer utility service this facility? (yes or no) _____, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _____, phone number _____

Were underground storage tanks previously removed from the ground at this facility? (yes or no) Yes If yes, please provide the name of a person we can contact that can assist in the location of the former underground storage tank excavation _____ Phone number _____

Is the property currently leased or rented to someone? (yes or no) _____. If yes, please provide their name _____ and phone number _____ and let them know about the pending assessment activities. If vehicles or other mobile structures are parked over the former or existing underground storage tanks, they should be moved before SCDHEC's contractor gets to the site.

NAME of Property owner (Please Print): _____

Phone Number (home) _____ (work) _____

Current Mailing Address: _____

Signature of Property Owner: _____

Witness: _____

Date: _____ Month _____ Day _____ Year _____



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

ESTATE OF DON MORRIS
C/O MR LARRY MORRIS
329 A DUPRE DRIVE
SPARTANBURG SC 29307

JAN 31 2014



Re: Right of Entry to the Property
Morris Oil Company, 427 Alexander Ave., Spartanburg, SC
UST Permit # 08641
Release # 1 and release #2 reported: June 8, 1999
Tier I Assessment report received: June 10, 2004
Spartanburg County

Dear Mr. Morris:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) confirmed a release at the referenced site in June 1999. Mr. Don Morris was the tank owner at the time the release was reported. Therefore, in accordance with Section 44-2-20(11) of the State Underground Petroleum Environmental Response Bank (SUPERB) Act, since the responsible party issue cannot be resolved due to the death of the tank owner, the release was assigned an orphan status. Any future activities associated with the release will be conducted by the Agency using state-lead contractors. You, as the current property owner, are requested to return the enclosed Right-of-Entry form within 15 days of the date of this correspondence. **You will not be accepting financial responsibilities for this release.** The Agency will keep you apprised of all pending activities and will copy you on all correspondence, if requested. Thank you for your time and cooperation in this matter.

On all correspondence or inquiries regarding this project, please reference UST Permit # 08641. If you have any questions, please feel free to contact me at (803) 898-0592.

Sincerely,


Maia Milenkova, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Right of Entry Form
cc: Technical File (w/enc.)
Morris Oil & Tire Co., 346 Union Street, Spartanburg, SC 29306 (w/enc.)

RIGHT-OF-ENTRY FORM

PROPERTY OWNER

UST Permit #08641

If you are the Property Owner or are the authorized representative for that person, please complete this form.

I, _____, certify that I am the legal owner of the property identified below or serve as the authorized representative for the property owner. I authorize the South Carolina Department of Health and Environmental Control (Agency), or a contractor selected by the Agency, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that the Agency will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

Name of Facility _____ Phone # _____

Street Address of Facility _____

Town, City, District, Suburb _____

Name of nearest intersecting street, road, highway, alley _____

_____ Is this facility within the city limits? (yes or no)

Does a public water or sewer utility service this facility? (yes or no) _____, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _____, phone number _____

Were underground storage tanks previously removed from the ground at this facility? (yes or no) _____ If yes, please provide the name of a person we can contact that can assist in the location of the former underground storage tank excavation _____ Phone number _____

Is the property currently leased or rented to someone? (yes or no) _____. If yes, please provide their name _____ and phone number _____ and let them know about the pending assessment activities.

NAME of Property owner (Please Print): _____

Phone Number (home) _____ (work) _____

Current Mailing Address: _____

Signature of Property Owner: _____

Witness: _____

Date: _____ Month _____ Day _____ Year



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment



DONALD W MORRIS
329A DUPRE DRIVE
SPARTANBURG SC 29307

FEB 21 2014

Re: Right of Entry to the Property
Morris Oil Company, 427 Alexander Ave., Spartanburg, SC
UST Permit # 08641
Release # 1 and release #2 reported: June 8, 1999
Tier I Assessment report received: June 10, 2004
Spartanburg County

Dear Mr. Morris:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) confirmed a release at the referenced site in June 1999. Mr. Don Morris was the tank owner at the time the release was reported. Therefore, in accordance with Section 44-2-20(11) of the State Underground Petroleum Environmental Response Bank (SUPERB) Act, since the responsible party issue cannot be resolved due to the death of the tank owner, the release was assigned an orphan status. Any future activities associated with the release will be conducted by the Agency using state-lead contractors. You, as the current property owner, are requested to return the enclosed Right-of-Entry form within 15 days of the date of this correspondence. **You will not be accepting financial responsibilities for this release.** The Agency will keep you apprised of all pending activities and will copy you on all correspondence, if requested. Thank you for your time and cooperation in this matter.

On all correspondence or inquiries regarding this project, please reference UST Permit # 08641. If you have any questions, please feel free to contact me at (803) 898-0592.

Sincerely,

Maia Milenkova, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Right of Entry Form
cc: Technical File (w/enc.)

RIGHT-OF-ENTRY FORM

PROPERTY OWNER

UST Permit #08641

If you are the Property Owner or are the authorized representative for that person, please complete this form.

I, _____, certify that I am the legal owner of the property identified below or serve as the authorized representative for the property owner. I authorize the South Carolina Department of Health and Environmental Control (Agency), or a contractor selected by the Agency, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that the Agency will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

Name of Facility _____ Phone # _____

Street Address of Facility _____

Town, City, District, Suburb _____

Name of nearest intersecting street, road, highway, alley _____

_____ Is this facility within the city limits? (yes or no)

Does a public water or sewer utility service this facility? (yes or no) _____, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _____, phone number _____

Were underground storage tanks previously removed from the ground at this facility? (yes or no) _____ If yes, please provide the name of a person we can contact that can assist in the location of the former underground storage tank excavation _____ Phone number _____

Is the property currently leased or rented to someone? (yes or no) _____. If yes, please provide their name _____ and phone number _____ and let them know about the pending assessment activities.

NAME of Property owner (Please Print): _____

Phone Number (home) _____ (work) _____

Current Mailing Address: _____

Signature of Property Owner: _____

Witness: _____

Date: _____ Month _____ Day _____ Year



Bureau of Land and Waste Management
UST Management Division
2600 Bull Street
Columbia, SC 29201

Return Service Requested

DONALD W MORRIS
329A DUPRE DRIVE
SPARTANBURG SC 29307

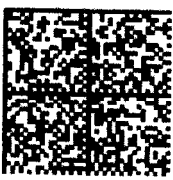
Re: Right of Entry to the Property

29201 @1708
477-SMP 29307

#086411

RETURN SERVICE
REQUESTED

Presort
First Class Mail
ComBasPrice



U.S. POSTAGE & PITNEY BOWES
ZIP 29201 \$000.46⁰
02 1M
0001364945 FEB 21 2014

FEB 21

MIXIE 296 SE 1260 7883/94/14
RETURN TO SENDER
NOT DELIVERABLE AS ADDRESSED
UNABLE TO FORWARD

BC: 2920117880 *1980-06326-04-48



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

TREVER Z SLACK PG
PRINCIPAL HYDROGEOLOGIST
PETRA-TECH ENVIRONMENTAL LLC
2435 E NORTH ST STE 1108-202
GREENVILLE SC 29615-1442

MAY 22 2014



Re: Request for Site Specific Work Plan
Solicitation Number IFB-5400005780/3/20/13-EMW, Purchase Order # 4600271461
Notice to Proceed

Dear Mr. Slack:

In accordance with the referenced contract, the Underground Storage Tank (UST) Management Division requests a Tier II Assessment for the following four UST facilities to define the geology and the horizontal and vertical extent of petroleum Chemicals of Concern (CoC) both dissolved and free phase product.

| Site name | ID # | County | Priority | Project Manager |
|-----------------------|-------|-------------|----------|-----------------|
| Billy Huffs Texaco | 04240 | Greenville | 2BA | David Orgain |
| Morris Oil Co. | 08641 | Spartanburg | 3BA | Maia Milenkova |
| A&E Convenience Store | 10963 | McCormick | 3BD | Minda Hornosky |
| Sanitation Department | 12261 | Greenville | 3BA | David Orgain |
| Budget Inn | 19412 | Edgefield | 3BA | Maia Milenkova |

As outlined in the referenced contract, please submit the Site Specific Work Plan, Tier II Assessment Plan, and Assessment Component Cost Agreement to my attention within thirty (30) days from the date of this correspondence. Plan implementation shall not commence prior to receipt of written technical and financial approval from the Agency. The Tier II Reports must be submitted within 90 days subsequent to the date of the approval letter.

Tier II Assessment Plan, Implementation and Report submittal shall be performed in accordance with the referenced contract. Per Section 3.4.3., a late fee of \$100.00/day may be levied for each report submitted after the deadline established in the Notice to Proceed. On all correspondence, please reference the pertinent UST Permit number.

Sincerely,

Stephanie Briney, Hydrogeologist
Assessment Section

Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Five Notice to Proceed Package (UST Permits 04240, 08641, 10963, 12261, and 19412)

cc: Technical Files (without enc.) 04240, 08641, 10963, 12261, and 19412



C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

MR DON MORRIS
MORRIS OIL CO
PO BOX 2843
SPARTANBURG SC 29304-2843

OCT 23 2008

Re: **Notice of Alleged Violation**
Morris Oil Company, 427 Alexander Ave., Spartanburg, SC
UST Permit # 08641
Release # 1 and release # 2 reported: June 8, 1999
Spartanburg County

Dear Mr. Morris:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control directed you to submit an assessment plan in November 2004 with the due date on December 27, 2004. To date the required plan has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessment must be conducted as chemicals of concern are above the risk-based-screening levels.

Implementation of this scope of work should proceed upon receipt of this correspondence. **The assessment plan must be submitted within 30 days from the date of this letter. If the plan is not received in accordance with this schedule, this office will be forced to initiate enforcement action.**

On all correspondence regarding this site, please reference UST Permit # 08641. If you have any questions concerning this correspondence, please call me at (803) 896-6664. I can also be reached by email at milenkmp@dhec.sc.gov or by fax at (803) 896-6245.

Sincerely,

Maia Milenkova, Hydrogeologist
Assessment Section
Assessment and Corrective Action Division
Under Ground Storage Tank
Bureau of Land and Waste Management

cc: Technical File
Spero Corporation, 119 SE Main Street, Simpsonville, SC 29681
SCDHEC/UST/10/21/08/MPM

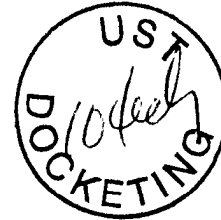
UST DOCKET
Keel

petra-tech

ENVIRONMENTAL, LLC
ENGINEERS & CONSULTANTS

June 2, 2014

SCDHEC - UST Management Division
Assessment Section
2600 Bull Street
Columbia, SC 29201-1708



Attention: Ms. Stephanie Briney

Subject: **Site Specific Work Plan – Tier II Assessment**
Revision Number: 0
Morriss Oil Co.
427 Alexander Avenue
Spartanburg, Spartanburg County, SC
SCDHEC UST Permit #08641
PTE Job No. J14-0460-A

Dear Ms. Briney:

In accordance with Solicitation Number IFB-5400005780/3/20/13-EMW (Purchase Order #4600271461), Petra-Tech Environmental, LLC submits herein the completed Site Specific Work Plan for the subject site. This submittal is in response to the South Carolina Department of Health and Environmental Control's (SCDHEC) Site Specific Work Plan Directive dated May 21, 2014.

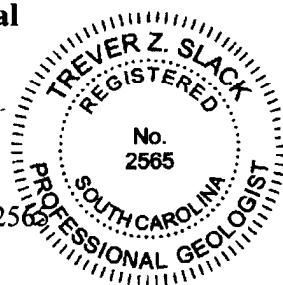
On May 31, 2014, Petra-Tech Environmental personnel performed a site visit to the subject site to locate existing groundwater monitoring wells and conduct a preliminary site reconnaissance. Monitoring wells 08641-MW01 through 08641-MW04 were located during the site reconnaissance; however, monitoring well 08641-MW05 could not be located and was covered with kudzu. Depth to groundwater at the site is approximately 15 feet below ground surface (i.e. depth to water in monitoring well 08641-MW03 was 14.58 feet below top of casing on May 31, 2014). The Site Specific Work Plan is contained herein.

Please do not hesitate to contact us at 864.631.2490 if you have any questions concerning this submittal.

Sincerely,

Petra-Tech Environmental

Trevor Z. Slack, P.G.
Principal Hydrogeologist
Registered, South Carolina #2566



Lindsey M. Grooms
Principal Engineer

cc: Ms. Maia Milenkova



Site-Specific Work Plan for Approved ACQAP Underground Storage Tank Management Division

To: Maia Milenkova (SCDHEC Project Manager)
 From: Trever Slack (Contractor Project Manager)
 Contractor: Petra-Tech Environmental, LLC UST Contractor Certification Number: UCC-436

Facility Name: Morris Oil Co. UST Permit #: 08641
 Facility Address: 427 Alexander Avenue, Spartanburg, SC
 Responsible Party: Donald Morris Phone: Not Available
 RP Address: 427 Alexander Avenue, Spartanburg, SC
 Property Owner (if different): _____
 Property Owner Address: _____
 Current Use of Property: Commercial

Scope of Work (Please check all that apply)

- | | | | |
|---------------------------------|---|---|------------------------------|
| <input type="checkbox"/> IGWA | <input checked="" type="checkbox"/> Tier II | <input type="checkbox"/> Groundwater Sampling | <input type="checkbox"/> GAC |
| <input type="checkbox"/> Tier I | <input type="checkbox"/> Monitoring Well Installation | <input type="checkbox"/> Other _____ | |

Analyses (Please check all that apply)

Groundwater/Surface Water:

- | | | | |
|--|--|--------------------------------------|---|
| <input checked="" type="checkbox"/> BTEXNMDCA (8260B) | <input checked="" type="checkbox"/> Lead | <input type="checkbox"/> BOD | <input type="checkbox"/> Methane |
| <input checked="" type="checkbox"/> Oxygenates (8260B) | <input type="checkbox"/> 8 RCRA Metals | <input type="checkbox"/> Nitrate | <input type="checkbox"/> Ethanol |
| <input checked="" type="checkbox"/> EDB (8011) | <input type="checkbox"/> TPH | <input type="checkbox"/> Sulfate | <input type="checkbox"/> Dissolved Iron |
| <input type="checkbox"/> PAH (8270D) | <input type="checkbox"/> pH | <input type="checkbox"/> Other _____ | |

Soil:

- | | | | |
|--------------------------------|--|--|--|
| <input type="checkbox"/> BTEXN | <input type="checkbox"/> 8 RCRA Metals | <input type="checkbox"/> TPH-DRO (3550B/8015B) | <input checked="" type="checkbox"/> Grain Size |
| <input type="checkbox"/> PAH | <input type="checkbox"/> Oil & Grease (9071) | <input type="checkbox"/> TPH-GRO (5030B/8015B) | <input type="checkbox"/> TOC |

Air:

- BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

| | | | |
|----------------------------|--------------------------|--------------------|---------------------|
| _____ Soil | _____ Water Supply Wells | _____ Air | _____ Field Blank |
| <u>22</u> Monitoring Wells | <u>1</u> Surface Water | <u>2</u> Duplicate | <u>2</u> Trip Blank |

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.
 # of shallow points proposed: 18 Estimated Footage: 18 (estimated) feet per point
 # of deep points proposed: 4 Estimated Footage: 43 (estimated) feet per point
 Field Screening Methodology: Direct Push with PID field screening and laboratory confirmation of select samples IAW SOP

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.
 # of shallow wells: 13 Estimated Footage: 22 (estimated) feet per point
 # of deep wells: 4 Estimated Footage: 47 (estimated) feet per point
 # of recovery wells: _____ Estimated Footage: _____ feet per point
 Monitoring Well development method (consistent with SOP): Surging and pumping IAW SOP

Comments, if warranted:

Deep wells installed outside of the source area will be installed as Type II monitoring wells if it is determined by the on-site geologist that no confining layers are present.

UST Permit #: 08641 Facility Name: Morris Oil Co.

Implementation Schedule (Number of calendar days from approval)

Field Work Start-Up: 07/03/2014 Field Work Completion: 09/3/2014
Report Submittal: 10/03/2014 # of Copies Provided to Property Owners: 5

Aquifer Characterization

Pump Test: Slug Test: (Check one and provide explanation below for choice)

Slug test will be completed in two shallow and one deep monitoring well. Slug tests are recommended over pump tests due to the elimination of requirements for petroleum impacted water disposal. Additionally, slug tests minimize the cone of depression associated with pump test drawdown, reducing the transport of petroleum compounds from shallow to deeper aquifer zones.

Investigation Derived Waste Disposal

Soil: 5 Tons Purge Water: 200 Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

Additional Details For This Scope of Work

For example, list wells to be sampled, wells to be abandoned/repared, well pads/bolts/caps to replace, details of AFVR event, etc.

Five existing groundwater monitoring wells (08641-MW01 through 08641-MW05) and 17 newly installed monitoring wells will be sampled. Monitoring well 08641-MW05 could not be located during the site reconnaissance - this well should be replaced during monitoring well installation activities if it is still not located during additional exploration. Receptors identified within 1,000-feet of the site or within 500-feet of the groundwater contaminant plume will be sampled during the Tier II Assessment.
One surface water features has currently been identified within 1,000-feet of the subject site.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)

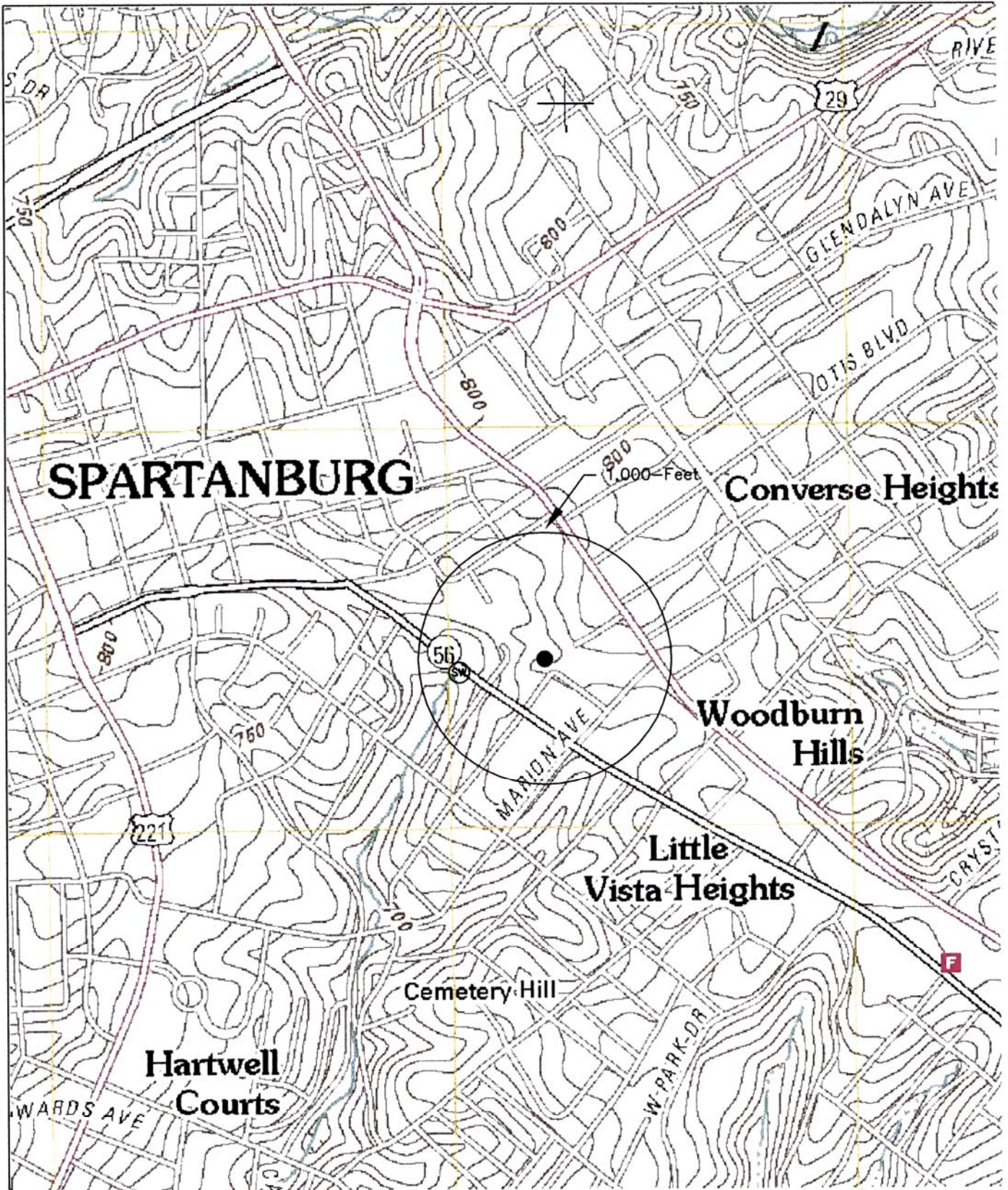
Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____

Yes Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____

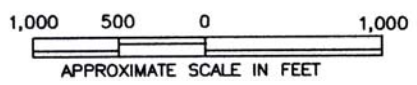
No Other variations from ACQAP. Please describe below.

Attachments

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:
North Arrow Proposed monitoring well locations
Location of property lines Legend with facility name and address, UST permit number, and bar scale
Location of buildings Streets or highways (indicate names and numbers)
Previous soil sampling locations Location of all present and former ASTs and USTs
Previous monitoring well locations Location of all potential receptors
Proposed soil boring locations
3. Assessment Component Cost Agreement, SCDHEC Form D-3664



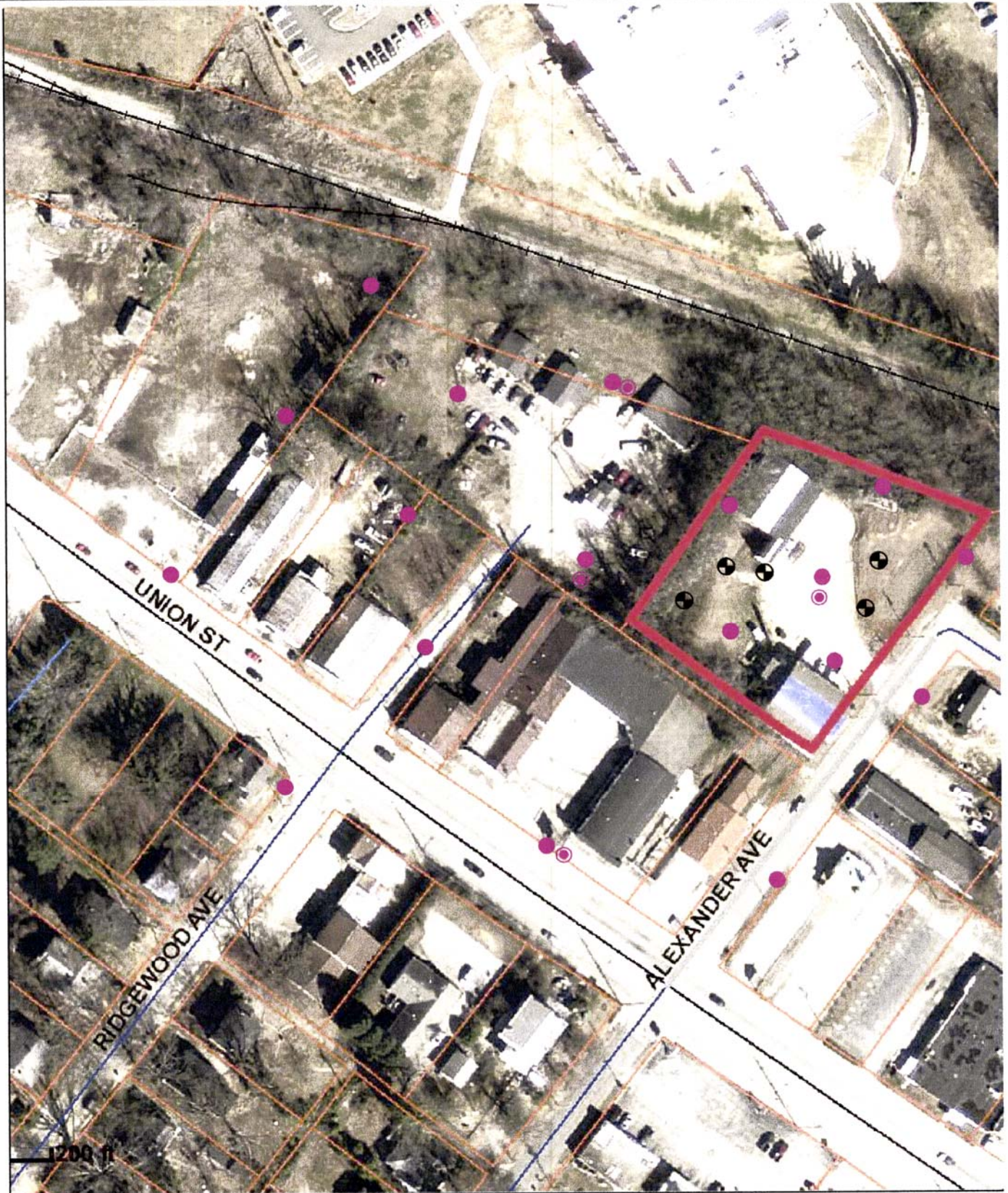
REFERENCE: Spartanburg Quadrangle - 7.5 Minute Series, United States Geological Survey, 2011 (Contour Interval - 10 feet)



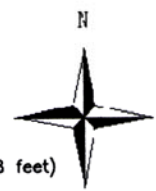
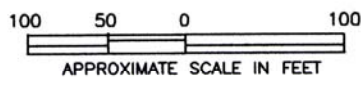
- Approximate Site Location
- ⊙ SW Surface Water Sampling Location







| | | | |
|---------|---|--|-----------------|
| Title | Topographic Site Location Map | | Figure No. 1 |
| Project | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | | |
| Date | 6/02/2014 | | |
| Job No. | J14-060-A | | |



REFERENCE: Spartanburg County Online GIS Mapping Database; Ground Water COC Site Map by Spero Corporation dated May 3, 2004

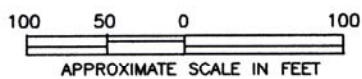


-  Existing Groundwater Monitoring Well (5)
-  Proposed Shallow Groundwater Screening Boring (18" ϕ 18 feet)
-  Proposed Deep Groundwater Screening Boring (4" ϕ 43 feet)

| | | |
|---------|---|---|
| Title | Proposed Groundwater Screening Boring Location Plan | |
| Project | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 6/02/2014 |  |
| Job No. | J14-060-A | |
| | | Figure No. 2 |



REFERENCE: Spartanburg County Online GIS Mapping Database; Ground Water COC Site Map by Spero Corporation dated May 3, 2004



- Existing Groundwater Monitoring Well (5)
- Proposed Shallow Groundwater Monitoring Well (13 @ 22 feet)
- Proposed Deep Groundwater Monitoring Well (4 @ 47 feet)

| | | |
|---------|--|-----------------|
| Title | Proposed Groundwater Monitoring Well Location Plan | |
| Project | Morris Oil Co (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 6/02/2014 | |
| Job No. | J14-060-A | |
| | | Figure No. 3 |



**ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA**

Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
PO#4600271461

Facility Name Morris Oil Co.

UST Permit #: 08641

Cost Agreement #:

| ITEM | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|--|----------|-------------------|------------|------------|
| 1. Plan Preparation | | | | |
| A1. Site-specific Work Plan | 1 | each | \$470.00 | \$470.00 |
| B1. Tax Map | 1 | each | \$600.00 | \$600.00 |
| C1. Tier II or Comp. Plan /QAPP Appendix B | | each | \$780.00 | \$0.00 |
| 2. A1. Receptor Survey * | | | | |
| | 1 | each | \$755.00 | \$755.00 |
| 3. Survey (500 x 500 feet) | | | | |
| A1. Comprehensive Survey | 1 | each | \$1,405.00 | \$1,405.00 |
| B. Subsurface Geophysical Survey | | | | |
| 1B. < 10 meters below grade | | each | \$200.00 | \$0.00 |
| 2B. > 10 meters below grade | | each | \$250.00 | \$0.00 |
| C1. Geophysical UST or Drum Survey | | each | \$200.00 | \$0.00 |
| 4. Mob/Demob (Each) | | | | |
| A1. Equipment | 2 | each | \$985.00 | \$1,970.00 |
| B1. Personnel | 5 | each | \$955.00 | \$4,775.00 |
| C1. Adverse Terrain Vehicle to install wells | | each | \$209.00 | \$0.00 |
| 5. A1. Soil Borings (hand auger)* | | | | |
| | | feet | \$1.00 | \$0.00 |
| 6. Soil Borings (requiring equipment, push technology, etc)* or Field Screening (including water sample, soil sample, soil gas sample, etc.)* | | | | |
| A1. Standard | 496 | per foot | \$3.50 | \$1,736.00 |
| C1. Fractured Rock | | per foot | \$2.00 | \$0.00 |
| 7. A1. Soil Leachability Model (Each) | | | | |
| | | each | \$1.00 | \$0.00 |
| 8. Abandonment (per foot)* | | | | |
| A1. 2" diameter or less | | per foot | \$0.50 | \$0.00 |
| B1. Greater than 2" to 6" diameter | | per foot | \$1.00 | \$0.00 |
| C1. Dug/Bored well (up to 6 foot diameter) | | per foot | \$2.50 | \$0.00 |
| 9. Well Installation (per foot)* | | | | |
| A1. Water Table (hand augered) | | per foot | \$1.00 | \$0.00 |
| B1. Water Table (drill rig) | 427 | per foot | \$16.25 | \$6,938.75 |
| C1. Telescoping/ Pit Cased | 47 | per foot | \$17.50 | \$822.50 |
| D1. Rock Drilling | | per foot | \$13.00 | \$0.00 |
| E1. 2" or 4" Rock Coring | | per foot | \$1.00 | \$0.00 |
| G1. Rock Multi-sampling ports/screens | | per foot | \$5.00 | \$0.00 |
| H1. Recovery Well (4 inch diameter) | | each | \$11.00 | \$0.00 |
| II. Pushed Pre-packed screen (1.25 diameter) | | each | \$5.00 | \$0.00 |
| J1. Rotosonic (2 inch diameter) | | each | \$2.00 | \$0.00 |
| K. Re-develop Existing Well | | each | \$0.50 | \$0.00 |
| 10. Groundwater Sample Collection / Gauge Depth to Water or Product * | | | | |
| A1. Groundwater Purge | 22 | per well | \$165.00 | \$3,630.00 |
| B1. Air or Vapors | | per receptor | \$1.00 | \$0.00 |
| C1. Water Supply | | per well/receptor | \$115.00 | \$0.00 |
| D1. Groundwater No Purge or Duplicate | 3 | samples | \$50.00 | \$150.00 |
| E1. Gauge Well only | | per well | \$5.00 | \$0.00 |
| F1. Sample Below Product | | well | \$5.00 | \$0.00 |
| G1. Passive Diffusion Bag | | each | \$1.00 | \$0.00 |
| H1. Field Blank | 2 | each | \$52.00 | \$104.00 |
| 11. Laboratory Analyses-Groundwater | | | | |
| A2. BTEX+Naphth.+ Oxyg's+ 1,2 DCA + Ethanol | 29 | sample | \$117.00 | \$3,393.00 |
| AA1. Lead, Filtered | | sample | \$12.00 | \$0.00 |
| B2. Rush EPA Method 8260B (All of item A.) | | sample | \$142.00 | \$0.00 |
| C2. Trimethal, Butyl, and Isopropyl Benzenes | | sample | \$14.00 | \$0.00 |
| D1. PAH's | | sample | \$30.00 | \$0.00 |
| E1. Lead, Unfiltered | 26 | sample | \$25.00 | \$650.00 |



**ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA**

Department of Health and Environmental Control
Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

South Carolina Department of Health

| | | | | |
|---|-----|----------|----------|--------------------|
| F1. EDB by EPA 8011 | 27 | sample | \$75.00 | \$2,025.00 |
| FF1. EDB by EPA Method 8011 Rush | | sample | \$100.00 | \$0.00 |
| G1. 8 RCRA Metals | | sample | \$25.00 | \$0.00 |
| H1. TPH (9070) | | sample | \$15.00 | \$0.00 |
| II. pH | | sample | \$5.00 | \$0.00 |
| J1. BOD | | sample | \$9.00 | \$0.00 |
| PP. Ethanol | | sample | \$0.10 | \$0.00 |
| 11. Analyses-Soil | | | | \$0.00 |
| Q1. BTEX + Naphth. | | sample | \$80.00 | \$0.00 |
| R1. PAH's | | sample | \$45.00 | \$0.00 |
| S1. 8 RCRA Metals | | sample | \$20.00 | \$0.00 |
| U1. TPH-DRO (3550B/8015B) | | sample | \$15.00 | \$0.00 |
| V1. TPH- GRO (5030B/8015B) | | sample | \$15.00 | \$0.00 |
| W1. Grain size/hydrometer | 2 | sample | \$55.00 | \$110.00 |
| X1. Total Organic Carbon | | sample | \$14.00 | \$0.00 |
| 11. Analyses-Air | | | | |
| Y1. BTEX + Naphthalene | | sample | \$50.00 | \$0.00 |
| 11. Analyses-Free Phase Product | | | | |
| Z1. Hydrocarbon Fuel Identification | | sample | \$100.00 | \$0.00 |
| 12. Aquifer Characterization* | | | | |
| A1. Pumping Test | | per hour | \$20.00 | \$0.00 |
| B1. Slug Test* | 3 | per test | \$255.00 | \$765.00 |
| C1. Fractured Rock | | per test | \$35.00 | \$0.00 |
| 13. A1. Free Product Recovery Rate Test* | | each | \$35.00 | \$0.00 |
| 14. Fate/Transport Modeling | | | | |
| A1. Mathematical Model | | each | \$5.00 | \$0.00 |
| B1. Computer Model | | each | \$5.00 | \$0.00 |
| 15. Risk Evaluation | | | | |
| B1. Tier II Risk Evaluation | | each | \$25.00 | \$0.00 |
| 16. A1. Subsequent Survey* | | each | \$95.00 | \$0.00 |
| 17. Disposal (gallons or tons)* | | | | |
| AA. Wastewater | 200 | gallon | \$0.25 | \$50.00 |
| BB. Free Product | | gallon | \$0.10 | \$0.00 |
| C1. Soil Treatment/Disposal | 5 | ton | \$35.00 | \$175.00 |
| D1. Drilling fluids | | gallon | \$0.10 | \$0.00 |
| 18. Miscellaneous (attach receipts) | | | | |
| Flourescence for Product | | each | \$3.00 | \$0.00 |
| Video Camera down a well or borehole | | each | \$1.00 | \$0.00 |
| | | each | \$0.00 | \$0.00 |
| 25. Well Repair* | | | | |
| A1. Additional Copies of the Report Delivered | 5 | each | \$49.00 | \$245.00 |
| B1. Repair 2x2 MW pad | | each | \$5.00 | \$0.00 |
| C1. Repair 4x4 MW pad | | each | \$5.00 | \$0.00 |
| D1. Repair well vault | | each | \$5.00 | \$0.00 |
| F1. Replace well cover bolts | | each | \$1.00 | \$0.00 |
| H1. Replace/Repair stick-up | | each | \$5.00 | \$0.00 |
| II. Convert Flush-mount to Stick-up | | each | \$5.00 | \$0.00 |
| J1. Convert Stick-up to Flush-mount | | each | \$5.00 | \$0.00 |
| K1. Replace missing/illegible well ID plate | | each | \$1.00 | \$0.00 |
| TOTAL | | | | \$30,299.25 |

*The appropriate mobilization cost can be added to complete these tasks, as necessary

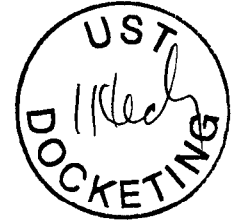


Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

ESTATE OF DON MORRIS
C/O MR LARRY MORRIS
346 UNION STREET
SPARTANBURG SC 29306

JUN 25 2004



Re: Right of Entry to the Property
Morris Oil Company, 427 Alexander Ave., Spartanburg, SC
UST Permit # 08641
Release # 1 and release #2 reported: June 8, 1999
Tier I Assessment report received: June 10, 2004
Spartanburg County

Dear Mr. Morris:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) confirmed a release at the referenced site in June 1999. Mr. Don Morris was the tank owner at the time the release was reported. Therefore, in accordance with Section 44-2-20(11) of the State Underground Petroleum Environmental Response Bank(SUPERB) Act, since the responsible party issue cannot be resolved due to the death of the tank owner, the release was assigned an orphan status. Any future activities associated with the release will be conducted by the Agency using state-lead contractors. You, as the current property owner or the authorized representative, are requested to return the enclosed Permission form within 15 days of the date of this correspondence. **You will not be accepting financial responsibilities for this release.** The Agency will keep you apprised of all pending activities and will copy you on all correspondence, if requested. Thank you for your time and cooperation in this matter.

On all correspondence or inquiries regarding this project, please reference UST Permit # 08641. If you have any questions, please feel free to contact me at (803) 898-0592.

Sincerely,

Maia Milenkova, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Permission Form
cc: Technical File (w/enc.)

PERMISSION FORM

PROPERTY OWNER

UST Permit #08641

If you are the Property Owner or are the authorized representative for that person, please complete this form.

I, _____, certify that I am the legal owner of the property identified below or serve as the authorized representative for the property owner. I authorize the South Carolina Department of Health and Environmental Control (Agency), or a contractor selected by the Agency, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that the Agency will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

Name of Facility _____ Phone # _____

Street Address of Facility _____

Town, City, District, Suburb _____

Name of nearest intersecting street, road, highway, alley _____

_____ Is this facility within the city limits? (yes or no)

Does a public water or sewer utility service this facility? (yes or no) _____, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _____, phone number _____

Were underground storage tanks previously removed from the ground at this facility? (yes or no) _____ If yes, please provide the name of a person we can contact that can assist in the location of the former underground storage tank excavation _____ Phone number _____

Is the property currently leased or rented to someone? (yes or no) _____. If yes, please provide their name _____ and phone number _____ and let them know about the pending assessment activities.

NAME of Property owner (Please Print): _____

Phone Number (home) _____ (work) _____

Current Mailing Address: _____

Signature of Property Owner: _____

Witness: _____

Date: _____ Month _____ Day _____ Year



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment



TREVER Z SLACK PG
PRINCIPAL HYDROGEOLOGIST
PETRA-TECH ENVIRONMENTAL LLC
2435 E NORTH ST STE 1108-202
GREENVILLE SC 29615-1442

JUL 01 2014

Re: Tier II Directive
Morris Oil Co., 427 Alexander Ave., Spartanburg, SC
UST Permit # 08641; CA # 48370(rel. 1); CA#48371(rel. 2); MWA # UMW-25562
Solicitation Number IFB-5400005780/3/20/13-EMW, Purchase Order # 4600271461
Site-Specific Work Plan received June 10, 2014
Spartanburg County

Dear Mr. Slack:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the Site-Specific Work Plan (SSWP), and associated Cost Agreement for the referenced site. Assessment activities should begin immediately upon receipt of this letter.

Cost agreement numbers 48370 and 48371 have been approved in the amount shown on the enclosed cost agreement spreadsheets and will be kept on file so that compensation can begin. **The Agency reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with the referenced Invitation for Bid (IFB).** Further, the Agency reserves the right to question and/or reject costs if deemed unreasonable. The Agency reserves the right to audit project records at any time during the project or after completion of the work. **The Tier II Assessment Report (1 hardcopies, 1 electronic copy, 1 copy to each property owner who has a well on their property), QAPP checklist, and invoice should be submitted within 90 days from the date of this correspondence.**

A copy of the approved assessment component cost agreement is enclosed for your information. Petra-Tech Environmental, LLC., can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Future invoices and/or other criteria included therein must comply with current SUPERB criteria per Section 44-2-20(2). Please reference the approved cost agreement number on all pertinent invoices and correspondence. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from the Agency is obtained. If for any reason there is a change in this cost agreement, any associated changes must be pre-approved in writing by this Agency in order for Petra-Tech Environmental, LLC., to seek future cost compensation. Any temporary well converted to a permanent well will be reimbursed at the permanent well installation rate.

The following revisions have been made to the approved cost agreement:

- BTEXN laboratory analyses for soil samples from the interval exhibiting the highest OVA readings above the water table in seven newly installed onsite wells has been added to the cost agreement. The analyses are required for duplicate, field and trip blank samples also.

Any item(s) not clearly or completely addressed in the report (SC certified driller's number, disposal manifest for soil cuttings, disposal manifests for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account. In accordance with section 3.14.4. of the referenced IFB, if the time interval between collection of groundwater samples from the permanent monitoring well network and receipt of the report and exceeds 45 days, the contractor will submit an updated comprehensive groundwater sampling report to include blank and duplicate samples for all wells and surface water at no additional cost. The Agency reserves the right to deny payment for laboratory analyses if the detection limit exceeds the reporting limit in Appendix E of the QAPP for the UST Division. As agreed to in the referenced contract, the owner/operator and property owner of the referenced facility will not be responsible for any costs associated with this assessment.

Monitoring well approval for up to twenty-two temporary, thirteen shallow and four deep monitoring wells is enclosed for your records. Please note that all applicable South Carolina certification requirements regarding laboratory analyses, well installation, and report preparation must be met. All shallow wells are to be installed with screen intervals that bracket the water table.

The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. The Division suggests a roll off container be used for disposal. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A legible copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report. If the CoC concentrations, based on laboratory analysis, are below Risk-Based Screening Levels (RBSLs), please contact the project manager for approval to dispose of soil and/or groundwater in a location acceptable to the property owner. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference UST permit number 08641. If you have questions concerning this correspondence, or would like to submit additional information, please contact me at (803) 898-0592, fax me at (803) 898-0673, or e-mail me at milenkmp@dhec.sc.gov.

Sincerely,



Maia Milenkova, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land & Waste Management

enc: Approved Cost Agreement
Monitoring Well Approval

cc: Larry Morris, Morris Oil & Tire Co., 346 Union Street, Spartanburg 29306 (w/o enc.)
Technical File (w/enc.)



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

Monitoring Well Approval Form

Approval is hereby granted to: Petra-Tech Environmental, LLC
Facility: Morris Oil Co., 427 Alexander Ave., Spartanburg, SC
UST Permit Number: 08641
County: Spartanburg

This approval is for the installation of twenty-two temporary, and seventeen (thirteen shallow and four deep) permanent monitoring wells. The monitoring wells are to be installed in the approved locations. Monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Agency shall be completed and submitted to the Agency within 30 days after well completion or abandonment unless another schedule has been approved by the Agency. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Agency within 30 days of receipt of laboratory results unless another schedule has been approved by the Agency as required by R.61-71.H.1.d.
5. If any of the information provided to the Agency changes, notification to Maia Milenkova (tel: 803 898-0592 or e-mail: milenkmp@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Approval from the Agency is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issuance: June 25, 2014

Approval #: UMW-25562

Maia Milenkova, Hydrogeologist
Assessment Section
UST Management Division
Bureau of Land and Waste Management

Approved Cost Agreement 48370

Facility: 08641 MORRIS OIL CO

MILENKMP

PO Number:

| <u>Task / Description</u> | <u>Categories</u> | <u>Item Description</u> | <u>Qty / Pct</u> | <u>Unit Price</u> | <u>Amount</u> |
|-----------------------------|-------------------|-----------------------------------|------------------|-------------------|------------------|
| 01 PLAN | | A1 SITE SPECIFIC WORK PLAN | 0.5000 | 470.00 | 235.00 |
| | | B1 TAX MAP | 0.5000 | 600.00 | 300.00 |
| 02 RECEPTOR SURVEY | | A1 RECEPTOR SURVEY | 0.5000 | 755.00 | 377.50 |
| 03 COMPREHENSIVE SURVEY | | A1 COMPREHENSIVE SURVEY | 0.5000 | 1,405.00 | 702.50 |
| 04 MOB/DEMOB | | A1 EQUIPMENT | 2.0000 | 985.00 | 1,970.00 |
| | | B1 PERSONNEL | 2.5000 | 955.00 | 2,387.50 |
| 06 SOIL BORINGS (DRILLED) | | A1 SOIL BORING/FLD SCR STANDARD | 248.0000 | 3.50 | 868.00 |
| 09 WELL INSTALLATION | | B1 WATER TABLE (DRILL RIG) | 213.5000 | 16.25 | 3,469.38 |
| | | C1 TELESCOPING | 23.5000 | 17.50 | 411.25 |
| 10 SAMPLE COLLECTION | | A1 GROUNDWATER (PURGE) | 11.0000 | 165.00 | 1,815.00 |
| | | D1 GROUNDWATER NO PURGE/DUPLICATE | 1.5000 | 50.00 | 75.00 |
| | | H1 FIELD BLANK | 1.0000 | 52.00 | 52.00 |
| 11 ANALYSES | | | | | |
| | GW GROUNDWATER | A2 BTEXNM+OXYGS+1,2-DCA+ETH-8260B | 15.5000 | 117.00 | 1,813.50 |
| | | E1 LEAD | 13.0000 | 25.00 | 325.00 |
| | | F1 EDB BY 8011 | 13.5000 | 75.00 | 1,012.50 |
| | SOIL SOIL | Q1 BTEX+NAPTH | 4.0000 | 80.00 | 320.00 |
| | | W1 GRAIN SIZE / HYDROMETER | 1.0000 | 55.00 | 55.00 |
| 12 AQUIFER CHARACTERIZATION | | B1 SLUG TEST | 1.5000 | 255.00 | 382.50 |
| 17 DISPOSAL | | AA WASTEWATER | 100.0000 | 0.25 | 25.00 |
| | | C1 SOIL TREATMENT DISPOSAL | 2.5000 | 35.00 | 87.50 |
| 25 WELL REPAIR | | A1 ADDITIONAL COPIES OF REPORT | 2.5000 | 49.00 | 122.50 |
| Total Amount | | | | | 16,806.63 |

Approved Cost Agreement 48371

Facility: 08641 MORRIS OIL CO

MILENKMP

PO Number:

| <u>Task / Description</u> | <u>Categories</u> | <u>Item Description</u> | <u>Qty / Pct</u> | <u>Unit Price</u> | <u>Amount</u> |
|-----------------------------|-------------------|-----------------------------------|------------------|-------------------|---------------|
| 01 PLAN | | A1 SITE SPECIFIC WORK PLAN | 0 5000 | 470.00 | 235.00 |
| | | B1 TAX MAP | 0 5000 | 600.00 | 300.00 |
| 02 RECEPTOR SURVEY | | A1 RECEPTOR SURVEY | 0.5000 | 755 00 | 377.50 |
| 03 COMPREHENSIVE SURVEY | | A1 COMPREHENSIVE SURVEY | 0.5000 | 1,405 00 | 702.50 |
| 04 MOB/DEMOB | | A1 EQUIPMENT | 2.0000 | 985 00 | 1,970.00 |
| | | B1 PERSONNEL | 2 5000 | 955 00 | 2,387.50 |
| 06 SOIL BORINGS (DRILLED) | | A1 SOIL BORING/FLD SCR. STANDARD | 248.0000 | 3.50 | 868 00 |
| 09 WELL INSTALLATION | | B1 WATER TABLE (DRILL RIG) | 213.5000 | 16.25 | 3,469 38 |
| | | C1 TELESCOPING | 23 5000 | 17.50 | 411 25 |
| 10 SAMPLE COLLECTION | | A1 GROUNDWATER (PURGE) | 11 0000 | 165 00 | 1,815 00 |
| | | D1 GROUNDWATER NO PURGE/DUPLICATE | 1 5000 | 50.00 | 75.00 |
| | | H1 FIELD BLANK | 1 0000 | 52.00 | 52 00 |
| 11 ANALYSES | | | | | |
| | GW GROUNDWATER | A2 BTEXNM+OXYGS+1,2-DCA+ETH-8260B | 15.5000 | 117.00 | 1,813.50 |
| | | E1 LEAD | 13 0000 | 25 00 | 325 00 |
| | | F1 EDB BY 8011 | 13 5000 | 75.00 | 1,012 50 |
| | SOIL SOIL | Q1 BTEX+NAPTH | 4 0000 | 80.00 | 320.00 |
| | | W1 GRAIN SIZE / HYDROMETER | 1.0000 | 55 00 | 55 00 |
| 12 AQUIFER CHARACTERIZATION | | B1 SLUG TEST | 1.5000 | 255.00 | 382 50 |
| 17 DISPOSAL | | AA WASTEWATER | 100 0000 | 0.25 | 25 00 |
| | | C1 SOIL TREATMENT DISPOSAL | 2 5000 | 35 00 | 87.50 |
| 25 WELL REPAIR | | A1 ADDITIONAL COPIES OF REPORT | 2.5000 | 49.00 | 122.50 |
| Total Amount | | | | | 16,806 63 |



C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

October 13, 2004

SPERO CORPORATION
119 S.E. MAIN STREET
SIMPSONVILLE SC 29681

RE: Underground Storage Tanks (USTs)
Tier I Assessment (Release #2)
Morris Oil Co., 429 Alexander Avenue, Spartanburg, Spartanburg County, SC
Permit ID #08641

Dear Mr. Johnson:

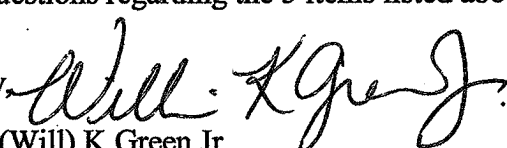
The Program received a copy of the referenced assessment report on June 10, 2004. This report was reviewed by Maia Milenkova, a hydrogeologist in the Assessment Section of the Underground Storage Tanks Program at DHEC. There were five (5) items that were either unclear or omitted from the report as determined by Mrs. Milenkova:

1. Absence of slug test forms (Appendix D)
2. Absence of grain size analysis
3. Absence of formation descriptions from water well record
4. Free product thickness not noted
5. Potentiometric surface (elevation) and groundwater flow direction data are missing (Fig. 5)

On June 29, 2004, I left a voice mail message for Lisa to call me regarding the above issues. No response was received. On August 25, 2004, I again left a voice mail message for Lisa to call regarding the above issues. You returned my call the next day, August 26th. We discussed the 5 issues, and you indicated that you would discuss these with Lisa and one of you would respond accordingly. However, no response was received. I left a message with Bob for you to call on September 29, 2004. The Program still has not received a response.

Mr. Johnson, due to the lack of response, the Program has no other course of action than to hold the responsible party, Mr. Morris, accountable for the incomplete Tier I report. The Program plans to proceed with enforcement activities, including the issuance of an administrative order, if a complete Tier I report is not received within the next 30 days. If you have any questions regarding this letter, you may reach me at 1-800-826-5435 (when calling in South Carolina) or 803-896-6240. If you have any questions regarding the 5 items listed above, please contact Maia Milenkova at 803-896-6664.

Sincerely,


William (Will) K. Green Jr.
Enforcement Section
Underground Storage Tank Program
Bureau of Land and Waste Management

Cc: Maia Milenkova
Mr. Don Morris

WKG/wkg
08641info
DHEC/UST/10.13.04

UST DOCKET
12T



**UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT**

Phone (803) 896-6240 Fax (803) 896-6245

2600 Bull Street
Columbia, SC 29201-1708

FEB 12 2003

MR DON MORRIS
MORRIS OIL CO
PO BOX 2843
SPARTANBURG SC 29304-2843

Re: Morris Oil Company, 429 Alexander Ave., Spartanburg, SC
UST Permit # 08641, Cost Agreement # 16873
Release # 1 Reported June 8, 1999
Notice of Violation
Spartanburg County

Dear Mr. Morris:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control directed you to complete a Tier I Report due on January 10, 2003. To date, the required report has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the Tier I assessment must be conducted as chemicals of concern are above the risk-based-screening levels.

The report must be submitted within 30 days from the date of this letter. If the report is not received on or before March 15, 2003 enforcement procedures will be initiated.

On all correspondence regarding this site, please reference UST Permit # 08641. If you have any questions concerning this correspondence, please call me at (803) 896-6664 or 1-800-826-5435 (within South Carolina only).

Sincerely,

Maia Milenkova, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division

cc: Technical File /read File
S&ME, Inc., Tradd Street, Spartanburg, SC 29301

UST DOCKET
13T

DHEC/UST/02/11/2003/MPM



**UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT**

Phone (803) 896-6240 Fax (803) 896-6245

2600 Bull Street
Columbia, SC 29201-1708

FEB 12 2003

MR DON MORRIS
MORRIS OIL CO
PO BOX 2843
SPARTANBURG SC 29304-2843

Re: Morris Oil Company, 429 Alexander Ave., Spartanburg, SC
UST Permit # 08641, Cost Agreement # 16873
Release # 2 Reported June 8, 1999
Notice of Violation
Spartanburg County

Dear Mr. Morris:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control directed you to complete a Tier I Report due on January 10, 2003. To date, the required report has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the Tier I assessment must be conducted as chemicals of concern are above the risk-based-screening levels.

The report must be submitted within 30 days from the date of this letter. If the report is not received on or before March 15, 2003 enforcement procedures will be initiated.

On all correspondence regarding this site, please reference UST Permit # 08641. If you have any questions concerning this correspondence, please call me at (803) 896-6664 or 1-800-826-5435 (within South Carolina only).

Sincerely,

Maia Milenkova, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division

cc: Technical File /read File
S&ME, Inc., Tradd Street, Spartanburg, SC 29301

DHEC/UST/02/11/2003/MPM

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL



TIER II ASSESSMENT REPORT

**Morris Oil Co.
SCDHEC UST Permit #08641
Cost Agreement #48370 & 48371
427 Alexander Avenue
Spartanburg, South Carolina
Spartanburg County**

PTE Job No. J14-060-A

December 21, 2014

petra-tech
ENVIRONMENTAL, LLC
ENGINEERS & CONSULTANTS

**Petra-Tech Environmental
2435 East North Street
Suite 1108-202
Greenville, SC 29615**

www.petrattechenv.com

TIER II ASSESSMENT REPORT

**Morris Oil Co.
SCDHEC UST Permit #08641
Cost Agreement #48370 & 48371
427 Alexander Avenue
Spartanburg, South Carolina
Spartanburg County**

PTE Job No. J14-060-A

December 21, 2014



**Petra-Tech Environmental
2435 East North Street
Suite 1108-202
Greenville, SC 29615**

www.petratechenv.com



December 21, 2014

South Carolina Department of Health and Environmental Control
Division of Underground Storage Tank Management
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Attention: Ms. Maia Milenkova

Subject: **Tier II Assessment Report**
Morris Oil Co.
427 Alexander Ave.
Spartanburg, Spartanburg County, South Carolina
SCDHEC UST Permit #08641
Cost Agreement #48370 & 48371
PTE Job No. J14-060-A

Dear Ms. Milenkova,

In accordance with Solicitation Number IFB-5400005780/3/20/13-EMW (Purchase Order #4600271461), Petra-Tech Environmental, LLC submits herein the completed Tier II Assessment Report for the subject site. This submittal is in response to the South Carolina Department of Health and Environmental Control's (SCDHEC) directive letter dated July 1, 2014 and was performed in accordance with Petra-Tech Environmental, LLC's Site Specific Work Plan dated June 2, 2014.

Please do not hesitate to contact us at 864.436.6322 if you have any questions concerning this submittal.

Sincerely,

Petra-Tech Environmental

Trever Z. Slack, P.G.
Principal Hydrogeologist
Registered, South Carolina #2565



1.0 FACILITY IDENTIFICATION

Facility Name: Morris Oil Co. - UST Permit #08641
Facility Address: 427 Alexander Avenue
Spartanburg, Spartanburg County, South Carolina
Facility Phone: Not Applicable

UST Owner: Don Morris (Deceased)
UST Owner Address: 364 Union Street
Spartanburg, Spartanburg County, South Carolina
UST Owner Phone: Not Applicable

Property Owner: DW Morris Properties, LLC
Property Owner Address: 216 Cypress Creek Road
Spartanburg, South Carolina
Property Owner Phone: 864.585.9203

2.0 INTRODUCTION

The subject property is located at 427 Alexander Avenue in Spartanburg, Spartanburg County, South Carolina (**Figure 1**) and currently operates as a commercial/retail property. The site is bordered primarily by commercial properties. A tax map of the areas immediately surrounding the subject site along with a table containing property owner names, addresses, and phone numbers (where available) has been included as **Appendix C**.

According to the SCDHEC Underground Storage Tank Registry Online Database, six registered underground storage tank sites are located within 1,000-feet of the site:

- Spartanburg Lumber & Millworks Co. (UST Permit #08135) located approximately 850 feet to the east/southeast at 459 Marion Avenue.
 - No open releases
- Hawkins Heating & AC (UST Permit #08036) located approximately 400 feet to the east/southeast at 104 Fretwell Street.
 - No open releases
- Piedmont Diaper Co. (UST Permit #17559) located approximately 220 feet to the east/southeast at 424 Alexander Avenue.
 - No open releases
- Speed Shop Market (UST Permit #08648) located approximately 400 feet to the south at 450 Union Street.
 - No open releases
- Total Ministries (UST Permit #19566) located approximately 500 feet to the southwest at 420 Union Street.
 - No open releases

- Morris Oil & Tire Co. (UST Permit #11393) located approximately 1000 feet to the west at 346 Union Street.
 - No open releases

The approximate locations of the underground storage tank sites are shown on **Figure 1**.

2.1 Site History

According to documents provided in the SCDHEC Notice to Proceed package and a review of the SCDHEC's Underground Storage Tank Registry Online Database, nine underground storage tanks (five 15000-gallon diesel, two 15000-gallon gasoline, one 15000-gallon kerosene, and one 550-gallon gasoline) were closed by removal from the site in June 1999. Two releases from the UST system were reported on June 8, 1999. Five groundwater monitoring wells (08641-MW01 through 08641-MW05) have been installed at the subject site as part of previous environmental site assessments.

The SCDHEC issued a directive letter on May 21, 2014 requesting the completion of a Site Specific Work Plan (SSWP) for the site. The SSWP was submitted to the SCDHEC on June 2, 2013, and the SSWP was accepted, with minor modifications in a Tier II Directive letter dated July 1, 2014. The results of the Tier II Assessment are contained herein.

2.2 Regional Geology and Hydrogeology

The site is located in the Piedmont Physiographic Province, which generally consists of rolling, well-rounded hills dissected by streams and drainage features. Floodplains are relatively narrow, and ridgetops (stream divides) are typically narrow with only a few hundred feet of elevation difference between the ridgetops and valleys. The Piedmont Physiographic Province ranges in elevation from approximately 300 feet to 1,500 feet above mean sea level (AMSL).

Geologically, the site is located within the Piedmont belt of South Carolina which consists of thrust sheets containing a variety of gneisses, schists, amphibolites, ultramafic bodies, and intrusive granitoids. The typical residual soil profile consists of clayey soils near the surface, where soil weathering is more advanced, underlain by sandy silts and silty sands. Residual soil zones which develop by the in-situ chemical weathering of bedrock (saprolite) range in thickness from a few feet to more than 100 feet, and generally consist of sand with lesser amounts of silt, clay, and large rock fragments.

A transitional zone of partially weathered rock is typically found beneath the saprolite and overlies the parent bedrock. Weathering in this zone is facilitated by fractures, joints, and the presence of less resistant rock types. Consequently, the profile of the partially weathered rock and parent bedrock is commonly irregular, even over short horizontal distances. Additionally, it is not unusual to find lenses and boulders of hard rock and zones of partially weathered rock well above the general bedrock level. According to Horton Et Al. (2001)¹, the site is underlain by Cambrian or Neoproterozoic aged biotite gneiss and muscovite-biotite gneiss

¹ Horton, Horton, J.Wright, and Dicken, Connie L., 2001, Preliminary Geologic Map of the Appalachian Piedmont and Blue Ridge, South Carolina Segment: U.S. Geological Survey, Open-File Report 01-298, CD [<http://pubs.er.usgs.gov/publication/of01298>]

Groundwater in the Piedmont usually occurs under unconfined conditions in three primary zones: 1) residual soil (saprolite); 2) partially weathered rock; and 3) fractured bedrock. These zones are typically interconnected through bedrock fractures, pore spaces, and other secondary permeability features, and the configuration of the water table aquifer generally resembles the local topography. Seasonal high-water tables are typically observed during the winter and spring months when maximum infiltration capacity occurs due to low intensity, long duration precipitation events and reduced evaporation and transpiration. Seasonal low water tables are typically observed during the summer and fall months when minimum infiltration capacity occurs due to higher surface runoff caused by high intensity, short duration precipitation events and greater evaporation and transpiration.

2.3 Receptor Survey Results

A receptor survey was conducted within 1,000 feet of the site boundaries (and within 500 feet of the groundwater contaminant plume) and consisted of the following:

- A vehicular reconnaissance of roads and private residences to identify water supply wells and surface water features
- Delivery of Water Supply Well Survey Forms through United States Postal Service Mail to property owners within the receptor survey boundaries (returned well survey forms are included in **Appendix J**)
- A review of historical United States Geological Survey topographic maps and historical aerial photographs
- Utility Protection Service to locate underground structures and underground utilities on-site and proximate to the site.

No private water supply wells were identified within the approximate 1,000-foot survey radius of the site.

The headwaters to a stream are located approximately 600 feet to the southwest of the site. The stream begins on the southwestern side of Union Street; however, a culvert pipe extends beneath the road in the northeastern direction and was observed to be actively flowing. According to a local business owner, drainage features extending to the north and northeast of the site once drained/flowed into the stream. The location of the stream in relation to the subject site is identified on **Figure 1**.

3.0 ASSESSMENT INFORMATION

The completed scope of services was based on Petra-Tech Environmental's SSWP dated June 2, 2014, and subsequent email and verbal correspondence with SCDHEC project manager Ms. Maia Milenkova. During the Tier II Assessment, the following activities were performed: groundwater screening; installation of groundwater monitoring wells to define the horizontal extent of dissolved phase petroleum compounds; slug tests in two shallow groundwater monitoring wells; and completion of a comprehensive groundwater sampling event.

3.1 Site Specific Geology and Hydrogeology

Borings performed during the Tier II Assessment encountered residual soils (saprolite and partially weathered rock) consisting primarily of clayey silt and silty sands underlain by biotite gneiss and muscovite gneiss. As directed by the SCDHEC, borings were not advanced into rock. Soil boring records are provided in **Appendix E**. A soil sample was collected from the screened interval of monitoring well 08641-MW11 and submitted for laboratory grain size analysis. Grain size analysis results indicated a clayey, silty, fine to medium sand.

Grain size distribution is summarized below:

| Sample ID | Sample Depth (feet BGS) | % Gravel | % Coarse Sand | % Medium Sand | % Fine Sand | % Silt | % Clay |
|-----------|-------------------------|----------|---------------|---------------|-------------|--------|--------|
| MW11 | 16.5 | 1.7 | 4.0 | 9.0 | 28.2 | 37.5 | 19.6 |

3.2 Summary of Field Screening Activities

Groundwater field screening was completed at the site on September 26, 2014. Field screening borings were performed by Mr. Michael Carey (SC Licensed Well Driller #1920D) under the supervision of Mr. Jason Chiorazzi (SC Licensed Well Driller #1648-B) and Mr. Joe Smith (SC Licensed Well Driller #1648-B). Quality Assurance verification for field screening activities was provided by Ms. Kaye Burch. Details of the groundwater field screening activities are included in Section 3.2.1 below.

3.2.1 Groundwater Field Screening Activities

Sixteen temporary shallow groundwater screening borings (GW01, GW02, GW04, GW05, GW06, GW07, GW08, GW09, GW10, GW11, GW12, GW13, GW14, GW15, GW16, and GW21) and four temporary deep groundwater screening borings (GW01D, GW11D, GW12D, and GW13D) were performed on September 26, 2014 using a Geoprobe® 6600 series direct push drill. Shallow groundwater screening borings ranged in depth from 6.0 to 28.0 feet below ground surface (325 total feet) and deep groundwater screening borings ranged in depth from 8.0 to 28.0 feet below ground surface (79 total feet). Drill refusal was encountered in each of the deep groundwater screening borings.

Each groundwater screening boring location was established in the field from map-scaled distances, by measuring from site landmarks, and estimating right angles (**Figure 2**); and survey coordinates for the groundwater screening borings were obtained using a handheld Geographic Positioning System device. Groundwater samples collected in the field were screened using a portable MiniRAE® Lite Photo-Ionization Detector (PID). After representative samples were collected from each boring, the temporary boreholes were abandoned to the ground surface with a bentonite cement grout pursuant to South Carolina well standards². Groundwater screening boring 1903 Well Records are included in **Appendix D**.

² South Carolina Well Standards and Regulations, SCDHEC, Promulgated Pursuant to Section 44-55-40 of the 1976 South Carolina Code of Laws, R. 61-71, April 26, 2002.

Select groundwater samples from sentinel borings were submitted for laboratory analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalene, 1,2-dichloroethane (1,2-DCA), and methyl-tert-butyl-ether (MTBE) by Environmental Protection Agency (EPA) Method 8260B. Of the ten groundwater screening samples submitted for laboratory analysis (GW02, GW04, GW05, GW06, GW08, GW10, GW12, GW13, GW16, and GW21), petroleum compounds were detected above South Carolina established Risk-Based Screening Levels in GW08. Field screening and laboratory analytical results are summarized in **Table 1**. Groundwater screening laboratory data sheets are provided in **Appendix B**.

3.3 Summary of Well Installation Activities

Following completion of field screening activities, eighteen groundwater monitoring wells (08641-MW06 through 08641-MW23) were installed from November 7, 2014 through November 11, 2014 to complete the assessment of petroleum hydrocarbons in groundwater. The well locations were based on the groundwater field screening results and communication with SCDHEC project manager Ms. Maia Milenkova. Under direction from the SCDHEC, no deep wells were advanced into rock. Monitoring well installations were performed by Mr. Lawrence Large (SC Licensed Well Driller #1648-B) and Mr. Joe Smith (SC Licensed Well Driller #1648-B). Field personnel providing oversight of field screening activities included Mr. Trever Slack, P.G. and Mr. Daniel Burch. Quality Assurance verification for monitoring well installation activities was provided by Ms. Kaye Burch.

3.3.1 Type II Wells

Shallow water table groundwater monitoring wells were installed as Type II monitoring wells using a Simco 2500 drill utilizing air rotary (6-inch diameter air roller cone bit) drilling techniques. The monitoring wells consist of 2-inch ID, schedule 40 PVC casing with flush-threaded joints. The bottom 10-foot section of each shallow water table monitoring well is a manufactured well screen with 0.010-inch wide machined slots. Standard sand filter pack, bentonite seal, and grout were installed to the ground surface.

Total well depths for Type II wells are:

Shallow Water Table Groundwater Monitoring Wells

| | |
|------------|----------------|
| 08641-MW06 | 28.63 feet BGS |
| 08641-MW07 | 21.95 feet BGS |
| 08641-MW08 | 22.71 feet BGS |
| 08641-MW09 | 26.01 feet BGS |
| 08641-MW10 | 23.60 feet BGS |
| 08641-MW11 | 23.84 feet BGS |
| 08641-MW12 | 31.58 feet BGS |
| 08641-MW13 | 11.19 feet BGS |
| 08641-MW14 | 22.95 feet BGS |
| 08641-MW15 | 20.27 feet BGS |
| 08641-MW16 | 10.88 feet BGS |
| 08641-MW17 | 26.71 feet BGS |
| 08641-MW18 | 26.93 feet BGS |
| 08641-MW19 | 21.62 feet BGS |

| | |
|------------|----------------|
| 08641-MW20 | 20.29 feet BGS |
| 08641-MW21 | 19.62 feet BGS |
| 08641-MW22 | 16.95 feet BGS |
| 08641-MW23 | 29.57 feet BGS |

Monitoring well construction diagrams and 1903 Water Well Records are included in **Appendix E**. Monitoring well construction data is provided in **Table 2**.

3.3.2 General

At assigned intervals, drill cuttings were collected for soil classification and were screened at 5-foot intervals using a PID. Additionally, soil samples were collected from soil macrocore borings performed immediately adjacent to groundwater monitoring wells 08641-MW06, 08641-MW07, 08641-MW08, 08641-MW09, 08641-MW15, 08641-MW17, and 08641-MW23 on December 13, 2014. The soil samples were collected from the depth interval corresponding to the highest field screening results recorded during monitoring well installation activities, and the soil samples were submitted for laboratory analysis of BTEX and naphthalene by EPA Method 8260B. One duplicate sample, a field blank, and a trip blank were also submitted for laboratory analysis. Results of the laboratory analyses are included on **Table 3**.

To help prevent cross-contamination, downhole drilling equipment was steam cleaned between borings. Approximately 2.00 tons of petroleum impacted drill cuttings generated during the installation of the monitoring wells were transported off-site for disposal. Waste transportation and disposal records are included in **Appendix G**.

Monitoring well installations were performed by a South Carolina licensed driller while being supervised by Petra-Tech Environmental, LLC field staff. Monitoring wells were developed by drill personnel and field personnel from Petra-Tech Environmental through a combination of surging and overpumping. The monitoring well locations were surveyed by a licensed surveyor (George B. Souther RLS, SC #21232) to establish horizontal control and vertical elevations of the top of PVC casing and ground surface. The results of the comprehensive site survey are included as **Appendix A**. The site survey was used to create a site base map (**Figure 3**) for the site.

3.4 Groundwater Sampling

Twenty-two groundwater monitoring wells and one surface water sampling location (SW01) were sampled on November 13 and 14, 2014 by Mr. Cameron Warlick, P.G., Mr. Daniel Burch, and Mr. Trever Slack, P.G. of Petra-Tech Environmental. Quality Assurance verification was provided by Ms. Kaye Burch. The bottom two feet of groundwater monitoring well 08641-MW05 were filled with sediment and a groundwater sample could not be collected.

Groundwater monitoring wells were developed by purging until it was determined that groundwater flow through the well screen was not inhibited by silt or fine sand. Approximately 85 gallons of purge-water generated during the monitoring well development and sampling was transported off-site for disposal. Waste transportation and disposal records are attached in **Appendix G**. Monitoring well purging and sampling logs are included in **Appendix B**.

Sample containers were marked in the field with identifying numbers, properly preserved, placed into sample coolers, secured, and maintained at less than 4 degrees Celsius. The samples and chain-of-custody records were delivered to Shealy Environmental Services, Inc. in Columbia, South Carolina for analysis of BTEX, naphthalene, MTBE, 8-oxygenates, and 1,2-DCA by EPA Method 8260B, 1,2-dibromoethane (EDB) by EPA Method 8011, and total lead by EPA Method 6010B (groundwater monitoring wells); and BTEX, naphthalene, MTBE, 8-oxygenates, and 1,2-DCA by EPA Method 8260B and EDB by EPA Method 8011 (surface water sampling location). One duplicate sample per twenty wells sampled and one field blank for each day in the field was analyzed for BTEX, naphthalene, MTBE, 8-oxygenates, and 1,2-DCA by EPA Method 8260B, EDB by EPA Method 8011, and total lead by EPA Method 6010B. Additionally, one trip blank for each sample cooler was analyzed for BTEX, naphthalene, MTBE, 8-oxygenates, and 1,2-DCA by EPA Method 8260B.

3.5 Tier II Assessment Results

3.5.1 Groundwater Occurrence

Site-wide stabilized groundwater elevations recorded on December 16, 2014 ranged from 734.58 (08641-MW10) to 759.42 (08641-MW17). A tabulation of the groundwater level data is provided in **Table 3**. A water table elevation contour map showing the occurrence and direction of groundwater flow is presented as **Figure 4**. Groundwater flow from the source area is generally to the southwest.

Figures 5A through **5C** provide hydrogeologic cross-sections through the subsurface soils. The cross-sections depict the surveyed ground surface elevation, subsurface lithologies, monitoring wells and their respective screened intervals, and the static groundwater elevation.

3.5.2 Groundwater Monitoring Well and Surface Water Sampling Results

Of the twenty-two groundwater monitoring wells and one surface water location sampled for laboratory analysis during the Tier II Assessment, nine wells (08641-MW01, 08641-MW03, 08641-MW04, 08641-MW06, 08641-MW07, 08641-MW08, 08641-MW09, 08641-MW15, and 08641-MW19) detected petroleum compounds above South Carolina established Risk-Based Screening Levels.

Petroleum compounds detected above Risk-Based Screening Level concentrations include:

- Benzene 08641-MW01, 08641-MW03, 08641-MW04, 08641-MW06, 08641-MW08, 08641-MW09, and 08641-MW19
- Ethylbenzene 08641-MW01, 08641-MW03, 08641-MW04, and 08641-MW08
- Naphthalene 08641-MW01, 08641-MW03, 08641-MW04, 08641-MW07, 08641-MW08, 08641-MW09, 08641-MW15, and 08641-MW19
- Tert-Amy-Alcohol (TAA) 08641-MW01, 08641-MW03, and 08641-MW06

0.29-feet of free-phase petroleum product was detected in monitoring well 08641-MW03 and 1.02-feet of free-phase petroleum product was detected in monitoring well 08641-MW04 at the time of sampling. A groundwater sample was collected from below the product and submitted for laboratory analysis. Additionally, lead was detected above the South Carolina established Risk-Based Screening Level (15 ug/l) in monitoring well 08641-MW04. However, elevated total lead concentrations may be the result of suspended sediment in the groundwater samples.

Petroleum compounds were also detected above laboratory method detection limits in groundwater monitoring wells 08641-MW02, 08641-MW17, and 08641-MW23; however, concentrations did not exceed South Carolina established Risk-Based Screening Levels. No petroleum compounds were detected in the surface water sample. The results of the laboratory analyses are summarized in **Table 4** and are shown on **Figure 6**. Benzene, toluene, ethylbenzene, xylenes, and naphthalene isoconcentration maps are included as **Figures 7a** through **7e**, respectively. Laboratory data sheets are provided in **Appendix B**.

3.5.3 Aquifer Evaluation

Slug tests were performed in monitoring wells 08641-MW06 and 08641-MW07 to determine the hydraulic conductivity of the formation material exposed to the well screen. A SCDHEC *Summary of Slug Test Form* is provided in **Appendix F**. The data from the tests are presented on **Table 5**.

Hydraulic Conductivity

Hydraulic conductivity is defined as the ability of the aquifer material to conduct water under a hydraulic gradient. Two slug tests were performed at the site during the current scope of work to measure the in-situ hydraulic conductivity of the aquifer and were evaluated using the Bouwer and Rice Method³ for partially-penetrating wells in an unconfined aquifer (slug testing results are included in **Appendix F**). The hydraulic conductivity values measured at the site were 5.75×10^{-6} cm/sec (08641-MW06) and 1.79×10^{-6} cm/sec (08641-MW07). The site-wide geometric mean hydraulic conductivity value is 2.21×10^{-4} cm/sec (calculation includes hydraulic conductivity values measured during previous environmental assessment by others – please see **Table 5**).

Horizontal Hydraulic Gradient

The horizontal hydraulic gradient is determined by dividing the difference in groundwater elevations at two locations by the horizontal distance between those locations along the direction of groundwater flow. The horizontal hydraulic gradient across the site is approximately 0.072 feet/feet between groundwater monitoring wells 08641-MW17 and 08641-MW02.

Effective Porosity

Total porosity is the total volume of void spaces in a rock or sediment divided by the total volume of that rock or sediment. Effective porosity is less than total porosity, and is the ratio of those void spaces which are interconnected allowing water or other fluids to flow to the total volume of the rock or sediment. A number of scientific studies have been undertaken to identify relationships between effective porosity and

³ Bouwer, H., and Rice, R., A Slug Test for Determining Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells, *Water Resources Research*, v. 12, o. 423-428.

the physical characteristics of rock or soil (lithology) in order to estimate the effective porosity for different lithological formations.

An effective porosity value of 0.33 was estimated for the shallow wells screened in a slightly clayey, silty, fine to medium sand (saprolite and partially weathered rock). The effective porosity was estimated based on published values of effective porosity for a fine sand (McWhorter and Sunada 1977⁴) which ranged from 0.01 to 0.46 with an arithmetic mean of 0.33.

Groundwater Flow Velocity

The velocity of groundwater flow is derived from the equation:

$$V = \frac{Ki}{n_e}$$

Where

- V* is the flow velocity
- K* is the hydraulic conductivity
- i* is the horizontal hydraulic gradient; and
- n_e* is the effective porosity.

Based on these parameters and the data provided above, the geometric mean horizontal movement of groundwater is approximately 49.92 feet/year in the unconfined aquifer at the site. **Table 5** summarizes the groundwater flow velocity calculations.

4.0 TIER II RISK EVALUATION AND RECOMMENDATIONS

- Eighteen groundwater monitoring wells (08641-MW06 through 08641-MW23) were installed from November 7, 2014 through November 11, 2014 to complete the assessment of petroleum hydrocarbons in groundwater at the subject site.
- Twenty-two groundwater monitoring wells and one surface water location were sampled for laboratory analysis during the Tier II Assessment. Nine wells (08641-MW01, 08641-MW03, 08641-MW04, 08641-MW06, 08641-MW07, 08641-MW08, 08641-MW09, 08641-MW15, and 08641-MW19) detected petroleum compounds above South Carolina established Risk-Based Screening Levels. Compounds detected above South Carolina established Risk-Based Screening Levels include benzene, ethylbenzene, naphthalene, and TAA. 0.29 and 1.02 feet of free-phase petroleum product were detected in monitoring wells 08641-MW03 and 08641-MW04, respectively. No petroleum compounds were detected in the surface water sampling location.
- Groundwater flow from the source area is primarily to the southwest.
- Presently, the contaminant plume at the subject site appears to be defined horizontally. Groundwater analytical results indicate that at least two major source areas are present at the site (approximate location of monitoring well 08641-MW04 and approximate location of monitoring well 08641-MW03). Groundwater analytical results also indicate potential source areas located proximate to

⁴ McWhorter, D. and Sunada, D., 1977, Groundwater Hydrology and Hydraulics, Water Resources Publication, 290 pp.



monitoring wells 08641-MW15 and 08641-MW05/08641-MW19. However, additional exploration and characterization in these areas will be necessary to make a determination.

- Petra-Tech Environmental recommends continued monitoring of the groundwater monitoring well network associated with the site to establish trends in groundwater contaminant concentrations and ensure that concentrations are attenuating naturally. Active free-product recovery (AFVR/MMPE) should be implemented in groundwater monitoring wells 08641-MW03 and 08641-MW04.

TABLES

TABLE 1
Summary of Groundwater Screening Results
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| | Method | RBSL (µg/L) | Groundwater Screening Sample | | | | | | | | | |
|-------------------------------|--------|-------------|------------------------------|-----------------------|--------------|--------------|-------|--------------|-------|-------------|-------|-------|
| | | | GW01 | GW01D | GW02 | GW04 | GW05 | GW06 | GW07 | GW08 | GW09 | GW10 |
| Boring Depth (ft bgs) | NA | NA | 24 | 28 | 18 | 26 | 20 | 20 | 20 | 20 | 26 | 20 |
| Depth-to-Groundwater (ft bgs) | NA | NA | 20 | NA | 14 | 23 | 16 | 17 | 18 | 18 | 22 | 16 |
| Sample Depth (ft bgs) | NA | NA | 20-24 | NA | 14-18 | 22-26 | 16-20 | 16-20 | 16-20 | 16-20 | 22-26 | 16-20 |
| PID Reading (ppm) | NA | NA | 10.7 | NA | 0.1 | 0.4 | 0.0 | 1.3 | 2.8 | 32.0 | 0.1 | 0.0 |
| Benzene (µg/L) | 8260B | 5 | NT | Refusal at 28 feet | <i>0.23J</i> | <i>0.55J</i> | <0.13 | <i>0.34J</i> | NT | <i>4.9J</i> | NT | <0.13 |
| Toluene (µg/L) | 8260B | 1,000 | NT | | <0.33 | <i>0.63J</i> | <0.33 | <0.33 | NT | <1.7 | NT | <0.33 |
| Ethylbenzene (µg/L) | 8260B | 700 | NT | | <0.33 | <0.33 | <0.33 | <i>0.95J</i> | NT | <i>15</i> | NT | <0.33 |
| Xylenes (µg/L) | 8260B | 10,000 | NT | | <0.33 | <i>0.48J</i> | <0.33 | <i>0.89J</i> | NT | <i>9.6</i> | NT | <0.33 |
| Naphthalene (µg/L) | 8260B | 25 | NT | | <0.40 | <0.33 | <0.40 | <i>3.9</i> | NT | <i>190</i> | NT | <0.40 |
| 1,2-DCA (µg/L) | 8260B | 5 | NT | | <0.15 | <0.15 | <0.15 | <0.15 | NT | <0.74 | NT | <0.15 |
| MTBE (µg/L) | 8260B | 40 | NT | | <0.40 | <0.40 | <0.40 | <0.40 | NT | <2.0 | NT | <0.40 |

| | Method | RBSL (µg/L) | Groundwater Screening Sample | | | | | | | | | |
|-------------------------------|--------|-------------|------------------------------|----------------------|--------------|-----------------------|--------------|-----------------------|-------|-------|--------------|--------------|
| | | | GW11 | GW11D | GW12 | GW12D | GW13 | GW13D | GW14 | GW15 | GW16 | GW21 |
| Boring Depth (ft bgs) | NA | NA | 6 | 8 | 22 | 23 | 19 | 20 | 24 | 24 | 16 | 20 |
| Depth-to-Groundwater (ft bgs) | NA | NA | NA | NA | 18 | NA | 16 | NA | 20-24 | 20-24 | 12-16 | 16-20 |
| Sample Depth (ft bgs) | NA | NA | NA | NA | 18-22 | NA | 15-19 | NA | 22 | 20 | 15 | 18 |
| PID Reading (ppm) | NA | NA | NA | NA | 0.7 | NA | 1.3 | NA | 0.1 | 0.3 | 0.5 | 0.4 |
| Benzene (µg/L) | 8260B | 5 | Refusal at 6 feet | Refusal at 8 feet | <i>0.28J</i> | Refusal at 23 feet | <i>0.52J</i> | Refusal at 20 feet | NT | NT | <i>0.23J</i> | <i>0.37J</i> |
| Toluene (µg/L) | 8260B | 1,000 | | | <0.33 | | <i>0.56J</i> | | NT | NT | <0.33 | <i>0.33J</i> |
| Ethylbenzene (µg/L) | 8260B | 700 | | | <0.33 | | <0.33 | | NT | NT | <0.33 | <0.33 |
| Xylenes (µg/L) | 8260B | 10,000 | | | <0.33 | | <i>0.73J</i> | | NT | NT | <i>0.83J</i> | <0.33 |
| Naphthalene (µg/L) | 8260B | 25 | | | <i>1.9</i> | | <i>2</i> | | NT | NT | <i>2.0</i> | <i>1.3</i> |
| 1,2-DCA (µg/L) | 8260B | 5 | | | <0.15 | | <0.15 | | NT | NT | <0.15 | <0.15 |
| MTBE (µg/L) | 8260B | 40 | | | <0.40 | | <0.40 | | NT | NT | <0.40 | <0.40 |

NOTES:
RBSL - Risk Based Screening Level
Shaded values indicate concentrations exceeding RBSLs.
PID - MiniRae Lite Photoionization Detector
ppm - parts per million
ft bgs - feet below ground surface
NA - Not Applicable
NT - Not Tested. Sample not submitted for laboratory analysis

TABLE 2
Monitoring Well and Groundwater Surface Elevation Data
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| Monitoring Well | Ground Surface Elevation | Top-of-Casing Elevation | Date | Free-Phase Petroleum Product (feet) | Groundwater Depth Below Top-of-Casing | Groundwater Elevation | Well Depth BGS | Screened Interval Depth | Screened Interval Elevation |
|-----------------|--------------------------|-------------------------|------------|-------------------------------------|---------------------------------------|-----------------------|----------------|-------------------------|-----------------------------|
| 08641-MW01 | 772.66 | 772.24 | 04/07/2004 | -- | 11.41 | 760.83 | 27.00 | 17.00 - 27.00 | 755.66 - 745.66 |
| | | | 11/13/2014 | -- | 16.12 | 756.12 | | | |
| | | | 12/16/2014 | -- | 16.28 | 755.96 | | | |
| 08641-MW02 | 766.29 | 765.91 | 04/07/2004 | -- | 16.05 | 749.86 | 32.10 | 22.10 - 32.10 | 744.19 - 734.19 |
| | | | 11/13/2014 | -- | 20.62 | 745.29 | | | |
| | | | 12/16/2014 | -- | 21.35 | 744.56 | | | |
| 08641-MW03 | 774.37 | 774.04 | 04/07/2004 | 0.01 | 14.41 | 759.64 | 24.00 | 14.00 - 24.00 | 760.37 - 750.37 |
| | | | 11/13/2014 | 0.29 | 19.40 | 754.84 | | | |
| | | | 12/16/2014 | 0.13 | 19.63 | 754.50 | | | |
| 08641-MW04 | 768.66 | 768.43 | 04/07/2004 | 0.02 | 15.40 | 753.04 | 23.00 | 13.00 - 23.00 | 755.66 - 745.66 |
| | | | 11/13/2014 | 1.02 | 23.26 | 745.88 | | | |
| | | | 12/16/2014 | 0.65 | 23.68 | 745.21 | | | |
| 08641-MW05 | 764.20 | 763.99 | 04/07/2014 | -- | 15.42 | 748.57 | 13.00 | 13.00 - 23.00 | 751.20 - 741.20 |
| | | | 11/13/2014 | -- | 20.31 | 743.68 | | | |
| | | | 12/16/2014 | -- | 20.42 | 743.57 | | | |
| 08641-MW06 | 774.26 | 774.04 | 11/13/2014 | -- | 20.13 | 753.91 | 28.63 | 18.43 - 28.43 | 755.83 - 745.83 |
| | | | 12/16/2014 | -- | 20.47 | 753.57 | | | |
| 08641-MW07 | 769.26 | 768.72 | 11/13/2014 | -- | 16.01 | 752.71 | 21.95 | 11.75 - 21.75 | 757.51 - 747.51 |
| | | | 12/16/2014 | -- | 16.12 | 752.60 | | | |
| 08641-MW08 | 769.76 | 769.62 | 11/13/2014 | -- | 22.34 | 747.28 | 22.71 | 12.51 - 22.51 | 757.25 - 747.25 |
| | | | 12/16/2014 | -- | 22.66 | 746.96 | | | |
| 08641-MW09 | 766.73 | 766.22 | 11/13/2014 | -- | 21.36 | 744.86 | 26.01 | 15.81 - 25.81 | 750.92 - 740.92 |
| | | | 12/16/2014 | -- | 21.88 | 744.34 | | | |
| 08641-MW10 | 750.87 | 750.51 | 11/13/2014 | -- | 15.21 | 735.30 | 23.60 | 13.40 - 23.40 | 737.47 - 727.47 |
| | | | 12/16/2014 | -- | 15.93 | 734.58 | | | |
| 08641-MW11 | 752.91 | 752.57 | 11/13/2014 | -- | 15.33 | 737.24 | 23.84 | 13.64 - 23.64 | 739.27 - 729.27 |
| | | | 12/16/2015 | -- | 15.62 | 736.95 | | | |
| 08641-MW12 | 777.54 | 777.00 | 11/11/2014 | -- | 22.19 | 754.81 | 31.58 | 21.38 - 31.38 | 756.16 - 746.16 |
| | | | 12/16/2016 | -- | 22.59 | 754.41 | | | |
| 08641-MW13 | 761.34 | 764.75 | 11/13/2014 | -- | 8.36 | 756.39 | 11.19 | 0.99 - 10.99 | 760.35 - 750.35 |
| | | | 12/16/2017 | -- | 7.53 | 757.22 | | | |
| 08641-MW14 | 752.75 | 752.21 | 11/13/2014 | -- | 13.87 | 738.34 | 22.95 | 12.75 - 22.75 | 740.00 - 730.00 |
| | | | 12/16/2018 | -- | 12.37 | 739.84 | | | |
| 08641-MW15 | 767.84 | 767.56 | 11/13/2014 | -- | 13.02 | 754.54 | 20.27 | 10.07 - 20.07 | 757.77 - 747.77 |
| | | | 12/16/2019 | -- | 13.66 | 753.90 | | | |
| 08641-MW16 | 758.26 | 761.93 | 11/13/2014 | -- | 9.67 | 752.26 | 10.88 | 0.68 - 10.68 | 757.58 - 747.58 |
| | | | 12/16/2020 | -- | 8.17 | 753.76 | | | |
| 08641-MW17 | 779.13 | 778.87 | 11/13/2014 | -- | 20.03 | 758.84 | 26.71 | 16.51 - 26.51 | 762.62 - 752.62 |
| | | | 12/16/2021 | -- | 19.45 | 759.42 | | | |
| 08641-MW18 | 772.06 | 771.74 | 11/13/2014 | -- | 18.03 | 753.71 | 26.93 | 16.73 - 26.73 | 755.33 - 745.33 |
| | | | 12/16/2022 | -- | 18.42 | 753.32 | | | |
| 08641-MW19 | 769.69 | 769.38 | 11/13/2014 | -- | 17.01 | 752.37 | 21.62 | 11.42 - 21.42 | 758.27 - 748.27 |
| | | | 12/16/2023 | -- | 17.55 | 751.83 | | | |
| 08641-MW20 | 767.45 | 767.14 | 11/13/2014 | -- | 14.23 | 752.91 | 20.29 | 10.09 - 20.09 | 757.36 - 747.36 |
| | | | 12/16/2024 | -- | 14.42 | 752.72 | | | |
| 08641-MW21 | 761.84 | 761.51 | 11/13/2014 | -- | 9.86 | 751.65 | 19.62 | 9.42 - 19.42 | 752.42 - 742.42 |
| | | | 12/16/2025 | -- | 10.16 | 751.35 | | | |
| 08641-MW22 | 751.81 | 751.47 | 11/13/2014 | -- | 12.63 | 738.84 | 16.95 | 6.75 - 16.75 | 745.06 - 735.06 |
| | | | 12/16/2026 | -- | 13.52 | 737.95 | | | |
| 08641-MW23 | 764.81 | 764.24 | 11/13/2014 | -- | 18.48 | 745.76 | 29.57 | 19.37 - 29.37 | 745.44 - 735.44 |
| | | | 12/16/2014 | -- | 19.48 | 744.76 | | | |

NOTES:

Measurements are in feet
BGS - below ground surface
Elevations are NAVD 88

TABLE 3
Summary of Soil Screening Results
 Morris Oil - UST Permit #08641
 Spartanburg, Spartanburg County, South Carolina

| | Method | RBSL (Sandy Soil) | Boring ID | | | | | | | |
|-------------------------------|--------|-------------------|-------------|--------------|-------------|--------------|-------------|-------------|------------|------|
| | | | 08641-MW06 | 08641-MW07 | 08641-MW08 | 08641-MW09 | 08641-MW15 | 08641-MW17 | 08641-MW23 | |
| Boring Depth (ft bgs) | NA | -- | 29 | 22 | 23 | 28 | 22 | 27 | 32 | |
| Depth-to-Groundwater (ft bgs) | NA | -- | 20 | 16 | 21 | 21 | 14 | 19 | 23 | |
| Sample Depth (ft bgs) | NA | -- | 15 | 10 | 15 | 20 | 10 | 15 | 20 | |
| Sample Date | NA | -- | 12/13/2014 | 12/13/2014 | 12/13/2014 | 12/13/2014 | 12/13/2014 | 12/13/2014 | 12/13/2014 | |
| PID Reading (ppm) | NA | -- | 2.6 | 1.5 | 12.7 | 16.9 | 0.4 | 0.2 | 0.3 | |
| Benzene (µg/kg) | 8260B | 7 | <0.72 | <i>1.7J</i> | <i>8.1</i> | <i>5.5</i> | <i>8.4</i> | <0.55 | <1.4 | <1.2 |
| Toluene (µg/kg) | 8260B | 1450 | <1.1 | <0.91 | <i>1.1J</i> | <i>0.76J</i> | <i>1.2J</i> | <0.85 | <2.1 | <1.9 |
| Ethylbenzene (µg/kg) | 8260B | 1150 | <i>2.4J</i> | <i>0.93J</i> | <i>26</i> | <i>16</i> | <i>25</i> | <i>0.85</i> | <2.1 | <1.9 |
| Xylenes (µg/kg) | 8260B | 14500 | <1.9 | <1.6 | <i>21</i> | <i>13</i> | <i>19</i> | <1.5 | <3.6 | <3.3 |
| Naphthalene (µg/kg) | 8260B | 36 | <i>2.5J</i> | <i>3.9</i> | <i>9.3</i> | <i>3.2</i> | <i>4.1</i> | <0.85 | <2.1 | <1.9 |

| | Method | Trip Blank | Field Blank |
|---------------------|--------|------------|-------------|
| Sample Date | NA | NA | 12/13/2014 |
| Benzene (µg/L) | 8260B | <0.13 | <0.13 |
| Toluene (µg/L) | 8260B | <0.33 | <0.33 |
| Ethylbenzene (µg/L) | 8260B | <0.33 | <0.33 |
| Xylenes (µg/L) | 8260B | <0.33 | <0.33 |
| Naphthalene (µg/L) | 8260B | <0.40 | <0.40 |

NOTES:
 RBSL - Risk Based Screening Level
 PID - MiniRae Lite Photoionization Detector
 ppm - parts per million
 ft bgs - feet below ground surface

TABLE 4
Summary of Groundwater Analytical Results
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| | Free-Phase Petroleum Product (feet) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | Naphthalene (µg/L) | EDB (µg/L) | 1,2 DCA (µg/L) | ETBE (µg/L) | ETBA (µg/L) | TAME (µg/L) | DIPE (µg/L) | Ethanol (µg/L) | TBF (µg/L) | TBA (µg/L) | TAA (µg/L) | Lead (µg/L) | |
|---------------|-------------------------------------|----------------|---|---------------------|----------------|-------------|--------------------|------------|----------------|-------------|-------------|-------------|-------------|----------------|------------|------------|------------|-------------|-------|
| | | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL | RBSL |
| | -- | 5 | 1,000 | 700 | 10,000 | 40 | 25 | 0.05 | 5 | 47 | NE | 128 | 150 | 10,000 | NE | 1,400 | 240 | 15 | |
| 08641-MW01 | 04/07/04 | 317 | 14.8 | 720 | 626 | 2.1 | 373 | NT | NT | NT | NT | NT | NT | NT | NT | NT | NT | 19.0 | |
| | 11/13/14 | 710 | 36 | 800 | 790 | <8.0 | 350 | <0.019 | <2.9 | <4.0 | <20 | <4.0 | <8.0 | <660 | <20 | <130 | 350 J | 14 | |
| 08641-MW02 | 04/07/04 | 658 | 43.9 | 198 | 277 | 84.3 | 137 | NT | NT | NT | NT | NT | NT | NT | NT | NT | NT | 19.0 | |
| | 11/13/14 | <0.13 | <0.33 | 1.5 | 1.4 | <0.40 | 1.9 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 3.1 J | |
| 08641-MW03 | 04/07/04 | 0.01 | NOT SAMPLED - 0.01 FEET OF FREE-PHASE PETROLEUM PRODUCT PRESENT | | | | | | | | | | | | | | | | |
| | 11/13/14 | 0.29 | 1900 | 150 | 1200 | 2200 | <20 | 330 | <0.020 | <7.4 | <10 | <50 | 12 J | <20 | <1700 | <50 | <340 | 370 J | 6.7 J |
| | 11/13/14 dup | 0.02 | 1900 | 150 | 1200 | 2300 | <20 | 310 | <0.019 | <7.4 | <10 | <50 | 11 J | <20 | <1700 | <50 | <340 | 400 J | 7 J |
| 08641-MW04 | 04/07/04 | 0.02 | NOT SAMPLED - 0.02 FEET OF FREE-PHASE PETROLEUM PRODUCT PRESENT | | | | | | | | | | | | | | | | |
| | 11/13/14 | 1.02 | 2100 | 730 | 2400 | 7100 | <20 | 1400 | <0.019 | <7.4 | <10 | <50 | <10 | <20 | <1700 | <50 | <340 | <340 | 720 |
| | 11/13/14 dup | 0.02 | 1300 | 510 | 1800 | 5300 | <20 | 590 | <0.019 | <7.4 | <10 | <50 | <10 | <20 | <1700 | <50 | <340 | <340 | 66 |
| 08641-MW05 | 04/07/04 | -- | 1170 | 340 | 1080 | 1500 | 39.2 | 443 | NT | NT | NT | NT | NT | NT | NT | NT | NT | NT | 285 |
| | 11/13/14 | -- | NOT SAMPLED - APPROXIMATELY 1 FOOT OF MUD IN BOTTOM OF WELL | | | | | | | | | | | | | | | | |
| 08641-MW06 | 11/13/14 | -- | 5.2 | 0.48 J | 78 | 60 | 0.64 J | 23 | <0.020 | <0.15 | <0.20 | <1.0 | 17 | 6.0 | <33 | <1.0 | 25 | 580 | 6.7 J |
| 08641-MW07 | 11/13/14 | -- | 2.5 | <0.33 | 4.0 | 3.4 | <0.40 | 36 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 9.6 J |
| 08641-MW08 | 11/13/14 | -- | 13 | 44 | 830 | 2800 | <4.0 | 540 | 0.046 | <1.5 | <2.0 | <10 | <2.0 | <4.0 | <330 | <10 | <67 | <67 | 10 |
| 08641-MW09 | 11/13/14 | -- | 56 | 5.7 | 170 | 130 | <2.0 | 210 | <0.020 | <0.74 | <1.0 | <5.0 | <1.0 | <2.0 | <170 | <5.0 | <34 | 48 J | 4 J |
| 08641-MW10 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 3.1 J |
| 08641-MW11 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 5 J |
| 08641-MW12 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 4.6 J |
| 08641-MW13 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 3.4 J |
| 08641-MW14 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 13 |
| 08641-MW15 | 11/13/14 | -- | 1.0 | 0.36 J | 57 | 47 | <0.40 | 38 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 9.4 J |
| 08641-MW16 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 3.6 J |
| 08641-MW17 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | 0.41 J | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 4 J |
| 08641-MW18 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 3.7 J |
| 08641-MW19 | 11/13/14 | -- | 17 | 5.9 | 320 | 60 | <2.0 | 140 | <0.019 | <0.74 | <1.0 | <5.0 | <1.0 | <2.0 | <170 | <5.0 | <34 | 220 | 3.7 J |
| 08641-MW20 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 3.6 J |
| 08641-MW21 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 6.8 J |
| 08641-MW22 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 2.8 J |
| 08641-MW23 | 11/13/14 | -- | <0.13 | <0.33 | 2.6 | 2.6 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 11 |
| SW01 | 11/14/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | NT |
| Trip Blank 1 | 11/14/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | NT | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | NT |
| Trip Blank 2 | 11/14/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | NT | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | NT |
| Trip Blank 3 | 11/14/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | NT | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | NT |
| Field Blank 1 | 11/13/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | NT |
| Field Blank 2 | 11/14/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | NT |

NOTES:
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NE - Not Established
NT - Not Tested

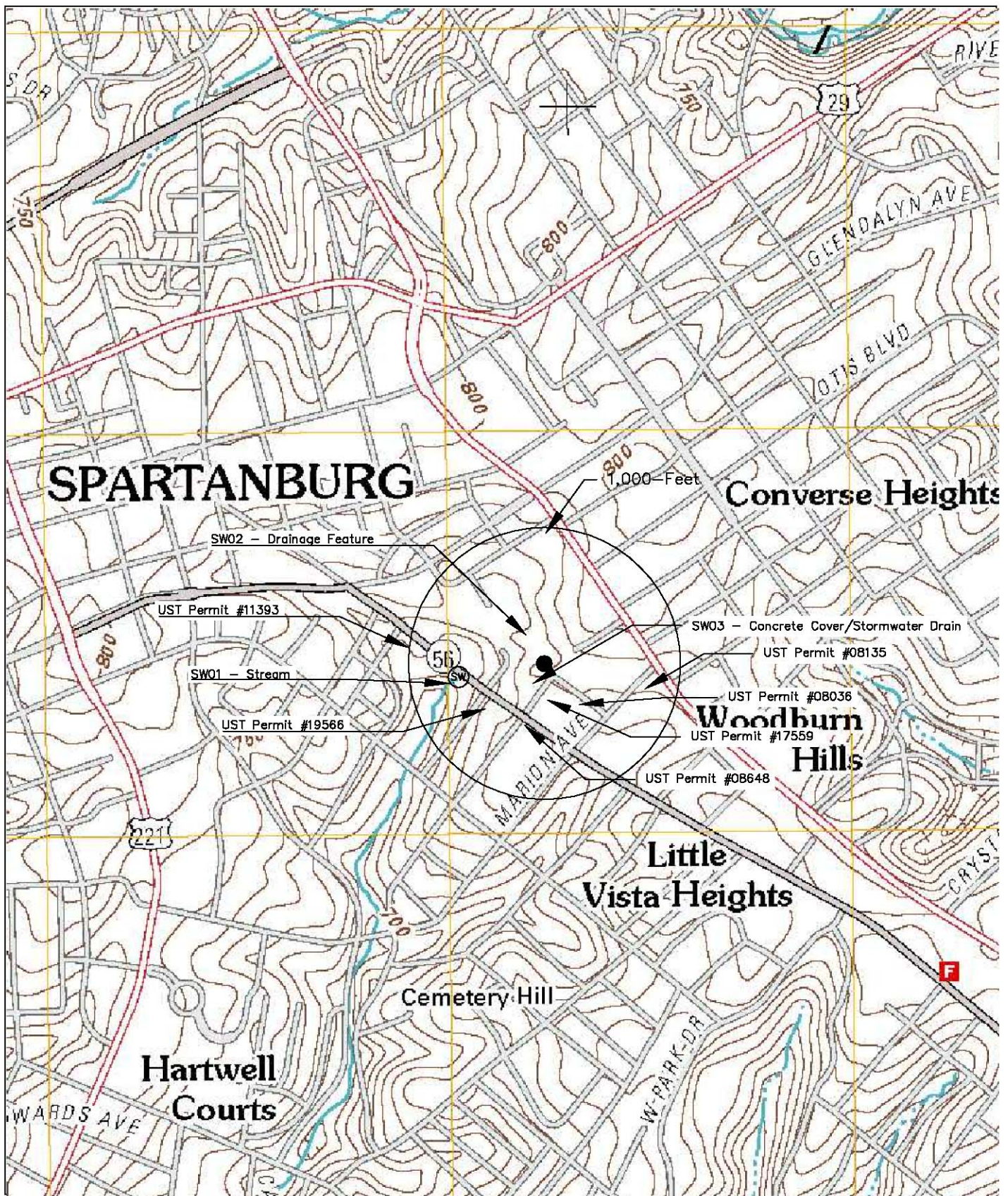
TABLE 5
Groundwater Velocity
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| VELOCITY CALCULATION | Date | Hydraulic Conductivity (K) (centimeters/second) | Hydraulic Conductivity (K) (feet/day) | Hydraulic Conductivity (K) (feet/year) | Hydraulic Gradient (i) (unitless) | Effective Porosity (n) (unitless) | Groundwater Velocity (V) (feet/day) | Groundwater Velocity (V) (feet/year) | Groundwater Velocity (V) (meters/second) |
|----------------------|------------|---|---------------------------------------|--|-----------------------------------|-----------------------------------|-------------------------------------|--------------------------------------|--|
| 08641-MW03 | 04/12/2004 | 2.15E-04 | 0.61 | 2.22E+02 | 0.072 | 0.33 | 1.33E-01 | 48.54 | 4.69E-07 |
| 08641-MW04 | 04/12/2004 | 5.29E-04 | 1.50 | 5.47E+02 | 0.072 | 0.33 | 3.27E-01 | 119.42 | 1.15E-06 |
| 08641-MW05 | 04/12/2004 | 3.54E-04 | 1.00 | 3.66E+02 | 0.072 | 0.33 | 2.19E-01 | 79.92 | 7.72E-07 |
| 08641-MW06 | 12/13/2014 | 5.75E-06 | 0.02 | 5.95E+00 | 0.072 | 0.33 | 3.56E-03 | 1.30 | 1.25E-08 |
| 08641-MW07 | 12/13/2014 | 1.79E-06 | 0.01 | 1.85E+00 | 0.072 | 0.33 | 1.11E-03 | 0.40 | 3.91E-09 |
| Mathematical Mean | --- | 2.21E-04 | 0.63 | 2.29E+02 | 0.072 | 0.33 | 1.37E-01 | 49.92 | 4.82E-07 |

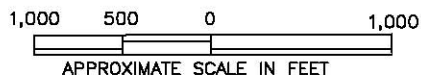
Notes:

Hydraulic conductivity values for groundwater monitoring wells 08641-MW03, 08641-MW04, and 08641-MW05 were obtained from slug tests performed by Spero Corporation during the Tier I Assessment in 2004. Effective porosity values were estimated from published values of effective porosity for a fine sand (ranging from 0.01 to 0.46; arithmetic mean 0.33) (McWorter and Sunada 1977). Hydraulic gradient was calculated based on groundwater elevations from and distances between monitoring wells 08641-MW17 and 08641-MW02 (Figure 4). Groundwater velocity derived from the equation $V = Ki/n$.

FIGURES



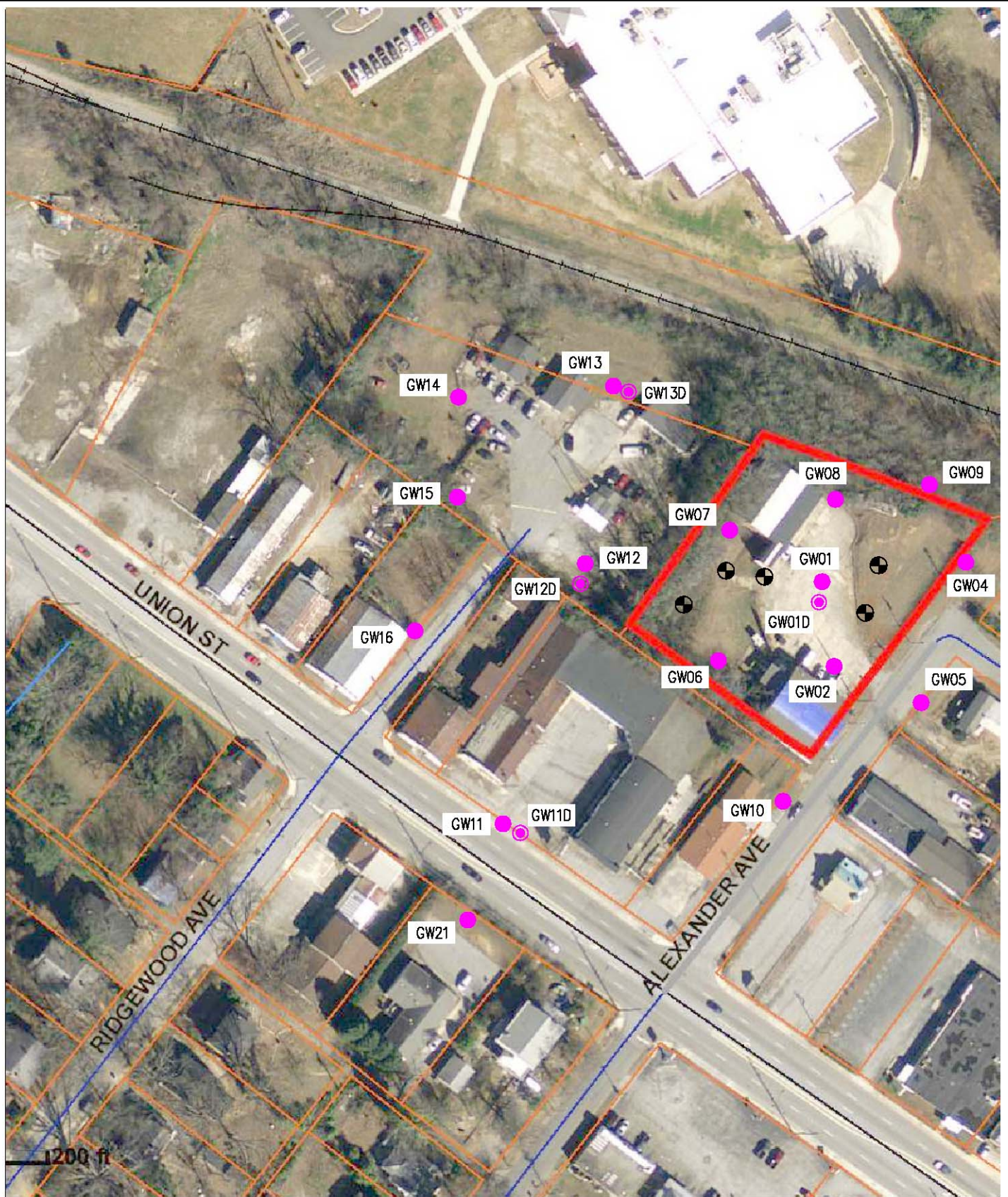
REFERENCE: Spartanburg Quadrangle – 7.5 Minute Series, United States Geological Survey, 2011 (Contour Interval – 10 feet)



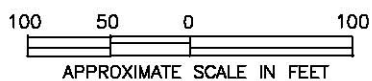
- Approximate Site Location
- ⊙ SW Surface Water Sampling Location



| | | |
|------------|---|--|
| Title | Topographic Site Location Map | |
| Project | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 06/02/2014 | |
| Job No. | J14-060-A | |
| Figure No. | 1 | |



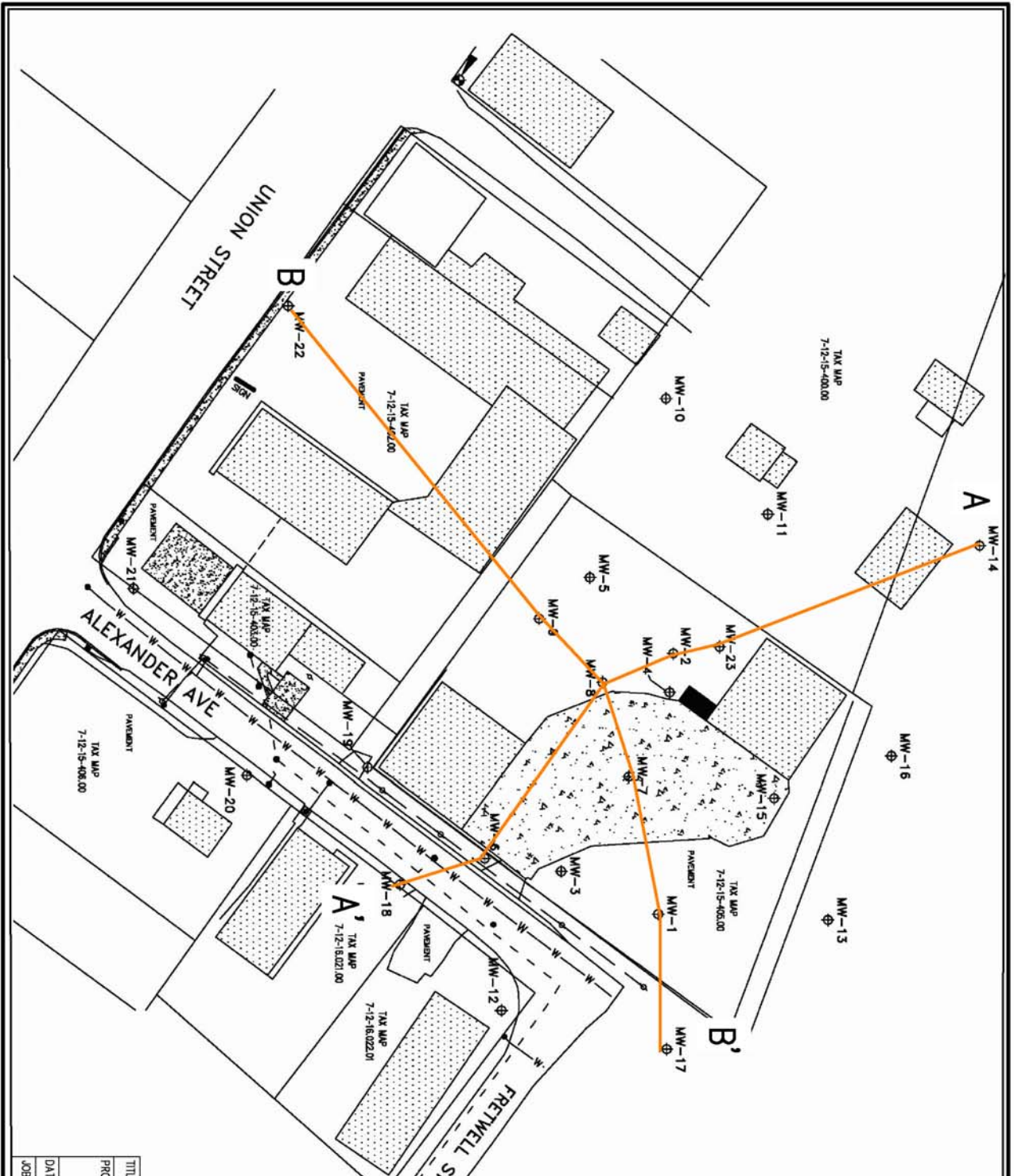
REFERENCE: Spartanburg County Online GIS Mapping Database; Ground Water COC Site Map by Spero Corporation dated May 3, 2004



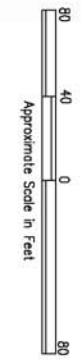
- ⊕ Existing Groundwater Monitoring Well (5)
- Shallow Groundwater Screening Boring
- ⊙ Deep Groundwater Screening Boring



| | | |
|---------|---|-----------------|
| Title | Groundwater Screening Boring Location Plan | |
| Project | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 12/20/2014 | |
| Job No. | J14-060-A | |
| | | Figure No. 2 |



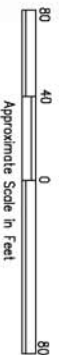
REFERENCE: Site Survey by Souther Land Surveying dated 12/16/14



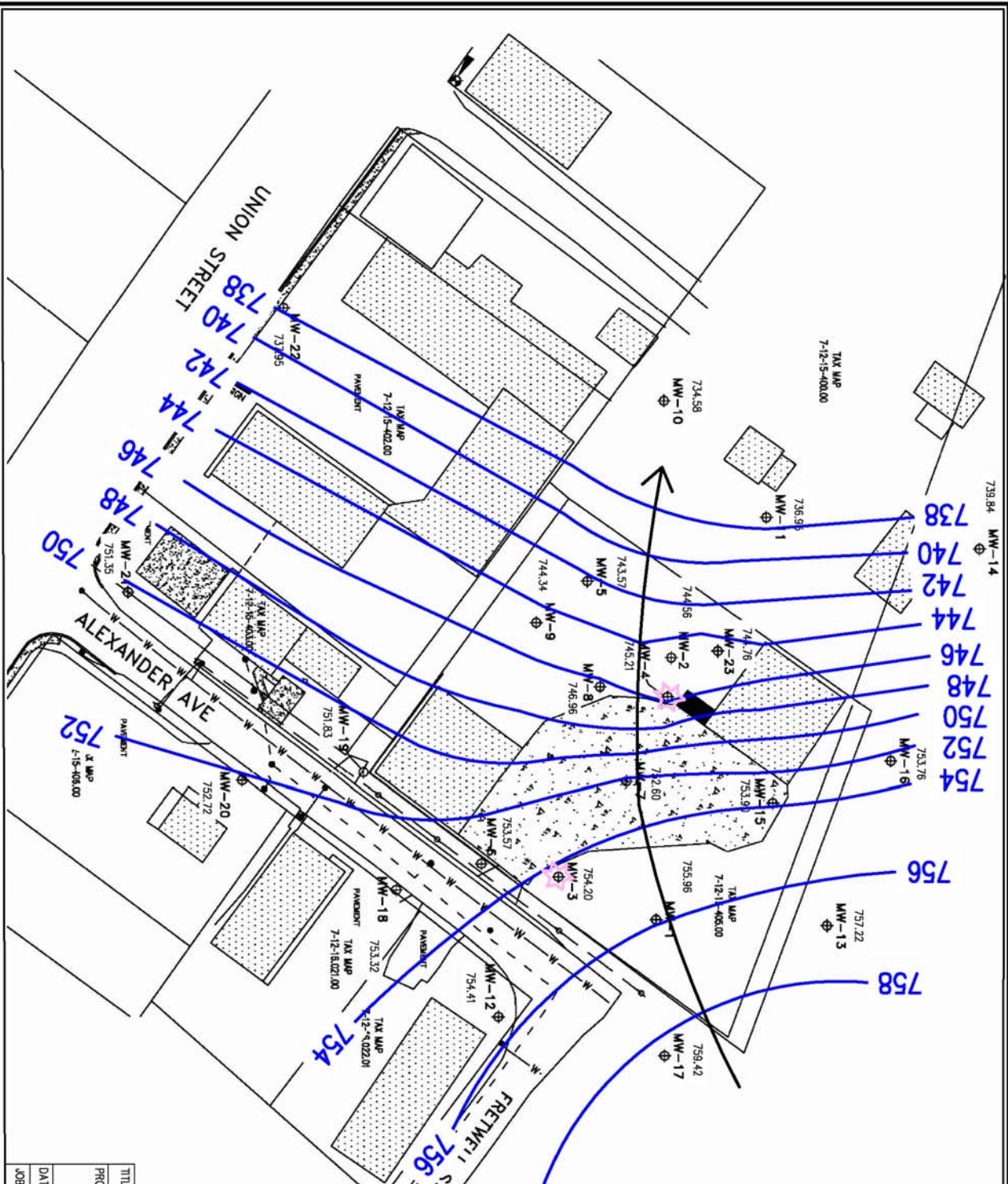
⊕ Groundwater Monitoring Well

| | |
|--|---|
| TITLE | Subsurface Geologic Cross-Section Reference Map |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County |
| DATE | 12/21/2014 |
| JOB NO. | J14-060-A |
| <small>ENGINEERS & CONSULTANTS</small> | |
| Figure No. | 50 |

REFERENCE: Site Survey by Souther Land Surveying dated 12/16/14



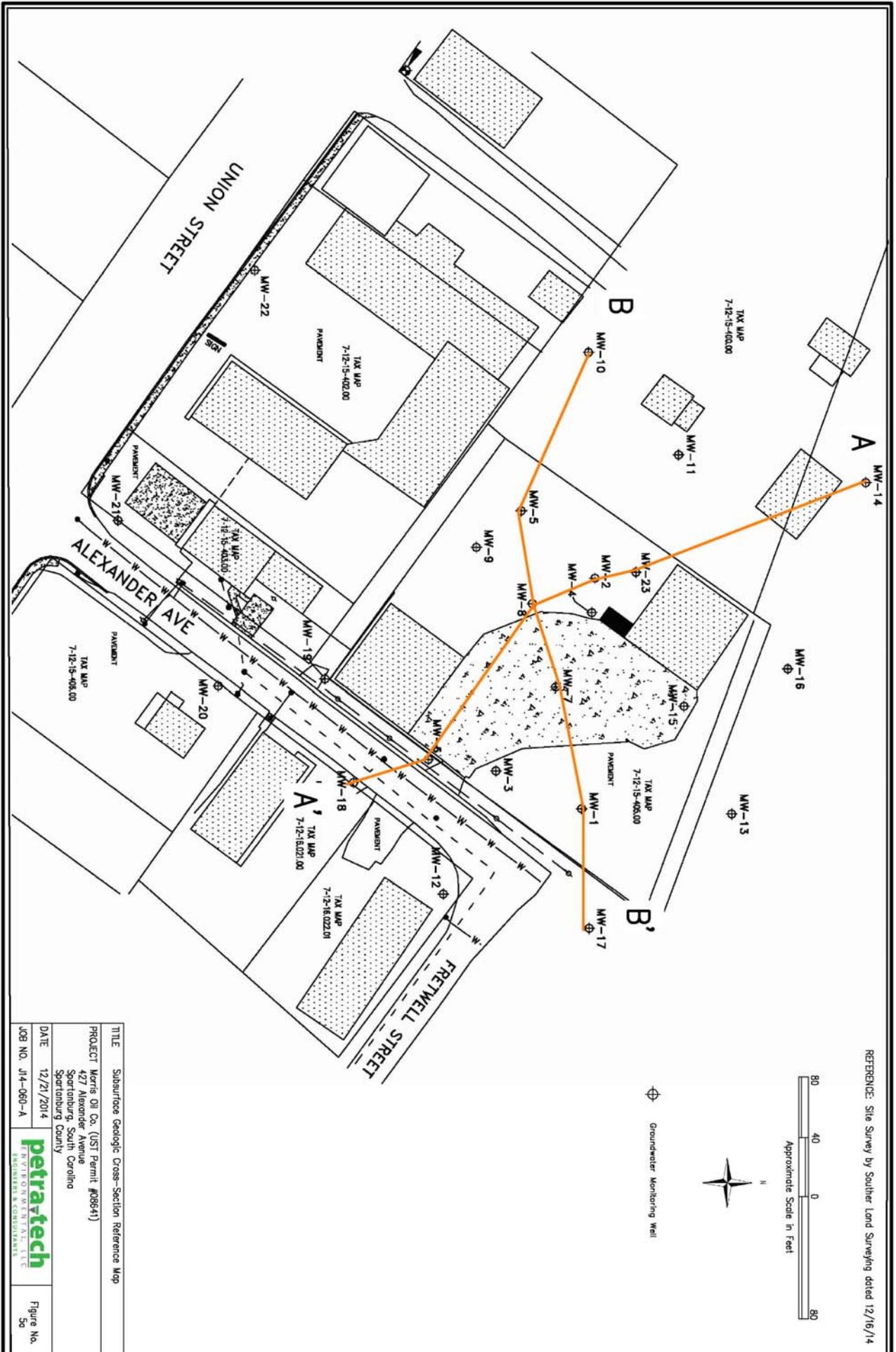
- Groundwater Monitoring Well
- Groundwater Potentiometric Contour
Contour Interval = 2-foot
- 541.28
Groundwater Elevation
- (541.28)
Groundwater Elevation Not Used For Contouring Purpose
- Approximate Groundwater Flow Direction
- Free-Phase Petroleum Product Detected in Well



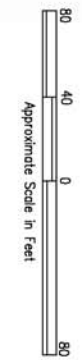
Note: Groundwater Elevations were recorded on December 16, 2014.
 Groundwater elevations for monitoring wells 08641-MW03 and 08641-MW04 were corrected for the presence of 0.13 feet and 0.85 feet of free-phase petroleum product, respectively, using a specific gravity correction factor of 0.70 g/cc.

| | |
|------------|---|
| TITLE | Groundwater Potentiometric Map - December 16, 2014 |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County |
| DATE | 12/21/2014 |
| JOB NO. | J14-060-A |
| Figure No. | 4 |

petra-tech
 PETROPHYSICAL, LLC
 ENGINEERS & CONSULTANTS

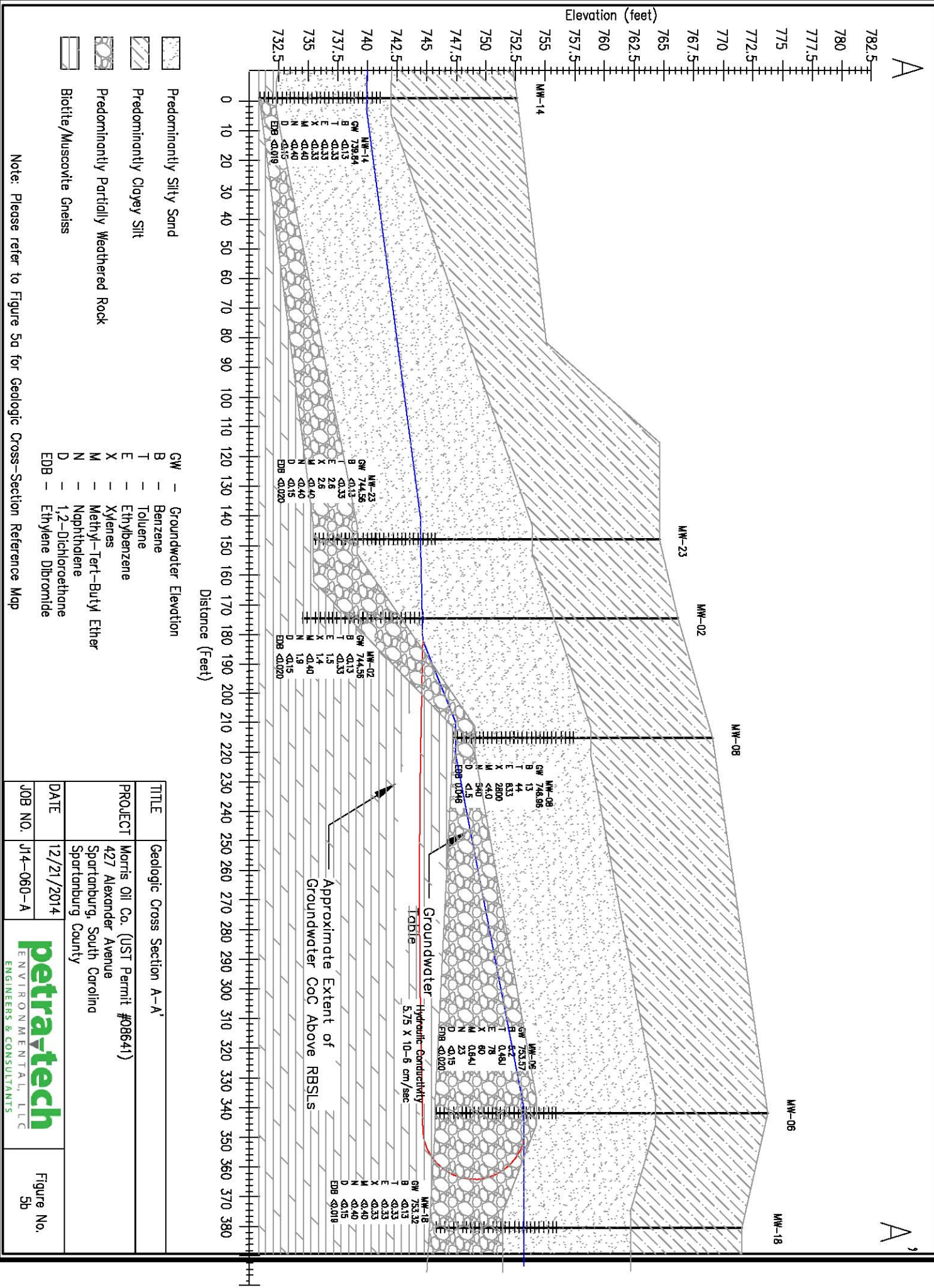


REFERENCE: Site Survey by Souther Land Surveying dated 12/16/14



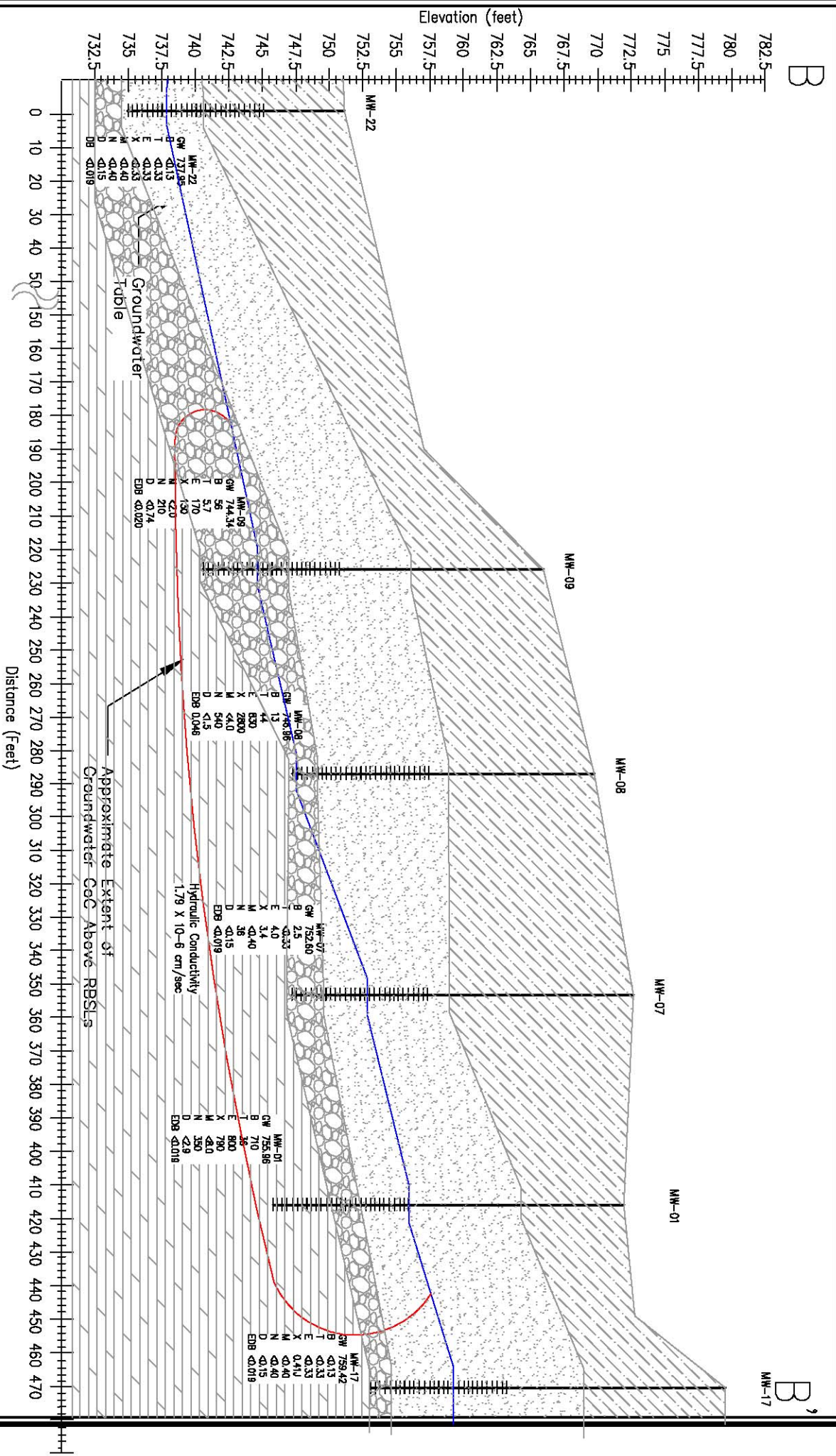
⊕ Groundwater Monitoring Well

| | | | |
|---|---|------------|----|
| TITLE | Subsurface Geologic Cross-Section Reference Map | Figure No. | 5a |
| PROJECT | Morris Oil Co. (UST Permit #09841) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | | |
| DATE | 12/21/2014 | | |
| JOB NO. | J14-060-A | | |
| <small>ENVIRONMENTAL, LLC ENGINEERS & CONSULTANTS</small> | | | |




Note: Please refer to Figure 5a for Geologic Cross-Section Reference Map

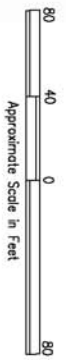
| | | |
|------------|---|--|
| TITLE | Geologic Cross Section A-A' | |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| DATE | 12/21/2014 | |
| JOB NO. | J14-060-A | |
| | ENVIRONMENTAL, LLC ENGINEERS & CONSULTANTS | |
| Figure No. | Figure No. 5b | |



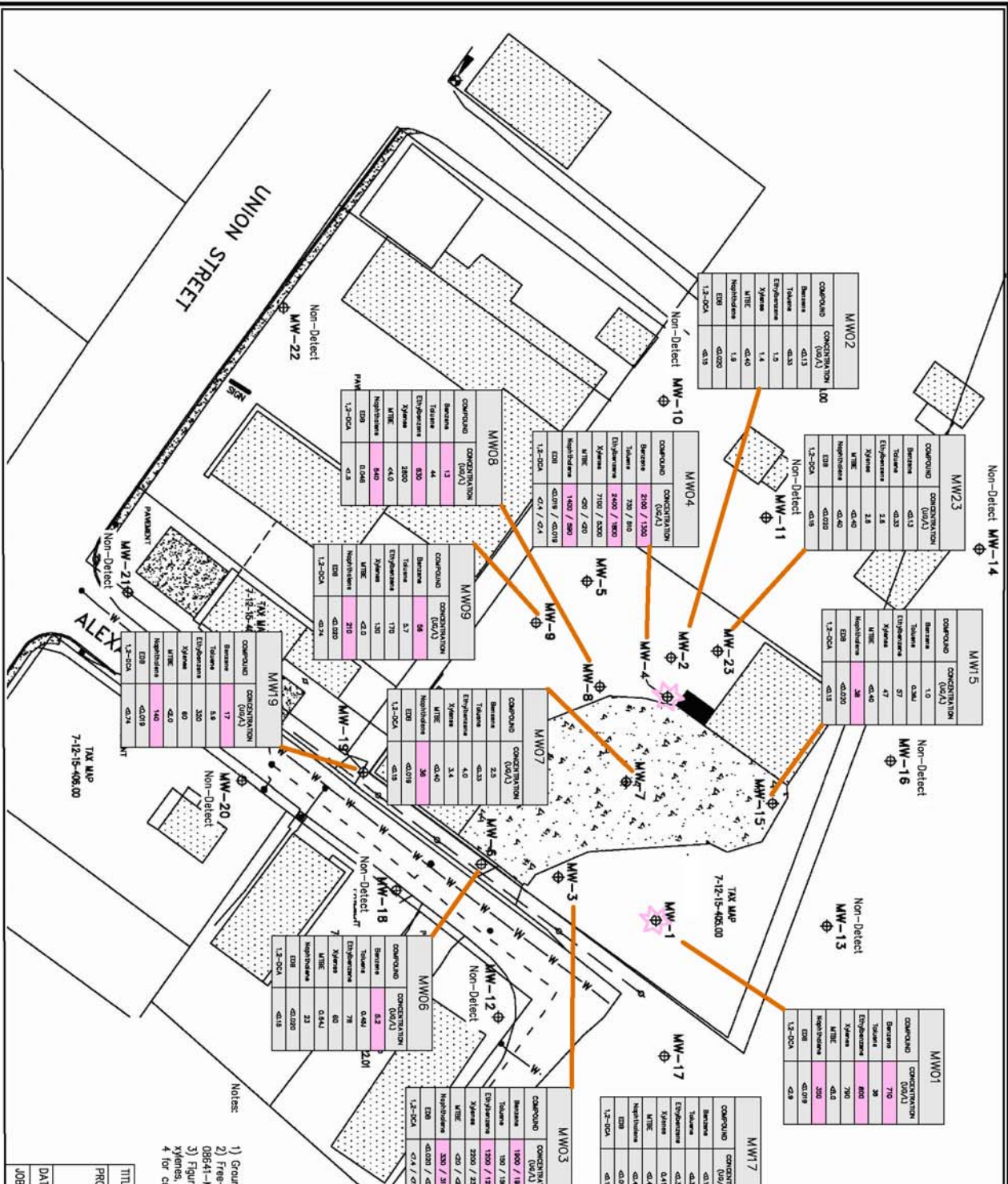
Note: Please refer to Figure 5a for Geologic Cross-Section Reference Map

| | | |
|---------|---|----|
| TITLE | Geologic Cross Section B-B' | |
| PROJECT | Morris Oil Co. (UST Permit #08641) | |
| DATE | 12/21/2014 | |
| JOB NO. | J14-060-A | |
| |  ENVIRONMENTAL, LLC ENGINEERS & CONSULTANTS | |
| | 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| | Figure No. | 5c |

REFERENCE: Site Survey by Souther Land Surveying dated 12/16/14



⊕ Groundwater Monitoring Well
 ☆ Free-Phase Petroleum Product Detected in Well

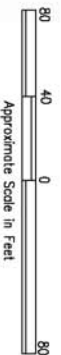


Notes:

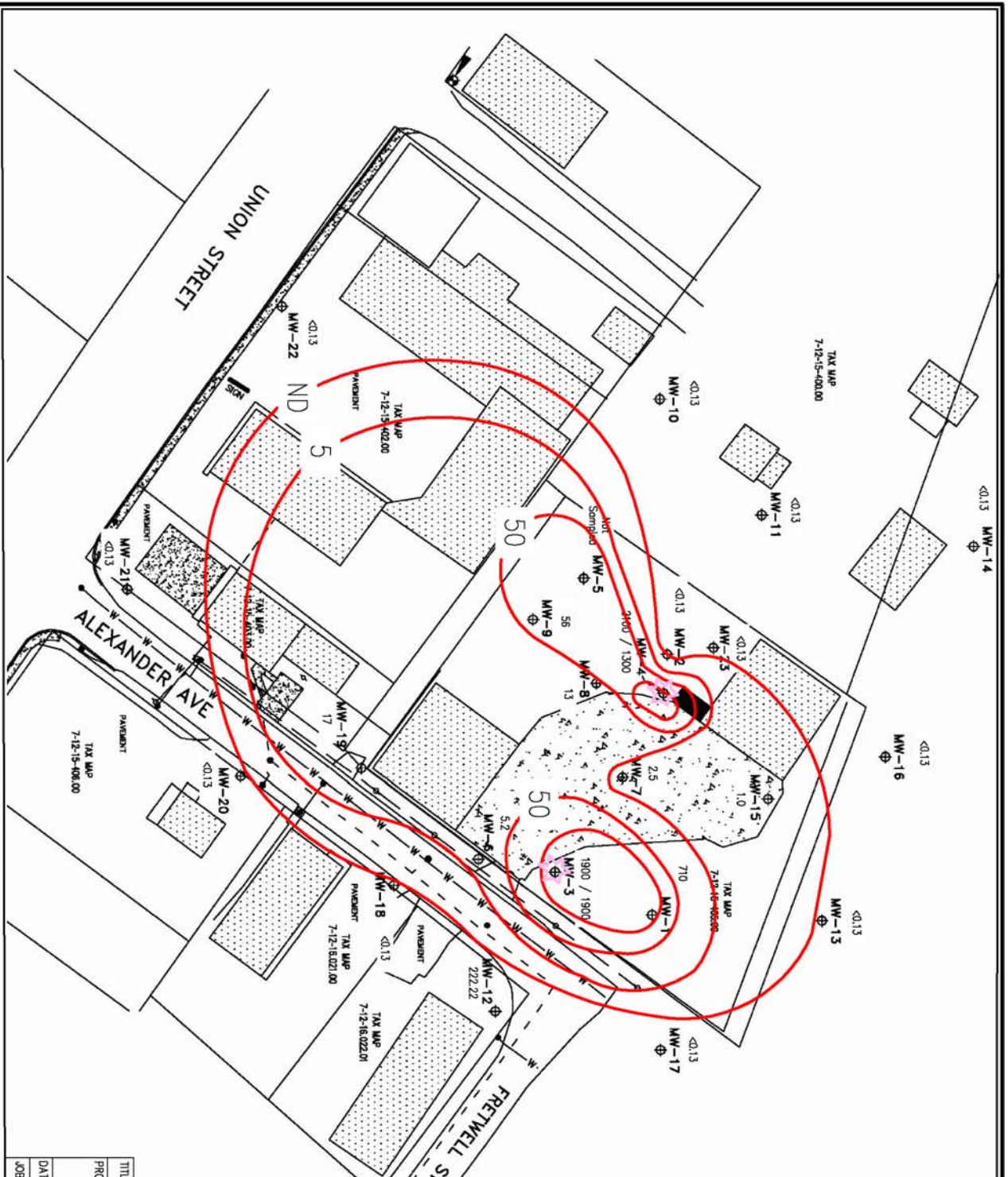
- 1) Groundwater samples collected on November 13, 2014.
- 2) Free-Phase petroleum product was detected in groundwater monitoring wells 08541-MW03 (0.29-feet) and 08541-MW04 (1.02 feet) on November 13, 2014.
- 3) Figure presents analytical results for benzene, toluene, ethylbenzene, xylenes, MTBE, naphthalene, EDB, and 1,2-DCA only. Please refer to table 4 for complete analytical results.
- 4) for complete analytical results.

TITLE Groundwater Cdc Map - November 2014
 PROJECT Morris Oil Co. (UST Permit #08841)
 427 Alexander Avenue
 Spartanburg, South Carolina
 Spartanburg County
 DATE 12/21/2014
 JOB NO. J14-080-A
 Figure No. 6
petra-tech
 ENVIRONMENTAL, LLC
 ENGINEERS & CONSULTANTS

REFERENCE: Site Survey by Souther Land Surveying dated 12/16/14

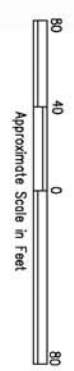


- ⊕ Groundwater Monitoring Well
- 2.5J Benzene Concentration in Micrograms Per Liter
- (2.5J) Benzene Concentration in Micrograms Per Liter Not Used For Contouring Purposes Due To The Depth Of The Screened Interval
- Benzene Isoconcentration Line
- Free-Phase Petroleum Product Detected In Well

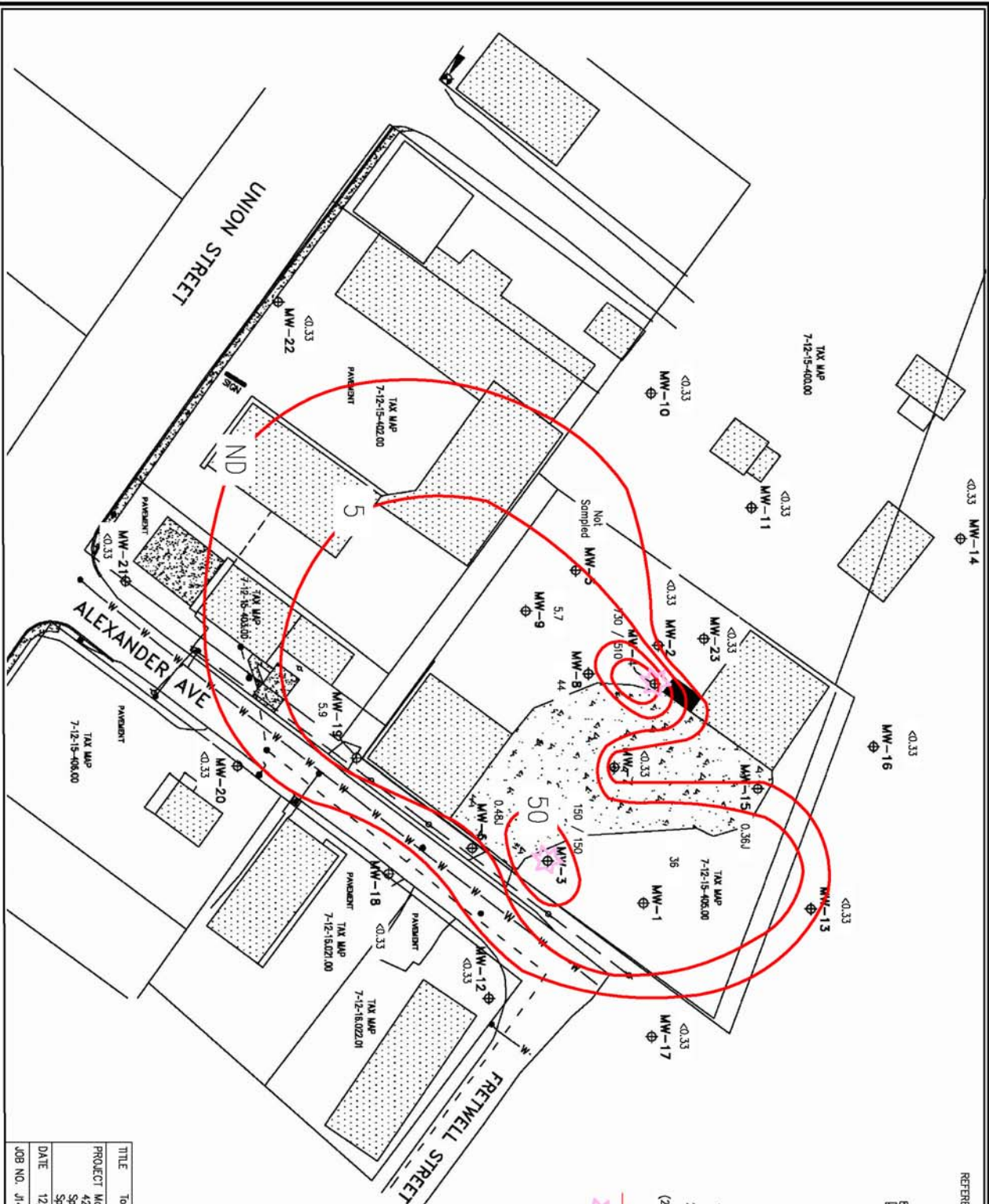


| | |
|--|---|
| TITLE | Benzene Isoconcentration Map - November 2014 |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County |
| DATE | 12/21/2014 |
| JOB NO. | J14-060-A |
| petra-tech ENVIRONMENTAL, LLC ENGINEERS & CONSULTANTS | |
| Figure No. | 7c |

REFERENCE: Site Survey by Souther Land Surveying dated 12/16/14

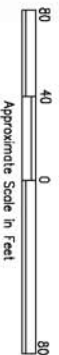


- ⊕ Groundwater Monitoring Well
- 2.51 Toluene Concentration in Micrograms Per Liter
- (2.5μ) Toluene Concentration in Micrograms Per Liter Not Used For Contouring Purposes Due To The Depth Of The Screened Interval
- Toluene Isoconcentration Line
- ☆ Free-Phase Petroleum Product Detected In Well

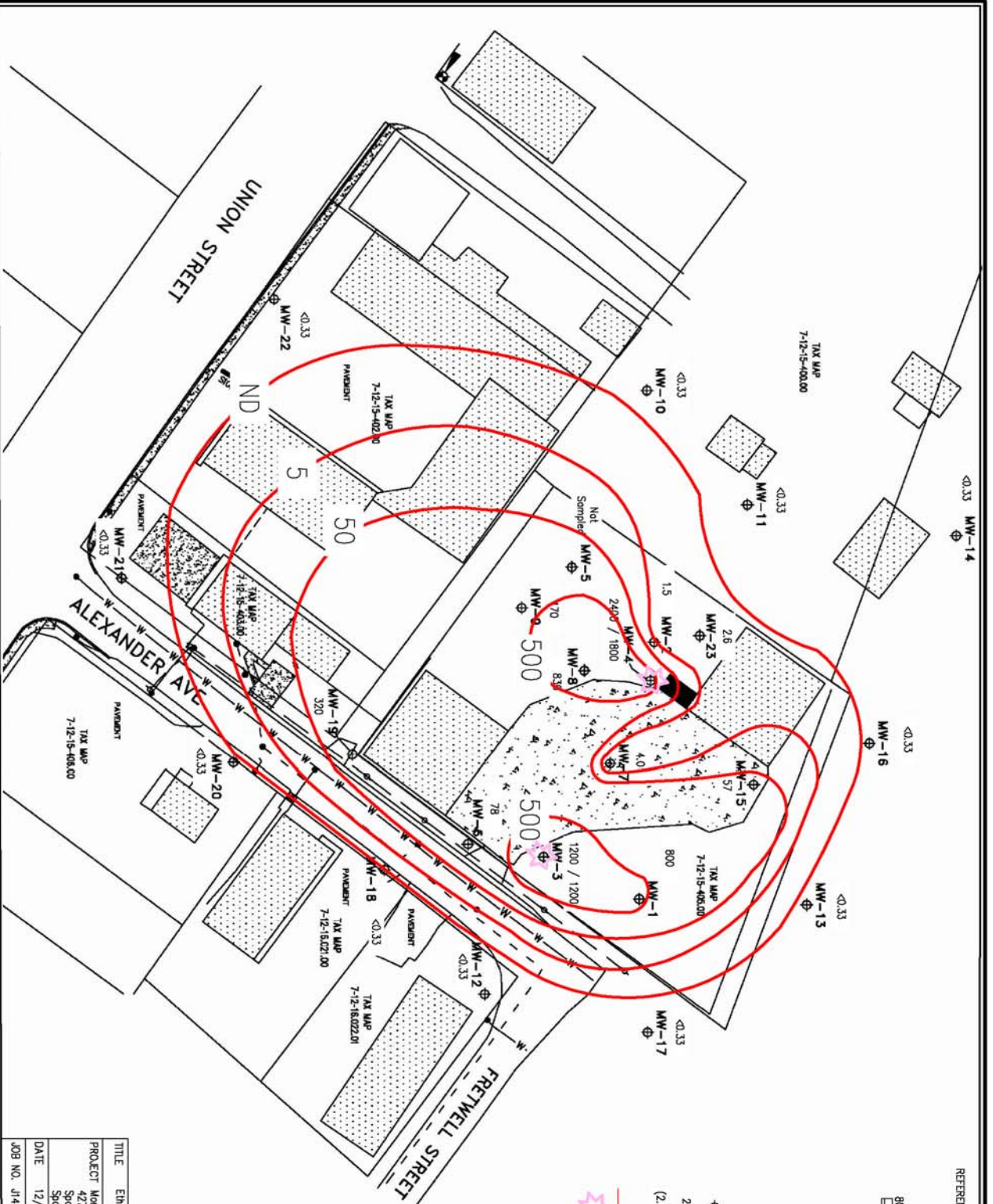


| | |
|--|---|
| TITLE | Toluene Isoconcentration Map - November 2014 |
| PROJECT | Morris Oil Co. (UST Permit #09641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County |
| DATE | 12/21/2014 |
| JOB NO. | J14-060-A |
| petrattech ENVIRONMENTAL, LLC ENGINEERS & CONSULTANTS | |
| Figure No. | 7b |

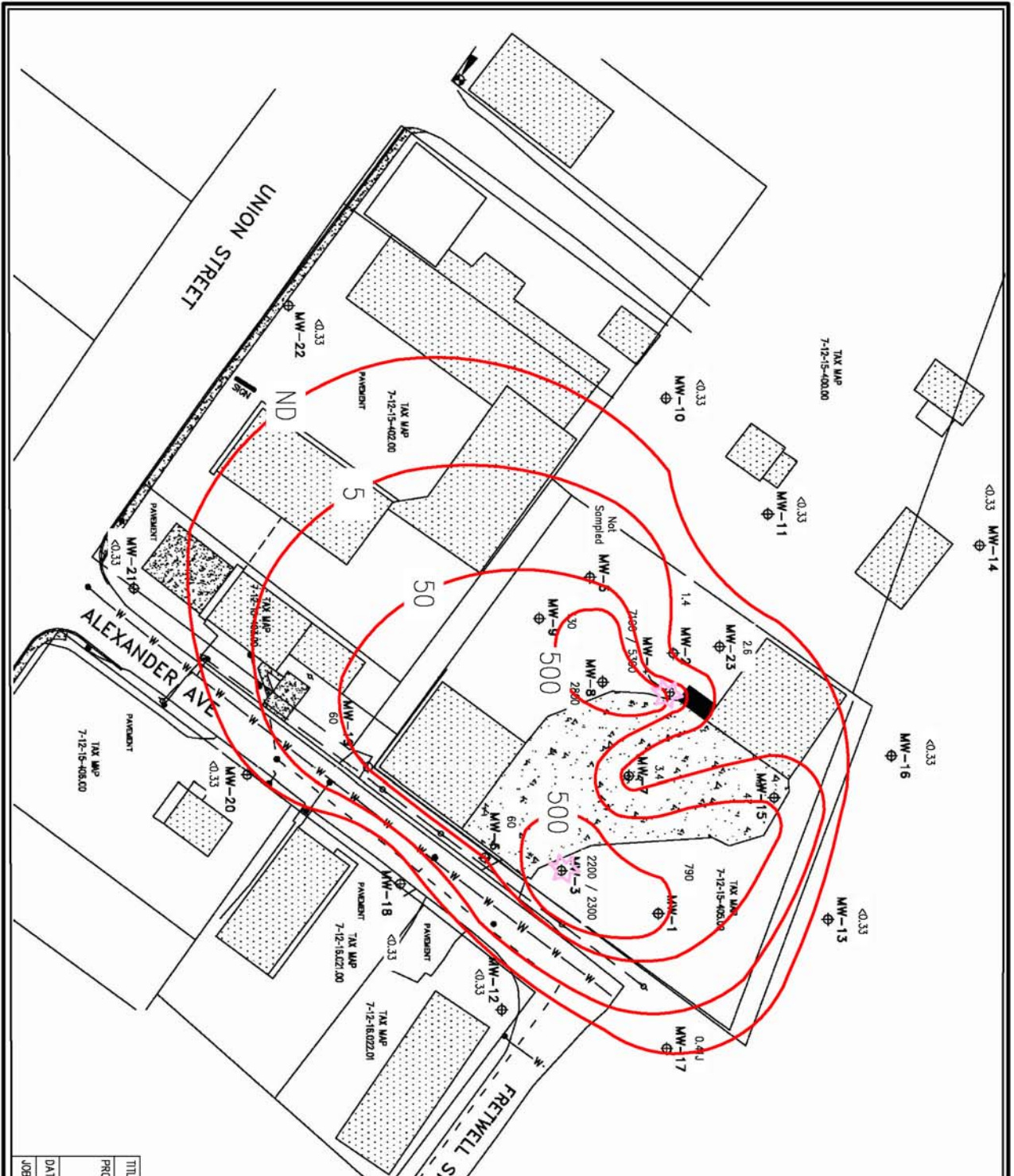
REFERENCE: Site Survey by Souther Land Surveying dated 12/16/14



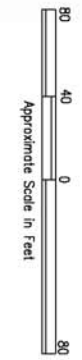
- ⊕ Groundwater Monitoring Well
- 2.5l Ethylbenzene Concentration in Micrograms Per Liter
- (2.5l) Ethylbenzene Concentration in Micrograms Per Liter Not Used For Contouring Purposes Due To The Depth Of The Screened Interval
- Ethylbenzene Isoconcentration Line
- Free-Phase Petroleum Product Detected In Well



| | |
|---------|---|
| TITLE | Ethylbenzene Isoconcentration Map - November 2014 |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County |
| DATE | 12/21/2014 |
| JOB NO. | J14-080-A |
| | petra-tech ENVIRONMENTAL, SITE ENGINEERS & CONSULTANTS |
| | Figure No. 7c |



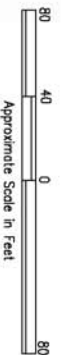
REFERENCE: Site Survey by Souther Land Surveying dated 12/16/14



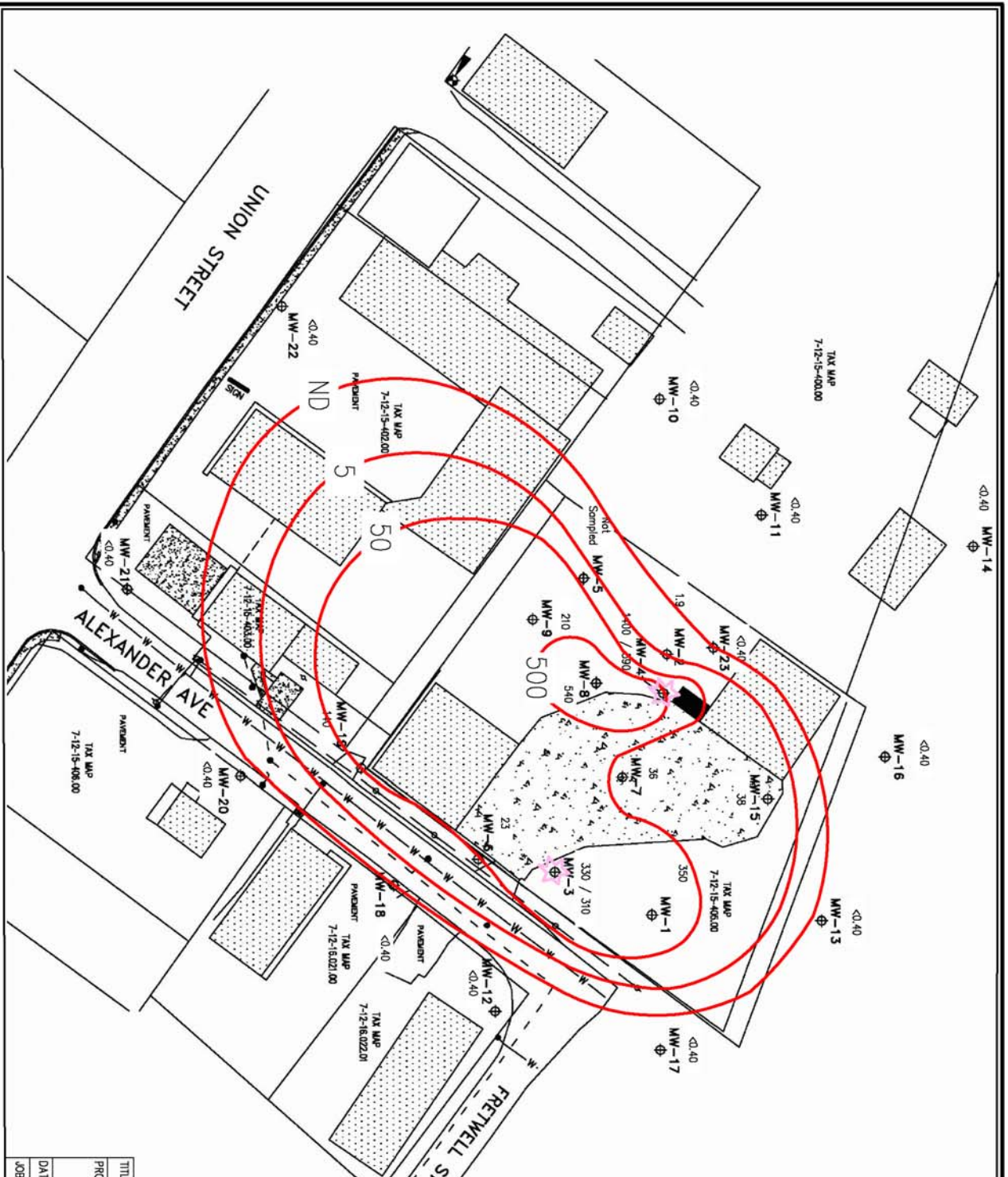
- ⊕ Groundwater Monitoring Well
- 2.5J Xylenes Concentration in Micrograms Per Liter
- (2.5J) Xylenes Concentration in Micrograms Per Liter Not Used For Contouring Purposes Due to the Depth of the Screened Interval
- Xylenes Isoconcentration Line
- Free-Phase Petroleum Product Detected in Well

| | |
|---------|---|
| TITLE | Xylenes Isoconcentration Map - November 2014 |
| PROJECT | Morris Oil Co. (UST Permit #09841) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County |
| DATE | 12/21/2014 |
| JOB NO. | J14-080-A |
| | petra-tech PETROPHYSICAL, SITE ENGINEERS & CONSULTANTS |
| | Figure No. 7d |

REFERENCE: Site Survey by Souther Land Surveying dated 12/16/14



- ⊕ Groundwater Monitoring Well
- 2.5l Naphthalene Concentration in Micrograms Per Liter
- (2.5l) Naphthalene Concentration in Micrograms Per Liter Not Used For Contouring Purposes Due To The Depth Of The Screened Interval
- Naphthalene Isoconcentration Line
- Free-Phase Petroleum Product Detected in Well



| | |
|---|---|
| TITLE | Naphthalene Isoconcentration Map - November 2014 |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County |
| DATE | 12/21/2014 |
| JOB NO. | J14-060-A |
| petra-tech PETROENVIRONMENTAL, LLC ENGINEERS & CONSULTANTS | Figure No. 7e |

**MORRIS OIL CO. – UST PERMIT #08641
TIER II ASSESSMENT**

APPENDIX A

SITE SURVEY PLAT

| DESCRIPTION | NORTHING | EASTING | TOP OF CASING | GROUND ELEVATION |
|-------------|-------------|-------------|---------------|------------------|
| MW-6 | 1133513.623 | 1725070.572 | 774.04 | 778.26 |
| MW-2 | 1133583.860 | 1725022.697 | 768.72 | 768.26 |
| MW-8 | 1133605.683 | 1724929.480 | 766.22 | 766.73 |
| MW-10 | 1133680.280 | 1724799.725 | 750.51 | 750.87 |
| MW-11 | 1133740.285 | 1724867.980 | 752.57 | 752.91 |
| MW-12 | 1133583.605 | 1725160.269 | 777.00 | 777.54 |
| MW-13 | 1133799.231 | 1725119.392 | 764.75 | 761.34 |
| MW-14 | 1133693.387 | 1724892.172 | 752.61 | 752.79 |
| MW-15 | 1133646.488 | 1725023.017 | 761.93 | 756.26 |
| MW-16 | 1133692.877 | 1725191.429 | 778.87 | 779.13 |
| MW-17 | 1133573.782 | 1725096.016 | 771.74 | 772.06 |
| MW-18 | 1133504.702 | 1725017.172 | 769.38 | 769.69 |
| MW-19 | 1133433.768 | 1725021.856 | 767.14 | 767.45 |
| MW-20 | 1133368.971 | 1724911.718 | 761.51 | 761.84 |
| MW-21 | 1133368.971 | 1724911.718 | 761.51 | 761.84 |
| MW-22 | 1133709.585 | 1724846.161 | 764.24 | 764.81 |
| MW-23 | 1133709.585 | 1724846.161 | 764.24 | 764.81 |

| DESCRIPTION | NORTHING | EASTING | TOP OF CASING | GROUND ELEVATION |
|-------------|-------------|-------------|---------------|------------------|
| MW-3 | 1133618.611 | 1725078.228 | 774.04 | 774.37 |
| MW-4 | 1133682.445 | 1724978.972 | 768.43 | 768.66 |
| MW-1 | 1133675.748 | 1725103.434 | 772.24 | 772.66 |
| MW-2 | 1133684.562 | 1724950.106 | 765.91 | 766.29 |
| MW-5 | 1133653.502 | 1724805.268 | 763.99 | 764.20 |

SCORS - NAIL
ELEV = 744.38
SPC N: 1133586.656 F/T
E: 1724612.241 F/T

SCORS - NAIL
ELEV = 760.60
SPC N: 1133357.922 F/T
E: 1724890.977 F/T

SITE SURVEY FOR:
PETRA-TECH
ENVIRONMENTAL, LLC
GREENVILLE COUNTY
MORRIS OIL CO.
UST PERMIT #08641
4227 ALEXANDER AVENUE
SPARTANBURG, SOUTH CAROLINA
16 DECEMBER 2014

SOUTHERN
LAND SURVEYING
1085 ASHFIELD BLVD.
INMAN, SC 29349
864-473-1240

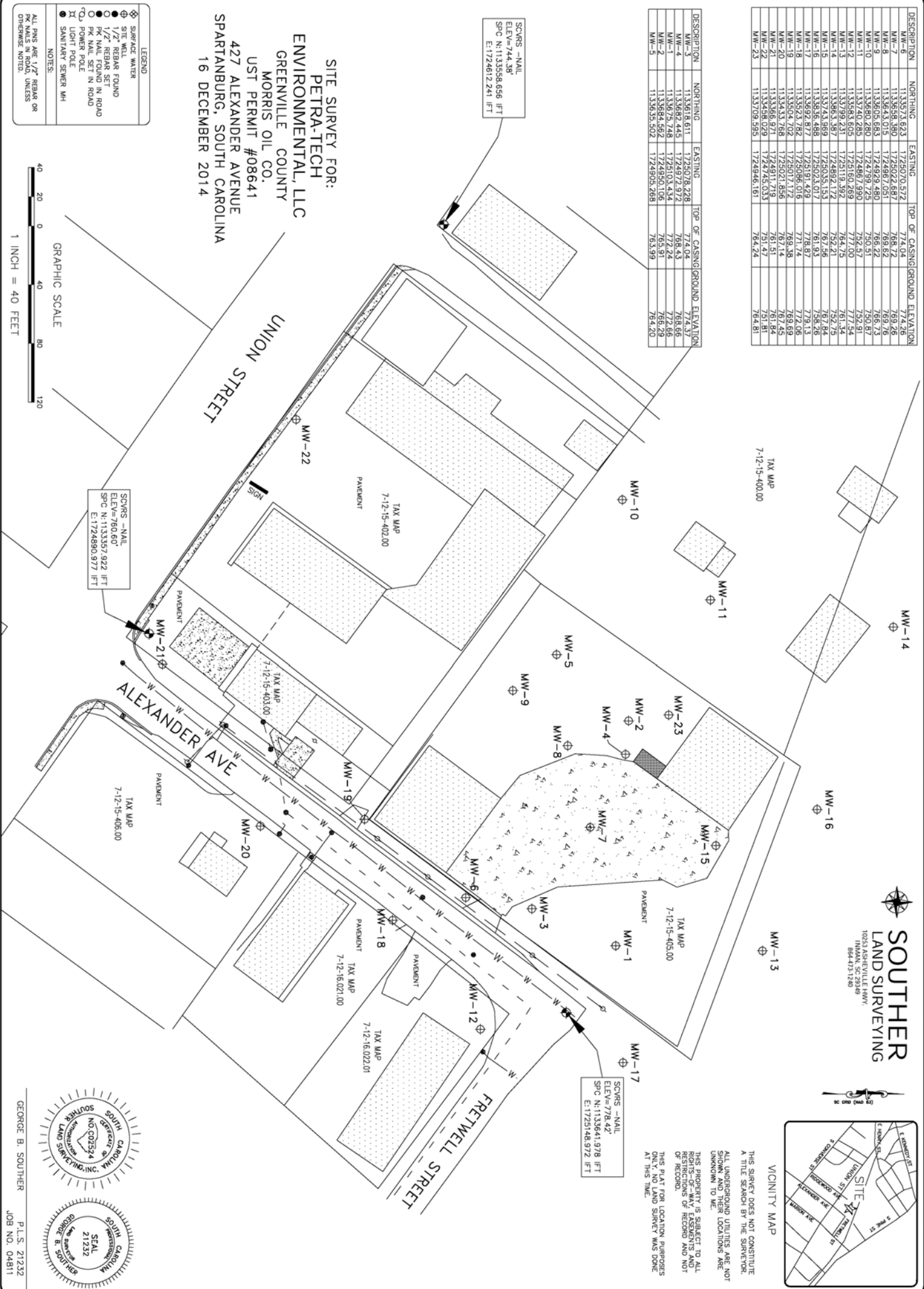
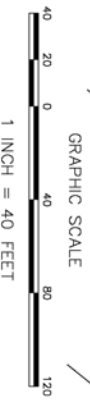


THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR. ALL UNDERGROUND UTILITIES ARE NOT SHOWN AND THEIR LOCATIONS ARE UNKNOWN TO ME. THIS PROPERTY IS SUBJECT TO ALL RIGHTS-OF-WAY EASEMENTS AND RECORDS OF RECORD. THIS PLAT FOR LOCATION PURPOSES AT THIS TIME.

LEGEND

- ⊕ SURFACE WATER
- ⊕ SITE WELL
- 1/2" REBAR FOUND
- 1/2" REBAR SET
- PK NAIL FOUND IN ROAD
- PK NAIL FOUND IN ROAD
- ⊕ POWER POLE
- ⊕ LIGHT POLE
- ⊕ SANITARY SEWER MH

NOTES:
ALL PINS ARE 1/2" REBAR OR PK NAILS IN ROAD, UNLESS OTHERWISE NOTED.



SOUTH CAROLINA
LAND SURVEYING
NO. CD2524
21232

SOUTH CAROLINA
LAND SURVEYING
SEAL
21232

**MORRIS OIL CO. – UST PERMIT #08641
TIER II ASSESSMENT**

APPENDIX B

**WELL PURGING AND SAMPLING LOGS, CHAIN-OF-CUSTODY FORMS,
LABORATORY ANALYTICAL DATA**

GROUNDWATER SAMPLING LOG

| | |
|---------------------------|--|
| SITE NAME: Morris Oil Co. | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: Mwo1 | SAMPLE ID: 08641-Mwo1 |
| | DATE: 11/13/14 |

PURGING DATA

| | | | | |
|--|-----------------------------|--|-------------------------------------|---------------------------------|
| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 27 | WELL SCREEN INTERVAL DEPTH: 17 feet to 27 feet | STATIC DEPTH TO WATER (feet): 16.12 | PURGE PUMP TYPE OR BAILER: RFPP |
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (27 feet - 16.12 feet) X 0.16 gallons/foot = 1.74 gallons | | | | |

| TIME | VOLUME PURGED (gallons) | CUMUL VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
|------|-------------------------|-------------------------------|------------|-----|---------|-----|------------|---|-----------|---|------------------|-----|--------|--------|
| 1650 | — | — | 21.3 | — | 6.9 | — | 121 | — | 0.64 | — | 1000 | — | clw | Strong |
| 1700 | 1.0 | 1.0 | 21.0 | 0.3 | 6.6 | 0.3 | 113 | 8 | | | 346 | — | clw | |
| 1710 | 1.0 | 2.0 | 20.8 | 0.2 | 6.5 | 0.1 | 104 | 9 | | | 104 | 242 | clw | |
| 1720 | 1.0 | 3.0 | 20.8 | 0 | 6.4 | 0.1 | 106 | 2 | | | 82 | 22 | sludgy | |
| 1730 | 1.0 | 4.0 | 20.7 | 0.1 | 6.4 | 0 | 103 | 3 | | | 60 | 22 | sludgy | |
| 1740 | 1.0 | 5.0 | 20.7 | 0 | 6.3 | 0.1 | 101 | 2 | | | 26 | 34 | clw | |
| 1750 | 1.0 | 6.0 | 20.7 | 0 | 6.4 | 0.1 | 99 | 2 | | | 12 | 14 | clw | |
| 1800 | 1.0 | 7.0 | 20.8 | 0.1 | 6.4 | 0 | 102 | 3 | | | 8.9 | 3.1 | clw | ✓ |

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLING DATA

| | | | |
|--|-----------------------------|---|---|
| SAMPLED BY (PRINT): Daniel Burch | SAMPLER(S) SIGNATURE(S): DB | SAMPLING DATE: 11/13/14 | SAMPLING TIME: 1800 |
| PUMP OR TUBING DEPTH IN WELL (feet): 25 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y | FILTER SIZE: <input checked="" type="checkbox"/> 10 |
| DUPLICATE COLLECTED: Y <input checked="" type="checkbox"/> | | Filtration Equipment Type: <input type="checkbox"/> | |

| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
|--------------------------------|--------------|---------------|--------|---------------------|-------------------------------|----------|---------------------------------|-------------------------|--------------------------------|
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFPP | — |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | | — |
| | 1 | PE | 250ml | HNO3 | — | — | 6010 | ↓ | — |

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------|--|
| SITE NAME: Morris Oil Co. | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: Mwo2 | SAMPLE ID: 08641-Mwo2 |
| DATE: 11/13/14 | |

PURGING DATA

| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 32.1 | WELL SCREEN INTERVAL DEPTH: 22.1 feet to 32.1 feet | STATIC DEPTH TO WATER (feet): 20.62 | PURGE PUMP TYPE OR BAILER: RFP | | | | | | | | | | |
|--|-------------------------------|--|-------------------------------------|--------------------------------|---------|-----|------------|----|-----------|---|------------------|-----|-------|--------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (32.1 feet - 20.62 feet) X 0.16 gallons/foot = 1.84 gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
| 1635 | — | — | 21.6 | — | 7.3 | — | 100 | — | 1.9 | — | 1000 | — | clay | Slight |
| 1645 | 1.0 | 1.0 | 21.2 | 0.4 | 6.5 | 0.8 | 62 | 38 | | | 326 | — | clay | |
| 1655 | 1.0 | 2.0 | 21.1 | 0.1 | 6.7 | 0.2 | 60 | 2 | | | 104 | 100 | clay | ↓ |
| 1705 | 1.0 | 3.0 | 21.1 | 0 | 6.6 | 0.1 | 60 | 2 | | | 65 | 42 | Slidy | more |
| 1715 | 1.0 | 4.0 | 21.2 | 0.1 | 6.5 | 0.1 | 62 | 2 | | | 13 | 49 | clay | ↓ |
| 1730 | 1.5 | 5.5 | 21.2 | 0 | 6.5 | 0 | 61 | 1 | | | 9.7 | 33 | clay | ↓ |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): Daniel Burch | | | | SAMPLER(S) SIGNATURE(S): <i>[Signature]</i> | | | SAMPLING DATE: 11/13/14 | | SAMPLING TIME: 1730 | |
|---|--------------|---------------|--------|---|-------------------------------|----------|---------------------------------|-------------------------|--|--|
| PUMP OR TUBING DEPTH IN WELL (feet): 25 | | | | TUBING MATERIAL CODE: PE | | | FIELD-FILTERED: Y | | FILTER SIZE: <input checked="" type="checkbox"/> N | |
| DUPLICATE COLLECTED: Y | | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) | |
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFP | — | |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | ↓ | — | |
| | 1 | PE | 250ml | HNO3 | — | — | 6010 | ↓ | — | |
| REMARKS: | | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------|--|
| SITE NAME: Morris Oil Co. | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MWO4 | SAMPLE ID: 08641-MWO4 |
| DATE: 11/13/14 | |

PURGING DATA

| | | | | |
|--|-----------------------------|--|-------------------------------------|------------------------------|
| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 23 | WELL SCREEN INTERVAL DEPTH: 13 feet to 23 feet | STATIC DEPTH TO WATER (feet): 23.26 | PURGE PUMP TYPE OR BAILER: B |
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY | | | | |
| = (23 feet - feet) X gallons/foot = gallons | | | | |

| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
|------|-------------------------|--------------------------------|------------|---|---------|---|------------|---|-----------|---|------------------|---|-------------|--------|
| 1800 | - | - | 22.1 | - | 6.9 | - | 121 | - | 0.69 | - | 72 | - | Slight Gray | Strong |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | |

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLING DATA

| | | | |
|--|-----------------------------|-------------------------|---------------------|
| SAMPLED BY (PRINT): Cameron Warkick | SAMPLER(S) SIGNATURE(S): CW | SAMPLING DATE: 11/13/14 | SAMPLING TIME: 1800 |
| PUMP OR TUBING DEPTH IN WELL (feet): - | TUBING MATERIAL CODE: - | FIELD-FILTERED: Y N | FILTER SIZE: |
| DUPLICATE COLLECTED: Y <input checked="" type="checkbox"/> | | | |

| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
|--------------------------------|--------------|---------------|--------|---------------------|-------------------------------|----------|---------------------------------|-------------------------|--------------------------------|
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | --- | --- | 8260B | 13 | |
| | 3 | CG | 40 ml | HCL | --- | --- | 8011 | ↓ | |
| | 1 | PE | 250ml | HNO3 | --- | --- | 6010 | ↓ | |
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REMARKS: 1.02' of SP. Sample collected below Product w/ Bailer

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------|--|
| SITE NAME: Morris Oil Co. | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MW05 | SAMPLE ID: 08641-mw05 |
| DATE: 11/13/14 | |

PURGING DATA

| | | | | | | | | | | | | | | |
|--|-----------------------------|--|-------------------------------------|----------------------------|---------|---|------------|---|-----------|---|------------------|---|-------|------|
| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 23 | WELL SCREEN INTERVAL DEPTH: 13 feet to 23 feet | STATIC DEPTH TO WATER (feet): 20.31 | PURGE PUMP TYPE OR BAILER: | | | | | | | | | | |
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (23 feet - 20.31 feet) X gallons/foot = gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
| | | | | | | | | | | | | | | |
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| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| | | | | | | | | | |
|---|--------------|---------------|--------------------------|---------------------|-------------------------------|--------------------------------|---------------------------------|----------------------------|--------------------------------|
| SAMPLED BY (PRINT) | | | SAMPLER(S) SIGNATURE(S): | | | SAMPLING DATE: <i>11/13/14</i> | | SAMPLING TIME: <i>0800</i> | |
| PUMP OR TUBING DEPTH IN WELL (feet): | | | TUBING MATERIAL CODE: | | | FIELD-FILTERED: Y N | | FILTER SIZE: | |
| DUPLICATE COLLECTED: Y N | | | | | | Filtration Equipment Type: | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (ml) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | --- | --- | 8260B | | --- |
| | 3 | CG | 40 ml | HCL | --- | --- | 8011 | | --- |
| | 1 | PE | 250ml | HNO3 | --- | --- | 6010 | | --- |
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| REMARKS: <i>Not sampled, well filled w/ sediment w/ very strong petro. odor.</i> | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | |

STABILIZATION CRITERIA
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|--------------------------------|--|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: Mw 6 | SAMPLE ID: 08641-Mw06 |
| DATE: 11.13.14 | |

PURGING DATA

| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 28.41 | WELL SCREEN INTERVAL DEPTH: 18 feet to 28 feet | STATIC DEPTH TO WATER (feet): 20.13 | PURGE PUMP TYPE OR BAILER: RFP | | | | | | | | | | |
|---|--------------------------------|--|-------------------------------------|--------------------------------|---------|-----|------------|----|-----------|---|------------------|-----|----------|------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (28.41 feet - 20.13 feet) X 0.16 gallons/foot = 1.32 gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
| 1421 | — | — | 20.4 | — | 6.8 | — | 133 | — | 0.91 | — | 1100 | — | clay med | |
| 1439 | 1.5 | 1.5 | 20.1 | 0.3 | 6.6 | 0.2 | 72 | 61 | | | 1100 | — | ↓ | |
| 1446 | 1.5 | 3.0 | 19.8 | 0.3 | 6.4 | 0.2 | 61 | 11 | | | 624 | — | ↓ | |
| 1505 | 0.5 | 3.5 | 19.7 | 0.1 | 6.1 | 0.3 | 55 | 6 | 41 | | 126 | 478 | ↓ | |
| 1515 | 1.0 | 4.5 | 19.7 | 0 | 6.1 | 0 | 57 | 2 | | | 29 | 97 | cl | |
| 1521 | 0.5 | 5.0 | 19.7 | 0 | 6.2 | 0.1 | 52 | 5 | | | 13 | 16 | ↓ | |
| 1530 | 0.5 | 5.5 | 19.7 | 0 | 6.1 | 0.1 | 54 | 2 | | | 9.1 | 34 | ↓ | ↓ |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): Daniel Burch | SAMPLER(S) SIGNATURE(S): DB | SAMPLING DATE: 11/13/14 | SAMPLING TIME: 1530 | | | | | | |
|--|-----------------------------|---|--|---------------------|-------------------------------|----------|---------------------------------|-------------------------|--------------------------------|
| PUMP OR TUBING DEPTH IN WELL (feet): 26 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y <input checked="" type="checkbox"/> | FILTER SIZE: <input checked="" type="checkbox"/> | | | | | | |
| DUPLICATE COLLECTED: Y <input checked="" type="checkbox"/> | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFP | — |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | ↓ | — |
| | 1 | PE | 250ml | HNO3 | — | — | 6010 | ↓ | — |
| REMARKS: | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------------------|---|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MW 07 | SAMPLE ID: 08641-MW07 |
| DATE: 11/13/14 | |

PURGING DATA

| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 21.41 | WELL SCREEN INTERVAL DEPTH: 11 feet to 21 feet | STATIC DEPTH TO WATER (feet): 16.01 | PURGE PUMP TYPE OR BAILER: RFP | | | | | | | | | | |
|---|---------------------------------------|--|--|---------------------------------------|---------|-----|------------|----|-----------|---|-----------------|-----|-------|------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (21.41 feet - 16.01 feet) X 0.16 gallons/foot = 0.86 gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURBIDITY (NTU) | Δ | COLOR | ODOR |
| 1452 | — | — | 20.9 | — | 7.2 | — | 163 | — | 1.42 | — | 4000 | — | clay | 4 pH |
| 1503 | 1.5 | 1.5 | 20.6 | 0.3 | 7.0 | 0.2 | 100 | 3 | | | 4000 | — | clay | |
| 1518 | 1.5 | 3.0 | 20.2 | 0.4 | 7.1 | 0.1 | 62 | 38 | | | 342 | — | clay | |
| 1528 | 1.0 | 4.0 | 20.2 | 0 | 6.6 | 0.5 | 78 | 16 | | | 109 | 233 | clay | |
| 1542 | 1.5 | 5.5 | 20.1 | 0.1 | 6.5 | 0.1 | 99 | 1 | | | 27 | 89 | clay | |
| 1553 | 1.0 | 6.5 | 19.9 | 0.2 | 6.4 | 0.1 | 80 | 1 | | | 11 | 16 | clay | |
| 1600 | 0.5 | 7.0 | 19.9 | 0 | 6.4 | 0 | 81 | 1 | | | 10 | 1 | clay | ↓ |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): Daniel Burch | | | SAMPLER(S) SIGNATURE(S): DB | | | SAMPLING DATE: 11/13/14 | | SAMPLING TIME: 1600 | |
|---|--------------|---------------|------------------------------------|---------------------|-------------------------------|--------------------------------|---------------------------------|----------------------------|--------------------------------|
| PUMP OR TUBING DEPTH IN WELL (feet): 19 | | | TUBING MATERIAL CODE: PE | | | FIELD-FILTERED: 50N | | FILTER SIZE: | |
| DUPLICATE COLLECTED: Y CN | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (ml) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RTOP | — |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | ↓ | — |
| | 1 | PE | 500ml | HNO3 | — | — | 6010 | ↓ | — |
| REMARKS: | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|--------------------------------|--|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MW 08 | SAMPLE ID: 08641-MW08 |
| DATE: 11/13/14 | |

PURGING DATA *Purged Dry*

| | | | | |
|---|--------------------------------|--|-------------------------------------|--------------------------------|
| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 22.57 | WELL SCREEN INTERVAL DEPTH: 12 feet to 22 feet | STATIC DEPTH TO WATER (feet): 22.34 | PURGE PUMP TYPE OR BAILER: RFP |
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (22.57 feet - 22.34 feet) X 0.16 gallons/foot = 0.03 gallons | | | | |

| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
|------|-------------------------|--------------------------------|------------|-----|---------|-----|------------|----|-----------|---|------------------|----|-------|------|
| 1603 | - | - | 21.4 | - | 6.9 | - | 132 | - | 0.79 | - | 400 | - | 0.4 | None |
| 1615 | 1.0 | 1.0 | 21.1 | 0.3 | 6.6 | 0.3 | 101 | 31 | | | 100 | - | 0.4 | None |
| 1621 | 1.0 | 2.0 | 20.6 | 0.5 | 6.4 | 0.2 | 62 | 39 | | | 100 | - | 0.4 | None |
| 1636 | 0.5 | 2.5 | 20.4 | 0.2 | 6.4 | 0 | 83 | 21 | | | 362 | - | 0.4 | None |
| 1648 | 0.5 | 3.0 | 20.4 | 0 | 6.4 | 0 | 72 | 11 | | | 400 | - | 0.4 | None |
| 1703 | 0.5 | 3.5 | 20.5 | 0.1 | 6.3 | 0.1 | 71 | 1 | | | 104 | - | 0.4 | None |
| 1711 | 0.5 | 4.0 | 20.5 | 0 | 6.3 | 0 | 70 | 1 | | | 25 | 79 | 0.4 | None |
| 1720 | 0.5 | 4.5 | 20.3 | 0.2 | 6.2 | 0.1 | 70 | 0 | | | 10 | 15 | 0.4 | None |

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLING DATA

| | | | |
|---|-----------------------------|-------------------------|---------------------|
| SAMPLED BY (PRINT): Daniel Burch | SAMPLER(S) SIGNATURE(S): RB | SAMPLING DATE: 11/13/14 | SAMPLING TIME: 1720 |
| PUMP OR TUBING DEPTH IN WELL (feet): 22 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y N | FILTER SIZE: |
| DUPLICATE COLLECTED: Y | | | |

| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
|--------------------------------|---------------|---------------|--------|---------------------|-------------------------------|----------|---------------------------------|-------------------------|--------------------------------|
| SAMPLE ID CODE | # CONTAINER S | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (ml) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | - | - | 8260B | RFP | |
| | 3 | CG | 40 ml | HCL | - | - | 8011 | ↓ | |
| | 1 | PE | 250ml | HNO3 | - | - | 6010 | ↓ | |

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|--------------------------------|--|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MW 09 | SAMPLE ID: 08641-MW09 |
| DATE: 11/13/14 | |

PURGING DATA

Avg'd day

| | | | | |
|---|---|--|--|---|
| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 20.0 25.50 | WELL SCREEN INTERVAL DEPTH: 15 feet to 25 feet | STATIC DEPTH TO WATER (feet): 21.36 | PURGE PUMP TYPE OR BAILER: Peristaltic |
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (25.50 feet - 21.36 feet) X 0.16 gallons/foot = 0.66 gallons | | | | |

dry ↓

| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURBIDITY (NTU) | Δ | COLOR | ODOR |
|------|-------------------------|--------------------------------|------------|-----|---------|-----|------------|----|-----------|---|-----------------|---|--------|------|
| 1602 | — | — | 20.6 | — | 7.6 | — | 113 | — | 1.1 | — | 1100 | — | cloudy | mod |
| 1614 | 1.0 | 1.0 | 20.2 | 0.4 | 7.2 | 0.4 | 96 | 17 | | | 362 | — | cloudy | |
| 1626 | 1.0 | 2.0 | 20.2 | 0 | 6.8 | 0.4 | 94 | 2 | | | 1100 | — | cloudy | |
| 1636 | 0.5 | 2.5 | 20.1 | 0.1 | 6.7 | 0.1 | 95 | 1 | | | 126 | — | cloudy | |
| 1642 | 0.5 | 3.0 | 20.2 | 0.1 | 6.6 | 0.1 | 93 | 2 | | | 1100 | — | cloudy | |
| 1653 | 0.5 | 3.5 | 20.2 | 0 | 6.6 | 0 | 92 | 1 | | | 62 | — | cloudy | |
| 1700 | 0.5 | 4.0 | 20.1 | 0.1 | 6.6 | 0 | 93 | 1 | | | 1052 | — | cloudy | ↓ |

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLING DATA

| | | | |
|--|---|--------------------------------|----------------------------|
| SAMPLED BY (PRINT): Cameron Work | SAMPLER(S) SIGNATURE(S): <i>[Signature]</i> | SAMPLING DATE: 11-13-14 | SAMPLING TIME: 1700 |
| PUMP OR TUBING DEPTH IN WELL (feet): 24 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y | FILTER SIZE: 10 |
| DUPLICATE COLLECTED: Y | | | |

| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
|--------------------------------|--------------|---------------|--------|---------------------|-------------------------------|----------|---------------------------------|-------------------------|--------------------------------|
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | / | / | 8260B | B | |
| | 3 | CG | 40 ml | HCL | / | / | 8011 | B | |
| | 1 | PE | 250ml | HNO3 | / | / | — | B | |

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
 SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------------------|---|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Soartanbura. SOUTH CAROLINA |
| WELL NO: nw-10 | SAMPLE ID: 08641-MW10 |
| DATE: 11/13/14 | |

PURGING DATA

| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 23.24 | WELL SCREEN INTERVAL DEPTH: 13 feet to 23 feet | STATIC DEPTH TO WATER (feet): 15.21 | PURGE PUMP TYPE OR BAILER: RFP | | | | | | | | | | |
|---|---------------------------------------|--|--|---------------------------------------|---------|-----|------------|----|----------------|---|-----------------|-----|-------|------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (23.24 feet - 15.21 feet) X 0.16 gallons/foot = 1.28 gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (µS) | Δ | DO (mg/L) | Δ | TURBIDITY (NTU) | Δ | COLOR | ODOR |
| 1326 | — | — | 18.8 | — | 6.9 | — | 79 | — | 2.6 | — | 4000 | — | clay | none |
| 1340 | 1.5 | 1.5 | 18.4 | 0.4 | 6.6 | 0.3 | 63 | 16 | | | 4000 | — | Y | ↓ |
| 1352 | 1.5 | 3.0 | 18.2 | 0.2 | 6.2 | 0.4 | 58 | 5 | | | 4000 | — | ✓ | ↓ |
| 1403 | 0.5 | 3.5 | 18.2 | 0 | 6.2 | 0 | 56 | 2 | 4.0 | | 450 | — | clay | ↓ |
| 1416 | 1.0 | 4.5 | 18.2 | 0 | 6.3 | 0.1 | 51 | 5 | | | 63 | 887 | slay | ↓ |
| 1421 | 0.5 | 5.0 | 18.3 | 0.1 | 6.1 | 0.2 | 54 | 3 | | | 15 | 48 | clay | ↓ |
| 1430 | 0.5 | 5.5 | 18.2 | 0.1 | 6.2 | 0.1 | 52 | 2 | | | 9.0 | 6 | cr. | ✓ |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): Daniel Burch | | | | SAMPLER(S) SIGNATURE(S): DB | | | | SAMPLING DATE: 11-13-14 | | SAMPLING TIME: 230 | |
|---|---------------|---------------|--------|------------------------------------|-------------------------------|----------|-------|---|-------------------------|--------------------------------|--|
| PUMP OR TUBING DEPTH IN WELL (feet): 21 | | | | TUBING MATERIAL CODE: PE | | | | FIELD-FILTERED: Y ^(N) | | FILTER SIZE: | |
| DUPLICATE COLLECTED: Y ^(N) | | | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) | |
| SAMPLE ID CODE | # CONTAINER S | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFP | / | | |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | ↓ | / | | |
| | 1 | PE | 250ml | HNO3 | — | — | 6010 | ↓ | / | | |
| REMARKS: | | | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|--------------------------------|---|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: <u>GW-11</u> | SAMPLE ID: <u>08641-Mwl</u> DATE: <u>11/13/14</u> |

PURGING DATA

| WELL DIAMETER (inches): <u>2</u> | Total Well Depth (feet): <u>23.50</u> | WELL SCREEN INTERVAL DEPTH: <u>13</u> feet to <u>23</u> feet | STATIC DEPTH TO WATER (feet): <u>15.33</u> | PURGE PUMP TYPE OR BAILER: <u>RFP</u> | | | | | | | | | | |
|--|---------------------------------------|--|--|---------------------------------------|------------|-------------|------------|-----------|------------|----------|-----------------|------------|-------------|-------------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (<u>23.50</u> feet - <u>15.33</u> feet) X <u>0.16</u> gallons/foot = <u>1.31</u> gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (µS) | Δ | DO (mg/L) | Δ | TURBIDITY (NTU) | Δ | COLOR | ODOR |
| <u>1312</u> | <u>-</u> | <u>-</u> | <u>19.6</u> | <u>-</u> | <u>6.7</u> | <u>-</u> | <u>96</u> | <u>-</u> | <u>2.0</u> | <u>-</u> | <u>11000</u> | <u>-</u> | <u>CLAY</u> | <u>None</u> |
| <u>1326</u> | <u>1.5</u> | <u>1.5</u> | <u>19.4</u> | <u>0.2</u> | <u>6.7</u> | <u>0.3</u> | <u>69</u> | <u>27</u> | | | <u>846</u> | <u>-</u> | <u>✓</u> | <u>✓</u> |
| <u>1339</u> | <u>1.5</u> | <u>3.0</u> | <u>18.9</u> | <u>0.5</u> | <u>6.2</u> | <u>0.2</u> | <u>58</u> | <u>11</u> | | | <u>11000</u> | <u>-</u> | <u>CLAY</u> | <u>✓</u> |
| <u>1350</u> | <u>1.0</u> | <u>4.0</u> | <u>18.9</u> | <u>0</u> | <u>6.2</u> | <u>0</u> | <u>51</u> | <u>7</u> | | | <u>1000</u> | <u>-</u> | <u>✓</u> | <u>✓</u> |
| <u>1403</u> | <u>1.0</u> | <u>5.0</u> | <u>18.9</u> | <u>0</u> | <u>6.1</u> | <u>0.1</u> | <u>53</u> | <u>2</u> | | | <u>126</u> | <u>-</u> | <u>CLAY</u> | <u>✓</u> |
| <u>1421</u> | <u>1.0</u> | <u>6.0</u> | <u>18.8</u> | <u>0.1</u> | <u>6.1</u> | <u>0</u> | <u>64</u> | <u>1</u> | | | <u>49</u> | <u>77</u> | <u>CLAY</u> | <u>✓</u> |
| <u>1436</u> | <u>1.5</u> | <u>7.5</u> | <u>18.8</u> | <u>0</u> | <u>6.0</u> | <u>0.1</u> | <u>54</u> | <u>1</u> | | | <u>11</u> | <u>38</u> | <u>CLAY</u> | <u>✓</u> |
| <u>1450</u> | <u>1.0</u> | <u>8.5</u> | <u>18.6</u> | <u>0.2</u> | <u>6.1</u> | <u>0.11</u> | <u>51</u> | <u>3</u> | | | <u>8.2</u> | <u>2.8</u> | <u>CLAY</u> | <u>✓</u> |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): <u>Cameron Warlick</u> | | | | SAMPLER(S) SIGNATURE(S): <u>[Signature]</u> | | | SAMPLING DATE: <u>11-13-14</u> | | SAMPLING TIME: <u>1450</u> | |
|--|---------------|---------------|--------------|---|-------------------------------|----------|--|-------------------------|--------------------------------|--|
| PUMP OR TUBING DEPTH IN WELL (feet): <u>21</u> | | | | TUBING MATERIAL CODE: <u>PE</u> | | | FIELD-FILTERED: <u>Y</u> <input checked="" type="checkbox"/> | | FILTER SIZE: | |
| DUPLICATE COLLECTED: <u>Y</u> <input checked="" type="checkbox"/> <u>N</u> <input type="checkbox"/> | | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) | |
| SAMPLE ID CODE | # CONTAINER S | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | | |
| | <u>3</u> | <u>CG</u> | <u>40 ml</u> | <u>HCL</u> | <u>/</u> | <u>/</u> | <u>8260B</u> | <u>RFP</u> | <u>/</u> | |
| | <u>3</u> | <u>CG</u> | <u>40 ml</u> | <u>HCL</u> | <u>/</u> | <u>/</u> | <u>8011</u> | <u>✓</u> | <u>/</u> | |
| | <u>1</u> | <u>PE</u> | <u>250ml</u> | <u>HNO3</u> | <u>/</u> | <u>/</u> | <u>6010</u> | <u>✓</u> | <u>/</u> | |
| REMARKS: | | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|--------------------------------------|---|
| SITE NAME: Morris Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MW 12 | SAMPLE ID: 08641-MW12 |
| DATE: 11-13-14 | |

PURGING DATA

| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 31.04 | WELL SCREEN INTERVAL DEPTH: 21 feet to 31 feet | STATIC DEPTH TO WATER (feet): 22.19 | PURGE PUMP TYPE OR BAILER: RFP | | | | | | | | | | |
|---|---------------------------------------|--|--|---------------------------------------|---------|-----|------------|----|-----------------|---|------------------|-----|-------|--------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (31.04 feet - 22.19 feet) X 0.16 gallons/foot = 1.42 gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
| 1244 | — | — | 20.9 | — | 6.9 | — | 78 | — | 1.04 | — | 1000 | — | clay | Slight |
| 1254 | 1.5 | 1.5 | 20.6 | 0.3 | 6.6 | 0.3 | 62 | 16 | | | 129 | — | clay | ↑ |
| 1314 | 2.0 | 3.5 | 20.4 | 0.2 | 6.1 | 0.5 | 64 | 2 | | | 404 | 533 | clay | ↑ |
| 1324 | 1.0 | 4.5 | 20.4 | 0 | 6.1 | 0 | 68 | 4 | | | 21 | 333 | clay | ↑ |
| 1330 | 1.0 | 5.5 | 20.5 | 0.1 | 6.0 | 0.1 | 69 | 1 | 1.04 | | 10 | 11 | clay | ✓ |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): Donald Burch | | | SAMPLER(S) SIGNATURE(S): [Signature] | | | SAMPLING DATE: 11-13-14 | | SAMPLING TIME: 130 | |
|--|---------------|---------------|---|---------------------|-------------------------------|--------------------------------|---------------------------------|---------------------------|--------------------------------|
| PUMP OR TUBING DEPTH IN WELL (feet): 28 | | | TUBING MATERIAL CODE: PE | | | FIELD-FILTERED: Y | | FILTER SIZE: 0.5 | |
| DUPLICATE COLLECTED: Y N | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
| SAMPLE ID CODE | # CONTAINER S | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | / | / | 8260B | RFP | / |
| | 3 | CG | 40 ml | HCL | / | / | 8011 | ↓ | / |
| | 1 | PE | 250ml | HNO3 | / | / | 6010 | ↓ | / |
| REMARKS: | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------------------|---|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MW 13 | SAMPLE ID: 08641-MW13 |
| DATE: 11/13/14 | |

PURGING DATA

| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 14.60 | WELL SCREEN INTERVAL DEPTH: feet to feet | STATIC DEPTH TO WATER (feet): 8.36 | PURGE PUMP TYPE OR BAILER: RFP | | | | | | | | | | |
|--|---------------------------------------|--|---|---------------------------------------|---------|-----|------------|----|-----------|---|-----------------|------|-------|------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (14.60 feet - 8.36 feet) X 0.16 gallons/foot = 0.99 gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURBIDITY (NTU) | Δ | COLOR | ODOR |
| 1425 | — | — | 21.6 | — | 7.2 | — | 162 | — | 1.8 | — | 1000 | — | Clay | none |
| 1439 | 1.0 | 1.0 | 21.3 | 0.3 | 6.5 | 0.7 | 121 | 31 | | | 205 | — | ↓ | ↓ |
| 1453 | 1.0 | 2.0 | 19.9 | 1.4 | 6.3 | 0.2 | 113 | 8 | | | 1000 | — | ↓ | ↓ |
| 1501 | 0.5 | 2.5 | 20.0 | 0.1 | 6.4 | 0.1 | 115 | 2 | | | 1000 | — | ↓ | ↓ |
| 1512 | 0.5 | 3.0 | 19.9 | 0.1 | 6.4 | 0 | 119 | 4 | | | 362 | — | Clay | ↓ |
| 1526 | 0.5 | 3.5 | 19.8 | 0.1 | 6.5 | 0.1 | 117 | 2 | | | 104 | 58 | Clay | ↓ |
| 1532 | 0.5 | 4.0 | 19.9 | 0.1 | 6.5 | 0 | 116 | 1 | | | 63 | 41 | Clay | ↓ |
| 1540 | 0.5 | 4.5 | 19.8 | 0.1 | 6.5 | 0 | 114 | 2 | | | 9.9 | 53.1 | Clay | ↓ |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

Dry ↓

SAMPLING DATA

| SAMPLED BY (PRINT): Cameron Warlick | | | | SAMPLER(S) SIGNATURE(S): <i>C. Warlick</i> | | | SAMPLING DATE: 11-13-14 | | SAMPLING TIME: 1540 | |
|--|---------------|---------------|--------|--|-------------------------------|----------|--|-------------------------|--------------------------------|--|
| PUMP OR TUBING DEPTH IN WELL (feet): 13 | | | | TUBING MATERIAL CODE: PE | | | FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> | | FILTER SIZE: | |
| DUPLICATE COLLECTED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> | | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) | |
| SAMPLE ID CODE | # CONTAINER S | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFP | — | |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | ↓ | — | |
| | 1 | PE | 250ml | HNO3 | — | — | 6010 | ↓ | — | |
| REMARKS: | | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|--------------------------------|--|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MW-14 | SAMPLE ID: 08641-MW14 |
| DATE: 11/13/14 | |

PURGING DATA

| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 22.41 | WELL SCREEN INTERVAL DEPTH: 2 feet to 22 feet | STATIC DEPTH TO WATER (feet): 13.87 | PURGE PUMP TYPE OR BAILER: ESP | | | | | | | | | | |
|---|--------------------------------|---|-------------------------------------|---|---------|-----|------------|---|-----------|---|------------------|----|-------|------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (22.41 feet - 13.87 feet) X 0.16 gallons/foot = 1.37 gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
| 1601 | — | — | 20.6 | — | 6.9 | — | 142 | — | 0.85 | — | 1100 | — | 14 | agt |
| 1614 | 1.5 | 1.5 | 20.2 | 0.4 | 6.6 | 0.3 | 109 | | | | 1100 | — | 14 | |
| 1630 | 1.5 | 3.0 | 19.9 | 0.3 | 6.3 | 0.3 | 107 | | | | 904 | — | 14 | |
| 1640 | 1.0 | 4.0 | 19.7 | 0.2 | 6.2 | 0.1 | 101 | | | | 111 | 73 | 14 | |
| 1652 | 1.0 | 5.0 | 19.7 | 0 | 6.1 | 0.1 | 100 | | | | 25 | 86 | 14 | |
| 1700 | 0.6 | 5.5 | 19.7 | 0 | 6.1 | 0 | 104 | | | | 10 | 15 | 14 | ✓ |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): Daniel Burch | | | SAMPLER(S) SIGNATURE(S): <i>DB</i> | | | SAMPLING DATE: 11-13-14 | | SAMPLING TIME: 5:00 | |
|--|--------------|---------------|------------------------------------|---------------------|-------------------------------|---|---------------------------------|--|--------------------------------|
| PUMP OR TUBING DEPTH IN WELL (feet): 21 | | | TUBING MATERIAL CODE: PE | | | FIELD-FILTERED: Y <input checked="" type="checkbox"/> | | FILTRATION EQUIPMENT TYPE: <input checked="" type="checkbox"/> | |
| DUPLICATE COLLECTED: Y <input checked="" type="checkbox"/> | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (ml) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFP | 1 |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | ↓ | |
| | 1 | PE | 250ml | HNO3 | — | — | 6010 | ↓ | 1 |
| REMARKS: | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|--------------------------------------|---|
| SITE NAME: Morris Oil Company | SITE LOCATION: Soarfanbura. SOUTH CAROLINA |
| WELL NO: AW 15 | SAMPLE ID: 08641-MW15 |
| DATE: 11/13/14 | |

PURGING DATA

| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 19.99 | WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet | STATIC DEPTH TO WATER (feet): 13.02 | PURGE PUMP TYPE OR BAILER: RFP | | | | | | | | | | |
|---|---------------------------------------|--|--|---------------------------------------|---------|-----|------------|----|-----------|---|------------------|-----|-------|------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (19.99 feet - 13.02 feet) X 0.16 gallons/foot = 1.12 gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
| 1450 | — | — | 20.9 | — | 6.9 | — | 137 | — | 0.95 | — | 1100 | — | Clay | none |
| 1500 | 1.0 | 1.0 | 20.6 | 0.3 | 6.2 | 0.2 | 124 | 13 | | | 846 | — | Clay | |
| 1512 | 1.0 | 2.0 | 20.5 | 0.1 | 6.0 | 0.2 | 105 | 19 | | | 1100 | — | Clay | |
| 1526 | 1.5 | 4.0 | 20.1 | 0.4 | 5.9 | 0.1 | 101 | 4 | | | 317 | — | Clay | |
| 1532 | 0.5 | 4.5 | 20.2 | 0.1 | 5.8 | 0.1 | 104 | 3 | | | 126 | 193 | Clay | |
| 1549 | 1.5 | 6.0 | 20.2 | 0 | 5.8 | 0 | 105 | 7 | | | 50 | 76 | Clay | |
| 1604 | 1.0 | 7.0 | 20.1 | 0.1 | 5.8 | 0 | 103 | 2 | | | 12 | 38 | Clay | |
| 1620 | 1.0 | 8.0 | 20.1 | 0 | 5.9 | 0.1 | 103 | 7 | | | 8.8 | 32 | Clay | |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): Daniel Burch | | | | SAMPLER(S) SIGNATURE(S): DB | | | | SAMPLING DATE: 11/13/14 | | SAMPLING TIME: 1630 | |
|--|--------------|---------------|--------|------------------------------------|-------------------------------|----------|-------|--|-------------------------|--------------------------------|--|
| PUMP OR TUBING DEPTH IN WELL (feet): PE | | | | TUBING MATERIAL CODE: 18 | | | | FIELD-FILTERED: Y <input checked="" type="checkbox"/> | | FILTER SIZE: | |
| DUPLICATE COLLECTED: Y <input checked="" type="checkbox"/> | | | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) | |
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFP | — | | |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | | — | | |
| | 1 | PE | 250ml | HNR3 | — | — | 6010 | | — | | |
| REMARKS: | | | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------------------|---|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MW 16 | SAMPLE ID: 08641-MW16 |
| DATE: 11/13/14 | |

PURGING DATA

| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 14.55 | WELL SCREEN INTERVAL DEPTH: feet to feet | STATIC DEPTH TO WATER (feet): 9.67 | PURGE PUMP TYPE OR BAILER: RFPP OB | | | | | | | | | | |
|--|---------------------------------------|--|---|--|---------|-----|------------|----|-----------|---|-----------------|-----|----------|------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (14.55 - 9.67) X 0.16 gallons/foot = 0.78 gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (µS) | Δ | DO (mg/L) | Δ | TURBIDITY (NTU) | Δ | COLOR | ODOR |
| 1500 | — | — | 20.7 | — | 7.1 | — | 104 | — | 2.9 | — | 1100 | — | clear | none |
| 1505 | 1.0 | 1.0 | 19.8 | 0.1 | 6.6 | 0.5 | 72 | 32 | | | 626 | — | clear | ↓ |
| 1510 | 0.5 | 1.5 | 19.7 | 0.1 | 6.7 | 0.2 | 79 | 7 | | | 1100 | — | clear | ↓ |
| 1515 | 0.5 | 2.0 | 19.7 | 0 | 6.4 | 0 | 76 | 3 | | | 1100 | — | clear | ↓ |
| 1520 | 0.5 | 2.5 | 19.8 | 0.1 | 6.5 | 0.1 | 73 | 3 | | | 409 | — | clear | ↓ |
| 1525 | 0.5 | 3.0 | 19.8 | 0 | 6.5 | 0 | 74 | 1 | | | 42 | 367 | slightly | ↓ |
| 1530 | 0.5 | 3.5 | 19.8 | 0 | 6.5 | 0 | 71 | 3 | | | 10 | 30 | clear | ↓ |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): Cameron Wadell | | | | SAMPLER(S) SIGNATURE(S): <i>[Signature]</i> | | | SAMPLING DATE: 11-13-14 | | SAMPLING TIME: 1530 | |
|---|--------------|---------------|--------|---|-------------------------------|----------|--|-------------------------|--------------------------------|--|
| PUMP OR TUBING DEPTH IN WELL (feet): 12 | | | | TUBING MATERIAL CODE: PE | | | FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> | | FILTER SIZE: | |
| DUPLICATE COLLECTED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> | | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) | |
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (ml) | FINAL pH | | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFPP | — | |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | ↓ | — | |
| | 1 | PE | 250ml | HNO3 | — | — | 6010 | ↓ | — | |
| REMARKS: | | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|--------------------------------|--|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MW-17 | SAMPLE ID: 08641-MW17 |
| DATE: 11-13-14 | |

PURGING DATA

| | | | | |
|--|--------------------------------|--|-------------------------------------|--------------------------------|
| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 26.45 | WELL SCREEN INTERVAL DEPTH: 16 feet to 26 feet | STATIC DEPTH TO WATER (feet): 20.05 | PURGE PUMP TYPE OR BAILER: RFP |
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (26.45 feet - 20.02 feet) X 0.16 gallons/foot = gallons | | | | |

| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
|------|-------------------------|--------------------------------|------------|-----|---------|-----|------------|----|-----------|---|------------------|----|-------|------|
| 1145 | — | — | 19.6 | — | 7.4 | — | 105 | — | 2.5 | — | 4000 | — | Grey | None |
| 1153 | 1.5 | 1.5 | 17.8 | 2.0 | 6.6 | 0.8 | 77 | 31 | | | 1600 | — | ✓ | |
| 1205 | 1.0 | 2.5 | 17.5 | 0.3 | 6.4 | 0.2 | 77 | 0 | | | 362 | — | ✓ | |
| 1212 | 1.0 | 3.5 | 17.4 | 0.1 | 6.2 | 0.2 | 75 | 2 | | | 104 | 28 | Grey | |
| 1218 | 0.5 | 4.0 | 17.4 | 0 | 6.4 | 0.2 | 78 | 3 | | | 76 | 28 | Grey | |
| 1225 | 0.5 | 4.5 | 17.5 | 0.1 | 6.3 | 0.1 | 76 | 2 | | | 42 | 34 | Grey | |
| 1235 | 1.0 | 5.5 | 17.5 | 0 | 6.1 | 0.2 | 72 | 4 | | | 13 | 29 | Grey | |
| 1245 | 1.0 | 6.5 | 17.4 | 0.1 | 6.1 | 0 | 77 | 5 | | | 9.0 | 4 | Grey | ✓ |

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLING DATA

| | | | |
|--|---|----------------------------|------------------------|
| SAMPLED BY (PRINT): Cameron Warwick | SAMPLER(S) SIGNATURE(S): <i>C. Warwick</i> | SAMPLING DATE: 11-13-14 | SAMPLING TIME: 1245 |
| PUMP OR TUBING DEPTH IN WELL (feet): 24 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y N | FILTER SIZE: |
| DUPLICATE COLLECTED: Y <input checked="" type="checkbox"/> | | | |

| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
|--------------------------------|--------------|---------------|--------|---------------------|-------------------------------|----------|---------------------------------|-------------------------|--------------------------------|
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (ml) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFP | — |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | ↓ | — |
| | 1 | PE | 250ml | HNA3 | — | — | 6010 | ↓ | — |

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|--------------------------------|--|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MW 18 | SAMPLE ID: 08641-MW18 |
| DATE: 11/13/14 | |

PURGING DATA

| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 26.61 | WELL SCREEN INTERVAL DEPTH: 16 feet to 26 feet | STATIC DEPTH TO WATER (feet): 18.03 | PURGE PUMP TYPE OR BAILER: RFP | | | | | | | | | | |
|---|--------------------------------|--|-------------------------------------|--------------------------------|---------|-----|------------|---|-----------|---|-----------------|-----|-------|------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (26.61 feet - 18.03 feet) X 0.16 gallons/foot = 1.27 gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURBIDITY (NTU) | Δ | COLOR | ODOR |
| 1232 | — | — | 21.2 | — | 5.4 | — | 58 | — | 3.4 | — | 4000 | — | Clay | None |
| 1246 | 1.5 | 1.5 | 21.3 | 0.1 | 5.6 | 0.2 | 56 | 2 | | | 4000 | — | clay | |
| 1300 | 1.5 | 3.0 | 21.0 | 0.3 | 5.5 | 0.1 | 54 | 2 | | | 642 | — | clay | |
| 1310 | 1.0 | 4.0 | 20.9 | 0.1 | 5.4 | 0.1 | 51 | 3 | | | 182 | 466 | clay | |
| 1321 | 1.0 | 5.0 | 20.8 | 0.1 | 5.4 | 0.1 | 53 | 2 | | | 64 | 118 | clay | |
| 1333 | 1.0 | 6.0 | 20.8 | 0.1 | 5.5 | 0.1 | 56 | 3 | | | 15 | 49 | clay | |
| 1340 | 0.5 | 6.5 | 20.8 | 0.1 | 5.5 | 0.1 | 54 | 2 | | | 9.8 | 5.2 | clay | ✓ |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): Cameron Warlick | | | | SAMPLER(S) SIGNATURE(S): <i>C. Warlick</i> | | | SAMPLING DATE: 11.13.14 | | SAMPLING TIME: 13:40 | |
|--|--------------|---------------|--------|--|-------------------------------|----------|--|-------------------------|---------------------------------------|--|
| PUMP OR TUBING DEPTH IN WELL (feet): 24 | | | | TUBING MATERIAL CODE: PE | | | FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> | | FILTER SIZE: <input type="checkbox"/> | |
| DUPLICATE COLLECTED: Y <input checked="" type="checkbox"/> OR <input type="checkbox"/> | | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) | |
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (ml) | FINAL pH | | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFP | — | |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | ↓ | — | |
| | 1 | PE | 250 ml | HNO3 | — | — | 6010 | ↓ | — | |
| REMARKS: | | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------------------|---|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Soartanbura, SOUTH CAROLINA |
| WELL NO: MW-19 | SAMPLE ID: 08641-MW19 |
| DATE: 11/13/14 | |

PURGING DATA

| | | | | |
|---|---------------------------------------|--|---|---------------------------------------|
| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 21.31 | WELL SCREEN INTERVAL DEPTH: feet to feet | STATIC DEPTH TO WATER (feet): 7.01 | PURGE PUMP TYPE OR BAILER: RFP |
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY $= (21.31 \text{ feet} - 7.01 \text{ feet}) \times 0.16 \text{ gallons/foot} = 6.69 \text{ gallons}$ | | | | |

| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
|------|-------------------------|--------------------------------|------------|-----|---------|-----|------------|-----|-----------|---|------------------|------|-------|------|
| 1525 | — | — | 22.6 | — | 6.9 | — | 392 | — | 1.6 | — | 1000 | — | Clay | None |
| 1536 | 1.5 | 1.5 | 21.4 | 1.9 | 6.6 | 0.3 | 300 | 92 | | | 1000 | — | Clay | ↓ |
| 1543 | 0.5 | 2.0 | 21.3 | 0.1 | 6.7 | 0.2 | 104 | 196 | | | 1000 | — | Clay | ↓ |
| 1550 | 0.5 | 2.5 | 20.9 | 0.4 | 6.2 | 0.2 | 96 | 8 | | | 604 | — | ↓ | ↓ |
| 1602 | 0.5 | 3.0 | 20.6 | 0.3 | 6.1 | 0.1 | 91 | 5 | | | 121 | RB | Clay | ↓ |
| 1611 | 1.0 | 4.0 | 20.4 | 0.2 | 6.1 | 0 | 92 | 1 | | | 22 | 97 | Clay | ↓ |
| 1620 | 1.0 | 5.0 | 20.4 | 0 | 6.1 | 0 | 93 | 1 | | | 9.6 | 12.4 | ↓ | ↓ |

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLING DATA

| | | | |
|--|---------------------------------|--------------------------------------|----------------------------|
| SAMPLED BY (PRINT): Cameron Warlick | SAMPLER(S) SIGNATURE(S): | SAMPLING DATE: 11.13.2014 | SAMPLING TIME: 1620 |
| PUMP OR TUBING DEPTH IN WELL (feet): P1 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y | FILTER SIZE: 1000 |
| DUPLICATE COLLECTED: Y | | Filtration Equipment Type: PE | |

| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
|--------------------------------|--------------|---------------|--------|---------------------|-------------------------------|----------|---------------------------------|-------------------------|--------------------------------|
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFP | — |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | ↓ | — |
| | 1 | PE | 250 ml | HNO3 | — | — | 6010 | ↓ | — |

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------------------|---|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MW-20 | SAMPLE ID: 08641-MW20 |
| DATE: 11/13/14 | |

PURGING DATA

| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 19.98 | WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet | STATIC DEPTH TO WATER (feet): 14.23 | PURGE PUMP TYPE OR BAILER: RFP | | | | | | | | | | |
|---|---------------------------------------|--|--|---------------------------------------|---------|-----|------------|---|-----------|---|------------------|-----|-------|------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (19.98 feet - 14.23 feet) X 0.16 gallons/foot = 0.92 gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
| 1232 | — | — | 22.8 | — | 6.2 | — | 47 | — | 2.4 | — | 11000 | — | clay | none |
| 1246 | 1.5 | 1.5 | 22.7 | 0.1 | 5.6 | 0.6 | 46 | 1 | | | 11000 | — | | |
| 1304 | 1.5 | 3.0 | 22.6 | 0.1 | 5.7 | 0.1 | 44 | 2 | | | 314 | — | | |
| 1319 | 1.0 | 4.0 | 22.1 | 0.5 | 5.6 | 0.1 | 44 | 0 | | | 182 | 137 | | |
| 1328 | 0.5 | 4.5 | 22.2 | 0.1 | 5.6 | 0 | 42 | 2 | | | 101 | 81 | ✓ | |
| 1335 | 0.5 | 5.0 | 22.0 | 0.2 | 5.5 | 0.1 | 42 | 0 | | | 76 | 25 | 9.4 | ✓ |
| 1342 | 0.5 | 5.5 | 22.0 | 0 | 5.5 | 0 | 46 | 4 | | | 32 | 44 | ✓ | |
| 1350 | 0.5 | 6.0 | 22.0 | 0 | 5.5 | 0 | 44 | 2 | | | 9.8 | 22 | 2.1 | ✓ |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): Cameron Warlick | | | SAMPLER(S) SIGNATURE(S): <i>C. Warlick</i> | | | SAMPLING DATE: 11.13.14 | | SAMPLING TIME: 1350 | |
|--|--------------|---------------|--|---------------------|-------------------------------|--------------------------------|---------------------------------|----------------------------|--------------------------------|
| PUMP OR TUBING DEPTH IN WELL (feet): 17 | | | TUBING MATERIAL CODE: PE | | | FIELD-FILTERED: Y | | FILTER SIZE: 5 | |
| DUPLICATE COLLECTED: Y | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | 1 | 1 | 8260B | RFP | 1 |
| | 3 | CG | 40 ml | HCL | 1 | 1 | 8011 | ↓ | 1 |
| | 1 | PE | 250ml | HNO3 | 1 | 1 | 6010 | ↓ | 1 |
| REMARKS: | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------------------|---|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: Mw-21 | SAMPLE ID: 08641-Mw21 |
| DATE: 11/13/14 | |

PURGING DATA

| | | | | |
|---|---------------------------------------|---|---|---------------------------------------|
| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 19.29 | WELL SCREEN INTERVAL DEPTH: 9 feet to 17 feet | STATIC DEPTH TO WATER (feet): 9.86 | PURGE PUMP TYPE OR BAILER: RFP |
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY | | | | |
| = (19.29 feet - 9.86 feet) X 0.16 gallons/foot = 1.61 gallons | | | | |

| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURBIDITY (NTU) | Δ | COLOR | ODOR |
|------|-------------------------|--------------------------------|------------|-----|---------|-----|------------|----|-----------------|---|-----------------|-----|-------|------|
| 1304 | — | — | 22.9 | — | 7.6 | — | 132 | — | 1.22 | — | 1000 | — | cl | — |
| 1319 | 2.0 | 2.0 | 22.8 | 0.1 | 7.4 | 0.2 | 126 | 6 | | | 321 | — | cl | — |
| 1331 | 1.5 | 3.5 | 22.7 | 0.1 | 7.4 | 0.2 | 109 | 17 | | | 46 | 279 | slw | — |
| 1343 | 1.5 | 5.0 | 22.9 | 0.2 | 7.5 | 0.1 | 102 | 7 | | | 18 | 28 | chw | — |
| 1400 | 2.0 | 3.0 7.0 | 23.1 | 0.2 | 7.5 | 0 | 101 | 1 | 1.22 | | 4.0 | 9 | chw | ↓ |

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLING DATA

| | | | |
|---|------------------------------------|--|---------------------------|
| SAMPLED BY (PRINT): Daniel Burch | SAMPLER(S) SIGNATURE(S): DB | SAMPLING DATE: 11-13-14 | SAMPLING TIME: 200 |
| PUMP OR TUBING DEPTH IN WELL (feet): 17 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y <input checked="" type="checkbox"/> | FILTER SIZE: 200 |
| DUPLICATE COLLECTED: Y <input checked="" type="checkbox"/> | | | |

| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
|--------------------------------|--------------|---------------|--------|---------------------|-------------------------------|----------|---------------------------------|-------------------------|--------------------------------|
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (ml) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFP | |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | ↓ | |
| | 1 | PE | 250ml | no pres | — | — | 6810 | ↓ | |

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------------------|---|
| SITE NAME: Morriss Oil Company | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: MW 22 | SAMPLE ID: 08641-MW22 |
| DATE: 11/13/14 | |

PURGING DATA

| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 16.61 | WELL SCREEN INTERVAL DEPTH: 6 feet to 10 feet | STATIC DEPTH TO WATER (feet): 12.63 | PURGE PUMP TYPE OR BAILER: RFPP | | | | | | | | | | |
|---|---------------------------------------|--|--|--|---------|-----|------------|----|-----------|---|------------------|-----|-------|------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (16.61 feet - 12.63 feet) X 0.16 gallons/foot = 0.64 gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
| 1321 | — | — | 23.6 | — | 6.4 | — | 72 | — | 2.61 | — | 7000 | — | CLY | None |
| 1342 | 1.0 | 1.0 | 23.2 | 0.4 | 5.9 | 0.6 | 45 | 27 | | | 4000 | — | ↓ | |
| 1400 | 1.0 | 2.0 | 22.1 | 1.1 | 5.8 | 0.7 | 38 | 7 | | | 642 | — | ↓ | |
| 1409 | 0.5 | 2.5 | 21.8 | 0.3 | 5.8 | 0.2 | 40 | 2 | | | 109 | 533 | CLY | |
| 1416 | 0.5 | 3.0 | 21.9 | 0.1 | 5.9 | 0.1 | 42 | 2 | | | 25 | 87 | CLY | |
| 1423 | 0.5 | 3.5 | 21.8 | 0.1 | 5.8 | 0.1 | 41 | 1 | | | 13 | 12 | ↓ | |
| 1430 | 0.5 | 4.0 | 21.8 | 0 | 5.7 | 0.1 | 41 | 0 | | | 10 | 3 | ↓ | ↓ |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): Cameron Warlick | SAMPLER(S) SIGNATURE(S): | SAMPLING DATE: 11-13-14 | SAMPLING TIME: 1430 | | | | | | |
|---|---------------------------------|--|----------------------------|---------------------|-------------------------------|----------|---------------------------------|-------------------------|--------------------------------|
| PUMP OR TUBING DEPTH IN WELL (feet): — | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y | FILTER SIZE: — | | | | | | |
| DUPLICATE COLLECTED: Y | | Filtration Equipment Type: RFPP | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (ml) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | — | — | 8260B | RFPP | — |
| | 3 | CG | 40 ml | HCL | — | — | 8011 | ↓ | — |
| | 1 | PE | 250ml | HNO3 | — | — | 6670 | ↓ | — |
| REMARKS: | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------|--|
| SITE NAME: Morris Oil Co. | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: Mw-23 | SAMPLE ID: 08641-Mw23 |
| DATE: 11/13/14 | |

PURGING DATA

| | | | | |
|---|-----------------------------|--|-------------------------------------|--------------------------------|
| WELL DIAMETER (inches): 2 | Total Well Depth (feet): 29 | WELL SCREEN INTERVAL DEPTH: 21 feet to 31 feet | STATIC DEPTH TO WATER (feet): 21.48 | PURGE PUMP TYPE OR BAILER: RFP |
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (29 feet - 21.48 feet) X 0.16 gallons/foot = gallons | | | | |

| TIME | VOLUME PURGED (gallons) | CUMUL VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
|------|-------------------------|-------------------------------|------------|-----|---------|-----|------------|----|-----------|---|------------------|----|-------|------|
| 1552 | — | — | 22.1 | — | 6.4 | — | 121 | — | 2.1 | — | 1000 | — | cl | RPA |
| 1601 | 1.0 | 1.0 | 21.8 | 0.3 | 6.9 | 0.5 | 164 | 17 | | | 700 | — | cl | |
| 1612 | 1.0 | 2.0 | 21.6 | 0.2 | 6.7 | 0.2 | 169 | 5 | | | 674 | — | cl | |
| 1626 | 1.5 | 3.5 | 21.5 | 0.1 | 6.7 | 0 | 113 | 6 | | | 1100 | — | cl | |
| 1643 | 1.5 | 5.0 | 21.4 | 0.1 | 6.6 | 0.1 | 111 | 2 | | | 104 | — | cl | |
| 1652 | 0.5 | 5.5 | 21.4 | 0 | 6.7 | 0.1 | 111 | 0 | | | 86 | 78 | cl | |
| 1700 | 0.5 | 6.0 | 21.4 | 0 | 6.7 | 0 | 110 | 1 | | | 10 | 16 | cl | ↓ |

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLING DATA

| | | | |
|--------------------------------------|------------------------------------|----------------------------|---------------------|
| SAMPLED BY (PRINT): Donald Burch | SAMPLER(S) SIGNATURE(S): <i>DB</i> | SAMPLING DATE: 11/13/14 | SAMPLING TIME: 1700 |
| PUMP OR TUBING DEPTH IN WELL (feet): | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y | FILTER SIZE: |
| DUPLICATE COLLECTED: Y | | Filtration Equipment Type: | |

| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) |
|--------------------------------|--------------|---------------|--------|---------------------|-------------------------------|----------|---------------------------------|-------------------------|--------------------------------|
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | |
| | 3 | CG | 40 ml | HCL | --- | --- | 8260B | --- | |
| | 3 | CG | 40 ml | HCL | --- | --- | 8011 | --- | |
| | 1 | PE | 250ml | HNO3 | --- | --- | 6010 | --- | |

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

| | |
|---------------------------|--|
| SITE NAME: Morris Oil Co. | SITE LOCATION: Spartanburg, SOUTH CAROLINA |
| WELL NO: Creek (sw01) | SAMPLE ID: (sw01) DATE: 11/14/14. |

PURGING DATA

| WELL DIAMETER (inches): | Total Well Depth (feet): | WELL SCREEN INTERVAL DEPTH: feet to feet | STATIC DEPTH TO WATER (feet): | PURGE PUMP TYPE OR BAILER: | | | | | | | | | | |
|--|--------------------------|--|-------------------------------|----------------------------|---------|---|------------|---|-----------|---|------------------|---|---------------|------|
| WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (feet - feet) X gallons/foot = gallons | | | | | | | | | | | | | | |
| TIME | VOLUME PURGED (gallons) | CUMUL. VOLUME PURGED (gallons) | TEMP. (°C) | Δ | pH (su) | Δ | COND. (μS) | Δ | DO (mg/L) | Δ | TURB IDITY (NTU) | Δ | COLOR | ODOR |
| 11:5 | — | — | 24.6 | — | 7.2 | — | 131 | — | 39 | — | 46 | — | slightly none | |
| | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | |
| WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | | | | | | | | | | | | | | |

SAMPLING DATA

| SAMPLED BY (PRINT): <i>Larry Z. Slack</i> | | | | SAMPLER(S) SIGNATURE(S): <i>[Signature]</i> | | | SAMPLING DATE: 11/14/14 | | SAMPLING TIME: 11:5 | |
|--|--------------|---------------|--------|---|-------------------------------|----------|---------------------------------|-------------------------|---|--|
| PUMP OR TUBING DEPTH IN WELL (feet): | | | | TUBING MATERIAL CODE: | | | FIELD-FILTERED: Y N | | FILTER SIZE: Filtration Equipment Type: | |
| DUPLICATE COLLECTED: Y N | | | | | | | | | | |
| SAMPLE CONTAINER SPECIFICATION | | | | SAMPLE PRESERVATION | | | INTENDED ANALYSIS AND/OR METHOD | SAMPLING EQUIPMENT CODE | SAMPLE PUMP FLOW RATE (ml/min) | |
| SAMPLE ID CODE | # CONTAINERS | MATERIAL CODE | VOLUME | PRESERVATIVE USED | TOTAL VOL ADDED IN FIELD (mL) | FINAL pH | | | | |
| | 3 | CG | 40 ml | HCL | --- | --- | 8260B | | | |
| | 3 | CG | 40 ml | HCL | --- | --- | 8011 | | | |
| | 1 | PE | 250ml | HNO3 | --- | --- | 6010 | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| REMARKS: Sample collected by lowering bailer into creek/rivine Too steep to access | | | | | | | | | | |
| MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) | | | | | | | | | | |
| SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify) | | | | | | | | | | |

STABILIZATION CRITERIA

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: ± 0.2 mg/L or ± 10% Turbidity: ≤ 10 NTU or ± 10%

Stream actively flowing.

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Report of Analysis

Petra-Tech Environmental

2435 East North Street
Suite 1108-202
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Morris Oil Co.**

Project Number: **J14-060-A**

Lot Number: **PI30029**

Date Completed: **10/03/2014**



Lucas Odom

Project Manager



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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

• • • • •

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative Petra-Tech Environmental Lot Number: PI30029

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary Petra-Tech Environmental Lot Number: PI30029

| Sample Number | Sample ID | Matrix | Date Sampled | Date Received |
|---------------|-----------|---------|-----------------|---------------|
| 001 | GW06 | Aqueous | 09/26/2014 1205 | 09/30/2014 |

(1 sample)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary Petra-Tech Environmental Lot Number: PI30029

| Sample | Sample ID | Matrix | Parameter | Method | Result | Q | Units | Page |
|--------|-----------|---------|-----------------|--------|--------|---|-------|------|
| 001 | GW06 | Aqueous | Benzene | 8260B | 0.34 | J | ug/L | 5 |
| 001 | GW06 | Aqueous | Ethylbenzene | 8260B | 0.95 | J | ug/L | 5 |
| 001 | GW06 | Aqueous | Naphthalene | 8260B | 3.9 | | ug/L | 5 |
| 001 | GW06 | Aqueous | Xylenes (total) | 8260B | 0.89 | J | ug/L | 5 |

(4 detections)

Description: GW06

Matrix: Aqueous

Date Sampled: 09/26/2014 1205

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 10/03/2014 0207 | PMM2 | | 57417 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| Benzene | 71-43-2 | 8260B | 0.34 | J | 1.0 | 0.13 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | 0.95 | J | 1.0 | 0.33 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | 3.9 | | 1.0 | 0.40 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | 0.89 | J | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 100 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 93 | 70-130 | | | | | | | | |
| Toluene-d8 | | 94 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

SHEALY
Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Number 40763

| | | | |
|--|---|--|--|
| Client Petro-Tech Env Address 2435 E. North St, Ste 1108-202 City Greenville State SC Zip Code 29615 Project Name Morris Oil Co. Project No. J14-D60-A | Report to Contact Trevor Slack Sampler's Signature Printed Name Trevor Slack | Telephone No. / E-mail +1 803 791 9700 / tslack@petrotechenv.com Analyte (Attach list if more space is needed) BTGXTM+V + Lead | Duplicate No. Page 1 of 1 PI30029 Remarks / Cooler I.D. No AIRC screening only |
| Sample ID / Description (Containers for each sample may be combined on one line.) Gwob | P.O. No. J14-D60-A Date 9/26/14 12:05GX | No. of Containers by Preservation Type Cryo: 2 MSO: 0 FOM: 0 SH: 0 MIM: 0 BX: 0 EPO: 0 | Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Poison <input type="checkbox"/> Unknown <input checked="" type="checkbox"/> Skin Irritant <input type="checkbox"/> Skin Sensitizer |
| Turn Around Time Required (Prior lab approval required for expedited TAT.) <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush (Specify) | Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Dispose by Lab | QC Requirements (Specify) None | 1. Requisitioned by Date 9/30/14 7:00 2. Requisitioned by Date 9/30/14 7:00 3. Requisitioned by Date 9/30/14 7:00 4. Requisitioned by Date 9/30/14 15:03 |
| Note: All samples are retained for four weeks from receipt unless other arrangements are made. | | LAB USE ONLY Received on es (Circle) <input checked="" type="radio"/> No <input type="radio"/> Ice Pack <input type="radio"/> Receiver Temp. 1.5 °C | |

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
 Document Number: F-AD-016
 Revision Number: 15

Page 1 of 1
 Replaces Date: 03/07/14
 Effective Date: 07/15/14

Sample Receipt Checklist (SRC)

Client: Petra-Tech Cooler Inspected by/date: mam / 093014 Lot #: 9130029

| | | |
|---|--|--|
| Means of receipt: <input checked="" type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Airborne Exp <input type="checkbox"/> Other | | |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 1. Were custody seals present on the cooler? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 2. If custody seals were present, were they intact and unbroken? |
| Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>1670 / 1.1 / 1.5</u> °C / / °C / / °C / / °C | | |
| Method: <input type="checkbox"/> Temperature Blank <input checked="" type="checkbox"/> Against Bottles IR Gun ID: <u>#3</u> IR Gun Correction Factor: <u>0.4</u> °C | | |
| Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.) |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 4. Is the commercial courier's packing slip attached to this form? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 5. Were proper custody procedures (relinquished/received) followed? 5a Were samples relinquished by client to commercial courier? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 6. Were sample IDs listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 7. Were sample IDs listed on all sample containers? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 8. Was collection date & time listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 9. Was collection date & time listed on all sample containers? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 10. Did all container label information (ID, date, time) agree with the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 11. Were tests to be performed listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 12. Did all samples arrive in the proper containers for each test? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 13. Did all containers arrive in good condition (unbroken, lids on, etc.)? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 14. Was adequate sample volume available? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 15. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 16. Were any samples containers missing? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 17. Were there any excess samples not listed on COC? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/> 18. Were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any VOA vials? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 19. Were all metals/O&G/HEM/nutrient samples received at a pH of <2? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 20. Were all cyanide and/or sulfide samples received at a pH >12? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 21. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 22. Were collection temperatures documented on the COC for NC samples? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 23. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 24. Was the quote number used taken from the container label? |
| Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.) | | |
| Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) using SR # _____ | | |
| Sample(s) _____ were received with bubbles >6 mm in diameter. | | |
| Sample(s) _____ were received with TRC >0.2 mg/L. (If #21 is No) | | |
| SC Drinking Water Project Sample(s) pH verified to be > 2 by _____ Date: _____ | | |
| Sample(s) _____ were not received at a pH of <2 and were adjusted accordingly using SR# _____ | | |
| Sample labels applied by: <u>mam</u> Verified by: <u>mam</u> Date: <u>913014</u> | | |

Comments: _____

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Report of Analysis

Petra-Tech Environmental

2435 East North Street
Suite 1108-202
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Morris Oil Co.**

Project Number: **J14-060-A**

Lot Number: **PI30031**

Date Completed: **10/03/2014**



Lucas Odom

Project Manager



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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

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SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative

Petra-Tech Environmental

Lot Number: PI30031

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary Petra-Tech Environmental Lot Number: PI30031

| Sample Number | Sample ID | Matrix | Date Sampled | Date Received |
|---------------|-----------|---------|-----------------|---------------|
| 001 | GW17 | Aqueous | 09/26/2014 1600 | 09/30/2014 |
| 002 | GW18 | Aqueous | 09/26/2014 1620 | 09/30/2014 |
| 003 | GW20 | Aqueous | 09/26/2014 1550 | 09/30/2014 |

(3 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary Petra-Tech Environmental Lot Number: PI30031

| Sample | Sample ID | Matrix | Parameter | Method | Result | Q | Units | Page |
|--------|-----------|---------|-------------|--------|--------|---|-------|------|
| 001 | GW17 | Aqueous | Benzene | 8260B | 0.16 | J | ug/L | 5 |
| 001 | GW17 | Aqueous | Naphthalene | 8260B | 1.1 | | ug/L | 5 |
| 002 | GW18 | Aqueous | Naphthalene | 8260B | 0.84 | J | ug/L | 6 |
| 003 | GW20 | Aqueous | Benzene | 8260B | 0.30 | J | ug/L | 7 |
| 003 | GW20 | Aqueous | Naphthalene | 8260B | 1.2 | | ug/L | 7 |

(5 detections)

Description: GW17

Matrix: Aqueous

Date Sampled: 09/26/2014 1600

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 10/03/2014 0332 | PMM2 | | 57417 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| Benzene | 71-43-2 | 8260B | 0.16 | J | 1.0 | 0.13 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | 1.1 | | 1.0 | 0.40 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 100 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 93 | 70-130 | | | | | | | | |
| Toluene-d8 | | 94 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: GW18

Matrix: Aqueous

Date Sampled: 09/26/2014 1620

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|----------|------------|-------------|-------------|----------|--|
| 1 | 5030B | 8260B | 1 | 10/03/2014 0353 | PMM2 | | 57417 | | | |
| Parameter | | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| Benzene | | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | |
| 1,2-Dichloroethane | | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | |
| Ethylbenzene | | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | |
| Methyl tertiary butyl ether (MTBE) | | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | |
| Naphthalene | | 91-20-3 | 8260B | 0.84 | J | 1.0 | 0.40 | ug/L | 1 | |
| Toluene | | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | |
| Xylenes (total) | | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | |
| 1,2-Dichloroethane-d4 | | 101 | 70-130 | | | | | | | |
| Bromofluorobenzene | | 92 | 70-130 | | | | | | | |
| Toluene-d8 | | 94 | 70-130 | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: GW20

Matrix: Aqueous

Date Sampled: 09/26/2014 1550

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 10/03/2014 0414 | PMM2 | | 57417 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| Benzene | 71-43-2 | 8260B | 0.30 | J | 1.0 | 0.13 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | 1.2 | | 1.0 | 0.40 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 101 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 93 | 70-130 | | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

SHEALY ENVIRONMENTAL SERVICES, INC.



Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
 106 Vantage Point Drive • West Columbia, SC 29172
 Telephone No. 803-791-9700 Fax No. 803-791-9111
 www.shealylab.com

Number 40762

| | | | | | |
|--|--|--|--|--|---|
| Client Petco-Tech Env. Address 1435 E. North St., Ste 1108-202 City Greenville State SC Zip Code 29615 Project Name Morris 0:1 CO Project No. J14-060-A | Report to Contact Trevor Slack Sampler's Signature X Printed Name Trevor Slack | Telephone No. / E-mail tslack@petrotechenv.com Analysis (Attach list if more space is needed) BTX+M+ 826B N+1,2,4 | Quote No. PI30031 Page 1 of 1 Barcode | Remarks / Cooler I.D. NO QA/QC screening only. | |
| Sample ID / Description (Containers for each sample may be combined on one line.) GW17 GW18 GW20 | Date 9/16/14 ↓ 1620 ↓ 1550 | Time 1600G ↓ ↓ | Matrix Aquatic Air Soil Sediment Other | No. of Containers by Preservative Type HCL HNO3 H2O2 H2SO4 Other 2 2 2 | Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown |
| Turn Around Time Required (Prior lab approval required for expedited TAT.) <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush (Specify) | Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab | QC Requirements (Specify) None | 1. Relinquished by Date 9/30/14 Time 1700 | | |
| 2. Relinquished by Date Time | 3. Relinquished by Date Time | 4. Relinquished by Date 9/30/14 Time 1503 | Date 9/30/14 Time 1700 | Date Time | |
| Note: All samples are retained for four weeks from receipt unless other arrangements are made. | | | LAB USE ONLY Received on ice (Circle) <input checked="" type="checkbox"/> No <input type="checkbox"/> Ice Pack <input type="checkbox"/> | Receipt Temp. 15 °C | |

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: FAD-133 Effective Date: 08-01-2014

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
 Document Number: P-AD-016
 Revision Number: 15

Page 1 of 1
 Replaces Date: 03/07/14
 Effective Date: 07/15/14

Sample Receipt Checklist (SRC)

Client: Retra-Tech Cooler Inspected by/date: mam / 093014 Lot #: 9130031

| | | |
|---|--|--|
| Means of receipt: <input checked="" type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Airborne Exp <input type="checkbox"/> Other | | |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 1. Were custody seals present on the cooler? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 2. If custody seals were present, were they intact and unbroken? | | |
| Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: 1670 1.1 °C 1670 / 1.1 / 1.5 °C / / °C / / °C | | |
| Method: <input type="checkbox"/> Temperature Blank <input checked="" type="checkbox"/> Against Bottles IR Gun ID: #3 IR Gun Correction Factor: <u>0.4</u> °C | | |
| Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.) | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 4. Is the commercial courier's packing slip attached to this form? | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 5. Were proper custody procedures (relinquished/received) followed? | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 5a Were samples relinquished by client to commercial courier? | | |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 6. Were sample IDs listed on the COC? | | |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 7. Were sample IDs listed on all sample containers? | | |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 8. Was collection date & time listed on the COC? | | |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 9. Was collection date & time listed on all sample containers? | | |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 10. Did all container label information (ID, date, time) agree with the COC? | | |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 11. Were tests to be performed listed on the COC? | | |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 12. Did all samples arrive in the proper containers for each test? | | |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 13. Did all containers arrive in good condition (unbroken, lids on, etc.)? | | |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 14. Was adequate sample volume available? | | |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 15. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first? | | |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/> |
| 16. Were any samples containers missing? | | |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/> |
| 17. Were there any excess samples not listed on COC? | | |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 18. Were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any VOA vials? | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 19. Were all metals/O&G/HEM/nutrient samples received at a pH of <2? | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 20. Were all cyanide and/or sulfide samples received at a pH >12? | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 21. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine? | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 22. Were collection temperatures documented on the COC for NC samples? | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 23. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS? | | |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/> |
| 24. Was the quote number used taken from the container label? | | |
| Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.) | | |
| Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) using SR # _____ | | |
| Sample(s) _____ were received with bubbles >6 mm in diameter. | | |
| Sample(s) _____ were received with TRC >0.2 mg/L (If #21 is No) | | |
| SC Drinking Water Project Sample(s) pH verified to be > 2 by _____ Date: _____ | | |
| Sample(s) _____ were not received at a pH of <2 and were adjusted accordingly using SR# _____ | | |
| Sample labels applied by: <u>mam</u> Verified by: <u>mam</u> Date: <u>913014</u> | | |

Comments:

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Report of Analysis

Petra-Tech Environmental

2435 East North Street
Suite 1108-202
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Morris Oil Co.**

Project Number: **J14-060-A**

Lot Number: **PI30034**

Date Completed: **10/03/2014**



Lucas Odom

Project Manager



This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

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SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative

Petra-Tech Environmental

Lot Number: PI30034

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary Petra-Tech Environmental Lot Number: PI30034

| Sample Number | Sample ID | Matrix | Date Sampled | Date Received |
|---------------|-----------|---------|-----------------|---------------|
| 001 | GW-13 | Aqueous | 09/26/2014 1320 | 09/30/2014 |
| 002 | GW-12 | Aqueous | 09/26/2014 1300 | 09/30/2014 |
| 003 | GW-21 | Aqueous | 09/26/2014 1515 | 09/30/2014 |
| 004 | GW-16 | Aqueous | 09/26/2014 1250 | 09/30/2014 |

(4 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary Petra-Tech Environmental Lot Number: PI30034

| Sample | Sample ID | Matrix | Parameter | Method | Result | Q | Units | Page |
|--------|-----------|---------|-----------------|--------|--------|---|-------|------|
| 001 | GW-13 | Aqueous | Benzene | 8260B | 0.52 | J | ug/L | 5 |
| 001 | GW-13 | Aqueous | Naphthalene | 8260B | 2.0 | | ug/L | 5 |
| 001 | GW-13 | Aqueous | Toluene | 8260B | 0.56 | J | ug/L | 5 |
| 001 | GW-13 | Aqueous | Xylenes (total) | 8260B | 0.73 | J | ug/L | 5 |
| 002 | GW-12 | Aqueous | Benzene | 8260B | 0.28 | J | ug/L | 6 |
| 002 | GW-12 | Aqueous | Naphthalene | 8260B | 1.9 | | ug/L | 6 |
| 003 | GW-21 | Aqueous | Benzene | 8260B | 0.37 | J | ug/L | 7 |
| 003 | GW-21 | Aqueous | Naphthalene | 8260B | 1.3 | | ug/L | 7 |
| 003 | GW-21 | Aqueous | Toluene | 8260B | 0.33 | J | ug/L | 7 |
| 004 | GW-16 | Aqueous | Benzene | 8260B | 0.23 | J | ug/L | 8 |
| 004 | GW-16 | Aqueous | Naphthalene | 8260B | 2.0 | | ug/L | 8 |
| 004 | GW-16 | Aqueous | Xylenes (total) | 8260B | 0.83 | J | ug/L | 8 |

(12 detections)

Description: GW-13

Matrix: Aqueous

Date Sampled: 09/26/2014 1320

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 10/03/2014 0704 | PMM2 | | 57417 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| Benzene | 71-43-2 | 8260B | 0.52 | J | 1.0 | 0.13 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | 2.0 | | 1.0 | 0.40 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | 0.56 | J | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | 0.73 | J | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 102 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 94 | 70-130 | | | | | | | | |
| Toluene-d8 | | 96 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: GW-12

Matrix: Aqueous

Date Sampled: 09/26/2014 1300

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 10/03/2014 0725 | PMM2 | | 57417 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| Benzene | 71-43-2 | 8260B | 0.28 | J | 1.0 | 0.13 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | 1.9 | | 1.0 | 0.40 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 101 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 93 | 70-130 | | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: GW-21

Matrix: Aqueous

Date Sampled: 09/26/2014 1515

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 10/03/2014 0746 | PMM2 | | 57417 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| Benzene | 71-43-2 | 8260B | 0.37 | J | 1.0 | 0.13 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | 1.3 | | 1.0 | 0.40 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | 0.33 | J | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 102 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 93 | 70-130 | | | | | | | | |
| Toluene-d8 | | 96 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: GW-16

Matrix: Aqueous

Date Sampled: 09/26/2014 1250

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 10/03/2014 0807 | PMM2 | | 57417 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| Benzene | 71-43-2 | 8260B | 0.23 | J | 1.0 | 0.13 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | 2.0 | | 1.0 | 0.40 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | 0.83 | J | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 101 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 92 | 70-130 | | | | | | | | |
| Toluene-d8 | | 94 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

SHEALY ENVIRONMENTAL SERVICES, INC.



SHEALY ENVIRONMENTAL SERVICES, INC.
 106 Vantage Point Drive • West Columbia, SC 29172
 Telephone No. 803-791-9700 Fax No. 803-791-9111
 www.shealylab.com

Number 40761

| | | | |
|---|--|--|------------------------------|
| Client Retra-Tech Env. | Report to Contact Trevor Sklar | Telephone No. / E-mail tsklar@retratmtechenv.com | Quote No. |
| Address 435 E. North St. Ste 1108-202 City Greenville SC 29615 | Sampler's Signature | Analysis (Attach list if more space is needed) | Page 1 of 1 |
| Project Name Morris Oil Co | Sampler Name | Barcode PI30034 | Remarks / Cooler I.D. |
| Project No. 114-060-A | P.O. No. | | |
| Sample ID / Description (Containers for each sample may be combined on one list.) | Date | Time | Remarks / Cooler I.D. |
| GW-13 | 9/26/14 | 1320 | NO QA/QC |
| GW-12 | ↓ | 1300 | Streamy |
| GW-21 | ↓ | 1515 | OK |
| GW-16 | ↓ | 1250 | |

| | | |
|---|---|--|
| Turn Around Time Required (Prior lab approval required for expedited MAT.) <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush (Specify) | Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab | Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown |
| 1. Relinquished by | Date 9/30/14 | 1. Received by |
| 2. Relinquished by | Date | 2. Received by |
| 3. Relinquished by | Date | 3. Received by |
| 4. Relinquished by | Date 9/30/14 | 4. Laboratory received by |

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
 Returned on rec. (Circle) No Yes Pack Recaptor Temp. 1.5 °C

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
 Document Number: F-AD-016
 Revision Number: 15

Page 1 of 1
 Replaces Date: 03/07/14
 Effective Date: 07/15/14

Sample Receipt Checklist (SRC)

Client: Petra-Tech Cooler Inspected by/date: mam / 09/30/14 Lot #: 9130034

| | | |
|---|--|--|
| Means of receipt: <input checked="" type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Airborne Exp <input type="checkbox"/> Other | | |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 1. Were custody seals present on the cooler? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 2. If custody seals were present, were they intact and unbroken? |
| Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>1670 / 1.1 / 1.5</u> °C / / °C / / °C / / °C | | |
| Method: <input type="checkbox"/> Temperature Blank <input checked="" type="checkbox"/> Against Bottles IR Gun ID: # <u>3</u> IR Gun Correction Factor: <u>0.4</u> °C | | |
| Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.) |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 4. Is the commercial courier's packing slip attached to this form? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | 5. Were proper custody procedures (relinquished/received) followed? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 5a Were samples relinquished by client to commercial courier? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 6. Were sample IDs listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 7. Were sample IDs listed on all sample containers? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 8. Was collection date & time listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 9. Was collection date & time listed on all sample containers? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 10. Did all container label information (ID, date, time) agree with the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 11. Were tests to be performed listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 12. Did all samples arrive in the proper containers for each test? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 13. Did all containers arrive in good condition (unbroken, lids on, etc.)? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 14. Was adequate sample volume available? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 15. Were all samples received within ½ the holding time or 48 hours, whichever comes first? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 16. Were any samples containers missing? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 17. Were there any excess samples not listed on COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> 18. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 19. Were all metals/O&G/HEM/nutrient samples received at a pH of <2? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 20. Were all cyanide and/or sulfide samples received at a pH >12? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 21. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 22. Were collection temperatures documented on the COC for NC samples? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 23. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 24. Was the quote number used taken from the container label? |
| Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.) | | |
| Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) using SR # _____ | | |
| Sample(s) <u>001(2), 003(1)</u> were received with bubbles >6 mm in diameter. | | |
| Sample(s) _____ were received with TRC >0.2 mg/L (If #21 is No) | | |
| SC Drinking Water Project Sample(s) pH verified to be > 2 by _____ Date: _____ | | |
| Sample(s) _____ were not received at a pH of <2 and were adjusted accordingly using SR# _____ | | |
| Sample labels applied by: <u>mam</u> Verified by: <u>mam</u> Date: <u>9/30/14</u> | | |

Comments:

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Report of Analysis

Petra-Tech Environmental

2435 East North Street
Suite 1108-202
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Morris Oil**

Project Number: **J14-060-A**

Lot Number: **PI30036**

Date Completed: **10/10/2014**



Lucas Odom

Project Manager



This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

• • • • •

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative Petra-Tech Environmental Lot Number: PI30036

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary Petra-Tech Environmental Lot Number: PI30036

| Sample Number | Sample ID | Matrix | Date Sampled | Date Received |
|---------------|-----------|---------|-----------------|---------------|
| 001 | GW02 | Aqueous | 09/26/2014 1045 | 09/30/2014 |
| 002 | GW05 | Aqueous | 09/26/2014 1030 | 09/30/2014 |
| 003 | GW04 | Aqueous | 09/26/2014 1015 | 09/30/2014 |
| 004 | GW10 | Aqueous | 09/26/2014 1000 | 09/30/2014 |
| 005 | GW08 | Aqueous | 09/26/2014 1145 | 09/30/2014 |

(5 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary Petra-Tech Environmental Lot Number: PI30036

| Sample | Sample ID | Matrix | Parameter | Method | Result | Q | Units | Page |
|--------|-----------|---------|-----------------|--------|--------|---|-------|------|
| 001 | GW02 | Aqueous | Benzene | 8260B | 0.23 | J | ug/L | 5 |
| 003 | GW04 | Aqueous | Benzene | 8260B | 0.55 | J | ug/L | 7 |
| 003 | GW04 | Aqueous | Toluene | 8260B | 0.63 | J | ug/L | 7 |
| 003 | GW04 | Aqueous | Xylenes (total) | 8260B | 0.48 | J | ug/L | 7 |
| 005 | GW08 | Aqueous | Benzene | 8260B | 4.9 | J | ug/L | 9 |
| 005 | GW08 | Aqueous | Ethylbenzene | 8260B | 15 | | ug/L | 9 |
| 005 | GW08 | Aqueous | Naphthalene | 8260B | 190 | | ug/L | 9 |
| 005 | GW08 | Aqueous | Xylenes (total) | 8260B | 9.6 | | ug/L | 9 |

(8 detections)

Description: GW02

Matrix: Aqueous

Date Sampled: 09/26/2014 1045

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 10/07/2014 0718 | PMM2 | | 57642 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| Benzene | 71-43-2 | 8260B | 0.23 | J | 1.0 | 0.13 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 87 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 104 | 70-130 | | | | | | | | |
| Toluene-d8 | | 90 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: GW05

Matrix: Aqueous

Date Sampled: 09/26/2014 1030

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 10/07/2014 0740 | PMM2 | | 57642 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 87 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 102 | 70-130 | | | | | | | | |
| Toluene-d8 | | 88 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: GW04

Matrix: Aqueous

Date Sampled: 09/26/2014 1015

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 10/07/2014 0803 | PMM2 | | 57642 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| Benzene | 71-43-2 | 8260B | 0.55 | J | 1.0 | 0.13 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | 0.63 | J | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | 0.48 | J | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 87 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 102 | 70-130 | | | | | | | | |
| Toluene-d8 | | 91 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: GW10

Matrix: Aqueous

Date Sampled: 09/26/2014 1000

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-------|-----|--|
| 1 | 5030B | 8260B | 5 | 10/07/2014 0825 | PMM2 | | 57642 | | | |
| Parameter | | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| Benzene | | 71-43-2 | 8260B | ND | | 5.0 | 0.66 | ug/L | 1 | |
| 1,2-Dichloroethane | | 107-06-2 | 8260B | ND | | 5.0 | 0.74 | ug/L | 1 | |
| Ethylbenzene | | 100-41-4 | 8260B | ND | | 5.0 | 1.7 | ug/L | 1 | |
| Methyl tertiary butyl ether (MTBE) | | 1634-04-4 | 8260B | ND | | 5.0 | 2.0 | ug/L | 1 | |
| Naphthalene | | 91-20-3 | 8260B | ND | | 5.0 | 2.0 | ug/L | 1 | |
| Toluene | | 108-88-3 | 8260B | ND | | 5.0 | 1.7 | ug/L | 1 | |
| Xylenes (total) | | 1330-20-7 | 8260B | ND | | 5.0 | 1.7 | ug/L | 1 | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | |
| 1,2-Dichloroethane-d4 | | 87 | 70-130 | | | | | | | |
| Bromofluorobenzene | | 104 | 70-130 | | | | | | | |
| Toluene-d8 | | 92 | 70-130 | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: GW08

Matrix: Aqueous

Date Sampled: 09/26/2014 1145

Date Received: 09/30/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 5 | 10/07/2014 0848 | PMM2 | | 57642 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| Benzene | 71-43-2 | 8260B | 4.9 | J | 5.0 | 0.66 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 5.0 | 0.74 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | 15 | | 5.0 | 1.7 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 5.0 | 2.0 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | 190 | | 5.0 | 2.0 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 5.0 | 1.7 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | 9.6 | | 5.0 | 1.7 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 88 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 106 | 70-130 | | | | | | | | |
| Toluene-d8 | | 89 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

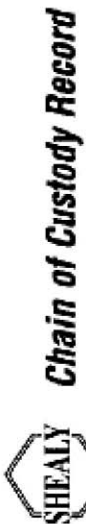
P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

SHEALY ENVIRONMENTAL SERVICES, INC.
 106 Vantage Point Drive • West Columbia, SC 29172
 Telephone No. 803-791-9700 Fax No. 803-791-9111
 www.shealylab.com

Number 40760



Client: **Delta-Tech Trever Slack**

Address: **2435 E. North St., Ste 1108-202 Greenville, SC 29615**

City: **Greenville** State: **SC** Zip Code: **29615**

Project Name: **Morris Oil**

Project No.: **514-060-A**

Sample ID / Description: **GW02**
 (Containers for each sample may be combined on one line.)

Date: **9/26/14** Time: **1015**

Date: **1030** Time: **1030**

Date: **1015** Time: **1015**

Date: **1000** Time: **1000**

Date: **1145** Time: **1145**

Telephone No. / E-mail: **803-791-9700 + N+11304**

Analysts (Attach list if more space is needed): **BTK+M 82603**

Report to Contact: **Trevor Z. Slack**

Sampler's Signature: *[Signature]*

Printed Name: **Trevor Z. Slack**

QC No.: **P130036**

Page: **1** of **1**

Barcode:

Remarks / Cooler I.D.: **NO QA/QC**

Remarks / Cooler I.D.: **Screening**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Remarks / Cooler I.D.: **only**

Turn Around Time Required (Prior lab approval required for expedited TAT): Standard Rush (Specify)

Sample Disposal: Return to Client Disposed by Lab

1. Requisitioned by: *[Signature]* Date: **9/26/14** Time: **1050**

2. Requisitioned by: *[Signature]* Date: **9/26/14** Time: **1050**

3. Requisitioned by: *[Signature]* Date: **9/26/14** Time: **1050**

4. Requisitioned by: *[Signature]* Date: **9/26/14** Time: **1050**

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

QC Requirements (Specify): **None**

Date: **9/26/14** Time: **1050**

Date: **9/26/14** Time: **1050**

Date: **9/26/14** Time: **1050**

Date: **9/26/14** Time: **1050**

Date: **9/26/14** Time: **1050**

Date: **9/26/14** Time: **1050**

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
 Document Number: F-AD-016
 Revision Number: 15

Page 1 of 1
 Replaces Date: 03/07/14
 Effective Date: 07/15/14

Sample Receipt Checklist (SRC)

Client: Relaxa-Tech Cooler Inspected by/date: mam / 09/30/14 Lot #: 9130036

| | | |
|---|--|--|
| Means of receipt: <input checked="" type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Airborne Exp <input type="checkbox"/> Other | | |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 1. Were custody seals present on the cooler? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 2. If custody seals were present, were they intact and unbroken? |
| Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>1670 / 1.1 / 1.5</u> °C / / °C / / °C / / °C | | |
| Method: <input type="checkbox"/> Temperature Blank <input checked="" type="checkbox"/> Against Bottles IR Gun ID: # <u>3</u> IR Gun Correction Factor: <u>0.1</u> °C | | |
| Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.) |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 4. Is the commercial courier's packing slip attached to this form? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 5. Were proper custody procedures (relinquished/received) followed? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 5a Were samples relinquished by client to commercial courier? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 6. Were sample IDs listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 7. Were sample IDs listed on all sample containers? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 8. Was collection date & time listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 9. Was collection date & time listed on all sample containers? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 10. Did all container label information (ID, date, time) agree with the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 11. Were tests to be performed listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 12. Did all samples arrive in the proper containers for each test? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 13. Did all containers arrive in good condition (unbroken, lids on, etc.)? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 14. Was adequate sample volume available? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 15. Were all samples received within ½ the holding time or 48 hours, whichever comes first? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 16. Were any samples containers missing? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 17. Were there any excess samples not listed on COC? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/> 18. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 19. Were all metals/O&G/HEM/nutrient samples received at a pH of <2? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 20. Were all cyanide and/or sulfide samples received at a pH >12? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 21. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 22. Were collection temperatures documented on the COC for NC samples? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 23. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 24. Was the quote number used taken from the container label? |
| Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.) | | |
| Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) using SR # _____ | | |
| Sample(s) _____ were received with bubbles >6 mm in diameter. | | |
| Sample(s) _____ were received with TRC >0.2 mg/L (If #21 is No) | | |
| SC Drinking Water Project Sample(s) pH verified to be > 2 by _____ Date: _____ | | |
| Sample(s) _____ were not received at a pH of <2 and were adjusted accordingly using SR# _____ | | |
| Sample labels applied by: <u>mam</u> Verified by: <u>mam</u> Date: <u>9/30/14</u> | | |

Comments: _____

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Report of Analysis

Petra-Tech Environmental

2435 East North Street
Suite 1108-202
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Morris Oil Co.**

Project Number: **J14-060-A**

Lot Number: **PK14059**

Date Completed: **11/28/2014**



Lucas Odom

Project Manager



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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

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SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative

Petra-Tech Environmental

Lot Number: PK14059

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary Petra-Tech Environmental Lot Number: PK14059

| Sample Number | Sample ID | Matrix | Date Sampled | Date Received |
|---------------|---------------|---------|-----------------|---------------|
| 001 | 08641-MW01 | Aqueous | 11/13/2014 1800 | 11/14/2014 |
| 002 | 08641-MW02 | Aqueous | 11/13/2014 1730 | 11/14/2014 |
| 003 | 08641-MW03 | Aqueous | 11/13/2014 1740 | 11/14/2014 |
| 004 | 08641-MW04 | Aqueous | 11/13/2014 1800 | 11/14/2014 |
| 005 | 08641-MW05 | Aqueous | 11/13/2014 | |
| 006 | 08641-MW06 | Aqueous | 11/13/2014 1530 | 11/14/2014 |
| 007 | 08641-MW07 | Aqueous | 11/13/2014 1600 | 11/14/2014 |
| 008 | 08641-MW08 | Aqueous | 11/13/2014 1720 | 11/14/2014 |
| 009 | 08641-MW09 | Aqueous | 11/13/2014 1700 | 11/14/2014 |
| 010 | 08641-MW10 | Aqueous | 11/13/2014 1430 | 11/14/2014 |
| 011 | 08641-MW11 | Aqueous | 11/13/2014 1450 | 11/14/2014 |
| 012 | 08641-MW12 | Aqueous | 11/13/2014 1330 | 11/14/2014 |
| 013 | 08641-MW13 | Aqueous | 11/13/2014 1540 | 11/14/2014 |
| 014 | 08641-MW14 | Aqueous | 11/13/2014 1500 | 11/14/2014 |
| 015 | 08641-MW15 | Aqueous | 11/13/2014 1620 | 11/14/2014 |
| 016 | 08641-MW16 | Aqueous | 11/13/2014 1530 | 11/14/2014 |
| 017 | 08641-MW17 | Aqueous | 11/13/2014 1245 | 11/14/2014 |
| 018 | SW01 | Aqueous | 11/14/2014 1115 | 11/14/2014 |
| 019 | Trip Blank 1 | Aqueous | 11/14/2014 | 11/14/2014 |
| 020 | Trip Blank 2 | Aqueous | 11/14/2014 | 11/14/2014 |
| 021 | Field Blank 1 | Aqueous | 11/13/2014 1349 | 11/14/2014 |
| 022 | 08641-MW18 | Aqueous | 11/13/2014 1340 | 11/14/2014 |
| 023 | 08641-MW19 | Aqueous | 11/13/2014 1620 | 11/14/2014 |
| 024 | 08641-MW20 | Aqueous | 11/13/2014 1350 | 11/14/2014 |
| 025 | 08641-MW21 | Aqueous | 11/13/2014 1400 | 11/14/2014 |
| 026 | 08641-MW22 | Aqueous | 11/13/2014 1430 | 11/14/2014 |
| 027 | Field Blank 2 | Aqueous | 11/14/2014 1120 | 11/14/2014 |
| 028 | Trip Blank 3 | Aqueous | 11/14/2014 | 11/14/2014 |
| 029 | 08641-MW3 DUP | Aqueous | 11/13/2014 1740 | 11/14/2014 |
| 030 | 08641-MW23 | Aqueous | 11/13/2014 1700 | 11/14/2014 |
| 031 | DUPB | Aqueous | 11/13/2014 1805 | 11/14/2014 |

(31 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary Petra-Tech Environmental Lot Number: PK14059

| Sample | Sample ID | Matrix | Parameter | Method | Result | Q | Units | Page |
|--------|------------|---------|------------------------------------|--------|--------|---|-------|------|
| 001 | 08641-MW01 | Aqueous | tert-Amyl alcohol (TAA) | 8260B | 350 | J | ug/L | 7 |
| 001 | 08641-MW01 | Aqueous | Benzene | 8260B | 710 | | ug/L | 7 |
| 001 | 08641-MW01 | Aqueous | Ethylbenzene | 8260B | 800 | | ug/L | 7 |
| 001 | 08641-MW01 | Aqueous | Naphthalene | 8260B | 350 | | ug/L | 7 |
| 001 | 08641-MW01 | Aqueous | Toluene | 8260B | 36 | | ug/L | 7 |
| 001 | 08641-MW01 | Aqueous | Xylenes (total) | 8260B | 790 | | ug/L | 7 |
| 001 | 08641-MW01 | Aqueous | Lead | 6010C | 0.014 | | mg/L | 7 |
| 002 | 08641-MW02 | Aqueous | Ethylbenzene | 8260B | 1.5 | | ug/L | 8 |
| 002 | 08641-MW02 | Aqueous | Naphthalene | 8260B | 1.9 | | ug/L | 8 |
| 002 | 08641-MW02 | Aqueous | Xylenes (total) | 8260B | 1.4 | | ug/L | 8 |
| 002 | 08641-MW02 | Aqueous | Lead | 6010C | 0.0031 | J | mg/L | 8 |
| 003 | 08641-MW03 | Aqueous | tert-Amyl alcohol (TAA) | 8260B | 370 | J | ug/L | 9 |
| 003 | 08641-MW03 | Aqueous | tert-Amyl methyl ether (TAME) | 8260B | 12 | J | ug/L | 9 |
| 003 | 08641-MW03 | Aqueous | Benzene | 8260B | 1900 | | ug/L | 9 |
| 003 | 08641-MW03 | Aqueous | Ethylbenzene | 8260B | 1200 | | ug/L | 9 |
| 003 | 08641-MW03 | Aqueous | Naphthalene | 8260B | 330 | | ug/L | 9 |
| 003 | 08641-MW03 | Aqueous | Toluene | 8260B | 150 | | ug/L | 9 |
| 003 | 08641-MW03 | Aqueous | Xylenes (total) | 8260B | 2200 | | ug/L | 9 |
| 003 | 08641-MW03 | Aqueous | Lead | 6010C | 0.0067 | J | mg/L | 9 |
| 004 | 08641-MW04 | Aqueous | Benzene | 8260B | 2100 | | ug/L | 10 |
| 004 | 08641-MW04 | Aqueous | Ethylbenzene | 8260B | 2400 | | ug/L | 10 |
| 004 | 08641-MW04 | Aqueous | Naphthalene | 8260B | 1400 | | ug/L | 10 |
| 004 | 08641-MW04 | Aqueous | Toluene | 8260B | 730 | | ug/L | 10 |
| 004 | 08641-MW04 | Aqueous | Xylenes (total) | 8260B | 7100 | | ug/L | 10 |
| 004 | 08641-MW04 | Aqueous | Lead | 6010C | 0.72 | | mg/L | 10 |
| 006 | 08641-MW06 | Aqueous | tert-Amyl alcohol (TAA) | 8260B | 580 | | ug/L | 11 |
| 006 | 08641-MW06 | Aqueous | tert-Amyl methyl ether (TAME) | 8260B | 17 | | ug/L | 11 |
| 006 | 08641-MW06 | Aqueous | Benzene | 8260B | 5.2 | | ug/L | 11 |
| 006 | 08641-MW06 | Aqueous | Diisopropyl ether (IPE) | 8260B | 6.0 | | ug/L | 11 |
| 006 | 08641-MW06 | Aqueous | Ethylbenzene | 8260B | 78 | | ug/L | 11 |
| 006 | 08641-MW06 | Aqueous | Methyl tertiary butyl ether (MTBE) | 8260B | 0.64 | J | ug/L | 11 |
| 006 | 08641-MW06 | Aqueous | Naphthalene | 8260B | 23 | | ug/L | 11 |
| 006 | 08641-MW06 | Aqueous | tert-butyl alcohol (TBA) | 8260B | 25 | | ug/L | 11 |
| 006 | 08641-MW06 | Aqueous | Toluene | 8260B | 0.48 | J | ug/L | 11 |
| 006 | 08641-MW06 | Aqueous | Xylenes (total) | 8260B | 60 | | ug/L | 11 |
| 006 | 08641-MW06 | Aqueous | Lead | 6010C | 0.0067 | J | mg/L | 11 |
| 007 | 08641-MW07 | Aqueous | Benzene | 8260B | 2.5 | | ug/L | 12 |
| 007 | 08641-MW07 | Aqueous | Ethylbenzene | 8260B | 4.0 | | ug/L | 12 |
| 007 | 08641-MW07 | Aqueous | Naphthalene | 8260B | 36 | | ug/L | 12 |
| 007 | 08641-MW07 | Aqueous | Xylenes (total) | 8260B | 3.4 | | ug/L | 12 |
| 007 | 08641-MW07 | Aqueous | Lead | 6010C | 0.0096 | J | mg/L | 12 |
| 008 | 08641-MW08 | Aqueous | Benzene | 8260B | 13 | | ug/L | 13 |
| 008 | 08641-MW08 | Aqueous | Ethylbenzene | 8260B | 830 | | ug/L | 13 |
| 008 | 08641-MW08 | Aqueous | Naphthalene | 8260B | 540 | | ug/L | 13 |
| 008 | 08641-MW08 | Aqueous | Toluene | 8260B | 44 | | ug/L | 13 |

Executive Summary (Continued)

Lot Number: PK14059

| Sample ID | Sample ID | Matrix | Parameter | Method | Result | Q | Units | Page |
|-----------|---------------|---------|-------------------------------|--------|--------|---|-------|------|
| 008 | 08641-MW08 | Aqueous | Xylenes (total) | 8260B | 2800 | | ug/L | 13 |
| 008 | 08641-MW08 | Aqueous | 1,2-Dibromoethane (EDB) | 8011 | 0.046 | | ug/L | 13 |
| 008 | 08641-MW08 | Aqueous | Lead | 6010C | 0.010 | | mg/L | 13 |
| 009 | 08641-MW09 | Aqueous | tert-Amyl alcohol (TAA) | 8260B | 48 | J | ug/L | 14 |
| 009 | 08641-MW09 | Aqueous | Benzene | 8260B | 56 | | ug/L | 14 |
| 009 | 08641-MW09 | Aqueous | Ethylbenzene | 8260B | 170 | | ug/L | 14 |
| 009 | 08641-MW09 | Aqueous | Naphthalene | 8260B | 210 | | ug/L | 14 |
| 009 | 08641-MW09 | Aqueous | Toluene | 8260B | 5.7 | | ug/L | 14 |
| 009 | 08641-MW09 | Aqueous | Xylenes (total) | 8260B | 130 | | ug/L | 14 |
| 009 | 08641-MW09 | Aqueous | Lead | 6010C | 0.0040 | J | mg/L | 14 |
| 010 | 08641-MW10 | Aqueous | Lead | 6010C | 0.0031 | J | mg/L | 15 |
| 011 | 08641-MW11 | Aqueous | Lead | 6010C | 0.0050 | J | mg/L | 16 |
| 012 | 08641-MW12 | Aqueous | Lead | 6010C | 0.0046 | J | mg/L | 17 |
| 013 | 08641-MW13 | Aqueous | Lead | 6010C | 0.0034 | J | mg/L | 18 |
| 014 | 08641-MW14 | Aqueous | Lead | 6010C | 0.013 | | mg/L | 19 |
| 015 | 08641-MW15 | Aqueous | Benzene | 8260B | 1.0 | | ug/L | 20 |
| 015 | 08641-MW15 | Aqueous | Ethylbenzene | 8260B | 57 | | ug/L | 20 |
| 015 | 08641-MW15 | Aqueous | Naphthalene | 8260B | 38 | | ug/L | 20 |
| 015 | 08641-MW15 | Aqueous | Toluene | 8260B | 0.36 | J | ug/L | 20 |
| 015 | 08641-MW15 | Aqueous | Xylenes (total) | 8260B | 47 | | ug/L | 20 |
| 015 | 08641-MW15 | Aqueous | Lead | 6010C | 0.0094 | J | mg/L | 20 |
| 016 | 08641-MW16 | Aqueous | Lead | 6010C | 0.0036 | J | mg/L | 21 |
| 017 | 08641-MW17 | Aqueous | Xylenes (total) | 8260B | 0.41 | J | ug/L | 22 |
| 017 | 08641-MW17 | Aqueous | Lead | 6010C | 0.0040 | J | mg/L | 22 |
| 022 | 08641-MW18 | Aqueous | Lead | 6010C | 0.0037 | J | mg/L | 27 |
| 023 | 08641-MW19 | Aqueous | tert-Amyl alcohol (TAA) | 8260B | 220 | | ug/L | 28 |
| 023 | 08641-MW19 | Aqueous | Benzene | 8260B | 17 | | ug/L | 28 |
| 023 | 08641-MW19 | Aqueous | Ethylbenzene | 8260B | 320 | | ug/L | 28 |
| 023 | 08641-MW19 | Aqueous | Naphthalene | 8260B | 140 | | ug/L | 28 |
| 023 | 08641-MW19 | Aqueous | Toluene | 8260B | 5.9 | | ug/L | 28 |
| 023 | 08641-MW19 | Aqueous | Xylenes (total) | 8260B | 60 | | ug/L | 28 |
| 023 | 08641-MW19 | Aqueous | Lead | 6010C | 0.0037 | J | mg/L | 28 |
| 024 | 08641-MW20 | Aqueous | Lead | 6010C | 0.0036 | J | mg/L | 29 |
| 025 | 08641-MW21 | Aqueous | Lead | 6010C | 0.0068 | J | mg/L | 30 |
| 026 | 08641-MW22 | Aqueous | Lead | 6010C | 0.0028 | J | mg/L | 31 |
| 029 | 08641-MW3 DUP | Aqueous | tert-Amyl alcohol (TAA) | 8260B | 400 | J | ug/L | 34 |
| 029 | 08641-MW3 DUP | Aqueous | tert-Amyl methyl ether (TAME) | 8260B | 11 | J | ug/L | 34 |
| 029 | 08641-MW3 DUP | Aqueous | Benzene | 8260B | 1900 | | ug/L | 34 |
| 029 | 08641-MW3 DUP | Aqueous | Ethylbenzene | 8260B | 1200 | | ug/L | 34 |
| 029 | 08641-MW3 DUP | Aqueous | Naphthalene | 8260B | 310 | | ug/L | 34 |
| 029 | 08641-MW3 DUP | Aqueous | Toluene | 8260B | 150 | | ug/L | 34 |
| 029 | 08641-MW3 DUP | Aqueous | Xylenes (total) | 8260B | 2300 | | ug/L | 34 |
| 029 | 08641-MW3 DUP | Aqueous | Lead | 6010C | 0.0070 | J | mg/L | 34 |
| 030 | 08641-MW23 | Aqueous | Ethylbenzene | 8260B | 2.6 | | ug/L | 35 |
| 030 | 08641-MW23 | Aqueous | Xylenes (total) | 8260B | 2.6 | | ug/L | 35 |
| 030 | 08641-MW23 | Aqueous | Lead | 6010C | 0.011 | | mg/L | 35 |
| 031 | DUPB | Aqueous | Benzene | 8260B | 1300 | | ug/L | 36 |
| 031 | DUPB | Aqueous | Ethylbenzene | 8260B | 1800 | | ug/L | 36 |

Executive Summary (Continued)

Lot Number: PK14059

| Sample | Sample ID | Matrix | Parameter | Method | Result | Q | Units | Page |
|--------|-----------|---------|-----------------|--------|--------|---|-------|------|
| 031 | DUPB | Aqueous | Naphthalene | 8260B | 590 | | ug/L | 36 |
| 031 | DUPB | Aqueous | Toluene | 8260B | 510 | | ug/L | 36 |
| 031 | DUPB | Aqueous | Xylenes (total) | 8260B | 5300 | | ug/L | 36 |
| 031 | DUPB | Aqueous | Lead | 6010C | 0.066 | | mg/L | 36 |

(97 detections)

Description: 08641-MW01

Matrix: Aqueous

Date Sampled: 11/13/2014 1800

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|------------------------------------|------------------|-------------------|-------------------|-----------------|-----------|------------|-------------|----------|--|--|
| 1 | 5030B | 8260B | 20 | 11/18/2014 1532 | EH1 | | 61110 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | 350 | J | 400 | 130 | ug/L | 1 | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 200 | 4.0 | ug/L | 1 | | |
| Benzene | 71-43-2 | 8260B | 710 | | 20 | 2.6 | ug/L | 1 | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 100 | 20 | ug/L | 1 | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 20 | 2.9 | ug/L | 1 | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 20 | 8.0 | ug/L | 1 | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 400 | 20 | ug/L | 1 | | |
| Ethanol | 64-17-5 | 8260B | ND | | 2000 | 660 | ug/L | 1 | | |
| Ethylbenzene | 100-41-4 | 8260B | 800 | | 20 | 6.6 | ug/L | 1 | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 20 | 4.0 | ug/L | 1 | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 20 | 8.0 | ug/L | 1 | | |
| Naphthalene | 91-20-3 | 8260B | 350 | | 20 | 8.0 | ug/L | 1 | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 400 | 130 | ug/L | 1 | | |
| Toluene | 108-88-3 | 8260B | 36 | | 20 | 6.6 | ug/L | 1 | | |
| Xylenes (total) | 1330-20-7 | 8260B | 790 | | 20 | 6.6 | ug/L | 1 | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 8011 | 8011 | 1 | 11/18/2014 2301 | MEM | 11/18/2014 0933 | 61092 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 89 | 57-137 | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-------------|------------------|-------------------|--------------|-----------------|--------------|-----------------|-------------|----------|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1410 | FTS | 11/17/2014 1030 | 61019 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.014 | | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW02

Matrix: Aqueous

Date Sampled: 11/13/2014 1730

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|------------------|-------------------|-------------------|-----------------|------------|-------------|-------------|----------|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1210 | EH1 | | 61110 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | 1.5 | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | 1.9 | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | 1.4 | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 93 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/18/2014 2311 | MEM | 11/18/2014 0933 | 61092 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.020 | 0.020 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 95 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-------------|------------------|-------------------|---------------|-----------------|--------------|-----------------|-------------|----------|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1413 | FTS | 11/17/2014 1030 | 61019 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0031 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW03

Matrix: Aqueous

Date Sampled: 11/13/2014 1740

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 50 | 11/18/2014 1555 | EH1 | | 61110 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | 370 | J | 1000 | 340 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | 12 | J | 500 | 10 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | 1900 | | 50 | 6.6 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 250 | 50 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 50 | 7.4 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 50 | 20 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 1000 | 50 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 5000 | 1700 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | 1200 | | 50 | 17 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 50 | 10 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 50 | 20 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | 330 | | 50 | 20 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 1000 | 340 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | 150 | | 50 | 17 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | 2200 | | 50 | 17 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 91 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 97 | 70-130 | | | | | | | | |
| Toluene-d8 | | 96 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/18/2014 2322 | MEM | 11/18/2014 0933 | 61092 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.020 | 0.020 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 110 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1416 | FTS | 11/17/2014 1030 | 61019 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0067 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW04

Matrix: Aqueous

Date Sampled: 11/13/2014 1800

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|------------------------------------|------------------|-------------------|-------------------|-----------------|-----------|------------|-------------|----------|--|
| 2 | 5030B | 8260B | 50 | 11/20/2014 1616 | EH1 | | 61343 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 1000 | 340 | ug/L | 2 | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 500 | 10 | ug/L | 2 | |
| Benzene | 71-43-2 | 8260B | 2100 | | 50 | 6.6 | ug/L | 2 | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 250 | 50 | ug/L | 2 | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 50 | 7.4 | ug/L | 2 | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 50 | 20 | ug/L | 2 | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 1000 | 50 | ug/L | 2 | |
| Ethanol | 64-17-5 | 8260B | ND | | 5000 | 1700 | ug/L | 2 | |
| Ethylbenzene | 100-41-4 | 8260B | 2400 | | 50 | 17 | ug/L | 2 | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 50 | 10 | ug/L | 2 | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 50 | 20 | ug/L | 2 | |
| Naphthalene | 91-20-3 | 8260B | 1400 | | 50 | 20 | ug/L | 2 | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 1000 | 340 | ug/L | 2 | |
| Toluene | 108-88-3 | 8260B | 730 | | 50 | 17 | ug/L | 2 | |
| Xylenes (total) | 1330-20-7 | 8260B | 7100 | | 50 | 17 | ug/L | 2 | |
| Surrogate | Q | Run 2 % Recovery | Acceptance Limits | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | |
| Bromofluorobenzene | | 95 | 70-130 | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|
| 1 | 8011 | 8011 | 1 | 11/18/2014 2332 | MEM | 11/18/2014 0933 | 61092 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 73 | 57-137 | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|-------------|------------------|-------------------|-------------|-----------------|--------------|-----------------|-------------|----------|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1425 | FTS | 11/17/2014 1030 | 61019 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| Lead | 7439-92-1 | 6010C | 0.72 | | 0.010 | 0.0019 | mg/L | 1 | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW06

Matrix: Aqueous

Date Sampled: 11/13/2014 1530

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 2 | 5030B | 8260B | 1 | 11/26/2014 2300 | PMM2 | | 61849 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | 580 | | 20 | 6.7 | ug/L | 2 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | 17 | | 10 | 0.20 | ug/L | 2 | | | |
| Benzene | 71-43-2 | 8260B | 5.2 | | 1.0 | 0.13 | ug/L | 2 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 2 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 2 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | 6.0 | | 1.0 | 0.40 | ug/L | 2 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 2 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 2 | | | |
| Ethylbenzene | 100-41-4 | 8260B | 78 | | 1.0 | 0.33 | ug/L | 2 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 2 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | 0.64 | J | 1.0 | 0.40 | ug/L | 2 | | | |
| Naphthalene | 91-20-3 | 8260B | 23 | | 1.0 | 0.40 | ug/L | 2 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | 25 | | 20 | 6.7 | ug/L | 2 | | | |
| Toluene | 108-88-3 | 8260B | 0.48 | J | 1.0 | 0.33 | ug/L | 2 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | 60 | | 1.0 | 0.33 | ug/L | 2 | | | |
| Surrogate | Q | Run 2 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 88 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 97 | 70-130 | | | | | | | | |
| Toluene-d8 | | 93 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/18/2014 2342 | MEM | 11/18/2014 0933 | 61092 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.020 | 0.020 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 98 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1427 | FTS | 11/17/2014 1030 | 61019 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0067 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW07

Matrix: Aqueous

Date Sampled: 11/13/2014 1600

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|------------------------------------|------------------|-------------------|-------------------|-----------------|------------|-------------|-------------|----------|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1814 | EH1 | | 61110 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | |
| Benzene | 71-43-2 | 8260B | 2.5 | | 1.0 | 0.13 | ug/L | 1 | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | |
| Ethylbenzene | 100-41-4 | 8260B | 4.0 | | 1.0 | 0.33 | ug/L | 1 | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | |
| Naphthalene | 91-20-3 | 8260B | 36 | | 1.0 | 0.40 | ug/L | 1 | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | |
| Xylenes (total) | 1330-20-7 | 8260B | 3.4 | | 1.0 | 0.33 | ug/L | 1 | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | |
| 1,2-Dichloroethane-d4 | | 91 | 70-130 | | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | | |
| Toluene-d8 | | 92 | 70-130 | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 8011 | 8011 | 1 | 11/18/2014 2352 | MEM | 11/18/2014 0933 | 61092 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 93 | 57-137 | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-------------|------------------|-------------------|---------------|-----------------|--------------|-----------------|-------------|----------|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1430 | FTS | 11/17/2014 1030 | 61019 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0096 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW08

Matrix: Aqueous

Date Sampled: 11/13/2014 1720

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|------------------------------------|------------------|-------------------|-------------------|-----------------|-----------|------------|-------------|----------|--|
| 2 | 5030B | 8260B | 10 | 11/27/2014 0245 | PMM2 | | 61849 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 200 | 67 | ug/L | 2 | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 100 | 2.0 | ug/L | 2 | |
| Benzene | 71-43-2 | 8260B | 13 | | 10 | 1.3 | ug/L | 2 | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 50 | 10 | ug/L | 2 | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 10 | 1.5 | ug/L | 2 | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 10 | 4.0 | ug/L | 2 | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 200 | 10 | ug/L | 2 | |
| Ethanol | 64-17-5 | 8260B | ND | | 1000 | 330 | ug/L | 2 | |
| Ethylbenzene | 100-41-4 | 8260B | 830 | | 10 | 3.3 | ug/L | 2 | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 10 | 2.0 | ug/L | 2 | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 10 | 4.0 | ug/L | 2 | |
| Naphthalene | 91-20-3 | 8260B | 540 | | 10 | 4.0 | ug/L | 2 | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 200 | 67 | ug/L | 2 | |
| Toluene | 108-88-3 | 8260B | 44 | | 10 | 3.3 | ug/L | 2 | |
| Xylenes (total) | 1330-20-7 | 8260B | 2800 | | 10 | 3.3 | ug/L | 2 | |
| Surrogate | Q | Run 2 % Recovery | Acceptance Limits | | | | | | |
| 1,2-Dichloroethane-d4 | | 88 | 70-130 | | | | | | |
| Bromofluorobenzene | | 95 | 70-130 | | | | | | |
| Toluene-d8 | | 96 | 70-130 | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|--------------------------------|-----------------|-------------------|-------------------|-----------------|--------------|-----------------|-------------|----------|--|
| 1 | 8011 | 8011 | 1 | 11/19/2014 0003 | MEM | 11/18/2014 0933 | 61092 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | 0.046 | | 0.020 | 0.020 | ug/L | 1 | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 71 | 57-137 | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|-------------|------------------|-------------------|--------------|-----------------|--------------|-----------------|-------------|----------|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1433 | FTS | 11/17/2014 1030 | 61019 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| Lead | 7439-92-1 | 6010C | 0.010 | | 0.010 | 0.0019 | mg/L | 1 | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW09

Matrix: Aqueous

Date Sampled: 11/13/2014 1700

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|------------------------------------|------------------|-------------------|-------------------|-----------------|------------|-------------|-------------|----------|--|
| 2 | 5030B | 8260B | 5 | 11/27/2014 0308 | PMM2 | | 61849 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | 48 | J | 100 | 34 | ug/L | 2 | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 50 | 1.0 | ug/L | 2 | |
| Benzene | 71-43-2 | 8260B | 56 | | 5.0 | 0.66 | ug/L | 2 | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 25 | 5.0 | ug/L | 2 | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 5.0 | 0.74 | ug/L | 2 | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 5.0 | 2.0 | ug/L | 2 | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 100 | 5.0 | ug/L | 2 | |
| Ethanol | 64-17-5 | 8260B | ND | | 500 | 170 | ug/L | 2 | |
| Ethylbenzene | 100-41-4 | 8260B | 170 | | 5.0 | 1.7 | ug/L | 2 | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 5.0 | 1.0 | ug/L | 2 | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 5.0 | 2.0 | ug/L | 2 | |
| Naphthalene | 91-20-3 | 8260B | 210 | | 5.0 | 2.0 | ug/L | 2 | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 100 | 34 | ug/L | 2 | |
| Toluene | 108-88-3 | 8260B | 5.7 | | 5.0 | 1.7 | ug/L | 2 | |
| Xylenes (total) | 1330-20-7 | 8260B | 130 | | 5.0 | 1.7 | ug/L | 2 | |
| Surrogate | Q | Run 2 % Recovery | Acceptance Limits | | | | | | |
| 1,2-Dichloroethane-d4 | | 89 | 70-130 | | | | | | |
| Bromofluorobenzene | | 94 | 70-130 | | | | | | |
| Toluene-d8 | | 94 | 70-130 | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|
| 1 | 8011 | 8011 | 1 | 11/19/2014 0013 | MEM | 11/18/2014 0933 | 61092 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.020 | 0.020 | ug/L | 1 | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 86 | 57-137 | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1436 | FTS | 11/17/2014 1030 | 61019 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| Lead | 7439-92-1 | 6010C | 0.0040 | J | 0.010 | 0.0019 | mg/L | 1 | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW10

Matrix: Aqueous

Date Sampled: 11/13/2014 1430

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1232 | EH1 | | 61110 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 97 | 70-130 | | | | | | | | |
| Toluene-d8 | | 94 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 0920 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.020 | 0.020 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 83 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1439 | FTS | 11/17/2014 1030 | 61019 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0031 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW11

Matrix: Aqueous

Date Sampled: 11/13/2014 1450

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1255 | EH1 | | 61110 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | |
| Toluene-d8 | | 94 | 70-130 | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 0931 | MEM | 11/19/2014 1448 | 61246 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.020 | 0.020 | ug/L | 1 | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 106 | 57-137 | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1441 | FTS | 11/17/2014 1030 | 61019 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| Lead | 7439-92-1 | 6010C | 0.0050 | J | 0.010 | 0.0019 | mg/L | 1 | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW12

Matrix: Aqueous

Date Sampled: 11/13/2014 1330

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1317 | EH1 | | 61110 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 91 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | | | |
| Toluene-d8 | | 94 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 0941 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.020 | 0.020 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 107 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1444 | FTS | 11/17/2014 1030 | 61019 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0046 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW13

Matrix: Aqueous

Date Sampled: 11/13/2014 1540

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1340 | EH1 | | 61110 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 91 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 95 | 70-130 | | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1012 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.020 | 0.020 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 100 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1447 | FTS | 11/17/2014 1030 | 61019 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0034 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW14

Matrix: Aqueous

Date Sampled: 11/13/2014 1500

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1402 | EH1 | | 61110 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 93 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 97 | 70-130 | | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1023 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 96 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1450 | FTS | 11/17/2014 1030 | 61019 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.013 | | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW15

Matrix: Aqueous

Date Sampled: 11/13/2014 1620

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|------------------------------------|------------------|-------------------|-------------------|-----------------|------------|-------------|-------------|----------|--|
| 2 | 5030B | 8260B | 1 | 11/26/2014 2323 | PMM2 | | 61849 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 2 | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 2 | |
| Benzene | 71-43-2 | 8260B | 1.0 | | 1.0 | 0.13 | ug/L | 2 | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 2 | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 2 | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 2 | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 2 | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 2 | |
| Ethylbenzene | 100-41-4 | 8260B | 57 | | 1.0 | 0.33 | ug/L | 2 | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 2 | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 2 | |
| Naphthalene | 91-20-3 | 8260B | 38 | | 1.0 | 0.40 | ug/L | 2 | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 2 | |
| Toluene | 108-88-3 | 8260B | 0.36 | J | 1.0 | 0.33 | ug/L | 2 | |
| Xylenes (total) | 1330-20-7 | 8260B | 47 | | 1.0 | 0.33 | ug/L | 2 | |
| Surrogate | Q | Run 2 % Recovery | Acceptance Limits | | | | | | |
| 1,2-Dichloroethane-d4 | | 85 | 70-130 | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | |
| Toluene-d8 | | 93 | 70-130 | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1033 | MEM | 11/19/2014 1448 | 61246 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.020 | 0.020 | ug/L | 1 | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 98 | 57-137 | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|-------------|------------------|-------------------|---------------|-----------------|--------------|-----------------|-------------|----------|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1459 | FTS | 11/17/2014 1030 | 61019 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| Lead | 7439-92-1 | 6010C | 0.0094 | J | 0.010 | 0.0019 | mg/L | 1 | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW16

Matrix: Aqueous

Date Sampled: 11/13/2014 1530

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1425 | EH1 | | 61110 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | | | |
| Toluene-d8 | | 96 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1043 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 100 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1501 | FTS | 11/17/2014 1030 | 61019 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0036 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW17

Matrix: Aqueous

Date Sampled: 11/13/2014 1245

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1447 | EH1 | | 61110 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | |
| Xylenes (total) | 1330-20-7 | 8260B | 0.41 | J | 1.0 | 0.33 | ug/L | 1 | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1053 | MEM | 11/19/2014 1448 | 61246 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 106 | 57-137 | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1504 | FTS | 11/17/2014 1030 | 61019 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| Lead | 7439-92-1 | 6010C | 0.0040 | J | 0.010 | 0.0019 | mg/L | 1 | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: SW01

Matrix: Aqueous

Date Sampled: 11/14/2014 1115

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1510 | EH1 | | 61110 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 97 | 70-130 | | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1104 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 111 | 57-137 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: Trip Blank 1

Matrix: Aqueous

Date Sampled: 11/14/2014

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1102 | EH1 | | 61110 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 91 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 97 | 70-130 | | | | | | | | |
| Toluene-d8 | | 96 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: Trip Blank 2

Matrix: Aqueous

Date Sampled: 11/14/2014

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1125 | EH1 | | 61110 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: Field Blank 1

Matrix: Aqueous

Date Sampled: 11/13/2014 1349

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 1147 | EH1 | | 61110 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1114 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.020 | 0.020 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 101 | 57-137 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW18

Matrix: Aqueous

Date Sampled: 11/13/2014 1340

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 2231 | PMM2 | | 61192 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 93 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | | | |
| Toluene-d8 | | 97 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1124 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 104 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1619 | FTS | 11/18/2014 1133 | 61082 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0037 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW19

Matrix: Aqueous

Date Sampled: 11/13/2014 1620

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|------------------------------------|------------------|-------------------|-------------------|-----------------|------------|-------------|-------------|----------|--|--|
| 1 | 5030B | 8260B | 5 | 11/19/2014 0109 | PMM2 | | 61192 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | 220 | | 100 | 34 | ug/L | 1 | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 50 | 1.0 | ug/L | 1 | | |
| Benzene | 71-43-2 | 8260B | 17 | | 5.0 | 0.66 | ug/L | 1 | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 25 | 5.0 | ug/L | 1 | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 5.0 | 0.74 | ug/L | 1 | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 5.0 | 2.0 | ug/L | 1 | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 100 | 5.0 | ug/L | 1 | | |
| Ethanol | 64-17-5 | 8260B | ND | | 500 | 170 | ug/L | 1 | | |
| Ethylbenzene | 100-41-4 | 8260B | 320 | | 5.0 | 1.7 | ug/L | 1 | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 5.0 | 2.0 | ug/L | 1 | | |
| Naphthalene | 91-20-3 | 8260B | 140 | | 5.0 | 2.0 | ug/L | 1 | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 100 | 34 | ug/L | 1 | | |
| Toluene | 108-88-3 | 8260B | 5.9 | | 5.0 | 1.7 | ug/L | 1 | | |
| Xylenes (total) | 1330-20-7 | 8260B | 60 | | 5.0 | 1.7 | ug/L | 1 | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | | |
| Bromofluorobenzene | | 97 | 70-130 | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1135 | MEM | 11/19/2014 1448 | 61246 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 99 | 57-137 | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-------------|------------------|-------------------|---------------|-----------------|--------------|-----------------|-------------|----------|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1631 | FTS | 11/18/2014 1133 | 61082 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0037 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW20

Matrix: Aqueous

Date Sampled: 11/13/2014 1350

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 2254 | PMM2 | | 61192 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/21/2014 1103 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 103 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/23/2014 1637 | FTS | 11/18/2014 1133 | 61082 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0036 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW21

Matrix: Aqueous

Date Sampled: 11/13/2014 1400

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 2316 | PMM2 | | 61192 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 93 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | | | |
| Toluene-d8 | | 96 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1152 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 107 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/24/2014 1004 | FTS | 11/18/2014 1133 | 61082 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0068 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW22

Matrix: Aqueous

Date Sampled: 11/13/2014 1430

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 2339 | PMM2 | | 61192 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 93 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 97 | 70-130 | | | | | | | | |
| Toluene-d8 | | 97 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1203 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 102 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/24/2014 1007 | FTS | 11/18/2014 1133 | 61082 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0028 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: Field Blank 2

Matrix: Aqueous

Date Sampled: 11/14/2014 1120

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 2146 | PMM2 | | 61192 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 97 | 70-130 | | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1213 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.020 | 0.020 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 101 | 57-137 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: Trip Blank 3

Matrix: Aqueous

Date Sampled: 11/14/2014

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/18/2014 2209 | PMM2 | | 61192 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 89 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW3 DUP

Matrix: Aqueous

Date Sampled: 11/13/2014 1740

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|
| 1 | 5030B | 8260B | 50 | 11/18/2014 1617 | EH1 | | 61110 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | 400 | J | 1000 | 340 | ug/L | 1 | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | 11 | J | 500 | 10 | ug/L | 1 | | |
| Benzene | 71-43-2 | 8260B | 1900 | | 50 | 6.6 | ug/L | 1 | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 250 | 50 | ug/L | 1 | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 50 | 7.4 | ug/L | 1 | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 50 | 20 | ug/L | 1 | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 1000 | 50 | ug/L | 1 | | |
| Ethanol | 64-17-5 | 8260B | ND | | 5000 | 1700 | ug/L | 1 | | |
| Ethylbenzene | 100-41-4 | 8260B | 1200 | | 50 | 17 | ug/L | 1 | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 50 | 10 | ug/L | 1 | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 50 | 20 | ug/L | 1 | | |
| Naphthalene | 91-20-3 | 8260B | 310 | | 50 | 20 | ug/L | 1 | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 1000 | 340 | ug/L | 1 | | |
| Toluene | 108-88-3 | 8260B | 150 | | 50 | 17 | ug/L | 1 | | |
| Xylenes (total) | 1330-20-7 | 8260B | 2300 | | 50 | 17 | ug/L | 1 | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | |
| 1,2-Dichloroethane-d4 | | 91 | 70-130 | | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | | |
| Toluene-d8 | | 96 | 70-130 | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1223 | MEM | 11/19/2014 1448 | 61246 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 87 | 57-137 | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/24/2014 1010 | FTS | 11/18/2014 1133 | 61082 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.0070 | J | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW23

Matrix: Aqueous

Date Sampled: 11/13/2014 1700

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|------------------|-------------------|-------------------|-----------------|------------|-------------|-------------|----------|--|--|--|
| 1 | 5030B | 8260B | 1 | 11/19/2014 0001 | PMM2 | | 61192 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | 2.6 | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | 2.6 | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 97 | 70-130 | | | | | | | | |
| Toluene-d8 | | 96 | 70-130 | | | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|--|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1234 | MEM | 11/19/2014 1448 | 61246 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.020 | 0.020 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 112 | 57-137 | | | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | |
|-----------|-------------|-------------------|----------|-----------------|---------|-----------------|-------|-----|--|--|
| 1 | 3005A | 6010C | 1 | 11/24/2014 1012 | FTS | 11/18/2014 1133 | 61082 | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | |
| Lead | 7439-92-1 | 6010C | 0.011 | | 0.010 | 0.0019 | mg/L | 1 | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: DUPB

Matrix: Aqueous

Date Sampled: 11/13/2014 1805

Date Received: 11/14/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|------------------------------------|------------------|-------------------|-------------------|-----------------|-----------|------------|-------------|----------|--|
| 2 | 5030B | 8260B | 50 | 11/20/2014 1638 | EH1 | | 61343 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 1000 | 340 | ug/L | 2 | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 500 | 10 | ug/L | 2 | |
| Benzene | 71-43-2 | 8260B | 1300 | | 50 | 6.6 | ug/L | 2 | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 250 | 50 | ug/L | 2 | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 50 | 7.4 | ug/L | 2 | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 50 | 20 | ug/L | 2 | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 1000 | 50 | ug/L | 2 | |
| Ethanol | 64-17-5 | 8260B | ND | | 5000 | 1700 | ug/L | 2 | |
| Ethylbenzene | 100-41-4 | 8260B | 1800 | | 50 | 17 | ug/L | 2 | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 50 | 10 | ug/L | 2 | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 50 | 20 | ug/L | 2 | |
| Naphthalene | 91-20-3 | 8260B | 590 | | 50 | 20 | ug/L | 2 | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 1000 | 340 | ug/L | 2 | |
| Toluene | 108-88-3 | 8260B | 510 | | 50 | 17 | ug/L | 2 | |
| Xylenes (total) | 1330-20-7 | 8260B | 5300 | | 50 | 17 | ug/L | 2 | |
| Surrogate | Q | Run 2 % Recovery | Acceptance Limits | | | | | | |
| 1,2-Dichloroethane-d4 | | 90 | 70-130 | | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | | |
| Toluene-d8 | | 96 | 70-130 | | | | | | |

EDB & DBCP by Microextraction

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|---------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------------|-------|-----|--|
| 1 | 8011 | 8011 | 1 | 11/20/2014 1244 | MEM | 11/19/2014 1448 | 61246 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 8011 | ND | | 0.019 | 0.019 | ug/L | 1 | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 129 | 57-137 | | | | | | |

ICP-AES

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | |
|-------------|------------------|-------------------|--------------|-----------------|--------------|-----------------|-------------|----------|--|
| 1 | 3005A | 6010C | 1 | 11/24/2014 1015 | FTS | 11/18/2014 1133 | 61082 | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | |
| Lead | 7439-92-1 | 6010C | 0.066 | | 0.010 | 0.0019 | mg/L | 1 | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ61110-001

Matrix: Aqueous

Batch: 61110

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Result | Q | Dil | PQL | MDL | Units | Analysis Date |
|------------------------------------|--------|-------|------------------|-----|------|-------|-----------------|
| tert-Amyl alcohol (TAA) | ND | | 1 | 20 | 6.7 | ug/L | 11/18/2014 1040 |
| tert-Amyl methyl ether (TAME) | ND | | 1 | 10 | 0.20 | ug/L | 11/18/2014 1040 |
| Benzene | ND | | 1 | 1.0 | 0.13 | ug/L | 11/18/2014 1040 |
| tert-Butyl formate (TBF) | ND | | 1 | 5.0 | 1.0 | ug/L | 11/18/2014 1040 |
| 1,2-Dichloroethane | ND | | 1 | 1.0 | 0.15 | ug/L | 11/18/2014 1040 |
| Diisopropyl ether (IPE) | ND | | 1 | 1.0 | 0.40 | ug/L | 11/18/2014 1040 |
| 3,3-Dimethyl-1-butanol | ND | | 1 | 20 | 1.0 | ug/L | 11/18/2014 1040 |
| Ethanol | ND | | 1 | 100 | 33 | ug/L | 11/18/2014 1040 |
| Ethylbenzene | ND | | 1 | 1.0 | 0.33 | ug/L | 11/18/2014 1040 |
| Ethyl-tert-butyl ether (ETBE) | ND | | 1 | 1.0 | 0.20 | ug/L | 11/18/2014 1040 |
| Methyl tertiary butyl ether (MTBE) | ND | | 1 | 1.0 | 0.40 | ug/L | 11/18/2014 1040 |
| Naphthalene | ND | | 1 | 1.0 | 0.40 | ug/L | 11/18/2014 1040 |
| tert-butyl alcohol (TBA) | ND | | 1 | 20 | 6.7 | ug/L | 11/18/2014 1040 |
| Toluene | ND | | 1 | 1.0 | 0.33 | ug/L | 11/18/2014 1040 |
| Xylenes (total) | ND | | 1 | 1.0 | 0.33 | ug/L | 11/18/2014 1040 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 97 | 70-130 | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 70-130 | | | | |
| Toluene-d8 | | 95 | 70-130 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ61110-002

Matrix: Aqueous

Batch: 61110

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|------------------------------------|---------------------|---------------|-------------------------|-----|-------|-------------|-----------------|
| tert-Amyl alcohol (TAA) | 1000 | 980 | | 1 | 98 | 70-130 | 11/18/2014 0951 |
| tert-Amyl methyl ether (TAME) | 50 | 46 | | 1 | 91 | 70-130 | 11/18/2014 0951 |
| Benzene | 50 | 43 | | 1 | 86 | 70-130 | 11/18/2014 0951 |
| tert-Butyl formate (TBF) | 250 | 220 | | 1 | 88 | 70-130 | 11/18/2014 0951 |
| 1,2-Dichloroethane | 50 | 46 | | 1 | 92 | 70-130 | 11/18/2014 0951 |
| Diisopropyl ether (IPE) | 50 | 45 | | 1 | 90 | 70-130 | 11/18/2014 0951 |
| 3,3-Dimethyl-1-butanol | 1000 | 1000 | | 1 | 100 | 70-130 | 11/18/2014 0951 |
| Ethanol | 5000 | 5000 | | 1 | 99 | 60-140 | 11/18/2014 0951 |
| Ethylbenzene | 50 | 51 | | 1 | 102 | 70-130 | 11/18/2014 0951 |
| Ethyl-tert-butyl ether (ETBE) | 50 | 45 | | 1 | 89 | 70-130 | 11/18/2014 0951 |
| Methyl tertiary butyl ether (MTBE) | 50 | 43 | | 1 | 87 | 70-130 | 11/18/2014 0951 |
| Naphthalene | 50 | 55 | | 1 | 111 | 70-130 | 11/18/2014 0951 |
| tert-butyl alcohol (TBA) | 1000 | 980 | | 1 | 98 | 70-130 | 11/18/2014 0951 |
| Toluene | 50 | 47 | | 1 | 94 | 70-130 | 11/18/2014 0951 |
| Xylenes (total) | 100 | 100 | | 1 | 100 | 70-130 | 11/18/2014 0951 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | |
| 1,2-Dichloroethane-d4 | | 90 | 70-130 | | | | |
| Toluene-d8 | | 94 | 70-130 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: PK14059-008MS

Matrix: Aqueous

Batch: 61110

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Sample Amount (ug/L) | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|------------------------------------|----------------------|---------------------|---------------|---|-----|-------|-------------|-----------------|
| tert-Amyl alcohol (TAA) | ND | 100000 | 74000 | | 100 | 74 | 70-130 | 11/18/2014 1837 |
| tert-Amyl methyl ether (TAME) | ND | 5000 | 3500 | N | 100 | 69 | 70-130 | 11/18/2014 1837 |
| Benzene | 13 | 5000 | 3600 | N | 100 | 71 | 72-127 | 11/18/2014 1837 |
| tert-Butyl formate (TBF) | ND | 25000 | 16000 | N | 100 | 65 | 70-130 | 11/18/2014 1837 |
| 1,2-Dichloroethane | ND | 5000 | 3600 | | 100 | 72 | 59-143 | 11/18/2014 1837 |
| Diisopropyl ether (IPE) | ND | 5000 | 3600 | | 100 | 71 | 70-130 | 11/18/2014 1837 |
| 3,3-Dimethyl-1-butanol | ND | 100000 | 75000 | | 100 | 75 | 70-130 | 11/18/2014 1837 |
| Ethanol | ND | 500000 | 370000 | | 100 | 73 | 70-130 | 11/18/2014 1837 |
| Ethylbenzene | 830 | 5000 | 4800 | | 100 | 81 | 79-132 | 11/18/2014 1837 |
| Ethyl-tert-butyl ether (ETBE) | ND | 5000 | 3500 | | 100 | 70 | 70-130 | 11/18/2014 1837 |
| Methyl tertiary butyl ether (MTBE) | ND | 5000 | 3400 | | 100 | 68 | 60-140 | 11/18/2014 1837 |
| Naphthalene | 540 | 5000 | 4900 | | 100 | 88 | 62-136 | 11/18/2014 1837 |
| tert-butyl alcohol (TBA) | ND | 100000 | 76000 | | 100 | 76 | 70-130 | 11/18/2014 1837 |
| Toluene | 44 | 5000 | 3800 | | 100 | 76 | 75-125 | 11/18/2014 1837 |
| Xylenes (total) | 2800 | 10000 | 11000 | | 100 | 80 | 70-130 | 11/18/2014 1837 |

| Surrogate | Q | % Rec | Acceptance Limit |
|-----------------------|---|-------|------------------|
| 1,2-Dichloroethane-d4 | | 90 | 70-130 |
| Bromofluorobenzene | | 95 | 70-130 |
| Toluene-d8 | | 96 | 70-130 |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: PK14059-008MD

Matrix: Aqueous

Batch: 61110

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Sample Amount (ug/L) | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % RPD | % Rec Limit | % RPD Limit | Analysis Date |
|------------------------------------|----------------------|---------------------|---------------|---|-----|-------|-------|-------------|-------------|-----------------|
| tert-Amyl alcohol (TAA) | ND | 100000 | 85000 | | 100 | 85 | 15 | 70-130 | 20 | 11/18/2014 1859 |
| tert-Amyl methyl ether (TAME) | ND | 5000 | 4100 | | 100 | 83 | 18 | 70-130 | 20 | 11/18/2014 1859 |
| Benzene | 13 | 5000 | 4000 | | 100 | 81 | 13 | 72-127 | 20 | 11/18/2014 1859 |
| tert-Butyl formate (TBF) | ND | 25000 | 19000 | | 100 | 76 | 14 | 70-130 | 20 | 11/18/2014 1859 |
| 1,2-Dichloroethane | ND | 5000 | 4200 | | 100 | 85 | 16 | 59-143 | 20 | 11/18/2014 1859 |
| Diisopropyl ether (IPE) | ND | 5000 | 4100 | | 100 | 83 | 15 | 70-130 | 20 | 11/18/2014 1859 |
| 3,3-Dimethyl-1-butanol | ND | 100000 | 86000 | | 100 | 86 | 15 | 70-130 | 20 | 11/18/2014 1859 |
| Ethanol | ND | 500000 | 410000 | | 100 | 82 | 12 | 70-130 | 20 | 11/18/2014 1859 |
| Ethylbenzene | 830 | 5000 | 5500 | | 100 | 94 | 12 | 79-132 | 20 | 11/18/2014 1859 |
| Ethyl-tert-butyl ether (ETBE) | ND | 5000 | 4000 | | 100 | 79 | 13 | 70-130 | 20 | 11/18/2014 1859 |
| Methyl tertiary butyl ether (MTBE) | ND | 5000 | 4000 | | 100 | 80 | 15 | 60-140 | 20 | 11/18/2014 1859 |
| Naphthalene | 540 | 5000 | 5700 | | 100 | 104 | 15 | 62-136 | 20 | 11/18/2014 1859 |
| tert-butyl alcohol (TBA) | ND | 100000 | 89000 | | 100 | 89 | 15 | 70-130 | 20 | 11/18/2014 1859 |
| Toluene | 44 | 5000 | 4400 | | 100 | 86 | 13 | 75-125 | 20 | 11/18/2014 1859 |
| Xylenes (total) | 2800 | 10000 | 12000 | | 100 | 92 | 11 | 70-130 | 20 | 11/18/2014 1859 |

| Surrogate | Q | % Rec | Acceptance Limit |
|-----------------------|---|-------|------------------|
| 1,2-Dichloroethane-d4 | | 91 | 70-130 |
| Bromofluorobenzene | | 95 | 70-130 |
| Toluene-d8 | | 96 | 70-130 |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ61192-001

Matrix: Aqueous

Batch: 61192

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Result | Q | Dil | PQL | MDL | Units | Analysis Date |
|------------------------------------|--------|-------|------------------|-----|------|-------|-----------------|
| tert-Amyl alcohol (TAA) | ND | | 1 | 20 | 6.7 | ug/L | 11/18/2014 2124 |
| tert-Amyl methyl ether (TAME) | ND | | 1 | 10 | 0.20 | ug/L | 11/18/2014 2124 |
| Benzene | ND | | 1 | 1.0 | 0.13 | ug/L | 11/18/2014 2124 |
| tert-Butyl formate (TBF) | ND | | 1 | 5.0 | 1.0 | ug/L | 11/18/2014 2124 |
| 1,2-Dichloroethane | ND | | 1 | 1.0 | 0.15 | ug/L | 11/18/2014 2124 |
| Diisopropyl ether (IPE) | ND | | 1 | 1.0 | 0.40 | ug/L | 11/18/2014 2124 |
| 3,3-Dimethyl-1-butanol | ND | | 1 | 20 | 1.0 | ug/L | 11/18/2014 2124 |
| Ethanol | ND | | 1 | 100 | 33 | ug/L | 11/18/2014 2124 |
| Ethylbenzene | ND | | 1 | 1.0 | 0.33 | ug/L | 11/18/2014 2124 |
| Ethyl-tert-butyl ether (ETBE) | ND | | 1 | 1.0 | 0.20 | ug/L | 11/18/2014 2124 |
| Methyl tertiary butyl ether (MTBE) | ND | | 1 | 1.0 | 0.40 | ug/L | 11/18/2014 2124 |
| Naphthalene | ND | | 1 | 1.0 | 0.40 | ug/L | 11/18/2014 2124 |
| tert-butyl alcohol (TBA) | ND | | 1 | 20 | 6.7 | ug/L | 11/18/2014 2124 |
| Toluene | ND | | 1 | 1.0 | 0.33 | ug/L | 11/18/2014 2124 |
| Xylenes (total) | ND | | 1 | 1.0 | 0.33 | ug/L | 11/18/2014 2124 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 97 | 70-130 | | | | |
| 1,2-Dichloroethane-d4 | | 91 | 70-130 | | | | |
| Toluene-d8 | | 96 | 70-130 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ61192-002

Matrix: Aqueous

Batch: 61192

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|------------------------------------|---------------------|---------------|-------------------------|-----|-------|-------------|-----------------|
| tert-Amyl alcohol (TAA) | 1000 | 1000 | | 1 | 100 | 70-130 | 11/18/2014 2024 |
| tert-Amyl methyl ether (TAME) | 50 | 44 | | 1 | 89 | 70-130 | 11/18/2014 2024 |
| Benzene | 50 | 42 | | 1 | 85 | 70-130 | 11/18/2014 2024 |
| tert-Butyl formate (TBF) | 250 | 210 | | 1 | 83 | 70-130 | 11/18/2014 2024 |
| 1,2-Dichloroethane | 50 | 45 | | 1 | 91 | 70-130 | 11/18/2014 2024 |
| Diisopropyl ether (IPE) | 50 | 42 | | 1 | 85 | 70-130 | 11/18/2014 2024 |
| 3,3-Dimethyl-1-butanol | 1000 | 1000 | | 1 | 101 | 70-130 | 11/18/2014 2024 |
| Ethanol | 5000 | 4900 | | 1 | 99 | 60-140 | 11/18/2014 2024 |
| Ethylbenzene | 50 | 51 | | 1 | 101 | 70-130 | 11/18/2014 2024 |
| Ethyl-tert-butyl ether (ETBE) | 50 | 44 | | 1 | 87 | 70-130 | 11/18/2014 2024 |
| Methyl tertiary butyl ether (MTBE) | 50 | 42 | | 1 | 84 | 70-130 | 11/18/2014 2024 |
| Naphthalene | 50 | 58 | | 1 | 116 | 70-130 | 11/18/2014 2024 |
| tert-butyl alcohol (TBA) | 1000 | 1000 | | 1 | 103 | 70-130 | 11/18/2014 2024 |
| Toluene | 50 | 47 | | 1 | 93 | 70-130 | 11/18/2014 2024 |
| Xylenes (total) | 100 | 100 | | 1 | 100 | 70-130 | 11/18/2014 2024 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | |
| 1,2-Dichloroethane-d4 | | 91 | 70-130 | | | | |
| Toluene-d8 | | 97 | 70-130 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: PK14059-023MS

Matrix: Aqueous

Batch: 61192

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Sample Amount (ug/L) | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|------------------------------------|----------------------|---------------------|-------------------------|---|-----|-------|-------------|-----------------|
| tert-Amyl alcohol (TAA) | 220 | 5000 | 5000 | | 5 | 96 | 70-130 | 11/19/2014 0131 |
| tert-Amyl methyl ether (TAME) | ND | 250 | 240 | | 5 | 94 | 70-130 | 11/19/2014 0131 |
| Benzene | 17 | 250 | 240 | | 5 | 90 | 72-127 | 11/19/2014 0131 |
| tert-Butyl formate (TBF) | ND | 1300 | 460 | N | 5 | 37 | 70-130 | 11/19/2014 0131 |
| 1,2-Dichloroethane | ND | 250 | 230 | | 5 | 93 | 59-143 | 11/19/2014 0131 |
| Diisopropyl ether (IPE) | ND | 250 | 230 | | 5 | 92 | 70-130 | 11/19/2014 0131 |
| 3,3-Dimethyl-1-butanol | ND | 5000 | 4900 | | 5 | 98 | 70-130 | 11/19/2014 0131 |
| Ethanol | ND | 25000 | 24000 | | 5 | 96 | 70-130 | 11/19/2014 0131 |
| Ethylbenzene | 320 | 250 | 570 | | 5 | 101 | 79-132 | 11/19/2014 0131 |
| Ethyl-tert-butyl ether (ETBE) | ND | 250 | 220 | | 5 | 90 | 70-130 | 11/19/2014 0131 |
| Methyl tertiary butyl ether (MTBE) | ND | 250 | 220 | | 5 | 87 | 60-140 | 11/19/2014 0131 |
| Naphthalene | 140 | 250 | 430 | | 5 | 118 | 62-136 | 11/19/2014 0131 |
| tert-butyl alcohol (TBA) | ND | 5000 | 5200 | | 5 | 104 | 70-130 | 11/19/2014 0131 |
| Toluene | 5.9 | 250 | 250 | | 5 | 98 | 75-125 | 11/19/2014 0131 |
| Xylenes (total) | 60 | 500 | 580 | | 5 | 103 | 70-130 | 11/19/2014 0131 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | | |
| 1,2-Dichloroethane-d4 | | 90 | 70-130 | | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | | |
| Toluene-d8 | | 96 | 70-130 | | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: PK14059-023MD

Matrix: Aqueous

Batch: 61192

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Sample Amount (ug/L) | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % RPD | % Rec Limit | % RPD Limit | Analysis Date |
|------------------------------------|----------------------|---------------------|---------------|---|-----|-------|-------|-------------|-------------|-----------------|
| tert-Amyl alcohol (TAA) | 220 | 5000 | 4900 | | 5 | 93 | 3.5 | 70-130 | 20 | 11/19/2014 0154 |
| tert-Amyl methyl ether (TAME) | ND | 250 | 230 | | 5 | 90 | 4.3 | 70-130 | 20 | 11/19/2014 0154 |
| Benzene | 17 | 250 | 240 | | 5 | 89 | 0.99 | 72-127 | 20 | 11/19/2014 0154 |
| tert-Butyl formate (TBF) | ND | 1300 | 410 | N | 5 | 33 | 11 | 70-130 | 20 | 11/19/2014 0154 |
| 1,2-Dichloroethane | ND | 250 | 230 | | 5 | 92 | 1.1 | 59-143 | 20 | 11/19/2014 0154 |
| Diisopropyl ether (IPE) | ND | 250 | 220 | | 5 | 89 | 2.8 | 70-130 | 20 | 11/19/2014 0154 |
| 3,3-Dimethyl-1-butanol | ND | 5000 | 4700 | | 5 | 94 | 3.7 | 70-130 | 20 | 11/19/2014 0154 |
| Ethanol | ND | 25000 | 22000 | | 5 | 89 | 7.7 | 70-130 | 20 | 11/19/2014 0154 |
| Ethylbenzene | 320 | 250 | 560 | | 5 | 98 | 1.1 | 79-132 | 20 | 11/19/2014 0154 |
| Ethyl-tert-butyl ether (ETBE) | ND | 250 | 220 | | 5 | 88 | 2.6 | 70-130 | 20 | 11/19/2014 0154 |
| Methyl tertiary butyl ether (MTBE) | ND | 250 | 210 | | 5 | 86 | 1.7 | 60-140 | 20 | 11/19/2014 0154 |
| Naphthalene | 140 | 250 | 420 | | 5 | 114 | 2.0 | 62-136 | 20 | 11/19/2014 0154 |
| tert-butyl alcohol (TBA) | ND | 5000 | 5000 | | 5 | 100 | 4.2 | 70-130 | 20 | 11/19/2014 0154 |
| Toluene | 5.9 | 250 | 250 | | 5 | 98 | 0.41 | 75-125 | 20 | 11/19/2014 0154 |
| Xylenes (total) | 60 | 500 | 570 | | 5 | 103 | 0.36 | 70-130 | 20 | 11/19/2014 0154 |

| Surrogate | Q | % Rec | Acceptance Limit |
|-----------------------|---|-------|------------------|
| 1,2-Dichloroethane-d4 | | 90 | 70-130 |
| Bromofluorobenzene | | 96 | 70-130 |
| Toluene-d8 | | 96 | 70-130 |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ61343-001

Matrix: Aqueous

Batch: 61343

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Result | Q | Dil | PQL | MDL | Units | Analysis Date |
|------------------------------------|--------|-------|------------------|-----|------|-------|-----------------|
| tert-Amyl alcohol (TAA) | ND | | 1 | 20 | 6.7 | ug/L | 11/20/2014 1038 |
| tert-Amyl methyl ether (TAME) | ND | | 1 | 10 | 0.20 | ug/L | 11/20/2014 1038 |
| Benzene | ND | | 1 | 1.0 | 0.13 | ug/L | 11/20/2014 1038 |
| tert-Butyl formate (TBF) | ND | | 1 | 5.0 | 1.0 | ug/L | 11/20/2014 1038 |
| 1,2-Dichloroethane | ND | | 1 | 1.0 | 0.15 | ug/L | 11/20/2014 1038 |
| Diisopropyl ether (IPE) | ND | | 1 | 1.0 | 0.40 | ug/L | 11/20/2014 1038 |
| 3,3-Dimethyl-1-butanol | ND | | 1 | 20 | 1.0 | ug/L | 11/20/2014 1038 |
| Ethanol | ND | | 1 | 100 | 33 | ug/L | 11/20/2014 1038 |
| Ethylbenzene | ND | | 1 | 1.0 | 0.33 | ug/L | 11/20/2014 1038 |
| Ethyl-tert-butyl ether (ETBE) | ND | | 1 | 1.0 | 0.20 | ug/L | 11/20/2014 1038 |
| Methyl tertiary butyl ether (MTBE) | ND | | 1 | 1.0 | 0.40 | ug/L | 11/20/2014 1038 |
| Naphthalene | ND | | 1 | 1.0 | 0.40 | ug/L | 11/20/2014 1038 |
| tert-butyl alcohol (TBA) | ND | | 1 | 20 | 6.7 | ug/L | 11/20/2014 1038 |
| Toluene | ND | | 1 | 1.0 | 0.33 | ug/L | 11/20/2014 1038 |
| Xylenes (total) | ND | | 1 | 1.0 | 0.33 | ug/L | 11/20/2014 1038 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 95 | 70-130 | | | | |
| 1,2-Dichloroethane-d4 | | 89 | 70-130 | | | | |
| Toluene-d8 | | 93 | 70-130 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ61343-002

Matrix: Aqueous

Batch: 61343

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|------------------------------------|---------------------|---------------|------------------|-----|-------|-------------|-----------------|
| tert-Amyl alcohol (TAA) | 1000 | 980 | | 1 | 98 | 70-130 | 11/20/2014 0953 |
| tert-Amyl methyl ether (TAME) | 50 | 44 | | 1 | 88 | 70-130 | 11/20/2014 0953 |
| Benzene | 50 | 42 | | 1 | 85 | 70-130 | 11/20/2014 0953 |
| tert-Butyl formate (TBF) | 250 | 210 | | 1 | 85 | 70-130 | 11/20/2014 0953 |
| 1,2-Dichloroethane | 50 | 43 | | 1 | 86 | 70-130 | 11/20/2014 0953 |
| Diisopropyl ether (IPE) | 50 | 43 | | 1 | 86 | 70-130 | 11/20/2014 0953 |
| 3,3-Dimethyl-1-butanol | 1000 | 980 | | 1 | 98 | 70-130 | 11/20/2014 0953 |
| Ethanol | 5000 | 4900 | | 1 | 97 | 60-140 | 11/20/2014 0953 |
| Ethylbenzene | 50 | 51 | | 1 | 102 | 70-130 | 11/20/2014 0953 |
| Ethyl-tert-butyl ether (ETBE) | 50 | 42 | | 1 | 85 | 70-130 | 11/20/2014 0953 |
| Methyl tertiary butyl ether (MTBE) | 50 | 41 | | 1 | 82 | 70-130 | 11/20/2014 0953 |
| Naphthalene | 50 | 58 | | 1 | 116 | 70-130 | 11/20/2014 0953 |
| tert-butyl alcohol (TBA) | 1000 | 1000 | | 1 | 101 | 70-130 | 11/20/2014 0953 |
| Toluene | 50 | 46 | | 1 | 92 | 70-130 | 11/20/2014 0953 |
| Xylenes (total) | 100 | 100 | | 1 | 101 | 70-130 | 11/20/2014 0953 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 94 | 70-130 | | | | |
| 1,2-Dichloroethane-d4 | | 87 | 70-130 | | | | |
| Toluene-d8 | | 93 | 70-130 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ61849-001

Matrix: Aqueous

Batch: 61849

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Result | Q | Dil | PQL | MDL | Units | Analysis Date |
|------------------------------------|--------|-------|------------------|-----|------|-------|-----------------|
| tert-Amyl alcohol (TAA) | ND | | 1 | 20 | 6.7 | ug/L | 11/26/2014 2107 |
| tert-Amyl methyl ether (TAME) | ND | | 1 | 10 | 0.20 | ug/L | 11/26/2014 2107 |
| Benzene | ND | | 1 | 1.0 | 0.13 | ug/L | 11/26/2014 2107 |
| tert-Butyl formate (TBF) | ND | | 1 | 5.0 | 1.0 | ug/L | 11/26/2014 2107 |
| 1,2-Dichloroethane | ND | | 1 | 1.0 | 0.15 | ug/L | 11/26/2014 2107 |
| Diisopropyl ether (IPE) | ND | | 1 | 1.0 | 0.40 | ug/L | 11/26/2014 2107 |
| 3,3-Dimethyl-1-butanol | ND | | 1 | 20 | 1.0 | ug/L | 11/26/2014 2107 |
| Ethanol | ND | | 1 | 100 | 33 | ug/L | 11/26/2014 2107 |
| Ethylbenzene | ND | | 1 | 1.0 | 0.33 | ug/L | 11/26/2014 2107 |
| Ethyl-tert-butyl ether (ETBE) | ND | | 1 | 1.0 | 0.20 | ug/L | 11/26/2014 2107 |
| Methyl tertiary butyl ether (MTBE) | ND | | 1 | 1.0 | 0.40 | ug/L | 11/26/2014 2107 |
| Naphthalene | ND | | 1 | 1.0 | 0.40 | ug/L | 11/26/2014 2107 |
| tert-butyl alcohol (TBA) | ND | | 1 | 20 | 6.7 | ug/L | 11/26/2014 2107 |
| Toluene | ND | | 1 | 1.0 | 0.33 | ug/L | 11/26/2014 2107 |
| Xylenes (total) | ND | | 1 | 1.0 | 0.33 | ug/L | 11/26/2014 2107 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 95 | 70-130 | | | | |
| 1,2-Dichloroethane-d4 | | 86 | 70-130 | | | | |
| Toluene-d8 | | 94 | 70-130 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ61849-002

Matrix: Aqueous

Batch: 61849

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|------------------------------------|---------------------|---------------|-------------------------|-----|-------|-------------|-----------------|
| tert-Amyl alcohol (TAA) | 1000 | 880 | | 1 | 88 | 70-130 | 11/26/2014 2022 |
| tert-Amyl methyl ether (TAME) | 50 | 49 | | 1 | 97 | 70-130 | 11/26/2014 2022 |
| Benzene | 50 | 47 | | 1 | 94 | 70-130 | 11/26/2014 2022 |
| tert-Butyl formate (TBF) | 250 | 230 | | 1 | 93 | 70-130 | 11/26/2014 2022 |
| 1,2-Dichloroethane | 50 | 49 | | 1 | 99 | 70-130 | 11/26/2014 2022 |
| Diisopropyl ether (IPE) | 50 | 49 | | 1 | 98 | 70-130 | 11/26/2014 2022 |
| 3,3-Dimethyl-1-butanol | 1000 | 860 | | 1 | 86 | 70-130 | 11/26/2014 2022 |
| Ethanol | 5000 | 4400 | | 1 | 88 | 60-140 | 11/26/2014 2022 |
| Ethylbenzene | 50 | 50 | | 1 | 99 | 70-130 | 11/26/2014 2022 |
| Ethyl-tert-butyl ether (ETBE) | 50 | 47 | | 1 | 94 | 70-130 | 11/26/2014 2022 |
| Methyl tertiary butyl ether (MTBE) | 50 | 48 | | 1 | 96 | 70-130 | 11/26/2014 2022 |
| Naphthalene | 50 | 51 | | 1 | 102 | 70-130 | 11/26/2014 2022 |
| tert-butyl alcohol (TBA) | 1000 | 900 | | 1 | 90 | 70-130 | 11/26/2014 2022 |
| Toluene | 50 | 49 | | 1 | 98 | 70-130 | 11/26/2014 2022 |
| Xylenes (total) | 100 | 99 | | 1 | 99 | 70-130 | 11/26/2014 2022 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 96 | 70-130 | | | | |
| 1,2-Dichloroethane-d4 | | 86 | 70-130 | | | | |
| Toluene-d8 | | 93 | 70-130 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: PQ61092-001

Matrix: Aqueous

Batch: 61092

Prep Method: 8011

Analytical Method: 8011

Prep Date: 11/18/2014 933

| Parameter | Result | Q | Dil | PQL | MDL | Units | Analysis Date |
|---------------------------|--------|-------|------------------|-------|-------|-------|-----------------|
| 1,2-Dibromoethane (EDB) | ND | | 1 | 0.020 | 0.020 | ug/L | 11/18/2014 2016 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| 1,1,1,2-Tetrachloroethane | | 100 | 57-137 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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Page: 50 of 64
Level 1 Report v2.1

EDB & DBCP by Microextraction - LCS

Sample ID: PQ61092-002

Matrix: Aqueous

Batch: 61092

Prep Method: 8011

Analytical Method: 8011

Prep Date: 11/18/2014 933

| Parameter | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|---------------------------|---------------------|---------------|------------------|-----|-------|-------------|-----------------|
| 1,2-Dibromoethane (EDB) | 0.25 | 0.29 | | 1 | 115 | 60-140 | 11/18/2014 2026 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| 1,1,1,2-Tetrachloroethane | | 97 | 57-137 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: PQ61246-001

Matrix: Aqueous

Batch: 61246

Prep Method: 8011

Analytical Method: 8011

Prep Date: 11/19/2014 1448

| Parameter | Result | Q | Dil | PQL | MDL | Units | Analysis Date |
|---------------------------|--------|-------|------------------|-------|-------|-------|-----------------|
| 1,2-Dibromoethane (EDB) | ND | | 1 | 0.020 | 0.020 | ug/L | 11/20/2014 0900 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| 1,1,1,2-Tetrachloroethane | | 94 | 57-137 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: PQ61246-002

Matrix: Aqueous

Batch: 61246

Prep Method: 8011

Analytical Method: 8011

Prep Date: 11/19/2014 1448

| Parameter | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|---------------------------|---------------------|---------------|------------------|-----|-------|-------------|-----------------|
| 1,2-Dibromoethane (EDB) | 0.25 | 0.28 | | 1 | 112 | 60-140 | 11/20/2014 0910 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| 1,1,1,2-Tetrachloroethane | | 100 | 57-137 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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Page: 53 of 64
Level 1 Report v2.1

EDB & DBCP by Microextraction - MS

Sample ID: PK14059-012MS

Matrix: Aqueous

Batch: 61246

Prep Method: 8011

Analytical Method: 8011

Prep Date: 11/19/2014 1448

| Parameter | Sample Amount (ug/L) | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|---------------------------|----------------------|---------------------|------------------|---|-----|-------|-------------|-----------------|
| 1,2-Dibromoethane (EDB) | ND | 0.24 | 0.25 | P | 1 | 101 | 60-140 | 11/20/2014 0952 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | | |
| 1,1,1,2-Tetrachloroethane | | 107 | 57-137 | | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: PK14059-012MD

Matrix: Aqueous

Batch: 61246

Prep Method: 8011

Analytical Method: 8011

Prep Date: 11/19/2014 1448

| Parameter | Sample Amount (ug/L) | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % RPD | % Rec Limit | % RPD Limit | Analysis Date | |
|---------------------------|----------------------|---------------------|------------------|---|-----|-------|-------|-------------|-------------|-----------------|--|
| 1,2-Dibromoethane (EDB) | ND | 0.24 | 0.27 | P | 1 | 112 | 10 | 60-140 | 20 | 11/20/2014 1002 | |
| Surrogate | Q | % Rec | Acceptance Limit | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 102 | 57-137 | | | | | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MB

Sample ID: PQ61019-001

Batch: 61019

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 11/17/2014 1030

| Parameter | Result | Q | Dil | PQL | MDL | Units | Analysis Date |
|-----------|--------|---|-----|-------|--------|-------|-----------------|
| Lead | ND | | 1 | 0.010 | 0.0019 | mg/L | 11/23/2014 1336 |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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Page: 56 of 64
Level 1 Report v2.1

ICP-AES - LCS

Sample ID: PQ61019-002

Matrix: Aqueous

Batch: 61019

Prep Method: 3005A

Analytical Method: 6010C

Prep Date: 11/17/2014 1030

| Parameter | Spike Amount (mg/L) | Result (mg/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|-----------|---------------------|---------------|---|-----|-------|-------------|-----------------|
| Lead | 0.40 | 0.41 | | 1 | 103 | 80-120 | 11/23/2014 1338 |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCSD

Sample ID: PQ61019-003

Matrix: Aqueous

Batch: 61019

Prep Method: 3005A

Analytical Method: 6010C

Prep Date: 11/17/2014 1030

| Parameter | Spike Amount (mg/L) | Result (mg/L) | Q | Dil | % Rec | % RPD | % Rec Limit | % RPD Limit | Analysis Date |
|-----------|---------------------|---------------|---|-----|-------|-------|-------------|-------------|-----------------|
| Lead | 0.40 | 0.42 | | 1 | 106 | 2.5 | 80-120 | 20 | 11/23/2014 1341 |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MB

Sample ID: PQ61082-001

Matrix: Aqueous

Batch: 61082

Prep Method: 3005A

Analytical Method: 6010C

Prep Date: 11/18/2014 1133

| Parameter | Result | Q | Dil | PQL | MDL | Units | Analysis Date |
|-----------|--------|---|-----|-------|--------|-------|-----------------|
| Lead | ND | | 1 | 0.010 | 0.0019 | mg/L | 11/23/2014 1559 |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCS

Sample ID: PQ61082-002

Matrix: Aqueous

Batch: 61082

Prep Method: 3005A

Analytical Method: 6010C

Prep Date: 11/18/2014 1133

| Parameter | Spike Amount (mg/L) | Result (mg/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|-----------|---------------------|---------------|---|-----|-------|-------------|-----------------|
| Lead | 0.40 | 0.43 | | 1 | 108 | 80-120 | 11/23/2014 1611 |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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Page: 60 of 64
Level 1 Report v2.1

ICP-AES - LCSD

Sample ID: PQ61082-003

Matrix: Aqueous

Batch: 61082

Prep Method: 3005A

Analytical Method: 6010C

Prep Date: 11/18/2014 1133

| Parameter | Spike Amount (mg/L) | Result (mg/L) | Q | Dil | % Rec | % RPD | % Rec Limit | % RPD Limit | Analysis Date |
|-----------|---------------------|---------------|---|-----|-------|-------|-------------|-------------|-----------------|
| Lead | 0.40 | 0.43 | | 1 | 107 | 0.79 | 80-120 | 20 | 11/23/2014 1614 |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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Page: 61 of 64
Level 1 Report v2.1

ICP-AES - MS

Sample ID: PK14059-022MS

Matrix: Aqueous

Batch: 61082

Prep Method: 3005A

Analytical Method: 6010C

Prep Date: 11/18/2014 1133

| Parameter | Sample Amount (mg/L) | Spike Amount (mg/L) | Result (mg/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|-----------|----------------------|---------------------|---------------|---|-----|-------|-------------|-----------------|
| Lead | 0.0037 | 0.40 | 0.40 | | 1 | 98 | 75-125 | 11/23/2014 1622 |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MSD

Sample ID: PK14059-022MD

Matrix: Aqueous

Batch: 61082

Prep Method: 3005A

Analytical Method: 6010C

Prep Date: 11/18/2014 1133

| Parameter | Sample Amount (mg/L) | Spike Amount (mg/L) | Result (mg/L) | Q | Dil | % Rec | % RPD | % Rec Limit | % RPD Limit | Analysis Date |
|-----------|----------------------|---------------------|---------------|---|-----|-------|-------|-------------|-------------|-----------------|
| Lead | 0.0037 | 0.40 | 0.40 | | 1 | 100 | 1.4 | 75-125 | 20 | 11/23/2014 1625 |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MS

Sample ID: PK14059-023MS

Matrix: Aqueous

Batch: 61082

Prep Method: 3005A

Analytical Method: 6010C

Prep Date: 11/18/2014 1133

| Parameter | Sample Amount (mg/L) | Spike Amount (mg/L) | Result (mg/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|-----------|----------------------|---------------------|---------------|---|-----|-------|-------------|-----------------|
| Lead | 0.0037 | 0.40 | 0.40 | | 1 | 98 | 75-125 | 11/23/2014 1634 |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria


Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"





Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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Chain of Custody Record

Number **34949**

| Client: Petro-Tech Environmental Address: 2435 G. North Shiloh Rd Greenville SC 29615 Project Name: Morris Oil Co Project Number: J14-060-A | | Report to Contact: Trevor Slack Telephone No. / Fax No. / Email: TSlack@petrotech.com | | Sampler (Printed Name): Trevor Slack, Daniel Bush, Cameron Manning Waybill No.: | | Quote No.: Page 1 of 4 Number of Containers: | | |
|--|------------|--|------|--|----|--|------|------|
| Preservative: 1. Unpres. 4. HNO3 7. NaOH 2. NaOH/Zn 5. HCL 3. H2SO4 6. Na Thio. | | Matrix: G: Gas L: Composite S: Solid W: Water M: Melt | | Possible Hazard Identification: <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown | | Barcode:  PK14059 | | |
| Sample ID / Description (Containers for each sample may be combined on one line) | P.O Number | Date | Time | Analysis | | | Date | Time |
| | | | | GC | DW | MS | | |
| 08641 - MW01 | 111214 | 1800 | X | | | | | |
| 08641 - MW02 | | 1730 | X | | | | | |
| 08641 - MW03 | | 1740 | X | | | | | |
| 08641 - MW04 | | 1800 | X | | | | | |
| 08641 - MW05 | | 1530 | X | | | | | |
| 08641 - MW06 | | 1600 | X | | | | | |
| 08641 - MW07 | | 1720 | X | | | | | |
| 08641 - MW09 | | 1700 | X | | | | | |
| 08641 - MW10 | | 1430 | X | | | | | |

| | | | | | | | |
|--|--|---|--|--|--|--|--|
| Turn Around Time Required (Prior lab approval required for expedited TAT) <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush (Please Specify) | | Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab | | QC Requirements (Specify): SCATTER TEST | | Possible Hazard Identification: <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown | |
| 1. Relinquished by / Samples:  | | Date: 11/14/14 Time: PM | | 1. Received by:  | | Date: 11/19/14 Time: 1212 | |
| 2. Relinquished by: | | Date: | | 2. Received by: | | Date: | |
| 3. Relinquished by: | | Date: | | 3. Received by: | | Date: | |
| 4. Relinquished by:  | | Date: 11/19/14 Time: 1551 | | 4. Laboratory Received by:  | | Date: 11/14/14 Time: 1551 | |

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

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Number 40828

Chain of Custody Record

| | | | | | | | |
|---|--|---|--|--|--|---------------------------------|--|
| Client: Peter-Tech Enr. | | Report to: Slater | | Telephone No. / E-mail: tsl@k.earthtech.com | | Curtis No. 2 of 4 | |
| Address: 2435 G. North St. Ste. 1108-102 | | Sampler's Signature: [Signature] | | Analysis (Attach kit if more space is needed) | | Barcode: PK14059 | |
| City: Greenville | | Printed Name: Traver Slater | | Project Name: Max Oil Co. | | Remarks / Courier I.D. | |
| State: SC | | Zip Code: 29615 | | F.O. No. 314-060-A | | | |
| Project Name: Max Oil Co. | | Sample ID / Description | | Date | | | |
| | | (Contains for each sample may be combined on one line.) | | | | | |
| 08641 - MW11 | | 11/13/14 1450 | | 11/13/14 | | C3 | |
| 08641 - MW12 | | 1330 | | 11/13/14 | | C3 | |
| 08641 - MW13 | | 1540 | | 11/13/14 | | C2 | |
| 08641 - MW14 | | 1500 | | 11/13/14 | | C1 | |
| 08641 - MW15 | | 1620 | | 11/13/14 | | C2 | |
| 08641 - MW16 | | 1530 | | 11/13/14 | | C2 | |
| 08641 - MW17 | | 1245 | | 11/13/14 | | C3 | |
| Sw1 | | 11/14/14 1115 | | 11/14/14 | | C1 | |
| Trip Blank 1 | | --- | | --- | | C2 | |
| Trip Blank 2 | | --- | | --- | | C2 | |

| | | | |
|---|---|--|--|
| Turn Around Time Required (Prior lab agreement required for expedited TAT.) <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush (Specify) | Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab | Responsible Hazards Identification: <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown | QC Requirements (Specify) SCATGC MET |
| 1. Relinquished by: [Signature] Date: 11/14/14 Time: 12:00 | 2. Relinquished by: [Signature] Date: 11/14/14 Time: 12:00 | 3. Received by: [Signature] Date: 11/14/14 Time: 15:09 | Date: 11/14/14 Time: 15:09 |
| 4. Relinquished by: [Signature] Date: 11/14/14 Time: 15:09 | Laboratory received by: [Signature] Date: 11/14/14 Time: 15:09 | LAB USE ONLY Received on ice (Circle) Yes No Ice Pack 1.3 Receipt Temp. 15.5 °C | Date: 11/14/14 Time: 15:09 |

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

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Chain of Custody Record

Number 40829


| | | | | |
|--|--|---|--|---|
| Client Petra Tech Env. | | Telephone No. / E-mail telnet@petrotechenv.com | | Quote No. |
| Address 2425 G. North St, Ste 1108-200 | | Analysis (Attach list if more space is needed) | | Page 3 of 4 |
| City Greenville | | Barcode | | Flammarks / Cooler I.D. C3 C3 C1 C1 C3 C2 C3 C3 C1 C1 |
| State SC | | Project Name MORRIS OIL CO. | | |
| Zip Code 29615 | | Printer's Signature Trevor Slack | | |
| Project Name MORRIS OIL CO. | | Private Name Carmen workite | | |
| Project No. 514-060-A | | Report to Contact Trevor Slack | | |
| Sample ID / Description (Contains for each sample may be combined on one int.) | | Matrix | | |
| Field Blanks 1 | | No. of Containers by Preservative Type | | |
| 08641 - MW18 | | AC | | |
| 08641 - MW19 | | AC | | |
| 08641 - MW20 | | AC | | |
| 08641 - MW21 | | AC | | |
| 08641 - MW22 | | AC | | |
| Field Blanks 2 | | AC | | |
| Field Blanks 3 | | AC | | |
| 08641 - MW23 Dup | | AC | | |
| 08641 - MW23 | | AC | | |
| Turn Around Time Required (Prior lab approval required for expedited int.) | | Possible Hazard Identification | | |
| <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush (Specify) | | <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown | | CC Requirements (Specify) SCATEC INST |
| 1. Requisitioned by | | 1. Received by | | Date 11/14/14 |
| 2. Relinquished by | | 2. Received by | | Time 12:00 |
| 3. Relinquished by | | 3. Received by | | Date |
| 4. Relinquished by | | 4. Laboratory received by | | Date 11/14/14 |
| Note: All samples are retained for four weeks from receipt unless other arrangements are made. | | LAB USE ONLY Received on ice (Circle) <input checked="" type="radio"/> Yes <input type="radio"/> No Ice Pack <input type="radio"/> Receipt Temp. 11.3 11.5 0.9 °C | | Time 1:55 |

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Chain of Custody Record



Number 41187

| | | | | |
|---|--|--|--|---------------------------|
| Client Petra-Tech Env | Report to Contact Telephone No. / E-mail | Quote No. | Analysis (Attach list if more space is needed) | Page 4 of 4 |
| Address 2435 G. N. St, Ste 1108-702 | Sampler's Signature | Barcode  PK14059 | | |
| City | Printed Name | Remarks / Cooler I.D. | | |
| Project Name MORRIS OILCO | P.O. No. J14-060-A | Matrix No. of Containers by Preservative Type H2O2: 16 HNO3: HCl: H2SO4: Urine: Other: Equations: Matrix Type: Matrix Size: Matrix Quantity: | | |
| Project No. Sample ID / Description (Containers for each sample may be combined on one line.) Dup B Temp Blank C1 Temp Blank C2 Temp Blank C3 | Date 11/13/14 | Time 1805 | Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown CC Requirements (Specify) SCOTTEC TEST | |
| Turn Around Time Required (Prior lab approval required for expedited TAT) <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush (Specify) | Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab | 1. Relinquished by Date: 11/14/14 Time: 1212 2. Relinquished by Date: _____ Time: _____ 3. Relinquished by Date: _____ Time: _____ 4. Relinquished by Date: 11/14/14 Time: 1551 Laboratory received by: <i>[Signature]</i> | | |
| Note: All samples are retained for four weeks from receipt unless other arrangements are made. | | | | |

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
 Document Number: F-AD-016
 Revision Number: 16

Page 1 of 1
 Replaces Date: 07/15/14
 Effective Date: 11/07/14

Sample Receipt Checklist (SRC)

Client: Petra Tech Cooler Inspected by/date: CMT / 11/14/14 Lot #: PK405A

| | | |
|---|--|--|
| Means of receipt: <input checked="" type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Airborne Exp <input type="checkbox"/> Other | | |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 1. Were custody seals present on the cooler? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 2. If custody seals were present, were they intact and unbroken? |
| Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>168/14/11.3 °C</u> <u>157/11.6/11.5 °C</u> <u>2053/1.0/10.9 °C</u> / / °C | | |
| Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: #4 IR Gun Correction Factor: <u>-2.1 °C</u> | | |
| Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.) |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 4. Is the commercial courier's packing slip attached to this form? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 5. Were proper custody procedures (relinquished/received) followed? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 5a. Were samples relinquished by client to commercial courier? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 6. Were sample IDs listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 7. Were sample IDs listed on all sample containers? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 8. Was collection date & time listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 9. Was collection date & time listed on all sample containers? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 10. Did all container label information (ID, date, time) agree with the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 11. Were tests to be performed listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 12. Did all samples arrive in the proper containers for each test? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 13. Did all containers arrive in good condition (unbroken, lids on, etc.)? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 14. Was adequate sample volume available? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | 15. Were all samples received within ½ the holding time or 48 hours, whichever comes first? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 16. Were any samples containers missing? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 17. Were there any excess samples not listed on COC? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/> 18. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials? |
| Yes <input checked="" type="checkbox"/> | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/> 19. Were all metals/O&G/HEM/nutrient samples received at a pH of <2? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 20. Were all cyanide and/or sulfide samples received at a pH >12? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 21. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 22. Were collection temperatures documented on the COC for NC samples? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> 23. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 24. Was the quote number used taken from the container label? |
| Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.) | | |
| Sample(s) <u>-004, -009, -010, -012, -015, -007</u> were received incorrectly preserved and were adjusted accordingly in sample receiving with <u>(H₂SO₄, HNO₃, HCl, NaOH)</u> using SR # <u>113</u> . | | |
| Sample(s) _____ were received with bubbles >6 mm in diameter. | | |
| Sample(s) _____ were received with TRC >0.2 mg/L (If #21 is No) | | |
| SC Drinking Water Project Sample(s) pH verified to be > 2 by _____ Date: _____ | | |
| Sample(s) _____ were not received at a pH of <2 and were adjusted accordingly using SR# _____ | | |
| Sample labels applied by: <u>CMT</u> Verified by: _____ Date: <u>11/14/14</u> | | |

CMT
11/14/14

Comments:

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Report of Analysis

Petra-Tech Environmental

2435 East North Street
Suite 1108-202
Greenville, SC 29615
Attention: Trever Slack

Project Name: **Morris Oil Co.**

Project Number: **J14-060-A**

Lot Number: **PL17063**

Date Completed: **12/23/2014**



Lucas Odom

Project Manager



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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

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SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative

Petra-Tech Environmental

Lot Number: PL17063

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary Petra-Tech Environmental Lot Number: PL17063

| Sample Number | Sample ID | Matrix | Date Sampled | Date Received |
|---------------|----------------|---------|-----------------|---------------|
| 001 | TRIP BLANK | Aqueous | 12/13/2014 | 12/17/2014 |
| 002 | FB | Aqueous | 12/13/2014 1315 | 12/17/2014 |
| 003 | 08641-MW23 | Solid | 12/13/2014 1451 | 12/17/2014 |
| 004 | 08641-MW15 | Solid | 12/13/2014 1532 | 12/17/2014 |
| 005 | 08641-MW09 | Solid | 12/13/2014 1826 | 12/17/2014 |
| 006 | 08641-MW17 | Solid | 12/13/2014 1301 | 12/17/2014 |
| 007 | 08641-MW08 | Solid | 12/13/2014 1721 | 12/17/2014 |
| 008 | 08641-MW06 | Solid | 12/13/2014 1603 | 12/17/2014 |
| 009 | 08641-MW07 | Solid | 12/13/2014 1312 | 12/17/2014 |
| 010 | 08641-MW09DUP1 | Solid | 12/13/2014 1830 | 12/17/2014 |

(10 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary Petra-Tech Environmental Lot Number: PL17063

| Sample | Sample ID | Matrix | Parameter | Method | Result | Q | Units | Page |
|--------|----------------|--------|-----------------|--------|--------|---|-------|------|
| 004 | 08641-MW15 | Solid | Ethylbenzene | 8260B | 1.5 | J | ug/kg | 8 |
| 005 | 08641-MW09 | Solid | Benzene | 8260B | 5.5 | | ug/kg | 9 |
| 005 | 08641-MW09 | Solid | Ethylbenzene | 8260B | 16 | | ug/kg | 9 |
| 005 | 08641-MW09 | Solid | Naphthalene | 8260B | 3.2 | | ug/kg | 9 |
| 005 | 08641-MW09 | Solid | Toluene | 8260B | 0.76 | J | ug/kg | 9 |
| 005 | 08641-MW09 | Solid | Xylenes (total) | 8260B | 13 | | ug/kg | 9 |
| 007 | 08641-MW08 | Solid | Benzene | 8260B | 8.1 | | ug/kg | 11 |
| 007 | 08641-MW08 | Solid | Ethylbenzene | 8260B | 26 | | ug/kg | 11 |
| 007 | 08641-MW08 | Solid | Naphthalene | 8260B | 9.3 | | ug/kg | 11 |
| 007 | 08641-MW08 | Solid | Toluene | 8260B | 1.1 | J | ug/kg | 11 |
| 007 | 08641-MW08 | Solid | Xylenes (total) | 8260B | 21 | | ug/kg | 11 |
| 008 | 08641-MW06 | Solid | Ethylbenzene | 8260B | 2.4 | J | ug/kg | 12 |
| 008 | 08641-MW06 | Solid | Naphthalene | 8260B | 2.5 | J | ug/kg | 12 |
| 009 | 08641-MW07 | Solid | Benzene | 8260B | 1.7 | J | ug/kg | 13 |
| 009 | 08641-MW07 | Solid | Ethylbenzene | 8260B | 0.93 | J | ug/kg | 13 |
| 009 | 08641-MW07 | Solid | Naphthalene | 8260B | 3.9 | | ug/kg | 13 |
| 010 | 08641-MW09DUP1 | Solid | Benzene | 8260B | 8.4 | | ug/kg | 14 |
| 010 | 08641-MW09DUP1 | Solid | Ethylbenzene | 8260B | 25 | | ug/kg | 14 |
| 010 | 08641-MW09DUP1 | Solid | Naphthalene | 8260B | 4.1 | | ug/kg | 14 |
| 010 | 08641-MW09DUP1 | Solid | Toluene | 8260B | 1.2 | J | ug/kg | 14 |
| 010 | 08641-MW09DUP1 | Solid | Xylenes (total) | 8260B | 19 | | ug/kg | 14 |

(21 detections)

Description: TRIP BLANK

Matrix: Aqueous

Date Sampled: 12/13/2014

Date Received: 12/17/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 12/19/2014 2232 | PMM2 | | 63595 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 77 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 102 | 70-130 | | | | | | | | |
| Toluene-d8 | | 86 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: FB

Matrix: Aqueous

Date Sampled: 12/13/2014 1315

Date Received: 12/17/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | | | | |
|------------------------------------|-------------|-------------------|-------------------|-----------------|---------|-----------|-------|-----|--|--|--|
| 1 | 5030B | 8260B | 1 | 12/19/2014 2255 | PMM2 | | 63595 | | | | |
| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run | | | |
| tert-Amyl alcohol (TAA) | 75-85-4 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| tert-Amyl methyl ether (TAME) | 994-05-8 | 8260B | ND | | 10 | 0.20 | ug/L | 1 | | | |
| Benzene | 71-43-2 | 8260B | ND | | 1.0 | 0.13 | ug/L | 1 | | | |
| tert-Butyl formate (TBF) | 762-75-4 | 8260B | ND | | 5.0 | 1.0 | ug/L | 1 | | | |
| 1,2-Dichloroethane | 107-06-2 | 8260B | ND | | 1.0 | 0.15 | ug/L | 1 | | | |
| Diisopropyl ether (IPE) | 108-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| 3,3-Dimethyl-1-butanol | 624-95-3 | 8260B | ND | | 20 | 1.0 | ug/L | 1 | | | |
| Ethanol | 64-17-5 | 8260B | ND | | 100 | 33 | ug/L | 1 | | | |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Ethyl-tert-butyl ether (ETBE) | 637-92-3 | 8260B | ND | | 1.0 | 0.20 | ug/L | 1 | | | |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| Naphthalene | 91-20-3 | 8260B | ND | | 1.0 | 0.40 | ug/L | 1 | | | |
| tert-butyl alcohol (TBA) | 75-65-0 | 8260B | ND | | 20 | 6.7 | ug/L | 1 | | | |
| Toluene | 108-88-3 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 1.0 | 0.33 | ug/L | 1 | | | |
| Surrogate | Q | Run 1 % Recovery | Acceptance Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 | | 77 | 70-130 | | | | | | | | |
| Bromofluorobenzene | | 102 | 70-130 | | | | | | | | |
| Toluene-d8 | | 86 | 70-130 | | | | | | | | |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW23

Matrix: Solid

Date Sampled: 12/13/2014 1451

% Solids: 89.9 12/17/2014 1949

Date Received: 12/17/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | Sample Wt.(g) |
|-----|-------------|-------------------|----------|-----------------|---------|-----------|-------|---------------|
| 1 | 5035 | 8260B | 1 | 12/18/2014 1149 | DCS | | 63425 | 4.92 |

| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run |
|------------------------------------|------------|-------------------|--------|---|-----|------|-------|-----|
| Benzene | 71-43-2 | 8260B | ND | | 5.7 | 1.2 | ug/kg | 1 |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 5.7 | 1.9 | ug/kg | 1 |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 5.7 | 0.45 | ug/kg | 1 |
| Naphthalene | 91-20-3 | 8260B | ND | | 5.7 | 1.9 | ug/kg | 1 |
| Toluene | 108-88-3 | 8260B | ND | | 5.7 | 1.9 | ug/kg | 1 |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 5.7 | 3.3 | ug/kg | 1 |

| Surrogate | Q | Run 1 % Recovery | Acceptance Limits |
|-----------------------|---|------------------|-------------------|
| 1,2-Dichloroethane-d4 | | 94 | 53-142 |
| Bromofluorobenzene | | 83 | 47-138 |
| Toluene-d8 | | 86 | 68-124 |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | Sample Wt.(g) |
|-----|-------------|-------------------|----------|-----------------|---------|-----------|-------|---------------|
| 1 | 5035 | 8260B | 1 | 12/18/2014 1726 | DCS | | 63425 | 11.08 |

| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run |
|------------------------------------|------------|-------------------|--------|---|-----|------|-------|-----|
| Benzene | 71-43-2 | 8260B | ND | | 2.5 | 0.55 | ug/kg | 1 |
| Ethylbenzene | 100-41-4 | 8260B | 1.5 | J | 2.5 | 0.85 | ug/kg | 1 |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 2.5 | 0.20 | ug/kg | 1 |
| Naphthalene | 91-20-3 | 8260B | ND | | 2.5 | 0.85 | ug/kg | 1 |
| Toluene | 108-88-3 | 8260B | ND | | 2.5 | 0.85 | ug/kg | 1 |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 2.5 | 1.5 | ug/kg | 1 |

| Surrogate | Q | Run 1 % Recovery | Acceptance Limits |
|-----------------------|---|------------------|-------------------|
| 1,2-Dichloroethane-d4 | | 90 | 53-142 |
| Bromofluorobenzene | | 85 | 47-138 |
| Toluene-d8 | | 86 | 68-124 |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | Sample Wt.(g) |
|-----|-------------|-------------------|----------|-----------------|---------|-----------|-------|---------------|
| 1 | 5035 | 8260B | 1 | 12/19/2014 1808 | DCS | | 63558 | 14.47 |

| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run |
|------------------------------------|------------|-------------------|--------|---|-----|------|-------|-----|
| Benzene | 71-43-2 | 8260B | 5.5 | | 1.9 | 0.43 | ug/kg | 1 |
| Ethylbenzene | 100-41-4 | 8260B | 16 | | 1.9 | 0.66 | ug/kg | 1 |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 1.9 | 0.16 | ug/kg | 1 |
| Naphthalene | 91-20-3 | 8260B | 3.2 | | 1.9 | 0.66 | ug/kg | 1 |
| Toluene | 108-88-3 | 8260B | 0.76 | J | 1.9 | 0.66 | ug/kg | 1 |
| Xylenes (total) | 1330-20-7 | 8260B | 13 | | 1.9 | 1.1 | ug/kg | 1 |

| Surrogate | Q | Run 1 % Recovery | Acceptance Limits |
|-----------------------|---|------------------|-------------------|
| 1,2-Dichloroethane-d4 | | 90 | 53-142 |
| Bromofluorobenzene | | 86 | 47-138 |
| Toluene-d8 | | 95 | 68-124 |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | Sample Wt.(g) |
|-----|-------------|-------------------|----------|-----------------|---------|-----------|-------|---------------|
| 1 | 5035 | 8260B | 1 | 12/19/2014 1355 | DCS | | 63558 | 4.60 |

| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run |
|------------------------------------|------------|-------------------|--------|---|-----|------|-------|-----|
| Benzene | 71-43-2 | 8260B | ND | | 6.2 | 1.4 | ug/kg | 1 |
| Ethylbenzene | 100-41-4 | 8260B | ND | | 6.2 | 2.1 | ug/kg | 1 |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 6.2 | 0.49 | ug/kg | 1 |
| Naphthalene | 91-20-3 | 8260B | ND | | 6.2 | 2.1 | ug/kg | 1 |
| Toluene | 108-88-3 | 8260B | ND | | 6.2 | 2.1 | ug/kg | 1 |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 6.2 | 3.6 | ug/kg | 1 |

| Surrogate | Q | Run 1 % Recovery | Acceptance Limits |
|-----------------------|---|------------------|-------------------|
| 1,2-Dichloroethane-d4 | | 96 | 53-142 |
| Bromofluorobenzene | | 88 | 47-138 |
| Toluene-d8 | | 92 | 68-124 |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW08

Matrix: Solid

Date Sampled: 12/13/2014 1721

% Solids: 83.0 12/17/2014 1949

Date Received: 12/17/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | Sample Wt.(g) |
|-----|-------------|-------------------|----------|-----------------|---------|-----------|-------|---------------|
| 1 | 5035 | 8260B | 1 | 12/19/2014 1416 | DCS | | 63558 | 10.58 |

| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run |
|------------------------------------|------------|-------------------|--------|---|-----|------|-------|-----|
| Benzene | 71-43-2 | 8260B | 8.1 | | 2.8 | 0.63 | ug/kg | 1 |
| Ethylbenzene | 100-41-4 | 8260B | 26 | | 2.8 | 0.97 | ug/kg | 1 |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 2.8 | 0.23 | ug/kg | 1 |
| Naphthalene | 91-20-3 | 8260B | 9.3 | | 2.8 | 0.97 | ug/kg | 1 |
| Toluene | 108-88-3 | 8260B | 1.1 | J | 2.8 | 0.97 | ug/kg | 1 |
| Xylenes (total) | 1330-20-7 | 8260B | 21 | | 2.8 | 1.7 | ug/kg | 1 |

| Surrogate | Q | Run 1 % Recovery | Acceptance Limits |
|-----------------------|---|------------------|-------------------|
| 1,2-Dichloroethane-d4 | | 91 | 53-142 |
| Bromofluorobenzene | | 87 | 47-138 |
| Toluene-d8 | | 93 | 68-124 |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW06

Matrix: Solid

Date Sampled: 12/13/2014 1603

% Solids: 86.3 12/17/2014 1949

Date Received: 12/17/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | Sample Wt.(g) |
|-----|-------------|-------------------|----------|-----------------|---------|-----------|-------|---------------|
| 1 | 5035 | 8260B | 1 | 12/19/2014 1437 | DCS | | 63558 | 8.79 |

| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run |
|------------------------------------|------------|-------------------|--------|---|-----|------|-------|-----|
| Benzene | 71-43-2 | 8260B | ND | | 3.3 | 0.72 | ug/kg | 1 |
| Ethylbenzene | 100-41-4 | 8260B | 2.4 | J | 3.3 | 1.1 | ug/kg | 1 |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 3.3 | 0.26 | ug/kg | 1 |
| Naphthalene | 91-20-3 | 8260B | 2.5 | J | 3.3 | 1.1 | ug/kg | 1 |
| Toluene | 108-88-3 | 8260B | ND | | 3.3 | 1.1 | ug/kg | 1 |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 3.3 | 1.9 | ug/kg | 1 |

| Surrogate | Q | Run 1 % Recovery | Acceptance Limits |
|-----------------------|---|------------------|-------------------|
| 1,2-Dichloroethane-d4 | | 89 | 53-142 |
| Bromofluorobenzene | | 88 | 47-138 |
| Toluene-d8 | | 95 | 68-124 |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 08641-MW07

Matrix: Solid

Date Sampled: 12/13/2014 1312

% Solids: 78.7 12/17/2014 1949

Date Received: 12/17/2014

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | Sample Wt.(g) |
|-----|-------------|-------------------|----------|-----------------|---------|-----------|-------|---------------|
| 1 | 5035 | 8260B | 1 | 12/19/2014 1850 | DCS | | 63558 | 11.87 |

| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run |
|------------------------------------|------------|-------------------|--------|---|-----|------|-------|-----|
| Benzene | 71-43-2 | 8260B | 1.7 | J | 2.7 | 0.59 | ug/kg | 1 |
| Ethylbenzene | 100-41-4 | 8260B | 0.93 | J | 2.7 | 0.91 | ug/kg | 1 |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 2.7 | 0.21 | ug/kg | 1 |
| Naphthalene | 91-20-3 | 8260B | 3.9 | | 2.7 | 0.91 | ug/kg | 1 |
| Toluene | 108-88-3 | 8260B | ND | | 2.7 | 0.91 | ug/kg | 1 |
| Xylenes (total) | 1330-20-7 | 8260B | ND | | 2.7 | 1.6 | ug/kg | 1 |

| Surrogate | Q | Run 1 % Recovery | Acceptance Limits |
|-----------------------|---|------------------|-------------------|
| 1,2-Dichloroethane-d4 | | 89 | 53-142 |
| Bromofluorobenzene | | 87 | 47-138 |
| Toluene-d8 | | 92 | 68-124 |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

| Run | Prep Method | Analytical Method | Dilution | Analysis Date | Analyst | Prep Date | Batch | Sample Wt.(g) |
|-----|-------------|-------------------|----------|-----------------|---------|-----------|-------|---------------|
| 1 | 5035 | 8260B | 1 | 12/19/2014 1519 | DCS | | 63558 | 11.46 |

| Parameter | CAS Number | Analytical Method | Result | Q | PQL | MDL | Units | Run |
|------------------------------------|------------|-------------------|--------|---|-----|------|-------|-----|
| Benzene | 71-43-2 | 8260B | 8.4 | | 2.9 | 0.64 | ug/kg | 1 |
| Ethylbenzene | 100-41-4 | 8260B | 25 | | 2.9 | 0.99 | ug/kg | 1 |
| Methyl tertiary butyl ether (MTBE) | 1634-04-4 | 8260B | ND | | 2.9 | 0.23 | ug/kg | 1 |
| Naphthalene | 91-20-3 | 8260B | 4.1 | | 2.9 | 0.99 | ug/kg | 1 |
| Toluene | 108-88-3 | 8260B | 1.2 | J | 2.9 | 0.99 | ug/kg | 1 |
| Xylenes (total) | 1330-20-7 | 8260B | 19 | | 2.9 | 1.7 | ug/kg | 1 |

| Surrogate | Q | Run 1 % Recovery | Acceptance Limits |
|-----------------------|---|------------------|-------------------|
| 1,2-Dichloroethane-d4 | | 88 | 53-142 |
| Bromofluorobenzene | | 88 | 47-138 |
| Toluene-d8 | | 96 | 68-124 |

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ63425-001

Matrix: Solid

Batch: 63425

Prep Method: 5035

Analytical Method: 8260B

| Parameter | Result | Q | Dil | PQL | MDL | Units | Analysis Date |
|------------------------------------|--------|-------|------------------|-----|------|-------|-----------------|
| Benzene | ND | | 1 | 5.0 | 1.1 | ug/kg | 12/18/2014 1031 |
| Ethylbenzene | ND | | 1 | 5.0 | 1.7 | ug/kg | 12/18/2014 1031 |
| Methyl tertiary butyl ether (MTBE) | ND | | 1 | 5.0 | 0.40 | ug/kg | 12/18/2014 1031 |
| Naphthalene | ND | | 1 | 5.0 | 1.7 | ug/kg | 12/18/2014 1031 |
| Toluene | ND | | 1 | 5.0 | 1.7 | ug/kg | 12/18/2014 1031 |
| Xylenes (total) | ND | | 1 | 5.0 | 2.9 | ug/kg | 12/18/2014 1031 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 84 | 47-138 | | | | |
| 1,2-Dichloroethane-d4 | | 93 | 53-142 | | | | |
| Toluene-d8 | | 86 | 68-124 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ63425-002

Matrix: Solid

Batch: 63425

Prep Method: 5035

Analytical Method: 8260B

| Parameter | Spike Amount (ug/kg) | Result (ug/kg) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|------------------------------------|----------------------|----------------|------------------|-----|-------|-------------|-----------------|
| Benzene | 50 | 39 | | 1 | 77 | 69-123 | 12/18/2014 0936 |
| Ethylbenzene | 50 | 38 | | 1 | 77 | 59-128 | 12/18/2014 0936 |
| Methyl tertiary butyl ether (MTBE) | 50 | 42 | | 1 | 84 | 70-130 | 12/18/2014 0936 |
| Naphthalene | 50 | 40 | | 1 | 80 | 54-131 | 12/18/2014 0936 |
| Toluene | 50 | 36 | | 1 | 73 | 61-129 | 12/18/2014 0936 |
| Xylenes (total) | 100 | 78 | | 1 | 78 | 58-128 | 12/18/2014 0936 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 86 | 47-138 | | | | |
| 1,2-Dichloroethane-d4 | | 92 | 53-142 | | | | |
| Toluene-d8 | | 89 | 68-124 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ63558-001

Matrix: Solid

Batch: 63558

Prep Method: 5035

Analytical Method: 8260B

| Parameter | Result | Q | Dil | PQL | MDL | Units | Analysis Date |
|------------------------------------|--------|-------|------------------|-----|------|-------|-----------------|
| Benzene | ND | | 1 | 5.0 | 1.1 | ug/kg | 12/19/2014 1210 |
| Ethylbenzene | ND | | 1 | 5.0 | 1.7 | ug/kg | 12/19/2014 1210 |
| Methyl tertiary butyl ether (MTBE) | ND | | 1 | 5.0 | 0.40 | ug/kg | 12/19/2014 1210 |
| Naphthalene | ND | | 1 | 5.0 | 1.7 | ug/kg | 12/19/2014 1210 |
| Toluene | ND | | 1 | 5.0 | 1.7 | ug/kg | 12/19/2014 1210 |
| Xylenes (total) | ND | | 1 | 5.0 | 2.9 | ug/kg | 12/19/2014 1210 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 88 | 47-138 | | | | |
| 1,2-Dichloroethane-d4 | | 93 | 53-142 | | | | |
| Toluene-d8 | | 93 | 68-124 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ63558-002

Matrix: Solid

Batch: 63558

Prep Method: 5035

Analytical Method: 8260B

| Parameter | Spike Amount (ug/kg) | Result (ug/kg) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|------------------------------------|----------------------|----------------|------------------|-----|-------|-------------|-----------------|
| Benzene | 50 | 54 | | 1 | 109 | 69-123 | 12/19/2014 1109 |
| Ethylbenzene | 50 | 53 | | 1 | 106 | 59-128 | 12/19/2014 1109 |
| Methyl tertiary butyl ether (MTBE) | 50 | 56 | | 1 | 113 | 70-130 | 12/19/2014 1109 |
| Naphthalene | 50 | 55 | | 1 | 109 | 54-131 | 12/19/2014 1109 |
| Toluene | 50 | 55 | | 1 | 109 | 61-129 | 12/19/2014 1109 |
| Xylenes (total) | 100 | 110 | | 1 | 110 | 58-128 | 12/19/2014 1109 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 88 | 47-138 | | | | |
| 1,2-Dichloroethane-d4 | | 86 | 53-142 | | | | |
| Toluene-d8 | | 96 | 68-124 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: PL17063-006MS

Matrix: Solid

Batch: 63558

Prep Method: 5035

Analytical Method: 8260B

| Parameter | Sample Amount (ug/kg) | Spike Amount (ug/kg) | Result (ug/kg) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|------------------------------------|-----------------------|----------------------|------------------|---|-----|-------|-------------|-----------------|
| Benzene | ND | 37 | 24 | N | 1 | 64 | 69-123 | 12/19/2014 1932 |
| Ethylbenzene | ND | 37 | 21 | N | 1 | 56 | 59-128 | 12/19/2014 1932 |
| Methyl tertiary butyl ether (MTBE) | ND | 37 | 31 | | 1 | 83 | 70-130 | 12/19/2014 1932 |
| Naphthalene | ND | 37 | 24 | | 1 | 64 | 54-131 | 12/19/2014 1932 |
| Toluene | ND | 37 | 23 | | 1 | 62 | 61-129 | 12/19/2014 1932 |
| Xylenes (total) | ND | 74 | 44 | | 1 | 59 | 58-128 | 12/19/2014 1932 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | | |
| 1,2-Dichloroethane-d4 | | 95 | 53-142 | | | | | |
| Bromofluorobenzene | | 91 | 47-138 | | | | | |
| Toluene-d8 | | 95 | 68-124 | | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: PL17063-007DU

Matrix: Solid

Batch: 63558

Prep Method: 5035

Analytical Method: 8260B

| Parameter | Sample Amount (ug/kg) | Result (ug/kg) | Q | Dil | % RPD | % RPD Limit | Analysis Date |
|------------------------------------|-----------------------|----------------|------------------|-----|-------|-------------|-----------------|
| Benzene | 8.1 | 8.0 | | 1 | 0.67 | 20 | 12/19/2014 1911 |
| Ethylbenzene | 26 | 26 | | 1 | 2.6 | 20 | 12/19/2014 1911 |
| Methyl tertiary butyl ether (MTBE) | ND | ND | | 1 | 0.00 | 20 | 12/19/2014 1911 |
| Naphthalene | 9.3 | 8.7 | | 1 | 6.7 | 20 | 12/19/2014 1911 |
| Toluene | 1.1 | ND | | 1 | 0.00 | 20 | 12/19/2014 1911 |
| Xylenes (total) | 21 | 20 | | 1 | 4.0 | 20 | 12/19/2014 1911 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| 1,2-Dichloroethane-d4 | | 90 | 53-142 | | | | |
| Bromofluorobenzene | | 89 | 47-138 | | | | |
| Toluene-d8 | | 95 | 68-124 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ63595-001

Matrix: Aqueous

Batch: 63595

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Result | Q | Dil | PQL | MDL | Units | Analysis Date |
|------------------------------------|--------|-------|------------------|-----|------|-------|-----------------|
| tert-Amyl alcohol (TAA) | ND | | 1 | 20 | 6.7 | ug/L | 12/19/2014 2147 |
| tert-Amyl methyl ether (TAME) | ND | | 1 | 10 | 0.20 | ug/L | 12/19/2014 2147 |
| Benzene | ND | | 1 | 1.0 | 0.13 | ug/L | 12/19/2014 2147 |
| tert-Butyl formate (TBF) | ND | | 1 | 5.0 | 1.0 | ug/L | 12/19/2014 2147 |
| 1,2-Dichloroethane | ND | | 1 | 1.0 | 0.15 | ug/L | 12/19/2014 2147 |
| Diisopropyl ether (IPE) | ND | | 1 | 1.0 | 0.40 | ug/L | 12/19/2014 2147 |
| 3,3-Dimethyl-1-butanol | ND | | 1 | 20 | 1.0 | ug/L | 12/19/2014 2147 |
| Ethanol | ND | | 1 | 100 | 33 | ug/L | 12/19/2014 2147 |
| Ethylbenzene | ND | | 1 | 1.0 | 0.33 | ug/L | 12/19/2014 2147 |
| Ethyl-tert-butyl ether (ETBE) | ND | | 1 | 1.0 | 0.20 | ug/L | 12/19/2014 2147 |
| Methyl tertiary butyl ether (MTBE) | ND | | 1 | 1.0 | 0.40 | ug/L | 12/19/2014 2147 |
| Naphthalene | ND | | 1 | 1.0 | 0.40 | ug/L | 12/19/2014 2147 |
| tert-butyl alcohol (TBA) | ND | | 1 | 20 | 6.7 | ug/L | 12/19/2014 2147 |
| Toluene | ND | | 1 | 1.0 | 0.33 | ug/L | 12/19/2014 2147 |
| Xylenes (total) | ND | | 1 | 1.0 | 0.33 | ug/L | 12/19/2014 2147 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 103 | 70-130 | | | | |
| 1,2-Dichloroethane-d4 | | 76 | 70-130 | | | | |
| Toluene-d8 | | 87 | 70-130 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ63595-002

Matrix: Aqueous

Batch: 63595

Prep Method: 5030B

Analytical Method: 8260B

| Parameter | Spike Amount (ug/L) | Result (ug/L) | Q | Dil | % Rec | % Rec Limit | Analysis Date |
|------------------------------------|---------------------|---------------|------------------|-----|-------|-------------|-----------------|
| tert-Amyl alcohol (TAA) | 1000 | 950 | | 1 | 95 | 70-130 | 12/19/2014 2047 |
| tert-Amyl methyl ether (TAME) | 50 | 43 | | 1 | 86 | 70-130 | 12/19/2014 2047 |
| Benzene | 50 | 42 | | 1 | 83 | 70-130 | 12/19/2014 2047 |
| tert-Butyl formate (TBF) | 250 | 210 | | 1 | 85 | 70-130 | 12/19/2014 2047 |
| 1,2-Dichloroethane | 50 | 44 | | 1 | 88 | 70-130 | 12/19/2014 2047 |
| Diisopropyl ether (IPE) | 50 | 43 | | 1 | 85 | 70-130 | 12/19/2014 2047 |
| 3,3-Dimethyl-1-butanol | 1000 | 990 | | 1 | 99 | 70-130 | 12/19/2014 2047 |
| Ethanol | 5000 | 4800 | | 1 | 96 | 60-140 | 12/19/2014 2047 |
| Ethylbenzene | 50 | 48 | | 1 | 97 | 70-130 | 12/19/2014 2047 |
| Ethyl-tert-butyl ether (ETBE) | 50 | 43 | | 1 | 87 | 70-130 | 12/19/2014 2047 |
| Methyl tertiary butyl ether (MTBE) | 50 | 41 | | 1 | 82 | 70-130 | 12/19/2014 2047 |
| Naphthalene | 50 | 53 | | 1 | 105 | 70-130 | 12/19/2014 2047 |
| tert-butyl alcohol (TBA) | 1000 | 990 | | 1 | 99 | 70-130 | 12/19/2014 2047 |
| Toluene | 50 | 46 | | 1 | 91 | 70-130 | 12/19/2014 2047 |
| Xylenes (total) | 100 | 97 | | 1 | 97 | 70-130 | 12/19/2014 2047 |
| Surrogate | Q | % Rec | Acceptance Limit | | | | |
| Bromofluorobenzene | | 101 | 70-130 | | | | |
| 1,2-Dichloroethane-d4 | | 78 | 70-130 | | | | |
| Toluene-d8 | | 87 | 70-130 | | | | |

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"


Note: Calculations are performed before rounding to avoid round-off errors in calculated results

SHEALY ENVIRONMENTAL SERVICES, INC.

Number 40768

SHEALY ENVIRONMENTAL SERVICES, INC.
 106 Vantage Point Drive • West Columbia, SC 29172
 Telephone No. 803-791-9700 Fax No. 803-791-9111
 www.shealylab.com

Chain of Custody Record

| | | | |
|--|--|---|---|
| Client: Petra-Tech Envi. Address: 2435 G. North St. Ste 1108-202 City: Greenville State: SC Zip Code: 29615 Project Name: Monte Carlo | Report to Contact: Tracey Z. Slank Sampler's Signature: <i>[Signature]</i> Print Name: _____ | Telephone No. / E-mail: tslank@petrotechenvi.com Analysis (Attach for 7 more space is needed) | Quote No. _____ Page 1 of 1  PL17063 Remarks / Cooler I.D. _____ |
| Turn Around Time Required (Prior lab approval required for expedited RTT): <input type="checkbox"/> Standard <input type="checkbox"/> Rush (Specify) _____ | Sample Disposal: <input checked="" type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Non-Hazardous <input type="checkbox"/> Hazardous <input type="checkbox"/> Flammable <input type="checkbox"/> Poison <input type="checkbox"/> Unknown | GC Requirements (Specify): SCATEC UST | Date: 12/17/14 Time: 11:00 Date: _____ Time: _____ Date: _____ Time: _____ Date: _____ Time: _____ |
| 1. Requisitioned by: <i>[Signature]</i> 2. Requisitioned by: _____ 3. Requisitioned by: _____ 4. Requisitioned by: <i>[Signature]</i> | 1. Received by: <i>[Signature]</i> Time: _____ 2. Received by: _____ Time: _____ 3. Received by: _____ Time: _____ 4. Laboratory received by: <i>[Signature]</i> Time: 12/17/14 15:15 LAB USE ONLY Received on ice (Circle) (Yes) No Ice Pack Receipt Temp. 7.2 °C | Note: All samples are retained for four weeks from receipt unless other arrangements are made. | |

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
 Document Number: F-AD-016
 Revision Number: 16

Page 1 of 1
 Replaces Date: 07/15/14
 Effective Date: 11/07/14

Sample Receipt Checklist (SRC)

Client: Retva-Tech Cooler Inspected by/date: MGM/12/17/14 Lot #: PL17063

| | | |
|---|--|---|
| Means of receipt: <input checked="" type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Airborne Exp <input type="checkbox"/> Other | | |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 1. Were custody seals present on the cooler? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | 2. If custody seals were present, were they intact and unbroken? |
| Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>1.3/4.2</u> °C / / °C / / °C / / °C | | |
| Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: #4 IR Gun Correction Factor: <u>0.1</u> °C | | |
| Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | 3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.) |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | 4. Is the commercial courier's packing slip attached to this form? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 5. Were proper custody procedures (relinquished/received) followed? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | 5a. Were samples relinquished by client to commercial courier? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 6. Were sample IDs listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 7. Were sample IDs listed on all sample containers? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 8. Was collection date & time listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 9. Was collection date & time listed on all sample containers? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 10. Did all container label information (ID, date, time) agree with the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 11. Were tests to be performed listed on the COC? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 12. Did all samples arrive in the proper containers for each test? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 13. Did all containers arrive in good condition (unbroken, lids on, etc.)? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 14. Was adequate sample volume available? |
| Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 15. Were all samples received within ½ the holding time or 48 hours, whichever comes first? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 16. Were any samples containers missing? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 17. Were there any excess samples not listed on COC? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 18. Were bubbles present > "pca-size" (¼" or 6mm in diameter) in any VOA vials? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | 19. Were all metals/O&G/HEM/nutrient samples received at a pH of <2? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | 20. Were all cyanide and/or sulfide samples received at a pH >12? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | 21. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | 22. Were collection temperatures documented on the COC for NC samples? |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | 23. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS? |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | 24. Was the quote number used taken from the container label? |
| Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.) | | |
| Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) using SR # _____. | | |
| Sample(s) _____ were received with bubbles >6 mm in diameter. | | |
| Sample(s) _____ were received with TRC >0.2 mg/L (If #21 is No) | | |
| SC Drinking Water Project Sample(s) pH verified to be > 2 by _____ Date: _____ | | |
| Sample(s) _____ were not received at a pH of <2 and were adjusted accordingly using SR# _____ | | |
| Sample labels applied by: <u>MGM</u> Verified by: _____ Date: <u>12/17/14</u> | | |

Comments:

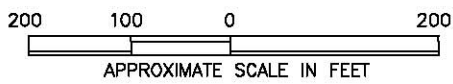
**MORRIS OIL CO. – UST PERMIT #08641
TIER II ASSESSMENT**

APPENDIX C

TAX MAP AND TAX MAP INFORMATION TABLE



REFERENCE: Orangeburg County Online Tax Map Database



| | | | |
|---------|---|--|-----------------|
| Title | Tax Map | | Figure No. X |
| Project | Morris Oil Company (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | | |
| Date | 12/10/2014 | | |
| Job No. | J14-060-A | | |

TAX MAP TABLE
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| Tax Map Property ID | Spartanburg County Tax Map Number | Property Address | Property Owner Name | Property Owner Phone | Property Owner Mailing Address | Notes |
|---------------------|-----------------------------------|-----------------------|--|----------------------|--|---|
| 1 | 7-12-15-405.00 | 427 ALEXANDER AVENUE | DW MORRIS PROPERTIES, LLC | 864.585.9203 | 216 CYPRESS CREEK DRIVE SPARTANBURG, SC 29307 | UST Permit #08641 |
| 2 | 7-12-16-022.01 | 428 ALEXANDER AVENUE | LAWSON & LAWSON, LLC | 864.680.1950 | 110 FRETWELL STREET SPARTANBURG, SC 29306 | Groundwater screening boring location GW05; Groundwater monitoring well 08641- MW12 |
| 3 | 7-12-16-021.00 | 424 ALEXANDER AVENUE | DENNIS WEBB ELECTRICAL SERVICE | Not Available | 424 ALEXANDER AVENUE SPARTANBURG, SC 29302 | UST Permit #17559; Groundwater monitoring well 08641-MW18 |
| 4 | 7-12-15-406.00 | 461 UNION STREET | CHARLES SPANN, SR. | Not Available | 104 CAMERON DRIVE SPARTANBURG, SC 29302 | Groundwater monitoring well 08641-MW20 |
| 5 | 7-12-16-022.00 | 100 FRETWELL STREET | LAWSON & LAWSON, LLC | 864.680.1950 | 110 FRETWELL STREET SPARTANBURG, SC 29306 | |
| 6 | 7-12-16-032.00 | UNION STREET | CHARLES SPANN, SR. | Not Available | 104 CAMERON DRIVE SPARTANBURG, SC 29302 | |
| 7 | 7-12-16-031.00 | 491 UNION STREET | CHARLES SPANN, SR. | Not Available | 104 CAMERON DRIVE SPARTANBURG, SC 29302 | |
| 8 | 7-12-16-020.00 | 101 FRETWELL STREET | CROOK PROPERTIES, LLC | Not Available | 1297 BRENTWOOD DRIVE SPARTANBURG, SC 29302 | |
| 9 | 7-12-15-400.00 | 400 RIDGEWOOD AVENUE | GLADYS SKINNER | 864.573.6410 | 1540 WHITE OAK STREET SPARTANBURG, SC 29307 | Groundwater screening boring location GW12, GW12D, GW14, and GW15; Groundwater monitoring well 08641-MW10 and 08641-MW11 |
| 10 | 7-12-15-402.00 | 439 UNION STREET | KIM KEITH | 864.596.0631 | 1525 SKYLYN DRIVE SPARTANBURG, SC 29307 | Groundwater screening boring location GW11 and GW11D; Groundwater monitoring well 08641-MW22 |
| 11 | 7-12-16-068.00 | PINE STREET | CITY OF SPARTANBURG | Not Available | PO BOX 1749 SPARTANBURG, SC 29304 | Groundwater screening boring location GW09, GW13, and GW13D; Groundwater monitoring well 08641-MW13, 08641- MW14, 08641-MW16 |
| 12 | 7-12-11-311.00 | 266 PINE STREET | YMCA | 864.237.1940 | 266 PINE STREET SPARTANBURG, SC 29302 | |
| 13 | 7-12-15-422.00 | 450 UNION STREET | CHARLES SPANN, SR. | Not Available | 104 CAMERON DRIVE SPARTANBURG, SC 29302 | UST Permit #08648 |
| 14 | 7-12-15-380.00 | 366 ALEXANDER AVENUE | LEROY SHEPPARD | Not Available | 366 ALEXANDER AVENUE SPARTANBURG, SC 29302 | |
| 15 | 7-12-15-380.01 | 422 UNION STREET | CHARLES LEA CENTER FOR REHAB | 864.562.2222 | 195 BURDETTE STREET SPARTANBURG, SC 29306 | Groundwater screening boring location GW21 |
| 16 | 7-12-15-378.00 | 420 UNION STREET | SURYA VANSHI PROPERTIES, LLC | Not Available | 227 ORCHARD GROVE ROAD CAMPOBELLO, SC 29322 | UST Permit #19566 |
| 17 | 7-12-15-359.00 | 358A RIDGEWOOD AVENUE | THE FORFEITED LAND COMMISSION OF SPARTANBURG COUNTY | Not Available | 366 N CHURCH STREET SPARTANBURG, SC 29303 | |
| 18 | 7-12-15-358.00 | 412 UNION STREET | GARY & JOYCE KIRKLAND TRUST | 864.576.5306 | PO BOX 1087 ROEBUCK, SC 29376 | |
| 19 | 7-12-15-357.00 | 410 UNION STREET | GARY & JOYCE KIRKLAND TRUST | 864.582.6701 | PO BOX 1087 ROEBUCK, SC 29376 | Surface water sampling location SW01 |
| 20 | 7-12-15-399.01 | 419 UNION STREET | KIM KEITH | 864.596.0631 | 1525 SKYLYN DRIVE SPARTANBURG, SC 29307 | |
| 21 | 7-12-15-399.00 | 417 UNION STREET | JASON PYE | Not Available | 5 CATESWOOD DRIVE SPARTANBURG, SC 29302 | Groundwater screening boring location GW16 |
| 22 | 7-12-15-398.00 | 413 UNION STREET | JONES SIGN COMPANY | Not Available | 413 UNION STREET SPARTANBURG, SC 29306 | |
| 23 | 7-12-15-397.00 | UNION STREET | JONES SIGN COMPANY | Not Available | 413 UNION STREET SPARTANBURG, SC 29306 | |
| 24 | 7-12-15-396.00 | 411 UNION STREET | SOUTH PHIFER PROPERTIES, LLC | 864.585.2000 | PO BOX 3524 SPARTANBURG, SC 29304 | |
| 25 | 7-12-15-403.00 | 453 UNION STREET | PAUL & MARY BETH LOFTON, JR. | Not Available | 404 E PARK DRIVE SPARTANBURG, SC 29302 | Groundwater screening boring location GW10; Groundwater monitoring well 08641- MW19 and 08641-MW22 |

**MORRIS OIL CO. – UST PERMIT #08641
TIER II ASSESSMENT**

APPENDIX D

**SOIL BORING LOGS, FIELD SCREENING LOGS, WATER WELL RECORDS
(DHEC FORM 1903)**



Water Well Record
Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION: Name: **Former Morris Oil Co.**
Address: (last) (first) **427 Alexander Avenue**
City: **Spartanburg** State: **SC** Zip: _____
Phone: **N/A**

2. LOCATION OF WELL: COUNTY: **Spartanburg**
Name: **Former Morris Oil Co.**
Address: **427 Alexander Avenue**
City: **Spartanburg, South Carolina**
34°56'44.68"N 81°55'03.01"W

3. PUBLIC SYSTEM NAME **08641- Gwold**

4. ABANDONMENT: **Yes**
Grouted Depth: from **0.00** to **28** ft.

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
|-----------------------|----------------------|----------------------------|
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5. REMARKS: **Refusal at 28'**

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool Auger Other

7. PERMIT NUMBER: **UST Permit #08641**

8. USE: Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well Monitor Well Replacement

9. WELL DEPTH (completed) **28** ft. Date Started: **9/26/14**
Date Completed: **9/26/14**

10. CASING: I threaded Welded
Diameter: _____
Type: _____
Height: Below _____ ft. Surface: _____ ft. Weight: _____ lb./ft.
Drive Shoe: _____

11. SCREEN: Type: _____ Diameter: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
Sieve Analysis: Y/N

12. STATIC WATER LEVEL _____ ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface: _____ ft. after _____ hrs Pumping _____ GPM
Pumping Test: _____
Yield: _____

14. WATER QUALITY Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack) Installed from: _____ ft. to _____ ft.
Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUTED? Neat Cement Bentonite Bentonite/Cement Other
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
Type: _____
Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP: Date installed: _____
Mfr. Name: _____ Model no.: _____
H.P.: _____ Volts: _____ Length of pipe: _____ ft.
Capacity: _____ gpm
TYPE: Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Michael Carey **CERT NO.: 1920**
Address: 2047 Industrial Dvd Level: **A B C D**
Lexington, SC 29072 (circle one)
Telephone: 803 429 5001 Fax: _____

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: **Michael Carey**
Date: **9/26/14**
If D Level Driller, provide supervising driller's name.
Jason Chiorazzi 1790B
Joe Smith 1648B



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 (last) (first)
 Address: **427 Alexander Avenue**
 City: **Spartanburg** State: **SC** Zip: _____
 Phone: **N/A**

7. PERMIT NUMBER: **UST Permit #08641**

8. USE:
 Residential _____ Public Supply _____ Process _____
 Irrigation _____ Air Conditioning _____ Emergency _____
Test Well **Monitor Well** Replacement _____

9. WELL DEPTH (completed)
 18 ft. Date Started: 9/26/14
 Date Completed: 9/26/14

2. LOCATION OF WELL: COUNTY: **Spartanburg**
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**

10. CASING:
 Diameter: 1.5" Threaded _____ Welded _____
 Type: Steel
1.5" in. to 14 ft. depth
 _____ in. to _____ ft. depth
 Height: Below _____
 Surface: _____ ft. Weight: lb./ft. _____
 Drive Shoe: _____

3. PUBLIC SYSTEM NAME 08641- Gwo2

11. SCREEN:
 Type: steel Diameter: 1.5"
 Slot/Gauge: _____ Length: 4'
 Set Between: 14 ft. and 18 ft.
 _____ ft. and _____ ft.
 Sieve Analysis: Y/N

4. ABANDONMENT: **yes**
 Grouted Depth: from 0.00 to 18 ft.

12. STATIC WATER LEVEL 14 ft. below land surface after 24 hours

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
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13. PUMPING LEVEL Below Land Surface.
 _____ ft. after _____ hrs Pumping GPM _____
 Pumping Test: _____
 Yield: _____

14. WATER QUALITY
 Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack)
 Installed from: _____ ft. to _____ ft.
 Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUTED?
 Neat Cement _____ Bentonite _____ Bentonite/Cement _____ Other _____
 Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction _____
 Type: _____
 Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP: Date installed: _____
 Mfr. Name: _____ Model no.: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: _____
 Submersible _____ Jet (shallow) _____ Turbine _____
 Jet (deep) _____ Reciprocating _____ Centrifugal _____

19. WELL DRILLER: **Michael Carey** **CERT NO.:** **1920**
 Address: **2047 Industrial Div** Level: **A** **B** **C**
Lexington, SC 29072 (circle one)
 Telephone: **803.429.5001** Fax: _____

5. REMARKS:
 OVA/PID
 0.1 ppm

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
 Signed:
 Date: 9/26/14

6. TYPE: Mud Rotary _____ Jetted _____ Bored _____
 Dug _____ Air Rotary _____ Driven _____
 Cable tool _____ Auger _____ Other _____

If D Level Driller, provide supervising driller's name.
 Jason Chiorazzi 1790B
 Joe Smith 1648B



**Water Well Record
Bureau of Water**

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 Address: (last) (first)
427 Alexander Avenue
 City: **Spartanburg** State: **SC** Zip:
 Phone: **N/A**

7. PERMIT NUMBER: **UST Permit #08641**

8. USE:

| | | |
|------------------|---------------------|-------------|
| Residential | Public Supply | Process |
| Irrigation | Air Conditioning | Emergency |
| <u>Test Well</u> | Monitor Well | Replacement |

9. WELL DEPTH (completed)
26 ft. Date Started: **9/26/14**
 Date Completed: **9/26/14**

2. LOCATION OF WELL: COUNTY: **Spartanburg**
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**
34°56'44.53"N 81°55'01.46"W

10. CASING: ~~Threaded~~
 Diameter: **1.5"** Welded
 Type: **Steel**
1.5 in. to **22** ft. depth
 in. to _____ ft. depth
 Height: Below
 Surface: _____ ft. Weight: lb./ft.
 Drive Shoe: _____

3. PUBLIC SYSTEM NAME **08641- GWO4**

11. SCREEN:
 Type: **Steel** Diameter: **1.5"**
 Slot/Gauge: _____ Length: **4'**
 Set Between: **22** ft. and **26** ft.
 ft. and _____ ft.
 Sieve Analysis: Y/N

4. ABANDONMENT: **Yes**
 Grouted Depth: from 0.00 to **26** ft.

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
|-----------------------|----------------------------|----------------------------------|
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12. STATIC WATER LEVEL **23** ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
 _____ ft. after _____ hrs Pumping GPM
 Pumping Test: _____
 Yield: _____

14. WATER QUALITY
 Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack)
 Installed from: _____ ft. to _____ ft.
 Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUTED?
 Neat Cement _____ Bentonite _____ Bentonite/Cement _____ Other _____
 Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 Type: _____
 Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP: Date installed: _____
 Mfr. Name: _____ Model no.: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: _____
 Submersible _____ Jet (shallow) _____ Turbine _____
 Jet (deep) _____ Reciprocating _____ Centrifugal _____

19. WELL DRILLER: Michael Carey **CERT NO.: 1920**
 Address: 2047 Industrial Blvd Level: **A** **B** **C**
 Lexington, SC 29072 (circle one)
 Telephone: 803.429.5001 Fax: _____

5. REMARKS:
**OVA/PTD
0.4/gpm**

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
 my direction and this report is true to the best of my knowledge and belief.

Signed: **Michael Carey**
 Date: **9/26/14**

6. TYPE: Mud Rotary _____ Jetted _____ Bored _____
 Dug _____ Air Rotary _____ Driven _____
 Cable tool _____ Auger _____ Other _____

If D Level Driller, provide supervising driller's name.
 Jason Chiorazzi 1790B
 Joe Smith 1648B



**Water Well Record
Bureau of Water**

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 Address: (last) (first)
427 Alexander Avenue
 City: **Spartanburg** State: **SC** Zip: _____
 Phone: **N/A**

7. PERMIT NUMBER: **UST Permit #08641**
8. USE:
 Residential _____ Public Supply _____ Process _____
 Irrigation _____ Air Conditioning _____ Emergency _____
 Test Well **Monitor Well** Replacement _____

9. WELL DEPTH (completed)
 _____ ft. Date Started: **9/26/14**
20 ft. Date Completed: **9/26/14**

2. LOCATION OF WELL: COUNTY: **Spartanburg**
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**

10. CASING: **I threaded** **Welded**
 Diameter: **1.5"**
 Type: **Steel**
 _____ in. to _____ ft. depth
 _____ in. to _____ ft. depth
 Height: Below _____ ft.
 Surface: _____ ft. Weight: lb./ft.
 Drive Shoe: _____

3. PUBLIC SYSTEM NAME **08641- Gw05**

11. SCREEN:
 Type: **Steel** Diameter: **1.5"**
 Slot/Gauge: _____ Length: **4'**
 Set Between: **16** ft. and **20** ft.
 _____ ft. and _____ ft.
 Sieve Analysis: **Y/N**

4. ABANDONMENT: **Yes**
 Grouted Depth: from **0.00** to **20** ft.

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
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12. STATIC WATER LEVEL **16** ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
 _____ ft. after _____ hrs Pumping GPM
 Pumping Test: _____
 Yield: _____

14. WATER QUALITY
 Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack)
 Installed from: _____ ft. to _____ ft.
 Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUTED?
 Neat Cement **Bentonite** **Bentonite/Cement** **Other**
 Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 Type: _____
 Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP: Date installed: _____
 Mfr. Name: _____ Model no.: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: Submersible Jet (shallow) Turbine
 Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: **Michael Carey** **CERT NO.: 1920**
 Address: **2047 Industrial Blvd** Level: **A B C**
Lexington, SC 29072 (circle one)
 Telephone: **803.429.5001** Fax: _____

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

5. REMARKS: **OVA/PID**
0.0 gpm

6. TYPE: Mud Rotary _____ Jetted _____ Bored _____
 Dug _____ Air Rotary _____ **Driven**
 Cable tool _____ Auger _____ Other _____

Signed: **Michael Carey**
 Date: **9/26/14**

If D Level Driller, provide supervising driller's name.
 Jason Chiorazzi 1790B
 Joe Smith 1648B



**Water Well Record
Bureau of Water**

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 (last) (first)
 Address: **427 Alexander Avenue**
 City: **Spartanburg** State: **SC** Zip: _____
 Phone: **N/A**

7. PERMIT NUMBER: **UST Permit #08641**

8. USE:
 Residential _____ Public Supply _____ Process _____
 Irrigation _____ Air Conditioning _____ Emergency _____
Test Well **Monitor Well** Replacement _____

2. LOCATION OF WELL: **COUNTY: Spartanburg**
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**
34°56'43.56" N 81°55'03.80" W

9. WELL DEPTH (completed)
20 ft. Date Started: **9/26/14**
 Date Completed: **9/26/14**

10. CASING: Irrigation Welded
 Diameter: **1.5"**
 Type: Steel
1.5 in. to **16** ft. depth
 in. to _____ ft. depth
 Height: Below _____
 Surface: _____ ft. Weight: _____ lb./ft.
 Drive Shoe: _____

3. PUBLIC SYSTEM NAME **08641-Gw06**

11. SCREEN:
 Type: Steel Diameter: **1.5"**
 Slot/Gauge: _____ Length: **4'**
 Set Between: **16** ft. and **20** ft.
 ft. and _____ ft.
 Sieve Analysis: Y/N

4. ABANDONMENT: **Yes**
 Grouted Depth: from **0.00** to **20** ft.

12. STATIC WATER LEVEL **17** ft. below land surface after 24 hours.

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
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13. PUMPING LEVEL Below Land Surface.
 _____ ft. after _____ hrs Pumping **GPM**
 Pumping Test: _____
 Yield: _____

14. WATER QUALITY
 Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack)
 Installed from: _____ ft. to _____ ft.
 Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUTED?
Neat Cement Bentonite Bentonite/Cement Other
 Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 Type: _____
 Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP: Date installed: _____
 Mfr. Name: _____ Model no.: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: _____
 Submersible _____ Jet (shallow) _____ Turbine _____
 Jet (deep) _____ Reciprocating _____ Centrifugal _____

19. WELL DRILLER: **Michael Carey** **CERT NO.:** **1920**
 Address: **2047 Industrial Blvd** Level: **A** **B** **C**
Lexington, SC 29072 (circle one)
 Telephone: **803.429.5001** Fax: _____

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

5. REMARKS:
OVA IPD 1.3 ppm

Signed: *Michael Carey*
 Date: **9/26/14**

6. TYPE: Mud Rotary _____ Jetted _____ Bored _____
 Dug _____ Air Rotary _____ Driven
 Cable tool _____ Auger _____ Other _____

If D Level Driller, provide supervising driller's name.
 Jason Chiorazzi 1790B
 Joe Smith 1648B



Water Well Record
Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Former Morris Oil Co.
Address: 427 Alexander Avenue
City: Spartanburg State: SC Zip:
Phone: N/A

7. PERMIT NUMBER: UST Permit #08641

8. USE:
Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well Monitor Well Replacement

9. WELL DEPTH (completed)
20 ft.
Date Started: 9/26/14
Date Completed: 9/26/14

2. LOCATION OF WELL: COUNTY: Spartanburg
Name: Former Morris Oil Co.
Address: 427 Alexander Avenue
City: Spartanburg, South Carolina
34°56'45.00" N 81°55'03.73" W

10. CASING:
Diameter: 1.5"
Type: Steel
Height: Below
Surface:
Drive Shoe:

3. PUBLIC SYSTEM NAME 08641- Gw07

11. SCREEN:
Type: steel
Slot/Gauge:
Set Between: 16 ft. and 20 ft.
Diameter: 1.5"
Length: 4'
Sieve Analysis: Y/N

4. ABANDONMENT: Yes
Grouted Depth: from 0.00 to 20 ft.

Table with 3 columns: Formation Description, Thickness of Stratum, Depth to Bottom of Stratum

12. STATIC WATER LEVEL 18 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield:

14. WATER QUALITY
Chemical Analysis: Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack)
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient:

16. WELL GROUTED?
Neat Cement Bentonite Bentonite/Cement Other
Depth: From ft. to ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: Type: Amount:

18. PUMP:
Date installed:
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE: Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Michael Carey CERT NO.: 1920
Address: 2047 Industrial Blvd Level: A B C
Lexington, SC 29072 (circle one)
Telephone: 803 429 5001 Fax:

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

5. REMARKS:
OVA / PID
2.8 ppm

Signed: [Signature]
Date: 9/26/14

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool Auger Other

If D Level Driller, provide supervising driller's name.
Jason Chiorazzi 1790B
Joe Smith 1648B



Water Well Record
Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Former Morris Oil Co.
Address: 427 Alexander Avenue
City: Spartanburg State: SC Zip:
Phone: N/A

7. PERMIT NUMBER: UST Permit #08641

8. USE:
Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well Monitor Well Replacement

9. WELL DEPTH (completed)
20 ft.
Date Started: 9/26/14
Date Completed: 9/26/14

2. LOCATION OF WELL: COUNTY: Spartanburg
Name: Former Morris Oil Co.
Address: 427 Alexander Avenue
City: Spartanburg, South Carolina
34°56'45.17"N 81°55'02.86"W

10. CASING:
Threaded Welded
Diameter: 1.5"
Type: Steel
1.5 in. to 16 ft. depth
1.5 in. to ft. depth
Height: Below
Surface: ft.
Weight: lb./ft.
Drive Shoe:

3. PUBLIC SYSTEM NAME 08641-GW08

11. SCREEN:
Type: Steel Diameter: 1.5"
Slot/Gauge: Length: 4'
Set Between: 16 ft. and 20 ft.
and ft.
Sieve Analysis: Y/N

4. ABANDONMENT: Yes
Grouted Depth: from 0.00 to 20 ft.

12. STATIC WATER LEVEL 18 ft. below land surface after 24 hours.

Table with columns: Formation Description, Thickness of Stratum, Depth to Bottom of Stratum

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield:

14. WATER QUALITY
Chemical Analysis: Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack)
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient:

16. WELL GROUTED?
Neat Cement Bentonite Bentonite/Cement Other
Depth: From ft. to ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: Type: Amount:

18. PUMP:
Date installed:
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Michael Carey CERT NO.: 1920
Address: 2047 Industrial Blvd Level: A B C
Lexington, SC 29072 (circle one)
Telephone: 803.429.5001 Fax:

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

5. REMARKS:
6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool Auger Other

Signed:
Date: 9/26/14
If D Level Driller, provide supervising driller's name.
Jason Chiorazzi 1790B
Joe Smith 1648B



**Water Well Record
Bureau of Water**

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 (last) (first)
 Address: **427 Alexander Avenue**
 City: **Spartanburg** State: **SC** Zip:
 Phone: **N/A**

2. LOCATION OF WELL: COUNTY: Spartanburg
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**
34°56'45.14" N 81°55'01.69" W

3. PUBLIC SYSTEM NAME 08641- **Gw09**

4. ABANDONMENT: Yes
 Grouted Depth: from 0.00 to 26 ft.

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
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5. REMARKS: ovA / PID oil pm

6. TYPE:
 Mud Rotary Jetted Bored
 Dug Air Rotary Driven
 Cable tool Auger Other

7. PERMIT NUMBER: UST Permit #08641

8. USE:
 Residential Public Supply Process
 Irrigation Air Conditioning Emergency
Test Well **Monitor Well** Replacement

9. WELL DEPTH (completed)
26 ft. Date Started: 9/26/14
 Date Completed: 9/26/14

10. CASING: Infrared Welded
 Diameter: 1.5"
 Type: Steel
1.5 in. to 22 ft. depth
1.5 in. to _____ ft. depth
 Height: Below _____ ft.
 Surface: _____ ft. Weight: lb./ft.
 Drive Shoe: _____

11. SCREEN:
 Type: Steel Diameter: 1.5"
 Slot/Gauge: _____ Length: 4'
 Set Between: 22 ft. and 26 ft.
 _____ ft. and _____ ft.
 Sieve Analysis: Y/N

12. STATIC WATER LEVEL 22 ft below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
 _____ ft. after _____ hrs Pumping GPM
 Pumping Test: _____
 Yield: _____

14. WATER QUALITY
 Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack)
 Installed from: _____ ft. to _____ ft.
 Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUTED?
 Neat Cement Bentonite Bentonite/Cement Other
 Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 Type: _____
 Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP: Date installed: _____
 Mfr. Name: _____ Model no.: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: _____
 Submersible Jet (shallow) Turbine
 Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Michael Carey **CERT NO.:** 1920
 Address: 2047 Industrial Div Level: A B C
 Lexington, SC 29072 (circle one)
 Telephone: 803 429 5001 Fax: _____

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Michael Carey
 Date: 9/26/14

If D Level Driller, provide supervising driller's name.
 Jason Chiorazzi 1790B
 Joe Smith 1648B



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

| | | |
|--|---|---|
| 1. WELL OWNER INFORMATION: Name: Former Morris Oil Co. Address: (last) (first) 427 Alexander Avenue City: Spartanburg State: SC Zip: Phone: N/A | | 7. PERMIT NUMBER: UST Permit #08641 |
| 2. LOCATION OF WELL: COUNTY: Spartanburg Name: Former Morris Oil Co. Address: 427 Alexander Avenue City: Spartanburg, South Carolina 34°56'42.73"N 81°55'03.02"W | 8. USE: Residential Public Supply Process Irrigation Air Conditioning Emergency <u>Test Well</u> Monitor Well Replacement | |
| | 9. WELL DEPTH (completed) 20 ft. Date Started: 9/26/14 Date Completed: 9/26/14 | |
| 3. PUBLIC SYSTEM NAME 08641-GW10 | 10. CASING: Threaded Welded Diameter: 1.5" Type: Steel 1.5 in. to 16 ft. depth in. to _____ ft. depth Height: Below Surface: _____ ft. Weight: lb./ft. Drive Shoe: | |
| | 11. SCREEN: Type: Steel Diameter: 1.5" Slot/Gauge: _____ Length: 4' Set Between: 16 ft. and 20 ft. ft. and _____ ft. Sieve Analysis: Y/N | |
| | 12. STATIC WATER LEVEL 16 ft. below land surface after 24 hours | |
| | 13. PUMPING LEVEL Below Land Surface: _____ ft. after _____ hrs Pumping GPM Pumping Test: _____ Yield: _____ | |
| 4. ABANDONMENT: Yes Grouted Depth: from 0.00 to 20 ft. | 14. WATER QUALITY Chemical Analysis: Bacterial Analysis: | |
| | 15. ARTIFICIAL FILTER (filter pack) Installed from: _____ ft. to _____ ft. Effective Size: _____ Uniformity Coefficient: | |
| | 16. WELL GROUTED? Neat Cement Bentonite Bentonite/Cement Other Depth: From _____ ft. to _____ ft. | |
| | 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction Type: _____ Well Disinfected: _____ Type: _____ Amount: _____ | |
| | 18. PUMP: Date installed: _____ Mfr. Name: _____ Model no.: _____ H.P.: _____ Volts: _____ Length of pipe: _____ ft. Capacity: _____ gpm TYPE: _____ Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal | |
| | 19. WELL DRILLER: Michael Carey CERT NO.: 1920 Address: 2047 Industrial Blvd Level: A B C Lexington, SC 29072 (circle one) Telephone: 803 429 5001 Fax: _____ | |
| 5. REMARKS: OVA/PIED 0.0 gpm | 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: _____ Date: 9/26/14 If D Level Driller, provide supervising driller's name. Jason Chiorazzi 1790B Joe Smith 1648B | |
| 6. TYPE: Mud Rotary Jetted Bored Dug Air Rotary <u>Driven</u> Cable tool Auger Other | | |



**Water Well Record
Bureau of Water**

2600 Bull Street, Columbia, SC 29201-1708, (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 Address: (last) (first)
427 Alexander Avenue
 City: **Spartanburg** State: **SC** Zip:
 Phone: **N/A**

7. PERMIT NUMBER: **UST Permit #08641**

8. USE:
 Residential Public Supply Process
 Irrigation Air Conditioning Emergency
Test Well **Monitor Well** Replacement

9. WELL DEPTH (completed)
6 ft. Date Started: **9/26/14**
 Date Completed: **9/26/14**

2. LOCATION OF WELL: COUNTY: **Spartanburg**
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**
34°56'42.22" N 81°55'06.23" W

10. CASING: **I threaded** Welded
 Diameter: _____
 Type: _____
 _____ in. to _____ ft. depth
 _____ in. to _____ ft. depth
 Height: Below _____
 Surface: _____ ft. Weight: lb./ft.
 Drive Shoe: _____

3. PUBLIC SYSTEM NAME **08641- Gwll**

11. SCREEN:
 Type: _____ Diameter: _____
 Slot/Gauge: _____ Length: _____
 Set Between: _____ ft. and _____ ft.
 _____ ft. and _____ ft.
 Sieve Analysis: **Y/N**

4. ABANDONMENT: Yes
 Grouted Depth: from 0.00 to **6** ft.

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
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13. PUMPING LEVEL Below Land Surface.
 _____ ft. after _____ hrs Pumping **GPM**
 Pumping Test: _____
 Yield: _____

14. WATER QUALITY
 Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack)
 Installed from: _____ ft. to _____ ft.
 Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUDED?
Neat Cement **Bentonite** **Bentonite/Cement** **Other**
 Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 Type: _____
 Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP: Date installed: _____
 Mfr. Name: _____ Model no.: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: Submersible Jet (shallow) Turbine
 Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: **Michael Carey** **CERT NO.: 1920**
 Address: **2047 Industrial Div** Level: **A B C**
Lexington, SC 29072 (circle one)
 Telephone: **803.429.5001** Fax: _____

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

5. REMARKS:
Refusal at 6'

Signed:
 Date: **9/26/14**

6. TYPE: Mud Rotary Jetted Bored
 Dug Air Rotary Driven
 Cable tool Auger Other

If D Level Driller, provide supervising driller's name.
 Jason Chiorazzi 1790B
 Joe Smith 1648B



**Water Well Record
Bureau of Water**

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 Address: (last) (first)
427 Alexander Avenue
 City: **Spartanburg** State: **SC** Zip:
 Phone: **N/A**

7. PERMIT NUMBER: **UST Permit #08641**
8. USE:
 Residential Public Supply Process
 Irrigation Air Conditioning Emergency
Test Well **Monitor Well** Replacement

2. LOCATION OF WELL: COUNTY: **Spartanburg**
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**
34°56'42.22"N 81°55'06.23"W

9. WELL DEPTH (completed)
8 ft. Date Started: **9/26/14**
 Date Completed: **9/26/14**

3. PUBLIC SYSTEM NAME **08641- Gw11D**

10. CASING: I threaded Welded
 Diameter: _____
 Type: _____
 _____ in. to _____ ft. depth
 _____ in. to _____ ft. depth
 Height: Below
 Surface: _____ ft. Weight: lb./ft.
 Drive Shoe: _____

4. ABANDONMENT: Yes
 Grouted Depth: from 0.00 to 8 ft.

11. SCREEN:
 Type: _____ Diameter: _____
 Slot/Gauge: _____ Length: _____
 Set Between: _____ ft. and _____ ft.
 _____ ft. and _____ ft.
 Sieve Analysis: Y/N

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
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12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
 _____ ft. after _____ hrs Pumping **GPM**
 Pumping Test: _____
 Yield: _____

14. WATER QUALITY
 Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack)
 Installed from: _____ ft. to _____ ft.
 Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUDED?
 Neat Cement Bentonite Bentonite/Cement Other
 Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 Type: _____
 Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP: Date installed: _____
 Mfr. Name: _____ Model no.: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: _____
 Submersible Jet (shallow) Turbine
 Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: **Michael Carey** **CERT NO.: 1920**
 Address: **2047 Industrial Div** Level: **A B C**
Lexington, SC 29072 (circle one)
 Telephone: **803 429 5001** Fax: _____

5. REMARKS:
Refusal at 8'

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____
 Date: **9/26/14**

6. TYPE: Mud Rotary Jetted Bored
 Dug Air Rotary Driven
 Cable tool Auger Other

If D Level Driller, provide supervising driller's name.
 Jason Chiorazzi 1790B
 Joe Smith 1648B



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

| 1. WELL OWNER INFORMATION: Name: Former Morris Oil Co. Address: (last) (first) 427 Alexander Avenue City: Spartanburg State: SC Zip: _____ Phone: N/A | | | 7. PERMIT NUMBER: UST Permit #08641 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|---|----------------------|----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 2. LOCATION OF WELL: COUNTY: Spartanburg Name: Former Morris Oil Co. Address: 427 Alexander Avenue City: Spartanburg, South Carolina 34°56'44.49"N 81°55'05.47"W | | | 8. USE: Residential Public Supply Process Irrigation Air Conditioning Emergency <u>Test Well</u> Monitor Well Replacement | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 9. WELL DEPTH (completed) 22 ft. Date Started: 9/26/14 Date Completed: 9/26/14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. PUBLIC SYSTEM NAME 08641-Gw12 | | | 10. CASING: Inthreaded Welded Diameter: 1.5" Type: Steel 1.5 in. to 18 ft. depth 1.5 in. to _____ ft. depth Height: Below _____ ft. Surface: _____ ft. Weight: lb./ft. Drive Shoe: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 11. SCREEN: Type: Steel Diameter: 1.5" Slot/Gauge: _____ Length: 4' Set Between: 18 ft. and 22 ft. _____ ft. and _____ ft. Sieve Analysis: Y/N | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;">Formation Description</th> <th style="width: 10%;">Thickness of Stratum</th> <th style="width: 10%;">Depth to Bottom of Stratum</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> | | | Formation Description | Thickness of Stratum | Depth to Bottom of Stratum | | | | | | | | | | | | | | | | | | | | | | | | | | | | 12. STATIC WATER LEVEL 18 ft. below land surface after 24 hours. | | |
| | | | Formation Description | Thickness of Stratum | Depth to Bottom of Stratum | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 13. PUMPING LEVEL Below Land Surface. _____ ft. after _____ hrs Pumping GPM Pumping Test: _____ Yield: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14. WATER QUALITY Chemical Analysis: _____ Bacterial Analysis: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15. ARTIFICIAL FILTER (filter pack) Installed from: _____ ft. to _____ ft. Effective Size: _____ Uniformity Coefficient: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16. WELL GROUTED? Neat Cement Bentonite Bentonite/Cement Other Depth: From _____ ft. to _____ ft. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction Type: _____ Well Disinfected: _____ Type: _____ Amount: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18. PUMP: Date installed: _____ Mfr. Name: _____ Model no.: _____ H.P.: _____ Volts: _____ Length of pipe: _____ ft. Capacity: _____ gpm TYPE: _____ Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19. WELL DRILLER: Michael Carey CERT NO.: 1920 Address: 2047 Industrial Blvd Level: A B C Lexington, SC 29072 (circle one) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. <div style="text-align: right; margin-right: 50px;"> Signed: _____ Date: 9/26/14 </div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. REMARKS: <div style="text-align: center; font-size: 1.2em;"> QA/PI/D 0.7 ppm </div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. TYPE: Mud Rotary Jetted Bored Dug Air Rotary <u>Driven</u> Cable tool Auger Other | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| If D Level Driller, provide supervising driller's name. Jason Chiorazzi 1790B Joe Smith 1648B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



**Water Well Record
Bureau of Water**

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 Address: (last) **427 Alexander Avenue** (first)
 City: **Spartanburg** State: **SC** Zip: _____
 Phone: **N/A**

7. PERMIT NUMBER: UST Permit #08641
8. USE:
 Residential Public Supply Process
 Irrigation Air Conditioning Emergency
 Test Well Monitor Well Replacement
9. WELL DEPTH (completed):
 23 ft. Date Started: 9/26/14
 Date Completed: 9/26/14

2. LOCATION OF WELL: COUNTY: **Spartanburg**
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**
 34°56'44.49"N 81°55'05.47"W
3. PUBLIC SYSTEM NAME 08641- Gw12D

10. CASING: Threaded Welded
 Diameter: _____
 Type: _____
 Height: Below _____ ft.
 Surface: _____ ft. Weight: lb./ft.
 Drive Shoe: _____

4. ABANDONMENT: Yes No
 Grouted Depth: from 0.00 to 23 ft.

11. SCREEN:
 Type: _____ Diameter: _____
 Slot/Gauge: _____ Length: _____
 Set Between: _____ ft. and _____ ft.
 Sieve Analysis: Y/N

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
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12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
 _____ ft. after _____ hrs Pumping GPM
 Pumping Test: _____
 Yield: _____

14. WATER QUALITY
 Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack)
 Installed from: _____ ft. to _____ ft.
 Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUTED?
 Neat Cement Bentonite Bentonite/Cement Other
 Depth From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 Type: _____
 Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP: Date installed: _____
 Mfr. Name: _____ Model no.: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: Submersible Jet (shallow) Turbine
 Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Michael Carey **CERT NO.:** 1920
 Address: 2047 Industrial Blvd Level: A B C
 Lexington, SC 29072 (circle one)
 Telephone: 803.429.5001 Fax: _____

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

5. REMARKS:
 Refusal at 23'

Signed: *Michael Carey*
 Date: 9/26/14

6. TYPE: Mud Rotary Jetted Bored
 Dug Air Rotary Driven
 Cable tool Auger Other

If D Level Driller, provide supervising driller's name.
 Jason Chiorazzi 1790B
 Joe Smith 1648B



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

| 1. WELL OWNER INFORMATION: Name: Former Morris Oil Co. Address: (last) (first) 427 Alexander Avenue City: Spartanburg State: SC Zip: Phone: N/A | | | 7. PERMIT NUMBER: UST Permit #08641 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|---|----------------------|----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 2. LOCATION OF WELL: COUNTY: Spartanburg Name: Former Morris Oil Co. Address: 427 Alexander Avenue City: Spartanburg, South Carolina 34°56'46.33"N 81°55'05.02"W | | | 8. USE: Residential Public Supply Process Irrigation Air Conditioning Emergency <u>Test Well</u> Monitor Well Replacement | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. PUBLIC SYSTEM NAME 08641- Gw13 | | | 9. WELL DEPTH (completed) 19 ft. Date Started: 9/26/14 Date Completed: 9/26/14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. ABANDONMENT: <u>Yes</u> Grouted Depth: from 0.00 to 19 ft. | | | 10. CASING: Diameter: <u>1.5"</u> Welded Type: <u>Steel</u> 1.5 in. to 15' ft. depth in. to _____ ft. depth Height: Below Surface: _____ ft. Weight: lb./ft. Drive Shoe: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Formation Description</th> <th>Thickness of Stratum</th> <th>Depth to Bottom of Stratum</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> | | | Formation Description | Thickness of Stratum | Depth to Bottom of Stratum | | | | | | | | | | | | | | | | | | | | | | | | | | | | 11. SCREEN: Type: <u>Steel</u> Diameter: <u>1.5"</u> Slot/Gauge: _____ Length: <u>4'</u> Set Between: <u>15</u> ft. and <u>19</u> ft. ft. and _____ ft. Sieve Analysis: Y/N | | |
| | | | Formation Description | Thickness of Stratum | Depth to Bottom of Stratum | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 12. STATIC WATER LEVEL <u>16</u> ft. below land surface after 24 hours | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 13. PUMPING LEVEL Below Land Surface. ft. after _____ hrs Pumping GPM Pumping Test: _____ Yield: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 14. WATER QUALITY Chemical Analysis: _____ Bacterial Analysis: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 15. ARTIFICIAL FILTER (filter pack) Installed from: _____ ft. to _____ ft. Effective Size: _____ Uniformity Coefficient: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 16. WELL GROUTED? Neat Cement Bentonite Bentonite/Cement Other Depth: From _____ ft. to _____ ft. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction Type: _____ Well Disinfected: _____ Type: _____ Amount: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 18. PUMP: Date installed: _____ Mfr. Name: _____ Model no.: _____ H.P.: _____ Volts: _____ Length of pipe: _____ ft. Capacity: _____ gpm TYPE: _____ Submersible Jet (shallow) Turbine Jet (deep) Reciprocating Centrifugal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 19. WELL DRILLER: Michael Carey CERT NO.: 1920 Address: 2047 Industrial Blvd Level: A B C Lexington, SC 29072 (circle one) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Telephone: 803.429.5001 Fax: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. REMARKS: OVA IPID 1.3 ppm | | | 20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief. Signed: <i>Michael Carey</i> Date: 9/26/14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. TYPE: Mud Rotary Jetted Bored Dug Air Rotary <u>Driven</u> Cable tool Auger Other | | | If D Level Driller, provide supervising driller's name. Jason Chiorazzi 1790B Joe Smith 1648B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Water Well Record
Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Former Morris Oil Co.
Address: 427 Alexander Avenue
City: Spartanburg State: SC Zip:
Phone: N/A

7. PERMIT NUMBER: UST Permit #08641
8. USE:
Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well Monitor Well Replacement

2. LOCATION OF WELL: COUNTY: Spartanburg
Name: Former Morris Oil Co.
Address: 427 Alexander Avenue
City: Spartanburg, South Carolina
34°56'46.33"N 81°55'05.02"W

9. WELL DEPTH (completed)
20 ft.
Date Started: 9/26/14
Date Completed: 9/26/14

3. PUBLIC SYSTEM NAME 08641- Gw13D

10. CASING:
1 threaded 1 welded
Diameter:
Type:
Height: Below
Surface:
Drive Shoe:

4. ABANDONMENT: Yes
Grouted Depth: from 0.00 to 20' ft.

11. SCREEN:
Type: Diameter:
Slot/Gauge: Length:
Set Between: ft. and ft.
Sieve Analysis: Y/N

Table with 3 columns: Formation Description, Thickness of Stratum, Depth to Bottom of Stratum

12. STATIC WATER LEVEL ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
Pumping Test:
Yield:

14. WATER QUALITY
Chemical Analysis: Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack)
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient:

16. WELL GROUDED?
Neat Cement Bentonite Bentonite/Cement Other
Depth: From ft. to ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: Type: Amount:

18. PUMP:
Mfr. Name: Date installed:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE: Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Michael Carey CERT NO.: 1920
Address: 2047 Industrial Blvd Level: A B C
Lexington, SC 29072 (circle one)
Telephone: 803.429.5001 Fax:

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

5. REMARKS: Refusal at 20'

Signed: [Signature]
Date: 9/26/14

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool Auger Other

If D Level Driller, provide supervising driller's name.
Jason Chiorazzi 1790B
Joe Smith 1648B



**Water Well Record
Bureau of Water**

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:

Name: **Former Morris Oil Co.**

(last) (first)
Address: **427 Alexander Avenue**

City: **Spartanburg** State: **SC** Zip:
Phone: **N/A**

7. PERMIT NUMBER: UST Permit #08641

8. USE:

| | | |
|------------------|---------------------|-------------|
| Residential | Public Supply | Process |
| Irrigation | Air Conditioning | Emergency |
| <u>Test Well</u> | <u>Monitor Well</u> | Replacement |

9. WELL DEPTH (completed)

24 ft. Date Started: 9/26/14
Date Completed: 9/26/14

2. LOCATION OF WELL: COUNTY: Spartanburg

Name: **Former Morris Oil Co.**
Address: **427 Alexander Avenue**
City: **Spartanburg, South Carolina**

34°56'46.02" N 81°55'06.67" W

10. CASING:

1 1/2 in. Diameter
Steel Type
1.5 in. to 20 ft. depth
in. to _____ ft. depth

Height: Below
Surface: _____ ft. Weight: lb./ft.
Drive Shoe:

3. PUBLIC SYSTEM NAME 08641-

GW14

11. SCREEN:

Type: Steel Diameter: 1 1/2"
Slot/Gauge: _____ Length: 4"
Set Between: 20 ft. and 24 ft.
ft. and _____ ft.

Sieve Analysis: Y/N

4. ABANDONMENT: Yes

Grouted Depth: from 0.00 to 24 ft.

12. STATIC WATER LEVEL 22 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.

ft. after _____ hrs Pumping GPM
Pumping Test: _____
Yield:

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
|-----------------------|----------------------|----------------------------|
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14. WATER QUALITY

Chemical Analysis: _____ Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack)

Installed from: _____ ft. to _____ ft.
Effective Size: _____ Uniformity Coefficient:

16. WELL GROUTED?

Neat Cement Bentonite Bentonite/Cement Other
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction

Type:
Well Disinfected: _____ Type: _____ Amount:

18. PUMP: Date installed: _____

Mfr. Name: _____ Model no.: _____
H.P.: _____ Volts: _____ Length of pipe: _____ ft.
Capacity: _____ gpm

TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Michael Carey **CERT NO.: 1920**
Address: 2047 Industrial Div Level: A B C
Lexington, SC 29072 (circle one)

Telephone: 803.429.5001 Fax:

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Michael Carey
Date: 9/26/14

5. REMARKS:

OKA/RID
01/11/15

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool Auger Other

If D Level Driller, provide supervising driller's name.
Jason Chiorazzi 1790B
Joe Smith 1646B



**Water Well Record
Bureau of Water**

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: **Former Morris Oil Co.**
Address: (last) (first)
427 Alexander Avenue
City: **Spartanburg** State: **SC** Zip:
Phone: **N/A**

7. PERMIT NUMBER: **UST Permit #08641**

8. USE:
Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well **Monitor Well** Replacement

2. LOCATION OF WELL: COUNTY: **Spartanburg**
Name: **Former Morris Oil Co.**
Address: **427 Alexander Avenue**
City: **Spartanburg, South Carolina**
34°56'45.28"N 81°55'06.73"W

9. WELL DEPTH (completed)
24 ft. Date Started: **9/26/14**
Date Completed: **9/26/14**

3. PUBLIC SYSTEM NAME **08641- Gw15**

10. CASING: **Infrared** Welded
Diameter: **1.5"**
Type: **Steel**
1.5 in. to **20** ft. depth
in. to _____ ft. depth
Height: Below
Surface: _____ ft. Weight: lb./ft.
Drive Shoe: _____

4. ABANDONMENT: **Yes**
Grouted Depth: from **0.00** to **24** ft.

11. SCREEN:
Type: **Steel** Diameter: **1.5"**
Slot/Gauge: _____ Length: **4'**
Set Between: **20** ft. and **24** ft.
ft. and _____ ft.
Sieve Analysis: **Y/N**

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
|-----------------------|----------------------|----------------------------|
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12. STATIC WATER LEVEL **20** ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface
ft. after _____ hrs Pumping **GPM**
Pumping Test: _____
Yield: _____

14. WATER QUALITY
Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack)
Installed from: _____ ft. to _____ ft.
Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUDED?
Neat Cement Bentonite Bentonite/Cement Other
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type: _____
Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP:
Date installed: _____
Mfr. Name: _____ Model no.: _____
H.P.: _____ Volts: _____ Length of pipe: _____ ft.
Capacity: _____ gpm
TYPE: _____
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: **Michael Carey** CERT NO.: **1920**
Address: **2047 Industrial Blvd** Level: **A B C**
Lexington, SC 29072 (circle one)
Telephone: **803.429.5001** Fax: _____

5. REMARKS: **OVA / PID 0.3 ppm**

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary **Driven**
Cable tool Auger Other

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: *Michael Carey*
Date: **9/26/14**

If D Level Driller, provide supervising driller's name.
Jason Chiorazzi 1790B
Joe Smith 1648B



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:

Name: **Former Morris Oil Co.**

Address: (last) **427 Alexander Avenue** (first)

City: **Spartanburg** State: **SC** Zip:

Phone: **N/A**

7. PERMIT NUMBER:

UST Permit #08641

8. USE:

| | | |
|------------------|---------------------|-------------|
| Residential | Public Supply | Process |
| Irrigation | Air Conditioning | Emergency |
| <u>Test Well</u> | Monitor Well | Replacement |

9. WELL DEPTH (completed)

16 ft.

Date Started: **9/26/14**
Date Completed: **9/26/14**

10. CASING:

Threaded Welded

Diameter: **1.5** in. to **12** ft. depth
Type: Steel in. to _____ ft. depth
Height: Below _____ ft. Weight: lb./ft.
Surface: _____ ft. Drive Shoe: _____

2. LOCATION OF WELL:

COUNTY: **Spartanburg**

Name: **Former Morris Oil Co.**

Address: **427 Alexander Avenue**

City: **Spartanburg, South Carolina**

34°56'44.03"N 81°55'07.12"W

3. PUBLIC SYSTEM NAME

08641- Gw16

4. ABANDONMENT:

Yes

Grouted Depth: from 0.00 to 16 ft.

11. SCREEN:

Type: Steel Diameter: 1.5
Slot/Gauge: _____ Length: 4'
Set Between: 12 ft. and 16 ft.
Sieve Analysis: Y/N

12. STATIC WATER LEVEL 15 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.

ft. after _____ hrs Pumping **GPM**
Pumping Test: _____
Yield: _____

14. WATER QUALITY

Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack)

Installed from: _____ ft. to _____ ft.
Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUTED?

Neat Cement _____ Bentonite _____ Bentonite/Cement _____ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction

Type: _____
Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP:

Date installed: _____
Mfr. Name: _____ Model no.: _____
H.P.: _____ Volts: _____ Length of pipe: _____ ft.
Capacity: _____ gpm
TYPE: _____
Submersible _____ Jet (shallow) _____ Turbine _____
Jet (deep) _____ Reciprocating _____ Centrifugal _____

19. WELL DRILLER:

Michael Carey **CERT NO.: 1920**
Address: 2047 Industrial Div Level: A B C
Lexington, SC 29072 (circle one)
Telephone: 803.429.5001 Fax: _____

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under

my direction and this report is true to the best of my knowledge and belief.

Signed: Michael Carey

Date: 9/26/14

5. REMARKS:

*OVA/PID
0.5ppm*

6. TYPE:

| | | |
|------------|------------|---------------|
| Mud Rotary | Jetted | Bored |
| Dug | Air Rotary | <u>Driven</u> |
| Cable tool | Auger | Other |

If D Level Driller, provide supervising driller's name.

Jason Chiorazzi 1790B
Joe Smith 1646B



Water Well Record
Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Former Morris Oil Co.
Address: 427 Alexander Avenue
City: Spartanburg State: SC Zip:
Phone: N/A

7. PERMIT NUMBER: UST Permit #08641
8. USE:
Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well Monitor Well Replacement

2. LOCATION OF WELL: COUNTY: Spartanburg
Name: Former Morris Oil Co.
Address: 427 Alexander Avenue
City: Spartanburg, South Carolina
34°56'41.53"N 81°55'06.69"W

9. WELL DEPTH (completed)
20 ft.
Date Started: 9/26/14
Date Completed: 9/26/14

3. PUBLIC SYSTEM NAME 08641- Gw21

10. CASING: Threaded Welded
Diameter: 1.5
Type: Steel
1.5 in. to 16 ft. depth
1.5 in. to ft. depth
Height: Below
Surface: ft. Weight: lb./ft.
Drive Shoe:

4. ABANDONMENT: Yes
Grouted Depth: from 0.00 to 20 ft.

11. SCREEN:
Type: Steel Diameter: 1.5"
Slot/Gauge: Length: 4'
Set Between: 16 ft. and 20 ft.
Sieve Analysis: Y/N

Table with 3 columns: Formation Description, Thickness of Stratum, Depth to Bottom of Stratum

12. STATIC WATER LEVEL 18 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield:

14. WATER QUALITY
Chemical Analysis: Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack)
Installed from: ft. to ft.
Effective Size: Uniformity Coefficient:

16. WELL GROUTED?
Neat Cement Bentonite Bentonite/Cement Other
Depth: From ft. to ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: Type: Amount:

18. PUMP:
Date installed:
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Michael Carey CERT NO.: 1920
Address: 2047 Industrial Blvd Level: A B C
Lexington, SC 29072 (circle one)
Telephone: 803.429.5001 Fax:

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

5. REMARKS:
ovA/R/D
0.4 gpm

Signed: [Signature]
Date: 9/26/14

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool Auger Other

If D Level Driller, provide supervising driller's name.
Jason Chiorazzi 1790B
Joe Smith 1648B

**MORRIS OIL CO. – UST PERMIT #08641
TIER II ASSESSMENT**

APPENDIX E

WELL LOGS, WATER WELL RECORDS (DHEC FORM 1903)

FIELD BORING LOG (08641-MW06)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 10, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry Slightly Moist Moist Wet Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|--|---|
| | 1 | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | |
| | 4 | | | | | | |
| | 5 | | | | 0.3 | | |
| | 6 | | | | | | |
| | 7 | | | | | | |
| | 8 | | | | | | |
| | 9 | | | | | | |
| | 10 | | | | 1.1 | | Saprolite sampling as light brown (5YR 5/6), dry, silty, fine to medium sand |
| | 11 | | | | | | |
| | 12 | | | | | | |
| | 13 | | | | | | |
| | 14 | | | | 2.6 | | |
| | 15 | | | | | | |
| | 16 | | | | | | |
| | 17 | | | | | | |
| | 18 | | | | | | |
| | 19 | | | | | | |
| | 20 | | | | 4.9 | | Partially weathered rock sampling as grayish brown (5Y 3/2) and light olive gray (5Y 5/2), slightly moist to moist, moderately micaceous, silty fine to medium sand |
| | 21 | | | | | | |
| | 22 | | | | | | |
| | 23 | | | | | | |
| | 24 | | | | | | |
| | 25 | | | | 6.1 | | Partially weathered rock sampling as grayish olive green (5GY 3/2), moderately micaceous, wet, silty medium to coarse sand |
| | 26 | | | | | | |
| | 27 | | | | | | |
| | 28 | | | | | | Bedrock (biotite/muscovite gneiss) |
| | 29 | | | | | | |
| | | | | | | | Boring terminated at 29.0 feet below ground surface. |

Legend

| | |
|--|--|
| | Filter Sand Pack (17.0 - 29.0 feet BGS) |
| | Bentonite Seal (15.0 - 17.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 15.0 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |
| | Silty Clay |

Notes

Boring terminated at 29.0 feet below ground surface. Groundwater encountered at 26.0 feet below ground surface at time of boring and 20.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad.

Northing = 1133573.623
 Easting = 1725070.572
 Top of Casing Elevation = 774.26 (NAVD 88)
 Ground Surface Elevation = 774.04 (NAVD 88)

Total Well Depth = 28.63 feet Below Ground Surface
 Screen = 0.01-inch slot (18.43 to 28.43 feet Below Ground Surface)

FIELD BORING LOG (08641-MW07)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 10, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry | Slightly Moist | Moist | Wet | Groundwater | Soil Description |
|--|-----------------|-------------|-----------------|-------------|------------------|-----|----------------|-------|-----|-------------|--|
| | 1 | | | | | | | | | | Concrete |
| | 2 | | | | | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | | | | | |
| | 4 | | | | | | | | | | |
| | 5 | | | | | | | | | | |
| | 6 | | | | 0.2 | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | |
| | 10 | | | | 1.5 | | | | | | Saprolite sampling as light brown (5YR 5/6), dry, silty, fine to medium sand |
| | 11 | | | | | | | | | | |
| | 12 | | | | | | | | | | |
| | 13 | | | | | | | | | | |
| | 14 | | | | | | | | | | |
| | 15 | | | | 0.6 | | | | | | |
| | 16 | | | | | | | | | ▼ | Saprolite sampling as light brown (5YR 5/6), slightly micaceous, slightly moist to moist, silty, fine to medium sand |
| | 17 | | | | | | | | | | |
| | 18 | | | | | | | | | | |
| | 19 | | | | | | | | | ▼ | Partially weathered rock sampling as grayish olive green (5GY 3/2), moderately micaceous, wet, silty medium to coarse sand |
| | 20 | | | | 1.2 | | | | | | |
| | 21 | | | | | | | | | | |
| | 22 | | | | | | | | | | Bedrock (biotite/muscovite gneiss) |
| Boring terminated at 22.0 feet below ground surface. | | | | | | | | | | | |

| Legend | |
|--------|---|
| | Filter Sand Pack (10.0 - 22.0 feet BGS) |
| | Bentonite Seal (8.0 - 10.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 8.0 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |
| | Silty Clay |

| Notes |
|--|
| Boring terminated at 22.0 feet below ground surface. Groundwater encountered at 19.0 feet below ground surface at time of boring and 16.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133658.380 |
| Easting = 1725022.687 |
| Top of Casing Elevation = 769.26 (NAVD 88) |
| Ground Surface Elevation = 768.72 (NAVD 88) |
| Total Well Depth = 21.95 feet Below Ground Surface |
| Screen = 0.01-inch slot (11.75 to 21.75 feet Below Ground Surface) |

FIELD BORING LOG (08641-MW08)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 11, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry | Slightly Moist | Moist | Wet | Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|-----|----------------|-------|-----|-------------|--|
| | 1 | | | | | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | | | | | |
| | 4 | | | | | | | | | | |
| | 5 | | | | | | | | | | |
| | 6 | | | | 0.2 | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | |
| | 10 | | | | 0.3 | | | | | | |
| | 11 | | | | | | | | | | Saprolite sampling as light brown (5YR 5/6), dry, silty, fine to medium sand |
| | 12 | | | | | | | | | | |
| | 13 | | | | | | | | | | |
| | 14 | | | | | | | | | | |
| | 15 | | | | 12.7 | | | | | | |
| | 16 | | | | | | | | | | |
| | 17 | | | | | | | | | | |
| | 18 | | | | | | | | | | |
| | 19 | | | | | | | | | | |
| | 20 | | | | 13.1 | | | | | ▼ | Partially weathered rock sampling as grayish olive green (5GY 3/2), moderately micaceous, slightly moist to moist, silty medium to coarse sand |
| | 21 | | | | | | | | | ▼ | |
| | 22 | | | | | | | | | ▼ | |
| | 23 | | | | | | | | | ▼ | Bedrock (biotite/muscovite gneiss) |
| | | | | | | | | | | | Boring terminated at 23.0 feet below ground surface. |

| Legend | |
|--------|---|
| | Filter Sand Pack (8.0 - 23.0 feet BGS) |
| | Bentonite Seal (6.0 - 8.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 6.0 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |
| | Silty Clay |

| Notes |
|--|
| Boring terminated at 23.0 feet below ground surface. Groundwater encountered at 23.0 feet below ground surface at time of boring and 21.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133643.015 |
| Easting = 1724967.051 |
| Top of Casing Elevation = 769.76 (NAVD 88) |
| Ground Surface Elevation = 769.62 (NAVD 88) |
| Total Well Depth = 22.71 feet Below Ground Surface |
| Screen = 0.01-inch slot (12.51 to 22.51 feet Below Ground Surface) |

FIELD BORING LOG (08641-MW09)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 10, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry | Slightly Moist | Moist | Wet | Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|-----|----------------|-------|-----|-------------|--|
| | 1 | | | | | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | | | | | |
| | 4 | | | | | | | | | | |
| | 5 | | | | 0.1 | | | | | | |
| | 6 | | | | | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | |
| | 10 | | | | 0.2 | | | | | | Saprolite sampling as light brown (5YR 5/6), dry, silty, fine to medium sand |
| | 11 | | | | | | | | | | |
| | 12 | | | | | | | | | | |
| | 13 | | | | | | | | | | |
| | 14 | | | | | | | | | | |
| | 15 | | | | 5.7 | | | | | | |
| | 16 | | | | | | | | | | |
| | 17 | | | | | | | | | | |
| | 18 | | | | | | | | | | |
| | 19 | | | | | | | | | | |
| | 20 | | | | 16.9 | | | | | | |
| | 21 | | | | | | | | | | |
| | 22 | | | | | | | | | | Partially weathered rock sampling as grayish olive green (5GY 3/2), slightly micaceous, slightly moist to moist, silty medium to coarse sand |
| | 23 | | | | | | | | | | |
| | 24 | | | | | | | | | | |
| | 25 | | | | 34.7 | | | | | | Partially weathered rock sampling as grayish olive green (5GY 3/2), moderately micaceous, wet, silty medium to coarse sand |
| | 26 | | | | | | | | | | Bedrock (biotite/muscovite gneiss) |
| | 27 | | | | | | | | | | |

Boring terminated at 28.0 feet below ground surface.

| Legend | |
|--------|---|
| | Filter Sand Pack (10.0 - 28.0 feet BGS) |
| | Bentonite Seal (8.0 - 10.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 8.0 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |
| | Silty Clay |

| Notes |
|--|
| Boring terminated at 28.0 feet below ground surface. Groundwater encountered at 24.0 feet below ground surface at time of boring and 21.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133605.683 |
| Easting = 1724929.480 |
| Top of Casing Elevation = 766.73 (NAVD 88) |
| Ground Surface Elevation = 766.22 (NAVD 88) |
| Total Well Depth = 26.01 feet Below Ground Surface |
| Screen = 0.01-inch slot (15.81 to 25.81 feet Below Ground Surface) |

FIELD BORING LOG (08641-MW10)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 10, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry | Slightly Moist | Moist | Wet | Groundwater | Soil Description |
|--|-----------------|-------------|-----------------|-------------|------------------|-----|----------------|-------|-----|-------------|--|
| | 1 | | | | | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | | | | | |
| | 4 | | | | | | | | | | |
| | 5 | | | | 0.0 | | | | | | |
| | 6 | | | | | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | |
| | 10 | | | | 0.0 | | | | | | |
| | 11 | | | | | | | | | | Saprolite sampling as light brown (5YR 5/6), dry, silty, fine to medium sand |
| | 12 | | | | | | | | | | |
| | 13 | | | | | | | | | | |
| | 14 | | | | | | | | | | |
| | 15 | | | | 0.1 | | | | | | |
| | 16 | | | | | | | | | ▼ | Saprolite sampling as light brown (5YR 5/6), slightly moist to moist, slightly micaceous, silty, fine to medium sand |
| | 17 | | | | | | | | | | |
| | 18 | | | | | | | | | | |
| | 19 | | | | | | | | | | |
| | 20 | | | | 0.1 | | | | | ▼ | Partially weathered rock sampling as grayish olive green (5GY 3/2), moderately micaceous, wet, silty medium to coarse sand |
| | 21 | | | | | | | | | | |
| | 22 | | | | | | | | | | |
| | 23 | | | | | | | | | | Bedrock (biotite/muscovite gneiss) |
| | 24 | | | | | | | | | | |
| Boring terminated at 25.0 feet below ground surface. | | | | | | | | | | | |

| Legend | |
|--------|--|
| | Filter Sand Pack (13.0 - 25.0 feet BGS) |
| | Bentonite Seal (11.0 - 13.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 11.0 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |
| | Silty Clay |

| Notes |
|--|
| Boring terminated at 25.0 feet below ground surface. Groundwater encountered at 20.0 feet below ground surface at time of boring and 16.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133680.280 Easting = 1724799.725 Top of Casing Elevation = 750.87 (NAVD 88) Ground Surface Elevation = 750.51 (NAVD 88) |
| Total Well Depth = 23.60 feet Below Ground Surface Screen = 0.01-inch slot (13.40 to 23.40 feet Below Ground Surface) |

FIELD BORING LOG (08641-MW11)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 10, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry Slightly Moist Moist Wet Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|--|---|
| | 1 | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | |
| | 4 | | | | | | |
| | 5 | | | | 0.0 | | |
| | 6 | | | | | | |
| | 7 | | | | | | |
| | 8 | | | | | | |
| | 9 | | | | | | |
| | 10 | | | | 0.0 | | |
| | 11 | | | | | | Saprolite sampling as light brown (5YR 5/6), dry, silty, fine to medium sand |
| | 12 | | | | | | |
| | 13 | | | | | | |
| | 14 | | | | | | |
| | 15 | | | | 0.1 | | |
| | 16 | | | | | | Saprolite sampling as light brown (5YR 5/6), slightly moist to moist, slightly micaceous, silty, fine to medium sand |
| | 17 | | | | | | |
| | 18 | | | | | | |
| | 19 | | | | | | |
| | 20 | | | | 0.0 | | |
| | 21 | | | | | | Partially weathered rock sampling as grayish olive green (5GY 3/2), moderately micaceous, moist to wet, silty medium to coarse sand |
| | 22 | | | | | | |
| | 23 | | | | | | |
| | 24 | | | | | | Bedrock (biotite/muscovite gneiss) |
| | 25 | | | | | | |
| | | | | | | | Boring terminated at 24.0 feet below ground surface. |

| Legend | |
|--------|--|
| | Filter Sand Pack (12.0 - 24.0 feet BGS) |
| | Bentonite Seal (10.0 - 12.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 10.0 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |
| | Silty Clay |

| Notes |
|--|
| Boring terminated at 24.0 feet below ground surface. Groundwater encountered at 21.0 feet below ground surface at time of boring and 16.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133740.285 |
| Easting = 1724867.990 |
| Top of Casing Elevation = 752.91 (NAVD 88) |
| Ground Surface Elevation = 752.57 (NAVD 88) |
| Total Well Depth = 23.84 feet Below Ground Surface |
| Screen = 0.01-inch slot (13.64 to 23.64 feet Below Ground Surface) |

FIELD BORING LOG (08641-MW12)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 10, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry Slightly Moist Moist Wet Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|--|--|
| | 1 | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | |
| | 4 | | | | | | |
| | 5 | | | | 0.0 | | |
| | 6 | | | | | | |
| | 7 | | | | | | |
| | 8 | | | | | | |
| | 9 | | | | | | |
| | 10 | | | | 0.0 | | |
| | 11 | | | | | | Saprolite sampling as light brown (5YR 5/6), dry, silty, fine to medium sand |
| | 12 | | | | | | |
| | 13 | | | | | | |
| | 14 | | | | 0.0 | | |
| | 15 | | | | | | |
| | 16 | | | | | | |
| | 17 | | | | | | |
| | 18 | | | | | | |
| | 19 | | | | | | |
| | 20 | | | | 0.0 | | |
| | 21 | | | | | | Saprolite sampling as light brown (5YR 5/6), dry to slightly moist, slightly micaceous, silty, fine to medium sand |
| | 22 | | | | | | |
| | 23 | | | | | | |
| | 24 | | | | | | |
| | 25 | | | | 0.0 | | |
| | 26 | | | | | | |
| | 27 | | | | | | |
| | 28 | | | | | | Saprolite sampling as light brown (5YR 5/6), moist to wet, slightly to moderately micaceous, silty, fine to medium sand |
| | 29 | | | | | | |
| | 30 | | | | | | |
| | 31 | | | | 0.0 | | Partially weathered rock sampling as grayish olive green (5GY 3/2), moderately micaceous, wet, silty medium to coarse sand |
| | 32 | | | | | | |
| | | | | | | | Boring terminated at 32.0 feet below ground surface. |

| Legend | |
|--------|--|
| | Filter Sand Pack (18.0 - 32.0 feet BGS) |
| | Bentonite Seal (16.0 - 18.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 16.0 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |

| Notes |
|--|
| Boring terminated at 32.0 feet below ground surface. Groundwater encountered at 28.0 feet below ground surface at time of boring and 23.0 feet below ground surface after 24 hours. Flush Mount well completion with 6-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133583.605 |
| Easting = 1725160.269 |
| Top of Casing Elevation = 777.54 (NAVD 88) |
| Ground Surface Elevation = 777.00 (NAVD 88) |
| Total Well Depth = 31.58 feet Below Ground Surface |

 Sandy Silt

 Silty Clay

Screen = 0.01-inch slot (21.38 to 31.38 feet Below Ground Surface)

FIELD BORING LOG (08641-MW13)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 10, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry | Slightly Moist | Moist | Wet | Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|-----|-------------------|-------|-----|-------------|---|
| | 1 | | | | | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | | | | | Moderate reddish brown (10R 4/6), dry to slightly moist, clayey silt |
| | 3 | | | | | | | | | ▼ | |
| | 4 | | | | | | | | | | |
| | 5 | | | | 0.0 | | | | | | Saprolite sampling as light brown (5YR 5/6), slightly moist, silty, fine to medium sand |
| | 6 | | | | | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | Saprolite sampling as light brown (5YR 5/6), moist to wet, silty, fine to medium sand |
| | 10 | | | | 0.0 | | | | | ▼ | |
| | 11 | | | | | | | | | | |

Boring terminated at 12.0 feet below ground surface.

Legend

- Filter Sand Pack (1.0 - 11.0 feet BGS)
- Bentonite Seal (0.5 - 1.0 feet BGS)
- Bentonite-Cement Grout (0 - 0.5 feet BGS)
- Water Level at Time of Boring
- 24-Hour Water Level
- Sand
- Clayey Sand
- Silty Sand
- Clayey Silt
- Sandy Silt
- Silty Clay

Notes

Boring terminated at 12.0 feet below ground surface. Groundwater encountered at 10.0 feet below ground surface at time of boring and 3.0 feet below ground surface after 24 hours. Above-ground well completion with 4-inch by 4-inch steel locking, standup cover installed in a 2-foot by 2-foot concrete pad.

Northing = 1133799.231
 Easting = 1725119.392
 Top of Casing Elevation = 761.34 (NAVD 88)
 Ground Surface Elevation = 764.75 (NAVD 88)

Total Well Depth = 11.19 feet Below Ground Surface
 Screen = 0.01-inch slot (0.99 to 10.99 feet Below Ground Surface)

FIELD BORING LOG (08641-MW14)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 10, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry Slightly Moist Moist Wet | Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|---------------------------------------|-------------|--|
| | 1 | | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | 0.0 | | | |
| | 6 | | | | | | | |
| | 7 | | | | | | | |
| | 8 | | | | | | | |
| | 9 | | | | | | | |
| | 10 | | | | 0.0 | | | |
| | 11 | | | | | | | Saprolite sampling as light brown (5YR 5/6), dry, silty, fine to medium sand |
| | 12 | | | | | | | |
| | 13 | | | | | | ▼ | Saprolite sampling as light brown (5YR 5/6), slightly moist to wet, silty, fine to medium sand |
| | 14 | | | | 0.0 | | | |
| | 15 | | | | | | | |
| | 16 | | | | | | | |
| | 17 | | | | | | | |
| | 18 | | | | | | ▼ | |
| | 19 | | | | | | | |
| | 20 | | | | 0.0 | | | |
| | 21 | | | | | | | Partially weathered rock sampling as grayish olive green (5GY 3/2), moderately micaceous, wet, silty medium to coarse sand |
| | 22 | | | | | | | |
| | 23 | | | | | | | Bedrock (biotite/muscovite gneiss) |
| | | | | | | | | Boring terminated at 23.0 feet below ground surface. |

| Legend | |
|--------|---|
| | Filter Sand Pack (11.0 - 23.0 feet BGS) |
| | Bentonite Seal (8.0 - 11.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 8.0 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |
| | Silty Clay |

| Notes |
|--|
| Boring terminated at 23.0 feet below ground surface. Groundwater encountered at 18.0 feet below ground surface at time of boring and 13.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133863.387 |
| Easting = 1724892.172 |
| Top of Casing Elevation = 752.75 (NAVD 88) |
| Ground Surface Elevation = 752.21 (NAVD 88) |
| Total Well Depth = 22.95 feet Below Ground Surface |
| Screen = 0.01-inch slot (12.75 to 22.75 feet Below Ground Surface) |

FIELD BORING LOG (08641-MW15)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 11, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry | Slightly Moist | Moist | Wet | Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|-----|----------------|-------|-----|-------------|---|
| | 1 | | | | | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | | | | | |
| | 4 | | | | | | | | | | |
| | 5 | | | | 0.2 | | | | | | |
| | 6 | | | | | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | |
| | 10 | | | | 0.4 | | | | | | |
| | 11 | | | | | | | | | | Saprolite sampling as light brown (5YR 5/6), dry to wet, silty, fine to medium sand |
| | 12 | | | | | | | | | | |
| | 13 | | | | | | | | | | |
| | 14 | | | | | | | | | ▼ | |
| | 15 | | | | 0.9 | | | | | | |
| | 16 | | | | | | | | | | |
| | 17 | | | | | | | | | | |
| | 18 | | | | | | | | | | |
| | 19 | | | | | | | | | ▼ | |
| | 20 | | | | 0.7 | | | | | | |

Boring terminated at 22.0 feet below ground surface.

| Legend | |
|--------|---|
| | Filter Sand Pack (8.0 - 22.0 feet BGS) |
| | Bentonite Seal (6.0 - 8.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 6.0 feet BGS) |
| ▼ | Water Level at Time of Boring |
| ▼ | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |
| | Silty Clay |

| Notes |
|--|
| Boring terminated at 22.0 feet below ground surface. Groundwater encountered at 20.0 feet below ground surface at time of boring and 14.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133743.969 |
| Easting = 1725035.153 |
| Top of Casing Elevation = 767.84 (NAVD 88) |
| Ground Surface Elevation = 767.56 (NAVD 88) |
| Total Well Depth = 20.27 feet Below Ground Surface |
| Screen = 0.01-inch slot (10.07 to 20.07 feet Below Ground Surface) |

FIELD BORING LOG (08641-MW16)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 10, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry | Slightly Moist | Moist | Wet | Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|-----|----------------|-------|-----|-------------|---|
| | 1 | | ▲ | | | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | | | | | Moderate reddish brown (10R 4/6), dry to slightly moist, clayey silt |
| | 3 | | | | | | | | | | |
| | 4 | | | | | | | | | ▼ | |
| | 5 | | | | 0.0 | | | | | | |
| | 6 | | | | | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | Moderate reddish brown (10R 4/6), moist to wet, slightly micaceous, clayey silt |
| | 10 | | | | 0.0 | | | | | ▼ | |
| | 11 | | | | | | | | | | |

Boring terminated at 12.0 feet below ground surface.

| Legend | |
|--------|---|
| | Filter Sand Pack (1.0 - 11.0 feet BGS) |
| | Bentonite Seal (0.5 - 1.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 0.5 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |
| | Silty Clay |

| Notes |
|--|
| Boring terminated at 12.0 feet below ground surface. Groundwater encountered at 10.0 feet below ground surface at time of boring and 4.0 feet below ground surface after 24 hours. Above-ground well completion with 4-inch by 4-inch steel locking, standup cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133836.488 |
| Easting = 1725023.017 |
| Top of Casing Elevation = 758.26 (NAVD 88) |
| Ground Surface Elevation = 761.93 (NAVD 88) |
| Total Well Depth = 10.88 feet Below Ground Surface |
| Screen = 0.01-inch slot 0.68 to 10.68 feet Below Ground Surface) |

FIELD BORING LOG (08641-MW17)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 10, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry Slightly Moist Moist Wet Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|--|--|
| | 1 | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | |
| | 4 | | | | | | |
| | 5 | | | | 0.0 | | |
| | 6 | | | | | | |
| | 7 | | | | | | |
| | 8 | | | | | | |
| | 9 | | | | | | |
| | 10 | | | | 0.0 | | |
| | 11 | | | | | | Saprolite sampling as light brown (5YR 5/6), dry to slightly moist, silty, fine to medium sand |
| | 12 | | | | | | |
| | 13 | | | | | | |
| | 14 | | | | 0.2 | | |
| | 15 | | | | | | |
| | 16 | | | | | | |
| | 17 | | | | | | |
| | 18 | | | | | | |
| | 19 | | | | | | |
| | 20 | | | | 0.1 | | |
| | 21 | | | | | | Saprolite sampling as light brown (5YR 5/6), slightly moist to wet, slightly micaceous, silty, fine to medium sand |
| | 22 | | | | | | |
| | 23 | | | | | | |
| | 24 | | | | | | |
| | 25 | | | | 0.1 | | |
| | 26 | | | | | | Partially weathered rock sampling as grayish olive green (5GY 3/2), moderately micaceous, wet, silty medium to coarse sand |
| | 27 | | | | | | |

Boring terminated at 27.0 feet below ground surface.

Legend

- Filter Sand Pack (15.0 - 27.0 feet BGS)
- Bentonite Seal (12.0 - 15.0 feet BGS)
- Bentonite-Cement Grout (0 - 12.0 feet BGS)
- Water Level at Time of Boring
- 24-Hour Water Level
- Sand
- Clayey Sand
- Silty Sand
- Clayey Silt
- Sandy Silt
- Silty Clay

Notes

Boring terminated at 27.0 feet below ground surface. Groundwater encountered at 23.0 feet below ground surface at time of boring and 19.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad.

Northing = 1133692.877
 Easting = 1725191.429
 Top of Casing Elevation = 779.13 (NAVD 88)
 Ground Surface Elevation = 778.87 (NAVD 88)

Total Well Depth = 26.71 feet Below Ground Surface
 Screen = 0.01-inch slot (16.51 to 26.51 feet Below Ground Surface)

FIELD BORING LOG (08641-MW18)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 11, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry | Slightly Moist | Moist | Wet | Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|-----|----------------|-------|-----|-------------|--|
| | 1 | | | | | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | | | | | |
| | 4 | | | | | | | | | | |
| | 5 | | | | 0.0 | | | | | | |
| | 6 | | | | | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | |
| | 10 | | | | 0.0 | | | | | | |
| | 11 | | | | | | | | | | Saprolite sampling as light brown (5YR 5/6), dry to slightly moist, silty, fine to medium sand |
| | 12 | | | | | | | | | | |
| | 13 | | | | | | | | | | |
| | 14 | | | | 0.0 | | | | | | |
| | 15 | | | | | | | | | | |
| | 16 | | | | | | | | | | |
| | 17 | | | | | | | | | | |
| | 18 | | | | | | | | | | |
| | 19 | | | | | | | | | | |
| | 20 | | | | 0.1 | | | | | | |
| | 21 | | | | | | | | | | Partially weathered rock sampling as light brown (5YR 5/6), moist to wet, slightly micaceous, silty, fine to medium sand |
| | 22 | | | | | | | | | | |
| | 23 | | | | | | | | | | |
| | 24 | | | | | | | | | | |
| | 25 | | | | 0.1 | | | | | | |
| | 26 | | | | | | | | | | Partially weathered rock sampling as grayish olive green (5GY 3/2), moderately micaceous, wet, silty medium to coarse sand |
| | 27 | | | | | | | | | | |

Boring terminated at 27.0 feet below ground surface.

Legend

- Filter Sand Pack (14.0 - 27.0 feet BGS)
- Bentonite Seal (12.0 - 14.0 feet BGS)
- Bentonite-Cement Grout (0 - 12.0 feet BGS)
- Water Level at Time of Boring
- 24-Hour Water Level
- Sand
- Clayey Sand
- Silty Sand
- Clayey Silt
- Sandy Silt
- Silty Clay

Notes

Boring terminated at 27.0 feet below ground surface. Groundwater encountered at 22.0 feet below ground surface at time of boring and 18.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad.

Northing = 1133523.782
 Easting = 1725086.016
 Top of Casing Elevation = 772.06 (NAVD 88)
 Ground Surface Elevation = 771.74 (NAVD 88)

Total Well Depth = 26.93 feet Below Ground Surface
 Screen = 0.01-inch slot (16.73 to 26.73 feet Below Ground Surface)

FIELD BORING LOG (08641-MW19)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 10, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry Slightly Moist Moist Wet Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|--|--|
| | 1 | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | |
| | 4 | | | | | | |
| | 5 | | | | 0.0 | | |
| | 6 | | | | | | |
| | 7 | | | | | | |
| | 8 | | | | | | |
| | 9 | | | | | | |
| | 10 | | | | 0.6 | | Saprolite sampling as light brown (5YR 5/6), dry, silty, fine to medium sand |
| | 11 | | | | | | |
| | 12 | | | | | | |
| | 13 | | | | | | |
| | 14 | | | | | | |
| | 15 | | | | 2.4 | | |
| | 16 | | | | | | |
| | 17 | | | | | | |
| | 18 | | | | | | Saprolite sampling as light brown (5YR 5/6), slightly to moderately micaceous, slightly moist to moist, silty, fine to medium sand |
| | 19 | | | | | | |
| | 20 | | | | 1.6 | | |
| | 21 | | | | | | Bedrock (biotite/muscovite gneiss) |
| | | | | | | | Boring terminated at 22.0 feet below ground surface. |

| Legend | |
|--------|---|
| | Filter Sand Pack (10.0 - 22.0 feet BGS) |
| | Bentonite Seal (8.0 - 10.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 8.0 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |
| | Silty Clay |

| Notes |
|--|
| Boring terminated at 22.0 feet below ground surface. Groundwater encountered at 20.0 feet below ground surface at time of boring and 17.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133504.702 Easting = 1725017.172 Top of Casing Elevation = 769.69 (NAVD 88) Ground Surface Elevation = 769.38 (NAVD 88) |
| Total Well Depth = 21.62 feet Below Ground Surface Screen = 0.01-inch slot (11.42 to 21.42 feet Below Ground Surface) |

FIELD BORING LOG (08641-MW20)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 11, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry | Slightly Moist | Moist | Wet | Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|-----|----------------|-------|-----|-------------|--|
| | 1 | | | | | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | | | | | |
| | 4 | | | | | | | | | | |
| | 5 | | | | 0.0 | | | | | | |
| | 6 | | | | | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | |
| | 10 | | | | 0.0 | | | | | | |
| | 11 | | | | | | | | | | Saprolite sampling as light brown (5YR 5/6), dry, silty, fine to medium sand |
| | 12 | | | | | | | | | | |
| | 13 | | | | | | | | | | |
| | 14 | | | | | | | | | | |
| | 15 | | | | 0.0 | | | | | | Saprolite sampling as light brown (5YR 5/6), slightly moist to moist, silty, fine to medium sand |
| | 16 | | | | | | | | | | |
| | 17 | | | | | | | | | | |
| | 18 | | | | | | | | | | |
| | 19 | | | | | | | | | | Saprolite sampling as light brown (5YR 5/6), wet, silty, fine to medium sand |
| | 20 | | | | 0.0 | | | | | | |

Boring terminated at 21.0 feet below ground surface.

| Legend | |
|--------|---|
| | Filter Sand Pack (8.0 - 21.0 feet BGS) |
| | Bentonite Seal (6.0 - 8.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 6.0 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |
| | Silty Clay |

| Notes |
|--|
| Boring terminated at 21.0 feet below ground surface. Groundwater encountered at 18.0 feet below ground surface at time of boring and 14.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133433.768 |
| Easting = 1725021.856 |
| Top of Casing Elevation = 767.45 (NAVD 88) |
| Ground Surface Elevation = 767.14 (NAVD 88) |
| Total Well Depth = 20.29 feet Below Ground Surface |
| Screen = 0.01-inch slot (10.09 to 20.09 feet Below Ground Surface) |

FIELD BORING LOG (08641-MW21)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 11, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry | Slightly Moist | Moist | Wet | Groundwater | Soil Description |
|-------------------------|-----------------|-------------|-----------------|-------------|------------------|-----|----------------|-------|-----|-------------|---|
| | 1 | | | | | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | | | | | |
| | 4 | | | | | | | | | | |
| | 5 | | | | 0.0 | | | | | | |
| | 6 | | | | | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | |
| | 10 | | | | 0.1 | | | | | | |
| | 11 | | | | | | | | | | Saprolite sampling as light brown (5YR 5/6), dry to wet, silty, fine to medium sand |
| | 12 | | | | | | | | | | |
| | 13 | | | | | | | | | | |
| | 14 | | | | | | | | | | |
| | 15 | | | | 0.0 | | | | | | |
| | 16 | | | | | | | | | | |
| | 17 | | | | | | | | | | |
| | 18 | | | | | | | | | | |
| | 19 | | | | | | | | | | |

Boring terminated at 20.0 feet below ground surface.

Legend

- Filter Sand Pack (8.0 - 20.0 feet BGS)
- Bentonite Seal (6.0 - 8.0 feet BGS)
- Bentonite-Cement Grout (0 - 6.0 feet BGS)
- Water Level at Time of Boring
- 24-Hour Water Level
- Sand
- Clayey Sand
- Silty Sand
- Clayey Silt
- Sandy Silt
- Silty Clay

Notes

Boring terminated at 20.0 feet below ground surface. Groundwater encountered at 15.0 feet below ground surface at time of boring and 12.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad.

Northing = 1133366.971
 Easting = 1724911.719
 Top of Casing Elevation = 761.84 (NAVD 88)
 Ground Surface Elevation = 761.51 (NAVD 88)

Total Well Depth = 19.62 feet Below Ground Surface
 Screen = 0.01-inch slot (9.42 to 19.42 feet Below Ground Surface)

FIELD BORING LOG (08641-MW22)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 11, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry | Slightly Moist | Moist | Wet | Groundwater | Soil Description |
|--|-----------------|-------------|-----------------|-------------|------------------|-----|----------------|-------|-----|-------------|---|
| | 1 | | | | | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | | | | | |
| | 4 | | | | | | | | | | |
| | 5 | | | | 0.0 | | | | | | |
| | 6 | | | | | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | |
| | 10 | | | | 0.0 | | | | | | |
| | 11 | | | | | | | | | | Saprolite sampling as light brown (5YR 5/6), dry to wet, silty, fine to medium sand |
| | 12 | | | | | | | | | | |
| | 13 | | | | | | | | | ▼ | |
| | 14 | | | | | | | | | | |
| | 15 | | | | 0.0 | | | | | ▼ | |
| | 16 | | | | | | | | | | |
| | 17 | | | | | | | | | | |
| Boring terminated at 17.0 feet below ground surface. | | | | | | | | | | | |

| Legend | |
|--------|---|
| | Filter Sand Pack (5.0 - 17.0 feet BGS) |
| | Bentonite Seal (3.0 - 5.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 3.0 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |
| | Silty Clay |

| Notes |
|--|
| Boring terminated at 17.0 feet below ground surface. Groundwater encountered at 15.0 feet below ground surface at time of boring and 13.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133458.029 |
| Easting = 1724745.033 |
| Top of Casing Elevation = 751.81 (NAVD 88) |
| Ground Surface Elevation = 751.47 (NAVD 88) |
| Total Well Depth = 16.95 feet Below Ground Surface |
| Screen = 0.01-inch slot (6.75 to 16.75 feet Below Ground Surface) |

FIELD BORING LOG (08641-MW23)



| | |
|--|---|
| Job Name: Morris Oil Company | Job Number: J14-060-A |
| Site Address: 427 Alexander Avenue, Spartanburg, Spartanburg County, SC | |
| Drill Method: 6-inch air roller cone bit | Drill Rig: Simco 2500 |
| Driller Name: J. Smith | Company: Smith Drilling Services |
| Installation Date: November 11, 2014 | Logged By: Trever Slack |

| Elevation (feet msl) | Depth (feet) | Graphic Log | Well Diagram | Graphic Log | OVA/PID (PPM) | Dry | Slightly Moist | Moist | Wet | Groundwater | Soil Description |
|--|-----------------|-------------|-----------------|-------------|------------------|-----|----------------|-------|-----|-------------|--|
| | 1 | | | | | | | | | | Grass/Organic Topsoil |
| | 2 | | | | | | | | | | Moderate reddish brown (10R 4/6), dry, clayey silt |
| | 3 | | | | | | | | | | |
| | 4 | | | | | | | | | | |
| | 5 | | | | 0.0 | | | | | | |
| | 6 | | | | | | | | | | |
| | 7 | | | | | | | | | | |
| | 8 | | | | | | | | | | |
| | 9 | | | | | | | | | | |
| | 10 | | | | 0.0 | | | | | | |
| | 11 | | | | | | | | | | Saprolite sampling as light brown (5YR 5/6), dry, silty, fine to medium sand |
| | 12 | | | | | | | | | | |
| | 13 | | | | | | | | | | |
| | 14 | | | | 0.0 | | | | | | |
| | 15 | | | | | | | | | | |
| | 16 | | | | | | | | | | |
| | 17 | | | | | | | | | | |
| | 18 | | | | | | | | | | |
| | 19 | | | | | | | | | | |
| | 20 | | | | 0.3 | | | | | | |
| | 21 | | | | | | | | | | Saprolite sampling as light brown (5YR 5/6), dry to slightly moist, slightly micaceous, silty, fine to medium sand |
| | 22 | | | | | | | | | | |
| | 23 | | | | | | | | | | |
| | 24 | | | | | | | | | | |
| | 25 | | | | 0.4 | | | | | | |
| | 26 | | | | | | | | | | Partially weathered rock sampling as grayish olive green (5GY 3/2), moderately micaceous, slightly moist to moist, silty medium to coarse sand |
| | 27 | | | | | | | | | | |
| | 28 | | | | | | | | | | Partially weathered rock sampling as grayish olive green (5GY 3/2), moderately micaceous, wet, silty medium to coarse sand |
| | 29 | | | | | | | | | | |
| | 30 | | | | 0.3 | | | | | | |
| | 31 | | | | | | | | | | Bedrock (biotite/muscovite gneiss) |
| Boring terminated at 32.0 feet below ground surface. | | | | | | | | | | | |

| Legend | |
|--------|--|
| | Filter Sand Pack (19.0 - 32.0 feet BGS) |
| | Bentonite Seal (17.0 - 19.0 feet BGS) |
| | Bentonite-Cement Grout (0 - 17.0 feet BGS) |
| | Water Level at Time of Boring |
| | 24-Hour Water Level |
| | Sand |
| | Clayey Sand |
| | Silty Sand |
| | Clayey Silt |
| | Sandy Silt |

| Notes |
|--|
| Boring terminated at 32.0 feet below ground surface. Groundwater encountered at 28.0 feet below ground surface at time of boring and 23.0 feet below ground surface after 24 hours. Flush Mount well completion with 8-inch diameter steel, bolted manhole cover installed in a 2-foot by 2-foot concrete pad. |
| Northing = 1133709.595 |
| Easting = 1724946.161 |
| Top of Casing Elevation = 764.81 (NAVD 88) |
| Ground Surface Elevation = 764.24 (NAVD 88) |
| Total Well Depth = 29.57 feet Below Ground Surface |
| Screen = 0.01-inch slot (19.37 to 29.37 feet Below Ground Surface) |



Silty Clay



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**Water Well Record
Bureau of Water**

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 Address: (last) (first)
427 Alexander Avenue
 City: **Spartanburg** State: **SC** Zip:
 Phone: **N/A**

7. PERMIT NUMBER: **UST Permit #08641**

8. USE:
 Residential Public Supply Process
 Irrigation Air Conditioning Emergency
 Test Well **Monitor Well** Replacement

2. LOCATION OF WELL: COUNTY: **Spartanburg**
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**
1133643,015 1724967,051

9. WELL DEPTH (completed)
22.71 ft. Date Started: **11/7/14**
 Date Completed: **11/11/14**

3. PUBLIC SYSTEM NAME: **08641-MW08**

10. CASING: **1** Threaded Welded
 Diameter: **2"**
 Type: **PVC**
TOC elev 769.62
 Height: Below
 Surface: _____ ft.
 Drive Shoe: _____

4. ABANDONMENT:
 Grouted Depth: from _____ to _____ ft.

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
|-----------------------|----------------------|----------------------------|
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11. SCREEN:
 Type: **PVC** Diameter: **2"**
 Slot/Gauge: **0.010"** Length: **10'**
 Set Between: **12.51** ft. and **22.51** ft.
 Sieve Analysis: Y/N

5. REMARKS:
Bentonite Seal 6-8

6. TYPE: Mud Rotary Jetted Bored
 Dug **Air Rotary** Driven
 Cable tool Auger Other

12. STATIC WATER LEVEL: **21** ft. below land surface after 24 hours

13. PUMPING LEVEL: Below Land Surface.
 _____ ft. after _____ hrs Pumping GPM
 Pumping Test: _____
 Yield: _____

SEE BORING LOGS

14. WATER QUALITY:
 Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack): **Sand**
 Installed from: **8** ft. to **23** ft.
 Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUTED?
 Neat Cement Bentonite **Bentonite/Cement** Other
 Depth: From **0.0** ft. to **6** ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 Type: _____ Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP: Date installed: _____
 Mfr. Name: _____ Model no.: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: Submersible Jet (shallow) Turbine
 Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: **Joe Smith** CERT NO.: **1648**
 Address: **Smith Drilling Services** Level: A **B** C D
2443 High Meadows Court (circle one)
Conyers, Georgia 30094
 Telephone: 678-201-9849 Fax: _____

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: *Joe Smith*
 Date: **11/11/14**

If D Level Driller, provide supervising driller's name.



Water Well Record
Bureau of Water
 2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 Address: (last) (first)
427 Alexander Avenue
 City: **Spartanburg** State: **SC** Zip:
 Phone: **N/A**

7. PERMIT NUMBER: **UST Permit #08641**

8. USE:
 Residential Public Supply Process
 Irrigation Air Conditioning Emergency
 Test Well **Monitor Well** Replacement

9. WELL DEPTH (completed):
10.19 ft. Date Started: **11/7/14**
 Date Completed: **11/10/14**

2. LOCATION OF WELL: COUNTY: **Spartanburg**
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**
1133799, 231 1725119, 392

10. CASING: **1 threaded** Welded
 Diameter: **2"**
 Type: **PVC**
2 in. to **0.99** ft. depth
2 in. to _____ ft. depth
 Height: Below
 Surface: _____ ft. Weight: lb./ft.
 Drive Shoe: _____

3. PUBLIC SYSTEM NAME: **08641-Mw13**

4. ABANDONMENT:

Grouted Depth: from _____ to _____ ft.

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
|-----------------------|----------------------|----------------------------|
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11. SCREEN:
 Type: **PVC** Diameter: **2"**
 Slot/Gauge: **0.010"** Length: **10'**
 Set Between: **0.99** ft. and **0.99** ft.
 Sieve Analysis: Y/N

12. STATIC WATER LEVEL: **3** ft. below land surface after 24 hours.
13. PUMPING LEVEL: Below Land Surface.
 _____ ft. after _____ hrs Pumping GPM
 Pumping Test: _____
 Yield: _____

14. WATER QUALITY:
 Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack): **Sand**
 Installed from: **1** ft. to **11** ft.
 Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUTED?:
 Neat Cement Bentonite **Bentonite/Cement** Other
 Depth: From **0.0** ft. to **0.5** ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 Type: _____
 Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP:
 Mfr. Name: _____ Date installed: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: _____
 Submersible Jet (shallow) Turbine
 Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: **Joe Smith** CERT NO.: **1648**
 Address: **Smith Drilling Services** Level: A **B** C D
 2443 High Meadows Court (circle one)
 Conyers, Georgia 30094
 Telephone: 678-201-9849 Fax: _____

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

SEE BORING LOGS

5. REMARKS:
Bentonite Seal 0.5-1.0

6. TYPE: Mud Rotary Jetted Bored
 Dug **Air Rotary** Driven
 Cable tool Auger Other

Signed:
 Date: **11/10/14**



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 Address: (last) (first)
427 Alexander Avenue
 City: **Spartanburg** State: **SC** Zip:
 Phone: **N/A**

7. PERMIT NUMBER: **UST Permit #08641**

8. USE:
 Residential Public Supply Process
 Irrigation Air Conditioning Emergency
 Test Well **Monitor Well** Replacement

9. WELL DEPTH (completed)
22.95 ft. Date Started: **11/7/14**
 Date Completed: **11/10/14**

2. LOCATION OF WELL: COUNTY: **Spartanburg**
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**
1133863.387 1724892,172

10. CASING: **1 threaded** Welded
 Diameter: **2"**
 Type: **PVC**
2 in. to **12.75** ft. depth
 in. to _____ ft. depth
 Height: Below
 Surface: _____ ft. Weight: lb./ft.
 Drive Shoe:
TOC elev 752.21

3. PUBLIC SYSTEM NAME: **08641-MW14**

11. SCREEN:
 Type: **PVC** Diameter: **2"**
 Slot/Gauge: **0.010"** Length: **10'**
 Set Between: **12.75** ft. and **22.75** ft.
 and _____ ft.
 Sieve Analysis: Y/N

4. ABANDONMENT:
 Grouted Depth: from _____ to _____ ft.

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
|-----------------------|----------------------|----------------------------|
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SEE BORING LOGS

12. STATIC WATER LEVEL **13** ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
 _____ ft. after _____ hrs Pumping GPM
 Pumping Test: _____
 Yield: _____

14. WATER QUALITY
 Chemical Analysis: Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) **Sand**
 Installed from: **11** ft. to **23** ft.
 Effective Size: _____ Uniformity Coefficient:

16. WELL GROUTED?
 Neat Cement Bentonite **Bentonite/Cement** Other
 Depth: From **0.0** ft. to **8** ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 Type:
 Well Disinfected: Type: Amount:

18. PUMP: Date installed: _____
 Mfr. Name: _____ Model no.: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: Submersible Jet (shallow) Turbine
 Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Joe Smith **CERT NO.: 1648**
 Address: **Smith Drilling Services** Level: A **B** C D
 2443 High Meadows Court (circle one)
 Conyers, Georgia 30094
 Telephone: 678-201-9849 Fax:

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Joseph A Smith

Signed: _____

Date: **11/10/14**

If D Level Driller, provide supervising driller's name.

5. REMARKS:
Bentonite Seal 8-11

6. TYPE: Mud Rotary Jetted Bored
 Dug **Air Rotary** Driven
 Cable tool Auger Other



Water Well Record
Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION: Name: Former Morris Oil Co. Address: 427 Alexander Avenue City: Spartanburg State: SC Zip: Phone: N/A

7. PERMIT NUMBER: UST Permit #08641

8. USE: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

2. LOCATION OF WELL: COUNTY: Spartanburg Name: Former Morris Oil Co. Address: 427 Alexander Avenue City: Spartanburg, South Carolina

9. WELL DEPTH (completed) 20.27 ft. Date Started: 11/7/14 Date Completed: 11/11/14

3. PUBLIC SYSTEM NAME: 08641-MW15

10. CASING: Ithreaded, Welded, Diameter: 2", Type: PVC, Height: Below Surface, Drive Shoe

4. ABANDONMENT: Grouted Depth: from to ft.

11. SCREEN: Type: PVC, Diameter: 2", Slot/Gauge: 0.010", Length: 10', Set Between: 10.07 ft. and 20.07 ft.

Table with 3 columns: Formation Description, Thickness of Stratum, Depth to Bottom of Stratum. Includes handwritten 'SEE BORING LOGS' across the table.

12. STATIC WATER LEVEL 14 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface. Pumping Test: Yield: GPM

14. WATER QUALITY: Chemical Analysis: Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Sand. Installed from: 8 ft. to 22 ft. Effective Size: Uniformity Coefficient:

16. WELL GROUTED? Neat Cement, Bentonite, Bentonite/Cement, Other. Depth: From 0.0 ft. to 6 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: Type: Well Disinfected: Type: Amount:

18. PUMP: Mfr. Name: Date installed: Model no.: H.P.: Capacity: Volts: Length of pipe: ft. TYPE: Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER: Joe Smith, Smith Drilling Services, 2443 High Meadows Court, Conyers, Georgia 30094. CERT NO.: 1648. Level: A, B, C, D (circle one)

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

5. REMARKS: Bentonite Seal 6-8

Signed: [Signature] Date: 11/11/14

6. TYPE: Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger, Other

If D Level Driller, provide supervising driller's name.



Water Well Record
Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Former Morris Oil Co.
Address: 427 Alexander Avenue
City: Spartanburg State: SC Zip:
Phone: N/A

7. PERMIT NUMBER: UST Permit #08641

8. USE:
Residential Public Supply Process
Irrigation Air Conditioning Emergency
Test Well Monitor Well Replacement

2. LOCATION OF WELL: COUNTY: Spartanburg
Name: Former Morris Oil Co.
Address: 427 Alexander Avenue
City: Spartanburg, South Carolina
1133836.488 172.5023.017

9. WELL DEPTH (completed) 10.88 ft.
Date Started: 11/7/14
Date Completed: 11/10/14

3. PUBLIC SYSTEM NAME: 08641-MW16

10. CASING: 1 threaded Welded
Diameter: 2"
Type: PVC
Height: Below
Surface: ft.
Drive Shoe:
TOC elev 761.93

4. ABANDONMENT:
Grouted Depth: from to ft.

11. SCREEN:
Type: PVC Diameter: 2"
Slot/Gauge: 0.010" Length: 10'
Set Between: 0.68 ft. and 10.68 ft.
Sieve Analysis: Y/N

Table with 3 columns: Formation Description, Thickness of Stratum, Depth to Bottom of Stratum. Includes diagonal stamp 'SEE BORING LOGS'.

12. STATIC WATER LEVEL 4 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
Pumping Test:
Yield: GPM

14. WATER QUALITY
Chemical Analysis: Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack) Sand
Installed from: 1 ft. to 11 ft.
Effective Size: Uniformity Coefficient:

16. WELL GROUTED?
Neat Cement Bentonite Bentonite/Cement Other
Depth: From 0.0 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: Type: Amount:

18. PUMP:
Mfr. Name: Date installed: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE: Submersible Jet (shallow) Turbine
Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: Joe Smith CERT NO.: 1648
Address: Smith Drilling Services Level: A B C D
2443 High Meadows Court (circle one)
Conyers, Georgia 30094
Telephone: 678-201-9849 Fax:

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

5. REMARKS: Bentonite Seal 0.5-1.0

Signed: [Signature]
Date: 11/10/14

6. TYPE: Mud Rotary Jetted Bored
Dug Air Rotary Driven
Cable tool Auger Other

If D Level Driller, provide supervising driller's name.



**Water Well Record
Bureau of Water**

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 Address: (last) (first)
427 Alexander Avenue
 City: **Spartanburg** State: **SC** Zip:
 Phone: **N/A**

7. PERMIT NUMBER: **UST Permit #08641**

8. USE:
 Residential Public Supply Process
 Irrigation Air Conditioning Emergency
 Test Well **Monitor Well** Replacement

2. LOCATION OF WELL: COUNTY: **Spartanburg**
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**
1133433.768 1725021.856

9. WELL DEPTH (completed)
20.29 ft. Date Started: **11/11/14**
 Date Completed: **11/11/14**

3. PUBLIC SYSTEM NAME: **08641-MW20**

10. CASING: **1threaded** Welded
 Diameter: **2"**
 Type: **PVC**
TOC elev 767.14 in. to **10.09** ft. depth
 in. to _____ ft. depth
 Height: **Below**
 Surface: _____ ft. Weight: _____ lb./ft.
 Drive Shoe: _____

4. ABANDONMENT:

11. SCREEN:
 Type: **PVC** Diameter: **2"**
 Slot/Gauge: **0.010"** Length: **10'**
 Set Between: **10.09** ft. and **20.09** ft.
 Sieve Analysis: **Y/N**

| Formation Description | Grouted Depth: from _____ to _____ ft. | |
|-----------------------|--|----------------------------|
| | Thickness of Stratum | Depth to Bottom of Stratum |
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12. STATIC WATER LEVEL **14** ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.
 _____ ft. after _____ hrs Pumping GPM
 Pumping Test: _____
 Yield: _____

14. WATER QUALITY
 Chemical Analysis: _____ Bacterial Analysis: _____

15. ARTIFICIAL FILTER (filter pack) **Sand**
 Installed from: **8** ft. to **20** ft.
 Effective Size: _____ Uniformity Coefficient: _____

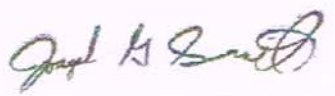
16. WELL GROUTED?
 Neat Cement Bentonite **Bentonite/Cement** Other
 Depth: From **0.0** ft. to **6** ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 Type: _____
 Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP: Date installed: _____
 Mfr. Name: _____ Model no.: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: _____
 Submersible Jet (shallow) Turbine
 Jet (deep) Reciprocating Centrifugal

19. WELL DRILLER: **Joe Smith** CERT NO.: **1648**
 Address: **Smith Drilling Services** Level: A **(B)** C D
2443 High Meadows Court (circle one)
Conyers, Georgia 30094
 Telephone: **678-201-9849** Fax: _____

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: 
 Date: **11/11/14**

5. REMARKS:
Bentonite Seal 6-8

6. TYPE: Mud Rotary Jetted Bored
 Dug Air Rotary Driven
 Cable tool Auger Other

If D Level Driller, provide supervising driller's name.



Water Well Record
Bureau of Water
 2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
 Name: **Former Morris Oil Co.**
 Address: (last) (first)
427 Alexander Avenue
 City: **Spartanburg** State: **SC** Zip:
 Phone: **N/A**

7. PERMIT NUMBER: **UST Permit #08641**
8. USE:
 Residential _____ Public Supply _____ Process _____
 Irrigation _____ Air Conditioning _____ Emergency _____
 Test Well _____ **Monitor Well** _____ Replacement _____

9. WELL DEPTH (completed)
19.62 ft. Date Started: **11/11/14**
 Date Completed: **11/11/14**

2. LOCATION OF WELL: COUNTY: **Spartanburg**
 Name: **Former Morris Oil Co.**
 Address: **427 Alexander Avenue**
 City: **Spartanburg, South Carolina**
1133366, 971 1724911, 719

10. CASING: **1 threaded** Welded
 Diameter: **2"**
 Type: **PVC**
TAC elev 761.51
 in. to **9.42** ft. depth
 in. to _____ ft. depth
 Height: Below _____ ft.
 Surface: _____ ft. Weight: lb./ft.
 Drive Shoe: _____

3. PUBLIC SYSTEM NAME: **08641-MW21**

11. SCREEN:
 Type: **PVC** Diameter: **2"**
 Slot/Gauge: **0.010"** Length: **16'**
 Set Between: **9.42** ft. and **19.42** ft.
 Sieve Analysis: **Y/N**

4. ABANDONMENT:
 Grouted Depth: from _____ to _____ ft.

| Formation Description | Thickness of Stratum | Depth to Bottom of Stratum |
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12. STATIC WATER LEVEL **12** ft. below land surface after 24 hours.
13. PUMPING LEVEL Below Land Surface.
 ft. after _____ hrs Pumping GPM
 Pumping Test: _____
 Yield: _____

SEE BORING LOGS

14. WATER QUALITY
 Chemical Analysis: _____ Bacterial Analysis: _____
15. ARTIFICIAL FILTER (filter pack) **Sand**
 Installed from: **8** ft. to **20** ft.
 Effective Size: _____ Uniformity Coefficient: _____

16. WELL GROUDED?
 Neat Cement _____ Bentonite _____ **Bentonite/Cement** _____ Other _____
 Depth: From **0.0** ft. to **6** ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction
 Type: _____
 Well Disinfected: _____ Type: _____ Amount: _____

18. PUMP: Date installed: _____
 Mfr. Name: _____ Model no.: _____
 H.P.: _____ Volts: _____ Length of pipe: _____ ft.
 Capacity: _____ gpm
 TYPE: _____
 Submersible _____ Jet (shallow) _____ Turbine _____
 Jet (deep) _____ Reciprocating _____ Centrifugal _____

19. WELL DRILLER: Joe Smith **CERT NO.: 1648**
 Address: **Smith Drilling Services** Level: A (B) C D
2443 High Meadows Court (circle one)
Conyers, Georgia 30094
 Telephone: 678-201-9649 Fax: _____

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Joe Smith
 Signed: _____

5. REMARKS:
Bentonite Seal 6-8

Date: **11/11/14**

6. TYPE: Mud Rotary _____ Jetted _____ Bored _____
 Dug _____ **Air Rotary** _____ Driven _____
 Cable tool _____ Auger _____ Other _____

If D Level Driller, provide supervising driller's name.



Water Well Record
Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:

Name: Former Morris Oil Co.
Address: 427 Alexander Avenue
City: Spartanburg State: SC Zip:
Phone: N/A

2. LOCATION OF WELL:

County: Spartanburg
Name: Former Morris Oil Co.
Address: 427 Alexander Avenue
City: Spartanburg, South Carolina
1133498.029 1724745.033

3. PUBLIC SYSTEM NAME: 08641-

MW22

4. ABANDONMENT:

Table with columns: Formation Description, Thickness of Stratum, Depth to Bottom of Stratum. Row 1: Grouted Depth: from to ft.

SEE BORING LOGS

7. PERMIT NUMBER:

UST Permit #08641

8. USE:

Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. WELL DEPTH (completed)

16.95 ft. Date Started: 11/11/14 Date Completed: 11/11/14

10. CASING:

1 threaded

Diameter: 2", Type: PVC, Height: Below, Surface: ft., Drive Shoe: Welded, in. to 6.75 ft. depth, in. to ft. depth, Weight: lb./ft.

11. SCREEN:

Type: PVC, Diameter: 2", Slot/Gauge: 0.010", Length: 10', Set Between: 6.75 ft. and 16.75 ft., Sieve Analysis: Y/N

12. STATIC WATER LEVEL 13 ft. below land surface after 24 hours.

13. PUMPING LEVEL Below Land Surface.

Pumping Test: Yield: hrs Pumping GPM

14. WATER QUALITY

Chemical Analysis: Bacterial Analysis:

15. ARTIFICIAL FILTER (filter pack)

Installed from: 5 ft. to 17 ft., Effective Size: Sand, Uniformity Coefficient

16. WELL GROUTED?

Neat Cement, Bentonite, Bentonite/Cement, Other, Depth: From 0.0 ft. to 3 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION:

Type: Well Disinfected: Type: Amount: ft. direction

18. PUMP:

Mfr. Name: Date installed: Model no.: H.P.: Volts: Length of pipe: ft. Capacity: gpm TYPE: Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. WELL DRILLER:

Joe Smith, Smith Drilling Services, 2443 High Meadows Court, Conyers, Georgia 30094, Telephone: 678-201-9849, CERT NO.: 1648, Level: A (B) C D (circle one)

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: [Signature] Date: 11/11/14

5. REMARKS:

Bentonite Seal 3-5

6. TYPE:

Mud Rotary, Jetted, Bored, Dug, Air Rotary, Driven, Cable tool, Auger, Other

If D Level Driller, provide supervising driller's name.

**MORRIS OIL CO. – UST PERMIT #08641
TIER II ASSESSMENT**

APPENDIX F

AQUIFER CHARACTERIZATION DATA



SOUTH CAROLINA
Department of Health and Environmental Control
Summary of Slug Test Form

Site Data

UST Permit # 08641 County: Spartanburg
 Facility Name Morris Oil Co.

Slug Data

See Appendix F Table _____ Figure _____ for a list of all data measurements.
 (water level logs, etc.) (Complete as appropriate).

Water Level Recovery Data was measured by water level meter .
 (Hermit Data Logger, Manually with Water Level Indicator, etc.) (List Method).

Complete the following table for each well tested.

COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED

| | | | | |
|--|-------|-------|--|--|
| Slug Test Conducted in well(s) number | MW06 | MW07 | | |
| Initial Rise/Drawdown in well (feet) | 7.38 | 0.67 | | |
| Radius of Well Casing (feet) | 0.083 | 0.083 | | |
| Effective Radius of Well (feet) | 0.270 | 0.270 | | |
| Static Saturated Aquifer Thickness (feet) | 35 | 35 | | |
| Length of Well Screen (feet) | 8.50 | 5.72 | | |
| Static Height of Water Column in Well (ft) | 8.50 | 5.72 | | |

Calculations

See Appendix _____ Table 5 Figure _____ for calculations. (Complete as appropriate).

The method for aquifer calculations was Bouwer & Rice

Calculated values by well were as follows:

| | | | | |
|---------------------------------------|----------------|----------------|--|--|
| Slug Test Conducted in well(s) number | MW06 | MW07 | | |
| Hydraulic Conductivity | 5.75E-6 cm/sec | 1.79E-6 cm/sec | | |

Thickness of the aquifer used to calculate hydraulic conductivity was 35 feet.

The aquifer is _____ confined _____ semi-confined X water table (Check as appropriate).

The estimated seepage velocity is 49.92 feet per year based on
 a hydraulic conductivity of 2.21E-4 cm/sec, a hydraulic gradient of 0.072, and
 a porosity of 33 per cent for slightly clayey, silty, fine sand.

Please note calculations include hydraulic conductivity values measured during the Tier I Assessment (by others). Please see Table 5.

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Slug Test Analysis - Bouwer & Rice/Hvorslev's Methods

Version: 0.96c
 Revised: 2004-03-31
 Well ID: MW-06

Client: SCDHEC
 Proj. Name: Morriss Oil Co.
 Test by: James Slagh
 Test Date: 12/13/14

| Calculation Set Number | | |
|------------------------|----------|----------|
| Calc. by | Chkd. by | Apvd. by |
| Date | Date | Date |

User Input Data

| | |
|--|-------|
| Aquifer Thickness | 35.0 |
| Well Length (L _w) | 8.50 |
| Intake Length (L _d) | 8.50 |
| Well Radius (R _w) | 0.270 |
| Casing Radius (R _c) | 0.083 |
| Xform ratio, m [(K _r /K _v) ^{0.5}] | 1 |
| Sandpack Porosity | 0.270 |
| Slug Volume | 0.031 |
| Static Level | 0.000 |
| Offset time | 0.000 |

| | | | |
|-------------------------------------|---------------------------|----------------------------|-----------------------------|
| R _{equiv} | -1.000 | -1.000 | -1.000 |
| Estimated Porosity & R _w | | -1.000 | -1.000 |
| ln(R _E /R _w) | | 2.151 | -1.000 |
| Shape Factor (F) | | 12.892 | -1.000 |
| Drawdown: | <u>Max. Y_t</u> | <u>Regr. Y_o</u> | <u>Casing Y_o</u> |
| | 27.29 | 27.14 | 1.42 |

CHECK WATER BALANCE - Regressed v. Casing Yo

(undrained)

(confined)

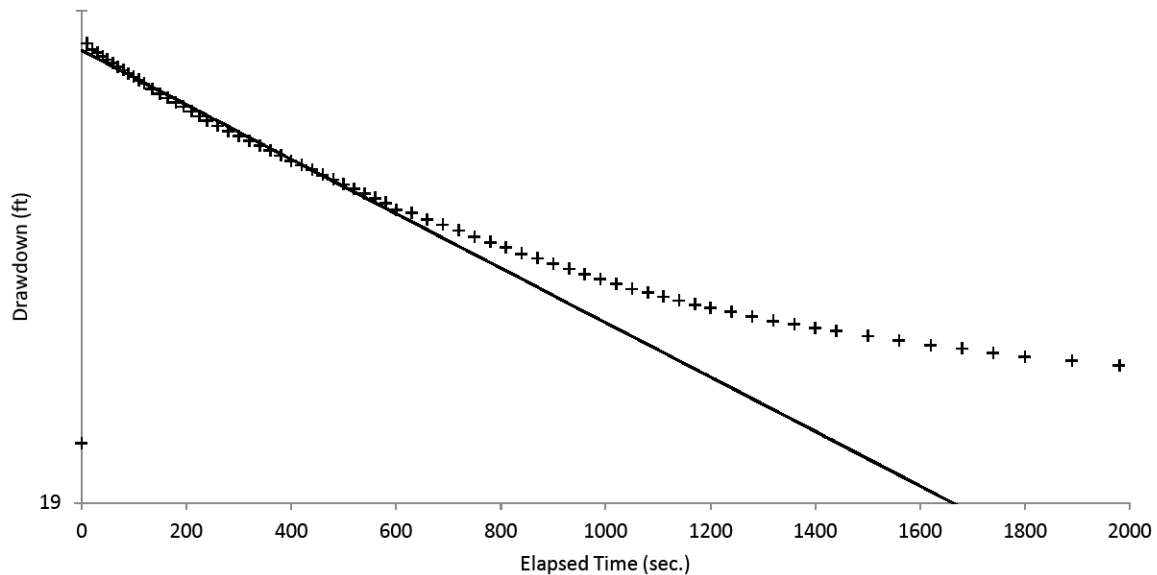
| | Drained Options | | | |
|----------------------------------|-----------------|-----------------------|--------|---------------------|
| | A | B | C | D |
| | Undrained | User n/R _w | Est. n | Est. R _w |
| Bouwer & Rice - consistent units | 1.9E-07 | | | |
| cm/sec | 5.75E-06 | | | |
| Hvorslev - consistent units | 3.6E-07 | | | |
| cm/sec | 1.11E-05 | | | |

Potentially acceptable solutions:

Conversion factor for user units: cm/sec 30.48

Intercept 3.301
 Slope 0.000
 No. of Observations 36
 Starting Row 61
 Ending Row 96

COMMENTS:



| Time Seconds | level Feet | Drawdown Y(t) | ln(Y) | | Est. Regression ln(Y) Range |
|-----------------|---------------|------------------|-------|-------|--------------------------------|
| 0.000 | 19.910 | 19.910 | 2.991 | | 27.143 |
| 10.000 | 27.290 | 27.290 | 3.307 | | 27.085 |
| 20.000 | 27.160 | 27.160 | 3.302 | 3.302 | 27.027 <== |
| 30.000 | 27.100 | 27.100 | 3.300 | 3.300 | 26.969 <== |
| 40.000 | 27.010 | 27.010 | 3.296 | 3.296 | 26.911 <== |
| 50.000 | 26.940 | 26.940 | 3.294 | 3.294 | 26.853 <== |
| 60.000 | 26.870 | 26.870 | 3.291 | 3.291 | 26.796 <== |
| 70.000 | 26.790 | 26.790 | 3.288 | 3.288 | 26.738 <== |
| 80.000 | 26.720 | 26.720 | 3.285 | 3.285 | 26.681 <== |
| 90.000 | 26.650 | 26.650 | 3.283 | 3.283 | 26.624 <== |
| 100.000 | 26.580 | 26.580 | 3.280 | 3.280 | 26.566 <== |
| 110.000 | 26.510 | 26.510 | 3.278 | 3.278 | 26.509 <== |
| 120.000 | 26.440 | 26.440 | 3.275 | 3.275 | 26.453 <== |
| 135.000 | 26.330 | 26.330 | 3.271 | 3.271 | 26.368 <== |
| 150.000 | 26.230 | 26.230 | 3.267 | 3.267 | 26.283 <== |
| 165.000 | 26.140 | 26.140 | 3.263 | 3.263 | 26.198 <== |
| 180.000 | 26.050 | 26.050 | 3.260 | 3.260 | 26.114 <== |
| 195.000 | 25.960 | 25.960 | 3.257 | 3.257 | 26.030 <== |
| 210.000 | 25.860 | 25.860 | 3.253 | 3.253 | 25.946 <== |
| 225.000 | 25.770 | 25.770 | 3.249 | 3.249 | 25.863 <== |
| 240.000 | 25.680 | 25.680 | 3.246 | 3.246 | 25.780 <== |
| 260.000 | 25.580 | 25.580 | 3.242 | 3.242 | 25.669 <== |
| 280.000 | 25.470 | 25.470 | 3.238 | 3.238 | 25.559 <== |
| 300.000 | 25.370 | 25.370 | 3.234 | 3.234 | 25.450 <== |
| 320.000 | 25.270 | 25.270 | 3.230 | 3.230 | 25.340 <== |
| 340.000 | 25.180 | 25.180 | 3.226 | 3.226 | 25.232 <== |
| 360.000 | 25.080 | 25.080 | 3.222 | 3.222 | 25.124 <== |
| 380.000 | 24.980 | 24.980 | 3.218 | 3.218 | 25.016 <== |
| 400.000 | 24.880 | 24.880 | 3.214 | 3.214 | 24.909 <== |
| 420.000 | 24.790 | 24.790 | 3.210 | 3.210 | 24.802 <== |
| 440.000 | 24.700 | 24.700 | 3.207 | 3.207 | 24.696 <== |
| 460.000 | 24.600 | 24.600 | 3.203 | 3.203 | 24.590 <== |
| 480.000 | 24.510 | 24.510 | 3.199 | 3.199 | 24.484 <== |
| 500.000 | 24.420 | 24.420 | 3.195 | 3.195 | 24.380 <== |
| 520.000 | 24.340 | 24.340 | 3.192 | 3.192 | 24.275 <== |
| 540.000 | 24.250 | 24.250 | 3.188 | 3.188 | 24.171 <== |
| 560.000 | 24.160 | 24.160 | 3.185 | 3.185 | 24.067 <== |
| 580.000 | 24.070 | 24.070 | 3.181 | 3.181 | 23.964 <== |
| 600.000 | 23.940 | 23.940 | 3.176 | | 23.861 |
| 630.000 | 23.880 | 23.880 | 3.173 | | 23.708 |
| 660.000 | 23.750 | 23.750 | 3.168 | | 23.556 |
| 690.000 | 23.650 | 23.650 | 3.163 | | 23.405 |
| 720.000 | 23.540 | 23.540 | 3.159 | | 23.254 |
| 750.000 | 23.430 | 23.430 | 3.154 | | 23.105 |
| 780.000 | 23.330 | 23.330 | 3.150 | | 22.957 |
| 810.000 | 23.230 | 23.230 | 3.145 | | 22.809 |
| 840.000 | 23.120 | 23.120 | 3.141 | | 22.663 |
| 870.000 | 23.030 | 23.030 | 3.137 | | 22.517 |
| 900.000 | 22.940 | 22.940 | 3.133 | | 22.373 |
| 930.000 | 22.840 | 22.840 | 3.129 | | 22.229 |
| 960.000 | 22.750 | 22.750 | 3.125 | | 22.086 |
| 990.000 | 22.660 | 22.660 | 3.121 | | 21.944 |
| 1020.000 | 22.580 | 22.580 | 3.117 | | 21.803 |
| 1050.000 | 22.490 | 22.490 | 3.113 | | 21.663 |

| | | | | |
|----------|--------|--------|-------|--------|
| 1080.000 | 22.420 | 22.420 | 3.110 | 21.524 |
| 1110.000 | 22.350 | 22.350 | 3.107 | 21.386 |
| 1140.000 | 22.280 | 22.280 | 3.104 | 21.249 |
| 1170.000 | 22.210 | 22.210 | 3.101 | 21.112 |
| 1200.000 | 22.150 | 22.150 | 3.098 | 20.977 |
| 1240.000 | 22.090 | 22.090 | 3.095 | 20.797 |
| 1280.000 | 22.000 | 22.000 | 3.091 | 20.619 |
| 1320.000 | 21.930 | 21.930 | 3.088 | 20.443 |
| 1360.000 | 21.870 | 21.870 | 3.085 | 20.268 |
| 1400.000 | 21.810 | 21.810 | 3.082 | 20.095 |
| 1440.000 | 21.750 | 21.750 | 3.080 | 19.923 |
| 1500.000 | 21.660 | 21.660 | 3.075 | 19.668 |
| 1560.000 | 21.590 | 21.590 | 3.072 | 19.416 |
| 1620.000 | 21.510 | 21.510 | 3.069 | 19.167 |
| 1680.000 | 21.450 | 21.450 | 3.066 | 18.922 |
| 1740.000 | 21.380 | 21.380 | 3.062 | 18.680 |
| 1800.000 | 21.320 | 21.320 | 3.060 | 18.440 |
| 1890.000 | 21.250 | 21.250 | 3.056 | 18.087 |
| 1980.000 | 21.170 | 21.170 | 3.053 | 17.741 |
| 2070.000 | 21.110 | 21.110 | 3.050 | 17.402 |
| 2160.000 | 21.050 | 21.050 | 3.047 | 17.068 |

Slug Test Analysis - Bouwer & Rice/Hvorslev's Methods

Version: 0.96c
 Revised: 2004-03-31
 Well ID: MW-07

Client: SCDHEC
 Proj. Name: Morriss Oil Co.
 Test by: James Slagh
 Test Date: 12/13/14

| Calculation Set Number | | |
|------------------------|----------|----------|
| Calc. by | Chkd. by | Apvd. by |
| Date | Date | Date |

User Input Data

| | |
|--|--------------|
| Aquifer Thickness | <u>35.0</u> |
| Well Length (L _w) | <u>5.72</u> |
| Intake Length (L _d) | <u>5.72</u> |
| Well Radius (R _w) | <u>0.270</u> |
| Casing Radius (R _c) | <u>0.083</u> |
| Xform ratio, m [(K _r /K _v) ^{0.5}] | <u>1</u> |
| Sandpack Porosity | <u>0.270</u> |
| Slug Volume | <u>0.031</u> |
| Static Level | <u>0.000</u> |
| Offset time | <u>0.000</u> |

| | | | |
|-------------------------------------|---------------------------|----------------------------|-----------------------------|
| R _{equiv} | -1.000 | -1.000 | -1.000 |
| Estimated Porosity & R _w | | -1.000 | -1.000 |
| ln(R _E /R _w) | | 1.817 | -1.000 |
| Shape Factor (F <i>warning 2</i>) | | 9.592 | -1.000 |
| Drawdown: | <u>Max. Y_t</u> | <u>Regr. Y_o</u> | <u>Casing Y_o</u> |
| | 16.37 | 16.01 | 1.42 |

CHECK WATER BALANCE - Regressed v. Casing Yo

(undrained)

(confined)

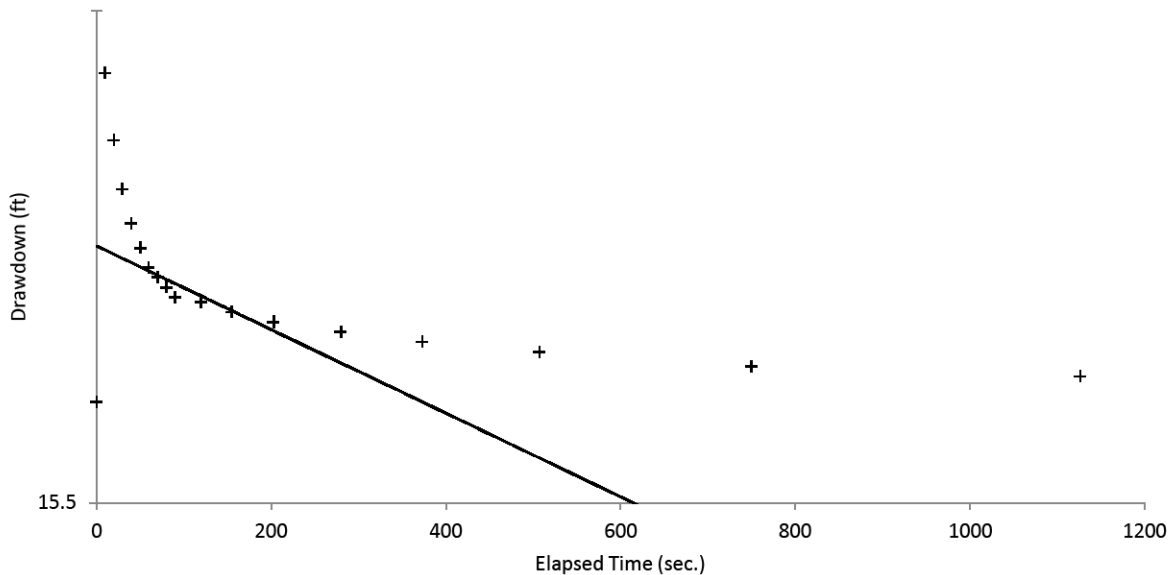
| | Drained Options | | | |
|----------------------------------|-----------------|-----------------------|--------|---------------------|
| | A | B | C | D |
| | Undrained | User n/R _w | Est. n | Est. R _w |
| Bouwer & Rice - consistent units | 5.9E-08 | | | |
| cm/sec | 1.79E-06 | | | |
| Hvorslev - consistent units | 1.2E-07 | | | |
| cm/sec | 3.68E-06 | | | |

Potentially acceptable solutions:

Conversion factor for user units: cm/sec 30.48

Intercept 2.773
 Slope 0.000
 No. of Observations 8
 Starting Row 64
 Ending Row 71

COMMENTS:

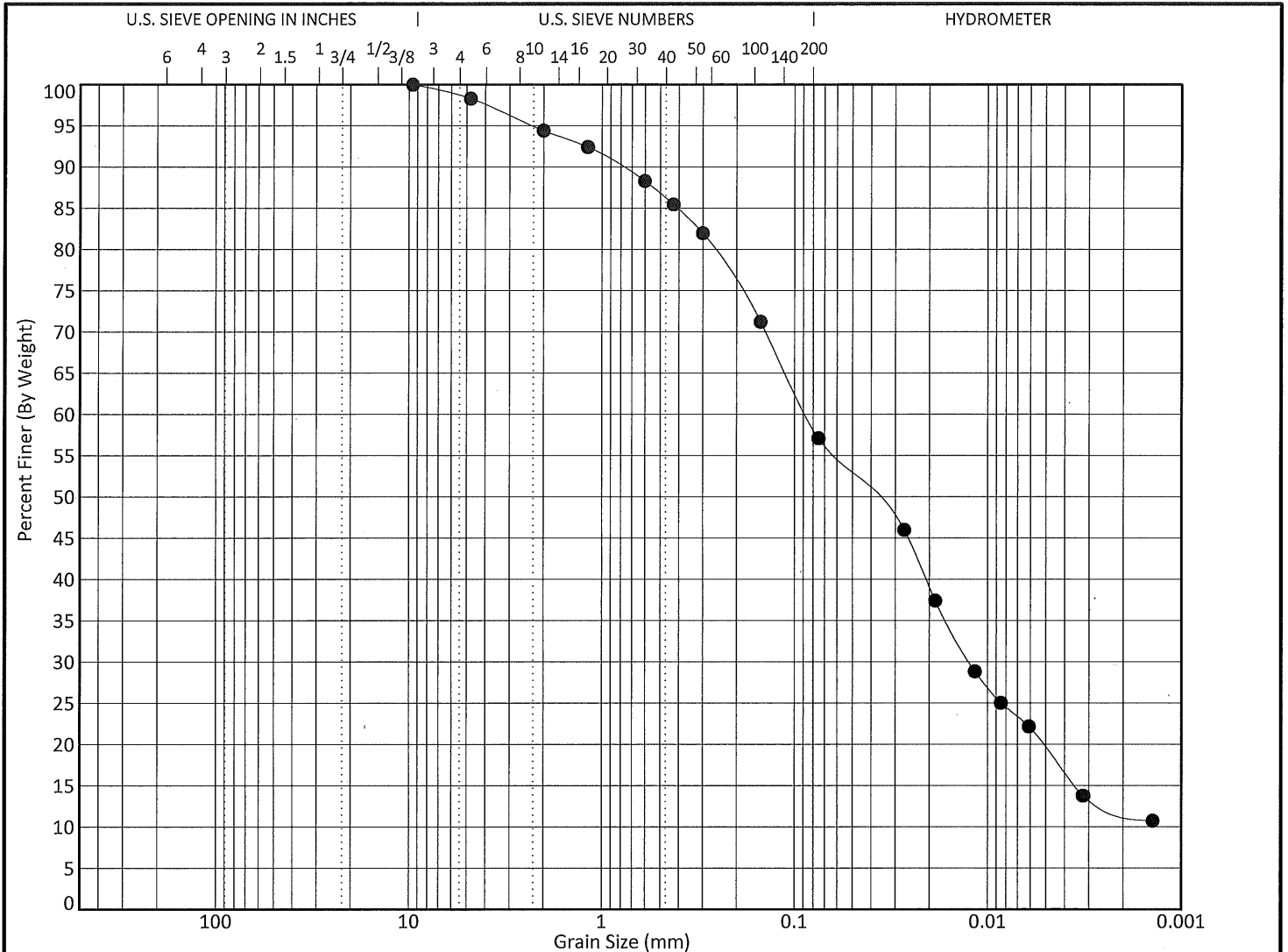


| Time Seconds | level Feet | Drawdown Y(t) | ln(Y) | | Est. Regression ln(Y) Range |
|-----------------|---------------|------------------|-------|-------|--------------------------------|
| 0.000 | 15.700 | 15.700 | 2.754 | | 16.014 |
| 10.000 | 16.370 | 16.370 | 2.795 | | 16.006 |
| 20.000 | 16.230 | 16.230 | 2.787 | | 15.997 |
| 30.000 | 16.130 | 16.130 | 2.781 | | 15.989 |
| 40.000 | 16.060 | 16.060 | 2.776 | | 15.980 |
| 50.000 | 16.010 | 16.010 | 2.773 | 2.773 | 15.972 <== |
| 60.000 | 15.970 | 15.970 | 2.771 | 2.771 | 15.963 <== |
| 70.000 | 15.950 | 15.950 | 2.769 | 2.769 | 15.955 <== |
| 80.000 | 15.930 | 15.930 | 2.768 | 2.768 | 15.946 <== |
| 90.000 | 15.910 | 15.910 | 2.767 | 2.767 | 15.938 <== |
| 120.000 | 15.900 | 15.900 | 2.766 | 2.766 | 15.912 <== |
| 155.000 | 15.880 | 15.880 | 2.765 | 2.765 | 15.883 <== |
| 203.000 | 15.860 | 15.860 | 2.764 | 2.764 | 15.842 <== |
| 280.000 | 15.840 | 15.840 | 2.763 | | 15.777 |
| 373.000 | 15.820 | 15.820 | 2.761 | | 15.700 |
| 507.000 | 15.800 | 15.800 | 2.760 | | 15.588 |
| 750.000 | 15.770 | 15.770 | 2.758 | | 15.388 |
| 1126.000 | 15.750 | 15.750 | 2.757 | | 15.083 |

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Project No:
 Client: Shealy Environmental
 Project: 65R-3212
 City/State: West Columbia, SC



| | | | | | | |
|---------|--------|------|--------|--------|------|--------------|
| COBBLES | GRAVEL | | SAND | | | SILT OR CLAY |
| | coarse | fine | coarse | medium | fine | |

| Boring No. | Depth | Classification | | | | LL | PL | PI | Cc | Cu |
|------------|---------|----------------|-------|-------|-----|---------|-------|-------|-------|----|
| ● GW11 | at 16.5 | () | | | | | | | | |
| | at | | | | | | | | | |
| | at | | | | | | | | | |
| | at | | | | | | | | | |
| | at | | | | | | | | | |
| Boring No. | Depth | D100 | D60 | D30 | D10 | %Gravel | %Sand | %Silt | %Clay | |
| ● GW11 | at 16.5 | 9.52 | 0.086 | 0.012 | | 1.7 | 41.2 | 37.5 | 19.6 | |
| | at | | | | | | | | | |
| | at | | | | | | | | | |
| | at | | | | | | | | | |
| | at | | | | | | | | | |

US GRAIN SIZE MORRIS OIL CO., 11-6 SAMPLE GPJ F&R.GDT 11/14/14

**MORRIS OIL CO. – UST PERMIT #08641
TIER II ASSESSMENT**

APPENDIX G

DISPOSAL MANIFESTS AND WEIGHT TICKETS



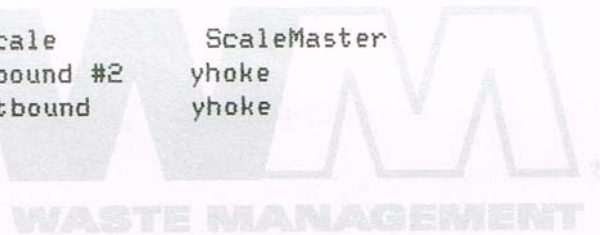
Richland County LF
 1047 Highway Church Road
 Elgin, SC, 29045
 Ph: (803) 788-3054

Original
 Ticket# 1348443

Customer Name PETRATECHENVIRO PETRA-TECH EN Carrier SMITH DRILLING
 Ticket Date 12/01/2014 Vehicle# T 2 Volume
 Payment Type Credit Account Container
 Manual Ticket# Driver
 Hauling Ticket# Check#
 Route Billing # 0001043
 State Waste Code Gen EPA ID NR
 Manifest 0
 Destination
 PO
 Profile 605496SC (DRILL CUTTINGS)
 Generator 126-PETRATECHENVIRO PETRA-TECH ENVIRONMENTAL, LLC

| | | | | | |
|-----|---------------------|------------|-------------|-------|----------|
| | Time | Scale | ScaleMaster | Gross | 22980 lb |
| In | 12/01/2014 10:39:36 | Inbound #2 | yhoke | Tare | 12780 lb |
| Out | 12/01/2014 10:56:30 | Outbound | yhoke | Net | 10200 lb |
| | | | | Tons | 5.10 |

Comments



| Product | LD% | Qty | UOM | Rate | Fee | Amount | Origin |
|----------------------|-----|------|------|------|-----|--------|------------|
| 1 Cont Soil Sp. W.-T | 100 | 5.10 | Tons | | | | 38-ORANGEB |
| 2 RCR-P-Regulatory C | 100 | | % | | | | 38-ORANGEB |
| 3 FUEL-Fuel Surcharg | 100 | | % | | | | 38-ORANGEB |
| 4 EVF-P-Standard Env | 100 | | % | | | | 38-ORANGEB |

*UST #08641
 ~ 2 tons*




*UST #03538
 0.5 tons (shallow wells)*

*UST #12261
 ~ 2.6 tons*

Total Fees
 Total Ticket

SIGNATURE

SPECIAL WASTE MANIFEST

| | |
|--|---|
| WASTE ID NUMBER 605496SC | <i>Richland Landfill</i> 1047 Highway Church Road Elgin, SC 29045  Special Waste Phone: 803-744-3345 Fax: 866-904-2194 803. 736. 0995 |
| EXPIRATION DATE October 24, 2016 | |
| Prepared by: Sandra Reeves | |
| GENERATOR OF WASTE: SCDHEC/PETRA-TECH ENVIRONMENTAL, LLC | ACCOUNT NUMBER: |
| CUSTOMER: PETRA-TECH ENVIRONMENTAL, LLC | 820-0001043-0082-7 |
| LOCATION OF WASTE: | |
| CITY: Orangeburg / Moncks COUNTY: Orangeburg County / Berkeley County | |
| PHONE NUMBER: 864-436-6322 | CONTACT: TREVER SLACK |
| FAX NUMBER: 888-838-9034 | |
| GENERATOR'S SIGNATURE  | DATE: 9/12/14 |
| | |
| TRANSPORTER OF WASTE: Smith Drilling LLC | |
| DATE: 9/12/14 12-1-14 9/12/2014 | TRUCK NUMBER: T-4 |
| DRIVER'S SIGNATURE  | |
| ***** TO BE COMPLETED BY RICHLAND LANDFILL***** | |
| DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC | Waste Class: DRILL CUTTINGS |
| DESCRIPTION OF WASTE: DRILL CUTTINGS | |
| TICKET NUMBER: 1348443 | TONNAGE: 5.10 |
| RECEIVED BY: YH | |

| | | | | | |
|--|------------------------|--|---|---|----------------------------------|
| NON-HAZARDOUS WASTE MANIFEST | 1. Generator ID Number | 2. Page 1 of | 3. Emergency Response Phone | 4. Waste Tracking Number TS 12814 | |
| 5. Generator's Name and Mailing Address SCOTEC 2600 Bull St Columbia, SC | | Generator's Site Address (if different than mailing address) Petra-Tech Environmental, Agent for DTSC 2425 G. North St, Suite 110P-202 Greenville SC 29616 | | | |
| Generator's Phone: | | | | | |
| 6. Transporter 1 Company Name Petra-Tech Environmental, LLC | | | U.S. EPA ID Number | | |
| 7. Transporter 2 Company Name | | | U.S. EPA ID Number | | |
| 8. Designated Facility Name and Site Address VHS Recovery Services, LLC 305 S. Main St Mauldin, SC 29662 | | | U.S. EPA ID Number SCR000762468 | | |
| Facility's Phone: | | | | | |
| 9. Waste Shipping Name and Description | | 10. Containers | | 11. Total Quantity | 12. Unit Wt./Vol. |
| | | No. | Type | | |
| 1. Non Haz/Non Regulated well water Profile #16374 | | 1 | ARC Tank | 175 | gal |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| | | UST # 03538 ~ 90 gal | | | |
| | | UST # 08641 ~ 85 gal | | | |
| 13. Special Handling Instructions and Additional Information | | | | | |
| 14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. | | | | | |
| Generator's/Offoror's Printed/Typed Name Travis Slake Agent | | | Signature | | Month Day Year 12 8 14 |
| 15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____ | | | | | |
| 16. Transporter Acknowledgment of Receipt of Materials | | | | | |
| Transporter 1 Printed/Typed Name Petra-Tech Environmental | | | Signature | | Month Day Year 12 8 14 |
| Transporter 2 Printed/Typed Name | | | Signature | | Month Day Year |
| 17. Discrepancy | | | | | |
| 17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection | | | | | |
| Manifest Reference Number: | | | | | |
| 17b. Alternate Facility (or Generator) | | | U.S. EPA ID Number | | |
| Facility's Phone: | | | | | |
| 17c. Signature of Alternate Facility (or Generator) | | | Month Day Year | | |
| 18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a | | | | | |
| Printed/Typed Name Steven W. Dean | | | Signature | | Month Day Year 12 8 14 |

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

**MORRIS OIL CO. – UST PERMIT #08641
TIER II ASSESSMENT**

APPENDIX H

ZONING REGULATIONS

Not Applicable to Current Scope of Work

**MORRIS OIL CO. – UST PERMIT #08641
TIER II ASSESSMENT**

APPENDIX I

LEACHABILITY AND FATE AND TRANSPORT MODELS

Not Applicable to Current Scope of Work

**MORRIS OIL CO. – UST PERMIT #08641
TIER II ASSESSMENT**

APPENDIX J

**RIGHT-OF-ENTRY FORMS, LETTERS PROVIDING ABBREVIATED COPIES
TO EACH PROPERTY OWNER**



Surface Water Sampling Location (08641-SW01)

GPS/Survey Coordinates

34°56'43.72"N 81°55'10.93"W

Parcel ID

7-12-15-357.00

Property Owner Name

GARY & JOYCE KIRKLAND TRUST

Property Owner Address

PO BOX 1087
ROEBUCK, SC 29376

Property Owner Phone/Email

864.582.6701

Details

Unnamed stream. Actively flowing. Stream is fed by water flowing out of culvert pipe which extends to the northeast.



Surface Water Sampling Location (08641-SW02)

GPS/Survey Coordinates

34°56'46.00"N 81°55'03.09"W

Parcel ID

7-12-16-068.00

Property Owner Name

CITY OF SPARTANBURG

Property Owner Address


PO BOX 1749
SPARTANBURG, SC 29304

Property Owner Phone/Email

Not available

Details

Drainage feature. Dry at time of sampling.

| | |
|---|---|
|  | Surface Water Sampling Location (08641-SW03) |
| | GPS/Survey Coordinates 34°56'43.04"N 81°55'03.81"W |
| | Parcel ID 7-12-15-403.00 |
| | Property Owner Name PAUL & MARY BETH LOFTON, JR. |
| | Property Owner Address 404 E PARK DRIVE SPARTANBURG, SC 29302 |
| | Property Owner Phone/Email Not available |
| | Details Concrete cover / stormwater drain. According to property owner, it is believed to drain west/southwest towards creek. |

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December 21, 2014

DW MORRIS PROPERTIES, LLC
216 CYPRESS CREEK DRIVE
SPARTANBURG, SC 29307

COPY

Subject: **Tier II Assessment Report – Abbreviated Copy**
Morris Oil Co.
427 Alexander Avenue
Spartanburg, Spartanburg County, South Carolina
SCDHEC UST Permit #08641
PTE Job No. J14-060-A

Dear property owner:

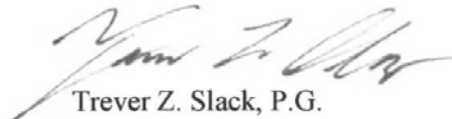
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If you have any questions regarding the above mentioned assessment report, please do not hesitate to contact us or the South Carolina Department of Health and Environmental Control (SCDHEC) at:

SCDHEC – Mr. Maia Milenkova, Project Manager
Phone: 803.898.0592
Email: milenkmp@dhec.sc.gov

Sincerely,

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

December 21, 2014

LAWSON & LAWSON, LLC
110 FRETWELL STREET
SPARTANBURG, SC 29306

COPY

Subject: **Tier II Assessment Report – Abbreviated Copy**
Morris Oil Co.
427 Alexander Avenue
Spartanburg, Spartanburg County, South Carolina
SCDHEC UST Permit #08641
PTE Job No. J14-060-A

Dear property owner:

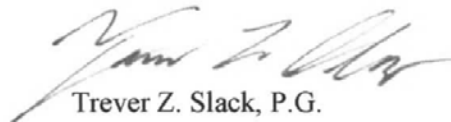
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SCDHEC – Mr. Maia Milenkova, Project Manager
Phone: 803.898.0592
Email: milenkmp@dhec.sc.gov

Sincerely,

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

December 21, 2014

DENNIS WEBB ELECTRICAL SERVICE
424 ALEXANDER AVENUE
SPARTANBURG, SC 29302

COPY

Subject: **Tier II Assessment Report – Abbreviated Copy**
Morris Oil Co.
427 Alexander Avenue
Spartanburg, Spartanburg County, South Carolina
SCDHEC UST Permit #08641
PTE Job No. J14-060-A

Dear property owner:

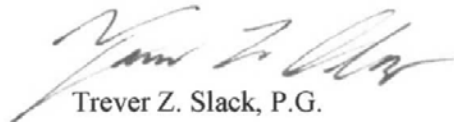
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Phone: 803.898.0592
Email: milenkmp@dhec.sc.gov

Sincerely,

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

December 21, 2014

COPY

CHARLES SPANN, SR.
104 CAMERON DRIVE
SPARTANBURG, SC 29302

Subject: **Tier II Assessment Report – Abbreviated Copy**
Morris Oil Co.
427 Alexander Avenue
Spartanburg, Spartanburg County, South Carolina
SCDHEC UST Permit #08641
PTE Job No. J14-060-A

Dear property owner:

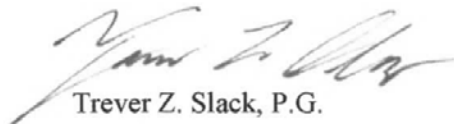
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SCDHEC – Mr. Maia Milenkova, Project Manager
Phone: 803.898.0592
Email: milenkmp@dhec.sc.gov

Sincerely,

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

December 21, 2014

GLADYS SKINNER
1540 WHITE OAK STREET
SPARTANBURG, SC 29307

COPY

Subject: **Tier II Assessment Report – Abbreviated Copy**
Morris Oil Co.
427 Alexander Avenue
Spartanburg, Spartanburg County, South Carolina
SCDHEC UST Permit #08641
PTE Job No. J14-060-A

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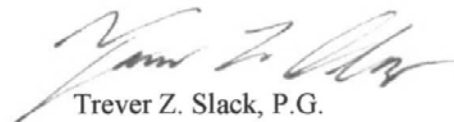
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SCDHEC – Mr. Maia Milenkova, Project Manager
Phone: 803.898.0592
Email: milenkmp@dhec.sc.gov

Sincerely,

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

December 21, 2014

KIM KEITH
1525 SKYLYN DRIVE
SPARTANBURG, SC 29307

COPY

Subject: **Tier II Assessment Report – Abbreviated Copy**
Morris Oil Co.
427 Alexander Avenue
Spartanburg, Spartanburg County, South Carolina
SCDHEC UST Permit #08641
PTE Job No. J14-060-A

Dear property owner:

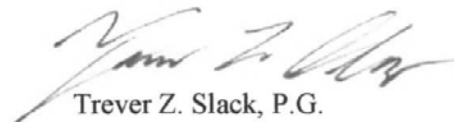
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SCDHEC – Mr. Maia Milenkova, Project Manager
Phone: 803.898.0592
Email: milenkmp@dhec.sc.gov

Sincerely,

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

December 21, 2014

CITY OF SPARTANBURG
PO BOX 1749
SPARTANBURG, SC 29304

COPY

Subject: **Tier II Assessment Report – Abbreviated Copy**
Morris Oil Co.
427 Alexander Avenue
Spartanburg, Spartanburg County, South Carolina
SCDHEC UST Permit #08641
PTE Job No. J14-060-A

Dear property owner:

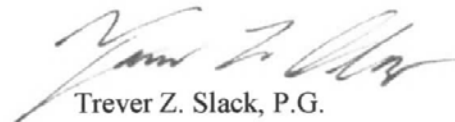
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SCDHEC – Mr. Maia Milenkova, Project Manager
Phone: 803.898.0592
Email: milenkmp@dhec.sc.gov

Sincerely,

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

December 21, 2014

CHARLES LEA CENTER FOR REHAB
195 BURDETTE STREET
SPARTANBURG, SC 29306

COPY

Subject: **Tier II Assessment Report – Abbreviated Copy**
Morris Oil Co.
427 Alexander Avenue
Spartanburg, Spartanburg County, South Carolina
SCDHEC UST Permit #08641
PTE Job No. J14-060-A

Dear property owner:

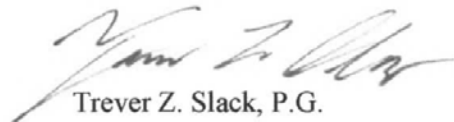
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SCDHEC – Mr. Maia Milenkova, Project Manager
Phone: 803.898.0592
Email: milenkmp@dhec.sc.gov

Sincerely,

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

December 21, 2014

GARY & JOYCE KIRKLAND TRUST
PO BOX 1087
ROEBUCK, SC 29376

COPY

Subject: **Tier II Assessment Report – Abbreviated Copy**
Morris Oil Co.
427 Alexander Avenue
Spartanburg, Spartanburg County, South Carolina
SCDHEC UST Permit #08641
PTE Job No. J14-060-A

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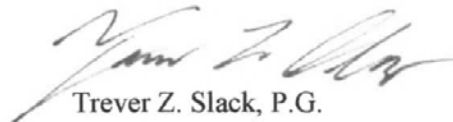
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SCDHEC – Mr. Maia Milenkova, Project Manager
Phone: 803.898.0592
Email: milenkmp@dhec.sc.gov

Sincerely,

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

December 21, 2014

COPY

JASON PYE
5 CATESWOOD DRIVE
SPARTANBURG, SC 29302

Subject: **Tier II Assessment Report – Abbreviated Copy**
Morris Oil Co.
427 Alexander Avenue
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SCDHEC UST Permit #08641
PTE Job No. J14-060-A

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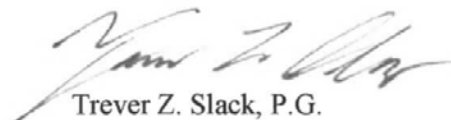
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SCDHEC – Mr. Maia Milenkova, Project Manager
Phone: 803.898.0592
Email: milenkmp@dhec.sc.gov

Sincerely,

Petra-Tech Environmental



Trever Z. Slack, P.G.
Principal Hydrogeologist

December 21, 2014

COPY

PAUL & MARY BETH LOFTON, JR.
404 E PARK DRIVE
SPARTANBURG, SC 29302

Subject: **Tier II Assessment Report – Abbreviated Copy**
Morris Oil Co.
427 Alexander Avenue
Spartanburg, Spartanburg County, South Carolina
SCDHEC UST Permit #08641
PTE Job No. J14-060-A

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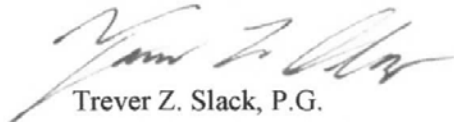
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SCDHEC – Mr. Maia Milenkova, Project Manager
Phone: 803.898.0592
Email: milenkmp@dhec.sc.gov

Sincerely,

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

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117-060

**SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
Encroachment Permit**

Permit No : 172314
Permit Decision Date : 8/12/2014
Expiration Date : 8/12/2015
9:10:33 AM

Type
Permit : ENVIRONMENTAL

Location:

| <u>District</u> | <u>Work County</u> | <u>Type</u> | <u>Route</u> | <u>Aux</u> | <u>Begin MP</u> | <u>End MP</u> |
|-----------------|--------------------|-------------|--------------|------------|-----------------|---------------|
| 3 | Spartanburg | SC | 56 | None | 25.465 | 25.465 |
| 3 | Spartanburg | | | | | |

Contact Information

Applicant: Petra-TechEnvironmental Phone: 8646312490
 Contact: Kaye Burch
 Address: 2435 East North Street STE
 1108-202, STE 1108-202
 City: Greenville State: SC Zip: 29615

Comments

Union Street intersecting with Alexander Avenue and Ridgewood Avenue.
Site address is: 47 Alexander Avenue, Spartanburg, SC. See attached map for highlighted roads and proposed boring locations.

Special Provisions:

- 0003 - WHEN ROADS ARE RESURFACED, SHOULDERS SHALL BE REGRADED TO THE EDGE OF PAVEMENT TO CONFORM TO THE DEPARTMENT SPECIFICATIONS.
- 0004 - SCDOT SHALL BE NOTIFIED WHEN WORK DEFINED IN THE PERMIT STARTS AS WELL AS WHEN THE WORK IS COMPLETED. REFERENCE SHALL BE MADE BY PERMIT NUMBER.
- 0105 - ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE SIDE OF THE TRENCH AWAY FROM THE TRAVELED ROADWAY, AND SHALL BE NO CLOSER THAN FIFTEEN (15) FEET TO THE EDGE OF PAVEMENT.
- 0120 - RESTORATION OF PAVEMENT, SHOULDERS, DITCHES, ETC., TO BE PERFORMED AS SOON AS POSSIBLE AFTER CONSTRUCTION, OR SCHEDULED SO THAT THE CONSTRUCTION IS NO FURTHER THAN 2,000 L.F. AHEAD OF COMPLETE RESTORATION.
- 0209 - DISTURBED VEGETATION SHALL BE RESEEDED ACCORDING TO THE SPECIFICAION FOR HIGHWAY CONSTRUCTION.
- 0306 - TRAFFIC CONTROL, LIGHTS, SIGNS AND FLAG-MEN WILL BE FURNISHED BY APPLICANT AND WILL CONFORM TO PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.



SITE ACCESS AGREEMENT

This **SITE ACCESS AGREEMENT** ("Agreement") is entered into by The Charles Lea Center "Owner," and **UST #08641**.

WHEREAS, **Owner** owns the property (the "Property") described as follows:
Tax Map ID 7-12-15-380.01 located at 442 UNION ST, Spartanburg, Spartanburg County, SC

WHEREAS, **UST #08641** owned the nearby lot located at intersection of 47 Alexander Avenue, Spartanburg, South Carolina proximal to the Property (the "Proximal Property");

WHEREAS, the **South Carolina Department of Health and Environmental Control, (SCDHEC)** is requiring **UST #08641** to conduct certain assessment activities relating to groundwater contamination present on the Proximal Property; and

WHEREAS, for **UST #08641** to conduct the testing relating to these assessment activities, **UST #08641** needs the permission of **owner** to enter onto the Proximal Property in order to conduct the assessment activities specified herein.

NOW, THEREFORE, **UST #08641** and **Owner** agree as follows:

1. Owner hereby grants **UST #08641** and its employees, agents servants, contractors, and subcontractors (collectively "**UST #08641**" for this Agreement) permission to enter upon Owner's Proximal Property, as necessary, to conduct Geoprobe screening borings and install a groundwater monitoring well(s) for sampling of the groundwater as required by the SCDHEC.
2. The boring(s) will not limit or obstruct use of the property. Any waste materials generated by the installation activities will be properly handled and disposed of by **UST #08641**.
3. **UST #08641** will restore the Property to similar surficial condition and stability as existed prior to the performance of the borings with the exception of a two foot by two foot concrete pad installed flush with the ground in a manner consistent with State requirements. **UST #08641** will take reasonable measures to prevent soil erosion as a result of assessment activities and will repair the site disturbances resulting from assessment activities.
4. This Agreement shall become effective on the date of execution by the last executing Party.
5. **Owner** hereby agrees that all parties with an interest in the Property are signing this document as **Owner**.

DATE: 8/12/14

OWNER NAME: Gerald Bernard

OWNER SIGNATURE: [Signature]

EMAIL: Sbernard@charleslea.org

PHONE: 864-562-2222



August 7, 2014

CHARLES LEA CENTER FOR REHAB
195 BURDETTE ST
SPARTANBURG, SC 29306

Subject: Request for Site Access
Property located at 442 UNION ST, Spartanburg, Spartanburg Cty., SC
Tax Map ID 7-12-15-380.01
PTE Job No. J14-060-A

To Whom It May Concern:

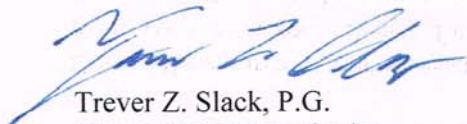
Petra-Tech Environmental is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from a nearby gas station/underground storage tank system (Morris Oil Company at 427 Alexander Avenue / UST #08641) in Spartanburg, Spartanburg County, South Carolina. During the assessment, Petra-Tech Environmental staff will be performing groundwater screening using a direct push drill. The drill will create an approximate 1.5-inch diameter hole and the resulting hole will be filled as soon as the groundwater sample has been removed from the ground. The groundwater samples will be submitted to a laboratory for analysis. The results of the analysis will be submitted to the SCDHEC for determination of groundwater monitoring well locations. If determined necessary, groundwater monitoring wells will be installed for future groundwater sampling, and will be completed at grade. The wells will consist of an approximate 6-inch diameter steel manhole cover and 2 foot by 2 foot concrete pad, and will not interfere with normal usage of the property.

During the course of our assessment, it may become necessary to collect a groundwater sample(s) from your property. Please find attached a **Site Access Agreement** for permission to conduct groundwater screening and/or install a groundwater monitoring well(s) for groundwater sampling located on your property identified as 442 UNION ST in Spartanburg, Spartanburg County, South Carolina (Tax Map ID 7-12-15-380.01) Please sign the attached Site Access Agreement and return to us in the enclosed self-addressed stamped envelope. We will contact you with the confirmed date prior to any sampling or drilling activities.

Thank you in advance for your help. Please do not hesitate to contact us at 864.436.6322 or info@petratechenv.com if you have any questions. You may also contact the SCDHEC Project Manager Ms. Maia Milenkova at 803.898.0592.

Sincerely,

Petra-Tech Environmental



Trever Z. Slack, P.G.
Principal Hydrogeologist

2435 E. North Street, Suite 1108-202, Greenville, SC 29615 | Phone (864) 631-2490 | Fax (888) 838-9034
www.petratechenv.com

Subject: Petra-Tech Environmental Site Access

From: kburch@petratechenv.com

Date: Thu, Sep 18, 2014 11:46 am

To: gbernard@charleslea.org

Attach: sigimg0

Good afternoon!

I am e-mailing you in reference to a Site Access agreement signed by Mr. Gerard Bernard on 8/14/2014 for 422 Union Street, Spartanburg, SC.

I wanted to inform you that Petra-Tech Environmental drillers will be on-site this weekend to conduct Geoprobe testing/screening.

If you have any issues, questions, or concerns, please contact me using the information listed below.

Thanks!

Kaye Burch
Office Manager

kburch@petratechenv.com



2435 East North Street, Suite 1108-202
Greenville, South Carolina 29615

(864) 678-0904 (phone)
(888) 838-9034 (fax)

This electronic transmission and any files transmitted with it are the property of the environmental consulting firm Petra-Tech Environmental, LLC, and may contain information that is confidential or privileged. The information is intended solely for the recipient and use by any other party is not authorized. If you are not the intended recipient, be aware that any disclosure, copying, distribution, or use of the contents of this information is prohibited. If you received this transmission in error, please notify us immediately by email (info@petratechenv.com).

SITE ACCESS AGREEMENT

This **SITE ACCESS AGREEMENT** ("Agreement") is entered into by _____
"Owner," and **UST #08641**.

WHEREAS, **Owner** owns the property (the "Property") described as follows:
Tax Map ID 7-12-15-400.00 located at 400 RIDGEWOOD AVE, Spartanburg, Spartanburg County, SC

WHEREAS, **UST #08641** owned the nearby lot located at intersection of 47 Alexander Avenue, Spartanburg, South Carolina proximal to the Property (the "Proximal Property");

WHEREAS, the **South Carolina Department of Health and Environmental Control, (SCDHEC)** is requiring **UST #08641** to conduct certain assessment activities relating to groundwater contamination present on the Proximal Property; and

WHEREAS, for **UST #08641** to conduct the testing relating to these assessment activities, **UST #08641** needs the permission of **owner** to enter onto the Proximal Property in order to conduct the assessment activities specified herein.

NOW, THEREFORE, **UST #08641** and **Owner** agree as follows:

1. Owner hereby grants **UST #08641** and its employees, agents servants, contractors, and subcontractors (collectively "**UST #08641**" for this Agreement) permission to enter upon Owner's Proximal Property, as necessary, to conduct Geoprobe screening borings and install a groundwater monitoring well(s) for sampling of the groundwater as required by the SCDHEC.
2. The boring(s) will not limit or obstruct use of the property. Any waste materials generated by the installation activities will be properly handled and disposed of by **UST #08641**.
3. **UST #08641** will restore the Property to similar surficial condition and stability as existed prior to the performance of the borings with the exception of a two foot by two foot concrete pad installed flush with the ground in a manner consistent with State requirements. **UST #08641** will take reasonable measures to prevent soil erosion as a result of assessment activities and will repair the site disturbances resulting from assessment activities.
4. This Agreement shall become effective on the date of execution by the last executing Party.
5. **Owner** hereby agrees that all parties with an interest in the Property are signing this document as **Owner**.

08/27/14
DATE

OWNER NAME: Gladys D. Skinner

OWNER SIGNATURE: Gladys D. Skinner

EMAIL: gwhiteoak@bellSouth.net PHONE: 864 573-6410



Ms Gladys D Skinner
1540 White Oak St
Spartanburg, SC 29307

GREENVILLE SC 296

27 AUG 2014 PM 4 1



Petra-Tech Environmental, LLC
2435 East North Street
Suite 1108-202
Greenville, SC 29615

29615144283



Subject: Petra-Tech Environmental Site Access

From: kburch@petratechenv.com

Date: Thu, Sep 18, 2014 11:44 am

To: gwhiteoak@bellsouth.net

Attach: sigimg0

Good afternoon!

I am e-mailing you in reference to a Site Access agreement signed by Ms. Gladys Skinner on 8/27/2014 for 400 Ridgewood Avenue, Spartanburg, SC.

I wanted to inform you that Petra-Tech Environmental drillers will be on-site this weekend to conduct Geoprobe testing/screening.

If you have any issues, questions, or concerns, please contact me using the information listed below.

Thanks!

Kaye Burch

Office Manager

kburch@petratechenv.com



2435 East North Street, Suite 1108-202
Greenville, South Carolina 29615

(864) 678-0904 (phone)

(888) 838-9034 (fax)

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SITE ACCESS AGREEMENT

This **SITE ACCESS AGREEMENT** ("Agreement") is entered into by Gary P. Kirkland
"Owner," and **UST #08641**.

WHEREAS, **Owner** owns the property (the "Property") described as follows:
Tax Map ID 7-12-15-357.00 located at 410 UNION ST, Spartanburg, Spartanburg County, SC

WHEREAS, **UST #08641** owned the nearby lot located at intersection of 47 Alexander Avenue, Spartanburg, South Carolina proximal to the Property (the "Proximal Property");

WHEREAS, the **South Carolina Department of Health and Environmental Control, (SCDHEC)** is requiring **UST #08641** to conduct certain assessment activities relating to groundwater contamination present on the Proximal Property; and

WHEREAS, for **UST #08641** to conduct the testing relating to these assessment activities, **UST #08641** needs the permission of **owner** to enter onto the Proximal Property in order to conduct the assessment activities specified herein.

NOW, THEREFORE, **UST #08641** and **Owner** agree as follows:

1. Owner hereby grants **UST #08641** and its employees, agents servants, contractors, and subcontractors (collectively "**UST #08641**" for this Agreement) permission to enter upon Owner's Proximal Property, as necessary, to conduct Geoprobe screening borings and install a groundwater monitoring well(s) for sampling of the groundwater as required by the SCDHEC.
2. The boring(s) will not limit or obstruct use of the property. Any waste materials generated by the installation activities will be properly handled and disposed of by **UST #08641**.
3. **UST #08641** will restore the Property to similar surficial condition and stability as existed prior to the performance of the borings with the exception of a two foot by two foot concrete pad installed flush with the ground in a manner consistent with State requirements. **UST #08641** will take reasonable measures to prevent soil erosion as a result of assessment activities and will repair the site disturbances resulting from assessment activities.
4. This Agreement shall become effective on the date of execution by the last executing Party.
5. **Owner** hereby agrees that all parties with an interest in the Property are signing this document as **Owner**.

8-15-14
DATE

OWNER NAME: GARY P. KIRKLAND

OWNER SIGNATURE: Gary P. Kirkland

EMAIL: gary_kirkland@wn
KIRKLAND.COM

PHONE: 864-582-6701



SITE ACCESS AGREEMENT

This SITE ACCESS AGREEMENT ("Agreement") is entered into by South Phifer Properties, LLC "Owner," and UST #08641.

WHEREAS, Owner owns the property (the "Property") described as follows:
Tax Map ID 7-12-15-396.00 located at 411 UNION ST, Spartanburg, Spartanburg County, SC

WHEREAS, UST #08641 owned the nearby lot located at intersection of 47 Alexander Avenue, Spartanburg, South Carolina proximal to the Property (the "Proximal Property");

WHEREAS, the South Carolina Department of Health and Environmental Control, (SCDHEC) is requiring UST #08641 to conduct certain assessment activities relating to groundwater contamination present on the Proximal Property; and

WHEREAS, for UST #08641 to conduct the testing relating to these assessment activities, UST #08641 needs the permission of owner to enter onto the Proximal Property in order to conduct the assessment activities specified herein.

NOW, THEREFORE, UST #08641 and Owner agree as follows:

1. Owner hereby grants UST #08641 and its employees, agents servants, contractors, and subcontractors (collectively "UST #08641" for this Agreement) permission to enter upon Owner's Proximal Property, as necessary, to conduct Geoprobe screening borings and install a groundwater monitoring well(s) for sampling of the groundwater as required by the SCDHEC.
2. The boring(s) will not limit or obstruct use of the property. Any waste materials generated by the installation activities will be properly handled and disposed of by UST #08641.
3. UST #08641 will restore the Property to similar surficial condition and stability as existed prior to the performance of the borings with the exception of a two foot by two foot concrete pad installed flush with the ground in a manner consistent with State requirements. UST #08641 will take reasonable measures to prevent soil erosion as a result of assessment activities and will repair the site disturbances resulting from assessment activities.
4. This Agreement shall become effective on the date of execution by the last executing Party.
5. Owner hereby agrees that all parties with an interest in the Property are signing this document as Owner.

8/11/14
DATE

OWNER NAME: South Phifer Properties, LLC

OWNER SIGNATURE: A Foster Chapman
A Foster Chapman

EMAIL: fchapman@johnsondevelopment.net PHONE: 864-585-2000

Subject: Morris Oil Site Access Information

From: kburch@petratechenv.com

Date: Wed, Sep 17, 2014 12:40 pm

To: lmorris249@aol.com

Attach: sigimg0

08641 Right of Entry Form.pdf

Morris Oil Site Map.pdf

Mr. Morris,

I appreciate you taking my call today concerning Morris Oil located at 427 Alexander Avenue in Spartanburg, SC.

I am attaching the SCDHEC Right of Entry Form along with the Petra-Tech Environmental site plan. Petra-Tech Environmental is seeking Site Access to begin work for SCDHEC.

Please contact SCDHEC or Petra-Tech Environmental with any questions or concerns.

The SCDHEC Project Manager is: Ms. Maia Milenkova
UST Management Division
(803) 898-0592
milenkmp@dhec.sc.gov

Our Principal Hydrogeologist is: Mr. Trever Slack, P.G.
(864) 631- 2490
tslack@petratechenv.com

Or you can address any questions or concerns to me -- my contact information is listed below.

Thanks again,

Kaye Burch
Office Manager
kburch@petratechenv.com



2435 East North Street, Suite 1108-202
Greenville, South Carolina 29615

(864) 678-0904 (phone)
(888) 838-9034 (fax)

This electronic transmission and any files transmitted with it are the property of the environmental consulting firm Petra-Tech Environmental, LLC, and may contain information that is confidential or privileged. The information is intended solely for the recipient and use by any other party is not authorized. If you are not the intended recipient, be aware that any disclosure, copying, distribution, or use of the contents of this information is prohibited. If you received this transmission in error, please notify us immediately by email (info@petratechenv.com).

Subject: Morris Oil Site Access
From: kburch@petratechenv.com
Date: Wed, Sep 17, 2014 12:18 pm
To: "Trever Slack" <tslack@petratechenv.com>
Attach: sigimg0

Trever,

I got into contact with Larry Morris (864.585.9203) today around 12pm. Larry stated that his father and mother owned Morris Oil and that the site is currently going through probate and will be transferred to an LLC. Larry stated that he is the only "heir" of his father's and that Larry is the only person to speak with regarding Site Access -- although he does not own the property.

I am going to scan and email him the SCDHEC right of entry as well as a PTE site map. I informed him that the SCDHEC contact information would be provided to him and that he can also speak with you regarding specifics for well installation.

Larry's email: lmorris249@aol.com

Kaye Burch
Office Manager
kburch@petratechenv.com



2435 East North Street, Suite 1108-202
Greenville, South Carolina 29615

(864) 678-0904 (phone)
(888) 838-9034 (fax)

This electronic transmission and any files transmitted with it are the property of the environmental consulting firm Petra-Tech Environmental, LLC, and may contain information that is confidential or privileged. The information is intended solely for the recipient and use by any other party is not authorized. If you are not the intended recipient, be aware that any disclosure, copying, distribution, or use of the contents of this information is prohibited. If you received this transmission in error, please notify us immediately by email (info@petratechenv.com).

SITE ACCESS AGREEMENT

This **SITE ACCESS AGREEMENT** ("Agreement") is entered into by "Owner," and **UST #08641**.



WHEREAS, **Owner** owns the property (the "Property") described as follows:
Tax Map ID 7-12-16-022.01 located at 428 ALEXANDER AVE, Spartanburg, Spartanburg County, SC

WHEREAS, **UST #08641** owned the nearby lot located at intersection of 47 Alexander Avenue, Spartanburg, South Carolina proximal to the Property (the "Proximal Property");

WHEREAS, the **South Carolina Department of Health and Environmental Control, (SCDHEC)** is requiring **UST #08641** to conduct certain assessment activities relating to groundwater contamination present on the Proximal Property; and

WHEREAS, for **UST #08641** to conduct the testing relating to these assessment activities, **UST #08641** needs the permission of **owner** to enter onto the Proximal Property in order to conduct the assessment activities specified herein.


NOW, THEREFORE, **UST #08641** and **Owner** agree as follows:

1. Owner hereby grants **UST #08641** and its employees, agents servants, contractors, and subcontractors (collectively "**UST #08641**" for this Agreement) permission to enter upon Owner's Proximal Property, as necessary, to conduct Geoprobe screening borings and install a groundwater monitoring well(s) for sampling of the groundwater as required by the SCDHEC.
2. The boring(s) will not limit or obstruct use of the property. Any waste materials generated by the installation activities will be properly handled and disposed of by **UST #08641**.
3. **UST #08641** will restore the Property to similar surficial condition and stability as existed prior to the performance of the borings with the exception of a two foot by two foot concrete pad installed flush with the ground in a manner consistent with State requirements. **UST #08641** will take reasonable measures to prevent soil erosion as a result of assessment activities and will repair the site disturbances resulting from assessment activities.
4. This Agreement shall become effective on the date of execution by the last executing Party.
5. **Owner** hereby agrees that all parties with an interest in the Property are signing this document as **Owner**.

* I will agree if I can have a copy of test Results from my property

8/12/14
DATE

OWNER NAME: Bryan Lawson

OWNER SIGNATURE: 

EMAIL: BryanLCC@Bellsouth.net

PHONE: 864-680-1950

SITE ACCESS AGREEMENT

This **SITE ACCESS AGREEMENT** ("Agreement") is entered into by Joyce Kirkland
"Owner," and **UST #08641**.

WHEREAS, **Owner** owns the property (the "Property") described as follows:
Tax Map ID 7-12-15-358.00 located at 412 UNION ST, Spartanburg, Spartanburg County, SC

WHEREAS, **UST #08641** owned the nearby lot located at intersection of 47 Alexander Avenue, Spartanburg, South Carolina proximal to the Property (the "Proximal Property");

WHEREAS, the **South Carolina Department of Health and Environmental Control, (SCDHEC)** is requiring **UST #08641** to conduct certain assessment activities relating to groundwater contamination present on the Proximal Property; and

WHEREAS, for **UST #08641** to conduct the testing relating to these assessment activities, **UST #08641** needs the permission of **owner** to enter onto the Proximal Property in order to conduct the assessment activities specified herein.

NOW, THEREFORE, **UST #08641** and **Owner** agree as follows:

1. Owner hereby grants **UST #08641** and its employees, agents servants, contractors, and subcontractors (collectively "**UST #08641**" for this Agreement) permission to enter upon Owner's Proximal Property, as necessary, to conduct Geoprobe screening borings and install a groundwater monitoring well(s) for sampling of the groundwater as required by the SCDHEC.
2. The boring(s) will not limit or obstruct use of the property. Any waste materials generated by the installation activities will be properly handled and disposed of by **UST #08641**.
3. **UST #08641** will restore the Property to similar surficial condition and stability as existed prior to the performance of the borings with the exception of a two foot by two foot concrete pad installed flush with the ground in a manner consistent with State requirements. **UST #08641** will take reasonable measures to prevent soil erosion as a result of assessment activities and will repair the site disturbances resulting from assessment activities.
4. This Agreement shall become effective on the date of execution by the last executing Party.
5. **Owner** hereby agrees that all parties with an interest in the Property are signing this document as **Owner**.

8-15-14
DATE

OWNER NAME: JOYCE ANN KIRKLAND

OWNER SIGNATURE: Joyce Kirkland

EMAIL: _____

PHONE: 576-5306

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June 20, 2014

MARION AVENUE ASSOCIATES
380 S PINE ST
SPARTANBURG, SC 29302-2624

Subject: Water Supply Well Survey and Request to Sample
Properties located at 380 S PINE ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-014.00
PTE Job No. J14-010-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses:

5) Please provide well construction details as much is known.
 How deep is the well? _____ When was the well installed? _____
 What is the casing depth/screened interval of the well? _____

6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____
Email - _____

OWNER: Spencer Hines DATE: 6/25/2014
PHONE: 864-593-1001 EMAIL: jneal@spencerhinesmst.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental

Trevor Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

SOUTH PHIFER PROPERTIES LLC
PO BOX 3524
SPARTANBURG, SC 29304

Subject: Water Supply Well Survey and Request to Sample
Properties located at 411 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-396.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses:

- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____
- 6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:
 Mail - _____
 Email - _____

OWNER: South Phifer Properties, LLC DATE: 7/10/14
Apu Ingram agent
PHONE: 864-585-2000 EMAIL: fchapman@johnsdevelopment.net

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental

Trever Z. Slack
Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

J & M INVESTMENTS LLC
PO BOX 626
SPARTANBURG, SC 29304-0626

Subject: Water Supply Well Survey and Request to Sample
Properties located at 459 MARION AVE SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-043.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses: _____

- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____
- 6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____

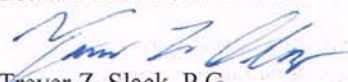
Email - _____

OWNER: _____ DATE: _____

PHONE: _____ EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

AUTO PRO OF SPARTANBURG LLC
~~508 UNION ST~~ 610 Spencer Cr
SPARTANBURG, SC 29302 7

Subject: Water Supply Well Survey and Request to Sample
Properties located at 508 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-072.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses: _____

- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____

6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____

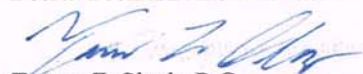
Email - _____

OWNER: Charles Carder DATE: 7/3/2014

PHONE: 864-237-2560 EMAIL: CScarder@gmail.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

GIST MARGARET F ETAL*
342 ALEXANDER AVE
SPARTANBURG, SC 29306-3505

Subject: Water Supply Well Survey and Request to Sample
Properties located at 342 ALEXANDER AVE SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-375.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses: _____
-
- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____
- 6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____

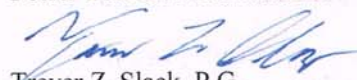
Email - _____

OWNER: Margaret F Gist DATE: 7-7-14

PHONE: (864) 583-2485 EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

ATCHISON CHARLES E SR
PO BOX 1728
SPARTANBURG, SC 29304

Subject: Water Supply Well Survey and Request to Sample
Properties located at 359 359 ALEXANDER AVE SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-421.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses:

- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____
- 6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

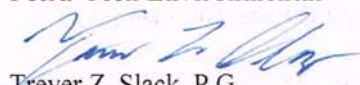
Mail - PO Box 1728 Spbg SC 29304
 Email - _____

OWNER: Charles E Atchison, Sr. DATE: 7/2/14

PHONE: 864-542-0802 EMAIL: charles@atchisontransport.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trevor Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

ATCHISON CHARLES SR
PO BOX 1728
SPARTANBURG, SC 29304

Subject: Water Supply Well Survey and Request to Sample
Properties located at 380 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-337.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses:

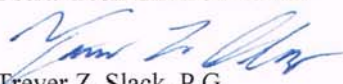
- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____
- 6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - PO Box 1728 Spbg SC 29304
 Email - _____

OWNER: Charles E. Atchison, Jr. DATE: 7/2/14
PHONE: 864-542-0802 EMAIL: charlita@atchisontransport.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

ATCHISON CHARLES E SR
PO BOX 1728
SPARTANBURG, SC 29304

Subject: Water Supply Well Survey and Request to Sample
Properties located at 384 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-345.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses:

- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____

6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - PO Box 1728 Spartanburg SC 29304


Email - _____

OWNER: Charlita Atchison DATE: 7/2/14

PHONE: 864-542-0802 EMAIL: charlita@atchisontransport.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631. 2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

ATCHISON CHARLES E SR
PO BOX 1728
SPARTANBURG, SC 29304

Subject: Water Supply Well Survey and Request to Sample
Properties located at 388 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-344.01
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

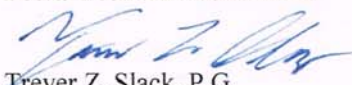
- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses:

- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____

6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - PO Box 1728 Spbg SC 29304
 Email - _____
OWNER: Charles E Atchison, Jr. DATE: 7/2/14
PHONE: 864-542-0802 EMAIL: charlita@atchisontransport.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental

Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

Y M C A
266 S PINE ST
SPARTANBURG, SC 29302-2625

Subject: Water Supply Well Survey and Request to Sample
Properties located at 266 S PINE ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-11-311.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses:

- 5) Please provide well construction details as much is known.
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- 6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____

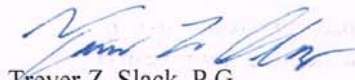
facilities director Email - _____

OWNER: John Bartolone DATE: 7/2/14

PHONE: 864 237 1940 EMAIL: jbart@spartanburgymca.org

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

LAWSON AND LAWSON LLC
616 STAFFORD AVE
SPARTANBURG, SC 29302-4510

Subject: Water Supply Well Survey and Request to Sample
Properties located at 100 FRETWELL ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-022.00
PTE Job No. J14-00-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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- 5) Please provide well construction details as much is known.
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What is the casing depth/screened interval of the well? _____

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Mail - _____

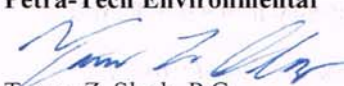
Email _____

OWNER:  DATE: 6/31/14

PHONE: 864-542-0999 EMAIL: BryanLCC@BellSouth.net

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

DENTALAB HOLDING LLC
480 UNION STREET **PO Box 5368**
SPARTANBURG, SC 29302

Subject: Water Supply Well Survey and Request to Sample
Properties located at 480 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-033.00
PTE Job No. J14-~~000~~-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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Mail - _____

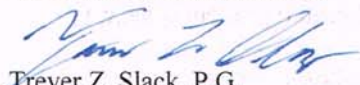
Email - _____

OWNER: _____ DATE: _____

PHONE: _____ EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

KIRKLAND JOYCE A & GARY P CO TRUS
PO BOX 1087
ROEBUCK, SC 29376-1087

Subject: Water Supply Well Survey and Request to Sample
Properties located at 412 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-358.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
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Mail - _____

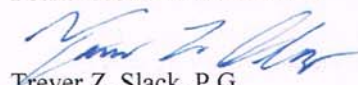
Email - _____

OWNER: Gary Kirkland DATE: 6-30-14

PHONE: 864 582-6701 EMAIL: GARY_KIRKLAND@WNKIRKLAND.COM

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

KIRKLAND JOYCE A & GARY P CO TRUS
PO BOX 1087
ROEBUCK, SC 29376-1087

Subject: Water Supply Well Survey and Request to Sample
Properties located at 410 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-357.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

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 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
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- 5) Please provide well construction details as much is known.
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What is the casing depth/screened interval of the well? _____
- 6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____

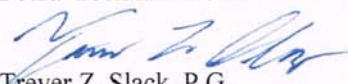
Email - _____

OWNER: Gary & Joyce Kirkland DATE: 6-30-14

PHONE: 864 582 6701 EMAIL: gary.kirkland@wnkirkland.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

113 S MAIN STREET LLC
101 E WASHINGTON ST SUITE 400
GREENVILLE, SC 29601

Subject: Water Supply Well Survey and Request to Sample
Properties located at 453 E HENRY ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-11-284.02
PTE Job No. J14-000-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
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If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
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- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____
- 6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____

Email - _____

OWNER: *Janet Good* DATE: 6/28/14

PHONE: 864 232 9040 EMAIL: jgood@naief.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental

Trever Z. Slack
Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

S R C INTERPRISE LLC
351 E HENRY ST
SPARTANBURG, SC 29307

Subject: Water Supply Well Survey and Request to Sample
Properties located at 351 E HENRY ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-390.01
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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1) What is the source of drinking water for the subject property?

Public Water Water Supply Well Stream Other - _____

2) Is there a water supply well on the subject property? Yes No

If "No", please disregard the remaining questions and return survey.

3) What is the well typically used for? Drinking Irrigation Livestock Not in Use

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6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____

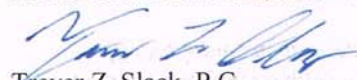
Email - _____

OWNER: SAMMY RIDGEWAY DATE: 6/24/14

PHONE: 864 596-5050 EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist



June 20, 2014

DORCHESTER DIRT PROPERTIES L
330 S PINE ST
SPARTANBURG, SC 29302

Subject: Water Supply Well Survey and Request to Sample
Properties located at 330 S PINE ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-003.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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Mail - _____

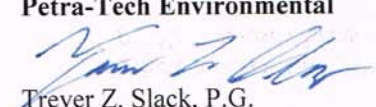
Email - _____

OWNER: _____ DATE: _____

PHONE: _____ EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

GBN HOLDINGS LLC
110 ROSEWOOD LN
SPARTANBURG, SC 29302

Subject: Water Supply Well Survey and Request to Sample
Properties located at 459 MARION AVE SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-015.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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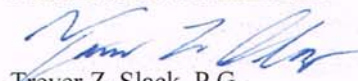
Email - _____

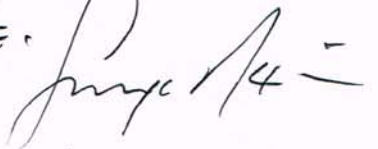
OWNER: GBN HOLDINGS - GEORGE NIXON DATE: 6/26/14

PHONE: 864 585-2391 EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

MY PROPERTY AT 460 MARION AVENUE
IS LOCATED ON THE NORTH SIDE
OF MARION AVENUE.


June 20, 2014

NEW FALLS CORPORATION
356 RIDGEWOOD AVE
SPARTANBURG, SC 29306-3543



Lynn O. Higgins
356 Ridgewood Ave.
Spartanburg, SC 29306

Subject: Water Supply Well Survey and Request to Sample
Properties located at 356 RIDGEWOOD AVE SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-353.00
PTE Job No. J14-00-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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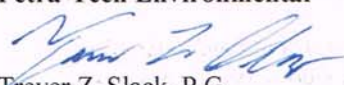
Email - _____

OWNER: _____ DATE: _____

PHONE: _____ EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

KEITH KIM N
1525 SKYLYN DR
SPARTANBURG, SC 29307

Subject: Water Supply Well Survey and Request to Sample
Properties located at 419 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-399.01
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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What is the casing depth/screened interval of the well? _____

6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____

Email - _____

OWNER: [Signature] DATE: 6/24/14

PHONE: 864-596-0631 EMAIL: KKeith@Keith-Evans.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental

[Signature]
Trevor Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

KEITH KIM N
1525 SKYLYN DR
SPARTANBURG, SC 29307

Subject: Water Supply Well Survey and Request to Sample
Properties located at 439 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-402.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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2) Is there a water supply well on the subject property? Yes No

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Mail - _____

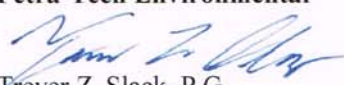
Email - _____

OWNER:  DATE: 6/24/14

PHONE: _____ EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

KEITH KIM N
1525 SKYLYN DR
SPARTANBURG, SC 29307

Subject: Water Supply Well Survey and Request to Sample
Properties located at 102 ALEXANDER AVE SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-023.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses:

- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____
- 6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____

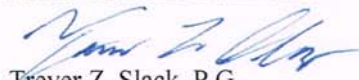
Email - _____

OWNER: _____ DATE: _____

PHONE: _____ EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

KEITH KIM N
1525 SKYLYN DR
SPARTANBURG, SC 29307

Subject: Water Supply Well Survey and Request to Sample
Properties located at 104 FRETWELL ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-023.01
PTE Job No. J14-00-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

1) What is the source of drinking water for the subject property?

Public Water Water Supply Well Stream Other - _____

2) Is there a water supply well on the subject property? Yes No

If "No", please disregard the remaining questions and return survey.

3) What is the well typically used for? Drinking Irrigation Livestock Not in Use

4) How many residences are connected to the well? Please list addresses:

5) Please provide well construction details as much is known.

How deep is the well? _____ When was the well installed? _____

What is the casing depth/screened interval of the well? _____

6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____

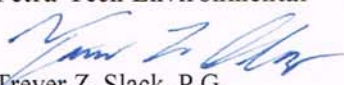
Email - _____

OWNER:  DATE: 6/24/14

PHONE: _____ EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

LAWSON & LAWSON LLC
110 FRETWELL STREET
SPARTANBURG, SC 29306

Subject: Water Supply Well Survey and Request to Sample
Properties located at 428 ALEXANDER AVE LOT 7 SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-022.01
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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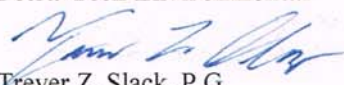
Mail - _____

Email - _____

OWNER: Bryan Lawson DATE: 6/30/14
PHONE: 864-540-0999 EMAIL: BryanLCC@Bellsouth.net

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

MID SOUTH MANAGEMENT CO INC
314 S PINE ST BLDG 100
SPARTANBURG, SC 29302

Subject: Water Supply Well Survey and Request to Sample
Properties located at 0 PINE ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-001.04
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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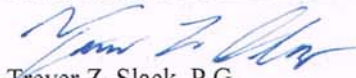
- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____
- 6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____

Attorney
OWNER: Eric Nodri Email - _____ DATE: 8-5-14
PHONE: 864-884-4549 EMAIL: eric@nodrielaw.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

MIDSOUTH MANAGEMENT COMPANY*
314 S PINE ST BLDG 100
SPARTANBURG, SC 29302

Subject: Water Supply Well Survey and Request to Sample
Properties located at 0 PATILLO CT SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-001.03
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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- 1) What is the source of drinking water for the subject property?
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- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
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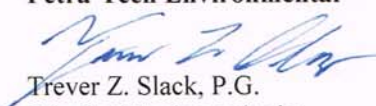
Mail - _____

Email - _____

OWNER: Attorney R. Nodine DATE: 8-5-14
PHONE: 864-884-4549 EMAIL: ert@nodine.law.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

MID SOUTH MANAGEMENT CO INC
314 S PINE ST BLDG 100
SPARTANBURG, SC 29302

Subject: Water Supply Well Survey and Request to Sample
Properties located at 314 S PINE ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-001.00
PTE Job No. J14-00-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water ___ Water Supply Well ___ Stream ___ Other - _____
- 2) Is there a water supply well on the subject property? ___ Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? ___ Drinking ___ Irrigation ___ Livestock ___ Not in Use
- 4) How many residences are connected to the well? ___ Please list addresses:

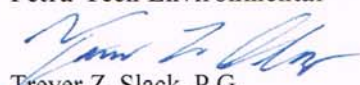
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How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____
- 6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

___ Mail - _____

Attorney
OWNER: Eric Nodine Email - _____ DATE: 8-5-14
PHONE: 864-884-4549 EMAIL: eric@nodinelaw.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

RECEIVED

JUN 30 2014

COUNTY
ADMINISTRATION

June 20, 2014

SPARTANBURG COUNTY
PO BOX 5666
SPARTANBURG, SC 29304

Subject: Water Supply Well Survey and Request to Sample
Properties located at 525 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-043.01
PTE Job No. J14-06-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses:

- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____


6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____
 Email - _____

OWNER: Spartanburg County DATE: 7-15-14
PHONE: 864-560-9300 EMAIL: jgreen@srhs.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

PARKER DAVID S & PATRICIA
225 CROSSROADS BLVD #153
CARMEL, CA 93923

Subject: Water Supply Well Survey and Request to Sample
Properties located at 364 MARION AVE SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-423.00
PTE Job No. J14-090-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
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- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
- 4) How many residences are connected to the well? Please list addresses: _____

- 5) Please provide well construction details as much is known.
How deep is the well? _____ When was the well installed? _____
What is the casing depth/screened interval of the well? _____
- 6) As part of the assessment, Petra-Tech Environmental, LLC can sample your water supply well free-of-charge for the presence of petroleum compounds. Please indicate how you would like to receive the results:

Mail - _____


Email - _____

OWNER: David Parker DATE: 7-14-14

PHONE: 831-620-6969 EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631. 2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

UNION STREET GARAGE LLC
314 S PINE ST STE 100
SPARTANBURG, SC 29302

Subject: Water Supply Well Survey and Request to Sample
Properties located at 362 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-336.00
PTE Job No. J14-060-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) What is the source of drinking water for the subject property?
 Public Water Water Supply Well Stream Other - _____
- 2) Is there a water supply well on the subject property? Yes No
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? Drinking Irrigation Livestock Not in Use
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Mail - _____

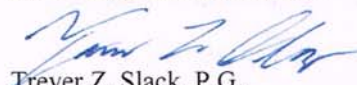
Email - _____

OWNER: Eric DATE: 8-5-14

PHONE: 864-884-4549 EMAIL: orangebeareric@gmail.com

Thank you in advance for your help. Please do not hesitate to contact us at 864.631. 2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

ALTHAMMER KLAUS
181 SARATOGA AVE
SPARTANBURG, SC 29302-4634

RECEIVED

JUN 25 2014

Subject: Water Supply Well Survey and Request to Sample
Properties located at 392 MARION AVE SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-035.00
PTE Job No. J14-040-A

BY: _____

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

Please complete information below to the best of your knowledge and return in the enclosed stamped envelope.

- 1) ~~What is the source of drinking water for the subject property?~~
~~Public Water~~ ___ Water Supply Well ___ Stream ___ Other - _____
- 2) Is there a water supply well on the subject property? ___ Yes ~~No~~
If "No", please disregard the remaining questions and return survey.
- 3) What is the well typically used for? ___ Drinking ___ Irrigation ___ Livestock ___ Not in Use
- 4) How many residences are connected to the well? ___ Please list addresses: _____
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___ Mail - _____

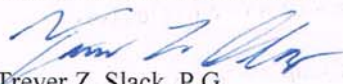
___ Email - _____

OWNER: KLAUS ALTHAMMER DATE: 6/29/14

PHONE: 864/597-1421 EMAIL: KALTHAMMER@AOL.COM

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

RECEIVED

JUN 25 2014

ALTHAMMER KLAUS
181 SARATOGA AVE
SPARTANBURG, SC 29302-4634

BY: _____

Subject: Water Supply Well Survey and Request to Sample
Properties located at 394 MARION AVE SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-034.00
PTE Job No. J14-60-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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Mail - _____

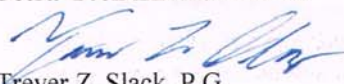
Email - _____

OWNER: KLAUS ALTHAMMER  DATE: 6-15-2014

PHONE: 864 1597-1421 EMAIL: KPAHAMMER@AOL.COM

Thank you in advance for your help. Please do not hesitate to contact us at 864.631. 2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

THOMAS DERRICK S
276 S CHURCH ST
SPARTANBURG, SC 29306-3423

Subject: Water Supply Well Survey and Request to Sample
Properties located at 478 UNION ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-15-422.01
PTE Job No. J14-~~00~~-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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Public Water Water Supply Well Stream Other - _____

2) Is there a water supply well on the subject property? Yes No
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Mail - _____

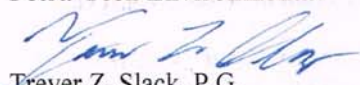
Email - _____

OWNER: Swafford Thomas DATE: 6/24/14

PHONE: (864) 583-8459 EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist

June 20, 2014

LOBLOLLY PINE LLC
342 S PINE ST
SPARTANBURG, SC 29302

Subject: Water Supply Well Survey and Request to Sample
Properties located at 342 S PINE ST SPARTANBURG in Spartanburg, SC
Tax Map ID / Parcel # 7-12-16-004.01
PTE Job No. J14-000-A

To Whom It May Concern:

Petra-Tech Environmental, LLC is currently conducting work on behalf of the South Carolina Department of Health and Environmental Control (SCDHEC) to assess the extent of a historical gasoline release from Underground Storage Tank (UST) Permit #08641 located at 427 Alexander Avenue, Spartanburg, Spartanburg County, South Carolina. As part of the assessment, Petra-Tech Environmental, LLC is conducting a water supply well survey of properties located within a 1,000-foot radius of the UST system.

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Public Water Water Supply Well Stream Other - _____

2) Is there a water supply well on the subject property? Yes No

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Mail - _____

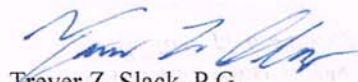
Email - _____

OWNER: _____ DATE: _____

PHONE: _____ EMAIL: _____

Thank you in advance for your help. Please do not hesitate to contact us at 864.631.2490 if you have any questions.

Petra-Tech Environmental



Trever Z. Slack, P.G.
Principal Hydrogeologist

**MORRIS OIL CO. – UST PERMIT #08641
TIER II ASSESSMENT**

APPENDIX K

QAPP CHECKLIST

Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

| Item # | Item | Yes | No | N/A |
|--------|--|-----|----|-----|
| 1 | Is Facility Name, Permit #, and address provided? | ✓ | | |
| 2 | Is UST Owner/Operator name, address, & phone number provided? | ✓ | | |
| 3 | Is name, address, & phone number of current property owner provided? | ✓ | | |
| 4 | Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided? | ✓ | | |
| 5 | Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided? | ✓ | | |
| 6 | Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided? | ✓ | | |
| 7 | Has the facility history been summarized? | ✓ | | |
| 8 | Has the regional geology and hydrogeology been described? | ✓ | | |
| 9 | Are the receptor survey results provided as required? | ✓ | | |
| 10 | Has current use of the site and adjacent land been described? | ✓ | | |
| 11 | Has the site-specific geology and hydrogeology been described? | ✓ | | |
| 12 | Has the primary soil type been described? | ✓ | | |
| 13 | Have field screening results been described? | ✓ | | |
| 14 | Has a description of the soil sample collection and preservation been detailed? | ✓ | | |
| 15 | Has the field screening methodology and procedure been detailed? | ✓ | | |
| 16 | Has the monitoring well installation and development dates been provided? | ✓ | | |
| 17 | Has the method of well development been detailed? | ✓ | | |
| 18 | Has justification been provided for the locations of the monitoring wells? | ✓ | | |
| 19 | Have the monitoring wells been labeled in accordance with the UST QAPP guidelines? | ✓ | | |
| 20 | Has the groundwater sampling methodology been detailed? | ✓ | | |
| 21 | Have the groundwater sampling dates and groundwater measurements been provided? | ✓ | | |
| 22 | Has the purging methodology been detailed? | ✓ | | |
| 23 | Has the volume of water purged from each well been provided along with measurements to verify that purging is complete? | ✓ | | |
| 24 | If free-product is present, has the thickness been provided? | ✓ | | |
| 25 | Does the report include a brief discussion of the assessment done and the results? | ✓ | | |
| 26 | Does the report include a brief discussion of the aquifer evaluation and results? | ✓ | | |
| 27 | Does the report include a brief discussion of the fate & transport models used? | | | ✓ |

| Item # | Item | Yes | No | N/A |
|--------|--|-----|----|-----|
| 28 | Are the site-conceptual model tables included? (Tier 1 Risk Evaluation) | | | ✓ |
| 29 | Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation) | | | ✓ |
| 30 | Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation) | | | ✓ |
| 31 | Have recommendations for further action been provided and explained? | ✓ | | |
| 32 | Has the soil analytical data for the site been provided in tabular format? (Table 1) | ✓ | | |
| 33 | Has the potentiometric data for the site been provided in tabular format? (Table 2) | ✓ | | |
| 34 | Has the current and historical laboratory data been provided in tabular format? | ✓ | | |
| 35 | Have the aquifer characteristics been provided and summarized on the appropriate form? | ✓ | | |
| 36 | Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation) | | | ✓ |
| 37 | Has the topographic map been provided with all required elements? (Figure 1) | ✓ | | |
| 38 | Has the site base map been provided with all required elements? (Figure 2) | ✓ | | |
| 39 | Have the CoC site maps been provided? (Figure 3 & Figure 4) | ✓ | | |
| 40 | Has the site potentiometric map been provided? (Figure 5) | ✓ | | |
| 41 | Have the geologic cross-sections been provided? (Figure 6) | ✓ | | |
| 42 | Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation) | | | ✓ |
| 43 | Has the site survey been provided and include all necessary elements? (Appendix A) | ✓ | | |
| 44 | Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B) | ✓ | | |
| 45 | Is the laboratory performing the analyses properly certified? | ✓ | | |
| 46 | Has the tax map been included with all necessary elements? (Appendix C) | ✓ | | |
| 47 | Have the soil boring/field screening logs been provided? (Appendix D) | ✓ | | |
| 48 | Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E) | ✓ | | |
| 49 | Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F) | ✓ | | |
| 50 | Have the disposal manifests been provided? (Appendix G) | ✓ | | |
| 51 | Has a copy of the local zoning regulations been provided? (Appendix H) | | | ✓ |
| 52 | Has all fate and transport modeling been provided? (Appendix I) | | | ✓ |
| 53 | Have copies of all access agreements obtained by the contractor been provided? (Appendix J) | ✓ | | |
| 54 | Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided? | ✓ | | |

**MORRIS OIL CO. – UST PERMIT #08641
TIER II ASSESSMENT**

APPENDIX L

QAPP CONTRACTOR ADDENDUM

June 2, 2014

SCDHEC - UST Management Division
Assessment Section
2600 Bull Street
Columbia, SC 29201-1708

Attention: Ms. Stephanie Briney

Subject: **Site Specific Work Plan – Tier II Assessment**
Revision Number: 0
Morriss Oil Co.
427 Alexander Avenue
Spartanburg, Spartanburg County, SC
SCDHEC UST Permit #08641
PTE Job No. J14- 60-A

Dear Ms. Briney:

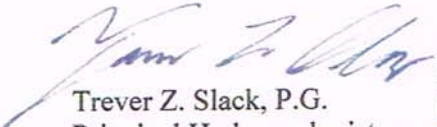
In accordance with Solicitation Number IFB-5400005780/3/20/13-EMW (Purchase Order #4600271461), Petra-Tech Environmental, LLC submits herein the completed Site Specific Work Plan for the subject site. This submittal is in response to the South Carolina Department of Health and Environmental Control's (SCDHEC) Site Specific Work Plan Directive dated May 21, 2014.

On May 31, 2014, Petra-Tech Environmental personnel performed a site visit to the subject site to locate existing groundwater monitoring wells and conduct a preliminary site reconnaissance. Monitoring wells 08641-MW01 through 08641-MW04 were located during the site reconnaissance; however, monitoring well 08641-MW05 could not be located and was covered with kudzu. Depth to groundwater at the site is approximately 15 feet below ground surface (i.e. depth to water in monitoring well 08641-MW03 was 14.58 feet below top of casing on May 31, 2014). The Site Specific Work Plan is contained herein.

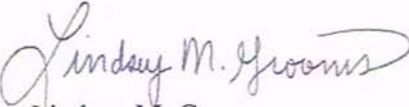
Please do not hesitate to contact us at 864.631.2490 if you have any questions concerning this submittal.

Sincerely,

Petra-Tech Environmental


Trevor Z. Slack, P.G.
Principal Hydrogeologist
Registered, South Carolina #25662




Lindsey M. Grooms
Principal Engineer

cc: Ms. Maia Milenkova



Site-Specific Work Plan for Approved ACQAP Underground Storage Tank Management Division

To: Maia Milenkova (SCDHEC Project Manager)
 From: Trever Slack (Contractor Project Manager)
 Contractor: Petra-Tech Environmental, LLC UST Contractor Certification Number: UCC-436

Facility Name: Morris Oil Co. UST Permit #: 08641
 Facility Address: 427 Alexander Avenue, Spartanburg, SC
 Responsible Party: Donald Morris Phone: Not Available
 RP Address: 427 Alexander Avenue, Spartanburg, SC
 Property Owner (if different): _____
 Property Owner Address: _____
 Current Use of Property: _____

Scope of Work (Please check all that apply)

IGWA Tier II Groundwater Sampling GAC
 Tier I Monitoring Well Installation Other _____

Analyses (Please check all that apply)

Groundwater/Surface Water:

BTEXNMDCA (8260B) Lead BOD Methane
 Oxygenates (8260B) 8 RCRA Metals Nitrate Ethanol
 EDB (8011) TPH Sulfate Dissolved Iron
 PAH (8270D) pH Other _____

Soil:

BTEXN 8 RCRA Metals TPH-DRO (3550B/8015B) Grain Size
 PAH Oil & Grease (9071) TPH-GRO (5030B/8015B) TOC

Air:

BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

| | | | |
|----------------------------|--------------------------|--------------------|----------------------|
| _____ Soil | _____ Water Supply Wells | _____ Air | <u>2</u> Field Blank |
| <u>22</u> Monitoring Wells | <u>1</u> Surface Water | <u>2</u> Duplicate | <u>2</u> Trip Blank |

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.

of shallow points proposed: 18 Estimated Footage: 18 (estimated) feet per point

of deep points proposed: 4 Estimated Footage: 43 (estimated) feet per point

Field Screening Methodology: Direct Push with PID field screening and laboratory confirmation of select samples IAW SOP

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.

of shallow wells: 13 Estimated Footage: 22 (estimated) feet per point

of deep wells: 4 Estimated Footage: 47 (estimated) feet per point

of recovery wells: _____ Estimated Footage: _____ feet per point

Monitoring Well development method (consistent with SOP): Surging and pumping IAW SOP

Comments, if warranted:
Deep wells installed outside of the source area will be installed as Type II monitoring wells if it is determined by the on-site geologist that no confining layers are present.

UST Permit #: 08641 Facility Name: Morris Oil Co.

Implementation Schedule (Number of calendar days from approval)

Field Work Start-Up: 07/03/2014 Field Work Completion: 09/3/2014
Report Submittal: 10/03/2014 # of Copies Provided to Property Owners: 5

Aquifer Characterization

Pump Test: Slug Test: (Check one and provide explanation below for choice)

Slug test will be completed in two shallow and one deep monitoring well. Slug tests are recommended over pump tests due to the elimination of requirements for petroleum impacted water disposal. Additionally, slug tests minimize the cone of depression associated with pump test drawdown, reducing the transport of petroleum compounds from shallow to deeper aquifer zones.

Investigation Derived Waste Disposal

Soil: 5 Tons Purge Water: 200 Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

Additional Details For This Scope of Work

For example, list wells to be sampled, wells to be abandoned/repared, well pads/bolts/caps to replace, details of AFVR event, etc.

Five existing groundwater monitoring wells (08641-MW01 through 08641-MW05) and 17 newly installed monitoring wells will be sampled. Monitoring well 08641-MW05 could not be located during the site reconnaissance - this well should be replaced during monitoring well installation activities if it is still not located during additional exploration. Receptors identified within 1,000-feet of the site or within 500-feet of the groundwater contaminant plume will be sampled during the Tier II Assessment. One surface water features has currently been identified within 1,000-feet of the subject site.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)

Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.

Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____

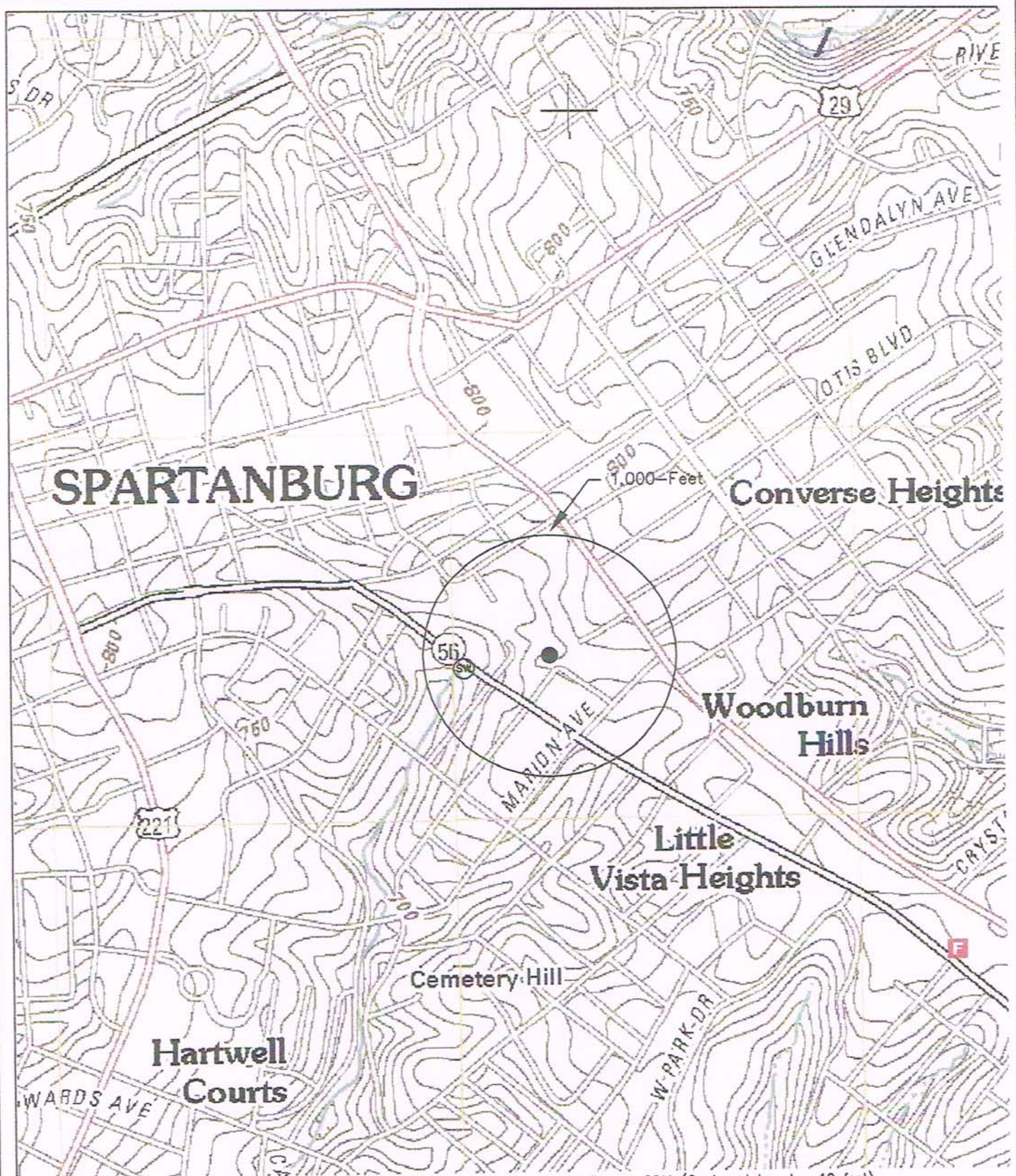
Yes Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below.

Name of Well Driller: _____
SCLLR Certification Number: _____

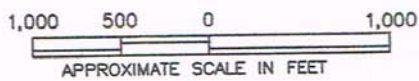
No Other variations from ACQAP. Please describe below.

Attachments

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:
North Arrow Proposed monitoring well locations
Location of property lines Legend with facility name and address, UST permit number, and bar scale
Location of buildings Streets or highways (indicate names and numbers)
Previous soil sampling locations Location of all present and former ASTs and USTs
Previous monitoring well locations Location of all potential receptors
Proposed soil boring locations
3. Assessment Component Cost Agreement, SCDHEC Form D-3664



REFERENCE: Spartanburg Quadrangle - 7.5 Minute Series, United States Geological Survey, 2011 (Contour Interval - 10 feet)



● Approximate Site Location

⊙ SW Surface Water Sampling Location

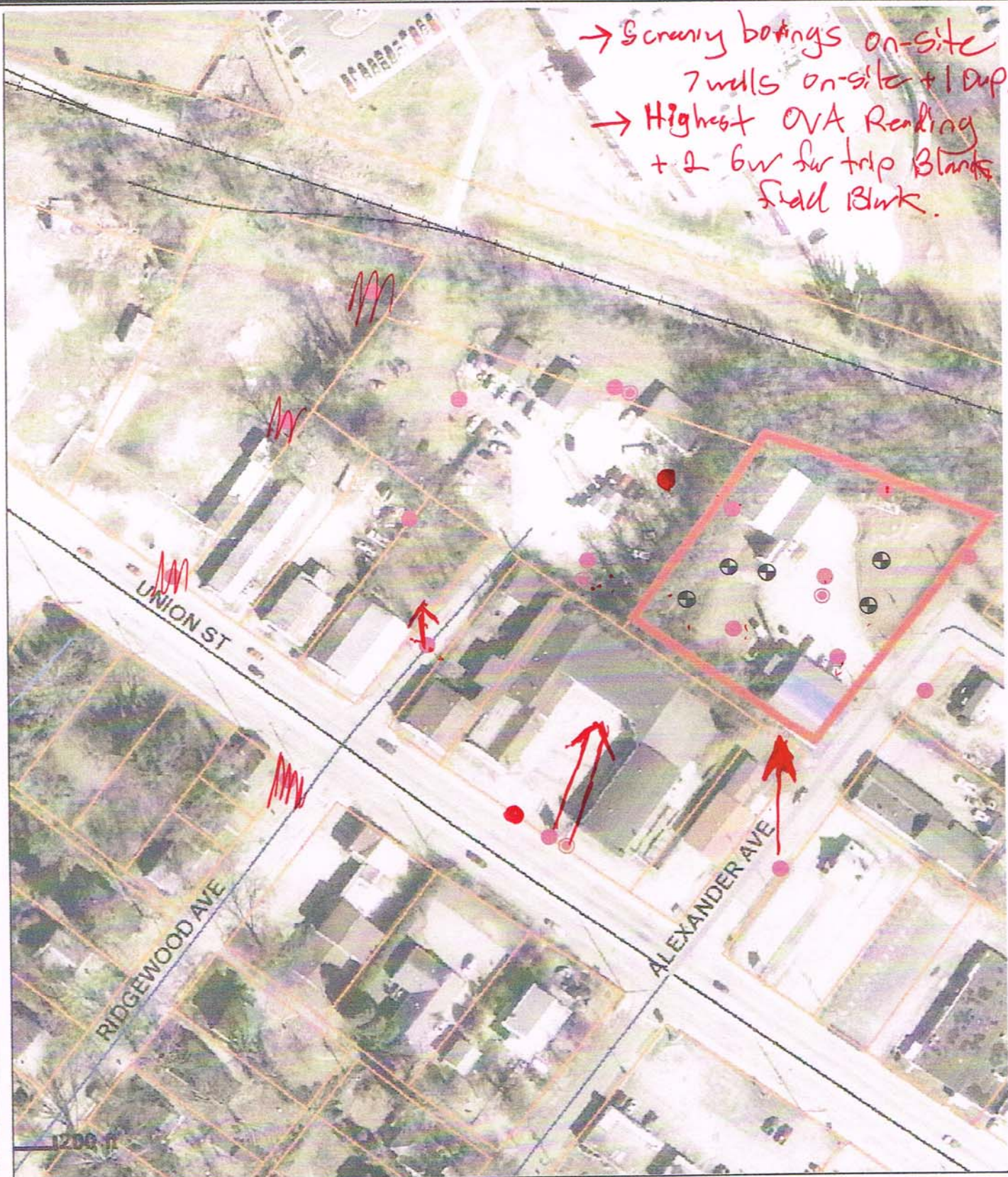


| | | |
|------------|---|--|
| Title | Topographic Site Location Map | |
| Project | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 6/02/2014 | |
| Job No. | J14-060-A | |
| Figure No. | 1 | |

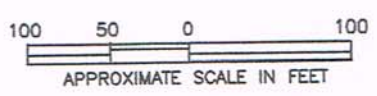
emmil revised map - to Maria.

→ Soil sample above water table

→ Screening borings on-site
7 wells on-site + 1 dup.
→ Highest OVA Reading
+ 2 GW for trip Blanks
Field Blank.



REFERENCE: Spartanburg County Online GIS Mapping Database; Ground Water COC Site Map by Spero Corporation dated May 3, 2004

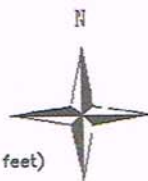
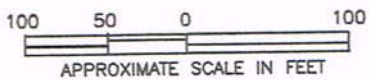


- ⊕ Existing Groundwater Monitoring Well (5)
- Proposed Shallow Groundwater Screening Boring (18 ⊕ 18 feet)
- ⊙ Proposed Deep Groundwater Screening Boring (4 ⊕ 43 feet)

| | | |
|------------|---|--|
| Title | Proposed Groundwater Screening Boring Location Plan | |
| Project | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 6/02/2014 | |
| Job No. | J14-060-A | |
| Figure No. | 2 | |



REFERENCE: Spartanburg County Online GIS Mapping Database; Ground Water COC Site Map by Spero Corporation dated May 3, 2004



- ⊕ Existing Groundwater Monitoring Well (5)
- ⊕ Proposed Shallow Groundwater Monitoring Well (13 @ 22 feet)
- ⊕ Proposed Deep Groundwater Monitoring Well (4 @ 47 feet)

| | | |
|---------|--|--------------|
| Title | Proposed Groundwater Monitoring Well Location Plan | |
| Project | Morris Oil Co (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 6/02/2014 | |
| Job No. | J14-060-A | |
| | | Figure No. 3 |



**ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA**

Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
PO#4600271461

Facility Name Morris Oil Co.

UST Permit #: 08641

Cost Agreement #:

| ITEM | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|--|----------|-------------------|------------|------------|
| 1. Plan Preparation | | | | |
| A1. Site-specific Work Plan | 1 | each | \$470.00 | \$470.00 |
| B1. Tax Map | 1 | each | \$600.00 | \$600.00 |
| C1. Tier II or Comp. Plan /QAPP Appendix B | | each | \$780.00 | \$0.00 |
| 2. A1. Receptor Survey * | 1 | each | \$755.00 | \$755.00 |
| 3. Survey (500 x 500 feet) | | | | |
| A1. Comprehensive Survey | 1 | each | \$1,405.00 | \$1,405.00 |
| B. Subsurface Geophysical Survey | | | | |
| 1B. < 10 meters below grade | | each | \$200.00 | \$0.00 |
| 2B. > 10 meters below grade | | each | \$250.00 | \$0.00 |
| C1. Geophysical UST or Drum Survey | | each | \$200.00 | \$0.00 |
| 4. Mob/Demob (Each) | | | | |
| A1. Equipment | 2 | each | \$985.00 | \$1,970.00 |
| B1. Personnel | 5 | each | \$955.00 | \$4,775.00 |
| C1. Adverse Terrain Vehicle to install wells | | each | \$209.00 | \$0.00 |
| 5. A1. Soil Borings (hand auger)* | | feet | \$1.00 | \$0.00 |
| 6. Soil Borings (requiring equipment, push technology, etc)* or Field Screening (including water sample, soil sample, soil gas sample, etc.)* | | | | |
| A1. Standard | 496 | per foot | \$3.50 | \$1,736.00 |
| C1. Fractured Rock | | per foot | \$2.00 | \$0.00 |
| 7. A1. Soil Leachability Model (Each) | | each | \$1.00 | \$0.00 |
| 8. Abandonment (per foot)* | | | | |
| A1. 2" diameter or less | | per foot | \$0.50 | \$0.00 |
| B1. Greater than 2" to 6" diameter | | per foot | \$1.00 | \$0.00 |
| C1. Dug/Bored well (up to 6 foot diameter) | | per foot | \$2.50 | \$0.00 |
| 9. Well Installation (per foot)* | | | | |
| A1. Water Table (hand augered) | | per foot | \$1.00 | \$0.00 |
| B1. Water Table (drill rig) | 427 | per foot | \$16.25 | \$6,938.75 |
| C1. Telescoping/ Pit Cased | 47 | per foot | \$17.50 | \$822.50 |
| D1. Rock Drilling | | per foot | \$13.00 | \$0.00 |
| E1. 2" or 4" Rock Coring | | per foot | \$1.00 | \$0.00 |
| G1. Rock Multi-sampling ports/screens | | per foot | \$5.00 | \$0.00 |
| H1. Recovery Well (4 inch diameter) | | each | \$11.00 | \$0.00 |
| II. Pushed Pre-packed screen (1.25 diameter) | | each | \$5.00 | \$0.00 |
| J1. Rotasonic (2 inch diameter) | | each | \$2.00 | \$0.00 |
| K. Re-develop Existing Well | | each | \$0.50 | \$0.00 |
| 10. Groundwater Sample Collection / Gauge Depth to Water or Product * | | | | |
| A1. Groundwater Purge | 22 | per well | \$165.00 | \$3,630.00 |
| B1. Air or Vapors | | per receptor | \$1.00 | \$0.00 |
| C1. Water Supply | | per well/receptor | \$115.00 | \$0.00 |
| D1. Groundwater No Purge or Duplicate | 3 | samples | \$50.00 | \$150.00 |
| E1. Gauge Well only | | per well | \$5.00 | \$0.00 |
| F1. Sample Below Product | | well | \$5.00 | \$0.00 |
| G1. Pasive Diffusion Bag | | each | \$1.00 | \$0.00 |
| H1. Field Blank | 2 | each | \$52.00 | \$104.00 |
| 11. Laboratory Analyses-Groundwater | | | | |
| A2. BTEX+Naphth.+ Oxyg's+ 1,2 DCA + Ethanol | 29 | sample | \$117.00 | \$3,393.00 |
| AA1. Lead, Filtered | | sample | \$12.00 | \$0.00 |
| B2. Rush EPA Method 8260B (All of item A.) | | sample | \$142.00 | \$0.00 |
| C2. Trimethal, Butyl, and Isopropyl Benzenes | | sample | \$14.00 | \$0.00 |
| D1. PAH's | | sample | \$30.00 | \$0.00 |
| E1. Lead, Unfiltered | 26 | sample | \$25.00 | \$650.00 |



**ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA**

Department of Health and Environmental Control
Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

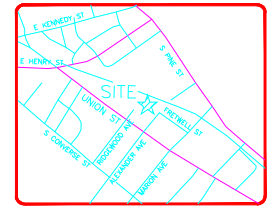
| | | | | |
|---|-----|----------|----------|--------------------|
| F1. EDB by EPA 8011 | 27 | sample | \$75.00 | \$2,025.00 |
| FF1. EDB by EPA Method 8011 Rush | | sample | \$100.00 | \$0.00 |
| G1. 8 RCRA Metals | | sample | \$25.00 | \$0.00 |
| H1. TPH (9070) | | sample | \$15.00 | \$0.00 |
| II. pH | | sample | \$5.00 | \$0.00 |
| J1. BOD | | sample | \$9.00 | \$0.00 |
| PP. Ethanol | | sample | \$0.10 | \$0.00 |
| 11. Analyses-Soil | | | | \$0.00 |
| Q1. BTEX + Naphth. | | sample | \$80.00 | \$0.00 |
| R1. PAH's | | sample | \$45.00 | \$0.00 |
| S1. 8 RCRA Metals | | sample | \$20.00 | \$0.00 |
| U1. TPH-DRO (3550B/8015B) | | sample | \$15.00 | \$0.00 |
| V1. TPH- GRO (5030B/8015B) | | sample | \$15.00 | \$0.00 |
| W1. Grain size/hydrometer | 2 | sample | \$55.00 | \$110.00 |
| X1. Total Organic Carbon | | sample | \$14.00 | \$0.00 |
| 11. Analyses-Air | | | | |
| Y1. BTEX + Naphthalene | | sample | \$50.00 | \$0.00 |
| 11. Analyses-Free Phase Product | | | | |
| Z1. Hydrocarbon Fuel Identification | | sample | \$100.00 | \$0.00 |
| 12. Aquifer Characterization* | | | | |
| A1. Pumping Test | | per hour | \$20.00 | \$0.00 |
| B1. Slug Test* | 3 | per test | \$255.00 | \$765.00 |
| C1. Fractured Rock | | per test | \$35.00 | \$0.00 |
| 13. A1. Free Product Recovery Rate Test* | | each | \$35.00 | \$0.00 |
| 14. Fate/Transport Modeling | | | | |
| A1. Mathematical Model | | each | \$5.00 | \$0.00 |
| B1. Computer Model | | each | \$5.00 | \$0.00 |
| 15. Risk Evaluation | | | | |
| B1. Tier II Risk Evaluation | | each | \$25.00 | \$0.00 |
| 16. A1. Subsequent Survey* | | each | \$95.00 | \$0.00 |
| 17. Disposal (gallons or tons)* | | | | |
| AA. Wastewater | 200 | gallon | \$0.25 | \$50.00 |
| BB. Free Product | | gallon | \$0.10 | \$0.00 |
| C1. Soil Treatment/Disposal | 5 | ton | \$35.00 | \$175.00 |
| D1. Drilling fluids | | gallon | \$0.10 | \$0.00 |
| 18. Miscellaneous (attach receipts) | | | | |
| Flourescence for Product | | each | \$3.00 | \$0.00 |
| Video Camera down a well or borehole | | each | \$1.00 | \$0.00 |
| | | each | \$0.00 | \$0.00 |
| 25. Well Repair* | | | | |
| A1. Additional Copies of the Report Delivered | 5 | each | \$49.00 | \$245.00 |
| B1. Repair 2x2 MW pad | | each | \$5.00 | \$0.00 |
| C1. Repair 4x4 MW pad | | each | \$5.00 | \$0.00 |
| D1. Repair well vault | | each | \$5.00 | \$0.00 |
| F1. Replace well cover bolts | | each | \$1.00 | \$0.00 |
| H1. Replace/Repair stick-up | | each | \$5.00 | \$0.00 |
| II. Convert Flush-mount to Stick-up | | each | \$5.00 | \$0.00 |
| J1. Convert Stick-up to Flush-mount | | each | \$5.00 | \$0.00 |
| K1. Replace missing/illegible well ID plate | | each | \$1.00 | \$0.00 |
| TOTAL | | | | \$30,299.25 |

*The appropriate mobilization cost can be added to complete these tasks, as necessary

| DESCRIPTION | NORTHING | EASTING | TOP OF CASING | GROUND ELEVATION |
|-------------|-------------|-------------|---------------|------------------|
| MW-6 | 1133573.623 | 1725070.572 | 774.04 | 774.26 |
| MW-7 | 1133658.380 | 1725022.687 | 768.72 | 769.26 |
| MW-8 | 1133643.015 | 1724967.051 | 769.62 | 769.76 |
| MW-9 | 1133605.683 | 1724929.480 | 766.22 | 766.73 |
| MW-10 | 1133680.280 | 1724799.725 | 750.51 | 750.87 |
| MW-11 | 1133740.285 | 1724867.990 | 752.57 | 752.91 |
| MW-12 | 1133583.605 | 1725180.269 | 777.00 | 777.64 |
| MW-13 | 1133799.231 | 1725119.392 | 764.75 | 761.34 |
| MW-14 | 1133863.387 | 1724892.172 | 752.21 | 752.75 |
| MW-15 | 1133743.969 | 1725035.153 | 767.56 | 767.84 |
| MW-16 | 1133836.488 | 1725023.017 | 761.93 | 758.26 |
| MW-17 | 1133692.877 | 1725191.429 | 778.87 | 779.13 |
| MW-18 | 1133523.782 | 1725086.016 | 771.74 | 772.06 |
| MW-19 | 1133504.702 | 1725017.172 | 769.38 | 769.69 |
| MW-20 | 1133433.768 | 1725021.856 | 767.14 | 767.45 |
| MW-21 | 1133366.971 | 1724911.719 | 761.51 | 761.84 |
| MW-22 | 1133458.029 | 1724745.033 | 751.47 | 751.81 |
| MW-23 | 1133709.595 | 1724946.161 | 764.24 | 764.81 |

| DESCRIPTION | NORTHING | EASTING | TOP OF CASING | GROUND ELEVATION |
|-------------|-------------|-------------|---------------|------------------|
| MW-3 | 1133618.611 | 1725078.228 | 774.04 | 774.37 |
| MW-4 | 1133682.445 | 1724972.972 | 768.43 | 768.66 |
| MW-1 | 1133676.748 | 1725103.434 | 772.24 | 772.66 |
| MW-2 | 1133684.562 | 1724950.106 | 765.91 | 766.29 |
| MW-5 | 1133635.502 | 1724905.268 | 763.99 | 764.20 |

SOUTHER LAND SURVEYING
 10253 ASHEVILLE HWY.
 INMAN, SC 29349
 864-475-1240



VICINITY MAP

THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR.

ALL UNDERGROUND UTILITIES ARE NOT SHOWN AND THEIR LOCATIONS ARE UNKNOWN TO ME.

THIS PROPERTY IS SUBJECT TO ALL RIGHTS-OF-WAY, EASEMENTS AND RESTRICTIONS OF RECORD AND NOT OF RECORD.

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SCVRS -NAIL
 ELEV=778.42'
 SPC N:1133641.978 IFT
 E:1725148.972 IFT

SCVRS -NAIL
 ELEV=744.38'
 SPC N:1133558.656 IFT
 E:1724612.241 IFT

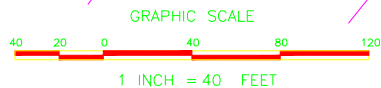
SITE SURVEY FOR:
PETRA-TECH ENVIRONMENTAL, LLC
 GREENVILLE COUNTY
 MORRIS OIL CO.
 UST PERMIT #08641
 427 ALEXANDER AVENUE
 SPARTANBURG, SOUTH CAROLINA
 16 DECEMBER 2014

LEGEND

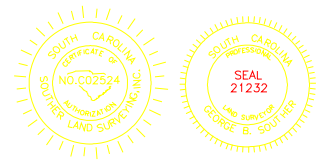
- ⊕ SURFACE WATER
- ⊕ SITE WELL
- ⊕ 1/2" REBAR FOUND
- ⊕ 1/2" REBAR SET
- ⊕ PK NAIL FOUND IN ROAD
- ⊕ PK NAIL SET IN ROAD
- ⊕ POWER POLE
- ⊕ LIGHT POLE
- ⊕ SANITARY SEWER MH

NOTES:

ALL PINS ARE 1/2" REBAR OR PK NAILS IN ROAD, UNLESS OTHERWISE NOTED.



SCVRS -NAIL
 ELEV=760.60'
 SPC N:1133357.922 IFT
 E:1724890.977 IFT



GEORGE B. SOUTHER P.L.S. 21232
 JOB NO. 04811

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ION STREET

TAX MAP
7-12-15-400.00

MW-10

MW-11

MW-14

MW-9

MW-4

MW-2

MW-23

MW-8

MW-5

MW-20

MW-19

MW-6

MW-7

MW-15

MW-13

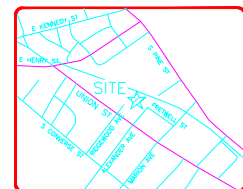
MW-16

MW-17

MW-18

TAX MAP
7-12-15-405.00

SOUTHERN
LAND SURVEYING
10253 ASHEVILLE HWY.
INMAN, SC 29348
864-473-1240



VICINITY MAP

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SCVRS -NAIL
ELEV=778.42'
SPC N:1133641.978 IFT
E:1725148.972 IFT

FRETWELL STREET

ALEXANDER AVE

SCVRS -MM

TAX MAP

TAX MAP
7-12-15-403.00

TAX MAP
7-12-16.021.00

TAX MAP
7-12-16.022.01

TAX MAP
7-12-15-402.00

PAVEMENT

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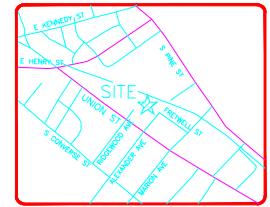
PAVEMENT



| DESCRIPTION | NORTHING | EASTING | TOP OF CASING | GROUND ELEVATION |
|-------------|-------------|-------------|---------------|------------------|
| MW-6 | 1133573.623 | 1725070.572 | 774.04 | 774.26 |
| MW-7 | 1133658.380 | 1725022.687 | 768.72 | 769.26 |
| MW-8 | 1133643.015 | 1724967.051 | 769.62 | 769.76 |
| MW-9 | 1133605.683 | 1724929.480 | 766.22 | 766.73 |
| MW-10 | 1133680.280 | 1724799.725 | 750.51 | 750.87 |
| MW-11 | 1133740.285 | 1724867.990 | 752.57 | 752.91 |
| MW-12 | 1133583.605 | 1725180.269 | 777.00 | 777.64 |
| MW-13 | 1133799.231 | 1725119.392 | 764.75 | 761.34 |
| MW-14 | 1133863.387 | 1724892.172 | 752.21 | 752.75 |
| MW-15 | 1133743.969 | 1725035.153 | 767.56 | 767.84 |
| MW-16 | 1133836.488 | 1725023.017 | 761.93 | 758.26 |
| MW-17 | 1133692.877 | 1725191.429 | 778.87 | 779.13 |
| MW-18 | 1133523.782 | 1725086.016 | 771.74 | 772.06 |
| MW-19 | 1133504.702 | 1725017.172 | 769.38 | 769.69 |
| MW-20 | 1133433.768 | 1725021.856 | 767.14 | 767.45 |
| MW-21 | 1133366.971 | 1724911.719 | 761.51 | 761.84 |
| MW-22 | 1133458.029 | 1724745.033 | 761.47 | 761.81 |
| MW-23 | 1133709.595 | 1724946.161 | 764.24 | 764.81 |

| DESCRIPTION | NORTHING | EASTING | TOP OF CASING | GROUND ELEVATION |
|-------------|-------------|-------------|---------------|------------------|
| MW-3 | 1133618.611 | 1725078.228 | 774.04 | 774.37 |
| MW-4 | 1133682.445 | 1724972.972 | 768.43 | 768.66 |
| MW-1 | 1133676.748 | 1725103.434 | 772.24 | 772.66 |
| MW-2 | 1133684.562 | 1724950.106 | 765.91 | 766.29 |
| MW-5 | 1133635.502 | 1724905.268 | 763.99 | 764.20 |

SOUTHERN LAND SURVEYING
 10253 ASHEVILLE HWY.
 INMAN, SC 29349
 864-475-1240



VICINITY MAP

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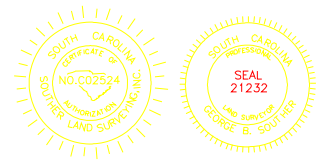
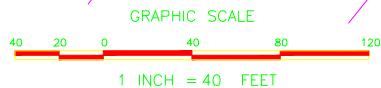
SITE SURVEY FOR:
PETRA-TECH ENVIRONMENTAL, LLC
 GREENVILLE COUNTY
 MORRIS OIL CO.
 UST PERMIT #08641
 427 ALEXANDER AVENUE
 SPARTANBURG, SOUTH CAROLINA
 16 DECEMBER 2014

LEGEND

- ⊕ SURFACE WATER
- ⊕ SITE WELL
- ⊕ 1/2" REBAR FOUND
- ⊕ 1/2" REBAR SET
- ⊕ PK NAIL FOUND IN ROAD
- ⊕ PK NAIL SET IN ROAD
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GEORGE B. SOUTHER P.L.S. 21232
 JOB NO. 04811

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 **SOUTHERN LAND SURVEYING**
10253 ASHEVILLE HWY.
INMAN, SC 29348
864-473-1240

SCVRS - NAIL
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TAX MAP
7-12-15-400.00

TAX MAP
7-12-15-405.00

TAX MAP
7-12-15-402.00

TAX MAP
7-12-16.022.01

TAX MAP
7-12-16.021.00

TAX MAP
7-12-15-403.00

ION STREET

FRETWELL STREET

ALEXANDER AVE

MW-14

MW-16

MW-13

MW-11

MW-15

MW-10

MW-23

MW-1

MW-17

MW-2

MW-7

MW-5

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MW-21

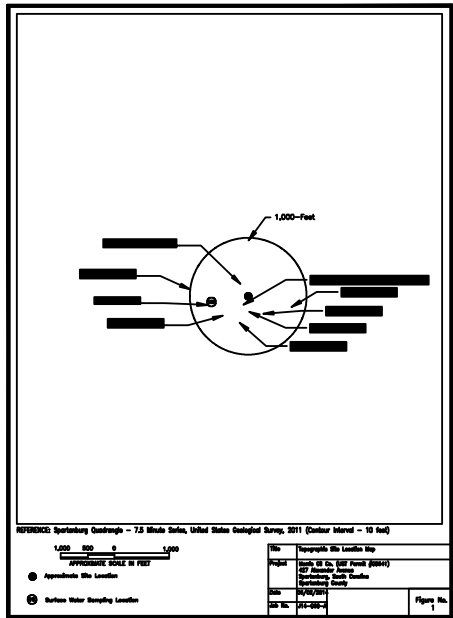
SCVRS - MM

TAX MAP

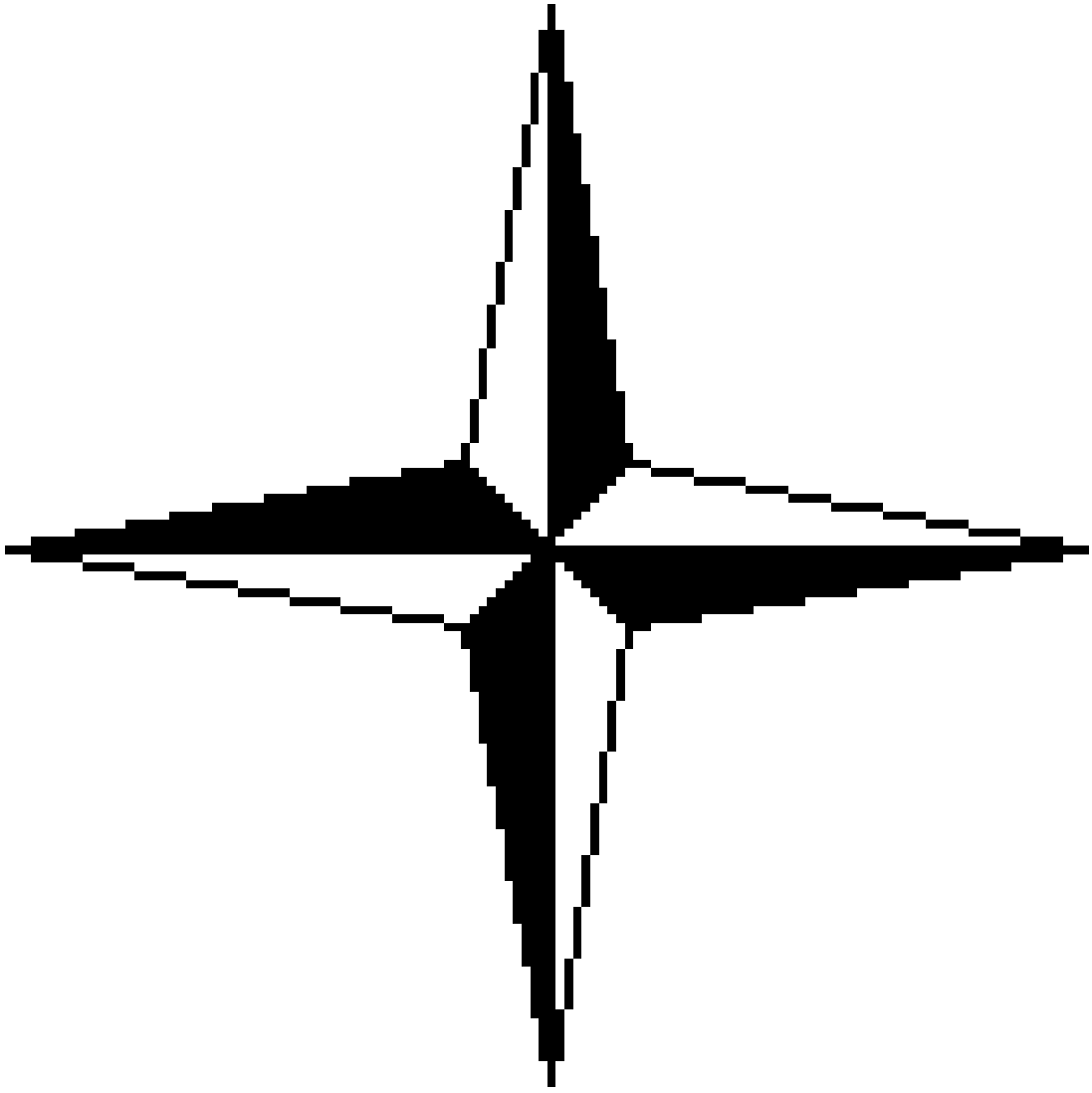


United States Geological Survey, 2011 (Contour Interval - 10 feet)

| | | |
|---------|---|-----------------|
| Title | Topographic Site Location Map | |
| Project | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 06/02/2014 | Figure No. 1 |
| Job No. | J14-060-A | |



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petra_tech
ENVIRONMENTAL, LLC
ENGINEERS & CONSULTANTS

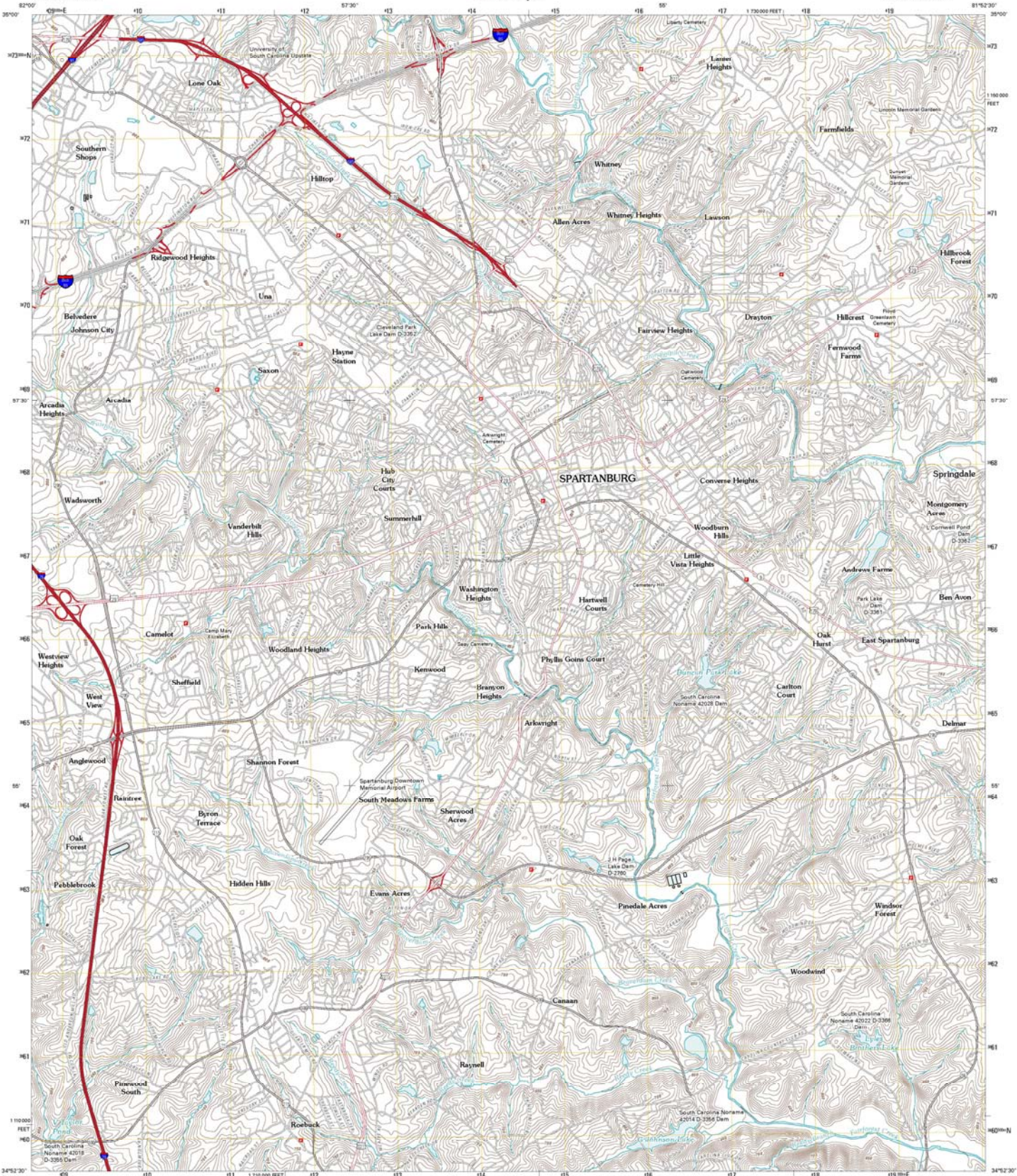
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U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY



SPARTANBURG QUADRANGLE
SOUTH CAROLINA-SPARTANBURG CO.
7.5-MINUTE SERIES

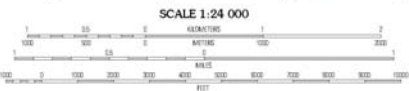


Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
North Carolina System of 1981 (NAD83), Projection and
1,000-meter grid, Universal Transverse Mercator, Zone 17E
10,000-foot scale: South Carolina Coordinate System of 1983

Imagery: NAIP, April 2009
Roads: ©2006-2010 Tele Atlas
Names: ©2010 CNL
Hydrography: National Hydrography Dataset, 2009
Contours: National Elevation Dataset, 2011
Boundaries: Census, ISAC, ISC, USGS, 1972-2010

UTM GRID AND UTM MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

| | |
|----------------------|-----------|
| Zone | 17E |
| UTM Easting | 110000 |
| UTM Northing | 1800000 |
| Magnetic Declination | 11° 12' E |



This map was produced to conform with version 0.8.10
of the USGS US Topo Product Standard.
A metadata file associated with this product is available at 0.8.10



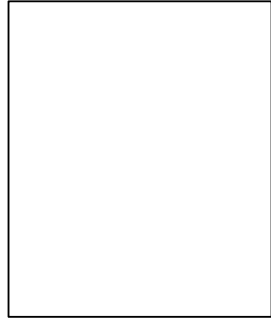
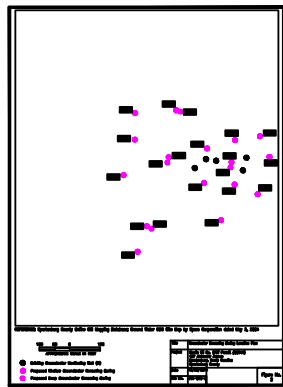
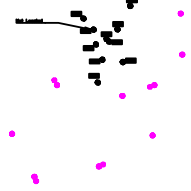
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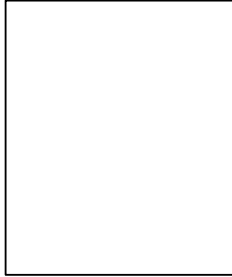
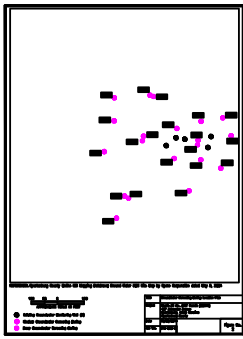
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|----------|-------------|------------|
| Index | Wells | Orange |
| Walton | Spartanburg | Piedmont |
| Richland | Blacksburg | Blacksburg |

ROAD CLASSIFICATION

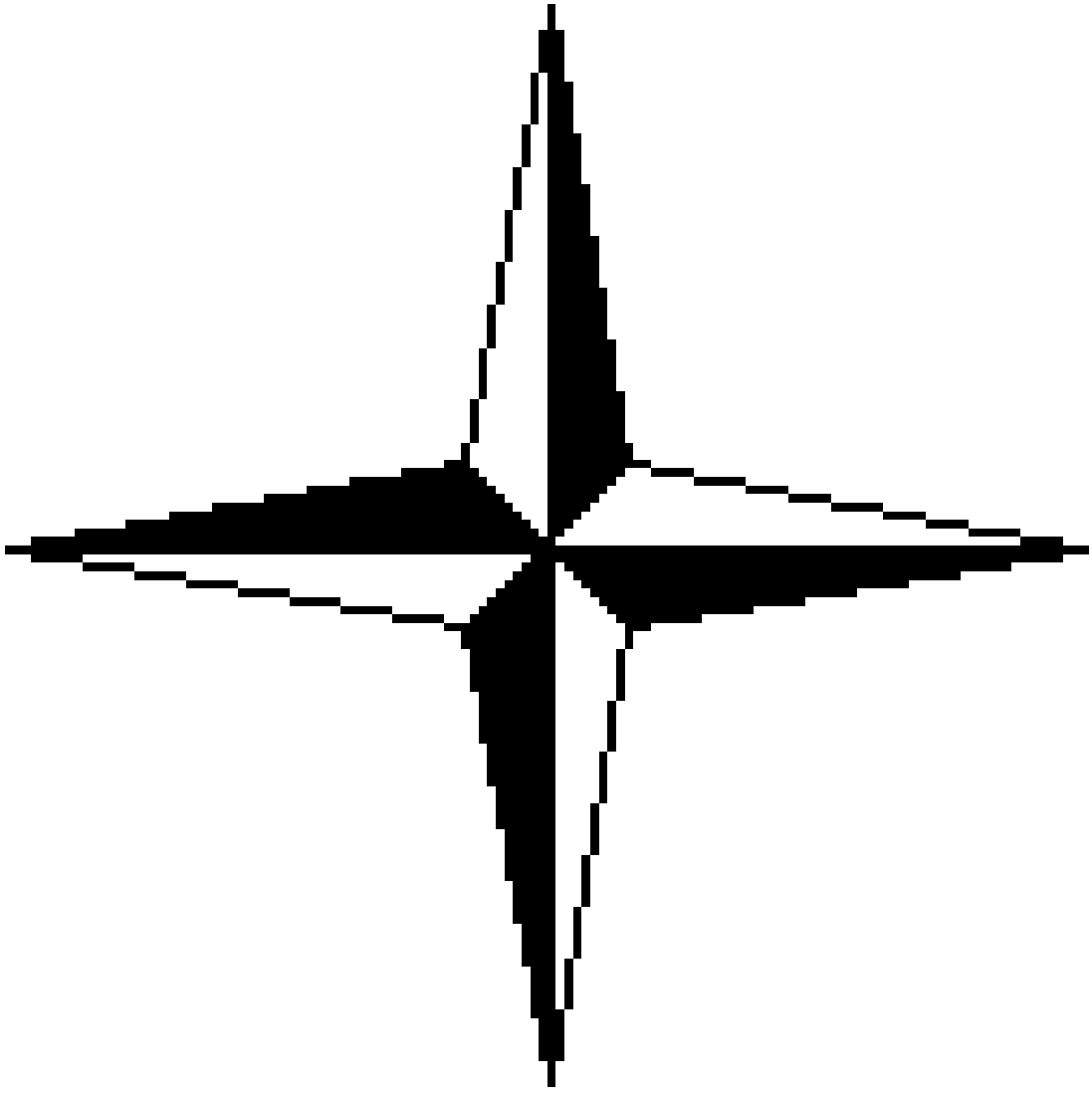
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|------------------|-------------|
| Interstate Route | State Route |
| US Route | Local Road |
| Proposed | 4WD |
| Veranda Route | US Route |
| | State Route |





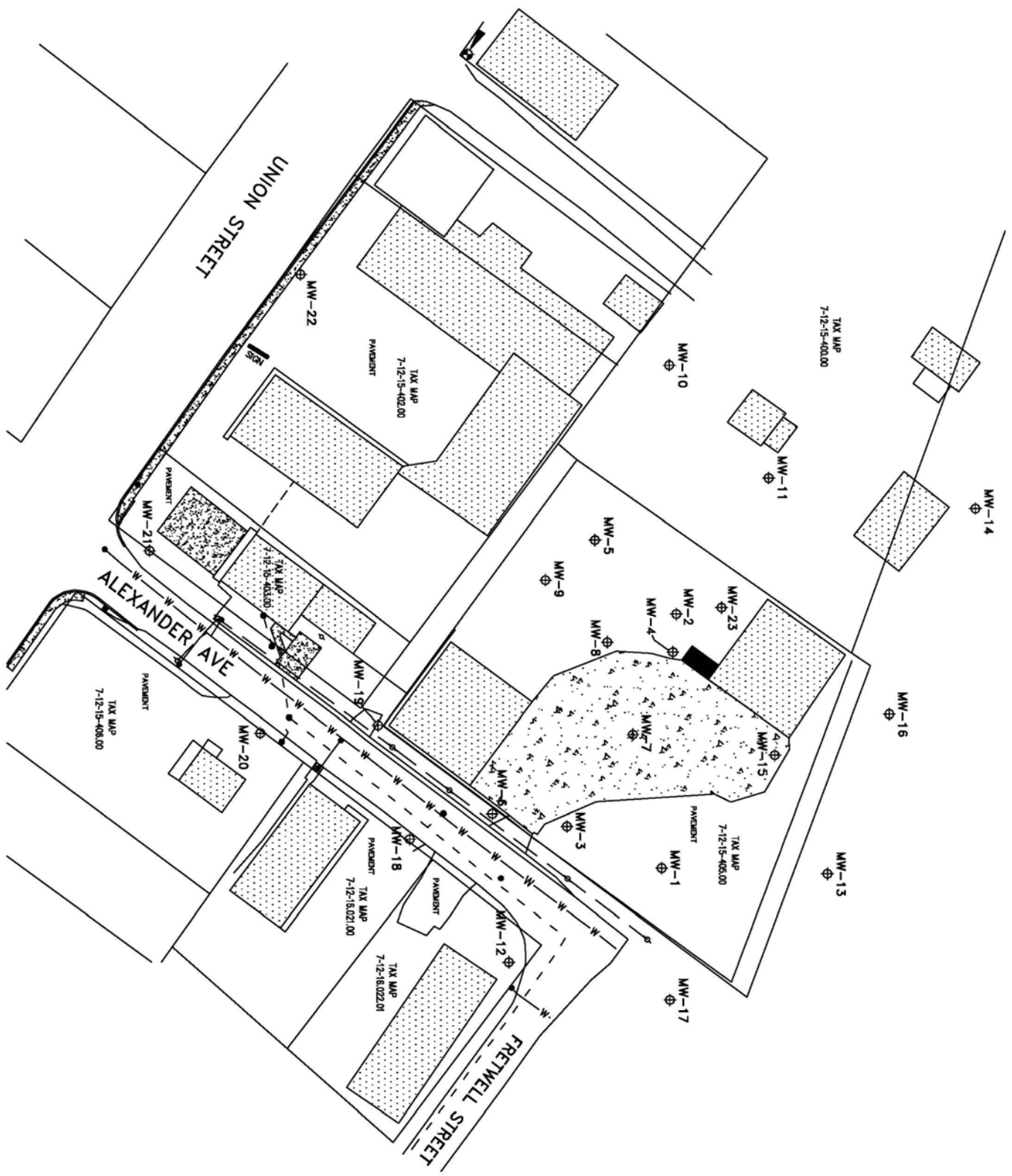
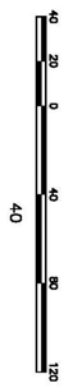


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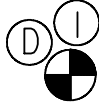
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ENVIRONMENTAL, LLC
ENGINEERS & CONSULTANTS

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MW-15



MW-16



MW-17

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Screening Borings

| | | |
|---------|--|-----------------|
| Title | Proposed Screening and Well Location Plan (11-12-13) | |
| Project | Johnson Country Store (UST Permit #15936) 305 Main Street Lowndesville, South Carolina Abbeville County | |
| Date | 11/12/2013 | Figure No. 2 |
| Job No. | J13-008-A | |

Oil Co. (UST Permit #08641)

Alexander Avenue

burg, South Carolina

burg County

2014

0-A

Figure No.

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MW-15



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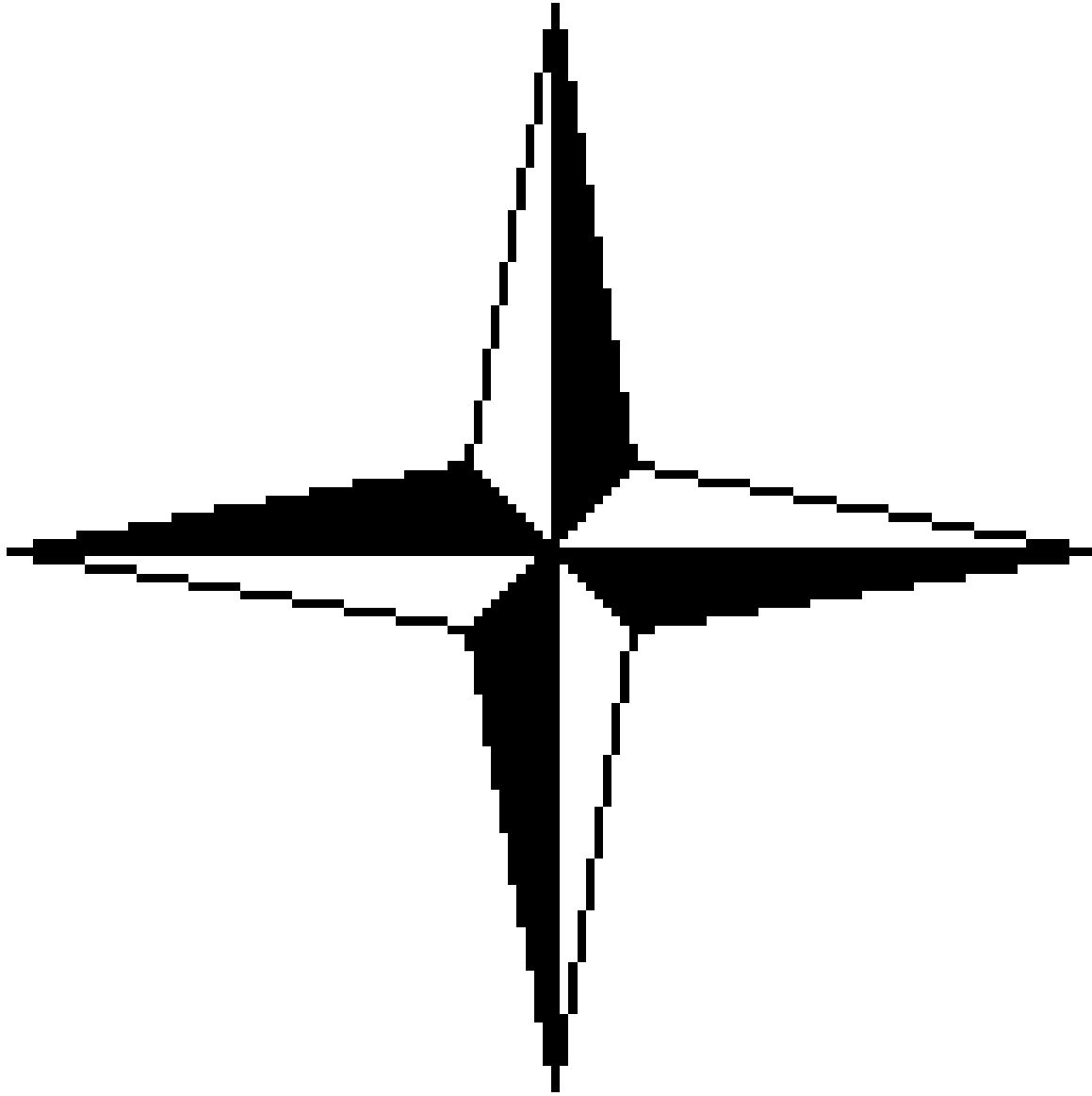
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| Project | Johnson Country Store (UST Permit #15936) 305 Main Street Lowndesville, South Carolina Abbeville County | |
| Date | 11/12/2013 | Figure No. 2 |
| Job No. | J13-008-A | |

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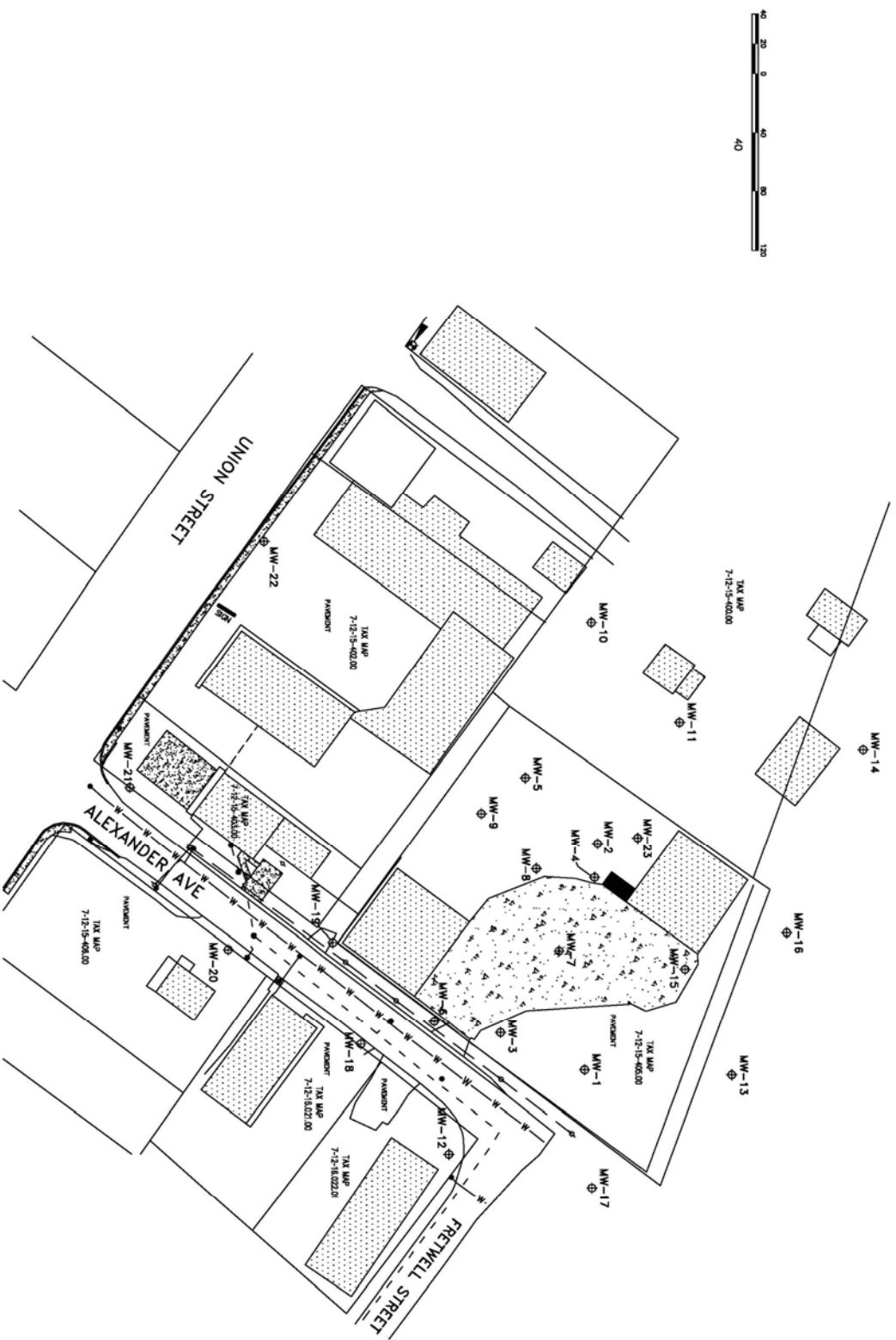
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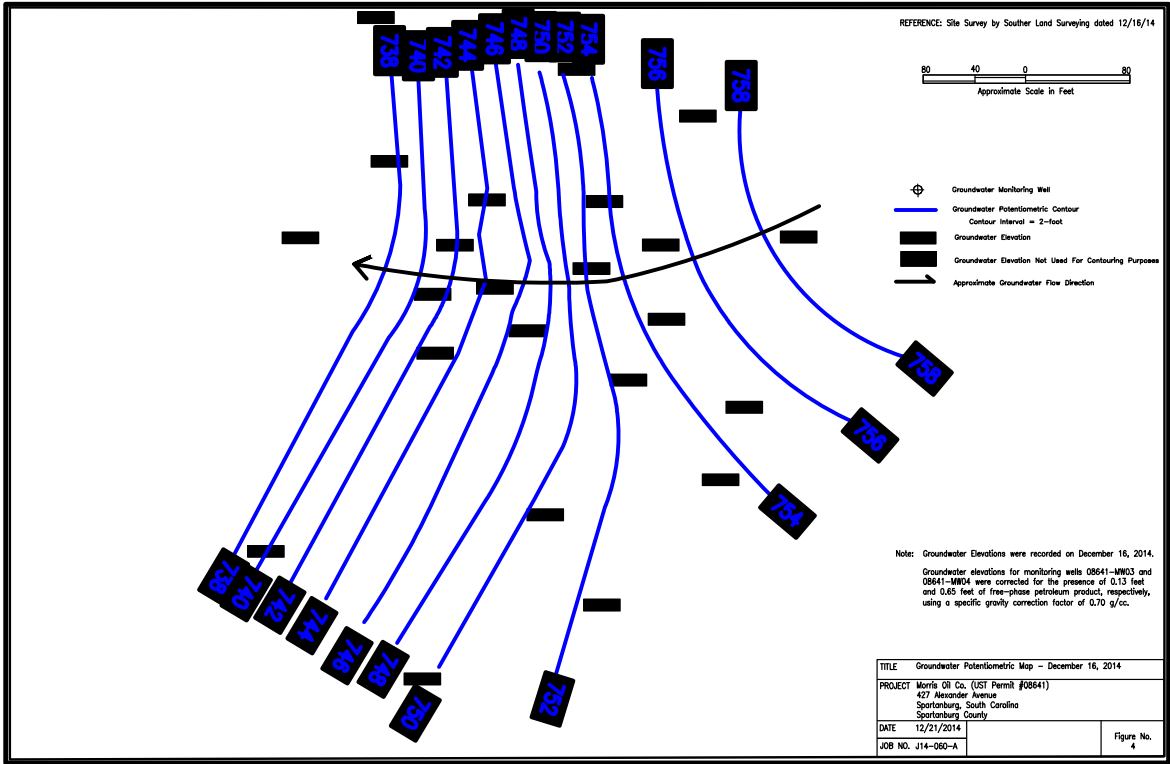


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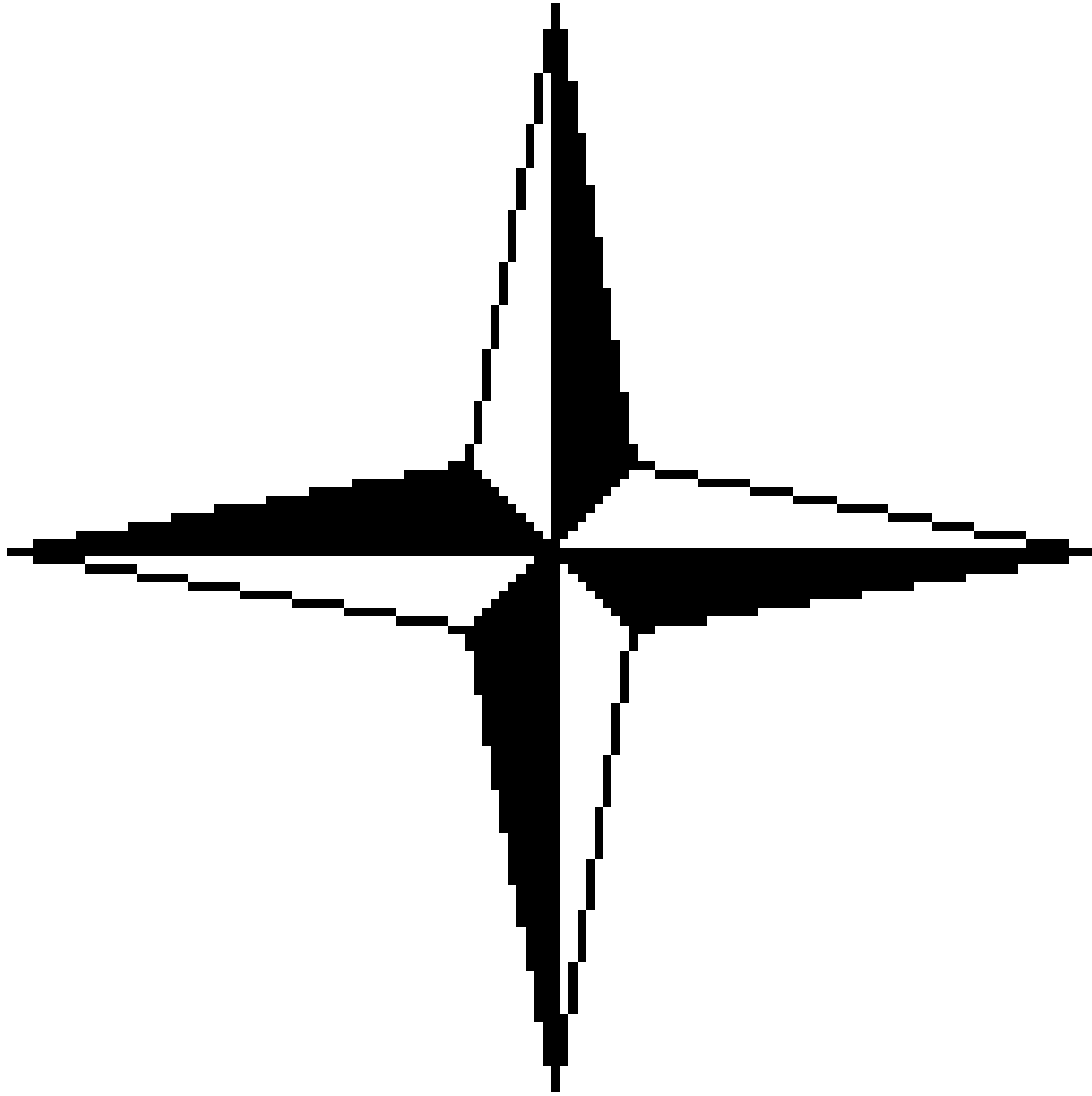
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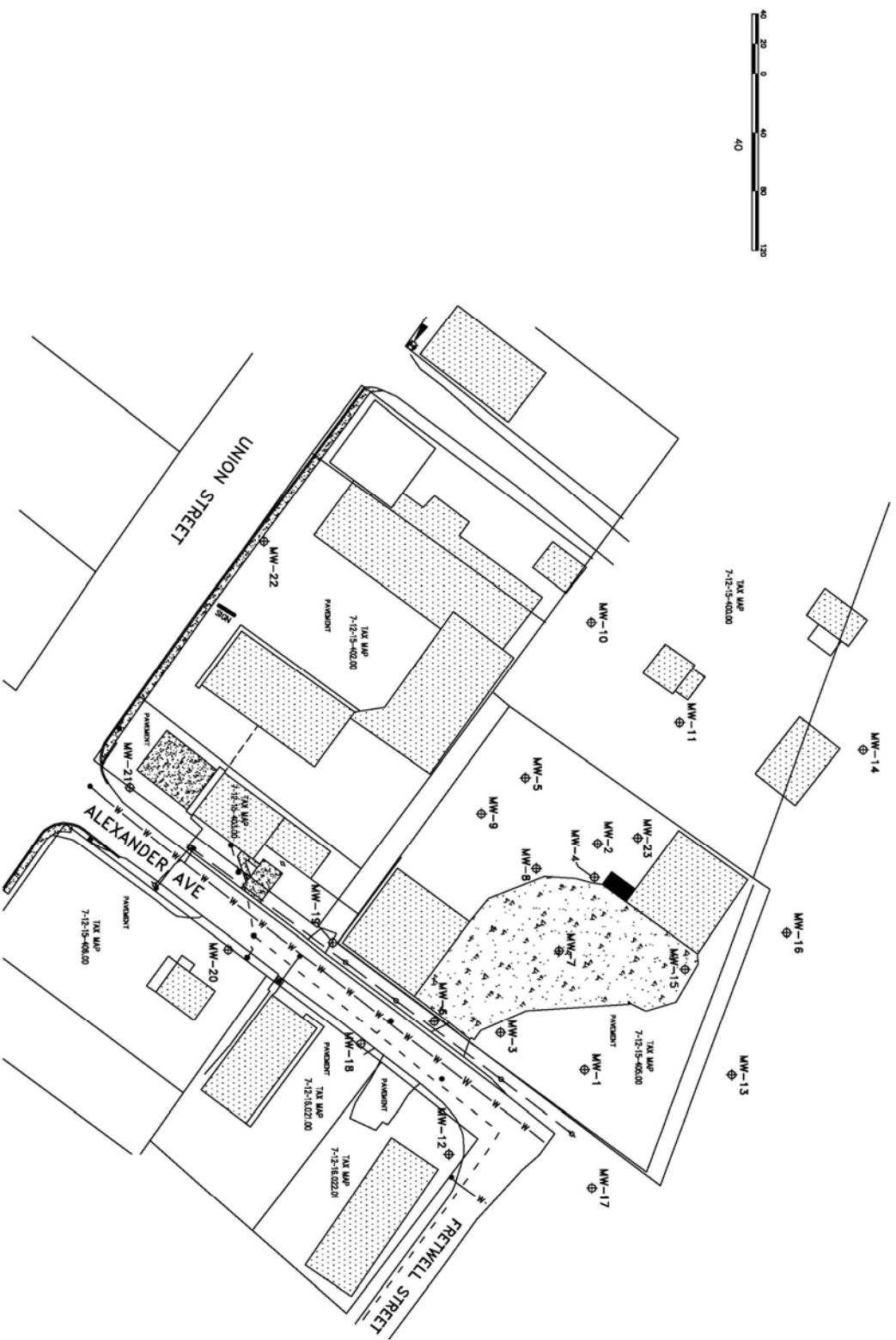
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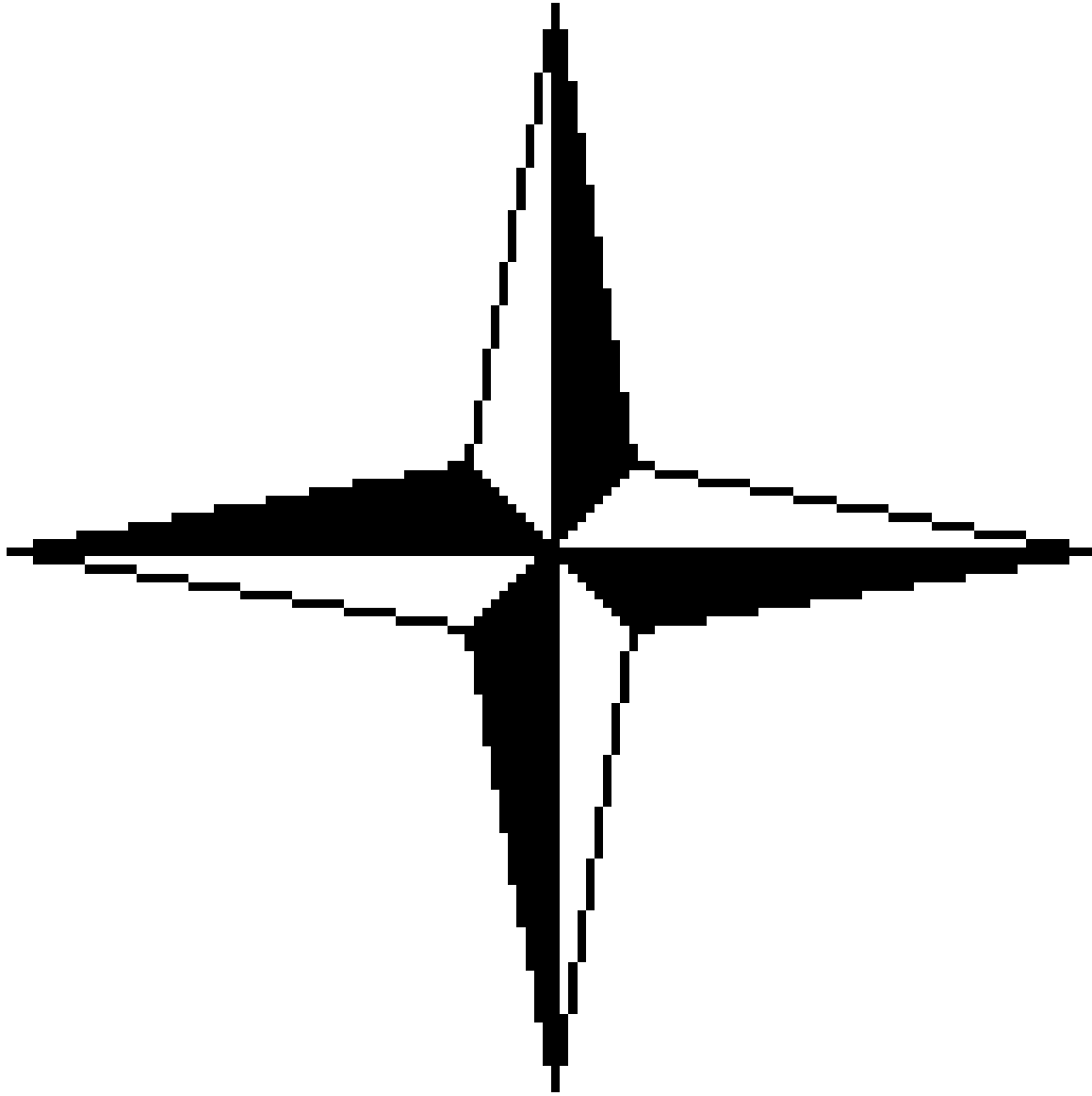
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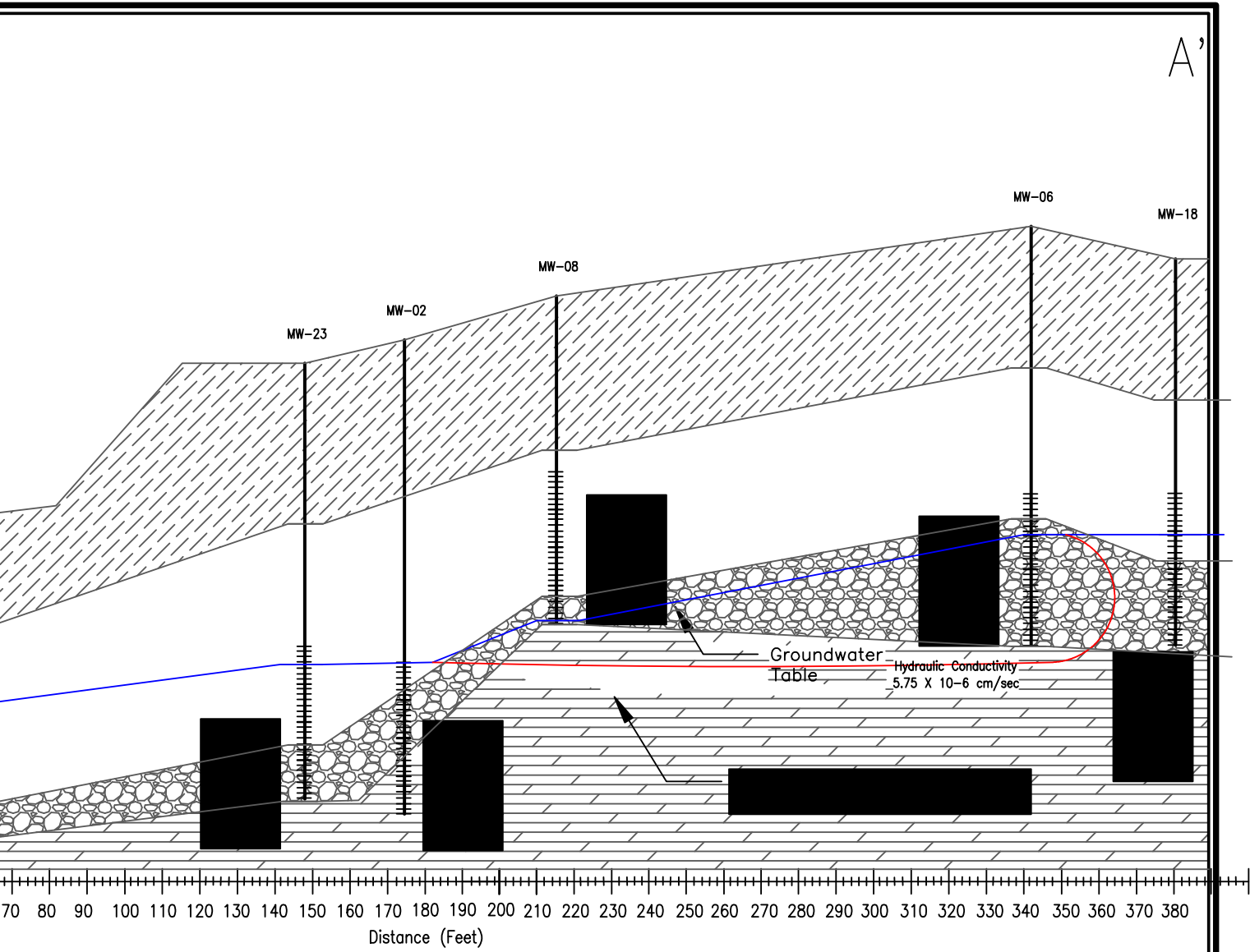


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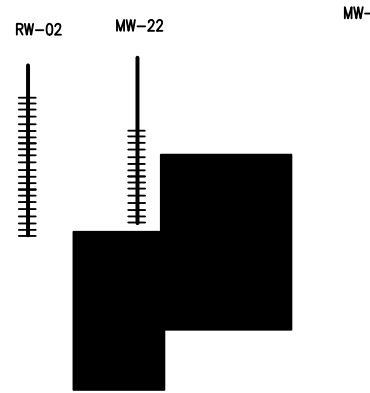


- GW - Groundwater Elevation
- B - Benzene
- T - Toluene
- E - Ethylbenzene
- X - Xylenes
- M - Methyl-Tert-Butyl Ether
- N - Naphthalene
- D - 1,2-Dichloroethane
- EDB - Ethylene Dibromide

| | | |
|---------|---|------------------|
| TITLE | Geologic Cross Section A-A' | |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| DATE | 12/21/2014 | Figure No. 5b |
| JOB NO. | J14-060-A | |

Figure 5a for Geologic Cross-Section Reference Map

A'





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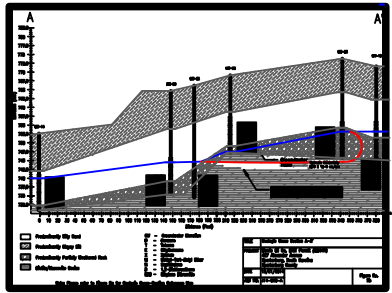


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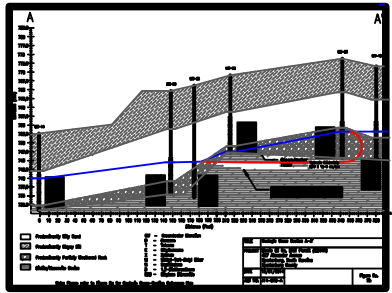


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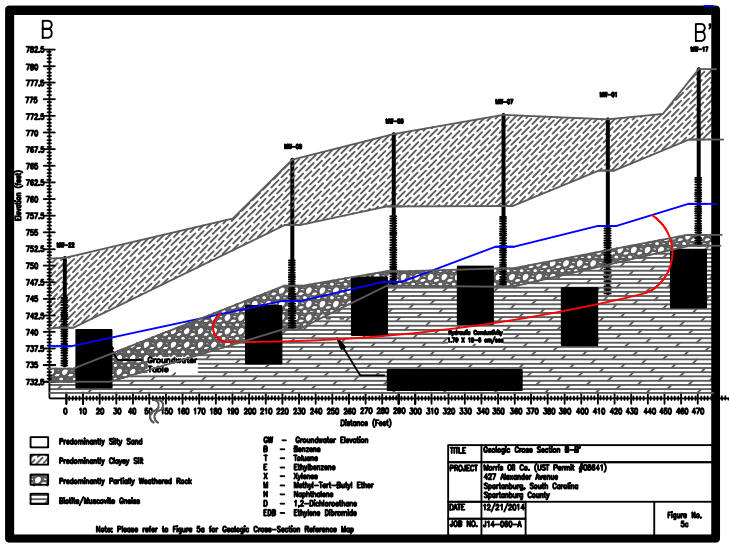


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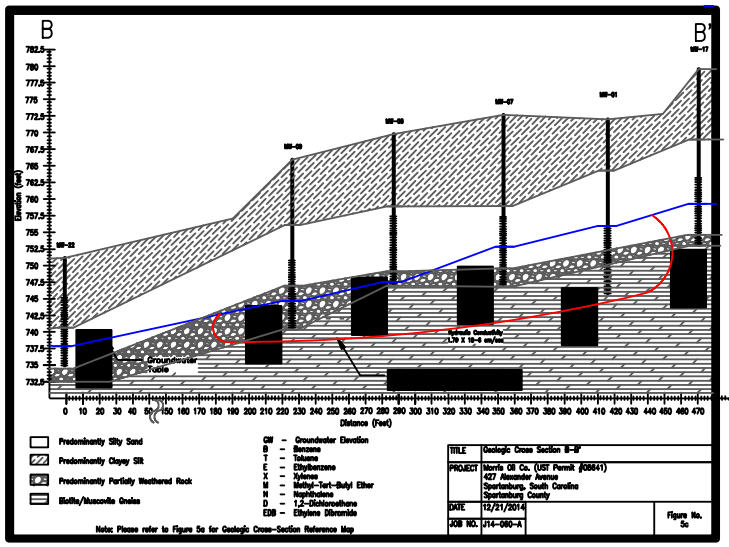


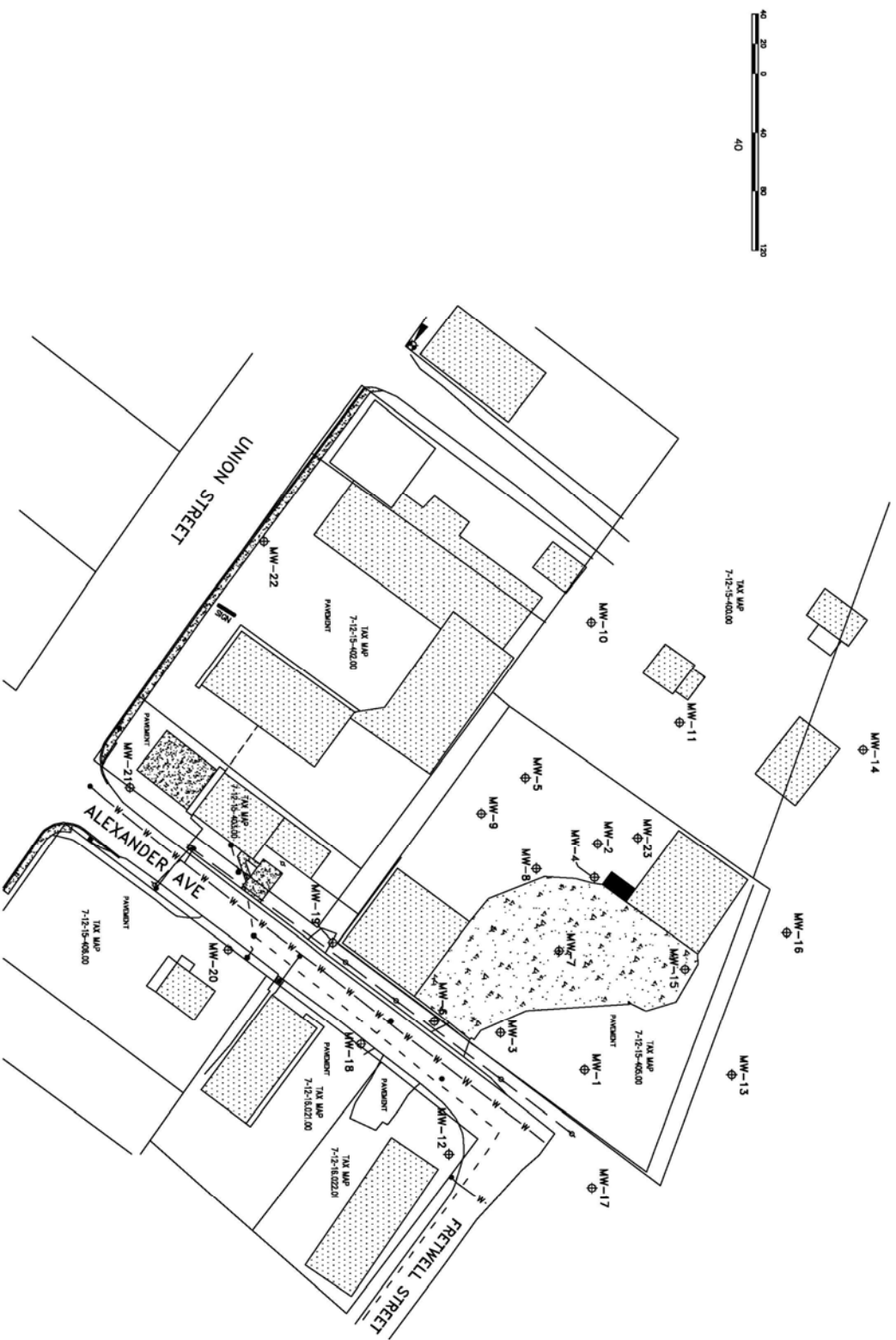
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| Date | 11/12/2015 | Figure No. 2 |
| Job No. | J13-008-A | |







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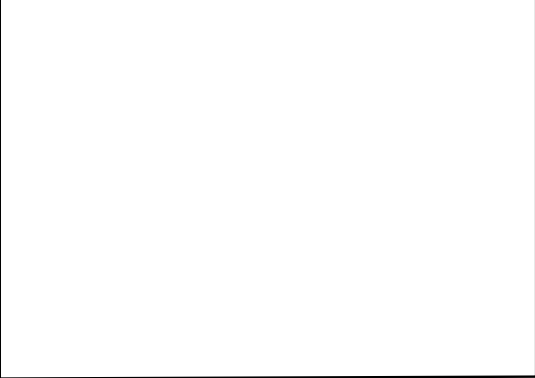
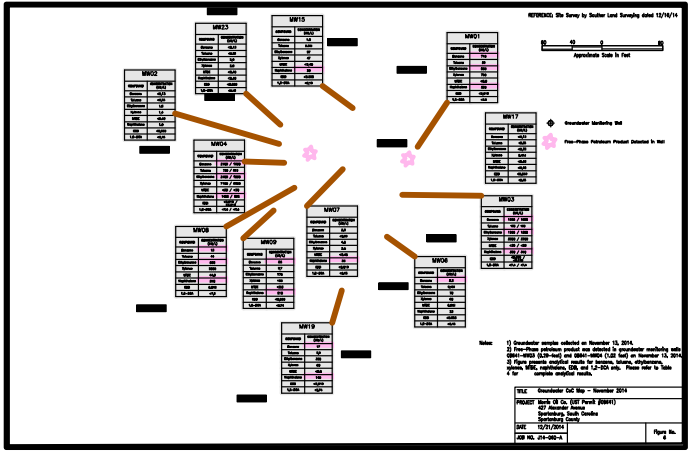


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| Job No. | J13-008-A | |





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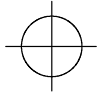


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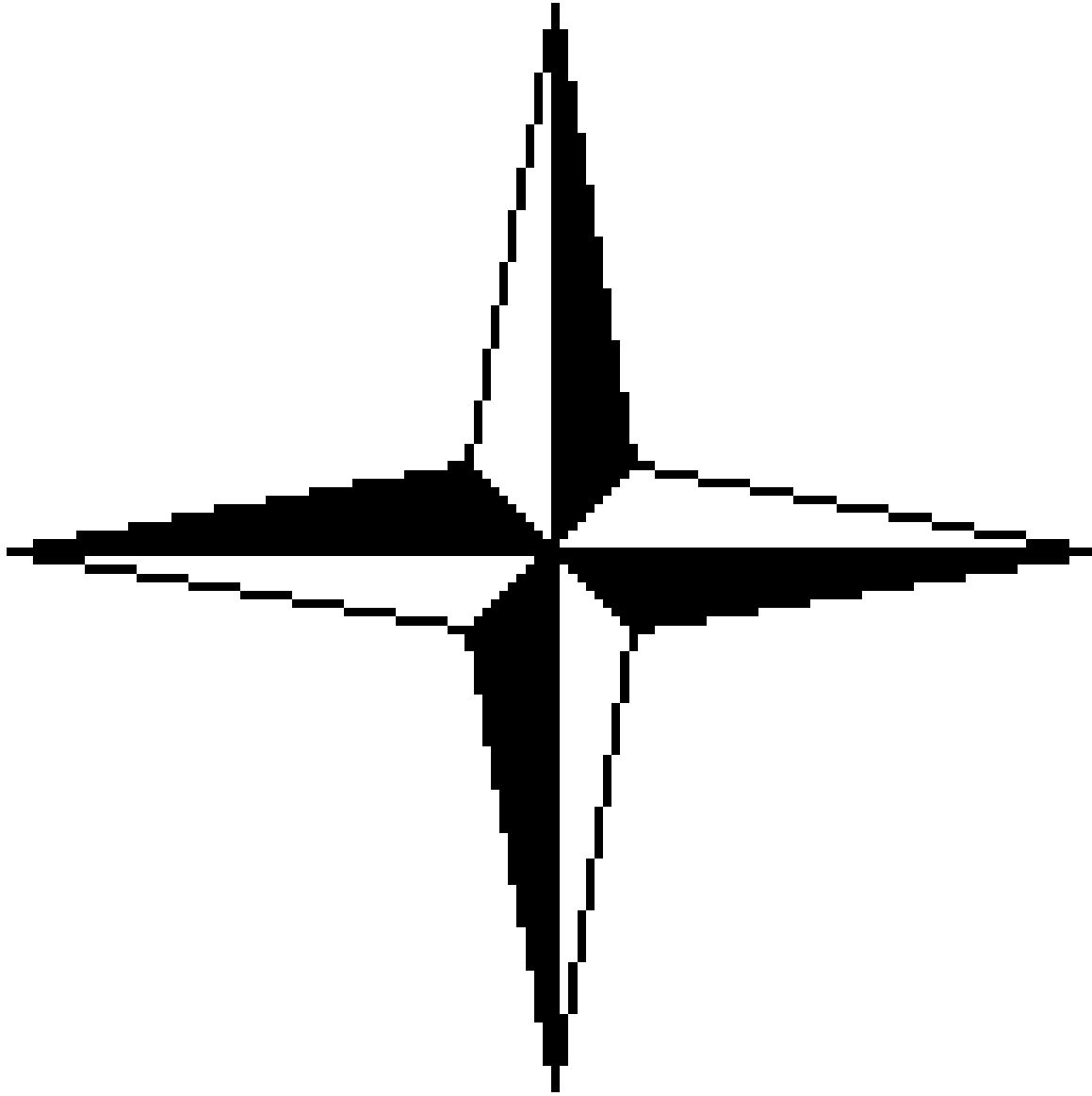


Groundwater Monitoring Well



Free-Phase Petroleum Product Detected in Well

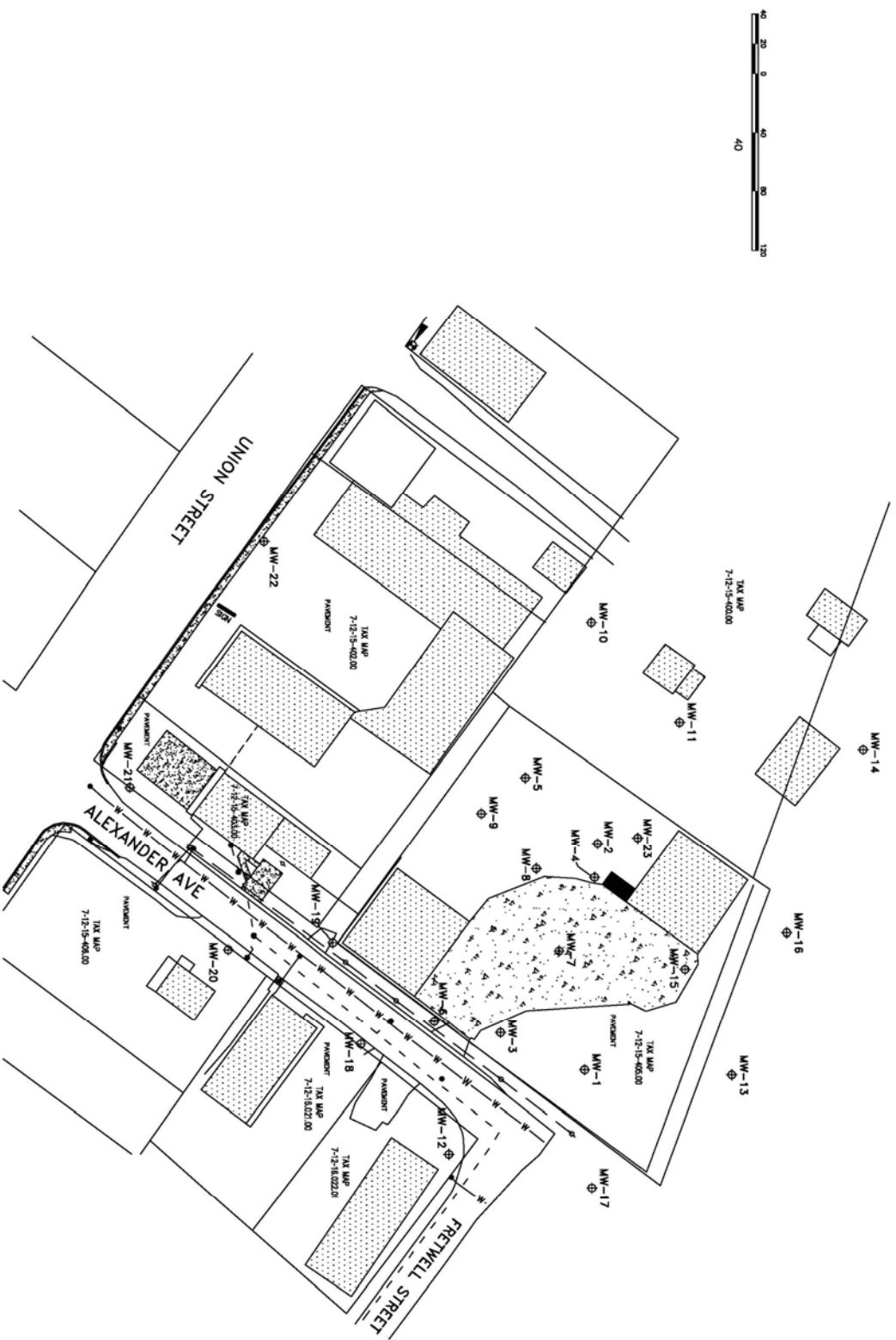
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| Date | 11/12/2015 | Figure No. 2 |
| Job No. | J13-008-A | |

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|---------|---|------------------|
| TITLE | Benzene Isoconcentration Map – November 2014 | |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| DATE | 12/21/2014 | Figure No. 7a |
| JOB NO. | J14-060-A | |



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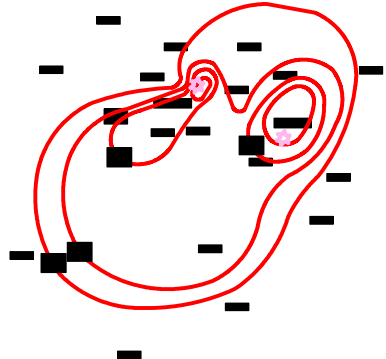
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| Date | 11/12/2015 | Figure No. 2 |
| Job No. | J13-008-A | |

REFERENCE: Site Survey by Indoor Lead Sampling dated 12/16/14

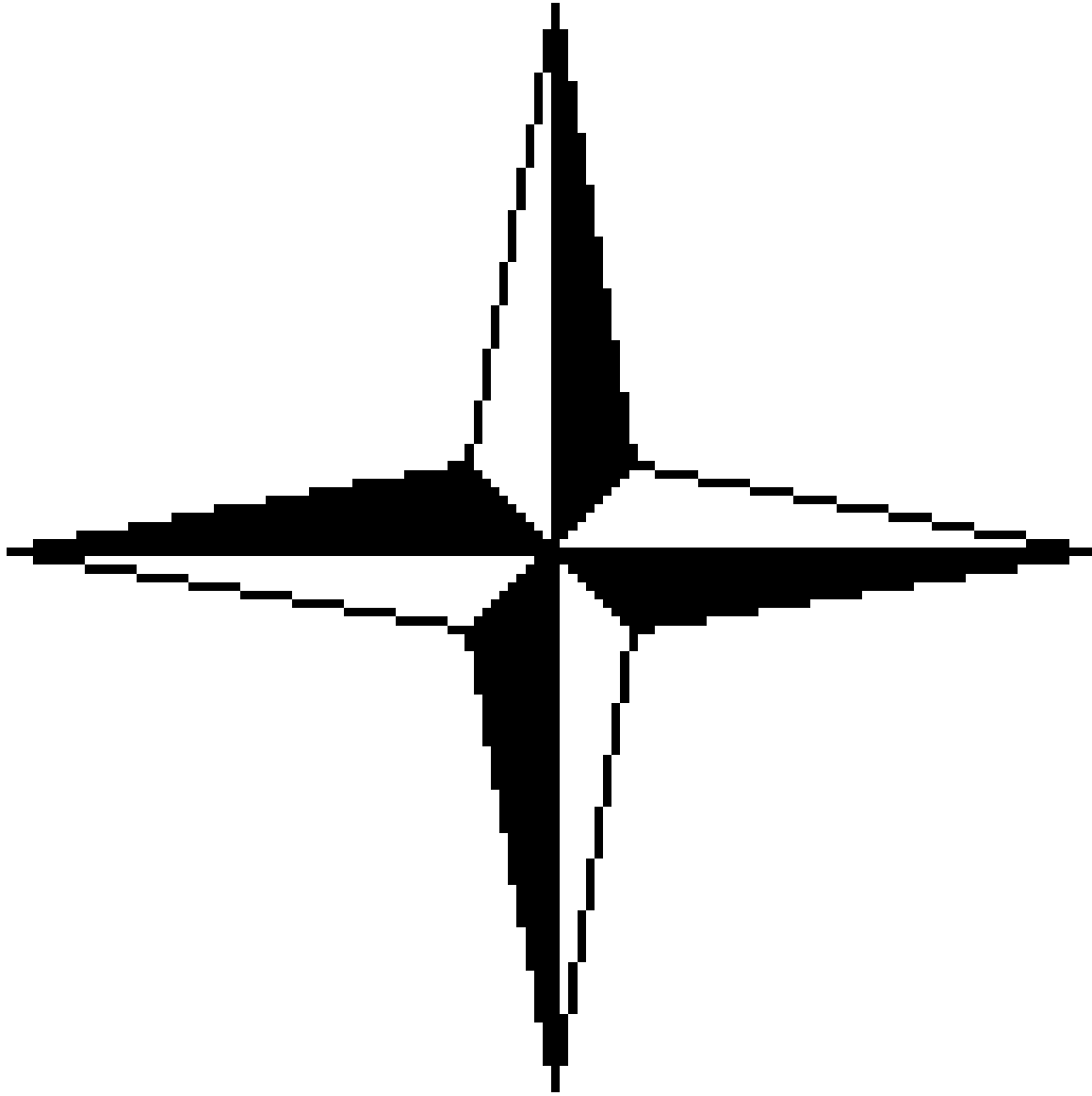


- ◆ Groundwater Monitoring Well
- Areas Contaminated in Management Plan Use
- Areas Contaminated in Management Plan Use Not to Exceed Public Protection Goal in the Depth of the Contaminated Zone
- Areas Contaminated Use
- ★ First-Phase Maximum Permissible Concentration in Well



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|----------|--|
| TITLE | Borehole Investigation Map - November 2014 |
| PROJECT | Watts, W. Co. (2014-0001) |
| DATE | 12/17/2014 |
| FILE NO. | 214-000-1 |
| Page No. | 14 |

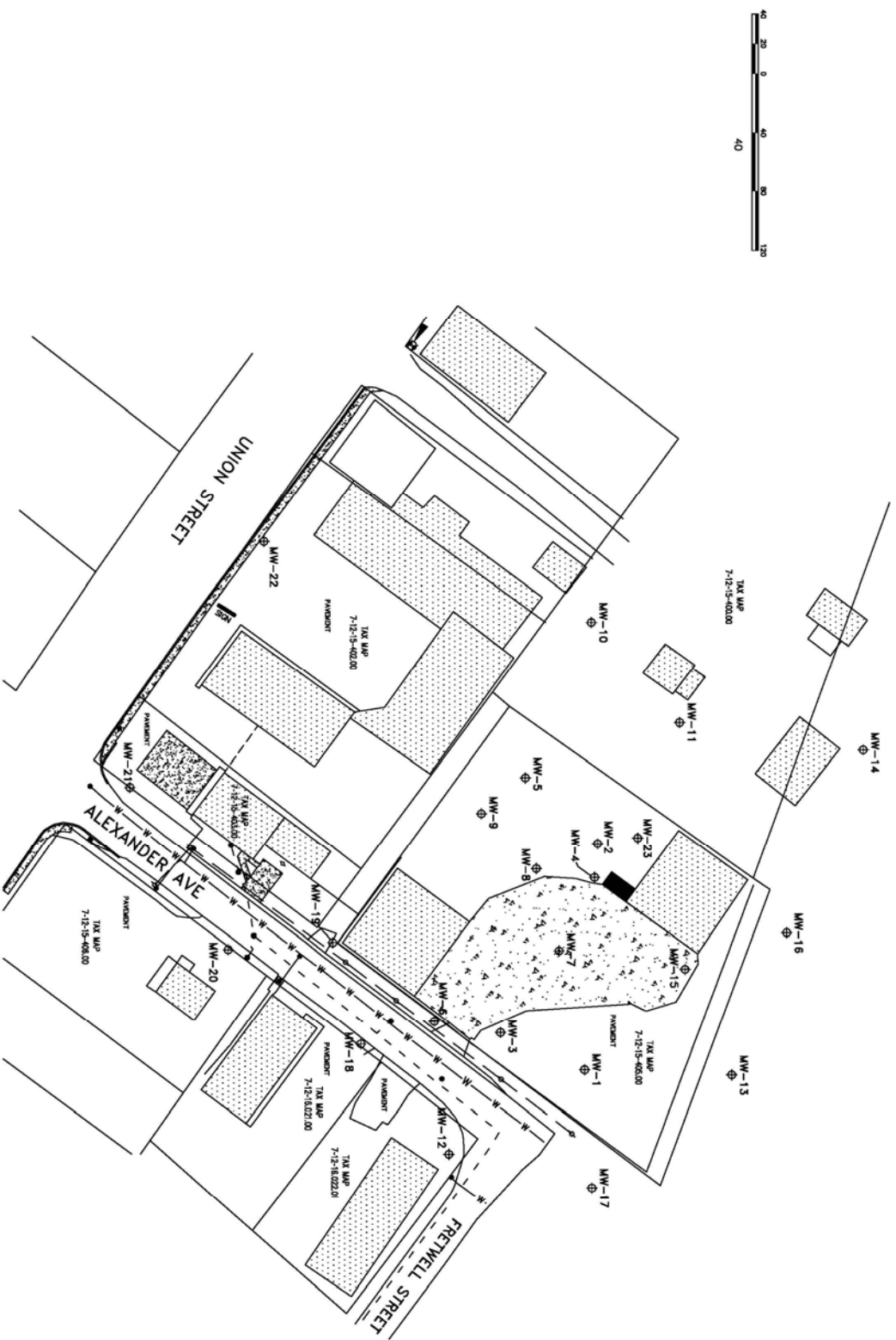
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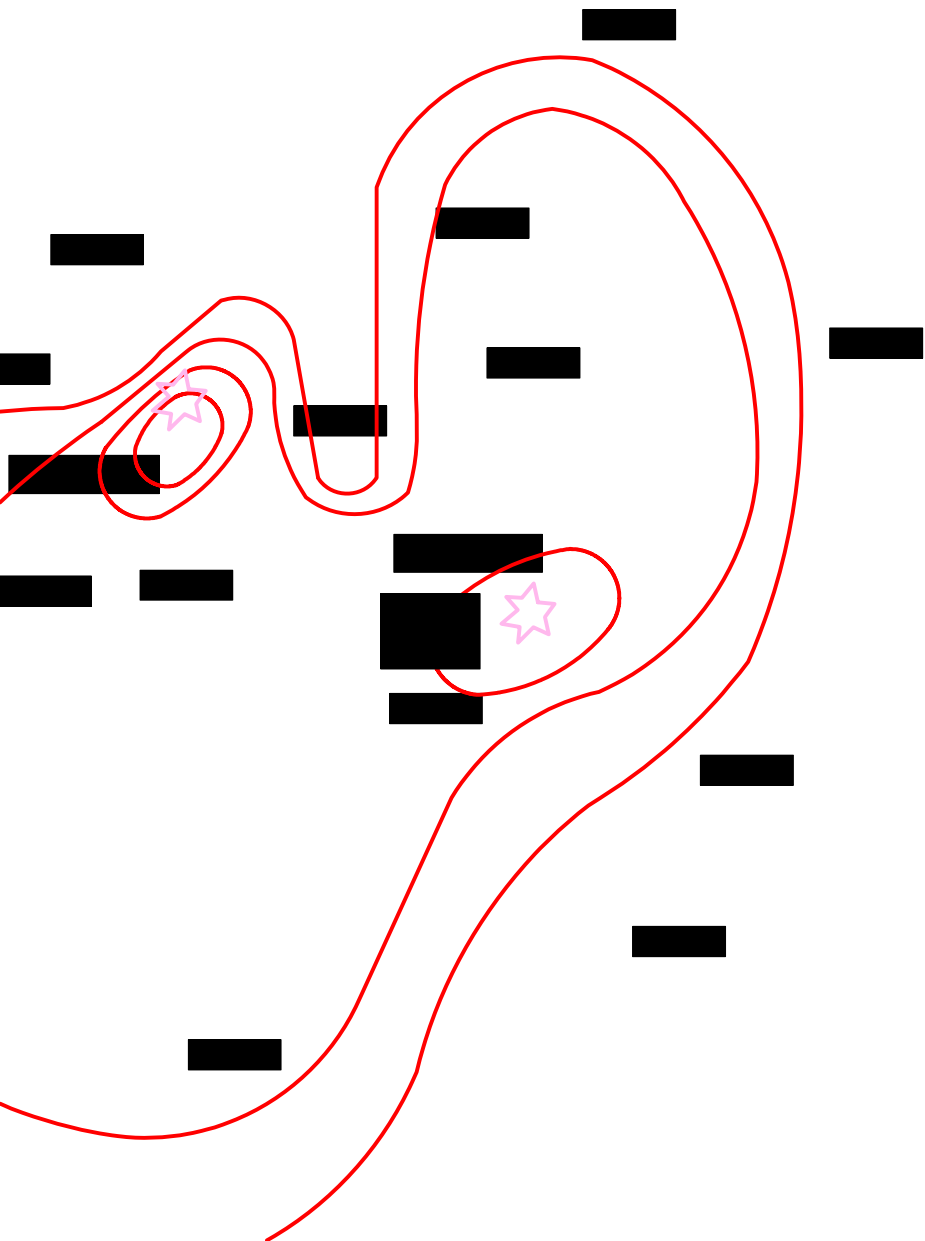
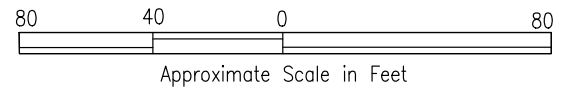







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| Job No. | J13-008-A | |



-  Groundwater Monitoring Well
-  Toluene Concentration in Micrograms Per Liter
-  Toluene Concentration In Micrograms Per Liter Not Used For Contouring Purposes Due To The Depth Of The Screened Interval
-  Toluene Isoconcentration Line
-  Free-Phase Petroleum Product Detected in Well



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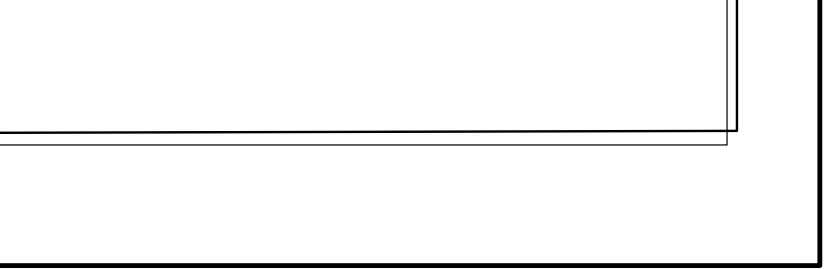


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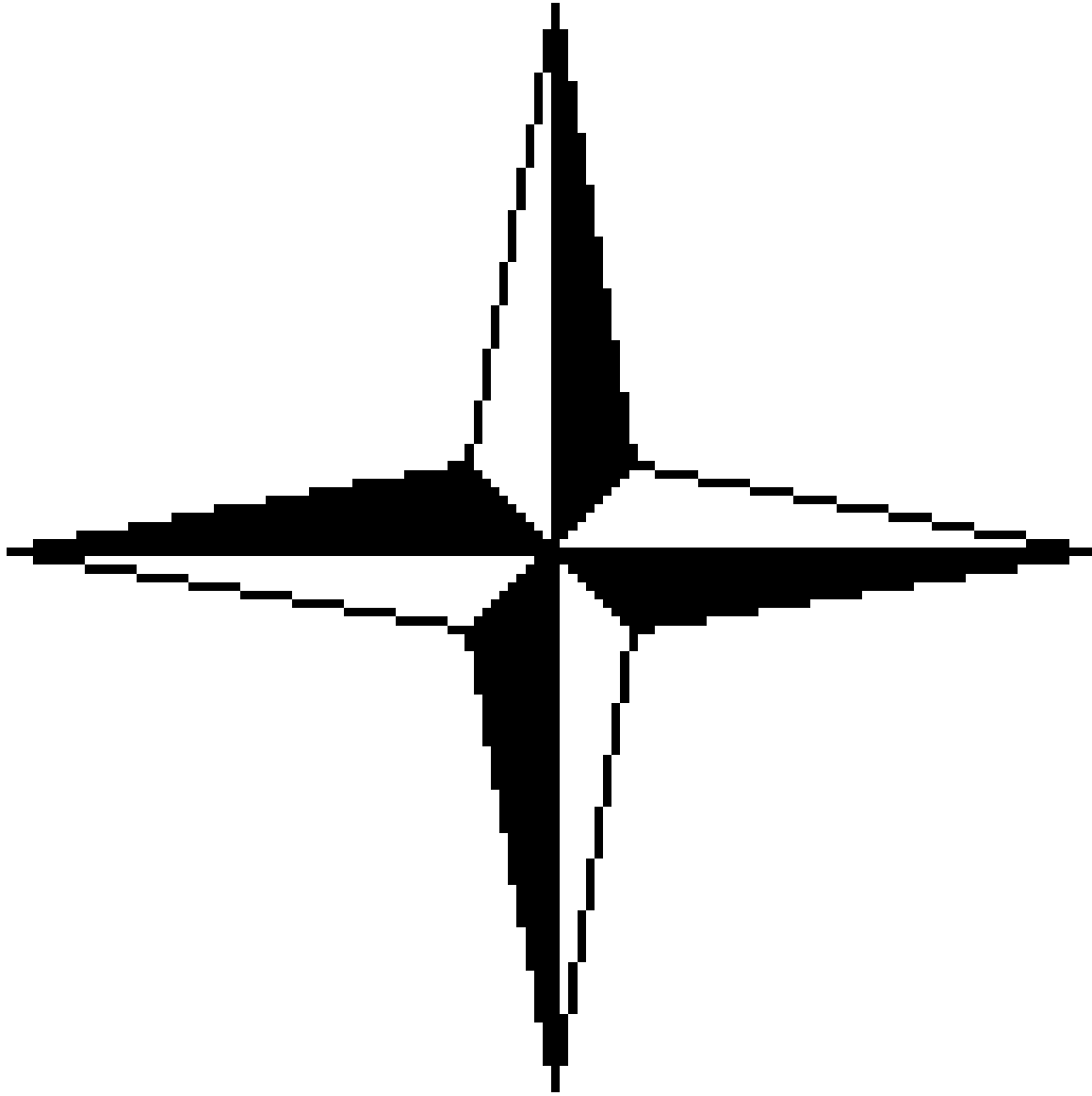
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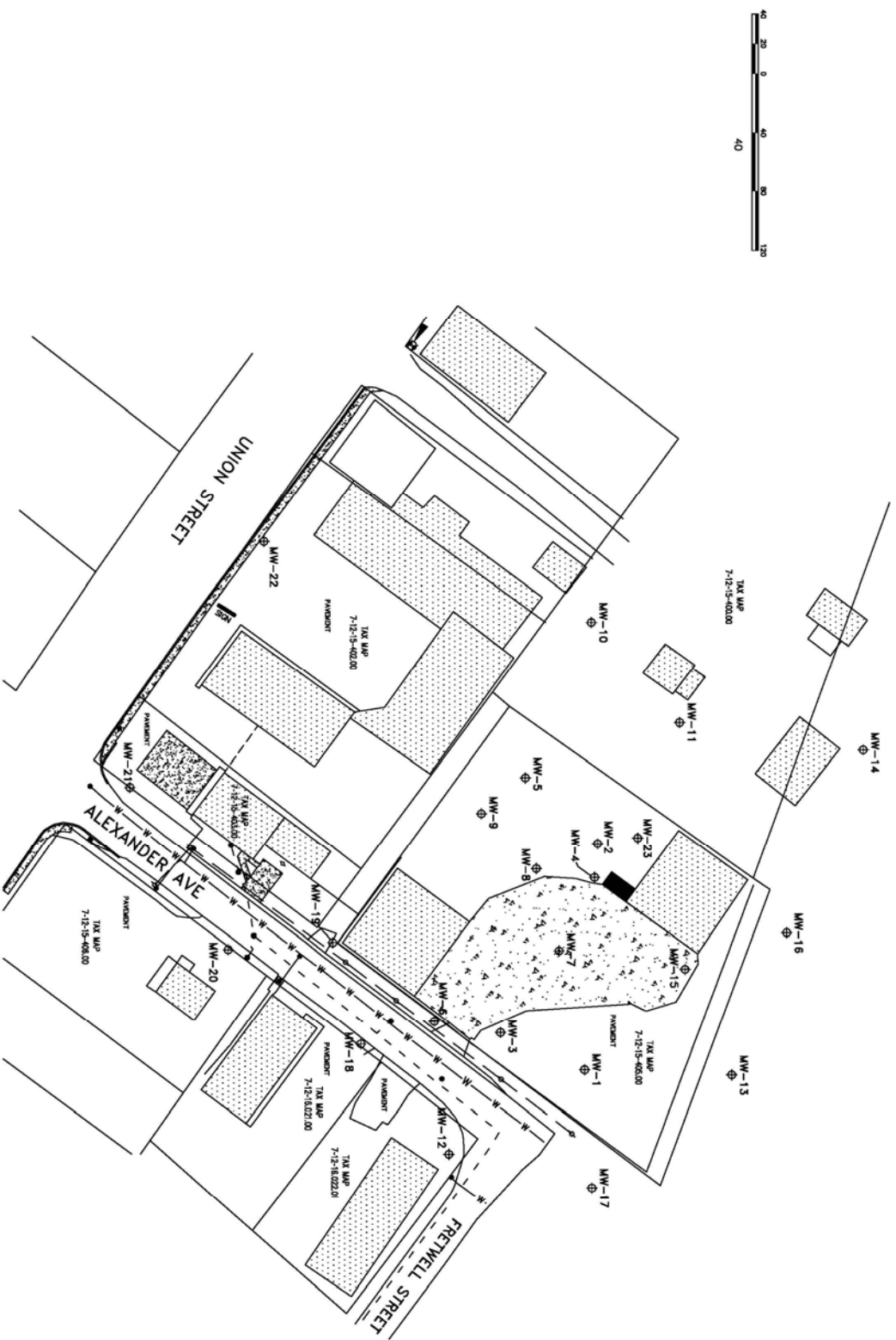
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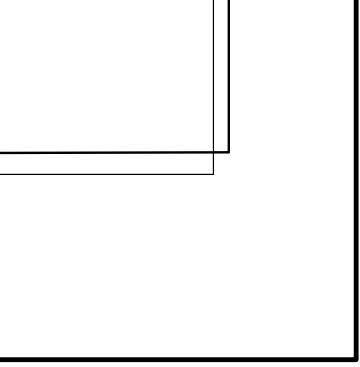


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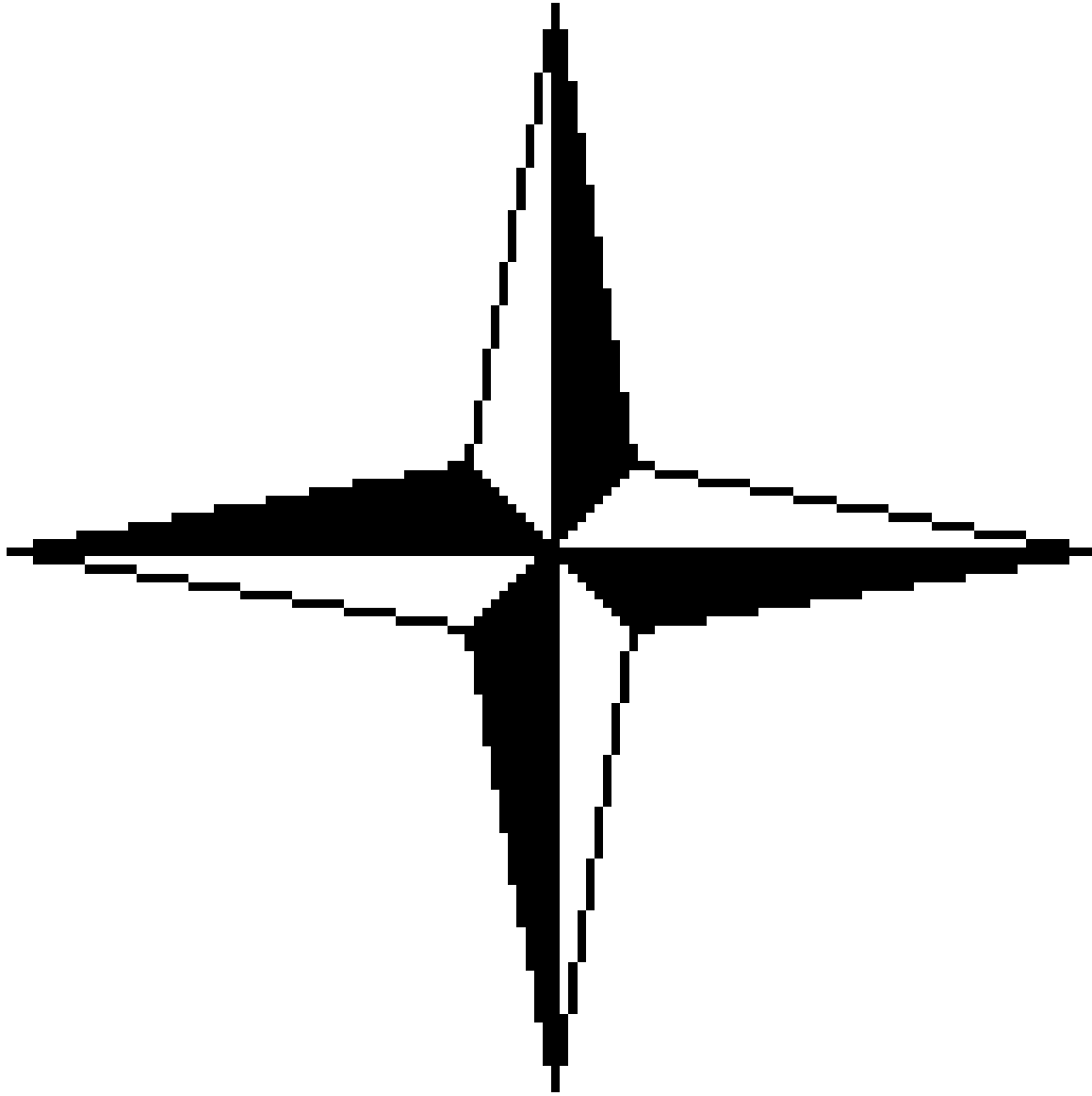
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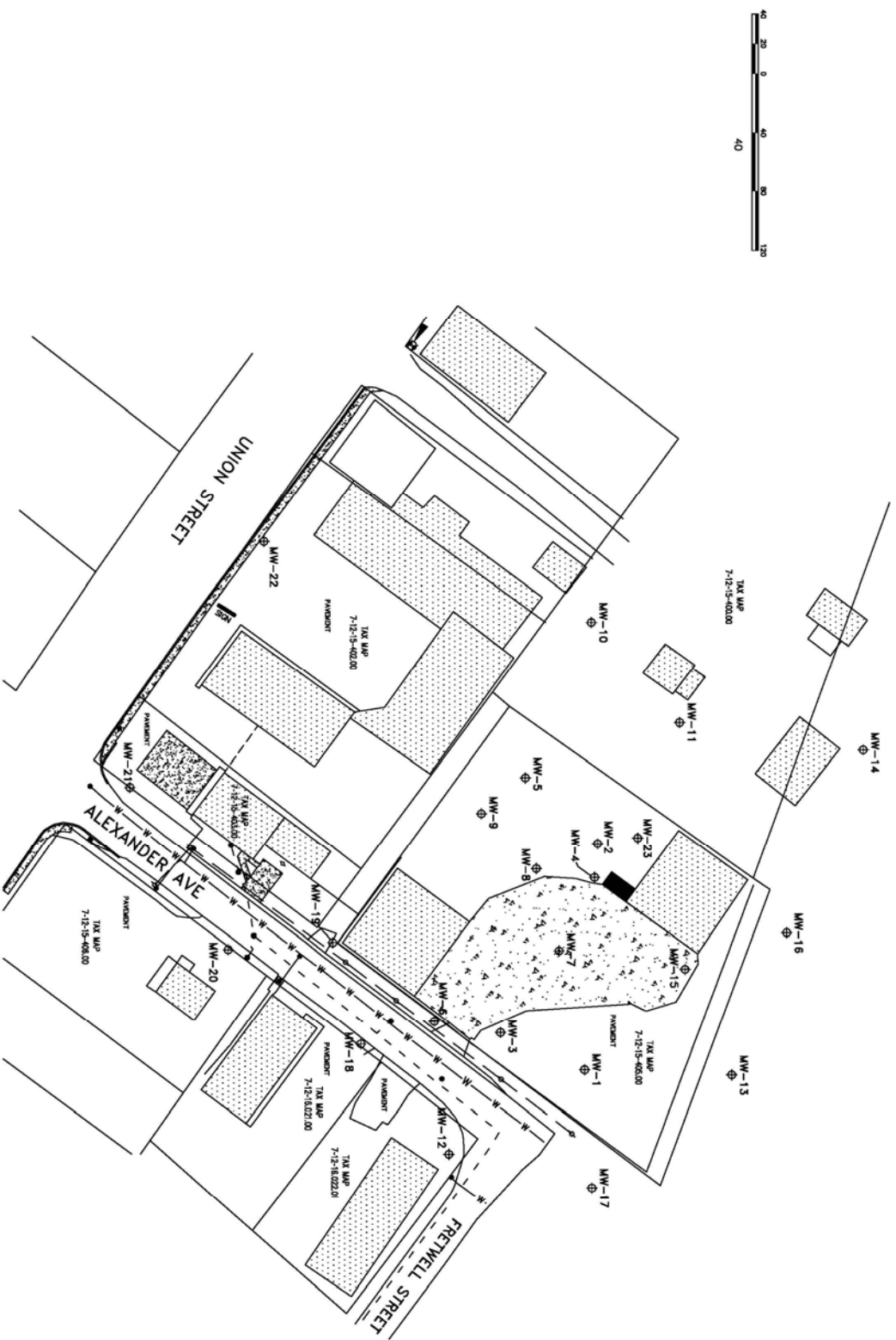
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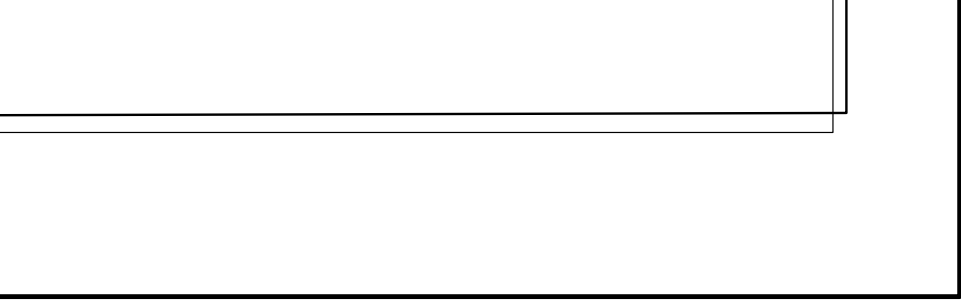


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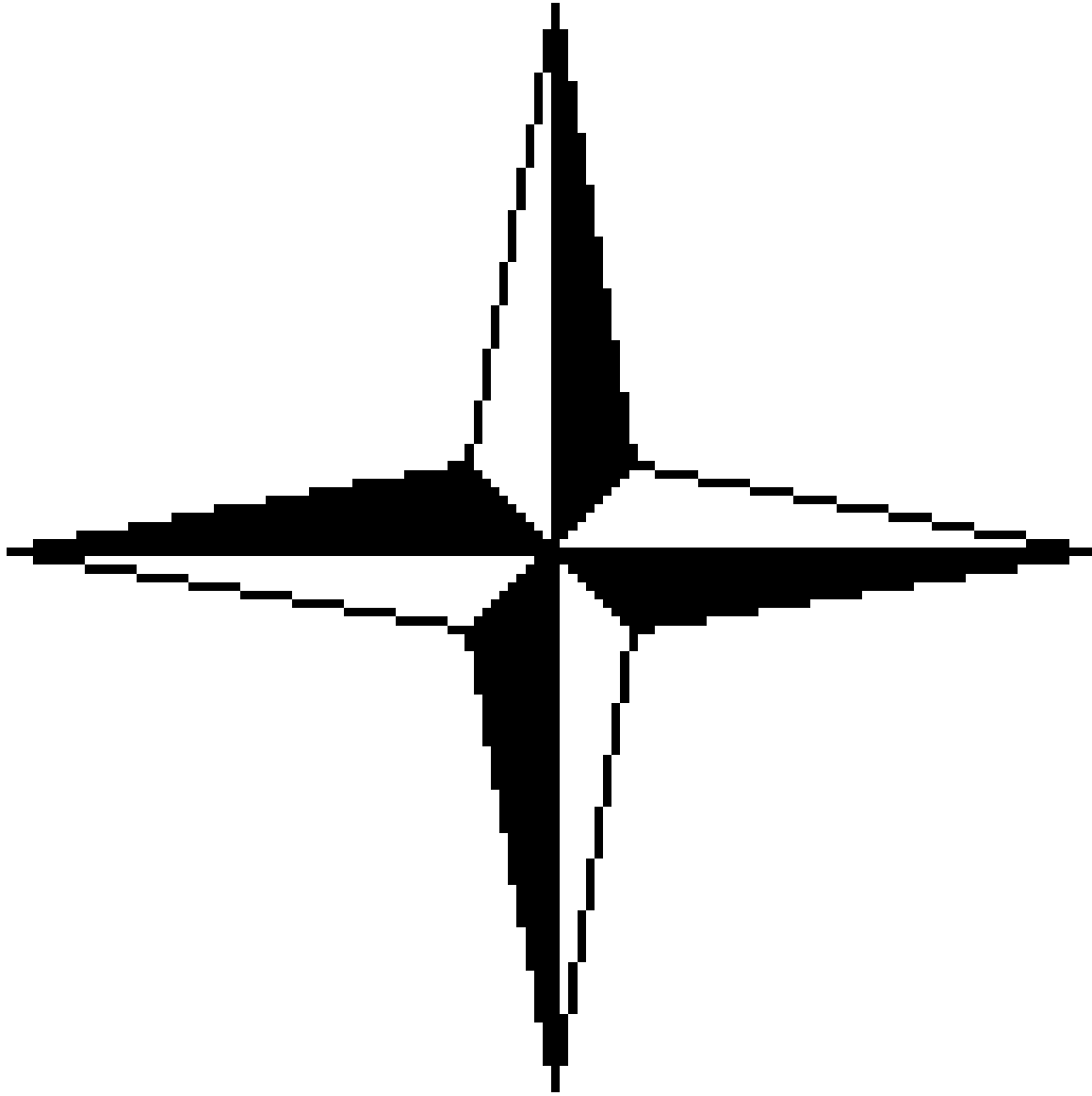
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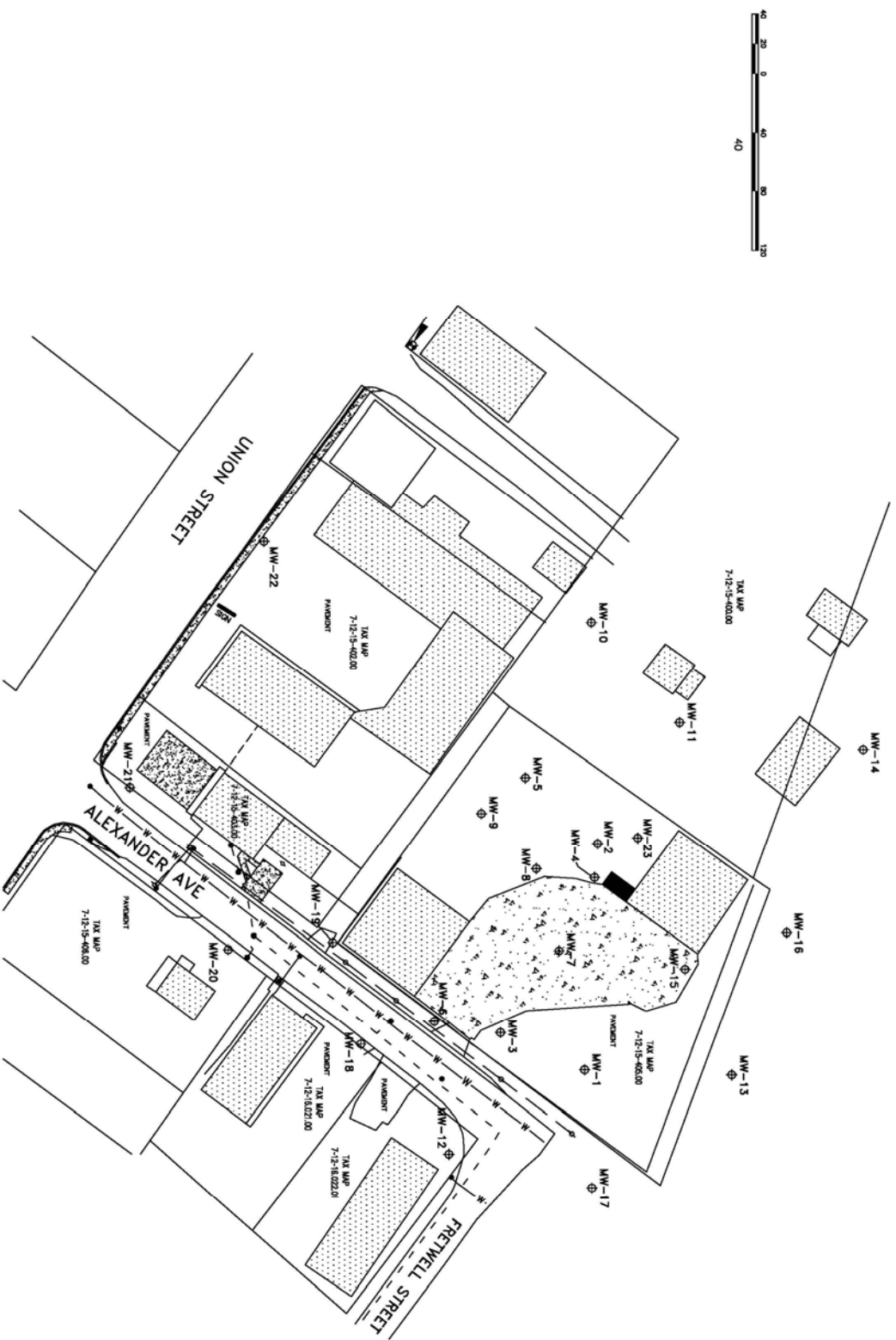
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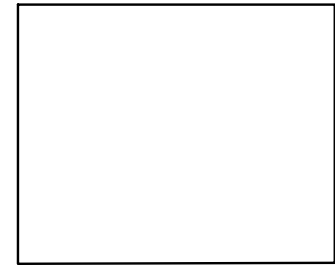
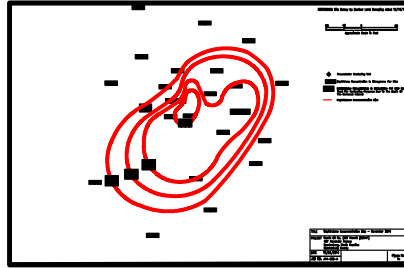


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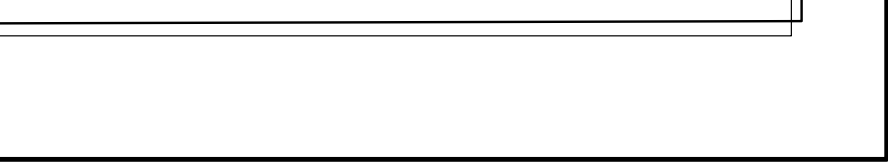


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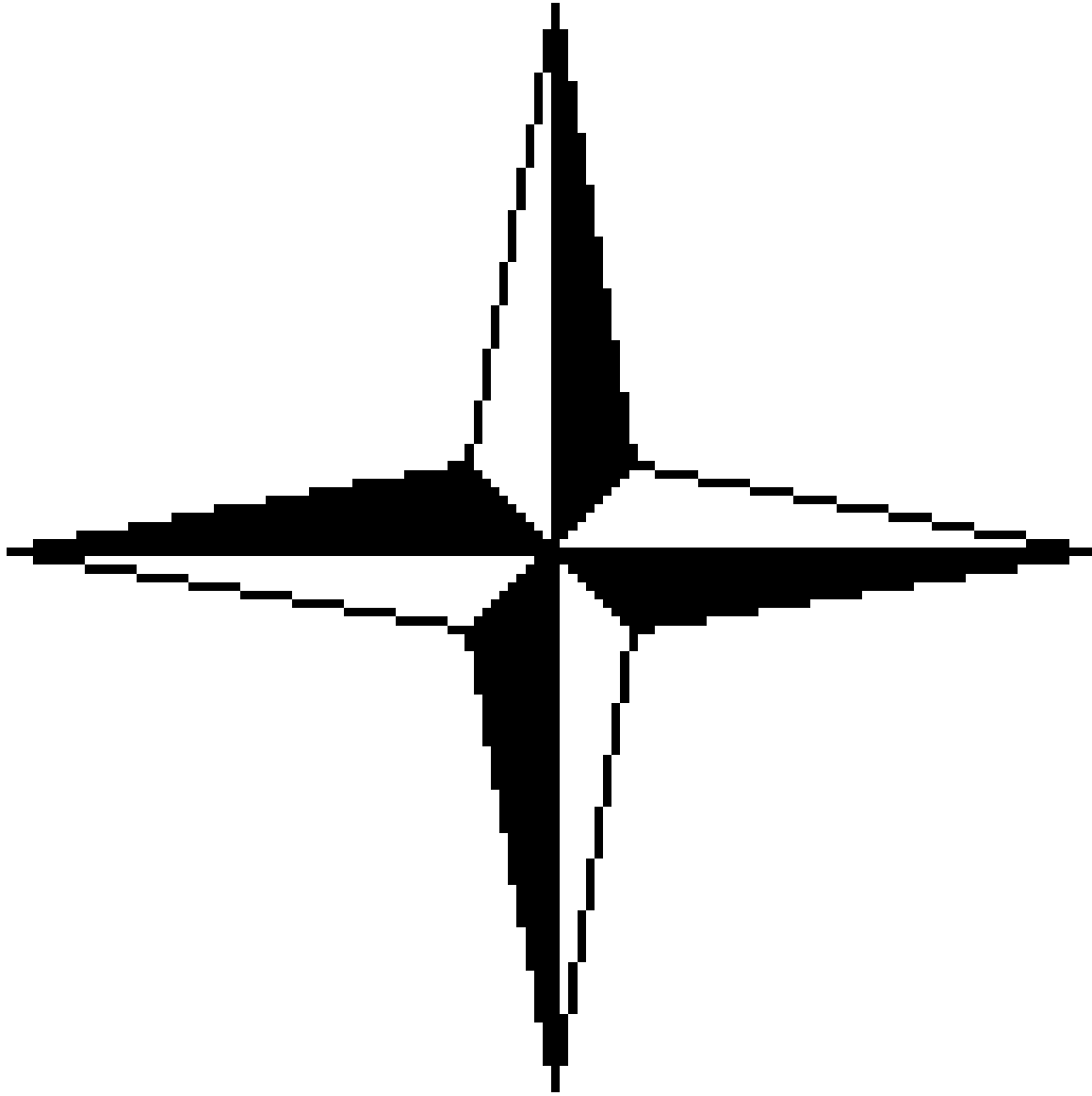
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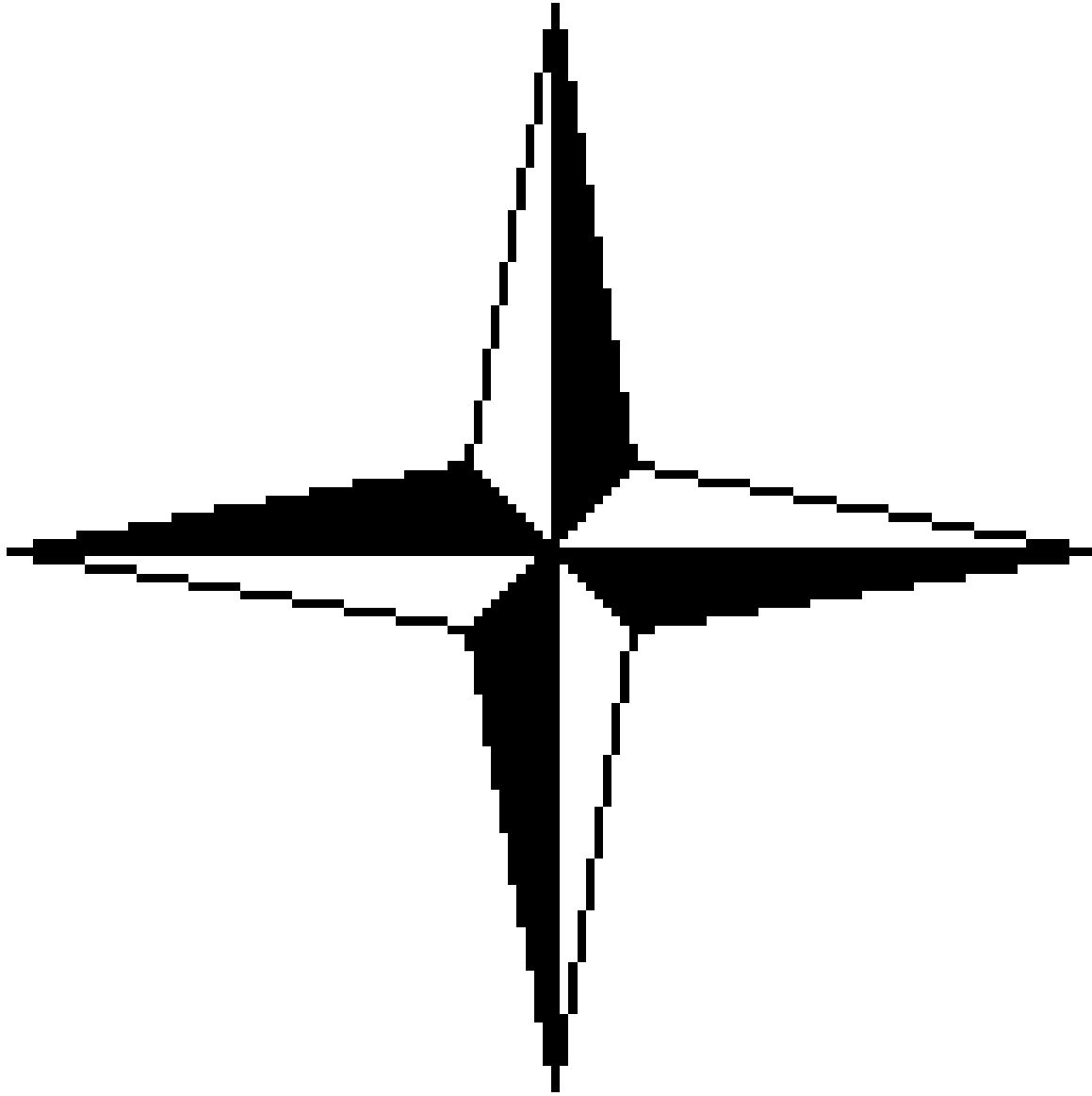
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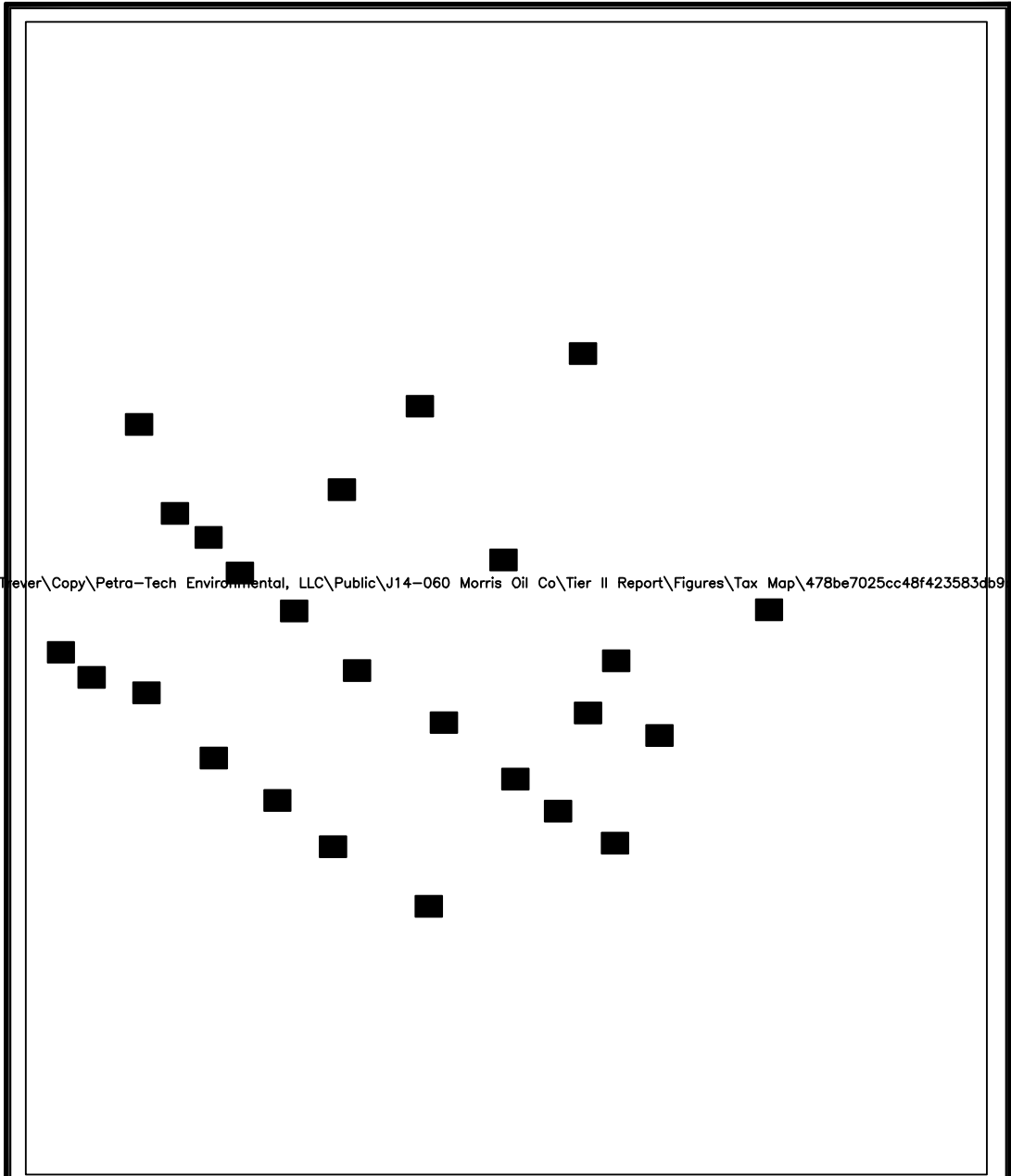
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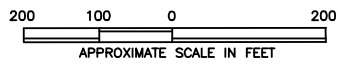
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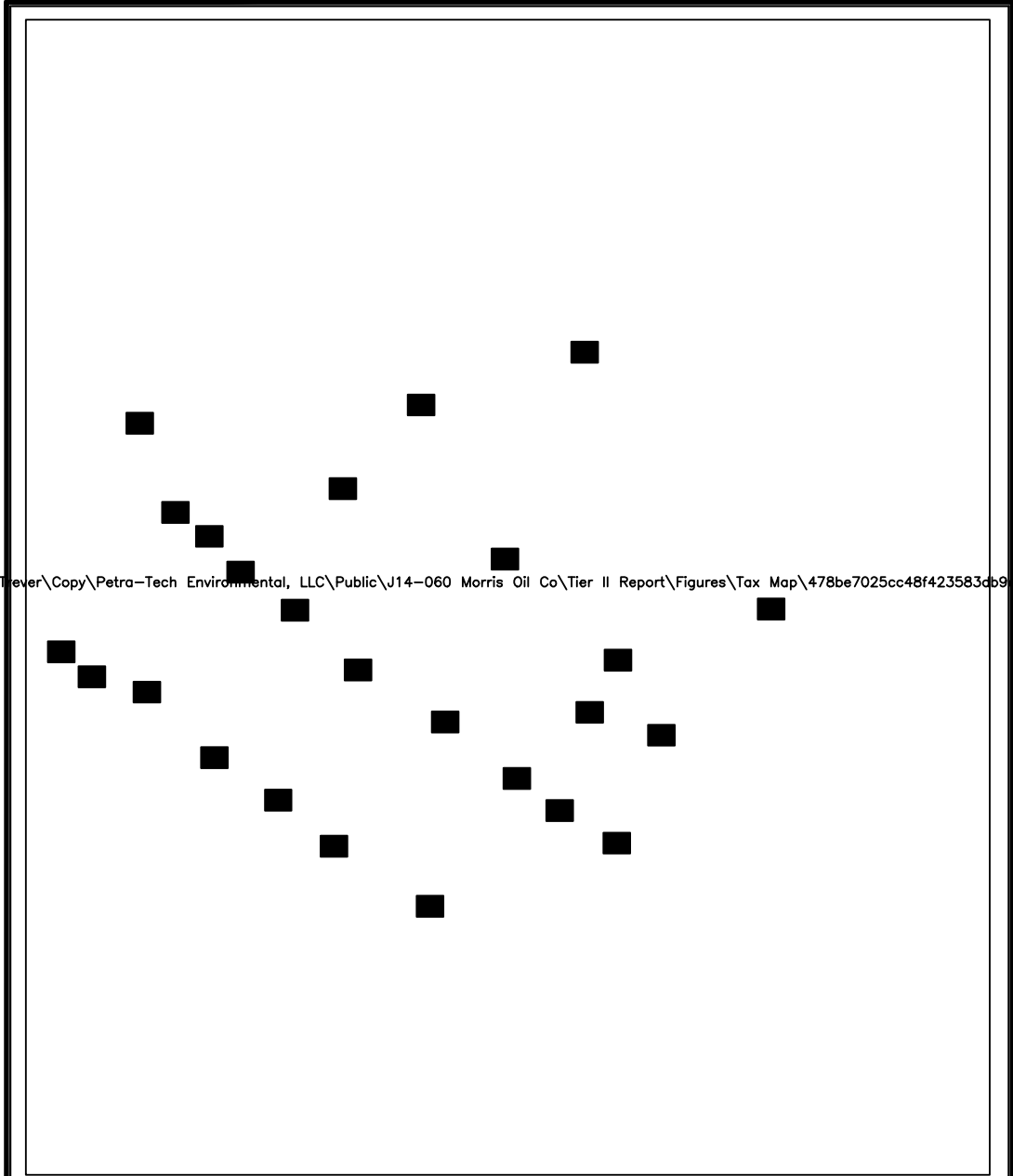


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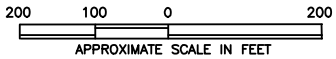


| | | |
|---------|---|-----------------|
| Title | Tax Map | |
| Project | Morris Oil Company (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 12/10/2014 | Figure No. X |
| Job No. | J14-060-A | |

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REFERENCE: Orangeburg County Online Tax Map Database



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|---------|---|-----------------|
| Title | Tax Map | |
| Project | Morris Oil Company (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 12/10/2014 | Figure No. X |
| Job No. | J14-060-A | |

TABLE 1
Summary of Groundwater Screening Results
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| | Groundwater Screening Sample | | | | | | | | | | |
|-------------------------------|------------------------------|-------------|-------|-----------------------|--------------|--------------|-------|--------------|-------|-------------|-------|
| | Method | RBSL (µg/L) | GW01 | GW01D | GW02 | GW04 | GW05 | GW06 | GW07 | GW08 | GW09 |
| Boring Depth (ft bgs) | NA | NA | 24 | 28 | 18 | 26 | 20 | 20 | 20 | 20 | 26 |
| Depth-to-Groundwater (ft bgs) | NA | NA | 20 | NA | 14 | 23 | 16 | 17 | 18 | 18 | 22 |
| Sample Depth (ft bgs) | NA | NA | 20-24 | NA | 14-18 | 22-26 | 16-20 | 16-20 | 16-20 | 16-20 | 22-26 |
| PID Reading (ppm) | NA | NA | 10.7 | NA | 0.1 | 0.4 | 0.0 | 1.3 | 2.8 | 32.0 | 0.1 |
| Benzene (µg/L) | 8260B | 5 | NT | Refusal at 28 feet | <i>0.23J</i> | <i>0.55J</i> | <0.13 | <i>0.34J</i> | NT | <i>4.9J</i> | NT |
| Toluene (µg/L) | 8260B | 1,000 | NT | | <0.33 | <i>0.63J</i> | <0.33 | <0.33 | NT | <1.7 | NT |
| Ethylbenzene (µg/L) | 8260B | 700 | NT | | <0.33 | <0.33 | <0.33 | <i>0.95J</i> | NT | <i>15</i> | NT |
| Xylenes (µg/L) | 8260B | 10,000 | NT | | <0.33 | <i>0.48J</i> | <0.33 | <i>0.89J</i> | NT | <i>9.6</i> | NT |
| Naphthalene (µg/L) | 8260B | 25 | NT | | <0.40 | <0.33 | <0.40 | <i>3.9</i> | NT | <i>190</i> | NT |
| 1,2-DCA (µg/L) | 8260B | 5 | NT | | <0.15 | <0.15 | <0.15 | <0.15 | NT | <0.74 | NT |
| MTBE (µg/L) | 8260B | 40 | NT | | <0.40 | <0.40 | <0.40 | <0.40 | NT | <2.0 | NT |

| | Groundwater Screening Sample | | | | | | | | | | |
|-------------------------------|------------------------------|-------------|----------------------|----------------------|--------------|-----------------------|--------------|-----------------------|-------|-------|--------------|
| | Method | RBSL (µg/L) | GW11 | GW11D | GW12 | GW12D | GW13 | GW13D | GW14 | GW15 | GW16 |
| Boring Depth (ft bgs) | NA | NA | 6 | 8 | 22 | 23 | 19 | 20 | 24 | 24 | 16 |
| Depth-to-Groundwater (ft bgs) | NA | NA | NA | NA | 18 | NA | 16 | NA | 20-24 | 20-24 | 12-16 |
| Sample Depth (ft bgs) | NA | NA | NA | NA | 18-22 | NA | 15-19 | NA | 22 | 20 | 15 |
| PID Reading (ppm) | NA | NA | NA | NA | 0.7 | NA | 1.3 | NA | 0.1 | 0.3 | 0.5 |
| Benzene (µg/L) | 8260B | 5 | Refusal at 6 feet | Refusal at 8 feet | <i>0.28J</i> | Refusal at 23 feet | <i>0.52J</i> | Refusal at 20 feet | NT | NT | <i>0.23J</i> |
| Toluene (µg/L) | 8260B | 1,000 | | | <0.33 | | <i>0.56J</i> | | NT | NT | <0.33 |
| Ethylbenzene (µg/L) | 8260B | 700 | | | <0.33 | | <0.33 | | NT | NT | <0.33 |
| Xylenes (µg/L) | 8260B | 10,000 | | | <0.33 | | <i>0.73J</i> | | NT | NT | <i>0.83J</i> |
| Naphthalene (µg/L) | 8260B | 25 | | | <i>1.9</i> | | <i>2</i> | | NT | NT | <i>2.0</i> |
| 1,2-DCA (µg/L) | 8260B | 5 | | | <0.15 | | <0.15 | | NT | NT | <0.15 |
| MTBE (µg/L) | 8260B | 40 | | | <0.40 | | <0.40 | | NT | NT | <0.40 |

NOTES:

RBSL - Risk Based Screening Level

Shaded values indicate concentrations exceeding RBSLs.

PID - MiniRae Lite Photoionization Detector

ppm - parts per million

ft bgs - feet below ground surface

NA - Not Applicable

NT - Not Tested. Sample not submitted for laboratory analysis

| |
|-------|
| GW10 |
| 20 |
| 16 |
| 16-20 |
| 0.0 |
| <0.13 |
| <0.33 |
| <0.33 |
| <0.33 |
| <0.40 |
| <0.15 |
| <0.40 |

| |
|--------------|
| GW21 |
| 20 |
| 16-20 |
| 18 |
| 0.4 |
| 0.37J |
| 0.33J |
| <0.33 |
| <0.33 |
| 1.3 |
| <0.15 |
| <0.40 |

TABLE 2
Monitoring Well and Groundwater Surface Elevation Data
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| Monitoring Well | Ground Surface Elevation | Top-of-Casing Elevation | Date | Free-Phase Petroleum Product (feet) | Groundwater Depth Below Top-of-Casing | Groundwater Elevation | Well Depth BGS | Screened Interval Depth | Screened Interval Elevation |
|-----------------|--------------------------|-------------------------|------------|-------------------------------------|---------------------------------------|-----------------------|----------------|-------------------------|-----------------------------|
| 08641-MW01 | 772.66 | 772.24 | 04/07/2004 | -- | 11.41 | 760.83 | 27.00 | 17.00 - 27.00 | 755.66 - 745.66 |
| | | | 11/13/2014 | -- | 16.12 | 756.12 | | | |
| | | | 12/16/2014 | -- | 16.28 | 755.96 | | | |
| 08641-MW02 | 766.29 | 765.91 | 04/07/2004 | -- | 16.05 | 749.86 | 32.10 | 22.10 - 32.10 | 744.19 - 734.19 |
| | | | 11/13/2014 | -- | 20.62 | 745.29 | | | |
| | | | 12/16/2014 | -- | 21.35 | 744.56 | | | |
| 08641-MW03 | 774.37 | 774.04 | 04/07/2004 | 0.01 | 14.41 | 759.64 | 24.00 | 14.00 - 24.00 | 760.37 - 750.37 |
| | | | 11/13/2014 | 0.29 | 19.40 | 754.84 | | | |
| | | | 12/16/2014 | 0.13 | 19.63 | 754.50 | | | |
| 08641-MW04 | 768.66 | 768.43 | 04/07/2004 | 0.02 | 15.40 | 753.04 | 23.00 | 13.00 - 23.00 | 755.66 - 745.66 |
| | | | 11/13/2014 | 1.02 | 23.26 | 745.88 | | | |
| | | | 12/16/2014 | 0.65 | 23.68 | 745.21 | | | |
| 08641-MW05 | 764.20 | 763.99 | 04/07/2014 | -- | 15.42 | 748.57 | 13.00 | 13.00 - 23.00 | 751.20 - 741.20 |
| | | | 11/13/2014 | -- | 20.31 | 743.68 | | | |
| | | | 12/16/2014 | -- | 20.42 | 743.57 | | | |
| 08641-MW06 | 774.26 | 774.04 | 11/13/2014 | -- | 20.13 | 753.91 | 28.63 | 18.43 - 28.43 | 755.83 - 745.83 |
| | | | 12/16/2014 | -- | 20.47 | 753.57 | | | |
| 08641-MW07 | 769.26 | 768.72 | 11/13/2014 | -- | 16.01 | 752.71 | 21.95 | 11.75 - 21.75 | 757.51 - 747.51 |
| | | | 12/16/2014 | -- | 16.12 | 752.60 | | | |
| 08641-MW08 | 769.76 | 769.62 | 11/13/2014 | -- | 22.34 | 747.28 | 22.71 | 12.51 - 22.51 | 757.25 - 747.25 |
| | | | 12/16/2014 | -- | 22.66 | 746.96 | | | |
| 08641-MW09 | 766.73 | 766.22 | 11/13/2014 | -- | 21.36 | 744.86 | 26.01 | 15.81 - 25.81 | 750.92 - 740.92 |
| | | | 12/16/2014 | -- | 21.88 | 744.34 | | | |
| 08641-MW10 | 750.87 | 750.51 | 11/13/2014 | -- | 15.21 | 735.30 | 23.60 | 13.40 - 23.40 | 737.47 - 727.47 |
| | | | 12/16/2014 | -- | 15.93 | 734.58 | | | |
| 08641-MW11 | 752.91 | 752.57 | 11/13/2014 | -- | 15.33 | 737.24 | 23.84 | 13.64 - 23.64 | 739.27 - 729.27 |
| | | | 12/16/2015 | -- | 15.62 | 736.95 | | | |
| 08641-MW12 | 777.54 | 777.00 | 11/11/2014 | -- | 22.19 | 754.81 | 31.58 | 21.38 - 31.38 | 756.16 - 746.16 |
| | | | 12/16/2016 | -- | 22.59 | 754.41 | | | |
| 08641-MW13 | 761.34 | 764.75 | 11/13/2014 | -- | 8.36 | 756.39 | 11.19 | 0.99 - 10.99 | 760.35 - 750.35 |
| | | | 12/16/2017 | -- | 7.53 | 757.22 | | | |
| 08641-MW14 | 752.75 | 752.21 | 11/13/2014 | -- | 13.87 | 738.34 | 22.95 | 12.75 - 22.75 | 740.00 - 730.00 |
| | | | 12/16/2018 | -- | 12.37 | 739.84 | | | |
| 08641-MW15 | 767.84 | 767.56 | 11/13/2014 | -- | 13.02 | 754.54 | 20.27 | 10.07 - 20.07 | 757.77 - 747.77 |
| | | | 12/16/2019 | -- | 13.66 | 753.90 | | | |
| 08641-MW16 | 758.26 | 761.93 | 11/13/2014 | -- | 9.67 | 752.26 | 10.88 | 0.68 - 10.68 | 757.58 - 747.58 |
| | | | 12/16/2020 | -- | 8.17 | 753.76 | | | |
| 08641-MW17 | 779.13 | 778.87 | 11/13/2014 | -- | 20.03 | 758.84 | 26.71 | 16.51 - 26.51 | 762.62 - 752.62 |
| | | | 12/16/2021 | -- | 19.45 | 759.42 | | | |
| 08641-MW18 | 772.06 | 771.74 | 11/13/2014 | -- | 18.03 | 753.71 | 26.93 | 16.73 - 26.73 | 755.33 - 745.33 |
| | | | 12/16/2022 | -- | 18.42 | 753.32 | | | |
| 08641-MW19 | 769.69 | 769.38 | 11/13/2014 | -- | 17.01 | 752.37 | 21.62 | 11.42 - 21.42 | 758.27 - 748.27 |
| | | | 12/16/2023 | -- | 17.55 | 751.83 | | | |
| 08641-MW20 | 767.45 | 767.14 | 11/13/2014 | -- | 14.23 | 752.91 | 20.29 | 10.09 - 20.09 | 757.36 - 747.36 |
| | | | 12/16/2024 | -- | 14.42 | 752.72 | | | |
| 08641-MW21 | 761.84 | 761.51 | 11/13/2014 | -- | 9.86 | 751.65 | 19.62 | 9.42 - 19.42 | 752.42 - 742.42 |
| | | | 12/16/2025 | -- | 10.16 | 751.35 | | | |
| 08641-MW22 | 751.81 | 751.47 | 11/13/2014 | -- | 12.63 | 738.84 | 16.95 | 6.75 - 16.75 | 745.06 - 735.06 |
| | | | 12/16/2026 | -- | 13.52 | 737.95 | | | |
| 08641-MW23 | 764.81 | 764.24 | 11/13/2014 | -- | 18.48 | 745.76 | 29.57 | 19.37 - 29.37 | 745.44 - 735.44 |
| | | | 12/16/2014 | -- | 19.48 | 744.76 | | | |

NOTES:
Measurements are in feet
BGS - below ground surface
Elevations are NAVD 88

TABLE 4
Summary of Groundwater Analytical Results
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| | | Free-Phase Petroleum Product (feet) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | Naphthalene (µg/L) | EDB (µg/L) | 1,2 DCA (µg/L) | ETBE (µg/L) | ETBA (µg/L) |
|---------------|--------------|-------------------------------------|---|----------------|---------------------|----------------|-------------|--------------------|------------|----------------|-------------|-------------|
| | | --- | RBSL 5 | RBSL 1,000 | RBSL 700 | RBSL 10,000 | RBSL 40 | RBSL 25 | RBSL 0.05 | RBSL 5 | RBSL 47 | RBSL NE |
| 08641-MW01 | 04/07/04 | -- | 317 | 14.8 | 720 | 626 | 2.1 | 373 | NT | NT | NT | NT |
| | 11/13/14 | -- | 710 | 36 | 800 | 790 | <8.0 | 350 | <0.019 | <2.9 | <4.0 | <20 |
| 08641-MW02 | 04/07/04 | -- | 658 | 43.9 | 198 | 277 | 84.3 | 137 | NT | NT | NT | NT |
| | 11/13/14 | -- | <0.13 | <0.33 | 1.5 | 1.4 | <0.40 | 1.9 | <0.020 | <0.15 | <0.20 | <1.0 |
| 08641-MW03 | 04/07/04 | 0.01 | NOT SAMPLED - 0.01 FEET OF FREE-PHASE PETROLEUM PRODUCT | | | | | | | | | |
| | 11/13/14 | 0.29 | 1900 | 150 | 1200 | 2200 | <20 | 330 | <0.020 | <7.4 | <10 | <50 |
| | 11/13/14 dup | | 1900 | 150 | 1200 | 2300 | <20 | 310 | <0.019 | <7.4 | <10 | <50 |
| 08641-MW04 | 04/07/04 | 0.02 | NOT SAMPLED - 0.02 FEET OF FREE-PHASE PETROLEUM PRODUCT | | | | | | | | | |
| | 11/13/14 | 1.02 | 2100 | 730 | 2400 | 7100 | <20 | 1400 | <0.019 | <7.4 | <10 | <50 |
| | 11/13/14 dup | | 1300 | 510 | 1800 | 5300 | <20 | 590 | <0.019 | <7.4 | <10 | <50 |
| 08641-MW05 | 04/07/04 | -- | 1170 | 340 | 1080 | 1500 | 39.2 | 443 | NT | NT | NT | NT |
| | 11/13/14 | | NOT SAMPLED - APPROXIMATELY 1 FOOT OF MUD IN BOTTOM OF WELL | | | | | | | | | |
| 08641-MW06 | 11/13/14 | -- | 5.2 | 0.48 J | 78 | 60 | 0.64 J | 23 | <0.020 | <0.15 | <0.20 | <1.0 |
| 08641-MW07 | 11/13/14 | -- | 2.5 | <0.33 | 4.0 | 3.4 | <0.40 | 36 | <0.019 | <0.15 | <0.20 | <1.0 |
| 08641-MW08 | 11/13/14 | -- | 13 | 44 | 830 | 2800 | <4.0 | 540 | 0.046 | <1.5 | <2.0 | <10 |
| 08641-MW09 | 11/13/14 | -- | 56 | 5.7 | 170 | 130 | <2.0 | 210 | <0.020 | <0.74 | <1.0 | <5.0 |
| 08641-MW10 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 |
| 08641-MW11 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 |
| 08641-MW12 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 |
| 08641-MW13 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 |
| 08641-MW14 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 |
| 08641-MW15 | 11/13/14 | -- | 1.0 | 0.36 J | 57 | 47 | <0.40 | 38 | <0.020 | <0.15 | <0.20 | <1.0 |
| 08641-MW16 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 |
| 08641-MW17 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | 0.41 J | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 |
| 08641-MW18 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 |
| 08641-MW19 | 11/13/14 | -- | 17 | 5.9 | 320 | 60 | <2.0 | 140 | <0.019 | <0.74 | <1.0 | <5.0 |
| 08641-MW20 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 |
| 08641-MW21 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 |
| 08641-MW22 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 |
| 08641-MW23 | 11/13/14 | -- | <0.13 | <0.33 | 2.6 | 2.6 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 |
| SW01 | 11/14/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 |
| Trip Blank 1 | 11/14/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | NT | <0.15 | <0.20 | <1.0 |
| Trip Blank 2 | 11/14/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | NT | <0.15 | <0.20 | <1.0 |
| Trip Blank 3 | 11/14/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | NT | <0.15 | <0.20 | <1.0 |
| Field Blank 1 | 11/13/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 |

TABLE 5
Groundwater Velocity
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| VELOCITY CALCULATION | Date | Hydraulic Conductivity (K) (centimeters/second) | Hydraulic Conductivity (K) (feet/day) | Hydraulic Conductivity (K) (feet/year) | Hydraulic Gradient (i) (unitless) | Effective Porosity (n) (unitless) | Groundwater Velocity (V) (feet/day) | Groundwater Velocity (V) (feet/year) | Groundwater Velocity (V) (meters/second) |
|-----------------------------|-------------|--|--|---|--|--|--|---|---|
| 08641-MW03 | 04/12/2004 | 2.15E-04 | 0.61 | 2.22E+02 | 0.072 | 0.33 | 1.33E-01 | 48.54 | 4.69E-07 |
| 08641-MW04 | 04/12/2004 | 5.29E-04 | 1.50 | 5.47E+02 | 0.072 | 0.33 | 3.27E-01 | 119.42 | 1.15E-06 |
| 08641-MW05 | 04/12/2004 | 3.54E-04 | 1.00 | 3.66E+02 | 0.072 | 0.33 | 2.19E-01 | 79.92 | 7.72E-07 |
| 08641-MW06 | 12/13/2014 | 5.75E-06 | 0.02 | 5.95E+00 | 0.072 | 0.33 | 3.56E-03 | 1.30 | 1.25E-08 |
| 08641-MW07 | 12/13/2014 | 1.79E-06 | 0.01 | 1.85E+00 | 0.072 | 0.33 | 1.11E-03 | 0.40 | 3.91E-09 |
| Mathematical Mean | --- | 2.21E-04 | 0.63 | 2.29E+02 | 0.072 | 0.33 | 1.37E-01 | 49.92 | 4.82E-07 |

Notes:

Hydraulic conductivity values for groundwater monitoring wells 08641-MW03, 08641-MW04, and 08641-MW05 were obtained from slug tests performed by Spero Corporation during the Tier I Assessment in 2004.

Effective porosity values were estimated from published values of effective porosity for a fine sand (ranging from 0.01 to 0.46; arithmetic mean 0.33) (McWorter and Sunada 1977).

Hydraulic gradient was calculated based on groundwater elevations from and distances between monitoring wells 08641-MW17 and 08641-MW02 (Figure 4).

Groundwater velocity derived from the equation $V = Ki/n$.

TABLE 3
Summary of Soil Screening Results
 Morris Oil - UST Permit #08641
 Spartanburg, Spartanburg County, South Carolina

| | Method | RBSL (Sandy Soil) | Boring ID | | | | | | | |
|-------------------------------|--------|-------------------|-------------|--------------|-------------|--------------|-------------|-------------|------------|------|
| | | | 08641-MW06 | 08641-MW07 | 08641-MW08 | 08641-MW09 | 08641-MW15 | 08641-MW17 | 08641-MW23 | |
| Boring Depth (ft bgs) | NA | -- | 29 | 22 | 23 | 28 | 22 | 27 | 32 | |
| Depth-to-Groundwater (ft bgs) | NA | -- | 20 | 16 | 21 | 21 | 14 | 19 | 23 | |
| Sample Depth (ft bgs) | NA | -- | 15 | 10 | 15 | 20 | 10 | 15 | 20 | |
| Sample Date | NA | -- | 12/13/2014 | 12/13/2014 | 12/13/2014 | 12/13/2014 | 12/13/2014 | 12/13/2014 | 12/13/2014 | |
| PID Reading (ppm) | NA | -- | 2.6 | 1.5 | 12.7 | 16.9 | 0.4 | 0.2 | 0.3 | |
| Benzene (µg/kg) | 8260B | 7 | <0.72 | 1.7J | 8.1 | 5.5 | 8.4 | <0.55 | <1.4 | <1.2 |
| Toluene (µg/kg) | 8260B | 1450 | <1.1 | <0.91 | 1.1J | 0.76J | 1.2J | <0.85 | <2.1 | <1.9 |
| Ethylbenzene (µg/kg) | 8260B | 1150 | 2.4J | 0.93J | 26 | 16 | 25 | 0.85 | <2.1 | <1.9 |
| Xylenes (µg/kg) | 8260B | 14500 | <1.9 | <1.6 | 21 | 13 | 19 | <1.5 | <3.6 | <3.3 |
| Naphthalene (µg/kg) | 8260B | 36 | 2.5J | 3.9 | 9.3 | 3.2 | 4.1 | <0.85 | <2.1 | <1.9 |

| | Method | Trip Blank | Field Blank |
|---------------------|--------|------------|-------------|
| Sample Date | NA | NA | 12/13/2014 |
| Benzene (µg/L) | 8260B | <0.13 | <0.13 |
| Toluene (µg/L) | 8260B | <0.33 | <0.33 |
| Ethylbenzene (µg/L) | 8260B | <0.33 | <0.33 |
| Xylenes (µg/L) | 8260B | <0.33 | <0.33 |
| Naphthalene (µg/L) | 8260B | <0.40 | <0.40 |

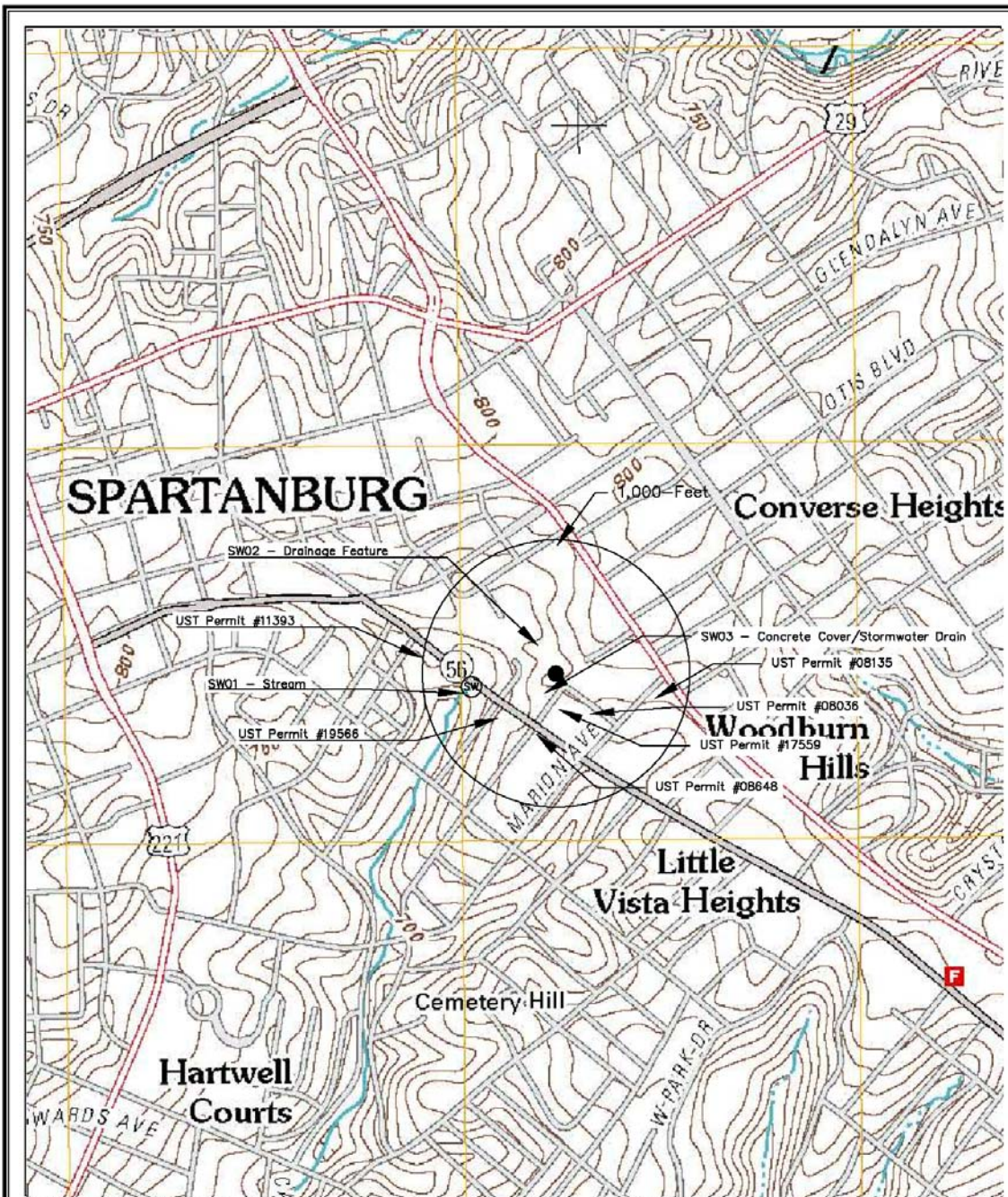
NOTES:

RBSL - Risk Based Screening Level

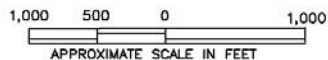
PID - MiniRae Lite Photoionization Detector

ppm - parts per million

ft bgs - feet below ground surface



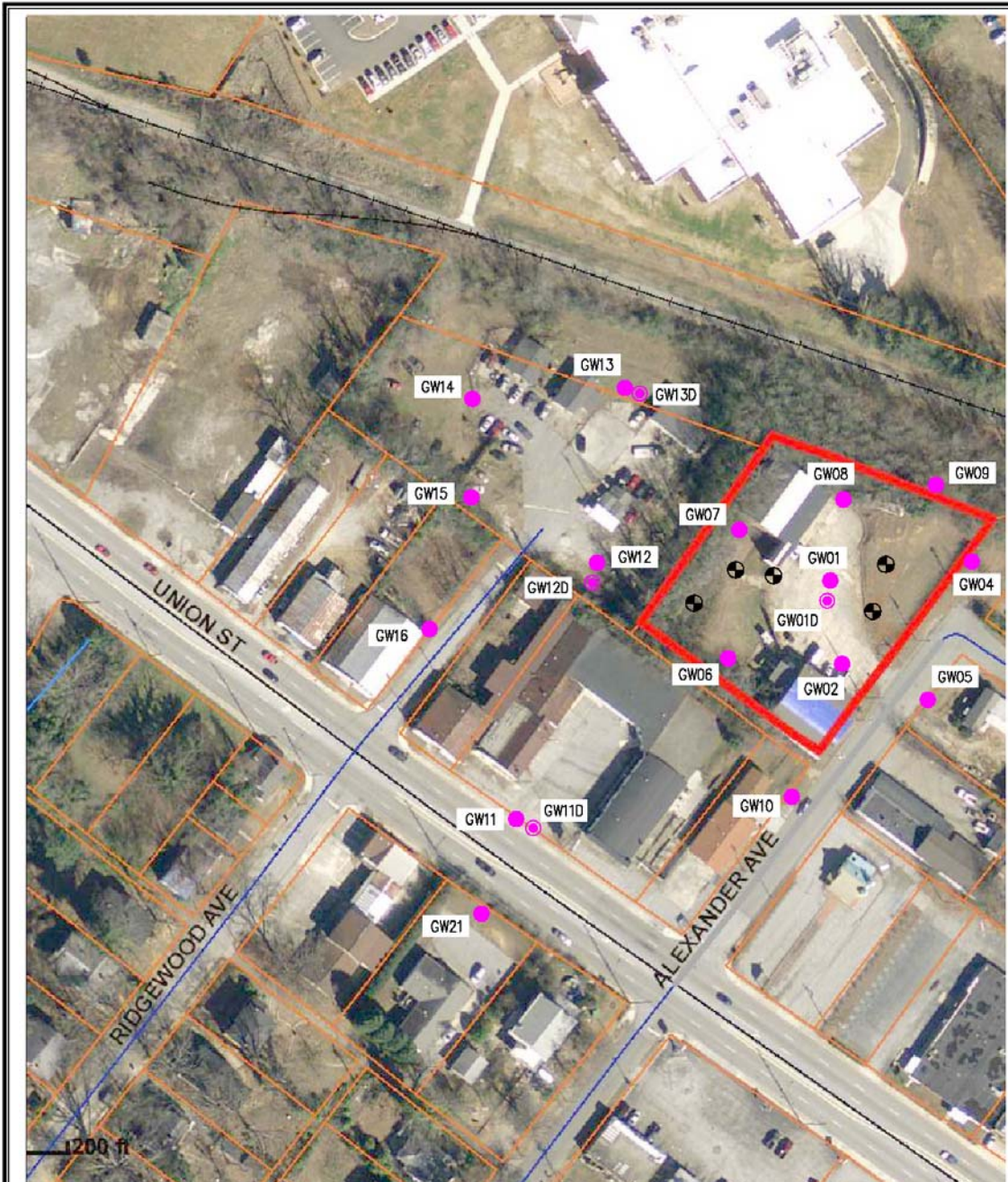
REFERENCE: Spartanburg Quadrangle - 7.5 Minute Series, United States Geological Survey, 2011 (Contour Interval - 10 feet)



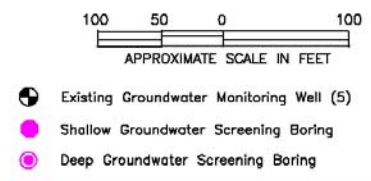
- Approximate Site Location
- SW Surface Water Sampling Location



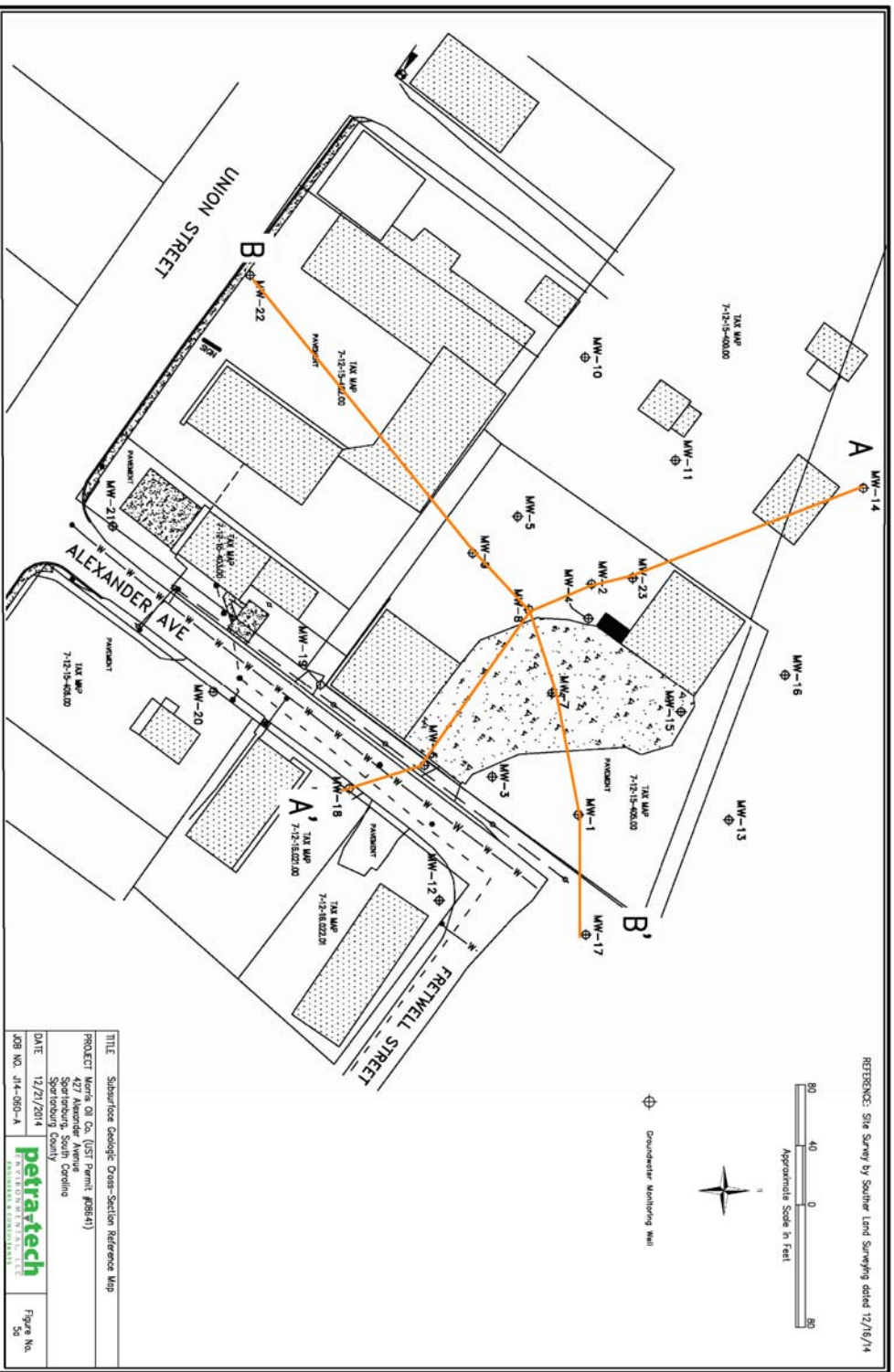
| | | |
|------------|---|---|
| Title | Topographic Site Location Map | |
| Project | Marris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 06/02/2014 |  |
| Job No. | J14-080-A | |
| Figure No. | 1 | |



REFERENCE: Spartanburg County Online GIS Mapping Database; Ground Water COC Site Map by Spera Corporation dated May 3, 2004



| | | |
|---------|---|-----------------|
| Title | Groundwater Screening Boring Location Plan | |
| Project | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 12/20/2014 | |
| Job No. | J14-060-A | |
| | | Figure No. 2 |



TITLE Subsurface Geologic Cross-Section Reference Map

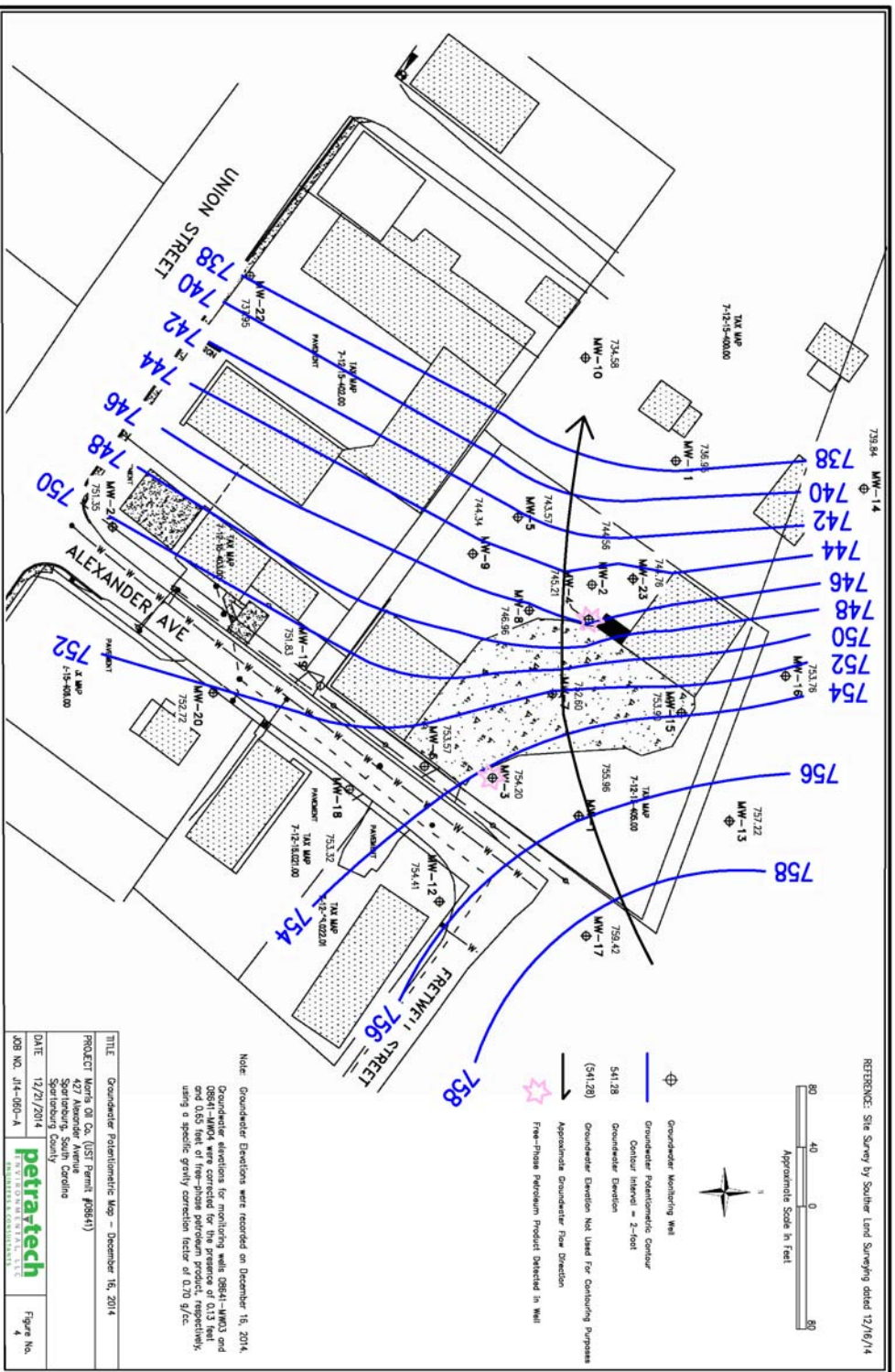
PROJECT Morris Oil Co. (UST Permit #08641)
427 Alexander Avenue
Spartanburg, South Carolina

DATE 12/21/2014

JOB NO. J14-080-A

petratotech
PETROPHYSICS & GEOTECHNICAL

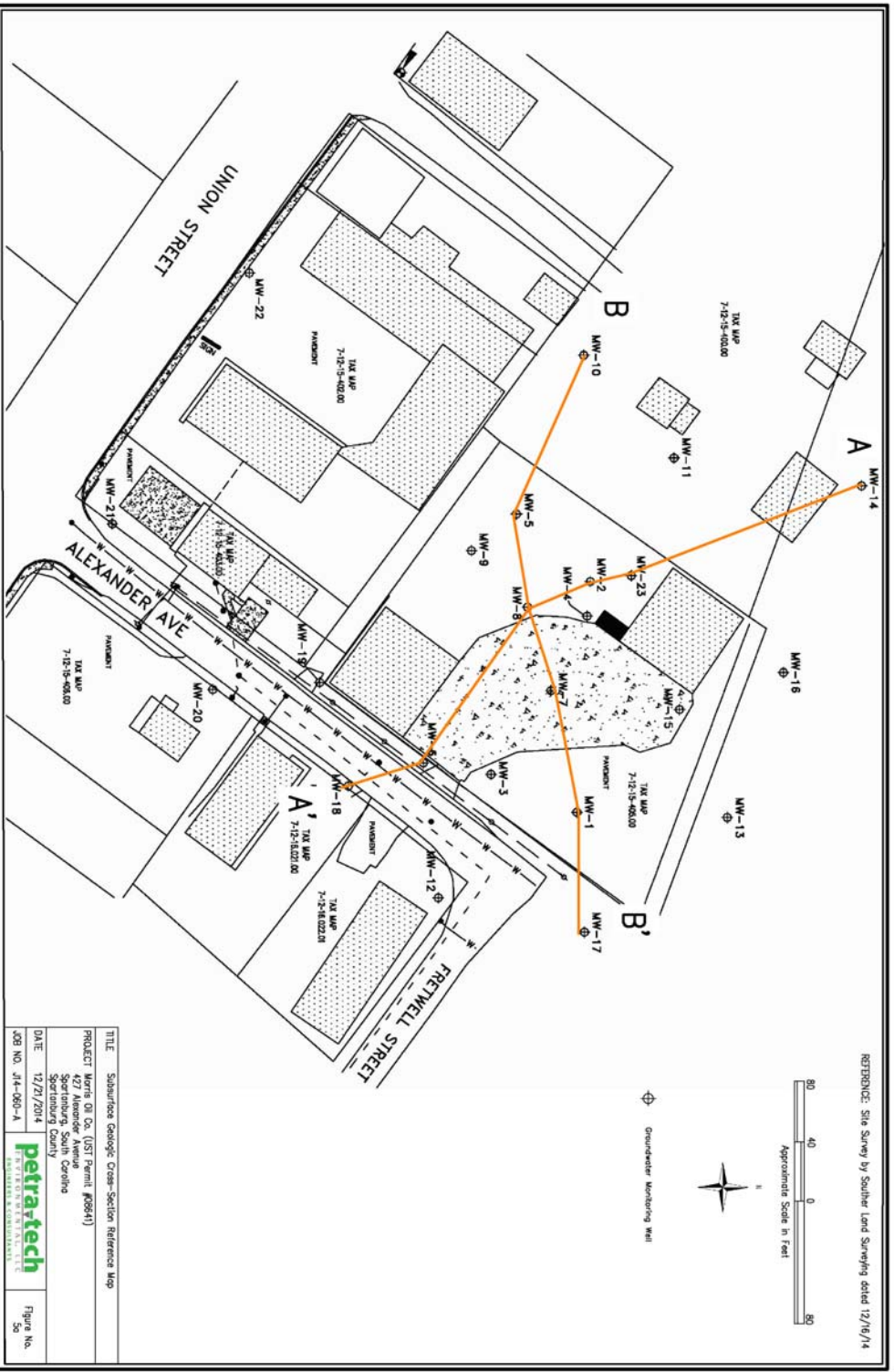
Figure No.
5d



REFERENCE: Site Survey by Southern Land Surveying dated 12/16/14

Note: Groundwater Directions were recorded on December 16, 2014. Groundwater elevations for monitoring wells 08841-MW03 and 08841-MW04 were recorded on December 16, 2014 and 0.85 feet of free-phase petroleum product, respectively, using a specific gravity correction factor of 0.70 g/cc.

| | |
|------------|---|
| TITLE | Groundwater Potentiometric Map - December 16, 2014 |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina |
| DATE | 12/21/2014 |
| JOB NO. | J14-060-A |
| | petra tech ENVIRONMENTAL SERVICES, LLC |
| Figure No. | 4 |



TITLE Subsurface Geologic Cross-Section Reference Map

PROJECT Morris Oil Co. (UST Permit #08641)

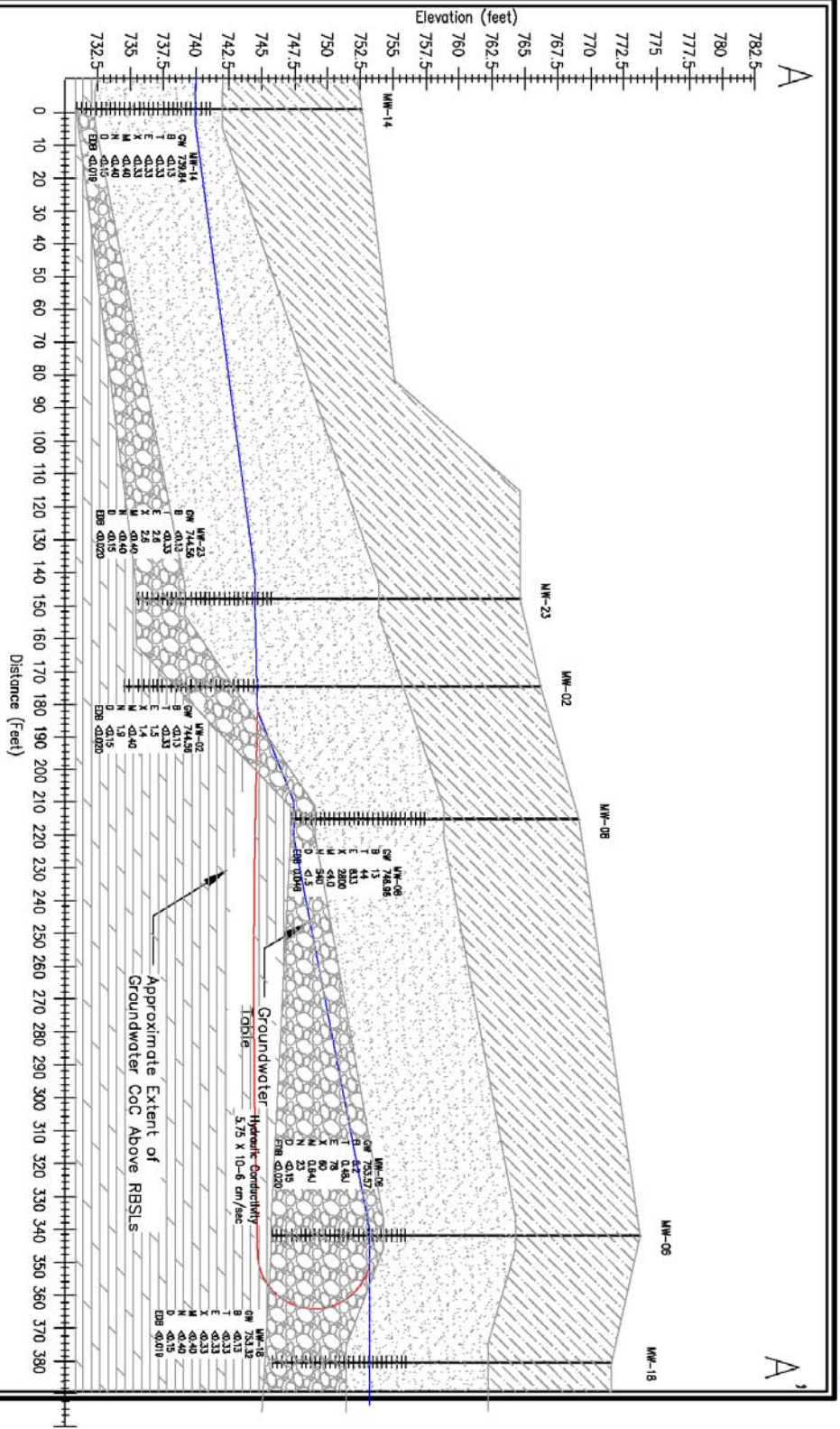
427 Alexander Avenue
 1000 West 10th Street
 Spartanburg County, Carolina

DATE 12/21/2014

JOB NO. J14-090-A

petratotech
 PETROPHYSICS & GEOTECHNICAL ENGINEERING

Figure No.
50

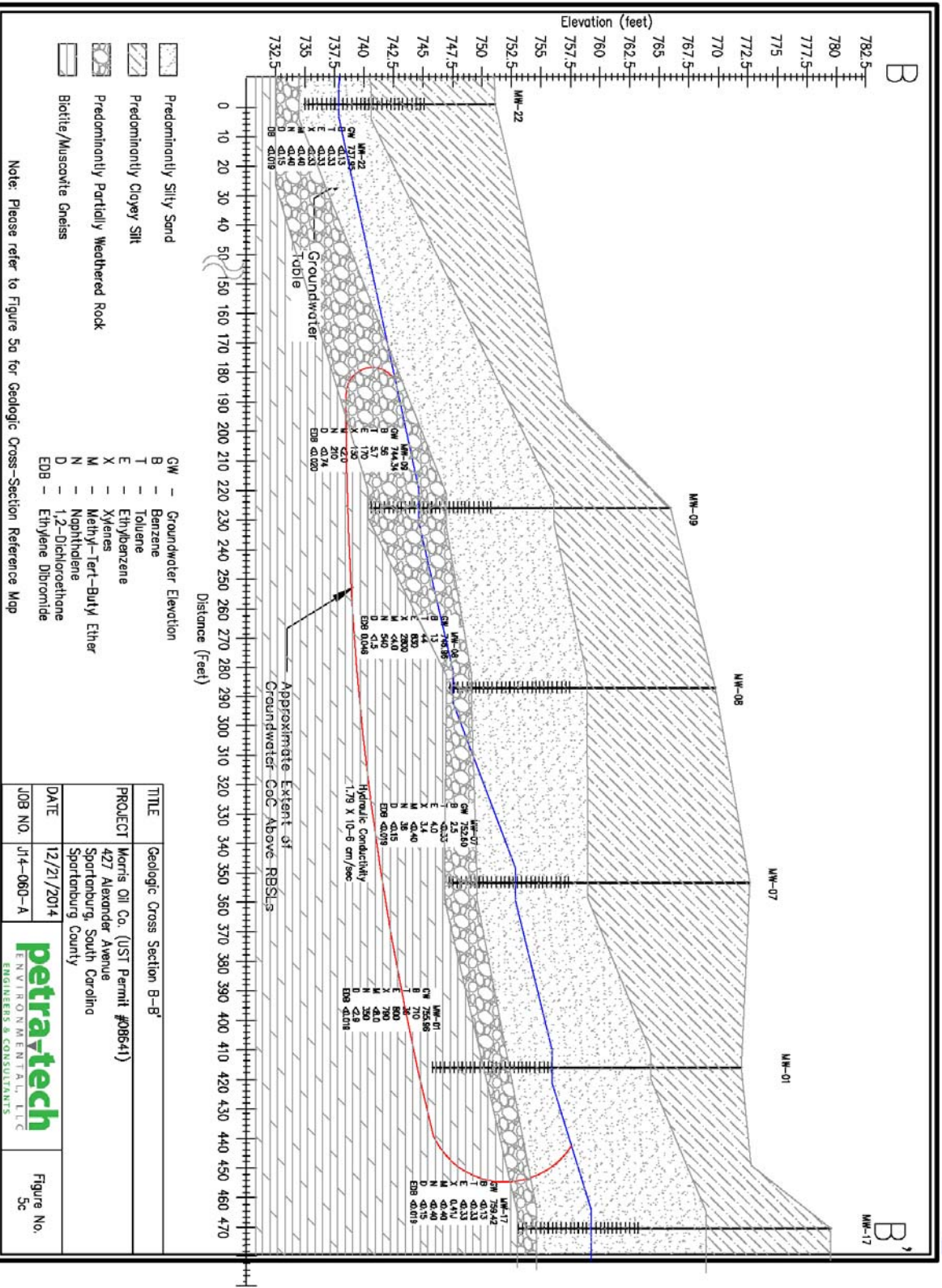


- Predominantly Silty Sand
 - Predominantly Clayey Silt
 - Predominantly Partly Weathered Rock
 - Biotite/Muscovite Gneiss
-
- GW - Groundwater Elevation
 - B - Benzene
 - T - Toluene
 - E - Ethylbenzene
 - X - Xylenes
 - M - Methyl-Tert-Butyl Ether
 - N - Naphthalene
 - D - 1,2-Dichloroethane
 - EDB - Ethylene Dibromide

Note: Please refer to Figure 5a for Geologic Cross-Section Reference Map

| | | |
|---------|---|------------------|
| TITLE | Geologic Cross Section A-A' | |
| PROJECT | Morris Oil Co. (UST Permit #08641) | |
| | 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| DATE | 12/21/2014 | |
| JOB NO. | U14-060-A | Figure No. 5b |





- Predominantly Silty Sand
- Predominantly Clayey Silt
- Predominantly Partly Weathered Rock
- Biotite/Muscovite Gneiss

- GW - Groundwater Elevation
- B - Benzene
- T - Toluene
- E - Ethylbenzene
- X - Xylenes
- M - Methyl-Tert-Butyl Ether
- N - Naphthalene
- D - 1,2-Dichloroethane
- EDB - Ethylene Dibromide

Note: Please refer to Figure 5a for Geologic Cross-Section Reference Map

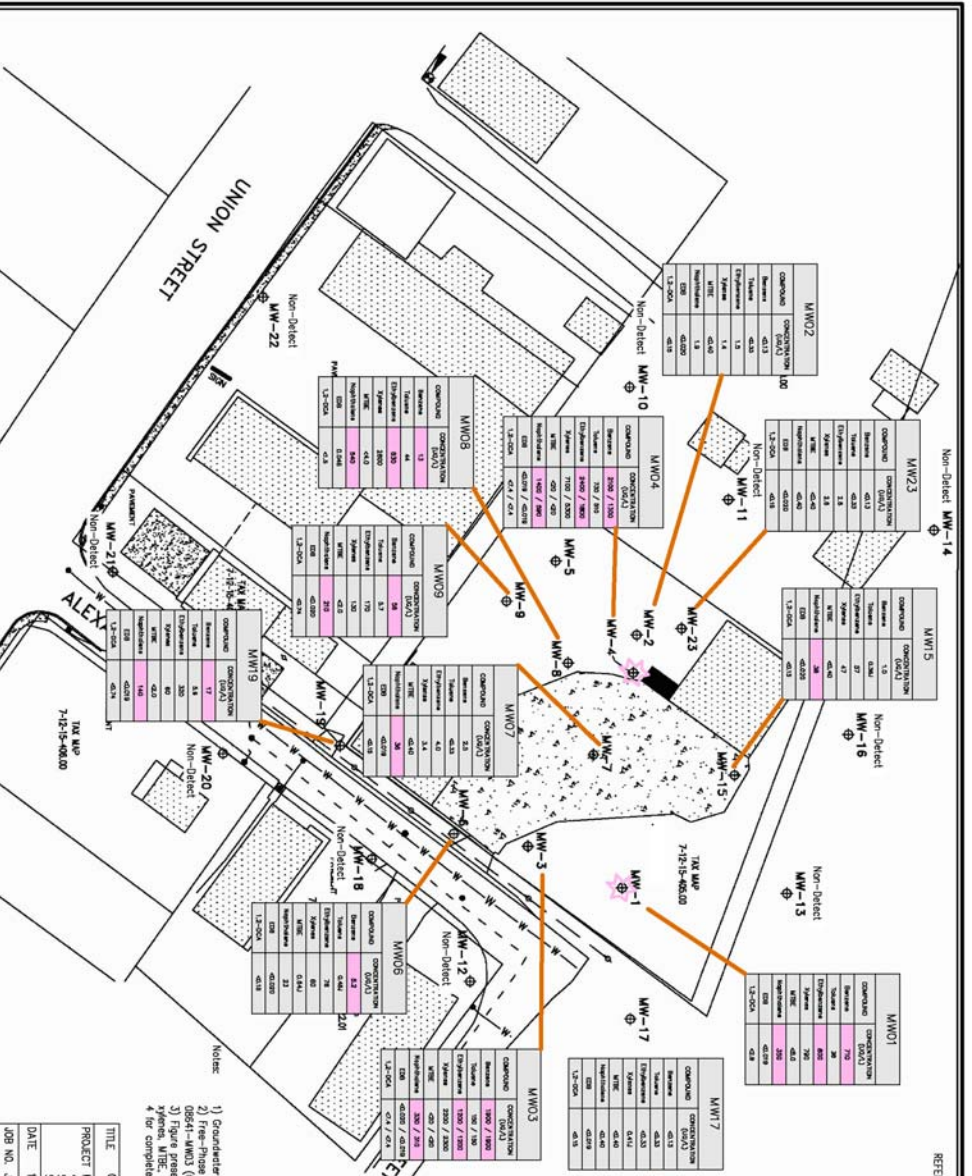
| | | |
|---------|---|------------------|
| TITLE | Geologic Cross Section B-B' | |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| DATE | 12/21/2014 | |
| JOB NO. | U14-060-A | Figure No. 5c |



REFERENCE: Site Survey by Southern Land Surveys dated 12/16/14

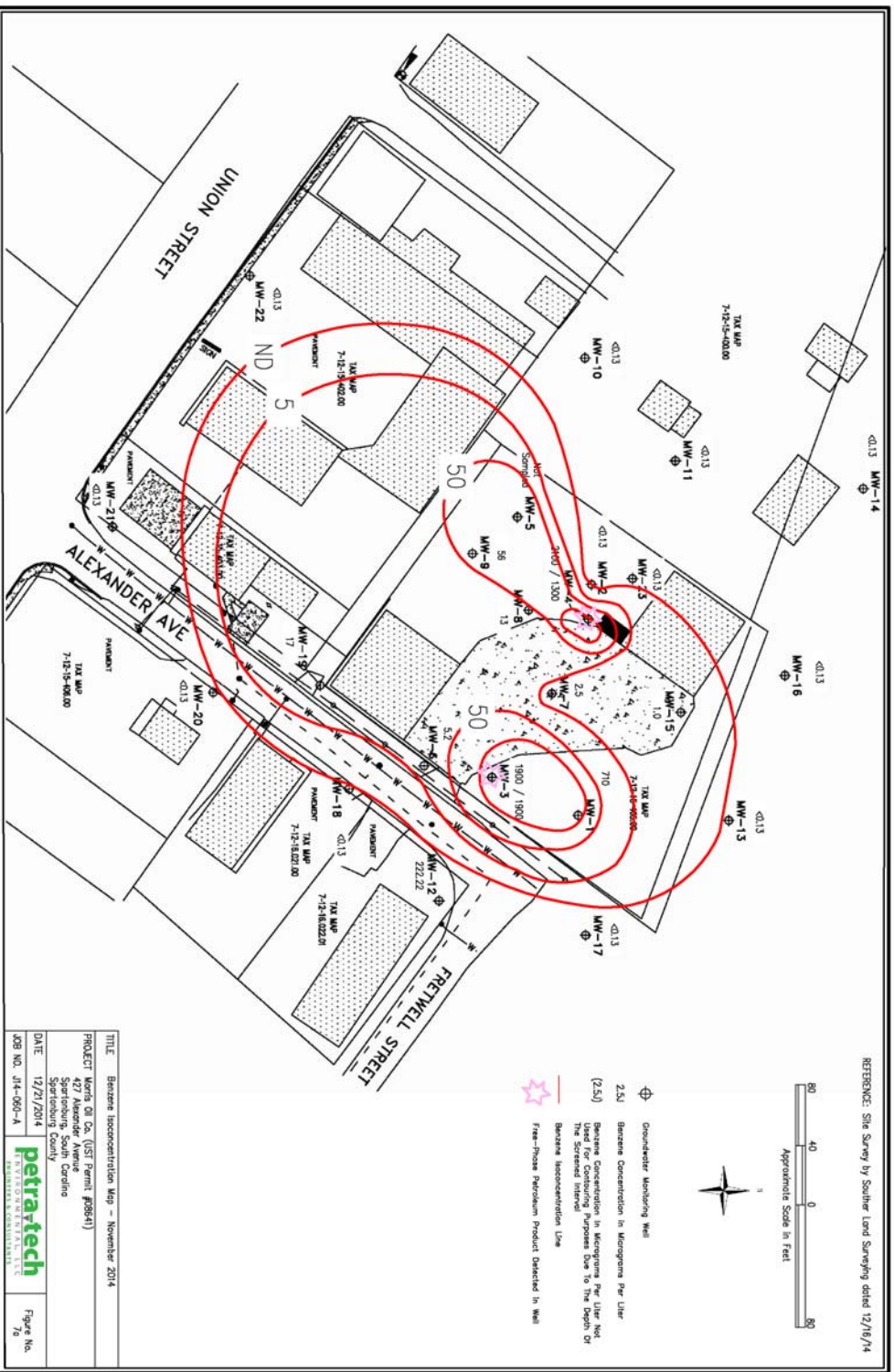


⊕ Groundwater Monitoring Well
★ Free-Phase Petroleum Product Detected in Well



- 1) Groundwater sample collected on November 13, 2014.
2) Free-phase petroleum product was detected in groundwater monitoring well MW-23 on November 12, 2014.
3) Figure presents analytical results for benzene, toluene, ethylbenzene, xylene, WBE, naphthalene, EOB, and 1,2-DCA only. Please refer to Table 4 for complete analytical results.

TITLE Groundwater Coc Map - November 2014
PROJECT Morris Oil Co. (UST Permit #0864)
407 Westside Avenue
Spartanburg, SC 29591
DATE 12/21/2014
JOB NO. J14-090-A
petratotech
PETROTECH ENVIRONMENTAL
Figure No. 6



TITLE Benzene Isocentration Map - November 2014

PROJECT Morris Oil Co. (UST Permit #2864)

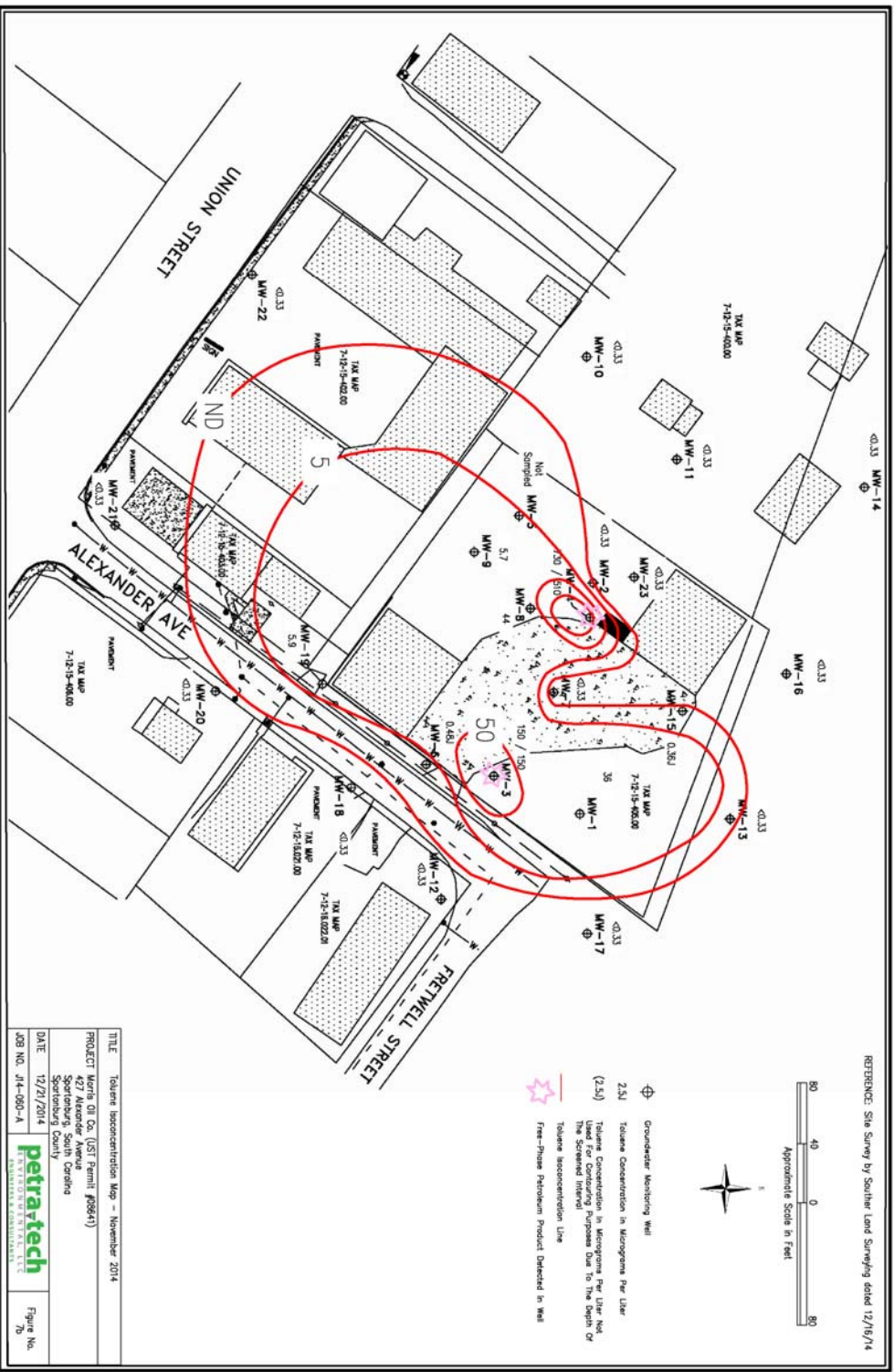
407 Alexander Avenue
 Springfield, Colorado
 Springfield County, Colorado

DATE 12/21/2014

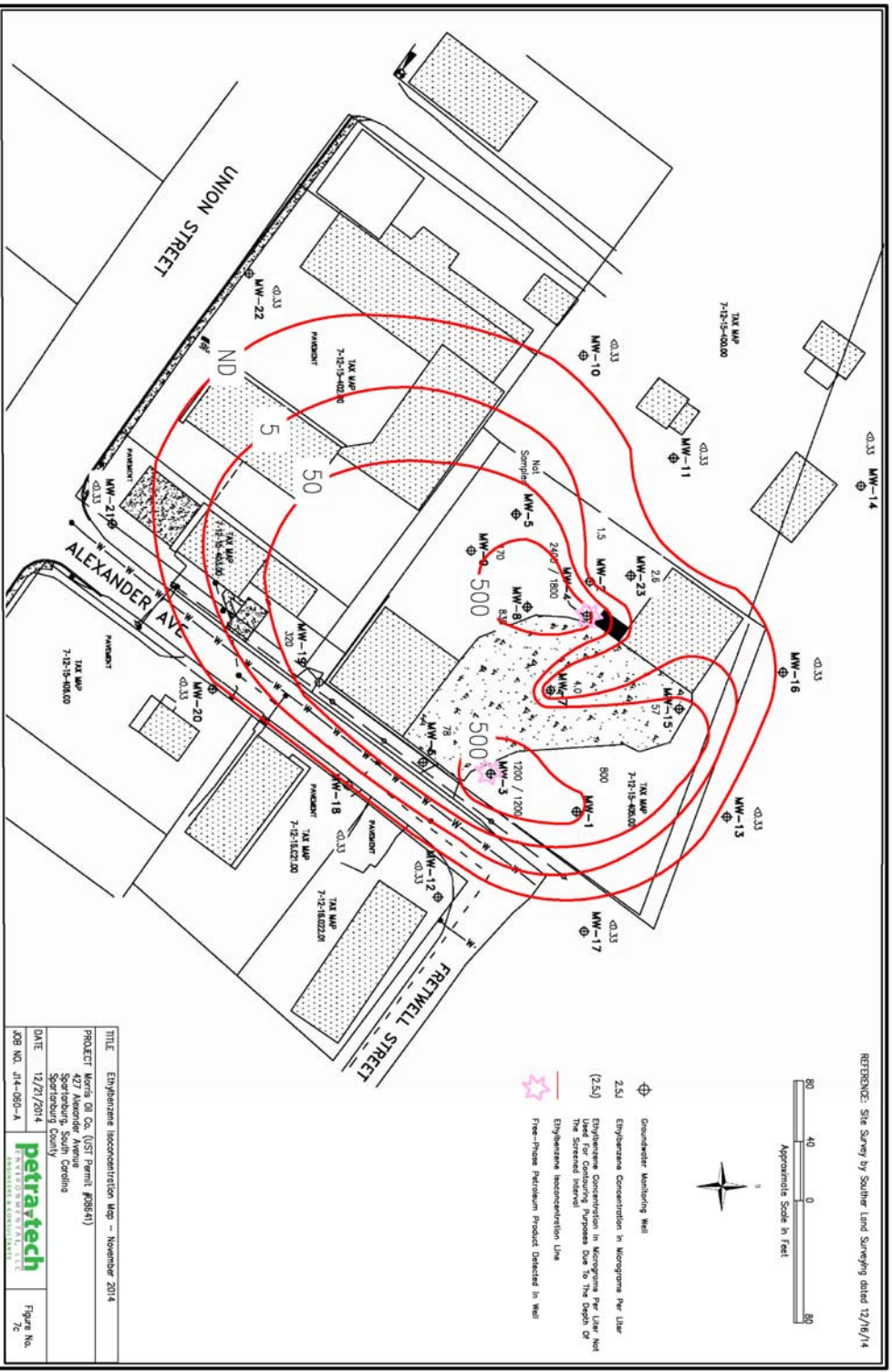
JOB NO. J14-090-A

petratotech
 ENVIRONMENTAL
 CONSULTANTS, LLC

Figure No.
78



| | |
|------------|---|
| TITLE | Toluene Isocrotonation Map - November 2014 |
| PROJECT | Worl's Oil Co. (UST Permit #09841) 407 Menard Avenue Spartanburg County, Carolina |
| DATE | 12/21/2014 |
| JOB NO. | J14-090-A |
| | petra-tech ENVIRONMENTAL SERVICES, LLC |
| Figure No. | 7b |



REFERENCE: Site Survey by Southern Land Surveying dated 12/16/14

TITLE: Ethylbenzene Reconcentration Map - November 2014
 PROJECT: Warrs Oil Co. (UST Permit #0864)
 427 Monrovia Avenue
 Fayetteville, North Carolina
 Spartanburg County, Carolina

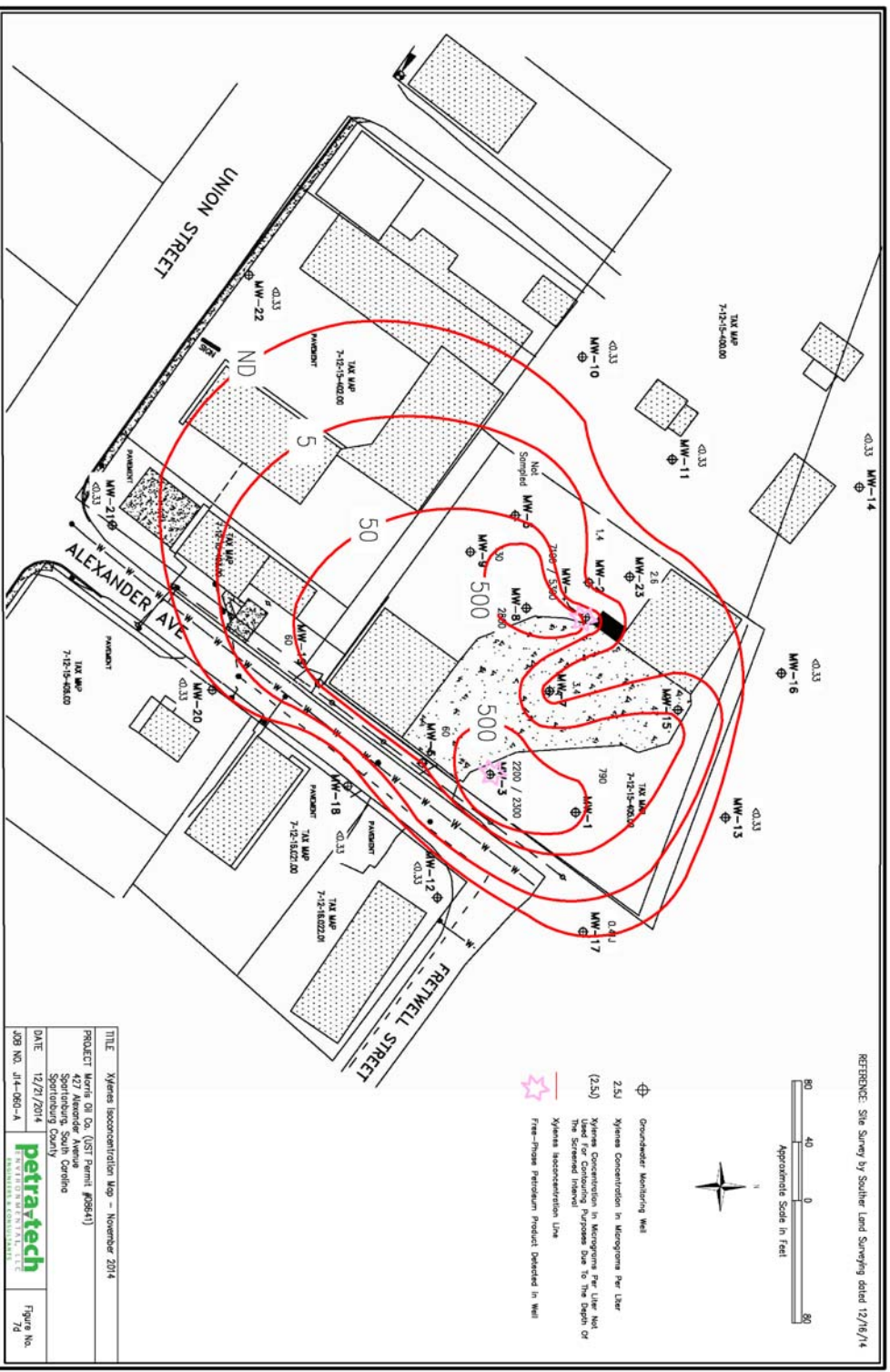
DATE: 12/21/2014

JOB NO. J14-090-A

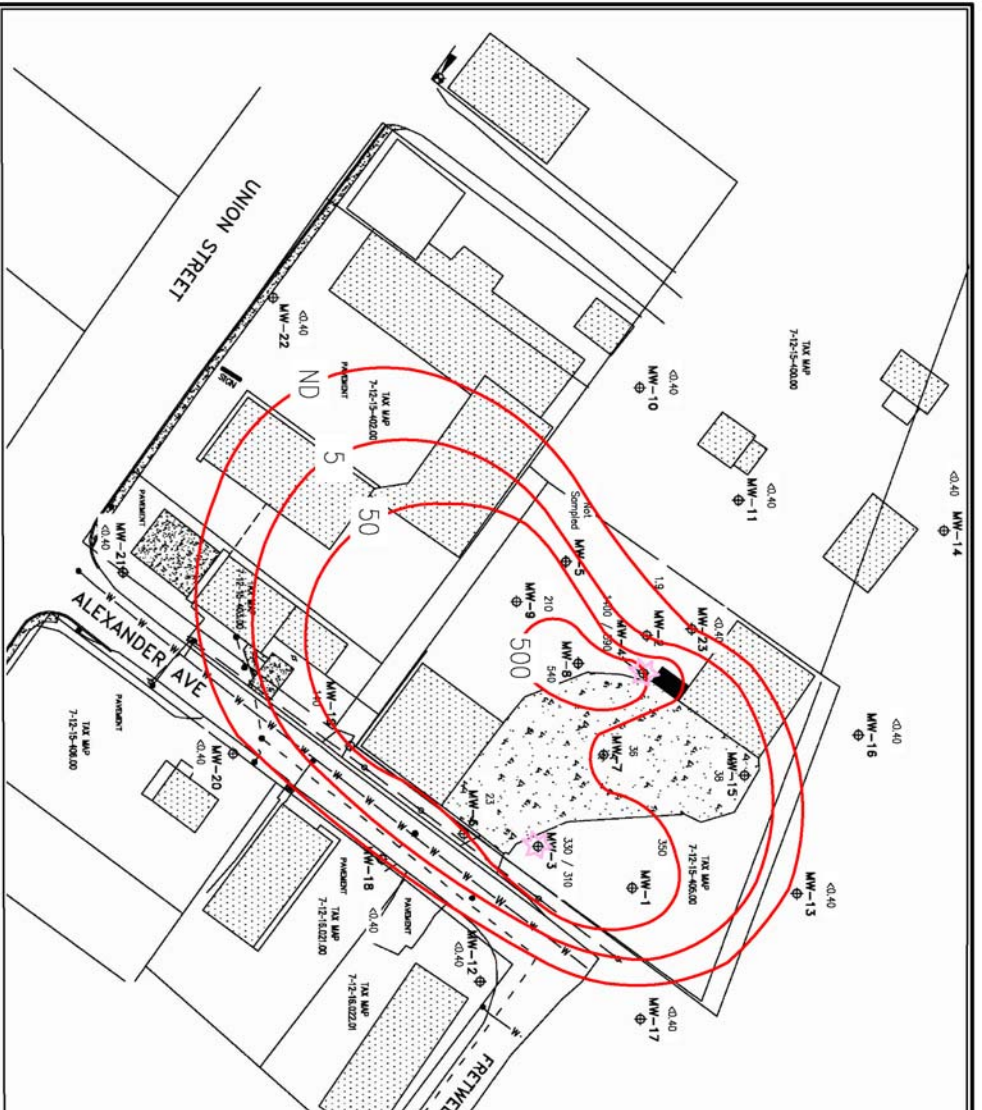
petratotech
 PETRA TRENDS CONSULTANTS, LLC

Figure No.

7c



REFERENCE: Site Survey by Souther Land Surveying dated 12/16/14



REFERENCE: Site Survey by Sothier Land Surveying dated 12/16/14



- ⊕ Groundwater Monitoring Well
- 2.5J Naphthalene Concentration in Monogram For User
- (2.5J) Naphthalene Concentration in Monogram For User Not Used for Contouring Purposes Due to The Depth of The Sampling Interval
- Naphthalene Inconcentration Line
- Free-Phase Petroleum Product Detected in Well

| | |
|--|---|
| TITLE | Naphthalene Inconcentration Map - November 2014 |
| PROJECT | Worris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina |
| DATE | 12/21/2014 |
| JOB NO. | J14-060-A |
| petratotech PETROCHEMICAL SERVICES | |
| Figure No. | 7a |

| DESCRIPTION | NORTHING | EASTING | TOP OF CASING/GROUND ELEVATION |
|-------------|-------------|-------------|--------------------------------|
| MW-9 | 1133024.930 | 1724920.942 | 774.64 |
| MW-8 | 1133024.915 | 1724920.927 | 774.68 |
| MW-10 | 1133024.930 | 1724920.942 | 774.64 |
| MW-11 | 1133024.930 | 1724920.942 | 774.64 |
| MW-12 | 1133024.930 | 1724920.942 | 774.64 |
| MW-13 | 1133024.930 | 1724920.942 | 774.64 |
| MW-14 | 1133024.930 | 1724920.942 | 774.64 |
| MW-15 | 1133024.930 | 1724920.942 | 774.64 |
| MW-16 | 1133024.930 | 1724920.942 | 774.64 |
| MW-17 | 1133024.930 | 1724920.942 | 774.64 |
| MW-18 | 1133024.930 | 1724920.942 | 774.64 |
| MW-19 | 1133024.930 | 1724920.942 | 774.64 |
| MW-20 | 1133024.930 | 1724920.942 | 774.64 |
| MW-21 | 1133024.930 | 1724920.942 | 774.64 |
| MW-22 | 1133024.930 | 1724920.942 | 774.64 |
| MW-23 | 1133024.930 | 1724920.942 | 774.64 |

| DESCRIPTION | NORTHING | EASTING | TOP OF CASING/GROUND ELEVATION |
|-------------|-------------|-------------|--------------------------------|
| MW-4 | 1133018.611 | 1724918.228 | 774.64 |
| MW-5 | 1133018.611 | 1724918.228 | 774.64 |
| MW-6 | 1133018.611 | 1724918.228 | 774.64 |
| MW-7 | 1133018.611 | 1724918.228 | 774.64 |
| MW-8 | 1133018.611 | 1724918.228 | 774.64 |
| MW-9 | 1133018.611 | 1724918.228 | 774.64 |
| MW-10 | 1133018.611 | 1724918.228 | 774.64 |
| MW-11 | 1133018.611 | 1724918.228 | 774.64 |
| MW-12 | 1133018.611 | 1724918.228 | 774.64 |
| MW-13 | 1133018.611 | 1724918.228 | 774.64 |
| MW-14 | 1133018.611 | 1724918.228 | 774.64 |
| MW-15 | 1133018.611 | 1724918.228 | 774.64 |
| MW-16 | 1133018.611 | 1724918.228 | 774.64 |
| MW-17 | 1133018.611 | 1724918.228 | 774.64 |
| MW-18 | 1133018.611 | 1724918.228 | 774.64 |
| MW-19 | 1133018.611 | 1724918.228 | 774.64 |
| MW-20 | 1133018.611 | 1724918.228 | 774.64 |
| MW-21 | 1133018.611 | 1724918.228 | 774.64 |
| MW-22 | 1133018.611 | 1724918.228 | 774.64 |
| MW-23 | 1133018.611 | 1724918.228 | 774.64 |

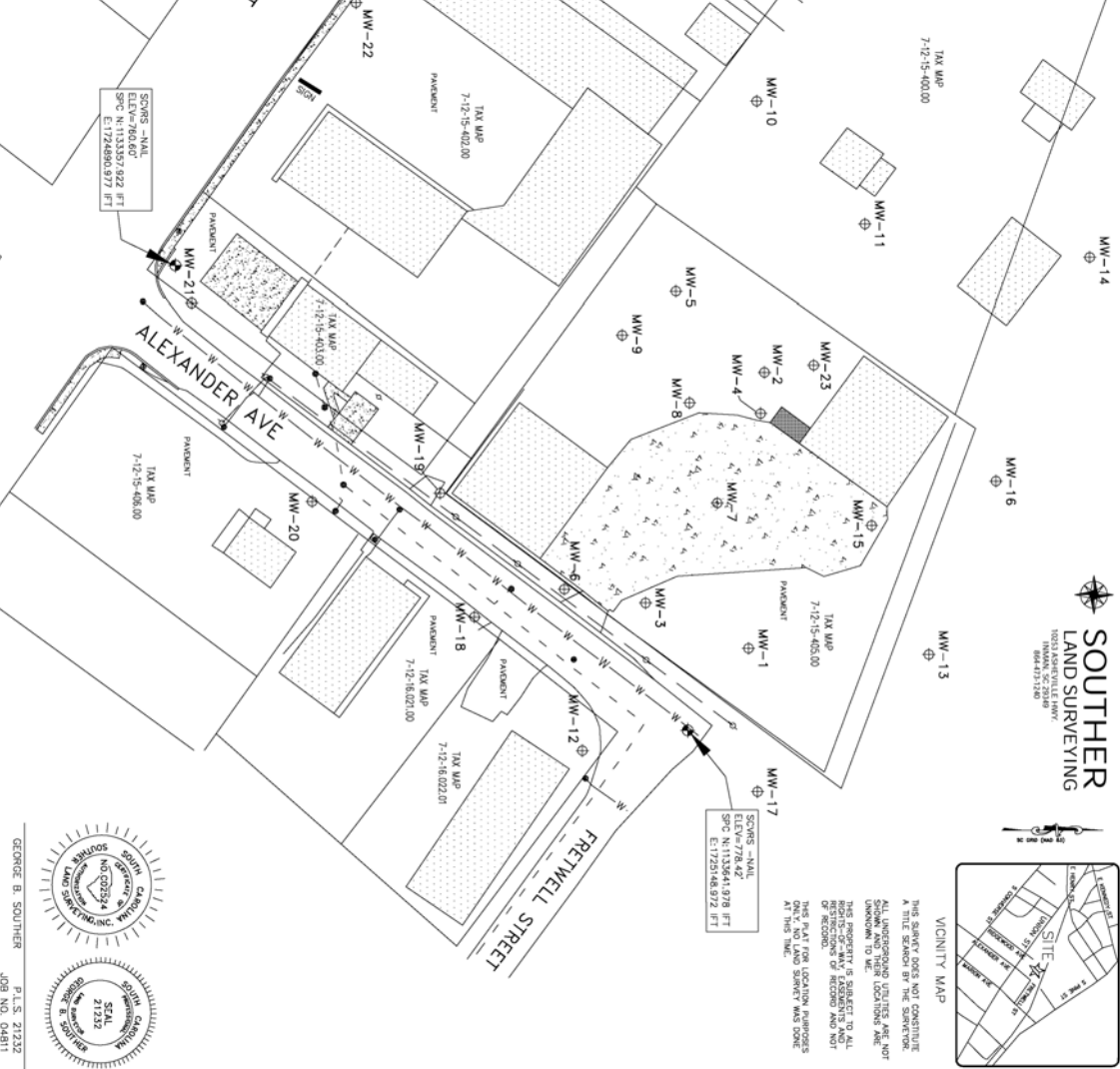
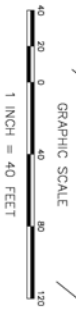
SITE SURVEY FOR:
PETRA-TECH ENVIRONMENTAL, LLC
 GREENVILLE COUNTY
 MORRIS OIL CO.
 UST PERMIT #08641
 427 ALEXANDER AVENUE
 SPARTANBURG, SOUTH CAROLINA
 16 DECEMBER 2014

LEGEND

- ⊕ SURVEY MARKER
- 1/2" REBAR FOUND
- 1/2" REBAR SET IN GROUND
- P.W. NAIL SET IN ROAD
- P.W. NAIL SET IN ROAD
- SANITARY SINKER WH

NOTES:

ALL DIMS ARE 1/2" REBAR OR P.W. NAILS IN ROAD, UNLESS OTHERWISE NOTED.



SOUTHER LAND SURVEYING
 100 MARKET ST. 2014B
 SPARTANBURG, SC 29303
 864-473-1240



THIS PROPERTY IS SUBJECT TO ALL RIGHTS OF MW EXISTENTS AND NOT BEING RECORDED AND NOT BEING RECORDED. THIS PLAN FOR LOCATION PURPOSES ONLY. NO LAND SURVEY WAS DONE AT THIS TIME.

GEORGE B. SOUTHER
 P.L.S. 20232
 JOB NO. 048T1

TABLE 1
Summary of Groundwater Screening Results
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| | | Groundwater Screening Sample | | | | | | | | | | |
|-------------------------------|--------|------------------------------|-------|-----------------------|--------------|--------------|-------|--------------|-------|-------------|-------|-------|
| | Method | RBSL (µg/L) | GW01 | GW01D | GW02 | GW04 | GW05 | GW06 | GW07 | GW08 | GW09 | GW10 |
| Boring Depth (ft bgs) | NA | NA | 24 | 28 | 18 | 26 | 20 | 20 | 20 | 20 | 26 | 20 |
| Depth-to-Groundwater (ft bgs) | NA | NA | 20 | NA | 14 | 23 | 16 | 17 | 18 | 18 | 22 | 16 |
| Sample Depth (ft bgs) | NA | NA | 20-24 | NA | 14-18 | 22-26 | 16-20 | 16-20 | 16-20 | 16-20 | 22-26 | 16-20 |
| PID Reading (ppm) | NA | NA | 10.7 | NA | 0.1 | 0.4 | 0.0 | 1.3 | 2.8 | 32.0 | 0.1 | 0.0 |
| Benzene (µg/L) | 8260B | 5 | NT | Refusal at 28 feet | 0.23J | 0.55J | <0.13 | 0.34J | NT | 4.9J | NT | <0.13 |
| Toluene (µg/L) | 8260B | 1,000 | NT | | <0.33 | 0.63J | <0.33 | <0.33 | NT | <1.7 | NT | <0.33 |
| Ethylbenzene (µg/L) | 8260B | 700 | NT | | <0.33 | <0.33 | <0.33 | 0.95J | NT | 15 | NT | <0.33 |
| Xylenes (µg/L) | 8260B | 10,000 | NT | | <0.33 | 0.48J | <0.33 | 0.89J | NT | 9.6 | NT | <0.33 |
| Naphthalene (µg/L) | 8260B | 25 | NT | | <0.40 | <0.33 | <0.40 | 3.9 | NT | 190 | NT | <0.40 |
| 1,2-DCA (µg/L) | 8260B | 5 | NT | | <0.15 | <0.15 | <0.15 | <0.15 | NT | <0.74 | NT | <0.15 |
| MTBE (µg/L) | 8260B | 40 | NT | | <0.40 | <0.40 | <0.40 | <0.40 | NT | <2.0 | NT | <0.40 |

| | | Groundwater Screening Sample | | | | | | | | | | |
|-------------------------------|--------|------------------------------|----------------------|----------------------|--------------|-----------------------|--------------|-----------------------|-------|-------|--------------|--------------|
| | Method | RBSL (µg/L) | GW11 | GW11D | GW12 | GW12D | GW13 | GW13D | GW14 | GW15 | GW16 | GW21 |
| Boring Depth (ft bgs) | NA | NA | 6 | 8 | 22 | 23 | 19 | 20 | 24 | 24 | 16 | 20 |
| Depth-to-Groundwater (ft bgs) | NA | NA | NA | NA | 18 | NA | 16 | NA | 20-24 | 20-24 | 12-16 | 16-20 |
| Sample Depth (ft bgs) | NA | NA | NA | NA | 18-22 | NA | 15-19 | NA | 22 | 20 | 15 | 18 |
| PID Reading (ppm) | NA | NA | NA | NA | 0.7 | NA | 1.3 | NA | 0.1 | 0.3 | 0.5 | 0.4 |
| Benzene (µg/L) | 8260B | 5 | Refusal at 6 feet | Refusal at 8 feet | 0.28J | Refusal at 23 feet | 0.52J | Refusal at 20 feet | NT | NT | 0.23J | 0.37J |
| Toluene (µg/L) | 8260B | 1,000 | | | <0.33 | | 0.56J | | NT | NT | <0.33 | 0.33J |
| Ethylbenzene (µg/L) | 8260B | 700 | | | <0.33 | | <0.33 | | NT | NT | <0.33 | <0.33 |
| Xylenes (µg/L) | 8260B | 10,000 | | | <0.33 | | 0.73J | | NT | NT | 0.83J | <0.33 |
| Naphthalene (µg/L) | 8260B | 25 | | | 1.9 | | 2 | | NT | NT | 2.0 | 1.3 |
| 1,2-DCA (µg/L) | 8260B | 5 | | | <0.15 | | <0.15 | | NT | NT | <0.15 | <0.15 |
| MTBE (µg/L) | 8260B | 40 | | | <0.40 | | <0.40 | | NT | NT | <0.40 | <0.40 |

NOTES:

RBSL - Risk Based Screening Level

Shaded values indicate concentrations exceeding RBSLs.

PID - MiniRae Lite Photoionization Detector

ppm - parts per million

ft bgs - feet below ground surface

NA - Not Applicable

NT - Not Tested. Sample not submitted for laboratory analysis

TABLE 2
Monitoring Well and Groundwater Surface Elevation Data
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| Monitoring Well | Ground Surface Elevation | Top-of-Casing Elevation | Date | Free-Phase Petroleum Product (feet) | Groundwater Depth Below Top-of-Casing | Groundwater Elevation | Well Depth BGS | Screened Interval Depth | Screened Interval Elevation |
|-----------------|--------------------------|-------------------------|------------|-------------------------------------|---------------------------------------|-----------------------|----------------|-------------------------|-----------------------------|
| 08641-MW01 | 772.66 | 772.24 | 04/07/2004 | -- | 11.41 | 760.83 | 27.00 | 17.00 - 27.00 | 755.66 - 745.66 |
| | | | 11/13/2014 | -- | 16.12 | 756.12 | | | |
| | | | 12/16/2014 | -- | 16.28 | 755.96 | | | |
| 08641-MW02 | 766.29 | 765.91 | 04/07/2004 | -- | 16.05 | 749.86 | 32.10 | 22.10 - 32.10 | 744.19 - 734.19 |
| | | | 11/13/2014 | -- | 20.62 | 745.29 | | | |
| | | | 12/16/2014 | -- | 21.35 | 744.56 | | | |
| 08641-MW03 | 774.37 | 774.04 | 04/07/2004 | 0.01 | 14.41 | 759.64 | 24.00 | 14.00 - 24.00 | 760.37 - 750.37 |
| | | | 11/13/2014 | 0.29 | 19.40 | 754.84 | | | |
| | | | 12/16/2014 | 0.13 | 19.63 | 754.50 | | | |
| 08641-MW04 | 768.66 | 768.43 | 04/07/2004 | 0.02 | 15.40 | 753.04 | 23.00 | 13.00 - 23.00 | 755.66 - 745.66 |
| | | | 11/13/2014 | 1.02 | 23.26 | 745.88 | | | |
| | | | 12/16/2014 | 0.65 | 23.68 | 745.21 | | | |
| 08641-MW05 | 764.20 | 763.99 | 04/07/2014 | -- | 15.42 | 748.57 | 13.00 | 13.00 - 23.00 | 751.20 - 741.20 |
| | | | 11/13/2014 | -- | 20.31 | 743.68 | | | |
| | | | 12/16/2014 | -- | 20.42 | 743.57 | | | |
| 08641-MW06 | 774.26 | 774.04 | 11/13/2014 | -- | 20.13 | 753.91 | 28.63 | 18.43 - 28.43 | 755.83 - 745.83 |
| | | | 12/16/2014 | -- | 20.47 | 753.57 | | | |
| | | | 11/13/2014 | -- | 16.01 | 752.71 | | | |
| 08641-MW07 | 769.26 | 768.72 | 12/16/2014 | -- | 16.12 | 752.60 | 21.95 | 11.75 - 21.75 | 757.51 - 747.51 |
| | | | 11/13/2014 | -- | 22.34 | 747.28 | | | |
| | | | 12/16/2014 | -- | 22.66 | 746.96 | | | |
| 08641-MW08 | 769.76 | 769.62 | 11/13/2014 | -- | 21.36 | 744.86 | 26.01 | 15.81 - 25.81 | 750.92 - 740.92 |
| | | | 12/16/2014 | -- | 21.88 | 744.34 | | | |
| | | | 11/13/2014 | -- | 15.21 | 735.30 | | | |
| 08641-MW09 | 766.73 | 766.22 | 11/13/2014 | -- | 15.93 | 734.58 | 23.60 | 13.40 - 23.40 | 737.47 - 727.47 |
| | | | 12/16/2014 | -- | 15.33 | 737.24 | | | |
| | | | 12/16/2015 | -- | 15.62 | 736.95 | | | |
| 08641-MW10 | 750.87 | 750.51 | 11/13/2014 | -- | 22.19 | 754.81 | 31.58 | 21.38 - 31.38 | 756.16 - 746.16 |
| | | | 12/16/2016 | -- | 22.59 | 754.41 | | | |
| | | | 11/13/2014 | -- | 8.36 | 756.39 | | | |
| 08641-MW11 | 752.91 | 752.57 | 12/16/2017 | -- | 7.53 | 757.22 | 11.19 | 0.99 - 10.99 | 760.35 - 750.35 |
| | | | 11/13/2014 | -- | 13.87 | 738.34 | | | |
| | | | 12/16/2018 | -- | 12.37 | 739.84 | | | |
| 08641-MW12 | 777.54 | 777.00 | 11/13/2014 | -- | 13.02 | 754.54 | 20.27 | 10.07 - 20.07 | 757.77 - 747.77 |
| | | | 12/16/2019 | -- | 13.66 | 753.90 | | | |
| | | | 11/13/2014 | -- | 9.67 | 752.26 | | | |
| 08641-MW13 | 761.34 | 764.75 | 12/16/2020 | -- | 8.17 | 753.76 | 10.88 | 0.68 - 10.68 | 757.58 - 747.58 |
| | | | 11/13/2014 | -- | 20.03 | 758.84 | | | |
| | | | 12/16/2021 | -- | 19.45 | 759.42 | | | |
| 08641-MW14 | 752.75 | 752.21 | 11/13/2014 | -- | 18.03 | 753.71 | 26.71 | 16.51 - 26.51 | 762.62 - 752.62 |
| | | | 12/16/2022 | -- | 18.42 | 753.32 | | | |
| | | | 11/13/2014 | -- | 17.01 | 752.37 | | | |
| 08641-MW15 | 767.84 | 767.56 | 12/16/2023 | -- | 17.55 | 751.83 | 21.62 | 11.42 - 21.42 | 758.27 - 748.27 |
| | | | 11/13/2014 | -- | 14.23 | 752.91 | | | |
| | | | 12/16/2024 | -- | 14.42 | 752.72 | | | |
| 08641-MW16 | 767.45 | 767.14 | 11/13/2014 | -- | 9.86 | 751.65 | 19.62 | 9.42 - 19.42 | 752.42 - 742.42 |
| | | | 12/16/2025 | -- | 10.16 | 751.35 | | | |
| | | | 11/13/2014 | -- | 12.63 | 738.84 | | | |
| 08641-MW17 | 761.84 | 761.51 | 12/16/2026 | -- | 13.52 | 737.95 | 16.95 | 6.75 - 16.75 | 745.06 - 735.06 |
| | | | 11/13/2014 | -- | 18.48 | 745.76 | | | |
| | | | 12/16/2014 | -- | 19.48 | 744.76 | | | |

NOTES:
Measurements are in feet
BGS - below ground surface
Elevations are NAVD 88

TABLE 3
Summary of Soil Screening Results
 Morris Oil - UST Permit #08641
 Spartanburg, Spartanburg County, South Carolina

| | Method | RBSL (Sandy Soil) | Boring ID | | | | | | | |
|-------------------------------|--------|-------------------|-------------|--------------|-------------|--------------|-------------|-------------|------------|------|
| | | | 08641-MW06 | 08641-MW07 | 08641-MW08 | 08641-MW09 | 08641-MW15 | 08641-MW17 | 08641-MW23 | |
| Boring Depth (ft bgs) | NA | -- | 29 | 22 | 23 | 28 | 22 | 27 | 32 | |
| Depth-to-Groundwater (ft bgs) | NA | -- | 20 | 16 | 21 | 21 | 14 | 19 | 23 | |
| Sample Depth (ft bgs) | NA | -- | 15 | 10 | 15 | 20 | 10 | 15 | 20 | |
| Sample Date | NA | -- | 12/13/2014 | 12/13/2014 | 12/13/2014 | 12/13/2014 | 12/13/2014 | 12/13/2014 | 12/13/2014 | |
| PID Reading (ppm) | NA | -- | 2.6 | 1.5 | 12.7 | 16.9 | 0.4 | 0.2 | 0.3 | |
| Benzene (µg/kg) | 8260B | 7 | <0.72 | <i>1.7J</i> | <i>8.1</i> | <i>5.5</i> | <i>8.4</i> | <0.55 | <1.4 | <1.2 |
| Toluene (µg/kg) | 8260B | 1450 | <1.1 | <0.91 | <i>1.1J</i> | <i>0.76J</i> | <i>1.2J</i> | <0.85 | <2.1 | <1.9 |
| Ethylbenzene (µg/kg) | 8260B | 1150 | <i>2.4J</i> | <i>0.93J</i> | <i>26</i> | <i>16</i> | <i>25</i> | <i>0.85</i> | <2.1 | <1.9 |
| Xylenes (µg/kg) | 8260B | 14500 | <1.9 | <1.6 | <i>21</i> | <i>13</i> | <i>19</i> | <1.5 | <3.6 | <3.3 |
| Naphthalene (µg/kg) | 8260B | 36 | <i>2.5J</i> | <i>3.9</i> | <i>9.3</i> | <i>3.2</i> | <i>4.1</i> | <0.85 | <2.1 | <1.9 |

| | Method | Trip Blank | Field Blank |
|---------------------|--------|------------|-------------|
| Sample Date | NA | NA | 12/13/2014 |
| Benzene (µg/L) | 8260B | <0.13 | <0.13 |
| Toluene (µg/L) | 8260B | <0.33 | <0.33 |
| Ethylbenzene (µg/L) | 8260B | <0.33 | <0.33 |
| Xylenes (µg/L) | 8260B | <0.33 | <0.33 |
| Naphthalene (µg/L) | 8260B | <0.40 | <0.40 |

NOTES:

RBSL - Risk Based Screening Level
 PID - MiniRae Lite Photoionization Detector
 ppm - parts per million
 ft bgs - feet below ground surface

TABLE 4
Summary of Groundwater Analytical Results
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| | | Free-Phase Petroleum Product (feet) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | Naphthalene (µg/L) | EDB (µg/L) | 1,2 DCA (µg/L) | ETBE (µg/L) | ETBA (µg/L) | TAME (µg/L) | DIPE (µg/L) | Ethanol (µg/L) | TBF (µg/L) | TBA (µg/L) | TAA (µg/L) | Lead (µg/L) |
|---------------|--------------|-------------------------------------|---|----------------|---------------------|----------------|-------------|--------------------|------------|----------------|-------------|-------------|-------------|-------------|----------------|------------|------------|------------|-------------|
| | | --- | RBSL 5 | RBSL 1,000 | RBSL 700 | RBSL 10,000 | RBSL 40 | RBSL 25 | RBSL 0.05 | RBSL 5 | RBSL 47 | RBSL NE | RBSL 128 | RBSL 150 | RBSL 10,000 | RBSL NE | RBSL 1,400 | RBSL 240 | RBSL 15 |
| 08641-MW01 | 04/07/04 | -- | 317 | 14.8 | 720 | 626 | 2.1 | 373 | NT | NT | NT | NT | NT | NT | NT | NT | NT | NT | 19.0 |
| | 11/13/14 | -- | 710 | 36 | 800 | 790 | <8.0 | 350 | <0.019 | <2.9 | <4.0 | <20 | <4.0 | <8.0 | <660 | <20 | <130 | 350 J | 14 |
| 08641-MW02 | 04/07/04 | -- | 658 | 43.9 | 198 | 277 | 84.3 | 137 | NT | NT | NT | NT | NT | NT | NT | NT | NT | NT | 19.0 |
| | 11/13/14 | -- | <0.13 | <0.33 | 1.5 | 1.4 | <0.40 | 1.9 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 3.1 J |
| 08641-MW03 | 04/07/04 | 0.01 | NOT SAMPLED - 0.01 FEET OF FREE-PHASE PETROLEUM PRODUCT PRESENT | | | | | | | | | | | | | | | | |
| | 11/13/14 | 0.29 | 1900 | 150 | 1200 | 2200 | <20 | 330 | <0.020 | <7.4 | <10 | <50 | 12 J | <20 | <1700 | <50 | <340 | 370 J | 6.7 J |
| | 11/13/14 dup | | 1900 | 150 | 1200 | 2300 | <20 | 310 | <0.019 | <7.4 | <10 | <50 | 11 J | <20 | <1700 | <50 | <340 | 400 J | 7 J |
| 08641-MW04 | 04/07/04 | 0.02 | NOT SAMPLED - 0.02 FEET OF FREE-PHASE PETROLEUM PRODUCT PRESENT | | | | | | | | | | | | | | | | |
| | 11/13/14 | 1.02 | 2100 | 730 | 2400 | 7100 | <20 | 1400 | <0.019 | <7.4 | <10 | <50 | <10 | <20 | <1700 | <50 | <340 | <340 | 720 |
| | 11/13/14 dup | | 1300 | 510 | 1800 | 5300 | <20 | 590 | <0.019 | <7.4 | <10 | <50 | <10 | <20 | <1700 | <50 | <340 | <340 | 66 |
| 08641-MW05 | 04/07/04 | -- | 1170 | 340 | 1080 | 1500 | 39.2 | 443 | NT | NT | NT | NT | NT | NT | NT | NT | NT | NT | 285 |
| | 11/13/14 | | NOT SAMPLED - APPROXIMATELY 1 FOOT OF MUD IN BOTTOM OF WELL | | | | | | | | | | | | | | | | |
| 08641-MW06 | 11/13/14 | -- | 5.2 | 0.48 J | 78 | 60 | 0.64 J | 23 | <0.020 | <0.15 | <0.20 | <1.0 | 17 | 6.0 | <33 | <1.0 | 25 | 580 | 6.7 J |
| 08641-MW07 | 11/13/14 | -- | 2.5 | <0.33 | 4.0 | 3.4 | <0.40 | 36 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 9.6 J |
| 08641-MW08 | 11/13/14 | -- | 13 | 44 | 830 | 2800 | <4.0 | 540 | 0.046 | <1.5 | <2.0 | <10 | <2.0 | <4.0 | <330 | <10 | <67 | <67 | 10 |
| 08641-MW09 | 11/13/14 | -- | 56 | 5.7 | 170 | 130 | <2.0 | 210 | <0.020 | <0.74 | <1.0 | <5.0 | <1.0 | <2.0 | <170 | <5.0 | <34 | 48 J | 4 J |
| 08641-MW10 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 3.1 J |
| 08641-MW11 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 5 J |
| 08641-MW12 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 4.6 J |
| 08641-MW13 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 3.4 J |
| 08641-MW14 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 13 |
| 08641-MW15 | 11/13/14 | -- | 1.0 | 0.36 J | 57 | 47 | <0.40 | 38 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 9.4 J |
| 08641-MW16 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 3.6 J |
| 08641-MW17 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | 0.41 J | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 4 J |
| 08641-MW18 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 3.7 J |
| 08641-MW19 | 11/13/14 | -- | 17 | 5.9 | 320 | 60 | <2.0 | 140 | <0.019 | <0.74 | <1.0 | <5.0 | <1.0 | <2.0 | <170 | <5.0 | <34 | 220 | 3.7 J |
| 08641-MW20 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 3.6 J |
| 08641-MW21 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 6.8 J |
| 08641-MW22 | 11/13/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 2.8 J |
| 08641-MW23 | 11/13/14 | -- | <0.13 | <0.33 | 2.6 | 2.6 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | 11 |
| SW01 | 11/14/14 | -- | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.019 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | NT |
| Trip Blank 1 | 11/14/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | NT | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | NT |
| Trip Blank 2 | 11/14/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | NT | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | NT |
| Trip Blank 3 | 11/14/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | NT | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | NT |
| Field Blank 1 | 11/13/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | NT |
| Field Blank 2 | 11/14/14 | NA | <0.13 | <0.33 | <0.33 | <0.33 | <0.40 | <0.40 | <0.020 | <0.15 | <0.20 | <1.0 | <0.20 | <0.40 | <33 | <1.0 | <6.7 | <6.7 | NT |

NOTES:
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NE - Not Established
NT - Not Tested

TABLE 5
Groundwater Velocity
Morris Oil - UST Permit #08641
Spartanburg, Spartanburg County, South Carolina

| VELOCITY CALCULATION | Date | Hydraulic Conductivity (K) (centimeters/second) | Hydraulic Conductivity (K) (feet/day) | Hydraulic Conductivity (K) (feet/year) | Hydraulic Gradient (i) (unitless) | Effective Porosity (n) (unitless) | Groundwater Velocity (V) (feet/day) | Groundwater Velocity (V) (feet/year) | Groundwater Velocity (V) (meters/second) |
|----------------------|------------|---|---------------------------------------|--|-----------------------------------|-----------------------------------|-------------------------------------|--------------------------------------|--|
| 08641-MW03 | 04/12/2004 | 2.15E-04 | 0.61 | 2.22E+02 | 0.072 | 0.33 | 1.33E-01 | 48.54 | 4.69E-07 |
| 08641-MW04 | 04/12/2004 | 5.29E-04 | 1.50 | 5.47E+02 | 0.072 | 0.33 | 3.27E-01 | 119.42 | 1.15E-06 |
| 08641-MW05 | 04/12/2004 | 3.54E-04 | 1.00 | 3.66E+02 | 0.072 | 0.33 | 2.19E-01 | 79.92 | 7.72E-07 |
| 08641-MW06 | 12/13/2014 | 5.75E-06 | 0.02 | 5.95E+00 | 0.072 | 0.33 | 3.56E-03 | 1.30 | 1.25E-08 |
| 08641-MW07 | 12/13/2014 | 1.79E-06 | 0.01 | 1.85E+00 | 0.072 | 0.33 | 1.11E-03 | 0.40 | 3.91E-09 |
| Mathematical Mean | --- | 2.21E-04 | 0.63 | 2.29E+02 | 0.072 | 0.33 | 1.37E-01 | 49.92 | 4.82E-07 |

Notes:

Hydraulic conductivity values for groundwater monitoring wells 08641-MW03, 08641-MW04, and 08641-MW05 were obtained from slug tests performed by Spero Corporation during the Tier I Assessment in 2004.

Effective porosity values were estimated from published values of effective porosity for a fine sand (ranging from 0.01 to 0.46; arithmetic mean 0.33) (McWorter and Sunada 1977).

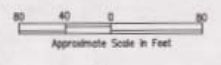
Hydraulic gradient was calculated based on groundwater elevations from and distances between monitoring wells 08641-MW17 and 08641-MW02 (Figure 4).

Groundwater velocity derived from the equation $V = Ki/n$.

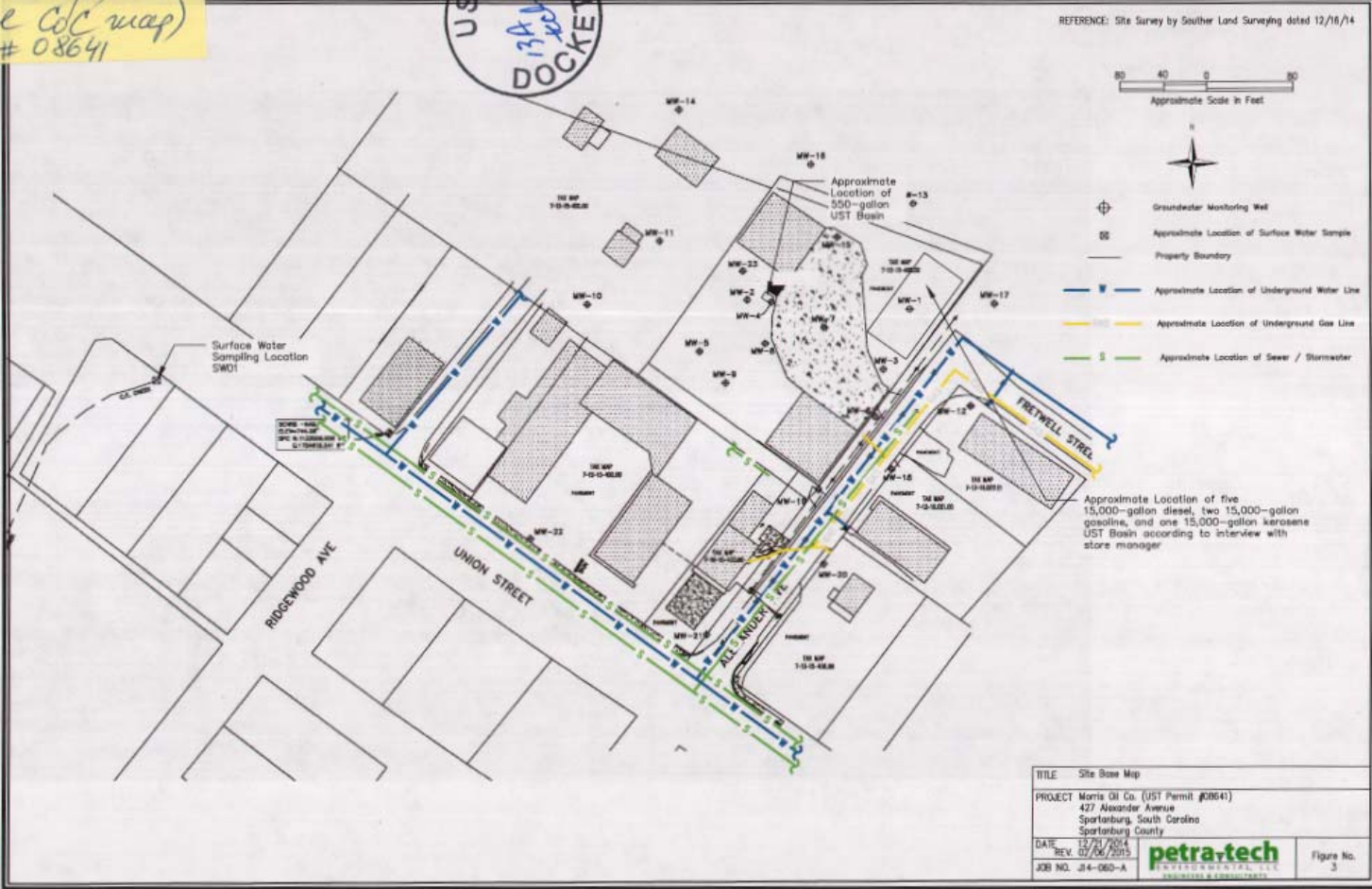
Scan as
 13A-tech. March
 (site map,
 soil CoC map)
 # 08641

JUST DOCKING
 13A

REFERENCE: Site Survey by Souther Land Surveying dated 12/16/14



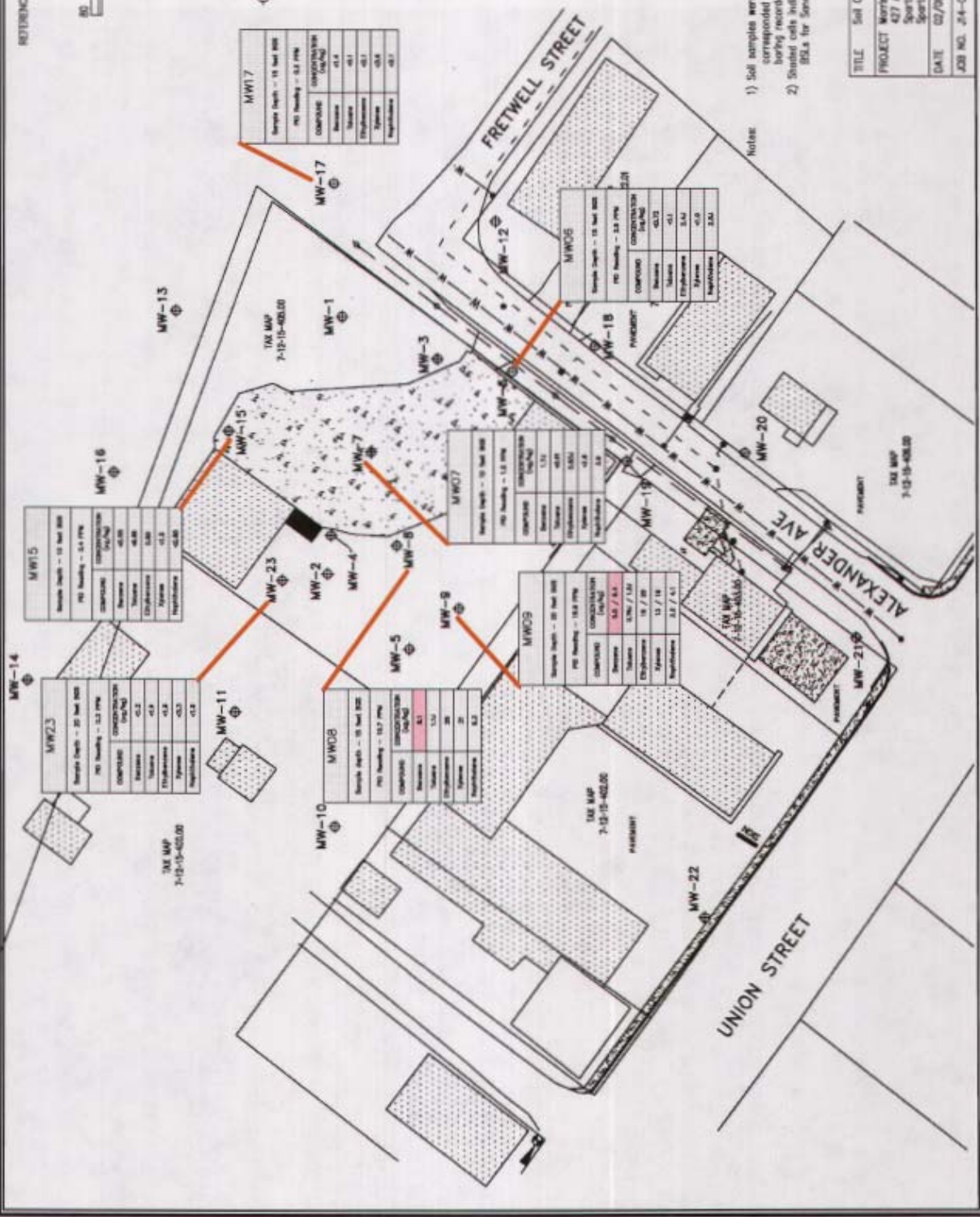
- Groundwater Monitoring Well
- Approximate Location of Surface Water Sample
- Property Boundary
- Approximate Location of Underground Water Line
- Approximate Location of Underground Gas Line
- Approximate Location of Sewer / Stormwater



REFERENCE: Site Survey by Southern Land Surveying dated 12/16/14



Groundwater Monitoring Well



- Notes:
- 1) Soil samples were collected on December 13, 2014. Sample depths corresponded to the highest PFO/OVA field screening values from each boring recorded during monitoring well installation activities.
 - 2) Shaded cells indicate concentrations detected above SQHAC established BSLs for Study Soil.

| | |
|------------|---|
| TITLE | Soil CcC Map - November 2014 |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County |
| DATE | 02/09/2015 |
| JOB NO. | 24-000-A |
| Figure No. | EB |





2600 Bull Street
Columbia, SC 29201-1708

October 1, 2003

DON W MORRIS
PO BOX 2843
SPARTANBURG SC 29304

RE: Underground Storage Tanks (USTs)
Tier I Assessments
Morris Oil Co., 429 Alexander Avenue, Spartanburg, Spartanburg County, SC
Permit ID #08641

Dear Mr. Morris:

The Program sent you a Proposed Consent Order on April 16, 2003 directing you to conduct two Tier I assessments for releases #1 and #2 that were reported in June of 1999, the time that the tanks were abandoned. Subsequently, James Johnson submitted a letter on your behalf on May 2, 2003. Mr. Johnson requested that the Program re-evaluate the directive to conduct two Tier I assessments simultaneously. The Program reviewed the request and the work that has already been conducted at the facility. Lee Monts, manager of the Owner/Operator Assistance Section of the Assessment and Corrective Action Division, spoke with Mr. Johnson via the telephone on August 13, 2003. It was agreed that the Program would revise the directive for the Tier I assessments. Therefore, the Program is directing that only one of the Tier I assessments be conducted **at this time**. This assessment should be conducted for **Release #2**. Mr. Monts indicated that the Program could wait on conducting the Tier I assessment for Release #1 until after the results of the first Tier I are received. Mr. Johnson agreed to contact you concerning this proposal, and I have provided him with a copy of this letter since you indicated to me that Spero Corporation will be doing the work. Because this issue has been referred to the Enforcement Section, please have the Tier I assessment report submitted **no later than December 5, 2003**. If you have any questions, you may reach me at 1-800-826-5435 (when calling in South Carolina) or 803-896-6240.

Sincerely,

William (Will) K Green Jr.
Enforcement Section
Underground Storage Tank Program
Bureau of Land and Waste Management

Cc: Stan Johnson, Spero Corporation
Technical File

WKG/wkg
09641info
DHEC/UST/10.01.03

UST DOCKET
KT

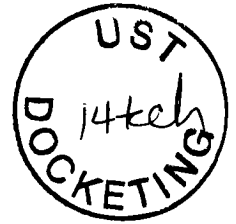


W. Marshall Taylor Jr., Acting Director

Promoting and protecting the health of the public and the environment

**MR LARRY MORRIS
DW MORRIS PROPERTIES LLC
216 CYPRESS CREEK ROAD
SPARTANBURG SC 29307**

FEB 12 2015



Re: Request for Right-Of-Entry

Morris Oil Company (former), 427 Alexander Avenue, Spartanburg, SC

UST Permit #08641

Release No. 1 reported June 8, 1999; Release No. 2 reported June 8, 1999
Spartanburg County

Dear Mr. Morris:

As you may be aware, petroleum chemicals were leaked and/or spilled into the ground on your property as a result of the operation of the former underground storage tank system at the referenced facility. The Underground Storage Tank Management Division (UST Division) was previously working with Petra-Tech Environmental, LLC for the assessment of the petroleum releases.

We have since found out that you purchased the property (tax map #7-12-15-405.00) in 2014. The UST Division requests your permission to enter your property during reasonable working hours to continue with the work. There will be no cost to you. Any work will be done in a manner that will minimize any inconvenience as much as humanly possible. Further, any contractors will be licensed, certified, and insured. You will be informed of all proposed work prior to initiation and provided copies of all follow-up reports.

Please complete the enclosed Right-of Entry Form and return it to my attention on or before March 13, 2015. If you have any questions, please contact me by telephone at (803) 898-0671 or by e-mail to RiversMS@dhec.sc.gov. On all correspondence concerning this site, please reference UST Permit #08641.

Sincerely,

Michael Rivers, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Right-of-Entry Form

cc: Technical File (w/ enc.)

MR/ROELET02.11.15

RIGHT-OF-ENTRY FORM

PROPERTY OWNER

UST Permit #08641

I, _____, certify that I am the legal owner of the property identified below or serve as the authorized representative for the property owner. I authorize the South Carolina Department of Health and Environmental Control (Agency), or a contractor selected by the Agency, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that the Agency will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

Name of Facility _____ Tax Map #7-12-15-405.00

Street Address of Facility _____

Town, City, District, Suburb _____

Is the property currently leased or rented to someone? (yes or no) _____. If yes, please provide their name _____ and phone number _____ and let them know about the pending assessment activities. If vehicles or other mobile structures are parked over the former or existing underground storage tanks, they should be moved before the Agency's contractor arrives at the site.

NAME of Property owner (Please Print): _____

Phone Number (home) _____ (work) _____

Current Mailing Address: _____

Signature of Property Owner: _____

Witness: _____

Date: _____ Month _____ Day _____ Year

Please return completed form to: Michael Rivers, SCDHEC, UST Management Division, 2600 Bull Street, Columbia, SC 29201

Lee Monts - 08641 Morris Oil Company

From: Lee Monts
To: Green, Jr., William K.
Subject: 08641 Morris Oil Company

I spoke with James Johnson of Spero Corporation regarding the enforcement actions associated with the requested Tier I Assessments for two releases reported on June 8, 1999. I told him that we were willing to have only one of the Tier I Assessments conducted at this time and that it should be for Release #2. I indicated that we could wait on conducting the Tier I Assessment for Release #1 until after we received the results of the first report. He indicated that he felt this was a good approach and indicated that he would call Mr. Morris and let him know. Mr. Johnson agreed that work needed to be done and that he would stress this to Mr. Morris. I did not give him a time frame but would like to have the report in about 45-60 days. Perhaps you can follow up with him later this week on the deadline.

UST DOCKET
15T

Lee Monts - Fwd: Re: 08641...Morris Oil Co

From: Lee Monts
To: Shrader, Art A.
Date: 7/30/03 11:30 AM
Subject: Fwd: Re: 08641...Morris Oil Co
CC: Green, Jr., William K.

Art, you may recall this project. You returned a check for the amount of the IGWA to Mr. Morrison back in September 2000. Would you have any problems with pursuing one of the Tier I Assessments now through Enforcement and waiting on the other until the results of the first report are in? Soil data indicates 2 releases so we could hold to the original directives. Doug had originally asked for a Tier II after the IGWAs were received. S&ME submitted a plan for \$68K, but Tony Reames said it was not warranted and directed 2 Tier I assessments. There are no identified receptors, so I don't see a problem stepping back to do one of the Tier Is at this time. Let me know what you think. Thanks.

Lee Monts - Re: 08641...Morris Oil Co

From: Lee Monts
To: Lindler, Rebecca
Date: 7/24/03 2:23 PM
Subject: Re: 08641...Morris Oil Co
CC: Green, Jr., William K.

I have quickly looked at the file and can discuss tomorrow since I will soon be leaving today for an appointment. The file shows that Wanda Crotwell sent a letter to Representative Smith in October 2001 indicating that there were 2 releases. That letter also indicated that the review of Mr. Morris' finances indicated he could pay. Stan followed up with the Representative in March 2002 and indicated we would be taking enforcement actions. As requested in the letter from Spero Corp., I think we could probably move forward with the Tier I on one release and hold the second Tier I in abeyance until the results of the first one come in. That would also create less of a financial burden as well. I will look at this in a little more detail and make a final decision soon. Thanks.

>>> Rebecca Lindler 07/23/03 02:32PM >>>

I'm checking on this case. Have you reviewed the soil sampling reporting? Any changes as to what we are looking for? Let me know.

From: Art A. Shrader
To: Monts, Lee
Date: 7/30/03 1:23PM
Subject: Fwd: Re: 08641...Morris Oil Co

Lee,

OK, if you are happy with this reduced level of work.

Mr. Morrison needs to understand that he may need to do more assessment activities in the future if necessary. Mr. Morrison has been looking for loop holes at every turn.. Set a very short suspense to get the work done with no extensions.

Since there was a political inquiry in 2001, we probably need to let Wanda know if there will be any change in the enforcement status.

Thanks
Art

>>> Lee Monts 07/30/03 11:30AM >>>

Art, you may recall this project. You returned a check for the amount of the IGWA to Mr. Morrison back in September 2000. Would you have any problems with pursuing one of the Tier I Assessments now through Enforcement and waiting on the other until the results of the first report are in? Soil data indicates 2 releases so we could hold to the original directives. Doug had originally asked for a Tier II after the IGWAs were received. S&ME submitted a plan for \$68K, but Tony Reames said it was not warranted and directed 2 Tier I assessments. There are no identified receptors, so I don't see a problem stepping back to do one of the Tier Is at this time. Let me know what you think. Thanks.

CC: Clark, Stan L.; McKenney, Bette



C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

NOV 22 2004

MR DON MORRIS
MORRIS OIL CO
PO BOX 2843
SPARTANBURG SC 29304-2843

UST DOCKET
16T

Re: Morris Oil Company, 427 Alexander Ave., Spartanburg, SC
UST Permit # 08641
Release # 1 and release #2 reported: June 8, 1999
Tier I Assessment report received: June 10, 2004
Spartanburg County

Dear Mr. Morris:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the technical file and referenced report. The report indicates that concentrations of chemicals of concern for benzene, naphthalene and MtBE are above allowable risk based screening levels (RBSLs). Also two of the wells contained free product. Based on these results the Program has determined the next necessary scope of work to be Tier II Assessment.

Our records indicate that you have selected Spero Corporation as your contractor to perform assessment activities at the site for the necessary scope of work. Please have your contractor complete and submit an Assessment Component Cost Agreement form and Tier II Assessment Plan form within **thirty days** of the date of this letter. The plan should address area for release #1 as well as the area for release #2. The Tier II assessment forms may be obtained from our UST website at www.scdhec.gov/ust. Every component may not be necessary to complete the above scope of work. The SUPERB allowable cost for each component is included on the Assessment Component Cost Agreement form.

On all correspondence regarding this site, please reference UST Permit #08641. Please be sure to include the requested information so that the appropriate approvals can be issued. **Note: approval from the Program must be issued before work begins.** Please call me at (803) 896-6664 or (800) 826-5435 (within South Carolina only) if you have questions or need additional information.

Sincerely, 

Maia Milenkova, Hydrogeologist
Assessment Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
 Will Green, Enforcement Section, UST Program
Spero Corporation, 119 SE Main Street, Simpsonville, SC 29681

DHEC/UST/11/18/04/MPM

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

2600 Bull Street • Columbia, SC 29201 • Phone: (803) 898-3432 • www.scdhec.net



MR. ART MCQUEEN
MCQUEEN LAW FIRM
175 ALABAMA STREET
SPARTANBURG SC 29302

SEP 21 2018

Re: **Request for Property Access**
Morris Oil Co., 427 Alexander Ave., Spartanburg, SC 29304
UST Permit # 08641
Release #1 and #2 Reported June 08, 1999
Spartanburg County

Dear Mr. McQueen:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) documented releases from the UST system at the referenced site June 08, 1999

To determine what risk the reported release may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of monitoring well installation and groundwater sampling are necessary to define the petroleum plume. For this site, the required action will be funded by the State Underground Petroleum Environmental Response Bank (SUPERB) Account. The UST Management Division is requesting your permission for the contractor to enter your property to perform the necessary work and all future work. The UST Division will keep you apprised of all pending activities and provide you a copy of all reports upon request. **Please complete the attached Permission form and return it to my attention within 15 days from your date of receipt.**

If you have any questions, please contact me by phone at (803) 898-0655, by fax at (803) 898-0673, or by e-mail at hofferqm@dhec.sc.gov.

Sincerely,

Quincy Hoffer, Hydrogeologist
Corrective Action and Quality Assurance Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Permission Form

cc: Technical file (w/enc)



**State Lead Option
Property Access Agreement for Site
Rehabilitation**

Only complete this form if: You are the legal owner of the property **OR** are the designated authorized representative for the legal owner of the property.

I certify that I am the legal owner of the property identified below or serve as the authorized representative for the legal owner of the property. I authorize the South Carolina Department of Health and Environmental Control (DHEC), or a contractor selected by DHEC, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. I understand that the Agency will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

| | | |
|--|---|----|
| UST Permit # | 08641 | |
| Facility Name: | Morris Oil Co. | |
| Facility Address: | 427 Alexander Avenue, Spartanburg, SC 29304 | |
| Facility Phone Number: | | |
| Is facility within city limits? (circle yes/no) | Yes | No |
| Name of nearest intersecting street/road/highway: | | |
| Does public water/sewer utility service this facility? | Yes | No |

*If no, please provide a contact name/number that can assist in the location of private water and septic tank lines:

| | | | |
|--|---------------|----|--|
| Name: | Phone Number: | | |
| Were USTs previously removed from the ground at this facility? | Yes | No | |

*If yes, please provide the name/contact number of a person that can assist in the location of the former UST(s):

| | | | |
|---|---------------|----|--|
| Name: | Phone Number: | | |
| Is the facility currently leased to someone? | Yes | No | |
| *If yes, notify them of the pending work scope, and please provide their name/contact number: | | | |
| Name: | Phone Number: | | |

***Please note that if vehicles or other mobile structures are parked over the location of the existing or former USTs, they should be moved prior to DHEC's contractor mobilizes to the facility.**

| | | | |
|---|--|--|------|
| Name of Property Owner (Print): | | | |
| Signature of Property Owner or authorized representative: | | | Date |
| Affiliation (if applicable) | | | |
| Signature of Witness | | | Date |

Contact Info

| | | |
|----------------|-------|-------|
| Phone Numbers: | Home: | Cell: |
| Email Address: | | |



**BUREAU OF LAND AND WASTE MANAGEMENT
UNDERGROUND STORAGE TANK PROGRAM**

Phone (803) 896-6240 Fax (803) 896-6245

2600 Bull Street
Columbia, SC 29201-1708

JUL 30 2002

MR DON MORRIS
PO BOX 2843
SPARTANBURG SC 29304-2843

Re: Morris Oil Company, 429 Alexander Ave., Spartanburg, SC
UST Permit #08641; CA #16871; MWA UMW#16403
Release #2 reported June 8, 1999
Tier II Plan received July 17, 2002
Spartanburg County

**UST DOCKET
177**

Dear Mr. Morris:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced Tier II Plan submitted by S&ME, Inc. on your behalf. The Program considers a Tier II Assessment to be unwarranted at this time. Instead the Program requests that a Tier I Assessment be completed for release #2 at the facility.

According to Program records, release #2 at the facility was reported to SCDHEC on June 8, 1999 subsequent to the Early Detection Incentive Program. Therefore, in accordance with Section 44-2-40(D) of the SUPERB Act, you are responsible for the first \$25,000 of site rehabilitation costs. To insure that expenditures made toward rehabilitation apply to the \$25,000 deductible, the Program has pre-approved costs for implementing the Tier I and assigned Cost Agreement (CA) #16871 for tracking. By law, the SUPERB Account cannot compensate any costs that are not pre-approved.

The Program has pre-approved a total of \$10,880.00 for implementation of the Tier I Assessment. The total includes costs for completion of up to 75 feet of permanent monitoring well footage. Additional monitoring well footage can be billed at the SUPERB allowable rate of \$38 per foot provided that the cost is pre-approved by the Program. Upon receipt of a report of findings, and a completed Tier I invoice with all necessary supporting documentation, up to \$10,880.00 will be applied towards the \$25,000 deductible. The report and invoice should be submitted to the Program within 90 days of the date of this correspondence.

Please note that in accordance with R.61-92, Subpart H, Section 280.114, you are required to notify the Program by certified mail within ten (10) days of commencing a voluntary or involuntary proceeding in bankruptcy. State law also requires that an owner/operator or guarantor that files for bankruptcy protection must immediately submit appropriate forms documenting that entity's ability to demonstrate financial responsibility.

Implementation of the Tier I Assessment may proceed immediately upon receipt of this correspondence. Approval to install three permanent monitoring wells is enclosed. Please note that applicable South Carolina certification requirements regarding laboratory services, well installation, and report preparation must be satisfied. Any site rehabilitation activity associated with the UST release must be performed by a SCDHEC-certified site rehabilitation contractor as required by R.61-98.

The Program grants pre-approval for transportation of virgin petroleum-contaminated soil and groundwater generated as a result of the IGWA from the referenced facility to a permitted treatment facility. The contaminated soil and/or groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage during transport. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report of findings. If laboratory analyses show that the concentrations of chemicals of concern in the soil and/or groundwater are below risk-based screening levels, please contact me for approval to dispose of soil and/or groundwater on-site. The SUPERB Account will not compensate for transportation or treatment of clean soil and/or groundwater.

On all correspondence regarding this site, please reference UST Permit #08641. Should you have any questions regarding this correspondence, please feel free to contact me at (803) 896-6323.

Sincerely,



Tony G. Reames, EIT, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Approved Cost Agreement for 08641, release #2
Monitoring well approval (MWA)

cc: S&ME, Inc., 155 Tradd Street, Spartanburg, SC 29301 (w/copy of CA and original MWA)
Technical file (w/enc.)



Monitoring Well Installation Approval Form

2600 Bull Street
Columbia, SC 29201-1708

Date of Issue: July 29, 2002

Approval No.: UMW #16403

Approval is hereby granted to: Morris Oil Company

UST Permit #: 08641


County: Spartanburg

This approval is for the construction of three permanent monitoring wells in accordance with construction plans and technical specifications outlined in the Tier I Assessment document issued by South Carolina Department of Health and Environmental Control (SCDHEC). The wells are to be constructed within the surficial aquifer for the intended purpose of monitoring groundwater quality and/or groundwater levels at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs, and actual (as-built) construction details for the well will be submitted in the technical report.
2. The wells will be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate will provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.
3. Well construction and sampling-derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, and development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.
4. **A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Tony Reames at (803) 896-6323 or REAMESTG@COLUMB26.DHEC.STATE.SC.US.**
5. Please provide ground-water quality analytical data and associated field measurements in the technical report.
6. Permanent and temporary monitoring wells must be installed by or under the direct supervision of a licensed well driller certified by the State of South Carolina.
7. Permanent and temporary monitoring wells must be abandoned by or under the direct supervision of a licensed well driller certified by the State of South Carolina. Temporary monitoring wells must not remain in place for longer than 30 days from the date of installation. Monitoring wells will be abandoned only upon concurrence with the Assessment and Corrective Action Division.

This approval is pursuant to the provisions of Section 4-5540 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71. Please remember to have a copy of this approval on-site during well installation.

Approved by:


Tony G. Reames, EIT, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Appalachia III District EQC
Technical file

DHEC/UST/TGR/7/29/2002



**BUREAU OF LAND AND WASTE MANAGEMENT
UNDERGROUND STORAGE TANK PROGRAM**

Phone (803) 896-6240 Fax (803) 896-6245

2600 Bull Street
Columbia, SC 29201-1708

JUL 30 2002

MR DON MORRIS
PO BOX 2843
SPARTANBURG SC 29304-2843

Re: Morris Oil Company, 429 Alexander Ave., Spartanburg, SC
UST Permit #08641; CA #16873; MWA UMW#16402
Release #1 reported June 8, 1999
Tier II Plan received July 17, 2002
Spartanburg County

Dear Mr. Morris:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced Tier II Plan submitted by S&ME, Inc. on your behalf. The Program considers a Tier II Assessment to be unwarranted at this time. Instead the Program requests that a Tier I Assessment be completed for release #1 at the facility.

According to Program records, release #1 at the facility was reported to SCDHEC on June 8, 1999 subsequent to the Early Detection Incentive Program. Therefore, in accordance with Section 44-2-40(D) of the SUPERB Act, you are responsible for the first \$25,000 of site rehabilitation costs. To insure that expenditures made toward rehabilitation apply to the \$25,000 deductible, the Program has pre-approved costs for implementing the Tier I and assigned Cost Agreement (CA) #16873 for tracking. By law, the SUPERB Account cannot compensate any costs that are not pre-approved.

The Program has pre-approved a total of \$10,880.00 for implementation of the Tier I Assessment. The total includes costs for completion of up to 75 feet of permanent monitoring well footage. Additional monitoring well footage can be billed at the SUPERB allowable rate of \$38 per foot provided that the cost is pre-approved by the Program. Upon receipt of a report of findings, and a completed Tier I invoice with all necessary supporting documentation, up to \$10,880.00 will be applied towards the \$25,000 deductible. The report and invoice should be submitted to the Program within 90 days of the date of this correspondence.

Please note that in accordance with R.61-92, Subpart H, Section 280.114, you are required to notify the Program by certified mail within ten (10) days of commencing a voluntary or involuntary proceeding in bankruptcy. State law also requires that an owner/operator or guarantor that files for bankruptcy protection must immediately submit appropriate forms documenting that entity's ability to demonstrate financial responsibility.

Implementation of the Tier I Assessment may proceed immediately upon receipt of this correspondence. Approval to install three permanent monitoring wells is enclosed. Please note that applicable South Carolina certification requirements regarding laboratory services, well installation, and report preparation must be satisfied. Any site rehabilitation activity associated with the UST release must be performed by a SCDHEC-certified site rehabilitation contractor as required by R.61-98.

The Program grants pre-approval for transportation of virgin petroleum-contaminated soil and groundwater generated as a result of the IGWA from the referenced facility to a permitted treatment facility. The contaminated soil and/or groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage during transport. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report of findings. If laboratory analyses show that the concentrations of chemicals of concern in the soil and/or groundwater are below risk-based screening levels, please contact me for approval to dispose of soil and/or groundwater on-site. The SUPERB Account will not compensate for transportation or treatment of clean soil and/or groundwater.

On all correspondence regarding this site, please reference UST Permit #08641. Should you have any questions regarding this correspondence, please feel free to contact me at (803) 896-6323.

Sincerely,



Tony G. Reames, EIT, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Approved Cost Agreement for 08641, release #1
Monitoring well approval (MWA)

cc: S&ME, Inc., 155 Tradd Street, Spartanburg, SC 29301 (w/copy of CA and original MWA)
Technical file (w/enc.)



Monitoring Well Installation Approval Form

2600 Bull Street
Columbia, SC 29201-1708

Date of Issue: July 29, 2002

Approval No.: UMW #16402


Approval is hereby granted to: Morris Oil Company
UST Permit #: 08641
County: Spartanburg

This approval is for the construction of three permanent monitoring wells in accordance with construction plans and technical specifications outlined in the Tier I Assessment document issued by South Carolina Department of Health and Environmental Control (SCDHEC). The wells are to be constructed within the surficial aquifer for the intended purpose of monitoring groundwater quality and/or groundwater levels at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs, and actual (as-built) construction details for the well will be submitted in the technical report.
2. The wells will be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate will provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.
3. Well construction and sampling-derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, and development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.
4. **A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Tony Reames at (803) 896-6323 or REAMESTG@COLUMB26.DHEC.STATE.SC.US.**
5. Please provide ground-water quality analytical data and associated field measurements in the technical report.
6. Permanent and temporary monitoring wells must be installed by or under the direct supervision of a licensed well driller certified by the State of South Carolina.
7. Permanent and temporary monitoring wells must be abandoned by or under the direct supervision of a licensed well driller certified by the State of South Carolina. Temporary monitoring wells must not remain in place for longer than 30 days from the date of installation. Monitoring wells will be abandoned only upon concurrence with the Assessment and Corrective Action Division.

This approval is pursuant to the provisions of Section 4-5540 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71. Please remember to have a copy of this approval on-site during well installation.

Approved by:


Tony G. Reames, EIT, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Appalachia III District EQC
Technical file

DHEC/UST/TGR/7/29/2002



MS. JULIE MORRIS
216 CYPRESS CREEK DRIVE
SPARTANBURG SC 29307

APR 26 2018

Re: **Request for Property Access**
Morris Oil Co., 427 Alexander Ave., Spartanburg, SC 29304
UST Permit # 08641
Release #1 and #2 Reported June 08, 1999
Spartanburg County

Dear Ms. Morris:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) documented releases from the UST system at the referenced site June 08, 1999

To determine what risk the reported release may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of monitoring well installation and groundwater sampling are necessary to define the petroleum plume. For this site, the required action will be funded by the State Underground Petroleum Environmental Response Bank (SUPERB) Account. The UST Management Division is requesting your permission for the contractor to enter your property to perform the necessary work and all future work. The UST Division will keep you apprised of all pending activities and provide you a copy of all reports upon request. **Please complete the attached Permission form and return it to my attention within 15 days from your date of receipt.**

If you have any questions, please contact me by phone at (803) 898-0655, by fax at (803) 898-0673, or by e-mail at hofferqm@dhec.sc.gov.

Sincerely,

Quincy Hoffer, Hydrogeologist
Corrective Action and Quality Assurance Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Permission Form

cc: Technical file (w/enc)



**State Lead Option
Property Access Agreement for Site
Rehabilitation**

Only complete this form if: You are the legal owner of the property **OR** are the designated authorized representative for the legal owner of the property.

I certify that I am the legal owner of the property identified below or serve as the authorized representative for the legal owner of the property. I authorize the South Carolina Department of Health and Environmental Control (DHEC), or a contractor selected by DHEC, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. I understand that the Agency will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

| | |
|---------------------|-------|
| UST Permit # | 08641 |
|---------------------|-------|

| | |
|-----------------------|----------------|
| Facility Name: | Morris Oil Co. |
|-----------------------|----------------|

| | |
|--------------------------|---|
| Facility Address: | 427 Alexander Avenue, Spartanburg, SC 29304 |
|--------------------------|---|

| | |
|-------------------------------|--|
| Facility Phone Number: | |
|-------------------------------|--|

| | | |
|--|-----|----|
| Is facility within city limits? (circle yes/no) | Yes | No |
|--|-----|----|

| | |
|--|--|
| Name of nearest intersecting street/road/highway: | |
|--|--|

| | | |
|---|-----|----|
| Does public water/sewer utility service this facility? | Yes | No |
|---|-----|----|

*If no, please provide a contact name/number that can assist in the location of private water and septic tank lines:

| | |
|--------------|----------------------|
| Name: | Phone Number: |
|--------------|----------------------|

| | | |
|---|-----|----|
| Were USTs previously removed from the ground at this facility? | Yes | No |
|---|-----|----|

*If yes, please provide the name/contact number of a person that can assist in the location of the former UST(s):

| | |
|--------------|----------------------|
| Name: | Phone Number: |
|--------------|----------------------|

| | | |
|---|-----|----|
| Is the facility currently leased to someone? | Yes | No |
|---|-----|----|

*If yes, notify them of the pending work scope, and please provide their name/contact number:

| | |
|--------------|----------------------|
| Name: | Phone Number: |
|--------------|----------------------|

***Please note that if vehicles or other mobile structures are parked over the location of the existing or former USTs, they should be moved prior to DHEC's contractor mobilizes to the facility.**

| | |
|--|--|
| Name of Property Owner (Print): | |
|--|--|

| | | |
|--|--|-------------|
| Signature of Property Owner or authorized representative: | | Date |
|--|--|-------------|

| | |
|------------------------------------|--|
| Affiliation (if applicable) | |
|------------------------------------|--|

| | | |
|-----------------------------|--|-------------|
| Signature of Witness | | Date |
|-----------------------------|--|-------------|

Contact Info

| | | |
|-----------------------|--------------|--------------|
| Phone Numbers: | Home: | Cell: |
|-----------------------|--------------|--------------|

| | |
|-----------------------|--|
| Email Address: | |
|-----------------------|--|

LETTER OF TRANSMITTAL
S&ME, Inc.
 155 Tradd Street
 Spartanburg, South Carolina 29301
 (864) 574-2360 Fax (864) 576-8730



RECEIVED

JUL 17 2002

| | |
|-------------------|--|
| DATE: | July 15, 2002 |
| JOB NO.: | 1264-00619 |
| ATTENTION: | Mr. Doug Pasley |
| COMPANY: | SCDHEC – Bureau of Land & Waste Management |
| ADDRESS: | 2600 Bull Street Columbia, SC 29201 |
| RE: | Morris Oil Company |

**Underground Storage
 Tank Program**

WE ARE SENDING YOU Attached Under separate cover via _____ the following items:
 Shop drawings Prints Plans Samples Specifications
 Copy of letter Reports _____

| COPIES | DATED | NO. | DESCRIPTION |
|--------|---------|-----|---|
| 1 | 7/15/02 | | Tier II Assessment Plan and Assessment Component Cost Agreement |
| | | | |
| | | | |
| | | | |

THESE ARE TRANSMITTED as checked below:

- For approval
- For your use
- As requested
- For review and comment
- FOR BIDS DUE _____ 19
- PRINTS RETURNED AFTER LOAN TO US

REMARKS:

Doug,
 Please see the enclosed Tier II Assessment Plan and Assessment Component Cost Agreement. If you have questions or need additional information, please contact me.

Thanks,
 Nathan D. Williams

**UST DOCKET
 18T**

COPY TO: Mr. Don Morris
 Mr. Doug Smith, Esquire
 1264-00-619 File

SIGNED: *Nathan D. Williams*

IF ENCLOSURES ARE NOT AS NOTED, PLEASE NOTIFY US AT ONCE.

This Letter of Transmittal and the documents accompanying this Letter of Transmittal contain information from S&ME, Inc., which is confidential and legally privileged. The information is intended only for the use of the individual or entity named on this Letter of Transmittal. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on these documents is strictly prohibited.



Tier II Permit
Division of Underground Tank Management

UST Permit # 08641 County Spartanburg Facility Name Morris Oil Company
Facility Address 429 Alexander Avenue, Spartanburg, SC
Responsible party Morris Oil Company Address P. O. Box 2843, Spartanburg, SC 29304
No. USTs 9 Removed? 6/2 - 6/14/99 Replaced? _____
(date) (date)
Current use of facility/property Electric supply business and machine shop
Current property owner name Mr. Don Morris
Current property owner address P. O. Box 2843, Spartanburg, SC 29304-2843

Field Screening Methodology

Specify the field screening methodology to be used. The use of field screening methods to optimize the number and location of permanent wells is required.

Field screening will be conducted by collecting soil samples near the groundwater surface with a Geoprobe rig. The soil samples will be screened with a calibrated Organic Vapor Analyzer.

Permanent Monitoring Wells (Estimate number and total completed depth)

| | | | | |
|------------------------------|-----------|-------------|------------|----------------|
| # of shallow wells | <u>13</u> | Total depth | <u>460</u> | |
| # of deep wells | <u>2</u> | Total depth | <u>120</u> | (If necessary) |
| Comments, if warranted _____ | | | | |

Analyses

List the analytical parameters (e.g., BTEX, MTBE) and estimated number.

BTEX, MTBE, Naphthalene, PAHs, Nitrate, Sulfate, Ferrous Iron, and Organic Lead will be analyzed in the 17 groundwater samples. BTEX, Naphthalene, and PAHs will be analyzed in one soil sample collected from soil test borings STB-1 through STB-13. TPH Method 3550 and grain sizes with hydrometer will be analyzed in two soil samples from each of the previous UST excavations with the greatest indication of petroleum impact. One soil sample will be collected in the boring for monitoring well MW-3 at 10 feet below the ground surface and will be chemically analyzed for TOC.

Implementation Schedule

Start up date Upon DHEC & client authorization Completion date Approx. 90 days following authorization
Report submittal date Approx. 90 days following authorization

UST Permit # 08641 Facility Name Morris Oil Company

Site Maps

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

| | |
|------------------------------------|--|
| North Arrow | Legend with facility name and address, Site ID number, date, and a bar scale |
| Location of property lines | Streets or highways (indicate names and numbers) |
| Location of buildings | Identification of located buildings |
| Paved areas on or adjacent to site | Location of all present and former ASTs and USTs |
| Previous soil sampling locations | Underground and above ground utilities on or adjacent to site |
| Previous monitoring well locations | Location of any other potential receptor |

Aquifer Characterization (Check one and provide explanation for choice)

Pump Test: _____ Slug Tests: 6

Performing slug tests will be more cost effective.

Small Volume Disposal Type and Method

Soil: Soil cuttings will be placed into 55-gallon drums for later transport to a facility in North Carolina for biotreatment and disposal.

Purge Water: Purgewater will be placed into 55-gallon drums for later transport to a facility in North Carolina for treatment and disposal.

Additional Comments: _____

ASSESSMENT COMPONENT COST AGREEMENT

SOUTH CAROLINA

Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

State Underground Petroleum Environmental Response Bank

UST Facility Name Morris Oil Company

UST Permit # 08641 CP# _____

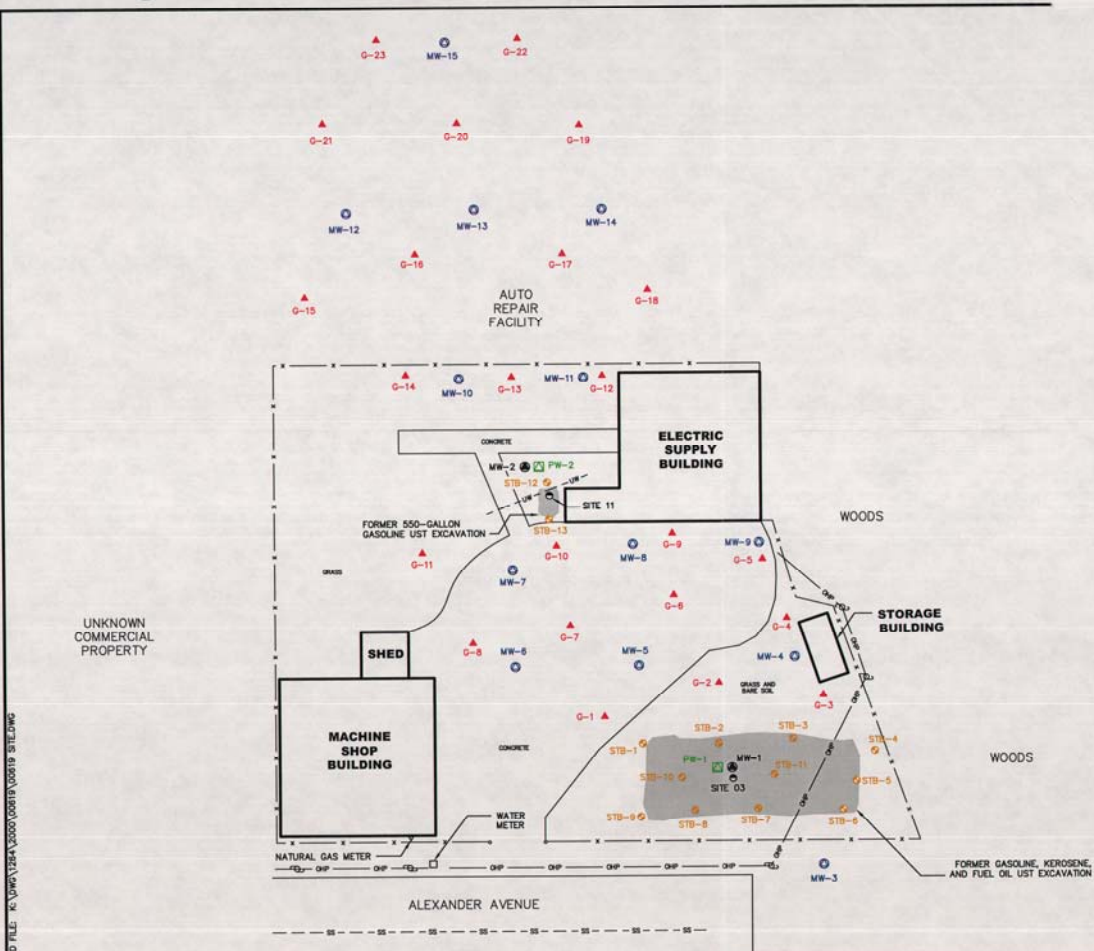
| ITEM | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|------------|-----------|-------------|--|
| 1. Plan* | | | | |
| A. Plan Preparation | <u>1</u> | x | \$ 100.00 | \$ <u>100.00</u> |
| B. Tax Maps | <u>1</u> | x | \$ 50.00 | \$ <u>50.00</u> |
| 2. Receptor Survey* | <u>1</u> | x | \$ 500.00 | \$ <u>500.00</u> |
| 3. Comprehensive Survey | <u>1</u> | x | \$ 1,000.00 | \$ <u>1,000.00</u> |
| 4. Mob/Demob (list component #) | | | | |
| A. Equipment <u>6, 9</u> | <u>2</u> | x | \$ 500.00 | \$ <u>1,000.00</u> |
| B. Personnel <u>6, 9, 10, 12, 16, 17</u> | <u>6</u> | x | \$ 250.00 | \$ <u>1,500.00</u> |
| 5. Soil Borings (hand auger)* | | feet x | \$ 14.00 | \$ <u>0.00</u> |
| 6. Soil Borings (drilled) and Field Screening* | <u>610</u> | feet x | \$ 17.00 | \$ <u>10,370.00</u> |
| | | | | <small>(Includes collection and quantification)</small> |
| 7. Soil Leachability Model | <u>2</u> | x | \$ 200.00 | \$ <u>400.00</u> |
| 8. Abandonment* | <u>610</u> | feet x | \$ 4.00 | \$ <u>2,440.00</u> |
| 9. Well Installation* | | | | <small>(Includes drilling costs)</small> |
| A. Water Table (hand auger) | | feet x | \$ 20.00 | \$ <u>0.00</u> |
| B. Water Table (drilled) | <u>460</u> | feet x | \$ 38.00 | \$ <u>17,480.00</u> |
| C. Telescoping | <u>120</u> | feet x | \$ 58.00 | \$ <u>6,960.00</u> |
| D. Rock Drilling | | feet x | \$ 58.00 | \$ <u>0.00</u> |
| 10. Ground-water sample collection* | <u>17</u> | samples x | \$ 55.00 | \$ <u>935.00</u> |
| 11. Analyses - Groundwater | | | | <small>(See Analytical Methodology for analyses)</small> |
| A. BTEX+ Naph.+MTBE | <u>17</u> | samples x | \$ 100.00 | \$ <u>1,700.00</u> |
| B. BTEX+Naph.+MTBE+Trimethylbenzene | | samples x | \$ 135.00 | \$ <u>0.00</u> |
| C. PAH's | <u>17</u> | samples x | \$ 120.00 | \$ <u>2,040.00</u> |
| D. Lead | | samples x | \$ 20.00 | \$ <u>0.00</u> |
| E. EDB | <u>17</u> | samples x | \$ 55.00 | \$ <u>935.00</u> |
| F. 8 RCRA Metals | | samples x | \$ 140.00 | \$ <u>0.00</u> |
| G. TPH (9070) | | samples x | \$ 55.00 | \$ <u>0.00</u> |
| H. pH | | samples x | \$ 10.00 | \$ <u>0.00</u> |
| I. BOD | | samples x | \$ 40.00 | \$ <u>0.00</u> |
| J. Nitrate | <u>17</u> | samples x | \$ 20.00 | \$ <u>340.00</u> |
| K. Sulfate | <u>17</u> | samples x | \$ 20.00 | \$ <u>340.00</u> |
| L. Ferrous Iron | <u>17</u> | samples x | \$ 20.00 | \$ <u>340.00</u> |
| M. Methane | | samples x | \$ 110.00 | \$ <u>0.00</u> |
| N. Organic Lead | <u>17</u> | samples x | \$ 100.00 | \$ <u>1,700.00</u> |

Continued on next page

ASSESSMENT COMPONENT COST AGREEMENT

| ITEM | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|----------|------------|--------------|---------------------|
| 11. Analyses - Soil | | | | |
| O. BTEX + Naphth. | 13 | samples x | \$ 100.00 | \$ <u>1,300.00</u> |
| P. PAH's | 13 | samples x | \$ 120.00 | \$ <u>1,560.00</u> |
| Q. 8 RCRA Metals | | samples x | \$ 150.00 | \$ <u>0.00</u> |
| R. TPH (9071) | | samples x | \$ 60.00 | \$ <u>0.00</u> |
| S. TPH (3550) | 2 | samples x | \$ 65.00 | \$ <u>130.00</u> |
| T. TPH (5035) | | samples x | \$ 65.00 | \$ <u>0.00</u> |
| U. Grain size / hydrometer | 2 | samples x | \$ 75.00 | \$ <u>150.00</u> |
| V. Total Organic Carbon | 2 | samples x | \$ 35.00 | \$ <u>70.00</u> |
| 12. Aquifer Characterization* | | | | |
| A. Pumping Test | | hours x | \$ 120.00 | \$ <u>0.00</u> |
| B. Slug Test | 6 | tests x | \$ 150.00 | \$ <u>900.00</u> |
| 13. Free Product Recovery Rate Test* | | | | |
| | | tests x | \$ 120.00 | \$ <u>0.00</u> |
| 14. Fate/Transport Modeling | | | | |
| A. Mathematical Model | 2 | models x | \$ 300.00 | \$ <u>600.00</u> |
| B. Computer Model | | models x | \$ 500.00 | \$ <u>0.00</u> |
| 15. Risk Evaluation | | | | |
| A. Tier I | | x | \$ 300.00 | \$ <u>0.00</u> |
| B. Tier II | 1 | x | \$ 500.00 | \$ <u>500.00</u> |
| 16. Subsequent Survey* | | | | |
| | 1 | x | \$ 260.00 | \$ <u>260.00</u> |
| 17. Disposal* | | | | |
| A. Wastewater | | | | |
| 1. Purging/Sampling | 3 | drums x | \$ 90.00 | \$ <u>270.00</u> |
| 2. Pumping Test | | gallons x | \$ 0.60 | \$ <u>0.00</u> |
| B. Free Product | | drums x | \$ 110.00 | \$ <u>0.00</u> |
| C. Soil (Treatment/Disposal) | | tons x | \$ 50.00 | \$ <u>0.00</u> |
| | 70 | drums x | \$ 50.00 | \$ <u>3,500.00</u> |
| 18. Miscellaneous* | | | | |
| | | x | \$ _____ | \$ <u>0.00</u> |
| | | x | \$ _____ | \$ <u>0.00</u> |
| | | x | \$ _____ | \$ <u>0.00</u> |
| | | x | \$ _____ | \$ <u>0.00</u> |
| 19. Report/Project Management and Coordination | | | | |
| | | (Subtotal) | | |
| | 0.15 | x | \$ 59,270.00 | \$ <u>8,890.50</u> |
| 20. Total | | | | |
| | | | | \$ <u>68,160.50</u> |

* The appropriate mobilization cost can be added to complete these tasks, as necessary.



LEGEND

- EXISTING MONITORING WELL
- SOIL SAMPLE FROM PREVIOUS UST CLOSURE ASSESSMENT
- PROPOSED GEOPROBE LOCATION
- PROPOSED SHALLOW MONITORING WELL
- PROPOSED SOIL TEST BORING
- PROPOSED DEEP MONITORING WELL
- CHAIN LINK FENCE
- OVERHEAD POWER LINE
- SANITARY SEWER
- UNDERGROUND WATER LINE

NOTE: THIS FIGURE WAS CREATED FROM FIELD MEASUREMENTS MADE BY S&ME PERSONNEL



S&ME
ENGINEERING - TESTING
ENVIRONMENTAL SERVICES

SITE PLAN
MORRIS OIL COMPANY
UST PERMIT # 08641
SPARTANBURG, SOUTH CAROLINA

| | | |
|---------------------|---------------|----------------------|
| SCALE: 1" = 40' | DRAWN BY: SB | CHK'D BY: <i>MLW</i> |
| JOB NO: 1264-00-619 | DATE: 7/12/02 | FIGURE NO: 2 |

CAD FILE: K:\WORK\1264\0000\00019\00019_SITL.DWG

| | | | | | | | | | |
|--------|------|----------|------|-------|--------|---------------------|-----|----------|---------|
| OK | ECM | 00H00131 | 002 | 12:01 | MAR.14 | 8645855328 | 01 | TX | 5967 |
| RESULT | MODE | DURATION | PAGE | TIME | DATE | DESTINATION STATION | NO. | FUNCTION | SESSION |

NAME: DIV UST MGMT
 TEL: 18038984330
 DATE: MAR.14.2002 12:02

TX RESULT REPORT



Spartanburg, SC 29201-1708

March 14, 2002

The Honorable William Douglas Smith
 PO Drawer 5587
 Spartanburg, SC 29304-5587

Re: Morris Oil Company
 UST Permit #08641


Dear Representative Smith:

Attached please find the October 31, 2001 letter from Ms. Wanda Crotwell to you. That letter outlined that this office had confirmed that Mr. Morris had the financial resources to fulfill his regulatory obligations to perform necessary environmental assessments at the two underground storage tank leaks for which he is responsible. The project manager for this case reports not having communication from Mr. Morris requesting an extension to submit the assessment plan nor has he submitted any new information to substantiate any change in his financial condition.

As requested, this office will withhold taking enforcement action against Mr. Morris if the assessment plan for the underground storage tank releases is submitted on or before June 26, 2002.

If you have any questions or need additional information on this case, please do not hesitate to contact me at (803) 898-4350.

Sincerely,


 Stanley L. Clark, P.G., Assistant Chief
 Bureau of Land and Waste Management

cc: Wanda Crotwell

UST DOCKET
 19T



100 Bull Street
Columbia, SC 29201-1708

March 14, 2002

The Honorable William Douglas Smith
PO Drawer 5587
Spartanburg, SC 29304-5587

Re: Morris Oil Company
UST Permit #08641

Dear Representative Smith:

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If you have any questions or need additional information on this case, please do not hesitate to contact me at (803) 898-4350.

Sincerely,

Stanley L. Clark, P.G., Assistant Chief
Bureau of Land and Waste Management

cc: Wanda Crotwell

JOHNSON, SMITH, HIBBARD & WILDMAN
LAW FIRM, L.L.P.

MILTON A. SMITH
PAUL R. HIBBARD
DONALD B. WILDMAN
DOUG SMITH
DONNA FAYE SHETLEY
RANSOME A. COLEMAN
GORDON G. COOPER
also admitted in Florida.
STEVEN M. QUERIN

220 NORTH CHURCH STREET
MAILING ADDRESS: P.O. DRAWER 5587
SPARTANBURG, SOUTH CAROLINA 29304-5587
864-582-8121

EDWIN W. JOHNSON (1904-1979)

March 12, 2002

TELECOPIER: 864-585-5328

MATTHEW E. COX

RECEIVED

MAR 13 2002

SC Department of Health
and Environmental Control
Attn: Stanley Clark - UST Program
2600 Bull Street
Columbia, SC 29201

UNDERGROUND STORAGE
TANK PROGRAM

RE: Morris Oil Company
UST Permit #08641, Release #1 and Release #2
Spartanburg County

Dear Mr. Clark:

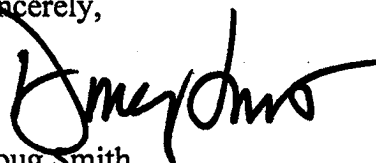
I have been in communication with Wanda Crotwell regarding the above matter. I apparently did not receive, initially, a copy of her October 31, 2001 letter with which you were copied.

I have spoken with Mr. Morris this week, who indicated that he had talked with someone at DHEC regarding an extension to implement the assessment plan. He indicated that he had asked for a six-month extension due to his financial difficulties in that he had a house for sale. Mr. Morris also indicated that he had received no response from DHEC, written or otherwise.

I would, on behalf of Mr. Morris, like to formally request a six-month extension of time to implement the assessment plan. This would be an extension from the December 26, 2001 date, which was the original assessment plan date.

Please feel free to contact me if you have any questions or if you wish to discuss this matter.

Sincerely,



Doug Smith

DS:dbh

cc: Wanda Crotwell

UST DOCKET
20T



2600 Bull Street
Columbia, SC 29201-1708

October 31, 2001

The Honorable William Douglas Smith
Post Office Box 11867
Columbia, SC 29211-1867

Re: Morris Oil Company
UST Permit # 08461
Spartanburg County

Dear Representative Smith:

Thank you for your recent inquiry concerning the underground storage tank (UST) system owned by Don Morris. The Underground Storage Tank Program has been working with Mr. Morris concerning the UST releases at his facility.

In August 1999 the Department received a closure report documenting two releases of petroleum from separate tank basins on the referenced site. In accordance with Section 44-2-40(B) of the State Underground Petroleum Environmental Response Bank (SUPERB) Act, each release is subject to a deductible of \$25,000 dollars. Mr. Morris performed an initial assessment in each of the tank basins to determine if ground-water impact had occurred. The results of the assessments indicated that ground water was impacted and further investigation of both releases was required. A plan for further assessment was requested in June 2001.

Later in June 2001, Mr. Morris indicated to the Department that he had financial difficulty meeting the deductibles. To support his claim he submitted a statement of his financial status. His finances were evaluated using the Individual Ability to Pay Model developed by the Environmental Protection Agency. The model determines an individual's ability to pay based on analysis of assets, liabilities, cash flow and debt capacity. This review showed that Mr. Morris possesses adequate financial resources to conduct the necessary work. Mr. Morris was notified of the results of the financial review on September 26, 2001 and further informed that the assessment plan would be due on December 26, 2001.

The releases have been qualified to receive funding from the SUPERB Account. Once the deductibles have been met, the SUPERB Account will pay up to one million dollars in costs for site rehabilitation for each release.

If you have any questions or need further information, please contact Stanley Clark of the UST Program at (803) 898-4358.

Sincerely,

Wanda Croftwell
Assistant to the Commissioner

cc: Stanley Clark
Technical File

UST DOCKET
21T



UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Phone (803) 898-4350 Fax (803) 898-4330

2600 Bull Street
Columbia, SC 29201-1708

Morris Oil Company
Attention: Mr. Don Morris
Post Office Box 2843
Spartanburg, SC 29304-2843

JUN 27 2001

Re: Morris Oil Company
UST Permit #08641, Release #1 and #2
Release Report date: June 8, 1999
Request for Financial Verification Information Package
Spartanburg County

Dear Mr. Morris:

Based on a telephone request made on June 19, 2001 by Mr. Nathan Williams of S&ME, your consultant, I have enclosed a financial verification information package for your use as it appears that you may not have maintained the appropriate level of financial responsibility required by state and federal law and as a matter of course, consider yourself unable to undertake certain federal and state regulatory requirements for your former underground storage tank (UST) systems.

In order for the UST Program to evaluate your financial ability to pay, you must provide the following information:

1. Complete the enclosed form entitled, "Financial Verification". **Please read the accompanying instructions carefully.** All information must be current. The UST Program may verify any of the information provided. **Please note the signature page includes a perjury clause.**
2. Complete the enclosed form entitled "Underground Storage Tank Owner/Operator".
3. Complete Section 1 and sign Section 7 of the enclosed IRS form 8821. Form 8821 authorizes the South Carolina Department of Health and Environmental Control to receive confidential information from the IRS regarding your tax return for the periods listed.
4. Submit copies of the bank statements for your personal savings and checking accounts for the last 6 months. Also, if you have separate accounts for your business, submit copies of the bank statements for your business checking and savings accounts for the last 6 months.
5. If you feel there is any additional information to support your claim, please include it as an attachment.

UST DOCKET
22 T

Mr. Morris
Page 2

Your response is due on or before July 24, 2001. If you do not provide the necessary documentation to support your claim of financial inability, the UST Program will have no choice but to find you financially able to conduct the necessary environmental activities as required by regulation. If the UST Program determines you are financially unable to conduct the required activities, the decision will not relieve you of any liabilities associated with the UST system. **Regardless of the outcome of this investigation, this office is required under either federal or state guidelines to pursue recovery of any expenditure of either federal or state funds.** Recovery procedures have been established and each case is reviewed on its merits.

On all correspondence related to this site, please reference **UST Permit #08641**. Questions about this financial verification package should be addressed to Ms. Laura Pace, Manager, Financial Section at (803) 898-4332 or 1-800-826-5435 (within South Carolina only).

Sincerely,



Douglas C. Pasley, Jr., P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program

Encl.: Financial Verification Package
IRS Form 8821
Federal Leaking Underground Storage Tank Trust Fund Fact Sheet
UST Owner/Operator Statement

cc:

Mr. Nathan Williams, S&ME, Incorporated, 155 Tradd Street, Spartanburg, SC 29301
Financial File
~~Technical~~/Read File



PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

**UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT**

2600 Bull Street, Columbia, South Carolina 20201

Phone (803) 898-4350 Fax (803) 898-4330

Morris Oil Company
Attention: Mr. Don Morris
Post Office Box 2843
Spartanburg, SC 29304-2843

JUN 01 2001

Re: Morris Oil Company
UST Permit #08641, Release #1 and Release #2
Initial Ground-Water (IGWA) Assessments received December 11, 2000
Spartanburg County

Dear Mr. Morris:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced reports. To determine what risk the release may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of the scope of work as outlined in the enclosed Tier II Assessment document is necessary. **The UST Program requests that a Tier II Assessment Plan for this facility be submitted within 30 days of the date of this letter.**

According to our records, these releases were reported to the SCDHEC on June 8, 1999. In accordance with Section 44-2-40(D) of the Act, you are responsible for the first \$25,000 for site rehabilitation for each release for site rehabilitation (**\$50,000 total for both releases**). To insure that any expenditure you make applies toward this \$50,000 total deductible; it is prudent for this agency to pre-approve such costs along with your technical plan of action. By law, the SUPERB account cannot compensate any costs that are not pre-approved. Eligible costs exceeding the \$25,000 deductible for each release (\$50,000 for both releases) must be met before reimbursement from the SUPERB Account can be paid to you or your site rehabilitation contractor.

On all correspondence regarding this site and scope of work, please reference UST #08641. If you have any questions concerning this correspondence, please contact me at (803) 898-4323 or 1-800-826-5435 (within South Carolina only).

Sincerely,

Douglas C. Pasley, Jr., P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program

Encl.: Tier II Assessment document

cc: Mr. Nathan D. Williams, P.G., S&ME, Incorporated, 155 Tradd Street, Spartanburg, SC
29301
Technical/Read File

UST DOCKET
25T



→ Tech file
~~For Tech file both~~
release

RECEIVED

DEC 11 2000

Bureau of Underground
Storage Tank Management

December 6, 2000

SCDHEC
Division of UST Management
2600 Bull Street
Columbia, South Carolina 29201

ATTENTION: Mr. Doug Pasley

Reference: **INITIAL GROUNDWATER ASSESSMENT REPORTS**
Morris Oil Company
UST Permit #08641
Spartanburg, South Carolina
S&ME Project No. 1264-00-619

Dear Mr. Pasley:

On behalf of Morris Oil Company, S&ME is submitting the two attached Initial Groundwater Assessment (IGWA) reports for the referenced facility. S&ME was not able to locate monitoring well MW-2 through the former underground storage tank (UST) pit because a water line was ruptured during commencement of drilling activities.

S&ME is awaiting disposal of soil cuttings and purgewater generated during the assessment activity. Disposal manifests, as well as proof of payment by Morris Oil Company, will be forwarded as soon as we receive them.

Sincerely,

S&ME, Inc.

Nathan D. Williams, P.G.
Project Geologist

UST DOCKET
24T

NDW/word00/IGWA report cover letter

cc: Mr. Don Morris, Morris Oil Company

5/30/01

Need to recheck the USTH means in above letter.

Incorporate w/ Konstantine - Tier II will be requested.

① Approx. 5 (b51) difference between the more heavily contaminated MW-2 lat ~ 49' b51) vs MW-1 at -19'

S&ME, Inc.
155 Tradd Street
Spartanburg, South Carolina 29301

(864) 574-2360
(864) 576-8730 fax
(864) 232-8987 Greenville

www.smeinc.com

Washington 6/1/01
Tier II plan req. in letter that

INITIAL GROUND-WATER ASSESSMENT REPORT

RECEIVED

DEC 11 2000

Facility Name: Morris Oil Company

UST Permit Number: #08641

Bureau of Underground
Storage Tank Management

UST Owner or Operator's Name: Morris Oil Company

Address: 346 Union Street, Spartanburg, SC 29304

Phone Number: (864) 585-9203

Contractor: S&ME, Inc. Cert. # #57

Address: 155 Tradd Street, Spartanburg, South Carolina 29301

Phone Number: (864)574-2360

Well Driller: S&ME, Inc. Cert. # #1209

Address: 155 Tradd Street, Spartanburg, SC 29301

Phone Number: (864) 574-2360

Receptor and Site Data

Please place a check in the appropriate answer block for each question:

| Receptor Survey Questions | No | Yes * |
|---|----|-------|
| Is there a drinking water supply well (public or private) or surface water supply intake within 1000 feet of the UST? | ✓ | |
| Are irrigation or other non-drinking water wells located within 100 feet of the UST? | ✓ | |
| Are there other potential receptors (i.e., utilities, surface waters, wetlands) less than 500 feet from the UST? | | ✓ |

* If "yes", provide additional information

Sanitary sewer lines are located on the site, but their depth and location are not known. We do not expect the sanitary sewer lines to intercept groundwater at depths of 19 feet or deeper.

Were any water wells within 250 ft radius sampled? Yes No

Is a public water supply line in the area? Yes No

Is the current use of the site and surrounding properties commercial, residential, agricultural, or industrial?

Site: commercial Adjacent Properties: commercial

See Appendix B for Chain of Custody Form and Laboratory Data.

Soil and Boring/Monitoring Well Data

Primary Soil Type: sandy silt

Well Installation Method and Date: Drilled with 8-inch hollow stem augers on 11/10/00

Development Method: Hand bailing

Soil Sample obtained at 10 feet.

SOIL ANALYTICAL DATA

| Benzene (µg/kg) | Toluene (µg/kg) | Ethylbenzene (µg/kg) | Xylenes (µg/kg) | Naphthalene (µg/kg) |
|--------------------|--------------------|-------------------------|--------------------|------------------------|
| <580 | 5,100 | 23,000 | 130,000 | 22,000 |

| Benzo(a)- Anthracene (µg/kg) | Benzo(b)- Fluoranthene (µg/kg) | Benzo(k)- Fluoranthene (µg/kg) | Chrysene (µg/kg) | Dibenz(a,h) Anthracene (µg/kg) |
|------------------------------------|--------------------------------------|--------------------------------------|---------------------|--------------------------------------|
| <380 | <380 | <380 | <380 | <380 |

| Total PAH (µg/kg) | Lead (µg/kg) |
|----------------------|-----------------|
| <1900 | Not analyzed |

* For waste oil UST releases only:

| Total Chromium* (µg/kg) | Mercury* (µg/kg) | Selenium* (µg/kg) | Silver* (µg/kg) |
|----------------------------|---------------------|----------------------|--------------------|
| | | | |

| Arsenic* (µg/kg) | Barium* (µg/kg) | Cadmium* (µg/kg) |
|---------------------|--------------------|---------------------|
| | | |

Ground Water Data

Depth to Groundwater: 19.30 feet below ground surface *- See boring logs where depth is in both well logs recorded as - 21 ft.*

Well Purging/ Sampling Method: Disposable polyethylene bailer

Date Sampled: 11/17/00

Free Product Thickness: No free product

Equilibrated values:

Temperature: 17.6°C pH: 4.52 SU

Dissolved Oxygen: Did not analyze Specific Conductance: 57.8 ppm

Soil/Water Disposal Method: wastewater treatment for the purgewater and bioremediation for the soils by GARCO, Inc. in North Carolina

mw-1

GROUND-WATER ANALYTICAL DATA

| Benzene µg/l | Toluene µg/l | Ethylbenzene µg/l | Xylenes µg/l | MTBE µg/l | Naphthalene µg/l |
|-----------------|-----------------|----------------------|-----------------|--------------|---------------------|
| 25 | 16 | 19 | 120 | <5 | 170 |

| Benzo(a)-Anthracene (µg/l) | Benzo(b)-Fluoranthene (µg/l) | Benzo(k)-Fluoranthene (µg/l) | Chrysene (µg/l) | Dibenz(a,h) Anthracene (µg/l) |
|----------------------------|------------------------------|------------------------------|-----------------|-------------------------------|
| <10 | <10 | <10 | <10 | <10 |

| EDB (µg/l) | Total PAH (µg/l) | Lead (µg/l) |
|---------------------------|------------------|-------------|
| <5 / ^{PBCA} 0.05 | <50 | <5 |

* For waste oil UST releases only:


| Total Chromium* (µg/l) | Mercury* (µg/l) | Selenium* (µg/l) | Silver* (µg/l) |
|------------------------|-----------------|------------------|----------------|
| | | | |

| Arsenic* (µg/l) | Barium* (µg/l) | Cadmium* (µg/l) |
|-----------------|----------------|-----------------|
| | | |

Appendices

The appendices required for the report are as follows:

- Appendix A. Well Construction Log
- Appendix B. Laboratory Data
- Appendix C. Topographic map with site location marked
- Appendix D. Site Base Map

Report Completed By:  Contractor Cert. # 57
 (signature)

Date: 12/8/00

INITIAL GROUND-WATER ASSESSMENT REPORT

Facility Name: Morris Oil Company

UST Permit Number: #08641

UST Owner or Operator's Name: Morris Oil Company

Address: 346 Union Street, Spartanburg, SC 29304

Phone Number: (864) 585-9203

Contractor: S&ME, Inc. Cert. # #57

Address: 155 Tradd Street, Spartanburg, South Carolina 29301

Phone Number: (864)574-2360

Well Driller: S&ME, Inc. Cert. # #1209

Address: 155 Tradd Street, Spartanburg, SC 29301

Phone Number: (864) 574-2360

Receptor and Site Data

Please place a check in the appropriate answer block for each question:

| Receptor Survey Questions | No | Yes * |
|---|----|-------|
| Is there a drinking water supply well (public or private) or surface water supply intake within 1000 feet of the UST? | ✓ | |
| Are irrigation or other non-drinking water wells located within 100 feet of the UST? | ✓ | |
| Are there other potential receptors (i.e., utilities, surface waters, wetlands) less than 500 feet from the UST? | | ✓ |

* If "yes", provide additional information

Sanitary sewer lines are located on the site, but their depth and location are not known. We do

not expect the sanitary sewer lines to intercept groundwater at depths of 19 feet or deeper.

Were any water wells within 250 ft radius sampled? Yes No

Is a public water supply line in the area? Yes No

Is the current use of the site and surrounding properties commercial, residential, agricultural, or industrial?

Site: commercial Adjacent Properties: commercial

See Appendix B for Chain of Custody Form and Laboratory Data.

Soil and Boring/Monitoring Well Data

Primary Soil Type: sandy silt

Well Installation Method and Date: Drilled with 8-inch hollow stem augers on 11/10/00

Development Method: Hand bailing

Soil Sample obtained at 20 feet.

SOIL ANALYTICAL DATA

| Benzene (µg/kg) | Toluene (µg/kg) | Ethylbenzene (µg/kg) | Xylenes (µg/kg) | Naphthalene (µg/kg) |
|--------------------|--------------------|-------------------------|--------------------|------------------------|
| <5.8 | <5.8 | <5.8 | <17 | 24 |

| Benzo(a)- Anthracene (µg/kg) | Benzo(b)- Fluoranthene (µg/kg) | Benzo(k)- Fluoranthene (µg/kg) | Chrysene (µg/kg) | Dibenz(a,h) Anthracene (µg/kg) |
|------------------------------------|--------------------------------------|--------------------------------------|---------------------|--------------------------------------|
| <380 | <380 | <380 | <380 | <380 |

| Total PAH (µg/kg) | Lead (µg/kg) |
|----------------------|-----------------|
| <1900 | Not analyzed |

* For waste oil UST releases only:

| Total Chromium* (µg/kg) | Mercury* (µg/kg) | Selenium* (µg/kg) | Silver* (µg/kg) |
|----------------------------|---------------------|----------------------|--------------------|
| | | | |

| Arsenic* (µg/kg) | Barium* (µg/kg) | Cadmium* (µg/kg) |
|---------------------|--------------------|---------------------|
| | | |

Ground Water Data

Depth to Groundwater: 24.05 feet below ground surface

Well Purging/ Sampling Method: Disposable polyethylene bailer

Date Sampled: 11/17/00

Free Product Thickness: No free product

Equilibrated values:

Temperature: 16.4°C

pH: 4.55 SU

Dissolved Oxygen: Did not analyze

Specific Conductance: 50.3 ppm

Soil/Water Disposal Method: wastewater treatment for the purgewater and bioremediation for the soils by GARCO, Inc. in North Carolina

mw-2

GROUND-WATER ANALYTICAL DATA

| Benzene µg/l | Toluene µg/l | Ethylbenzene µg/l | Xylenes µg/l | MTBE µg/l | Naphthalene µg/l |
|-----------------|-----------------|----------------------|-----------------|--------------|---------------------|
| <u>530</u> | 140 | 290 | 810 | <100 | <u>110</u> |

| Benzo(a)-Anthracene (µg/l) | Benzo(b)-Fluoranthene (µg/l) | Benzo(k)-Fluoranthene (µg/l) | Chrysene (µg/l) | Dibenz(a,h) Anthracene (µg/l) |
|----------------------------|------------------------------|------------------------------|-----------------|-------------------------------|
| <10 | <10 | <10 | <10 | <10 |

| EDB (µg/l) | Total PAH (µg/l) | Lead (µg/l) |
|-----------------------------|------------------|-------------|
| <100 / ^{RSCA} 0.05 | <50 | <5 |

* For waste oil UST releases only:

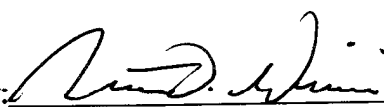
| Total Chromium* (µg/l) | Mercury* (µg/l) | Selenium* (µg/l) | Silver* (µg/l) |
|------------------------|-----------------|------------------|----------------|
| | | | |

| Arsenic* (µg/l) | Barium* (µg/l) | Cadmium* (µg/l) |
|-----------------|----------------|-----------------|
| | | |

Appendices

The appendices required for the report are as follows:

- Appendix A. Boring Logs and Well Completion Reports
- Appendix B. Laboratory Data
- Appendix C. Site Topographic Map
- Appendix D. Site Plan

Report Completed By:  Contractor Cert. # 57
(signature)

Date: 12/8/00

APPENDIX A

BORING LOGS AND WELL COMPLETION REPORTS

LOG OF BORING NO. MW-1

PROJECT: **Morris Oil Company**
 PROJECT NO: **1264-00-619**
 PROJECT LOCATION: **Spartanburg, South Carolina**

WATER LEVEL: **19.30 feet on 11/17/00**

DATE COMPLETED: **11/10/00**
 DRILLING CONTRACTOR: **S&ME, Inc.**
 DRILLER: **T. Costello (#1209)**
 DRILLING METHOD: **8-inch Hollow Stem Augers**
 SAMPLING METHOD: **Split Spoon**

GROUND SURFACE ELEVATION:
 DATUM: **Not Established**
 WEATHER: **Clear and Cool**
 LOGGED BY: **N. Williams**

This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

| SAMPLE NUMBER | SAMPLE ADVANCE (ft.) | SAMPLE RECOVERY (ft.) | N-VALUE (blows / foot) | % RQD | OVA (ppm) | ELEVATION (ft.) | DEPTH (ft.) | USCS | GRAPHIC SYMBOL | DESCRIPTION | REMARKS |
|---------------|----------------------|-----------------------|------------------------|-------|-----------|-----------------|-------------|------|-------------------|---|---------|
| | | | | | | | 0 | | | | |
| 1 | 1.5 | | 7 | 1.0% | | | 5 | | [Hatched Pattern] | Fill - firm red brown silty CLAY | |
| 2 | 1.5 | | 41 | 3.4% | | | 10 | | [Dotted Pattern] | Saprolite - hard green fine sandy SILT | |
| 3 | 1.5 | | 50/4" | 2000 | | | 15 | | [Dotted Pattern] | Partially Weathered Rock sampled as white green fine sandy SILT | |
| 4 | 1.5 | | 35 | 4800 | | | 20 | | [Dotted Pattern] | Saprolite - hard green fine sandy SILT | |
| 5 | 1.5 | | 34 | 1000 | | | 25 | | [Dotted Pattern] | Boring terminated at 27 feet | |

NOTES:

ENV BORING LOG 6400619.GPJ S&ME.GDT 12/8/00



155 Tradd Street
 Spartanburg, SC 29301

LOG OF BORING MW-1


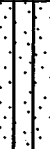
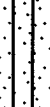

COMPLETION REPORT OF WELL No. MW-1

PROJECT: **Morris Oil Company**
 PROJECT NO: **1264-00-619**
 PROJECT LOCATION: **Spartanburg, South Carolina**






WATER LEVEL: **19.30 feet on 11/17/00**

DRILLING CONTRACTOR: **S&ME, Inc.**
 DRILLING METHOD: **8-inch Hollow Stem Augers**
 DATE COMPLETED: **11/10/00**

LATITUDE: **34° 56' 46"**
 LONGITUDE: **81° 55' 2"**
 TOP OF CASING ELEVATION: **Not Surveyed**
 DATUM: **Not Established**
 LOGGED BY: **N. Williams**

| STRATA | | | WELL DETAILS | DEPTH (ft.) | LEGEND | ELEVATION (ft.) | WELL CONSTRUCTION DETAILS |
|---|---|----------------|-----------------|----------------|--------|--------------------|---|
| DESCRIPTION | SYMBOL | DEPTH (ft.) | | | | | |
| | | 0 | | 0.00 | GS | | PROTECTIVE CASING Diameter: 8 inch Type: Steel, Flush-Mount Interval: GS to 1 foot |
| | | 0.50 | | 0.50 | TOC | | |
| Fill - firm red brown silty CLAY |  | 5 | | | | | RISER CASING Diameter: 2 inch Type: Sch 40 PVC Interval: 0.5 to 17.0 feet |
| | | 10 | | | | | |
| Saprolite - hard green fine sandy SILT |  | 10 | | 12.00 | CG | | GROUT Type: Portland Cement Interval: GS to 15 feet |
| Partially Weathered Rock sampled as white green fine sandy SILT |  | 15 | | 15.00 | BS | | SEAL Type: Bentonite Interval: 12 to 15 feet |
| | | 17.00 | | 17.00 | TSC | | FILTERPACK Type: Clean, Medium Grain Filter Sand Interval: 15 to 27 feet |
| Saprolite - hard green fine sandy SILT |  | 20 | | | | | SCREEN Diameter: 2 inch Type: Sch 40 PVC, 0.01 Slot Interval: 17.0 to 27.0 feet |
| | | 25 | | | | | |
| Boring terminated at 27 feet | | 27.00 | | 27.00 | BSC | | |

LEGEND

- | | |
|---|---|
| <ul style="list-style-type: none">  FILTER PACK  BENTONITE  CEMENT GROUT  CUTTINGS / BACKFILL  STATIC WATER LEVEL | <ul style="list-style-type: none"> TOC TOP OF CASING GS GROUND SURFACE BS BENTONITE SEAL BOC BASE OF OUTER CASING TSC TOP OF SCREEN BSC BOTTOM OF SCREEN TD TOTAL DEPTH CG CEMENT GROUT |
|---|---|

MONITORING WELL 6400619.GPJ S&ME.GDT 12/6/00



155 Tradd Street
Spartanburg, SC 29301

COMPLETION REPORT OF WELL No. MW-1

LOG OF BORING NO. MW-2

PROJECT: **Morris Oil Company**
 PROJECT NO: **1264-00-619**
 PROJECT LOCATION: **Spartanburg, South Carolina**

WATER LEVEL: **24.05 feet on 11/17/00**

DATE COMPLETED: **11/10/00**
 DRILLING CONTRACTOR: **S&ME, Inc.**
 DRILLER: **T. Costello (#1209)**
 DRILLING METHOD: **8-inch Hollow Stem Augers**
 SAMPLING METHOD: **Split Spoon**

GROUND SURFACE ELEVATION:
 DATUM: **Not Established**
 WEATHER: **Clear and Cool**
 LOGGED BY: **N. Williams**

This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

| SAMPLE NUMBER | SAMPLE ADVANCE (ft.) | SAMPLE RECOVERY (ft.) | N-VALUE (blows / foot) | % RQD | OVA (ppm) | ELEVATION (ft.) | DEPTH (ft.) | USCS | GRAPHIC SYMBOL | DESCRIPTION | REMARKS |
|---------------|----------------------|-----------------------|------------------------|-------|-----------|-----------------|-------------|------|----------------|---|---------|
| 1 | 1.5 | | 27 | | 12.9 | | 0 | | | | |
| 2 | 1.5 | | 15 | | 176 | | 5 | | | Topsoil underlain by saprolite - stiff to hard white orange fine sandy SILT | |
| 3 | 1.5 | | 30 | | 1308 | | 10 | | | | |
| 4 | 1.5 | | 44 | | 3500 | | 15 | | | | |
| 5 | 1.5 | | 50/6" | | 513 | | 20 | | | | |
| 6 | 1.5 | | 50/4" | | 48 | | 25 | | | Partially Weathered Rock sampled as white gray fine sandy SILT | |
| | | | | | | | 30 | | | | |
| | | | | | | | | | | Boring terminated at 32.5 feet | |

NOTES:

ENV BORING LOG 6400619.GPJ, S&ME.GDT, 12/8/00



155 Tradd Street
 Spartanburg, SC 29301

LOG OF BORING MW-2

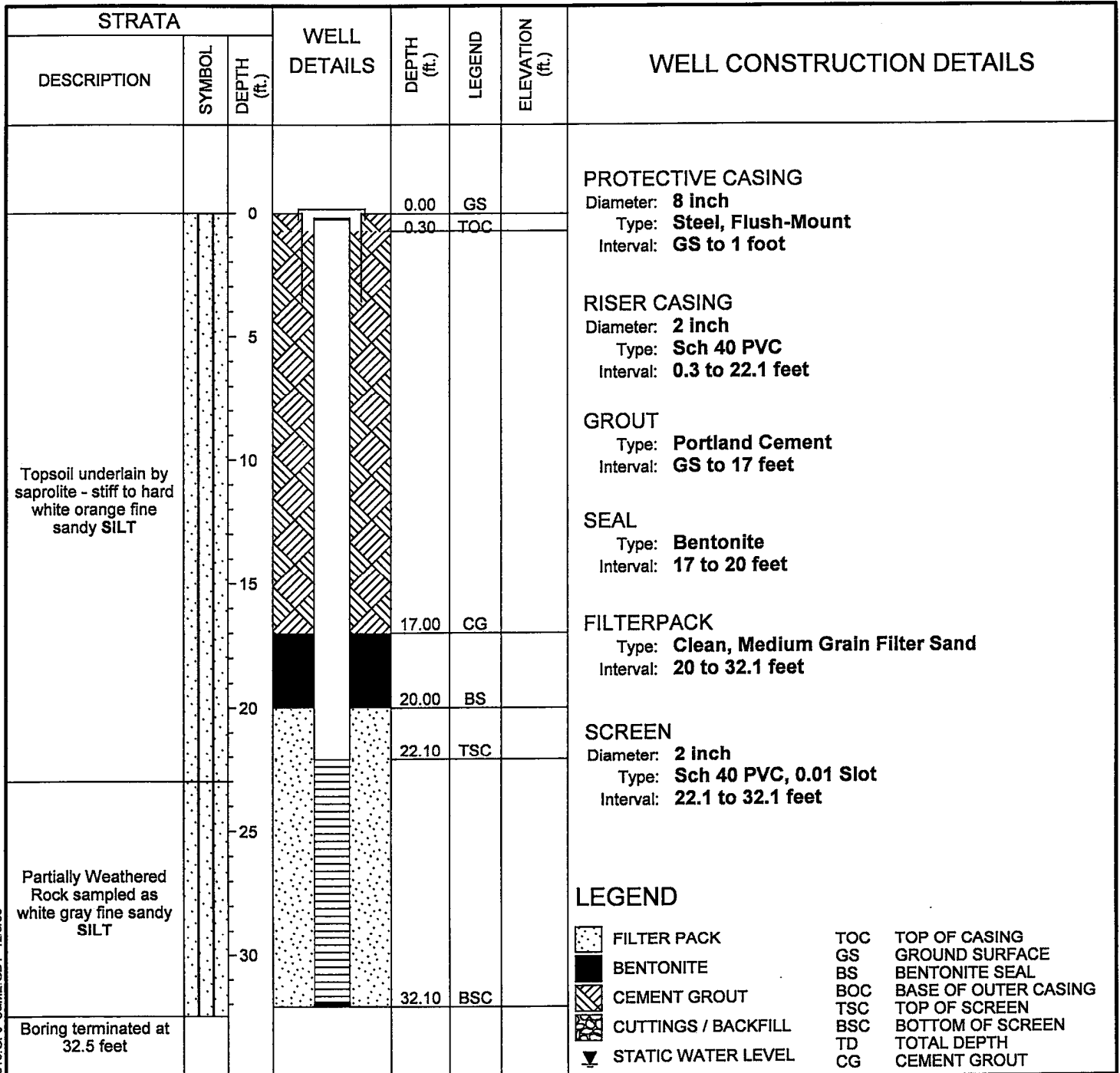
COMPLETION REPORT OF WELL No. MW-2

PROJECT: **Morris Oil Company**
 PROJECT NO: **1264-00-619**
 PROJECT LOCATION: **Spartanburg, South Carolina**

WATER LEVEL: **24.05 feet on 11/17/00**

DRILLING CONTRACTOR: **S&ME, Inc.**
 DRILLING METHOD: **8-inch Hollow Stem Augers**
 DATE COMPLETED: **11/10/00**

LATITUDE: **34° 56' 46"**
 LONGITUDE: **81° 55' 3"**
 TOP OF CASING ELEVATION: **Not Surveyed**
 DATUM: **Not Established**
 LOGGED BY: **N. Williams**



LEGEND

- | | |
|--|---|
| <ul style="list-style-type: none"> FILTER PACK BENTONITE CEMENT GROUT CUTTINGS / BACKFILL STATIC WATER LEVEL | <ul style="list-style-type: none"> TOC TOP OF CASING GS GROUND SURFACE BS BENTONITE SEAL BOC BASE OF OUTER CASING TSC TOP OF SCREEN BSC BOTTOM OF SCREEN TD TOTAL DEPTH CG CEMENT GROUT |
|--|---|

MONITORING WELL: 6400619.GPJ S&ME.GDT 12/8/00



155 Tradd Street
 Spartanburg, SC 29301

COMPLETION REPORT OF WELL No. MW-2

APPENDIX B

LABORATORY DATA



ENVIRONMENTAL SCIENCE CORP.

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Nathan Williams
S & M E
155 Tradd Street
Spartanburg, SC 29301

November 17, 2000

Date Received : November 11, 2000
Description : Soil - Morris Oil Company
Sample ID : MW-1 10 FT
Collected By : Nathan Williams
Collection Date : 11/10/00 16:20

ESC Sample # : L29398-01
ESC Key : SMESPAR-128400619
Site ID :
Project # : 1284-00-619

| Parameter | Dry Result | Det. Limit | Units | Method | Date | Dil. |
|-----------------------------------|------------|------------|--------|--------|----------|------|
| Total Solids | 86. | | % | 2540G | 11/13/00 | 1 |
| Benzene | BDL | 0.58 | mg/kg | 8260B | 11/16/00 | 500 |
| Toluene | 5.1 | 0.58 | mg/kg | 8260B | 11/16/00 | 500 |
| Ethylbenzene | 23. | 0.58 | mg/kg | 8260B | 11/16/00 | 500 |
| Xylenes, Total | 130 | 1.7 | mg/kg | 8260B | 11/16/00 | 500 |
| Naphthalene | 22. | 0.58 | mg/kg | 8260B | 11/16/00 | 500 |
| Surrogate Recovery | | | | | | |
| Toluene-d8 | 120 | | % Rec. | 8260B | 11/16/00 | 500 |
| Dibromofluoromethane | 87. | | % Rec. | 8260B | 11/16/00 | 500 |
| 4-Bromofluorobenzene | 110 | | % Rec. | 8260B | 11/16/00 | 500 |
| Polynuclear Aromatic Hydrocarbons | | | | | | |
| Anthracene | 0.41 | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Acenaphthene | BDL | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Acenaphthylene | BDL | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Benzo(a)anthracene | BDL | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Benzo(a)pyrene | BDL | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Benzo(b)fluoranthene | BDL | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Benzo(g,h,i)perylene | BDL | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Benzo(k)fluoranthene | BDL | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Chrysene | BDL | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Dibenz(a,h)anthracene | BDL | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Fluoranthene | BDL | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Fluorene | 0.80 | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Indeno(1,2,3-cd)pyrene | BDL | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Naphthalene | 7.5 | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Phenanthrene | 2.0 | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Pyrene | BDL | 0.38 | mg/kg | 8270C | 11/17/00 | 1 |
| Surrogate Recovery | | | | | | |
| Nitrobenzene-d5 | 81. | | % Rec. | 8270C | 11/17/00 | 1 |
| 2-Fluorobiphenyl | 71. | | % Rec. | 8270C | 11/17/00 | 1 |
| p-Terphenyl-d14 | 64. | | % Rec. | 8270C | 11/17/00 | 1 |

Tom Mellette, ESC Representative

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:

This report shall not be reproduced, except in full, without the written approval from ESC.
The reported analytical results relate only to the sample submitted



**ENVIRONMENTAL
SCIENCE CORP.**

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Nathan Williams
S & M E
155 Tradd Street
Spartanburg, SC 29301

November 17, 2000

Date Received : November 11, 2000
Description : Soil - Morris Oil Company
Sample ID : MW-2 20 FT
Collected By : Nathan Williams
Collection Date : 11/10/00 16:40

ESC Sample # : L29398-02
ESC Key : SMESPAR-128400619
Site ID :
Project # : 1284-00-619

| Parameter | Dry Result | Det. Limit | Units | Method | Date | Dil. |
|-----------------------------------|------------|------------|--------|--------|----------|------|
| Total Solids | 86. | | % | 2540G | 11/13/00 | 1 |
| Benzene | BDL | 0.0058 | mg/kg | 8260B | 11/16/00 | 5 |
| Toluene | BDL | 0.0058 | mg/kg | 8260B | 11/16/00 | 5 |
| Ethylbenzene | BDL | 0.0058 | mg/kg | 8260B | 11/16/00 | 5 |
| Xylenes, Total | BDL | 0.017 | mg/kg | 8260B | 11/16/00 | 5 |
| Naphthalene | 0.024 | 0.0058 | mg/kg | 8260B | 11/16/00 | 5 |
| Surrogate Recovery | | | | | | |
| Toluene-d8 | 98. | | % Rec. | 8260B | 11/16/00 | 5 |
| Dibromofluoromethane | 110 | | % Rec. | 8260B | 11/16/00 | 5 |
| 4-Bromofluorobenzene | 100 | | % Rec. | 8260B | 11/16/00 | 5 |
| Polynuclear Aromatic Hydrocarbons | | | | | | |
| Anthracene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Acenaphthene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Acenaphthylene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Benzo (a) anthracene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Benzo (a) pyrene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Benzo (b) fluoranthene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Benzo (g, h, i) perylene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Benzo (k) fluoranthene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Chrysene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Dibenz (a, h) anthracene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Fluoranthene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Fluorene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Indeno (1, 2, 3-cd) pyrene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Naphthalene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Phenanthrene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Pyrene | BDL | 0.38 | mg/kg | 8270C | 11/16/00 | 1 |
| Surrogate Recovery | | | | | | |
| Nitrobenzene-d5 | 78. | | % Rec. | 8270C | 11/16/00 | 1 |
| 2-Fluorobiphenyl | 81. | | % Rec. | 8270C | 11/16/00 | 1 |
| p-Terphenyl-d14 | 76. | | % Rec. | 8270C | 11/16/00 | 1 |

Tom Mellette, ESC Representative

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:
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The reported analytical results relate only to the sample submitted

Attachment A
List of Analytes with QC Qualifiers

| Sample # | Analyte | Qualifier |
|-----------|----------------------|-----------|
| L29398-01 | Benzene | F |
| | Toluene | F |
| | Ethylbenzene | F |
| | Xylenes, Total | EF |
| | Naphthalene | F |
| | Naphthalene | E |
| L29398-02 | Benzo(g,h,i)perylene | J5 |

Attachment B
Explanation of QC Qualifier Codes

| Qualifier | Meaning |
|-----------|---|
| E | GTL (EPA) - Greater than upper calibration limit: Actual value is known to be greater than the upper calibration range. |
| F | SRN (EPA) - Diluted: The indicated analysis results were generated from a dilution of the sample. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is unacceptably high |

Qualifier Report Information

ESC recognizes and utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program. We firmly believe that information pertaining to sample analysis should be made available to the ESC client. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC.

Definitions:

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

CHAIN OF CUSTODY RECORD



P.O. No.: 2267
Branch: Spartanburg
Department: 1264

| S&ME Job No. | | Project Name | | | | Number of Containers | REMARKS | | | | |
|------------------------------------|----------|--------------------|----------|-------|--------------------------|----------------------------------|---------|------------------------------|--|--|---|
| 1264-00-619 | | Morris Oil Company | | | | | | | | | |
| Samplers: (signature) | | | | | | by 8260 BTEX + Metals PAHs | | | | | |
| Nathan D. Williams (N.D. Williams) | | | | | | | | | | | |
| Station No. | Date | Time | Comp. | Grab | | | | | | | |
| | 11/14/02 | 1620 | | ✓ | MW-1 (10') | 4 | ✓ | ✓ | | | L29398 Send report to: Nathan Williams -01 155 Tradd Street -02 Spartanburg, SC 29301 |
| | 11/14/02 | 1640 | | ✓ | MW-2 (20') | 4 | ✓ | ✓ | | | |
| Relinquished by: (signature) | | | Date: | Time: | Received by: (signature) | | | Relinquished by: (signature) | | | Date: Time: Received by: (signature) |
| Relinquished by: (signature) | | | Date: | Time: | Received by: (signature) | | | Relinquished by: (signature) | | | Date: Time: Received by: (signature) |
| Relinquished by: (signature) | | | Date: | Time: | Received by: (Signature) | | | Remarks | | | |
| | | | 11/14/02 | 18:00 | Keith Bragg | | | 4°C | | | |

S&ME SFP-004 (REV. 5/93)
This document was prepared pursuant to a specific agreement to address the unique requirements of an S&ME client. Prior to further use, an S&ME professional should be contacted for a complete explanation of its preparation and contents.



**ENVIRONMENTAL
SCIENCE CORP.**

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Nathan Williams
S & M E
155 Tradd Street
Spartanburg, SC 29301

November 27, 2000

Date Received : November 18, 2000
Description : Water - Morris Oil Co.
Sample ID : MW-1
Collected By : Nathan Williams
Collection Date : 11/17/00 12:30

ESC Sample # : L29992-01
ESC Key : SMESPAR-1264-00-619
Site ID :
Project # : 1264-00-619

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|--|--------|------------|--------|--------|----------|------|
| Lead | BDL | 5.0 | ug/l | 6010 | 11/25/00 | 1 |
| Benzene | 25. | 5.0 | ug/l | 8260B | 11/23/00 | 5 |
| Toluene | 16. | 5.0 | ug/l | 8260B | 11/23/00 | 5 |
| Ethylbenzene | 19. | 5.0 | ug/l | 8260B | 11/23/00 | 5 |
| Total Xylenes | 120 | 15. | ug/l | 8260B | 11/23/00 | 5 |
| Methyl tert-butyl ether | BDL | 5.0 | ug/l | 8260B | 11/23/00 | 5 |
| Naphthalene | 170 | 5.0 | ug/l | 8260B | 11/23/00 | 5 |
| 1,2-Dibromoethane | BDL | 5.0 | ug/l | 8260B | 11/23/00 | 5 |
| Surrogate Recovery | | | | | | |
| Toluene-d8 | 110 | | % Rec. | 8260B | 11/23/00 | 5 |
| Dibromofluoromethane | 100 | | % Rec. | 8260B | 11/23/00 | 5 |
| 4-Bromofluorobenzene | 110 | | % Rec. | 8260B | 11/23/00 | 5 |
| Polynuclear Aromatic Hydrocarbons | | | | | | |
| Anthracene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Acenaphthene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Acenaphthylene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Benzo(a)anthracene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Benzo(a)pyrene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Benzo(b)fluoranthene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Benzo(g,h,i)perylene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Benzo(k)fluoranthene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Chrysene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Dibenz(a,h)anthracene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Fluoranthene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Fluorene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Indeno(1,2,3-cd)pyrene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Naphthalene | 50. | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Phenanthrene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Pyrene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Surrogate Recovery | | | | | | |
| Nitrobenzene-d5 | 48. | | % Rec. | 8270C | 11/27/00 | 1 |
| 2-Fluorobiphenyl | 61. | | % Rec. | 8270C | 11/27/00 | 1 |
| p-Terphenyl-d14 | 71. | | % Rec. | 8270C | 11/27/00 | 1 |

Tom Mellette, ESC Representative

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:

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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Nathan Williams
S & M E
155 Tradd Street
Spartanburg, SC 29301

November 27, 2000

Date Received : November 18, 2000
Description : Water - Morris Oil Co.
Sample ID : MW-2
Collected By : Nathan Williams
Collection Date : 11/17/00 12:50

ESC Sample # : L29992-02
ESC Key : SMESPAR-1264-00-619
Site ID :
Project # : 1264-00-619

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|--|--------|------------|--------|--------|----------|------|
| Lead | BDL | 5.0 | ug/l | 6010 | 11/25/00 | 1 |
| Benzene | 530 | 100 | ug/l | 8260B | 11/21/00 | 100 |
| Toluene | 140 | 100 | ug/l | 8260B | 11/21/00 | 100 |
| Ethylbenzene | 290 | 100 | ug/l | 8260B | 11/21/00 | 100 |
| Total Xylenes | 810 | 300 | ug/l | 8260B | 11/21/00 | 100 |
| Methyl tert-butyl ether | BDL | 100 | ug/l | 8260B | 11/21/00 | 100 |
| Naphthalene | 110 | 100 | ug/l | 8260B | 11/21/00 | 100 |
| 1,2-Dibromoethane | BDL | 100 | ug/l | 8260B | 11/21/00 | 100 |
| Surrogate Recovery | BDL | 100 | ug/l | 8260B | 11/21/00 | 100 |
| Toluene-d8 | 98. | | % Rec. | 8260B | 11/21/00 | 100 |
| Dibromofluoromethane | 88. | | % Rec. | 8260B | 11/21/00 | 100 |
| 4-Bromofluorobenzene | 85. | | % Rec. | 8260B | 11/21/00 | 100 |
| Polynuclear Aromatic Hydrocarbons | | | | | | |
| Anthracene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Acenaphthene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Acenaphthylene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Benzo (a) anthracene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Benzo (a) pyrene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Benzo (b) fluoranthene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Benzo (g, h, i) perylene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Benzo (k) fluoranthene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Chrysene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Dibenz (a, h) anthracene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Fluoranthene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Fluorene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Indeno (1, 2, 3-cd) pyrene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Naphthalene | 40. | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Phenanthrene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Pyrene | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Surrogate Recovery | BDL | 10. | ug/l | 8270C | 11/27/00 | 1 |
| Nitrobenzene-d5 | 60. | | % Rec. | 8270C | 11/27/00 | 1 |
| 2-Fluorobiphenyl | 65. | | % Rec. | 8270C | 11/27/00 | 1 |
| p-Terphenyl-d14 | 72. | | % Rec. | 8270C | 11/27/00 | 1 |

Tom Mellette, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:

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Attachment A
List of Analytes with QC Qualifiers

| Sample # | Analyte | Qualifier |
|-----------|-------------------------|-----------|
| L29992-01 | Benzene | F |
| | Toluene | F |
| | Ethylbenzene | F |
| | Total Xylenes | F |
| | Methyl tert-butyl ether | F |
| | Naphthalene | F |
| | 1,2-Dibromoethane | F |
| L29992-02 | Benzene | F |
| | Toluene | F |
| | Ethylbenzene | F |
| | Total Xylenes | F |
| | Methyl tert-butyl ether | F |
| | Naphthalene | F |
| | 1,2-Dibromoethane | F |

Attachment B
Explanation of QC Qualifier Codes

| Qualifier | Meaning |
|-----------|---|
| F | SRN (EPA) - Diluted: The indicated analysis results were generated from a dilution of the sample. |

Qualifier Report Information

ESC recognizes and utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program. We firmly believe that information pertaining to sample analysis should be made available to the ESC client. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC.

Definitions:

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

S & M E

155 Tradd Street
Spartanburg, SC 29301

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody
Page 1 of 1

Prepared by:

**ENVIRONMENTAL
SCIENCE CORP.**

12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (800) 767-5859
FAX (615) 758-5859

Report to: ~~Mr. Jeff Lindsey~~

Description: **Morris Oil Co.**

Phone: (864) 574-2360
FAX: (864) 576-8730

Client Project #: **1264-00-619**

Lab Project #
SMESPAR-1264-00-619

Collected by (print):
Nathan Williams

Site/Facility ID#:

P.O.#: **2283**

Collected by (signature):

Rush? (Lab MUST Be Notified)

Date Results Needed

<24 hr200%
 24-48 hr100%
 48-72 hr50%

FAX? No Yes

No. of Cntrs

PBICP 250mlHDPE-HNO3
SV8270PAH 1L-Amb-NoPres
V8260BTEXMNE 40mlAmb-HCl

CoCode: **SMESPAR** (lab use only)
Template/Prologin **T8393 / P21534**
Cooler #:
Shipped Via: **UPS Ground** *11/13/00*
ca

Remarks/Contaminant Sample # (lab only)

| Sample ID | Comp/Grab | Matrix* | Depth | Date | Time | No. of Cntrs | | | | | | | | | | | |
|-------------|-------------|-----------|-------|-----------------|-------------|--------------|----------|----------|----------|--|--|--|--|--|--|--|-----------------|
| <i>MW-1</i> | <i>Grab</i> | <i>GW</i> | | <i>11/17/00</i> | <i>1230</i> | <i>4</i> | <i>X</i> | <i>X</i> | <i>X</i> | | | | | | | | <i>L2992-01</i> |
| <i>MW-2</i> | <i>Grab</i> | <i>GW</i> | | <i>11/17/00</i> | <i>1250</i> | <i>4</i> | <i>X</i> | <i>X</i> | <i>X</i> | | | | | | | | <i>02</i> |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

*Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other

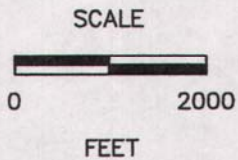
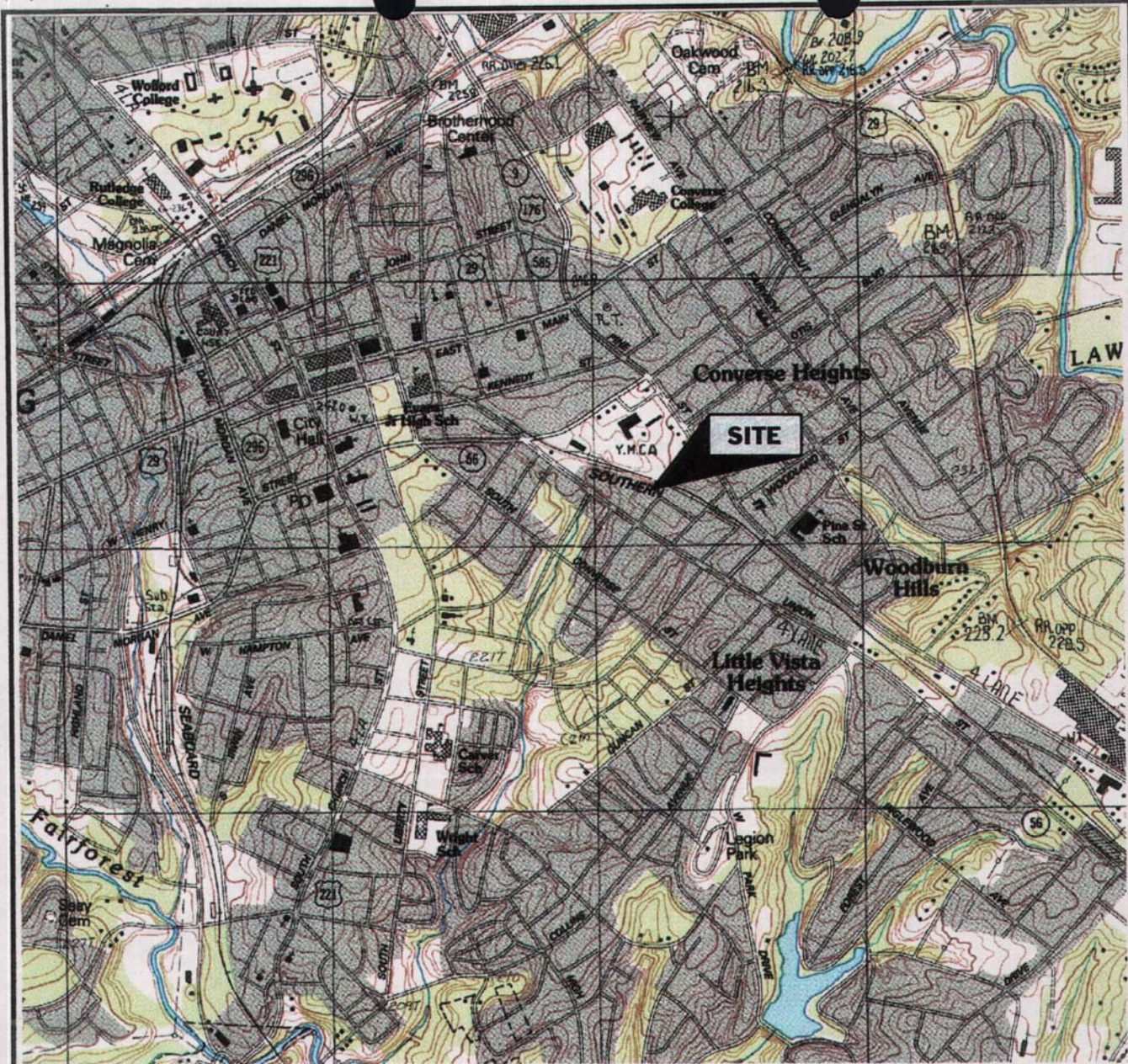
pH _____ Temp _____

Flow _____ Other _____

| | | | | | |
|--|--------------------------|----------------------|--|--|---|
| Relinquished by: (Signature) <i>Nathan Williams</i> | Date: <i>11/17/00</i> | Time: <i>1700</i> | Received by: (Signature) | Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____ | Condition: (lab use only) |
| Relinquished by: (Signature) | Date: | Time: | Received by: (Signature) | Temp: <i>4°</i> | Bottles Received: <i>9TB</i> |
| Relinquished by: (Signature) | Date: | Time: | Received for Lab by: (Signature) <i>Red Bull</i> | Date: <i>11/18/00</i> | Time: <i>10:00</i> |
| | | | pH Checked: Yes <input type="checkbox"/> No <input type="checkbox"/> | | NCF: Yes <input type="checkbox"/> No <input type="checkbox"/> |

APPENDIX C

SITE TOPOGRAPHIC MAP



SOURCE: TOPOGRAPHIC MAP OF SPARTANBURG, SOUTH CAROLINA
QUADRANGLE, 7.5 MINUTE SERIES, USGS, 1983 EDITION

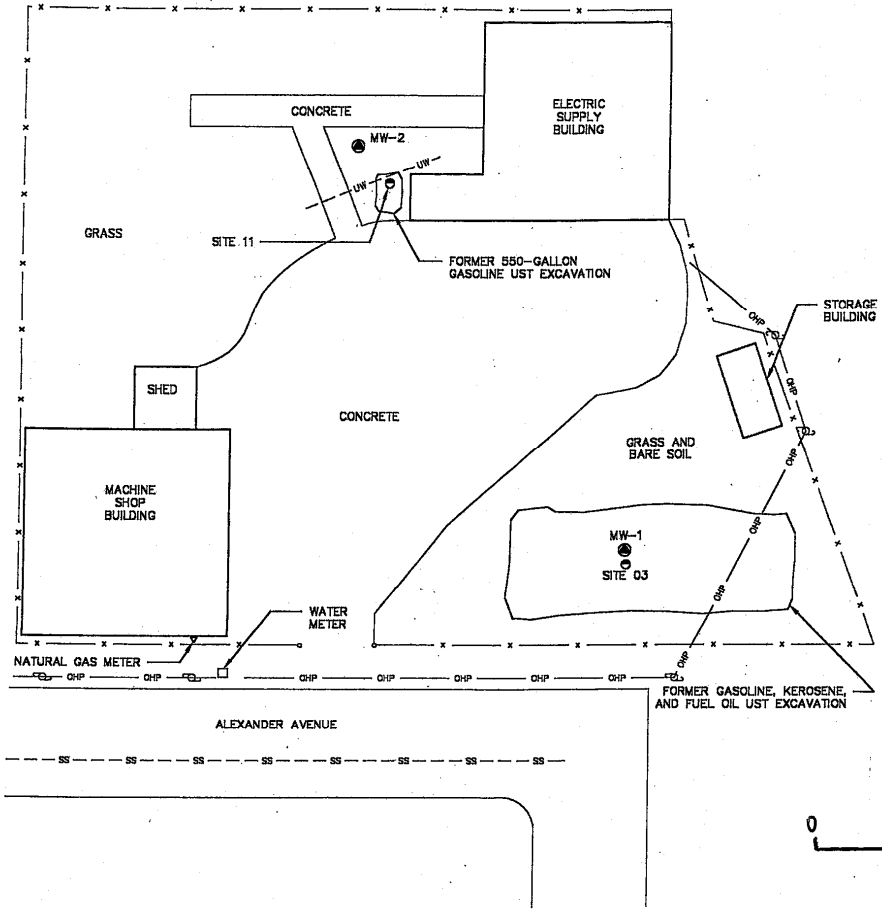


| | |
|-------------|------------|
| SCALE: | AS SHOWN |
| CHECKED BY: | <i>NDW</i> |
| DRAWN BY: | SB |
| DATE: | 12-01-00 |



| |
|-----------------------------|
| SITE TOPOGRAPHIC MAP |
| MORRIS OIL COMPANY |
| UST PERMIT # 08641 |
| SPARTANBURG, SOUTH CAROLINA |
| JOB NO: 1264-00-619 |


FIGURE NO:
1



LEGEND

- MONITORING WELL
- SOIL SAMPLE FROM PREVIOUS UST CLOSURE ASSESSMENT
- X- CHAIN LINK FENCE
- OHP- OVERHEAD POWER LINE
- SS- SANITARY SEWER
- UW- UNDERGROUND WATER LINE

NOTE: THIS FIGURE WAS CREATED FROM FIELD MEASUREMENTS MADE BY S&ME PERSONNEL



S&ME
ENGINEERING - TESTING
ENVIRONMENTAL SERVICES

SITE PLAN
MORRIS OIL COMPANY
UST PERMIT # 08841
SPARTANBURG, SOUTH CAROLINA

| | | |
|---------------------|----------------|----------------------|
| SCALE: 1" = 30' | DRAWN BY: SB | CHECKED BY: <i>W</i> |
| JOB NO: 1264-00-819 | DATE: 12-04-00 | FIGURE NO: 2 |

CAD FILE: K:\VIA\1264\00\08841\00019 SITE.PLT

U.S. Postal Service

CERTIFIED MAIL RECEIPT

(Domestic Mail-Only; No Insurance Coverage Provided)

Article Sent To:

NOU-T; NOI-T for # 08641 RLS1;2 - Pasley

Postage

\$

Certified Fee

Return Receipt Fee
(Endorsement Required)

Restricted Delivery Fee
(Endorsement Required)

Total Postage & Fees

\$

Postmark
Here

SEP 13 2000

Name (Please Print Clearly) (To be completed by mailer)

Mr. Don W. Morris (Morris Oil Co.)

Street, Apt. No.; or PO Box No.

P.O. Box 2843

City, State, ZIP+4

Spartanburg, SC 29304-2843

PS Form 3800, July 1999

See Reverse for Instructions

7099 3220 0000 8 7894 6246

Certified Mail Provides:

- A mailing receipt
- A unique Identifier for your mailpiece
- A signature upon delivery
- A record of delivery kept by the Postal Service for two years

Important Reminders:

- Certified Mail may **ONLY** be combined with First-Class Mail or Priority Mail.
- Certified Mail is not available for any class of international mail.
- **NO INSURANCE COVERAGE IS PROVIDED** with Certified Mail. For valuables, please consider Insured or Registered Mail.
- For an additional fee, a Return Receipt may be requested to provide proof of delivery. To obtain Return Receipt service, please complete and attach a Return Receipt (PS Form 3811) to the article and add applicable postage to cover the fee. Endorse mailpiece "Return Receipt Requested". To receive a fee waiver for a duplicate return receipt, a USPS postmark on your Certified Mail receipt is required.
- For an additional fee, delivery may be restricted to the addressee or addressee's authorized agent. Advise the clerk or mark the mailpiece with the endorsement "Restricted Delivery".
- If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

IMPORTANT: Save this receipt and present it when making an inquiry.

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

MR DON W MORRIS
 MORRIS OIL CO
 PO BOX 2843
 SPARTANBURG SC 29304

COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly) B. Date of Delivery

9/14/00

C. Signature

LARRY D. MORRIS
 X *Larry D. Morris*

- Agent
- Addressee

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

- Certified Mail Express Mail
- Registered Return Receipt for Merchandise
- Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

2. Article Number (Copy from service label)
 7099 3226 0008 7894 8246

08641 DOUG P

posted to file w/NOO-T 102595-99-M-1789
 letter 9/15/2000 -DCP

UNITED STATES POSTAL SERVICE



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

BUREAU OF UST MANAGEMENT
SC DEPARTMENT OF HEALTH AND
ENVIRONMENTAL CONTROL
2600 BULL STREET
COLUMBIA, SC 29201

RECEIVED

SEP 15 2000

Bureau of Underground
Storage Tank Management



01



2600 Bull Street
Columbia, SC 29201-1708

**BUREAU OF
UNDERGROUND STORAGE TANK MANAGEMENT**

Phone (803) 898-4350 Fax (803) 898-4330

CERTIFIED MAIL

7099 3220 0008 7894 6246

SEP 13 2000

Morris Oil Company
Attention: Mr. Don W. Morris
P.O. Box 2843
Spartanburg, SC 29304-2843

Re: Morris Oil Company
UST Permit #08641, Cost Proposal #09243 (Release #1) and Cost Proposal #09244
(Release #2)
Spartanburg County
Notice of Violation

Dear Mr. Morris:

The Bureau of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control directed you to complete an Initial Ground-Water Assessments (IGWA) for releases #1 and #2 in June 2000 with the assessment reports due on September 12, 2000. To date the required reports have not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessments must be conducted as documented chemicals of concern are above the risk-based-screening levels.

Implementation of this scope of work should proceed upon receipt of this correspondence. The report and the invoice for the work on each release must be submitted within 60 days from the date of this letter. If the IGWA reports and the IGWA invoices are not received in accordance with this schedule, enforcement procedures will be initiated.

On all correspondence regarding this site, please reference UST Permit #08641. If you have any questions concerning this correspondence, please call me at (803) 898-4323 or 1-800-826-5435 (within South Carolina only).

Sincerely,

Douglas C. Pasley, Jr., P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

cc: Technical/Read File
Financial File

UST DOCKET
25T

SCDHEC/UST/08641/NOV-T&NOI-T/DCP/09/12/2000



2600 Bull Street
Columbia, SC 29201-1708

**BUREAU OF
UNDERGROUND STORAGE TANK MANAGEMENT**

Phone (803) 898-4350 Fax (803) 898-4330

CERTIFIED MAIL
Z 390 403 245

Morris Oil Company
Attention: Mr. Don W. Morris
P.O. Box 2843
Spartanburg, SC 29304-2843

Copy

Re: Morris Oil Company 245
UST Permit 08641, Cost Proposal 09243 (Release 1) and Cost Proposal 09244
(Release 2)
Spartanburg County
Notice of Violation

Dear Mr. Morris:

The Bureau of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control directed you to complete an Initial Ground-Water Assessments (IGWA) for releases 1 and 2 in August 1999 with the assessment reports due in November 1999. To date the required reports have not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessments must be conducted as documented chemicals of concern are above the risk-based-screening levels.

Implementation of this scope of work should proceed upon receipt of this correspondence. **The report and the invoice for the work on each release must be submitted within 60 days from the date of this letter. If the IGWA reports and the IGWA invoices are not received in accordance with this schedule, enforcement procedures will be initiated.**

On all correspondence regarding this site, please reference UST Permit 08641. If you have any questions concerning this correspondence, please call me at (803) 898-4323 or 1-800-826-5435 (within South Carolina only).

Sincerely,

Douglas C. Pasley, Jr., P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

cc: Technical/Read File
Financial File

SCDHEC/UST/08641/NOV-T&NOI-T/DCP/3/30/2000

DON W OR SARA M MORRIS
PH 579-0752
216 CYPRESS CREEK DR
SPARTANBURG, SC 29307

DATE 9/11/00

67-148/532
BRANCH 42

1106

Teel file
#08641

PAY TO THE ORDER OF D.H.E.C. \$ 1395.00

One thousand Three Hundred Ninety five 00/100 DOLLARS  Security features included. Details on back.

First Citizens Bank
and Trust Company of South Carolina

Don W Morris MP

FOR _____
⑆053201487⑆75120 ⑆408009⑆ ⑆1106

Morris Oil Company
Attn: Mr. Don W. Morris
216 Cypress Creek Road
Spartanburg, South Carolina. 29307

Re: Morris Oil Company
UST Permit #08641
Inability to Meet Financial Responsibility Requirements

Dear Mr. Morris:

The Department notified you to proceed with two Initial Ground Water Assessments (IGWA) in the amount of \$1,395.00 each at the referenced facility. A report of findings was due to the Department by November 1999. A financial responsibility mechanism to pay for initial assessment activities, as required by the South Carolina Underground Storage Tank Regulation, was never submitted to the Department. You advised the Department in December 1999 that you were financially incapable of proceeding with the IGWA. The Department requested that you submit a financial verification package to verify your financial condition and determine if state or federal funds should be made available to immediately fund any necessary environmental activities.

The Department has reviewed the financial information you submitted on May 8, 2000, and determined that your financial condition is solvent. Therefore, you can afford to pay for necessary site assessment and corrective action activities. You have until September 12, 2000 to submit the requested IGWA reports.

If you have any questions about the review of the financial information you submitted, please contact Robertha Dorsey at (803) 898-4331. If you have any questions about the requirement for site assessment or corrective action activities, please contact me at (803) 898-4354.

Sincerely,

Arthur Shrader

Arthur Shrader, Director
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

*Check received on 9/12/2000 -
subsequently returned*

cc: Chris Doll, Manager, State Lead and Field Services Section
Robertha Dorsey, Senior Accountant, Financial Section
Technical File
Financial File
Financial Verification File

UST DOCKET
26T



2600 Bull Street
Columbia, SC 29201-1708

CERTIFIED LETTER
Z70993220000878784978

September 13, 2000

Morris Oil Company
Attn: Mr. Don W. Morris
216 Cypress Creek Road
Spartanburg, South Carolina. 29307

Re: Morris Oil Company
UST Permit #08641
Check Received September 12, 2000

Dear Mr. Morris:

In my letter dated June 23, I requested that you complete two Initial Ground Water Assessments (IGWA) at the referenced facility and submit the report of findings by September 12, 2000. As this work is to be completed as part of the deductible paid by you, I cannot accept your check. Therefore, your check number 1006 in the amount of \$1,395.00 is returned with my original letter from June 23, 2000.

Please contact a UST certified contractor to initiate two Initial Ground Water Assessments (IGWA) at the referenced facility. A list of certified contractors by city is enclosed for your information. A report of findings is due on or before December 15, 2000.

If you have any questions about the requirement for site assessment or corrective action activities, please contact me at (803) 898-4354.

Sincerely,

Arthur Shrader, Director
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

Enc: Check Number 1006 for \$1,395.00
My Letter Dated June 23, 2000
List of Certified Contractors

cc: Chris Doll, Manager, State Lead and Field Services Section
Laura Pace, Manager, Financial Section
- Technical File
Financial File

DON W OR SARA M MORRIS
PH 579-8752
216 CYPRESS CREEK DR
SPARTANBURG, SC 29307

1106

DATE 9/11/00

67-148/532
BRANCH 425

PAY TO THE ORDER OF D. H. E. C.

\$ 1395.⁰⁰

One Thousand Three Hundred Ninety Five ⁰⁰/₁₀₀ DOLLARS Security features included. Details on back.

First Citizens Bank
and Trust Company of South Carolina

Don W Morris

FOR

⑆053201487⑆75120 1408009⑆ 1106

Morris Oil Company
Attn: Mr. Don W. Morris
216 Cypress Creek Road
Spartanburg, South Carolina, 29307

Re: Morris Oil Company
UST Permit #08641
Inability to Meet Financial Responsibility Requirements

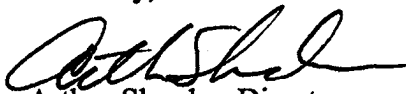
Dear Mr. Morris:

The Department notified you to proceed with two Initial Ground Water Assessments (IGWA) in the amount of \$1,395.00 each at the referenced facility. A report of findings was due to the Department by November 1999. A financial responsibility mechanism to pay for initial assessment activities, as required by the South Carolina Underground Storage Tank Regulation, was never submitted to the Department. You advised the Department in December 1999 that you were financially incapable of proceeding with the IGWA. The Department requested that you submit a financial verification package to verify your financial condition and determine if state or federal funds should be made available to immediately fund any necessary environmental activities.

The Department has reviewed the financial information you submitted on May 8, 2000, and determined that your financial condition is solvent. Therefore, you can afford to pay for necessary site assessment and corrective action activities. You have until September 12, 2000 to submit the requested IGWA reports.

If you have any questions about the review of the financial information you submitted, please contact Robertha Dorsey at (803) 898-4331. If you have any questions about the requirement for site assessment or corrective action activities, please contact me at (803) 898-4354.

Sincerely,



Arthur Shrader, Director
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

cc: Chris Doll, Manager, State Lead and Field Services Section
Robertha Dorsey, Senior Accountant, Financial Section
Technical File
Financial File
Financial Verification File

Z 329 498 367

Shradler

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

| | |
|---|-----------|
| Sent to <i>Morris Oil Co</i> | |
| Street & Number <i>216 Cypress Creek Rd</i> | |
| Post Office, State, & ZIP Code <i>Spartanburg SC 29301</i> | |
| Postage | <i>\$</i> |
| Certified Fee | |
| Special Delivery Fee | |
| Restricted Delivery Fee | |
| Return Receipt Showing to Whom & Date Delivered | |
| Return Receipt Showing to Whom, Date, & Addressee's Address | |
| TOTAL Postage & Fees | \$ |

Postmark or Date

AUG 24 1

PS Form 3800, April 1995

Stick postage stamps to article to cover First-Class postage, certified mail fee, and charges for any selected optional services (See front).

1. If you want this receipt postmarked, stick the gummed stub to the right of the return address leaving the receipt attached, and present the article at a post office service window or hand it to your rural carrier (*no extra charge*).

2. If you do not want this receipt postmarked, stick the gummed stub to the right of the return address of the article, date, detach, and retain the receipt, and mail the article.

3. If you want a return receipt, write the certified mail number and your name and address on a return receipt card, Form 3811, and attach it to the front of the article by means of the gummed ends if space permits. Otherwise, affix to back of article. Endorse front of article **RETURN RECEIPT REQUESTED** adjacent to the number.

4. If you want delivery restricted to the addressee, or to an authorized agent of the addressee, endorse **RESTRICTED DELIVERY** on the front of the article.

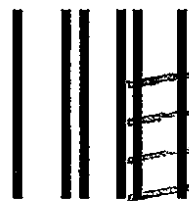
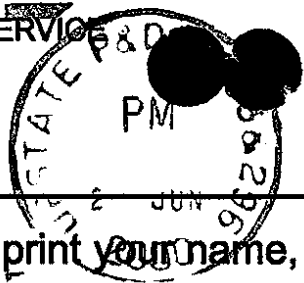
5. Enter fees for the services requested in the appropriate spaces on the front of this receipt. If return receipt is requested, check the applicable blocks in item 1 of Form 3811.

6. Save this receipt and present it if you make an inquiry.

102595-99-M-0079

PS Form 3800, April 1995 (Reverse)

UNITED STATES POSTAL SERVICE



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

BUREAU OF UST MANAGEMENT
SC DEPARTMENT OF HEALTH AND
ENVIRONMENTAL CONTROL
2600 BULL STREET
COLUMBIA, SC 29201

RECEIVED

JUN 27 2000

Out 5

Bureau of Underground
Storage Tank Management

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Morris Oil Co
216 Cypress Creek Rd
Spontenburg SC
D. Fisher

2. Article Number (Copy from service label)

h 329 498 367

COMPLETE THIS SECTION ON DELIVERY

Delivered by (Please Print Clearly) B. Date of Delivery

DON MORRIS 6-24-00

C. Signature

X *[Signature]* Agent Addressee

D. Is delivery address different from item 1? Yes No

YES, enter delivery address below:

3. Service Type

- Certified Mail Express Mail
- Registered Return Receipt for Merchandise
- Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

#082641



2600 Bull Street
Columbia, SC 29201-1708

CERTIFIED LETTER
Z329498367

June 23, 2000

Morris Oil Company
Attn: Mr. Don W. Morris
216 Cypress Creek Road
Spartanburg, South Carolina. 29307

Re: Morris Oil Company
UST Permit #08641
Inability to Meet Financial Responsibility Requirements

Dear Mr. Morris:

The Department notified you to proceed with two Initial Ground Water Assessments (IGWA) in the amount of \$1,395.00 each at the referenced facility. A report of findings was due to the Department by November 1999. You advised the Department in December 1999 that your financial responsibility mechanism (self-insurance) which you had previously submitted was insufficient and that you were financially incapable of proceeding with the IGWA. The Department requested that you submit a financial verification package to verify your financial condition and determine if state or federal funds should be made available to immediately fund any necessary environmental activities.

The Department has reviewed the financial information you submitted on May 8, 2000, and determined that your financial condition is solvent. Therefore, you can afford to pay for necessary site assessment and corrective action activities. You have until September 12, 2000 to submit the requested IGWA reports.

If you have any questions about the review of the financial information you submitted, please contact Robertha Dorsey at (803) 898-4331. If you have any questions about the requirement for site assessment or corrective action activities, please contact me at (803) 898-4354.

Sincerely,

Arthur Shrader, Director
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

cc: Chris Doll, Manager, State Lead and Field Services Section
Robertha Dorsey, Senior Accountant, Financial Section
Technical File
Financial File
Financial Verification File

UST DOCKET
277



2600 Bull Street
Columbia, SC 29201-1708

CERTIFIED LETTER
Z329498367

June 23, 2000

Morris Oil Company
Attn: Mr. Don W. Morris
216 Cypres Creek Road
Spartanburg, South Carolina. 29307

Re: Morris Oil Company
UST Permit #08641
Inability to Meet Financial Responsibility Requirements

Dear Mr. Morris:

The Department notified you to proceed with two Initial Ground Water Assessments (IGWA) in the amount of \$1,395.00 each at the referenced facility. A report of findings was due to the Department by November 1999. A financial responsibility mechanism to pay for initial assessment activities, as required by the South Carolina Underground Storage Tank Regulation, was never submitted to the Department. You advised the Department in December 1999 that you were financially incapable of proceeding with the IGWA. The Department requested that you submit a financial verification package to verify your financial condition and determine if state or federal funds should be made available to immediately fund any necessary environmental activities.

The Department has reviewed the financial information you submitted on May 8, 2000, and determined that your financial condition is solvent. Therefore, you can afford to pay for necessary site assessment and corrective action activities. You have until September 12, 2000 to submit the requested IGWA reports.

If you have any questions about the review of the financial information you submitted, please contact Robertha Dorsey at (803) 898-4331. If you have any questions about the requirement for site assessment or corrective action activities, please contact me at (803) 898-4354.

Sincerely,

A handwritten signature in black ink, appearing to read 'Arthur Shrader'.

Arthur Shrader, Director
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

cc: Chris Doll, Manager, State Lead and Field Services Section
Robertha Dorsey, Senior Accountant, Financial Section
~~Technical File~~
Financial File
Financial Verification File



SEP 17 1999

2600 Bull Street
Columbia, SC 29201-1708

Morris Oil Company
Attn: Mr. Don Morris
P.O. Box 2843
Spartanburg, SC 29304-2843

Re: Morris Oil Company
UST Permit#08641 Cost Proposal #09243(Release #1)
Cost Proposal #09244(Release #2)
Assessment Report Received August 27, 1999
Spartanburg County

Dear Mr. Morris:

The Division of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced report. The referenced report indicates concentration of chemicals of concern in the soil. To determine what risk the release may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of the scope of work as outlined in the enclosed Initial Ground-Water Assessment (IGWA) document is necessary. Please note, that **monitoring well #1(release #1)** should be placed in the **immediate area of the soil sample taken from the tank #1 basin**. **Monitoring well #2(release 2)** should be placed in the **immediate area of tank #9**. Since the above scope of work is detailed in the IGWA document, a separate plan is not required.

According to our records, the releases were reported to the SCDHEC subsequent to the early detection incentive program. Therefore, in accordance with Section 44-2-40(B) of the State Underground Petroleum Environmental Response Bank (SUPERB) Act, you are responsible for the first \$25,000 for each release for site rehabilitation. To insure that any expenditures you make apply to these \$25,000 deductibles, it is prudent for this agency to pre-approve such costs along with your technical plan of action. If the \$25,000 for any of the releases is exhausted, eligible costs will be payed from the remaining deductibles until the total deductible of \$50,000 is reached. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Eligible costs exceeding the \$50,000 total deductible can be compensated from the SUPERB Account, upon completion of qualification.

To proceed with the qualification process for the State Underground Petroleum Environmental Response Bank (SUPERB) Act, the following information is required:

- Written confirmation of the existence or non-existence of an environmental insurance policy for this site. **This information must be signed by the responsible party and a notary public.** For your convenience, an insurance statement form has been enclosed. If an environmental insurance policy existed at the time of the release, a copy of the policy with all endorsements must be submitted with the insurance statement. **Please complete and return the enclosed insurance information form within 14 days from the date of this letter.**

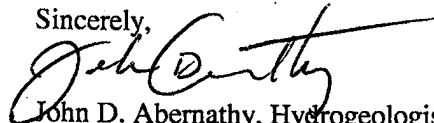
UST DOCKET
28T

Please note that the maximum approvable amount for the IGWAs are \$2,790.00. Upon receipt of the signed IGWA Invoices, IGWA Reports, and a copy of your canceled check (front and back) or a notarized statement from the contractor verifying payment for this scope of work, up to \$2,790.00 may be applied toward your deductibles. **Please complete and return the enclosed Owner/Operator Information Sheet within 14 days from the date of this letter (note that all rehabilitation activities associated with a UST release must be performed by a SCDHEC certified site rehabilitation contractor as required by R.61-98).** Cost proposals #09243(release #1) and #09244(release #2), have been established to track the allowable costs associated with the IGWAs. Please include the cost proposal numbers when submitting your invoices. The SC certified contractors list is enclosed for your convenience.

Implementation of the IGWA should proceed upon receipt of this correspondence. The required monitoring well approval is enclosed. **The report should be submitted within 60 days from the date of this letter.** All investigative derived waste must be properly stored in labeled containers or covered with plastic as appropriate. The Division grants preapproval for the transportation of the investigative derived waste (virgin petroleum contaminated soil and groundwater) from the referenced site to a permitted treatment facility. All contaminated investigative derived waste must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest and approval letter from the receiving facility must be included as an appendix to the final report. If the levels of petroleum contamination based on laboratory analysis are below treatment levels, please contact the project manager for approval to dispose of the investigative derived waste on site. The SUPERB Account will not compensate for transportation or treatment of clean soil and/or ground water. The SCDHEC reserves the authority to only apply costs to your deductible for work properly performed and/or technically justified in accordance with established criteria. The SCDHEC reserves the authority to only apply costs to your deductible for work properly performed and/or technically justified in accordance with established criteria.

On all correspondence regarding this facility and scope of work, please reference **UST Permit #08641** cost proposal #09243(release#1), and cost proposal #09244(release #2). If you have any questions concerning this correspondence, please contact me at (803) 898-4367 or 1-800-826-5435 (within SC).

Sincerely,



John D. Abernathy, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

- enc: Monitoring Well Approval
Owner/Operator Information Sheet
Initial Ground-Water Assessment document
Contractors List
Insurance Statement Form
Tank Fee Invoices
- cc: Technical File (w/copy of Monitoring Well Approval)
Financial/Read File (without enclosures)



2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: September 1, 1999

Approval No.: 11988

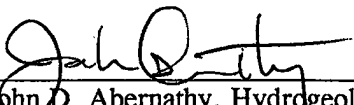
Approval is hereby granted to: Mr. Don Morris
(On behalf of):
UST Permit #08641
County: Spartanburg

This approval is for the construction of two shallow monitoring well(s) in accordance with the South Carolina Well Standards and Regulations. The well(s) are to be constructed within the surficial aquifer for the intended purpose of monitoring ground-water quality and/or water level(s) at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well will be submitted with the technical report.
2. Each well will be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate will provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.
3. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.
4. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to John Abernathy at (803) 898-4367 or Abernajd@columb26.dhec.state.sc.us.
5. Please provide ground-water quality analytical data (chemical analysis and/or water level(s)) and associated measurements (i.e., in-situ field measurements) to me with the technical report.
6. Monitoring wells and temporary monitoring wells will be installed by or under the direct supervision of a licensed well driller certified by the State of South Carolina.
7. Monitoring wells and temporary monitoring wells will be abandoned by or under the direct supervision of a licensed well driller certified by the State of South Carolina. Temporary monitoring wells shall not remain in place for longer than 30 days from the date of installation. Monitoring wells may be abandoned only upon concurrence by this Division.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71. Please remember to have a copy of this approval on the site during well installation.

Approved by:


John D. Abernathy, Hydrogeologist
State Lead and Field Services Section
Division of UST Management

cc: APP III District EQC
Technical File



DIVISION C
UNDERGROUND STORAGE TANK MANAGEMENT
2600 Bull Street
Columbia, SC 29201
Telephone (803) 898-4350
AUG 30 1999

Mr. Don Morris
Morris Oil Company
Post Office Box 2843
Spartanburg, SC 29304-2843

Re: Morris Oil Company
Alexander Avenue, Spartanburg, SC, Spartanburg County
Underground Storage Tank Permit ID #08641, Releases #1 and #2
Assessment Report received August 27, 1999

Dear Mr. Morris:

The Division of Underground Storage Tank (UST) Management has reviewed the assessment report for the referenced facility. The report documents that a release has occurred and that additional actions may be necessary.

You will be contacted by personnel of the Assessment and Corrective Action Branch within 45 days concerning additional actions that may be necessary.

Fees in the amount of \$556.60 are owed for the UST system at the facility. These fees must be paid before the release can receive any funding from the State Underground Petroleum Environmental Response Bank fund.

Please include the permit ID number on any correspondence concerning this site. If you have any questions or comments, feel free to call at (803) 898-4355.

Sincerely,

Mark Berenbrok, Manager
Regulatory Assistance Section
Division of Underground Storage Tank Management

MKB/mkb
08641.01:TXT

Enclosures: invoices

CC: technical file

UST DOCKET
-29T

RECEIVED

AUG 27 1999

LAW OFFICES
ODOM, TERRY, CANTRELL & HAMMETT
220 N. CHURCH STREET, SUITE 1
P.O. Box 5504
SPARTANBURG, S.C. 29304

R. R. ODOM
B. C. TERRY
W. G. CANTRELL
S. A. HAMMETT, II

J. A. ODOM
(1898-1974)
OFFICE OF GENERAL COUNSEL
AREA CODE 804
582-6776
FAX 585-9523

August 24, 1999

Kelly D.H. Lowry, Esq.
S.C. Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201

RECEIVED

AUG 27 1999

DIVISION OF
STORAGE TANK MGMT.

Re: UST Site 1 D.N. ~~08461~~ 08641/BSM
427 Alexander Ave
Spartanburg, SC

Dear Kelly:

Pursuant to our recent telephone conversation, I am remitting certain site reports from TESCO, Inc.

Also included are copies of two checks from Don Morris.

Please advise if you need anything further in order to resolve any issues related to the storage tanks at the above location.

Very truly yours,


Billy C. Terry

UST DOCKET
30T

DON W. MORRIS
 216 CYPRESS CREEK DR 579-0752
 SPARTANBURG, SC 29307

Date: 8/28/98

Pay To: D.H.E.C.
 The Order Of:

\$900.00

CAROLINA SOUTHERN BANK
 SPARTANBURG, SOUTH CAROLINA 29304

For: *Don W. Morris*

MICR: ⑆053202075⑆2010032152⑆0515⑆0000090000⑆

DON W. MORRIS
 216 CYPRESS CREEK DR 579-0752
 SPARTANBURG, SC 29307

Date: 6/18/99

Pay To: *Justin*
 The Order Of:

\$5000.00

CAROLINA SOUTHERN BANK
 SPARTANBURG, SOUTH CAROLINA 29304

For: *Don W. Morris*

MICR: ⑆053202075⑆2010032152⑆0559⑆0000050000⑆

ENDORSE HERE

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For Deposit Only to the Credit of State Treasurer of S.C.

10 AUG 31 1998

DO NOT WRITE STAMP BEYOND THIS LINE
OR ENDORSEMENTS WILL BE VOID

NATIONSBANK CAR 68/2199
16530001964 E5654 98

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COLUMBIA

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Chemical: Watermark.
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Size: Standard.
Fingerprint: Laminated.
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Registration: Original document.
Security: Security features.
Security: Security features.

ENDORSE HERE

C&S

THE CITIZENS & SOUTHERN NATIONAL BANK OF SOUTH CAROLINA
111 SOUTH KING STREET, COLUMBIA, SC 29201

FOR DEPOSIT ONLY

TESCO

INC. OF SOUTH CAROLINA
THIS LINE
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Microprint: Serial and back numbers.
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Size: Standard.
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Security: Hologram.
Registration: Original document.
Security: Security features.
Security: Security features.



**State Lead Option
Property Access Agreement for Site
Rehabilitation**



Only complete this form if: You are the legal owner of the property **OR** are the designated authorized representative for the legal owner of the property.

I certify that I am the legal owner of the property identified below or serve as the authorized representative for the legal owner of the property. I authorize the South Carolina Department of Health and Environmental Control (DHEC), or a contractor selected by DHEC, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. I understand that the Agency will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

| | |
|--|---|
| UST Permit # | 08641 |
| Facility Name: | Morris Oil Co. |
| Facility Address: | 427 Alexander Avenue, Spartanburg, SC 29304 |
| Facility Phone Number: | Julie Morris PR for Larry Morris (864) 415-8762 |
| Is facility within city limits? (circle yes/no) | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Name of nearest intersecting street/road/highway: | Marion Ave |
| Does public water/sewer utility service this facility? | <input checked="" type="radio"/> Yes <input type="radio"/> No |

*If no, please provide a contact name/number that can assist in the location of private water and septic tank lines:

| | |
|--|---------------|
| Name: | Phone Number: |
| Were USTs previously removed from the ground at this facility? <input type="radio"/> Yes <input checked="" type="radio"/> No ? | |

*If yes, please provide the name/contact number of a person that can assist in the location of the former UST(s):

| | |
|--|------------------------------|
| Name: | Phone Number: |
| Is the facility currently leased to someone? <input checked="" type="radio"/> Yes <input type="radio"/> No | |
| *If yes, notify them of the pending work scope, and please provide their name/contact number: | |
| Name: Thomas Maguire | Phone Number: (864) 542-3119 |

***Please note that if vehicles or other mobile structures are parked over the location of the existing or former USTs, they should be moved prior to DHEC's contractor mobilizes to the facility.**

| | |
|---|--------------|
| Name of Property Owner (Print): | Morris Oil |
| Signature of Property Owner or authorized representative: | Julie Morris |
| Affiliation (if applicable) | |
| Signature of Witness | |
| Date | 5/6/18 |

| | |
|---------------------|----------------------------------|
| Contact Info | |
| Phone Numbers: | Home: _____ Cell: (864) 415-8762 |
| Email Address: | Julie.morris@att.net |



S.C. Department of Health and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Telephone: 803-898-2544



MEMORANDUM

TO: Midlands Environmental Consultants, Inc

FROM: Quincy Hoffer

RE: Site Specific Work Plan Request

Facility Name: Morris Oil Co.

Permit Number: 08641

County: Spartanburg

Work To Be Completed: A comprehensive groundwater sampling of all monitoring wells, recovery wells, water supply wells, and surface water points associated with this site. All samples should be tested for BTEXNM+Oxyg's+1,2 DCA+Eth(8260B) and EDB (EPA 8011).

Total Number of Monitoring Well Samples: 23

Analysis Being Requested: BTEXNM+Oxyg's+1,2 DCA+Eth(8260B) and EDB (EPA 8011)



MR BRYAN SHANE PG
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

JUN 25 2018

Re: Site Specific Work Plan Requests
Groundwater Sampling Contract
Solicitation #IFB-5400012906; PO #4600624358

Dear Mr. Shane:

In accordance with bid solicitation # IFB-5400012906 and the UST Management Division Quality Assurance Program Plan (QAPP) Revision 3.1, it is requested that you submit a Site Specific Work Plan (SSWP) based on the site information packages provided.

The SSWPs must be submitted within 15 business days to my attention. The project manager for each site will issue a notice to proceed once the plan has been reviewed and approved. Please contact me with the sampling schedule before commencing work at these facilities. In addition, a weekly update for each site is required to be submitted via e-mail to the site's project manager and myself. If you have any questions or need further assistance, please contact me by phone (803) 898-0671 or email dunnra@dhec.sc.gov.

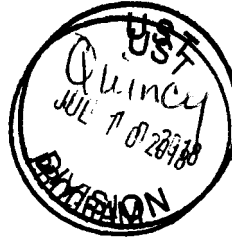
Sincerely,

Robert A. Dunn, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

Enc: Site Information Packages

Cc: Technical File (w/ Site Information Package Cover Sheet)

 **Midlands
Environmental
Consultants, Inc.**



July 9, 2018

Mr. Robert Dunn, Hydrogeologist
Corrective Action & Field Support Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201



Subject: Site-Specific Work Plan
Morris Oil Co.
Spartanburg, South Carolina
SCDHEC Site ID Number 08641
MECI Project Number 18-6518
Certified Site Rehabilitation Contractor UCC-0009


Dear Mr. Dunn,

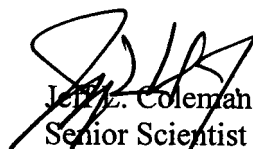
Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Site-Specific Work Plan for the referenced site.

On June 28, 2018, MECI personnel performed a site visit to the subject sites to evaluate site conditions, locate monitoring wells and identify potential problems for future sampling activities.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.


for Kyle V. Pudney
Project Biologist


Jeffrey L. Coleman
Senior Scientist



**Site-Specific Work Plan for Approved ACQAP
Underground Storage Tank Management Division**

To: Mr. Quincey Hoffer (SCDHEC Project Manager)
 From: Jeff L. Coleman (Contractor Project Manager)
 Contractor: Midlands Environmental Consultants, Inc. UST Contractor Certification Number: 009

Facility Name: Morris Oil Co. UST Permit #: 08641
 Facility Address: 427 Alexander Ave, Spartanburg, SC 29304
 Responsible Party: Don Morriss Phone: 864-585-9203
 RP Address: 346 Union Street, Spartanburg, SC 29306
 Property Owner (if different): DW Morriss Properties LLC
 Property Owner Address: 216 Cypress Creek Drive, Spartanburg, SC 29307
 Current Use of Property: Nash Electrical Supply

Scope of Work (Please check all that apply)

- IGWA Tier II Groundwater Sampling GAC
 Tier I Monitoring Well Installation Other _____

Analyses (Please check all that apply)

Groundwater/Surface Water:

- | | | | |
|--|--|--------------------------------------|---|
| <input checked="" type="checkbox"/> BTEXNMDCA (8260B) | <input type="checkbox"/> Lead | <input type="checkbox"/> BOD | <input type="checkbox"/> Methane |
| <input checked="" type="checkbox"/> Oxygenates (8260B) | <input type="checkbox"/> 8 RCRA Metals | <input type="checkbox"/> Nitrate | <input type="checkbox"/> Ethanol |
| <input checked="" type="checkbox"/> EDB (8011) | <input type="checkbox"/> TPH | <input type="checkbox"/> Sulfate | <input type="checkbox"/> Dissolved Iron |
| <input type="checkbox"/> PAH (8270D) | <input type="checkbox"/> pH | <input type="checkbox"/> Other _____ | |

Drinking Water Supply Wells:

- | | | |
|---|---|--------------------------------------|
| <input type="checkbox"/> BTEXNMDCA (524.2) | <input type="checkbox"/> Mercury (200.8 245.1 or 245.2) | <input type="checkbox"/> EDB (504.1) |
| <input type="checkbox"/> Oxygenates & Ethanol (8260B) | <input type="checkbox"/> RCRA Metals (200.8) | |

Soil:

- | | | | | |
|---------------------------------|--|--|--|-------------------------------------|
| <input type="checkbox"/> BTEXNM | <input type="checkbox"/> Lead | <input type="checkbox"/> RCRA Metals | <input type="checkbox"/> TPH-DRO (3550B/8015B) | <input type="checkbox"/> Grain Size |
| <input type="checkbox"/> PAH | <input type="checkbox"/> Oil & Grease (9071) | <input type="checkbox"/> TPH-GRO (5030B/8015B) | <input type="checkbox"/> TOC | |

Air:

- BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

| | | | |
|---------------------------|--------------------------|-------------------|---------------------|
| _____ Soil | _____ Water Supply Wells | _____ Air | _____ 1 Field Blank |
| _____ 23 Monitoring Wells | _____ 3 Surface Water | _____ 2 Duplicate | _____ 1 Trip Blank |

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.

of shallow points proposed: _____ Estimated Footage: _____ feet per point
 # of deep points proposed: _____ Estimated Footage: _____ feet per point

Field Screening Methodology: _____

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.

of shallow wells: _____ Estimated Footage: _____ feet per point
 # of deep wells: _____ Estimated Footage: _____ feet per point
 # of recovery wells: _____ Estimated Footage: _____ feet per point

Comments, if warranted:

UST Permit #: 08641 Facility Name: Morris Oil Company

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 7/9/2018 Field Work Completion: 8/9/2018
Report Submittal: 9/9/2018 # of Copies Provided to Property Owners: 0

Aquifer Characterization
Pump Test: Slug Test: (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal
Soil: _____ Tons Purge Water: 250.0 Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

Additional Details For This Scope of Work
For example, list wells to be sampled, wells to be abandoned/repared, well pads/bolts/caps to replace, details of AFVR event, etc.
-During the initial site visit, monitoring wells MW-5, MW-6, and MW-17 were unable to be located. If any of these wells are located during the sampling event, they will be sampled accordingly. All other monitoring wells were found to be in good condition.
-Unless otherwise directed by SCDHEC, all wells will be purged prior to sample collection.
-MECI will attempt to sample three (3) surface water points during the sampling event.
-Monitoring well samples and surface water points will be analyzed for BTEXNM, 8-OXY, 1,2-DCA (8260B) & EDB (8011).

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____
N/A Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____
None Other variations from ACQAP. Please describe below.

- Attachments**
1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
 2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:
North Arrow Proposed monitoring well locations
Location of property lines Legend with facility name and address, UST permit number, and bar scale
Location of buildings Streets or highways (indicate names and numbers)
Previous soil sampling locations Location of all present and former ASTs and USTs
Previous monitoring well locations Location of all potential receptors
Proposed soil boring locations
 3. Assessment Component Cost Agreement, SCDHEC Form D-3664



**ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA**

Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
CONTRACT PO NUMBER 4600559329

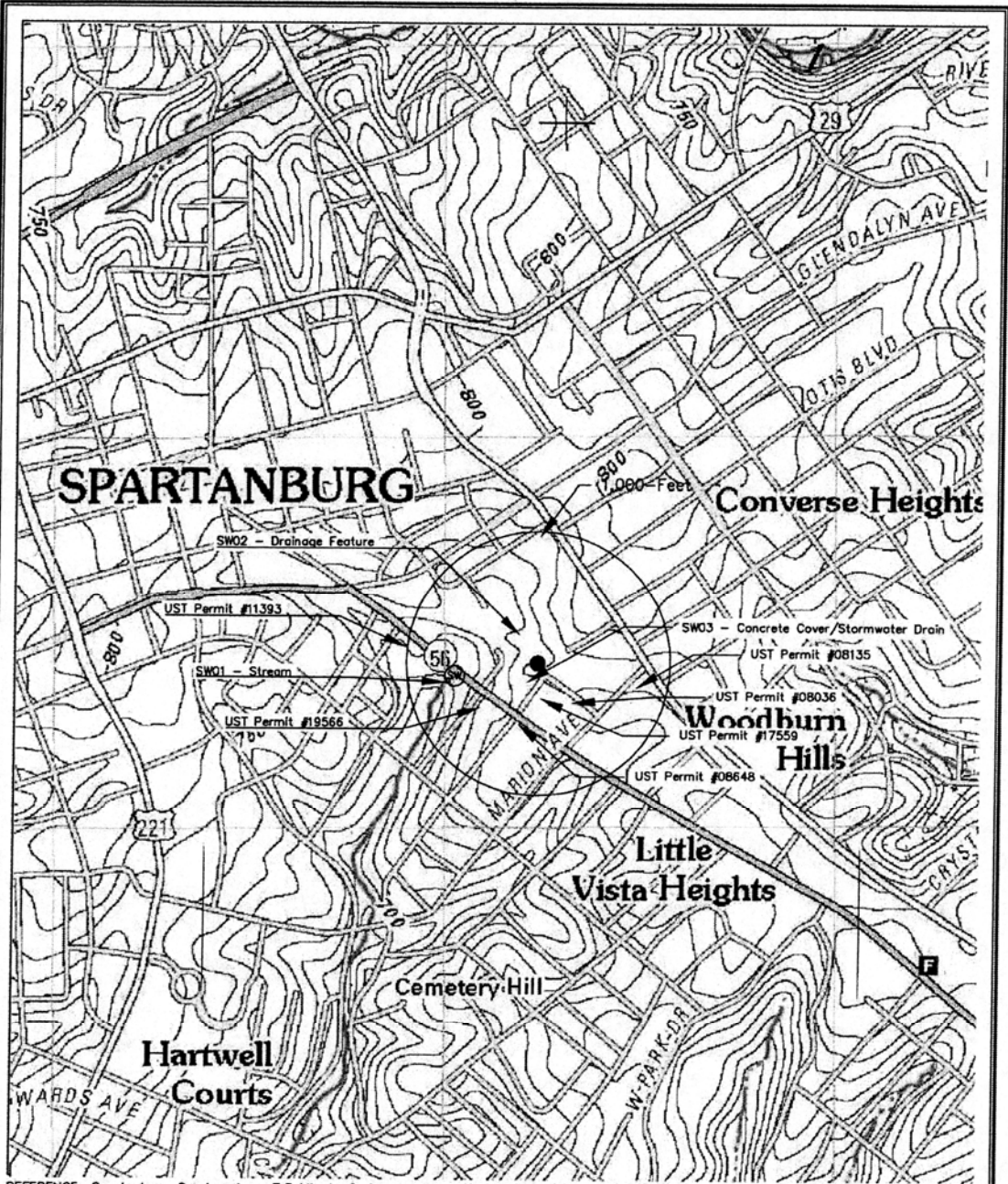
Facility Name: Morris Oil Company

UST Permit #: 08641

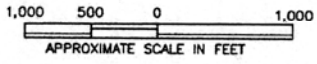
Cost Agreement #: Proposal

| ITEM | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|----------|----------|------------|-------------------|
| 1. Plan* | | | | |
| A1. Site Specific Work Plan | 1 | each | \$1.00 | \$1.00 |
| B1. Tax Map | | each | \$1.00 | \$0.00 |
| C1. QAPP Appendix B | | each | \$1.00 | \$0.00 |
| 2. A1. Receptor Survey | | each | \$1.00 | \$0.00 |
| 4. Mob/Demob | | | | |
| B1. Personnel | 2 | each | \$1.00 | \$2.00 |
| 10. Groundwater Sample Collection / Gauge Depth to Water or Product (Each) | | | | |
| A1. Groundwater Purge | 23 | per well | \$36.50 | \$839.50 |
| B1. Air or Vapors | | samples | \$1.00 | \$0.00 |
| C1. Water Supply | | samples | \$18.00 | \$0.00 |
| D1. Groundwater No Purge or Duplicate | 3 | per well | \$27.50 | \$82.50 |
| E1. Gauge Well only | | per well | \$1.00 | \$0.00 |
| F1. Sample Below Product | | per well | \$1.00 | \$0.00 |
| G1. Pasive Diffusion Bag | | each | \$20.00 | \$0.00 |
| H1. Field Blank | 1 | each | \$1.00 | \$1.00 |
| 17. Disposal* (gallons or tons) | | | | |
| AA. Disposal/Water | 250 | gallons | \$1.00 | \$250.00 |
| BB. Free Product | | gallons | \$0.05 | \$0.00 |
| Note: Rate includes costs or rental of suitable container(s) | | | | |
| 23. D. Site Reconnaissance | 1 | each | \$1.00 | \$1.00 |
| 18. Miscellaneous | | | | |
| GW Contour Map | | each | \$25.00 | \$0.00 |
| Isopleth Map | | each | \$25.00 | \$0.00 |
| High-Strength Well Pad Replacement | | each | \$75.00 | \$0.00 |
| Data Table | | each | \$50.00 | \$0.00 |
| Low Flow Sampling | | per well | \$55.00 | \$0.00 |
| 25. Well Repair | | | | |
| B1. Repair 2x2 MW Pad | | each | \$50.00 | \$0.00 |
| C1. Repair 4x4 MW Pad | | each | \$50.00 | \$0.00 |
| D1. Replace Well Vault | | each | \$50.00 | \$0.00 |
| E. Replace well cover | | each | \$25.00 | \$0.00 |
| F1. Replace well cover bolts | | each | \$2.60 | \$0.00 |
| G. Replace locking well cap & lock | | each | \$15.00 | \$0.00 |
| K1. Replace Missing Well ID Plate | | each | \$10.00 | \$0.00 |
| TOTAL | | | | \$1,176.00 |

*The appropriate mobilization cost can be added to complete these tasks, as necessary



REFERENCE: Spartanburg Quadrangle - 7.5 Minute Series, United States Geological Survey, 2011 (Contour Interval - 10 feet)

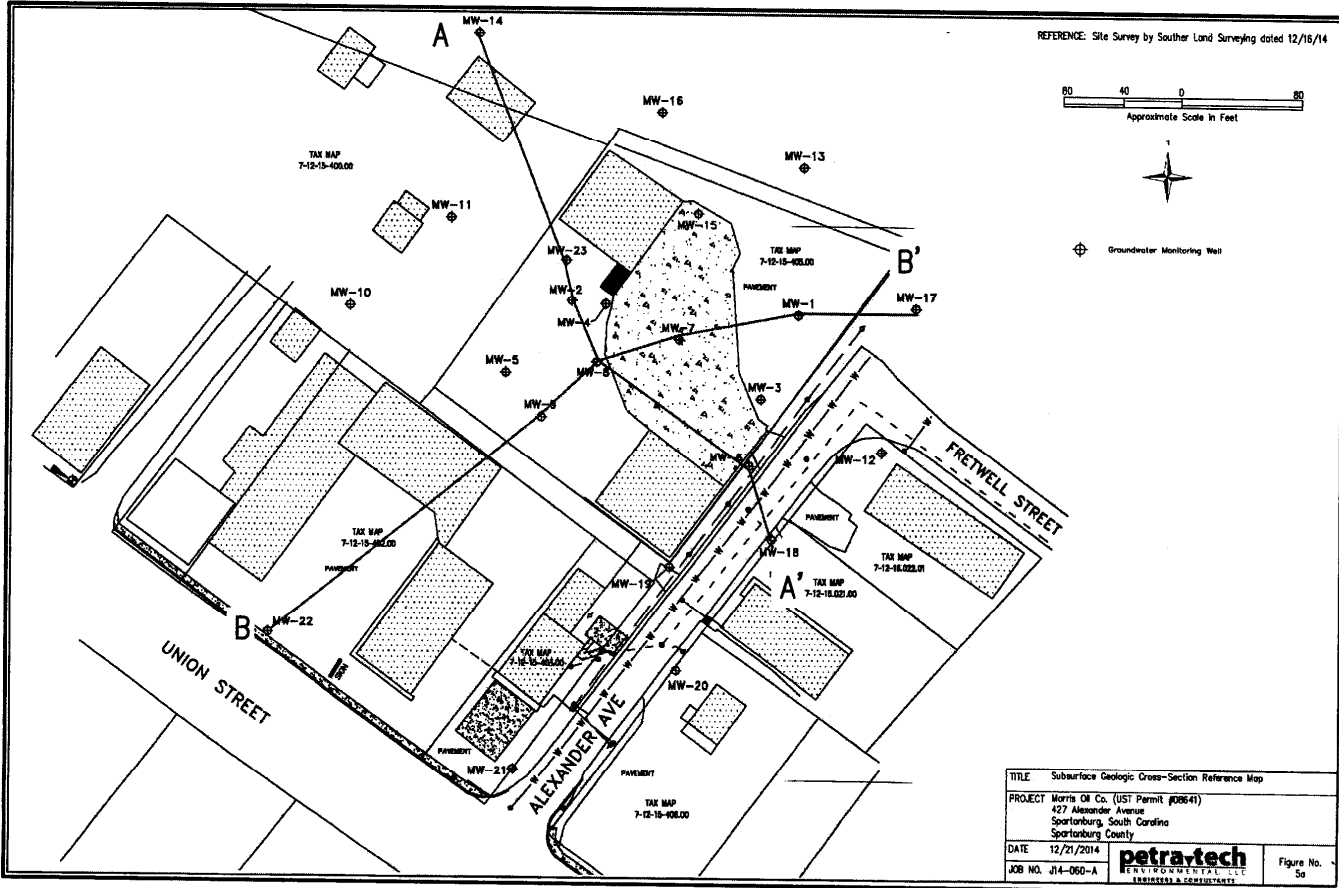


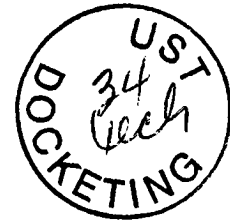
- Approximate Site Location
- ⊗ Surface Water Sampling Location



| | | |
|---------|---|---|
| Title | Topographic Site Location Map | |
| Project | Marris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 06/02/2014 |  |
| Job No. | J14-060-A | |
| | | Figure No. 1 |

petra-tech
ENVIRONMENTAL, LLC
ENGINEERS & CONSULTANTS





AUG 01 2018

MR BRYAN SHANE PG
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

Re: Notice to Proceed-Site Specific Work Plan Approval
Groundwater Sampling Contract
Solicitation #IFB-5400012906, PO #4600640194
Morris Oil Co., 427 Alexander Avenue, Spartanburg, SC
UST Permit #08641; MECI CA #57559 and #57561; Pace CA #57560 and #57562
Spartanburg County

Dear Mr. Shane:

In accordance with bid solicitation #IFB-5400012906 and the Underground Storage Tank (UST) Management Division Quality Assurance Program Plan (QAPP), the Site-Specific Work Plan has been reviewed and approved. In accordance with the approved QAPP, a status report of the project should be provided on a weekly basis via e-mail. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken, and the results must be included in the final report submitted to the UST Management Division.

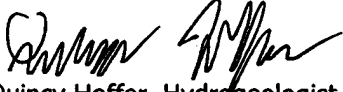
Services at the site are to be performed on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. Please coordinate access to the facility with the property owner. DHEC grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All Investigation-Derived Waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

Please note, sampling should be conducted within 15 calendar days from the date of this letter. The final report is due within three weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed. The final report should contain the requirements of Section III.2.15 of the bid solicitation. The final report should be submitted to Robert Dunn, the contract manager.

Page 2
Mr. Shane

If you have any site-specific questions, please contact me at (803) 898-0655 or via e-mail at hofferqm@dhec.sc.gov. If you have any contract specific questions, please contact Robert Dunn by phone (803) 898-0671 or email dunnra@dhec.sc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Quincy Hoffer', written in a cursive style.

Quincy Hoffer, Hydrogeologist
Corrective Action & Quality Assurance Section
UST Management Division
Bureau of Land & Waste Management

Enc: Approved Cost Agreement (both CAs)

Cc: Trey Carter, Pace Analytical Services, 9800 Kinsey Ave, Ste 100, Huntersville, NC, 28078 (w/ CA)
Technical File (w/ Enc)

Approved Cost Agreement 57559

Facility: 08641 MORRIS OIL CO

HOFFERQM

PO Number:

| <u>Task / Description</u> | <u>Categories</u> | <u>Item Description</u> | <u>Qty / Pct</u> | <u>Unit Price</u> | <u>Amount</u> |
|---------------------------|-------------------|-----------------------------------|------------------|-------------------|---------------|
| 01 PLAN | | A1 SITE SPECIFIC WORK PLAN | 0.5000 | \$1.000 | 0.50 |
| 04 MOB/DEMOB | | B1 PERSONNEL | 1.0000 | \$1.000 | 1.00 |
| 10 SAMPLE COLLECTION | | A1 GROUNDWATER (PURGE) | 11.5000 | \$36.500 | 419.75 |
| | | D1 GROUNDWATER NO PURGE/DUPLICATE | 2.5000 | \$27.500 | 68.75 |
| | | H1 FIELD BLANK | 0.5000 | \$1.000 | 0.50 |
| 17 DISPOSAL | | AA WASTEWATER | 125.0000 | \$1.000 | 125.00 |
| 23 EFR | | D SITE RECONNAISSANCE | 0.5000 | \$1.000 | 0.50 |
| Total Amount | | | | | 616.00 |

Approved Cost Agreement 57560

Facility: 08641 MORRIS OIL CO

HOFFERQM

PO Number:

| <u>Task / Description</u> | <u>Categories</u> | <u>Item Description</u> | <u>Qty / Pct</u> | <u>Unit Price</u> | <u>Amount</u> |
|---------------------------|-------------------|-----------------------------------|------------------|-------------------|-----------------|
| 11 ANALYSES | | | | | |
| | GW GROUNDWATER | A2 BTEXNM+OXYGS+1,2-DCA+ETH-8260B | 30.0000 | \$21.000 | 630.00 |
| | | F1 EDB BY 8011 | 29.0000 | \$18.000 | 522.00 |
| | | Total Amount | | | 1,152.00 |

Approved Cost Agreement**57561**

Facility: 08641 MORRIS OIL CO

HOFFERQM

PO Number:

| <u>Task / Description</u> | <u>Categories</u> | <u>Item Description</u> | <u>Qty / Pct</u> | <u>Unit Price</u> | <u>Amount</u> |
|---------------------------|-------------------|-----------------------------------|------------------|-------------------|---------------|
| 01 PLAN | | A1 SITE SPECIFIC WORK PLAN | 0.5000 | \$1.000 | 0.50 |
| 04 MOB/DEMOB | | B1 PERSONNEL | 1.0000 | \$1.000 | 1.00 |
| 10 SAMPLE COLLECTION | | A1 GROUNDWATER (PURGE) | 11.5000 | \$36.500 | 419.75 |
| | | D1 GROUNDWATER NO PURGE/DUPLICATE | 2.5000 | \$27.500 | 68.75 |
| | | H1 FIELD BLANK | 0.5000 | \$1.000 | 0.50 |
| 17 DISPOSAL | | AA WASTEWATER | 125.0000 | \$1.000 | 125.00 |
| 23 EFR | | D SITE RECONNAISSANCE | 0.5000 | \$1.000 | 0.50 |
| Total Amount | | | | | 616.00 |

Approved Cost Agreement

57562

Facility: 08641 MORRIS OIL CO

HOFFERQM

PO Number:

| <u>Task / Description</u> | <u>Categories</u> | <u>Item Description</u> | <u>Qty / Pct</u> | <u>Unit Price</u> | <u>Amount</u> |
|---------------------------|-------------------|-----------------------------------|---------------------|-------------------|-----------------|
| 11 ANALYSES | | | | | |
| | GW GROUNDWATER | A2 BTEXNM+OXYGS+1,2-DCA+ETH-8260B | 30.0000 | \$21.000 | 630.00 |
| | | F1 EDB BY 8011 | 29.0000 | \$18.000 | 522.00 |
| | | | Total Amount | | 1,152.00 |



Midlands Environmental Consultants, Inc.

September 11, 2018



Mr. Robert A. Dunn, Hydrogeologist
 Corrective Action Section
 Underground Storage Management Division
 Bureau of Land and Waste Management
 South Carolina Department of Health
 and Environmental Control
 2600 Bull Street
 Columbia, South Carolina 29201



Subject: Report of Groundwater Sampling
 Morris Oil Company
 427 Alexander Avenue
 Spartanburg, South Carolina
 SCDHEC Site ID Number 08641, CA #57559/57560
 MECI Project Number 18-6518
 Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Dunn,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Groundwater Sampling for the referenced site. This report describes site activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control's (SCDHEC) Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP).

PROJECT INFORMATION

The subject site (Morris Oil Company) is located at 427 Alexander Avenue in Spartanburg, Spartanburg County, South Carolina. The site currently occupied by Nash Electrical Supply. The following table presents Underground Storage Tanks (UST's) which are associated with the subject site:

| Tank # | Capacity/Product | In Use/Abandoned | Tank Status |
|--------|----------------------|------------------|------------------------|
| 1 | 15,000 Gal. Diesel | Abandoned | Abandoned (06/08/1999) |
| 2 | 15,000 Gal. Gasoline | Abandoned | Abandoned (06/08/1999) |
| 3 | 15,000 Gal. Gasoline | Abandoned | Abandoned (06/08/1999) |
| 4 | 15,000 Gal. Diesel | Abandoned | Abandoned (06/08/1999) |
| 5 | 15,000 Gal. Diesel | Abandoned | Abandoned (06/08/1999) |
| 6 | 15,000 Gal. Diesel | Abandoned | Abandoned (06/08/1999) |
| 7 | 15,000 Gal. Diesel | Abandoned | Abandoned (06/08/1999) |
| 8 | 15,000 Gal. Diesel | Abandoned | Abandoned (06/08/1999) |
| 9 | 550 Gal. Gasoline | Abandoned | Abandoned (06/08/1999) |

A release of petroleum product was reported to the South Carolina Department of Health and Environmental Control (SCDHEC) in June of 1999 and subsequently confirmed in August of 1999. The release is currently ranked a Class 2BA.

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
 Telephone: (803) 808-2043 • fax: (803) 808-2048

The above information is based on reports and correspondence obtained from MECI field notes and SCDHEC files.

MONITORING WELL SAMPLING AND CHEMICAL ANALYSIS

On September 6, 2018, MECI personnel collected groundwater samples from eighteen (18) monitoring wells and one (1) surface water. Four (4) monitoring wells (MW-3, MW-4, MW-6, and MW-7) were gauged and determined to contain free phase product. Additionally, monitoring well MW-17 was unable to be located and surface waters SW-2 and SW-3 were found to be dry during the sampling event. All monitoring wells were to be purged prior to sample collection; however, one monitoring well was unable to be purged prior to sample collection due to insufficient water. Seventeen (17) monitoring wells were purged prior to sampling.

MECI personnel utilized an electronic water level indicator for water level measurements and an oil/water interface probe for free phase petroleum product level measurements. Purging was completed by bailing at least five well volumes of water from the well, until pH, conductivity, dissolved oxygen and turbidity stabilized, or all water was evacuated from the well, whichever occurred first. Sampling/purging was completed utilizing a prepackaged, clear, disposable polyethylene bailer and nylon rope. A new set of nitrile gloves were worn at each monitoring well, and at all time samples were handled. Field measurements of pH, conductivity, dissolved oxygen, and water temperature were obtained before well sampling process. MECI utilized a YSI Pro20 meter for DO (mg/L) and temperature readings (°C), YSI Pro1030 meter for pH and conductivity (uS) readings and a MicroTPI turbidimeter for turbidity readings (NTU). The attached Field Data Information Sheets presents the results of the field measurements obtained. The wells were sampled in accordance with the most recent revision of SCDHEC's Quality Assurance Program Plan for the Underground Storage Tank Management Division and the most recent revision MECI's Standard Operating Procedures.

Groundwater samples obtained were sent to Pace Analytical Services, Inc. of Huntersville, NC (SCDHEC Laboratory Certification #99006001) for analysis.

The following sampling matrix contains well development and requested analyses for each well:

| Sample ID | Purge | No Purge | Gauge Only | Low-Flow Sampling | Not Sampled | Not Located | BTEX, Naphthalene, MTBE (EPA Method 8260-B) | EDB (EPA Method 8011) | 1,2 DCA (EPA Method 8260-B) | 8 Oxygenates (EPA Method 8260-B) | Total Lead (EPA Method 6010) | BTEX, Naphthalene, MTBE, 1,2 DCA (EPA Method 524.2) | EDB (EPA Method 504.1) |
|--|-------|----------|------------|-------------------|-------------|-------------|---|-----------------------|-----------------------------|----------------------------------|------------------------------|---|------------------------|
| | | | | | | | | | | | | | |
| | | | | | | | Analyte Sampled | | | | | | |
| MW-1 | X | | | | | | X | X | X | X | | | |
| MW-2 | X | | | | | | X | X | X | X | | | |
| MW-3 | | | X | | | | | | | | | | |
| MW-4 | | | X | | | | | | | | | | |
| Notes: BTEX = Benzene, Toluene, Ethylbenzene, & Total Xylenes MTBE=Methyl tertiary butyl ether 1,2 DCA = 1,2 Dichloroethane EDB = Ethylene Dibromide | | | | | | | | | | | | | |

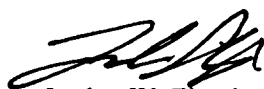
| Sample ID | Purge | No Purge | Gauge Only | Low-Flow Sampling | Not Sampled | Not Located | BTEX, Naphthalene, MTBE (EPA Method 8260-B) | EDB (EPA Method 8011) | 1,2 DCA (EPA Method 8260-B) | 8 Oxygenates (EPA Method 8260-B) | Total Lead (EPA Method 6010) | BTEX, Naphthalene, MTBE, 1,2 DCA (EPA Method 524.2) | EDB (EPA Method 504.1) |
|-----------------|-------|----------|------------|-------------------|-------------|-------------|---|-----------------------|-----------------------------|----------------------------------|------------------------------|---|------------------------|
| Analyte Sampled | | | | | | | | | | | | | |
| MW-5 | X | | | | | | X | X | X | X | | | |
| MW-6 | | | X | | | | | | | | | | |
| MW-7 | | | X | | | | | | | | | | |
| MW-8 | | X | | | | | X | X | X | X | | | |
| MW-9 | X | | | | | | X | X | X | X | | | |
| MW-10 | X | | | | | | X | X | X | X | | | |
| MW-11 | X | | | | | | X | X | X | X | | | |
| MW-12 | X | | | | | | X | X | X | X | | | |
| MW-13 | X | | | | | | X | X | X | X | | | |
| MW-14 | X | | | | | | X | X | X | X | | | |
| MW-15 | X | | | | | | X | X | X | X | | | |
| MW-16 | X | | | | | | X | X | X | X | | | |
| MW-17 | | | | | | X | | | | | | | |
| MW-18 | X | | | | | | X | X | X | X | | | |
| MW-19 | X | | | | | | X | X | X | X | | | |
| MW-20 | X | | | | | | X | X | X | X | | | |
| MW-21 | X | | | | | | X | X | X | X | | | |
| MW-22 | X | | | | | | X | X | X | X | | | |
| MW-23 | X | | | | | | X | X | X | X | | | |
| SW-1 | | X | | | | | X | X | X | X | | | |
| SW-2 | | | | | X | | | | | | | | |
| SW-3 | | | | | X | | | | | | | | |
| DUP-1(MW-23) | | | | | | | X | X | X | X | | | |
| Field Blank | | | | | | | X | X | X | X | | | |
| Trip Blank | | | | | | | X | | X | X | | | |


Notes: BTEX = Benzene, Toluene, Ethylbenzene, & Total Xylenes
 MTBE=Methyl tertiary butyl ether
 1,2 DCA = 1,2 Dichloroethane
 EDB = Ethylene Dibromide

Purge water produced by the purging process was treated on-site utilizing a granular activated carbon unit. A total of 77.00 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is attached at the end of this report.

Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
 Midlands Environmental Consultants, Inc.


 Jordan W. Floyd
 Staff Hydrogeologist


 Jeff L. Coleman
 Senior Scientist

Attachments:

Contractor Checklist

| Item# | Item | Yes | No | N/A |
|-------|--|-----|----|-----|
| 1 | Is Facility Name, Permit #, and address provided? | X | | |
| 2 | Is UST Owner/Operator name, address, & phone number provided? | | | X |
| 3 | Is name, address, & phone number of current property owner provided? | | | X |
| 4 | Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided? | X | | |
| 5 | Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided? | | | X |
| 6 | Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided? | X | | |
| 7 | Has the facility history been summarized? | X | | |
| 8 | Has the regional geology and hydrogeology been described? | | | X |
| 9 | Are the receptor survey results provided as required? | | | X |
| 10 | Has current use of the site and adjacent land been described? | | | X |
| 11 | Has the site-specific geology and hydrogeology been described? | | | X |
| 12 | Has the primary soil type been described? | | | X |
| 13 | Have field screening results been described? | | | X |
| 14 | Has a description of the soil sample collection and preservation been detailed? | | | X |
| 15 | Has the field screening methodology and procedure been detailed? | | | X |
| 16 | Has the monitoring well installation and development dates been provided? | | | X |
| 17 | Has the method of well development been detailed? | | | X |
| 18 | Has justification been provided for the locations of the monitoring wells? | | | X |
| 19 | Have the monitoring wells been labeled in accordance with the UST QAPP guidelines? | | | X |
| 20 | Has the groundwater sampling methodology been detailed? (For detailed specifics, See MECI's SOP on file with SCDHEC) | X | | |
| 21 | Have the groundwater sampling dates and groundwater measurements been provided? See attached Site Activity Summary Sheet | X | | |
| 22 | Has the purging methodology been detailed? (For detailed specifics, See MECI's SOP on file with SCDHEC) | X | | |
| 23 | Has the volume of water purged from each well been provided along with measurements to verify that purging is complete? See attached Field Data Information Sheets | X | | |
| 24 | If free-product is present, has the thickness been provided? See attached Site Activity Summary Sheets | X | | |
| 25 | Does the report include a brief discussion of the assessment done and the results? | | | X |
| 26 | Does the report include a brief discussion of the aquifer evaluation and results? | | | X |
| 27 | Does the report include a brief discussion of the fate & transport models used? | | | X |

| Item# | Item | Yes | No | N/A |
|-------|--|-----|----|-----|
| 28 | Are the site-conceptual model tables included? (Tier 1 Risk Evaluation) | | | X |
| 29 | Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation) | | | X |
| 30 | Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation) | | | X |
| 31 | Have recommendations for further action been provided and explained? | | | X |
| 32 | Has the soil analytical data for the site been provided in tabular format? (Table 1) | | | X |
| 33 | Has the potentiometric data for the site been provided in tabular format? (Table 2) | | | X |
| 34 | Has the current and historical laboratory data been provided in tabular format? | | | X |
| 35 | Have the aquifer characteristics been provided and summarized on the appropriate form? | | | X |
| 36 | Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation) | | | X |
| 37 | Has the topographic map been provided with all required elements? (Figure 1) | | X | |
| 38 | Has the site base map been provided with all required elements? (Figure 2) | X | | |
| 39 | Have the CoC site maps been provided? (Figure 3 & Figure 4) | | | X |
| 40 | Has the site potentiometric map been provided? (Figure 5) | | | X |
| 41 | Have the geologic cross-sections been provided? (Figure 6) | | | X |
| 42 | Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation) | | | X |
| 43 | Has the site survey been provided and include all necessary elements? (Appendix A) | | | X |
| 44 | Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B) | X | | |
| 45 | Is the laboratory performing the analyses properly certified? | X | | |
| 46 | Has the tax map been included with all necessary elements? (Appendix C) | | | X |
| 47 | Have the soil boring/field screening logs been provided? (Appendix D) | | | X |
| 48 | Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E) | | | X |
| 49 | Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F) | | | X |
| 50 | Have the disposal manifests been provided? See attached | X | | |
| 51 | Has a copy of the local zoning regulations been provided? (Appendix H) | | | X |
| 52 | Has all fate and transport modeling been provided? (Appendix I) | | | X |
| 53 | Have copies of all access agreements obtained by the contractor been provided? (Appendix J) | | | X |
| 54 | Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided? | X | | |

Site Activity Summary

UST Permit #: 08641
 Facility Name: Morris Oil Company
 County: Spartanburg
 Field Personnel: J. Coolman, K Jacobs



| Sample ID | Sampled? | Date | Time | Screened Interval | Depth to Product (ft) | Depth to Water (ft) | Product Thickness (ft) | DO (mg/l) | # Gals. Purged | Comments |
|-----------|----------|--------|-------|-------------------|-----------------------|---------------------|------------------------|-----------|----------------|---------------------------------------|
| MW-1 | Y | 9/6/18 | 14:45 | 17-27 | *** | 15.48 | *** | 1.84 | 6.00 | Strong Odor; Dry @ 6.00 Gallons |
| MW-2 | Y | 9/6/18 | 13:55 | 22.10-32.10 | *** | 20.27 | *** | 5.84 | 6.00 | No Odor; Dry @ 6.00 Gallons; Dup-2 |
| MW-3 | N | 9/6/18 | *** | 14-24 | 17.75 | 17.85 | 0.10 | *** | *** | No Sample Product Detected |
| MW-4 | N | 9/6/18 | *** | 13-23 | 20.00 | 20.50 | 0.50 | *** | *** | No Sample Product Detected |
| MW-5 | Y | 9/6/18 | 13:10 | 13-23 | *** | 20.09 | *** | 3.16 | 0.50 | No Odor; Dry @ .50 Gallons |
| MW-6 | N | 9/6/18 | *** | 18.43-28.43 | 18.82 | 18.83 | 0.01 | *** | *** | No Sample Product Detected |
| MW-7 | N | 9/6/18 | *** | 11.75-21.75 | 15.19 | 19.40 | 4.21 | *** | *** | No Sample Product Detected |
| MW-8 | Y | 9/6/18 | 13:15 | 12.51-22.51 | *** | 21.72 | *** | *** | *** | Odor; insufficient water for readings |
| MW-9 | Y | 9/6/18 | 13:20 | 15.81-25.81 | *** | 21.43 | *** | 2.42 | 1.00 | Odor; Dry @ 1.00 Gallon |
| MW-10 | Y | 9/6/18 | 10:41 | 13.40-23.40 | *** | 13.99 | *** | 5.89 | 8.00 | No Odor |
| MW-11 | Y | 9/6/18 | 10:56 | 13.64-23.64 | *** | 14.02 | *** | 2.29 | 8.00 | No Odor |
| MW-12 | Y | 9/6/18 | 12:10 | 21.38-31.38 | *** | 20.70 | *** | 4.99 | 3.00 | No Odor; Dry @ 3.00 Gallons |
| MW-13 | Y | 9/6/18 | 11:24 | 6.99-10.99 | *** | 6.72 | *** | 1.12 | 2.00 | No Odor; Dry @ 2.00 Gallons; SU |
| MW-14 | Y | 9/6/18 | 11:12 | 12.75-22.75 | *** | 10.60 | *** | 5.90 | 6.00 | No Odor; Dry @ 6.00 Gallons |
| MW-15 | Y | 9/6/18 | 14:18 | 16.07-20.07 | *** | 13.51 | *** | *** | 3.00 | Odor; Sheen; Dry @ 3.00 Gallons |
| | | | | | | | | | 43.50 | TOTAL GALLONS PURGED |

Site Activity Summary

UST Permit #: 08641
 Facility Name: Morris Oil Company
 County: Spartanburg
 Field Personnel: J. Coolman; K. Jacobs



| Sample ID | Sampled? | Date | Time | Screened Interval | Depth to Product (ft) | Depth to Water (ft) | Product Thickness (ft) | DO (mg/l) | # Gals. Purged | Comments |
|-------------|----------|--------|-------|-------------------|-----------------------|---------------------|------------------------|-----------|----------------|---|
| MW-16 | Y | 9/6/18 | 11:29 | 0.68-10.68 | *** | 11.08 | *** | 0.96 | 3.00 | No Odor |
| MW-17 | N | 9/6/18 | *** | 16.51-26.51 | *** | *** | *** | *** | *** | No Sample; Talked to PM |
| MW-18 | Y | 9/6/18 | 12:25 | 16.73-26.73 | *** | 16.92 | *** | 2.07 | 3.00 | No Odor; Dry @ 3.00 Gallons |
| MW-19 | Y | 9/6/18 | 12:22 | 11.42-21.42 | *** | 15.49 | *** | Sheen | 5.00 | Strong Odor; Sheen |
| MW-20 | Y | 9/6/18 | 10:21 | 10.09-20.09 | *** | 12.82 | *** | 4.90 | 6.00 | No Odor |
| MW-21 | Y | 9/6/18 | 9:45 | 9.42-19.42 | *** | 8.61 | *** | 3.39 | 9.00 | No Odor |
| MW-22 | Y | 9/6/18 | 10:06 | 6.75-16.75 | *** | 11.48 | *** | 2.78 | 4.50 | No Odor |
| MW-23 | Y | 9/6/18 | 13:33 | 19.37-29.37 | *** | 18.67 | *** | 2.68 | 9.00 | No Odor; Dup-1 |
| SW-1 | Y | 9/6/18 | 14:55 | *** | *** | *** | *** | *** | *** | Collected from stream East of site |
| SW-2 | N | 9/6/18 | *** | *** | *** | *** | *** | *** | *** | Dry; Drainage Ditch feature North of site |
| SW-3 | N | 9/6/18 | *** | *** | *** | *** | *** | *** | *** | Dry; Drainage Ditch feature South of site |
| Dup-1 | Y | 9/6/18 | 13:33 | *** | *** | *** | *** | *** | *** | Duplicate MW-23 |
| Dup-2 | Y | 9/6/18 | 13:55 | *** | *** | *** | *** | *** | *** | Duplicate MW-2 |
| Field Blank | Y | 9/6/18 | 15:05 | *** | *** | *** | *** | *** | *** | Field Blank |
| Trip Blank | Y | 9/6/18 | 15:05 | *** | *** | *** | *** | *** | *** | Trip Blank |
| | | | | | | | | | 33.50 | TOTAL GALLONS PURGED |



Monitoring Well Purge And Sampling Data

Field Personnel: JC, KJ
 Sampling Date(s): 9/6/18
 Sampling Case#: 3

Job Name: 18-6518
 Job Number: Morris Oil Co

Calibration Data for:
 Calibration Successful? Yes or No (Please Circle)
 pH: Yes / No
 Conductivity: Yes / No
 Dissolved Oxygen: Yes / No
 Turbidity: Conductivity Calibrated Every 3 Months by QA Manager

| Well No. | Purge Volume | Sample Time | pH(i) | cond(i) | Temp. (°C) | DO (mg/l) | Turbidity (NTU) | Depth to (feet): | | | Well Depth (feet) | Water Height *(feet) | Gallons Purged | | Notes |
|----------|--------------|-------------|---------|---------|------------|-----------|-----------------|------------------|--------------------------|------------------------|-------------------|----------------------|----------------|--------------------------------|---------------------------|
| | | | | | | | | product | Initial H ₂ O | final H ₂ O | | | **calc. | actual | |
| Mw-1 | Initial | 14:23 | * | * | 21.5 | 1.84 | 20.4 | 15.48 | | | 17-27 | 11.52 | 1.88 | dry dry @ 17' | Strong Odor |
| | 1st | 14:25 | * | * | 21.5 | 1.97 | 36.2 | | | | | | | | |
| | 2nd | 14:27 | * | * | 21.1 | 1.99 | 50.1 | | | | | | | | |
| | 3rd | 14:29 | * | * | 20.9 | 2.01 | 63.4 | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| | Sampling | 14:45 | * | * | 20.2 | 2.02 | 43.8 | | | | | | 9.39 | | |
| Mw-2 | Initial | 13:38 | * | * | 21.9 | 5.84 | 12.1 | 20.27 | | | 22.10- 32.10 | 11.83 | 1.93 | dry @ 27' 6 | No Odor dup -2 |
| | 1st | 13:40 | * | * | 21.7 | 5.92 | 38.4 | | | | | | | | |
| | 2nd | 13:42 | * | * | 21.2 | 5.99 | 42.9 | | | | | | | | |
| | 3rd | 13:44 | * | * | 20.5 | 6.10 | 75.4 | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| | Sampling | 13:55 | * | * | 19.6 | 6.32 | 68.9 | | | | | | 9.64 | | |
| Mw-3 | Initial | 14:11 | Product | | ————— | | | 17.75 | 17.85 | | 14.00- 24.00 | - | - | - | Product Strong odor |
| | 1st | | | | | | | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| | Sampling | | | | | | | | | | | | | | |
| Mw-4 | Initial | 13:50 | Product | | ————— | | | 20.00 | 20.50 | | 13.00- 23.00 | - | - | - | Product Strong odor |
| | 1st | | | | | | | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| | Sampling | | | | | | | | | | | | | | |

* = (Depth of Well) - (Depth to Water = Water Height)
 ** = One Well Volume x 5 = Gallons Purged (calculated)
 One Well Volume = x.047 for 1" wells * x .163 for 2" wells, or * x .66 for 4" wells, 1.469 for 6" wells

| Casing | Gallons |
|--------|---------|
| 1" | 0.047 |
| 2" | 0.163 |
| 4" | 0.653 |
| 6" | 1.469 |

| Sampling Case# | Ph/Conductance SN | DO SN | Turbidity |
|----------------|-------------------|-----------|-----------|
| Case #1 | 15H101448 | 17E101302 | 201301183 |
| Case #2 | 15E101481 | 14H103098 | 201301174 |
| Case #3 | 17E100512 | 17E103488 | 201510251 |



Monitoring Well Purge And Sampling Data

* 12:55 → PH, Cond malfunction

Field Personnel: JC, KJ
 Sampling Date(s): 9/16/18
 Sampling Case#: 3

Job Name: 18-6518
 Job Number: Morris Oil Co

Calibration Data for :
 Calibration Successful: Yes or No (Please Circle)
 pH: Yes No
 Conductivity: Yes No
 Dissolved Oxygen: Yes No
 Turbidity: Conductivity Calibrated Every 3 Months by QA Manager

| Well No. | Purge Volume | Sample Time | pH(i) | cond(i) | Temp. (°C) | DO (mg/l) | Turbidity (NTU) | Depth to (feet): | | | Well Depth (feet) | Water Height *(feet) | Gallons Purged | | Notes | | |
|----------|--------------|-------------|---------------------------------|---------|------------|-----------|-----------------|------------------|--------------------------|------------------------|-------------------|----------------------|-----------------|--------|--------------|---------|-------------------------|
| | | | | | | | | product | Initial H ₂ O | final H ₂ O | | | **calc. | actual | | | |
| Mw-5 | Initial | 12:55 | Δ | † | 20.1 | 3.16 | 25.4 | | | | 20.09 | 13.00- 23.00 | 2.91 | 0.47 | dry @ .5 | No Odor | |
| | 1st | 12:56 | † | ‡ | 19.5 | 3.20 | 37.8 | | | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | | | |
| | Sampling | 13:10 | * | ‡ | 19.9 | 3.35 | 35.4 | | | | | | | | | | |
| Mw-6 | Initial | 12:29 | Product | | | | | | | | 18.82 | 18.83 | 18.45- 29.43 | - | - | - | Strong Odor/ Product |
| | 1st | | | | | | | | | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | | | |
| | Sampling | | | | | | | | | | | | | | | | |
| Mw-7 | Initial | 14:00 | Product | | | | | | | | 15.19 | 19.4 | 11.75- 21.75 | - | - | - | Strong Odor/ Product |
| | 1st | | | | | | | | | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | | | |
| | Sampling | | | | | | | | | | | | | | | | |
| Mw-8 | Initial | 12:15 | insufficient water for readings | | | | | | | | 21.72 | 12.51- 22.51 | 0.79 | 0.13 | dry @ sample | Odor | |
| | 1st | | | | | | | | | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | | | |
| | Sampling | | | | | | | | | | | | | | | | |

* = (Depth of Well) - (Depth to Water) = Water Height
 ** = One Well Volume x 5 = Gallons Purged (calculated)
 One Well Volume = x.047 for 1" wells, x.163 for 2" wells, or x.66 for 4" wells, 1.469 for 6" wells

| Casing | Gallons |
|--------|---------|
| 1" | 0.047 |
| 2" | 0.163 |
| 4" | 0.653 |
| 6" | 1.469 |

| Sampling Case# | PH/Conductance SN | DO SN | Turbidity |
|----------------|-------------------|-----------|-----------|
| Case #1 | 15H101448 | 17E101302 | 201301183 |
| Case #2 | 15E101481 | 14H103098 | 201301174 |
| Case #3 | 17E100512 | 17E103488 | 201510251 |



Monitoring Well Purge And Sampling Data

Field Personnel: JC, KJ
 Sampling Date(s): 9/16/18
 Sampling Case#: 3

Job Name: 18-6518
 Job Number: Morris Oil Co

Calibration Data for :
 Calibration Successful? Yes or No (Please Circle)
 pH: Yes / No
 Conductivity: Yes / No
 Dissolved Oxygen: Yes / No
 Turbidity: Conductivity Calibrated Every 3 Months by QA Manager

| Well No. | Purge Volume | Sample Time | pH(i) | cond(i) | Temp. (°C) | DO (mg/l) | Turbidity (NTU) | Depth to (feet): | | | Well Depth (feet) | Water Height *(feet) | Gallons Purged | | Notes |
|----------|--------------|-------------|-------|---------|------------|-----------|-----------------|------------------|--------------------------|------------------------|-------------------|----------------------|----------------|------------|-------|
| | | | | | | | | product | Initial H ₂ O | final H ₂ O | | | **calc. | actual | |
| MW-9 | Initial | 13:00 | 8 | 8 | 18.6 | 2.42 | 26.7 | 21.43 | | 15.81- 25.81 | 4.38 | .71 | dry | Odor | |
| | 1st | 13:01 | 8 | 8 | 18.2 | 2.63 | 82.4 | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| | Sampling | 13:20 | 8 | 8 | 18.1 | 2.66 | 35.9 | | | | | 3.5 | @ 1 | | |
| MW-10 | Initial | 10:31 | 5.78 | 77.1 | 24.8 | 5.87 | 30.1 | 13.99 | | 13.40- 23.40 | 9.41 | 1.53 | Purged | No Odor | |
| | 1st | 10:33 | 5.71 | 63.0 | 22.6 | 6.24 | 29.4 | | | | | | | | |
| | 2nd | 10:35 | 5.63 | 59.2 | 21.6 | 6.38 | 31.3 | | | | | | | | |
| | 3rd | 10:37 | 5.51 | 55.5 | 20.7 | 6.52 | 43.4 | | | | | | | | |
| | 4th | 10:39 | 5.39 | 48 | 19.5 | 6.62 | 63.2 | | | | | | | | |
| | 5th | 10:41 | 5.32 | 46.5 | 18.1 | 6.76 | 86.4 | | | | | | | | |
| | Sampling | | | | | | | | | | | 7.67 | 8 | | |
| MW-11 | Initial | 10:46 | 5.16 | 101.9 | 24.0 | 3.29 | 15.4 | 14.02 | | 13.64- 23.64 | 9.62 | 1.57 | Purged | No Odor | |
| | 1st | 10:48 | 5.01 | 99.3 | 23.7 | 2.48 | 24.0 | | | | | | | | |
| | 2nd | 10:50 | 4.89 | 95.3 | 22.1 | 2.99 | 48.9 | | | | | | | | |
| | 3rd | 10:52 | 4.81 | 89.7 | 20.7 | 3.20 | 81.7 | | | | | | | | |
| | 4th | 10:54 | 4.73 | 88.6 | 19.4 | 3.4 | 78.5 | | | | | | | | |
| | 5th | 10:56 | 4.71 | 87.9 | 18.3 | 3.54 | 67.9 | | | | | | | | |
| | Sampling | | | | | | | | | | | 7.84 | 8 | | |
| MW-12 | Initial | 11:55 | 5.50 | 71.8 | 23.0 | 4.99 | 28.1 | 20.70 | | 21.38- 31.88 | 10.68 | 1.74 | dry | No Odor | |
| | 1st | 11:57 | 5.29 | 69.6 | 22.5 | 5.40 | 35.6 | | | | | | | | |
| | 2nd | 11:59 | 5.34 | 62.1 | 21.8 | 5.62 | 53.7 | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| | Sampling | 12:10 | 5.26 | 54.2 | 21.2 | 5.72 | 43.2 | | | | | 8.70 | 3 | | |

* = (Depth of Well) - (Depth to Water) = Water Height
 ** = One Well Volume x 5 = Gallons Purged (calculated)
 One Well Volume = x .047 for 1" wells, x .163 for 2" wells, or x .66 for 4" wells, 1.469 for 6" wells

| Casing | Gallons |
|--------|---------|
| 1" | 0.047 |
| 2" | 0.163 |
| 4" | 0.653 |
| 6" | 1.469 |

| Sampling Case# | pH/Conductance SN | DO SN | Turbidity |
|----------------|-------------------|-----------|-----------|
| Case #1 | 15H101448 | 17E101302 | 201301183 |
| Case #2 | 15E101481 | 14H103098 | 201301174 |
| Case #3 | 17E100512 | 17E103488 | 201510251 |



Monitoring Well Purge And Sampling Data

Field Personnel: JC, KJ
 Sampling Date(s): 9/16/18
 Sampling Case#: 3

Job Name: 18-6518
 Job Number: Morris Oil Co

Calibration Data for:
 Calibration Successful? Yes or No (Please Circle)
 pH: Yes No
 Conductivity: Yes No
 Dissolved Oxygen: Yes No
 Turbidity: Conductivity Calibrated Every 3 Months by QA Manager

| Well No. | Purge Volume | Sample Time | pH(i) | cond(i) | Temp. (°C) | DO (mg/l) | Turbidity (NTU) | Depth to (feet): | | | Well Depth (feet) | Water Height *(feet) | Gallons Purged | | Notes |
|----------|--------------|-------------|-------|---------|------------|-----------|-----------------|------------------|--------------------------|------------------------|-------------------|----------------------|----------------|--------|-------|
| | | | | | | | | product | initial H ₂ O | final H ₂ O | | | **calc. | actual | |
| Mw-13 | Initial | 11:24 | 5.72 | 110.2 | 22.3 | 1.12 | 12.1 | | | | | | | | |
| | 1st | 11:25 | 5.59 | 105.3 | 22.0 | 1.34 | 37.2 | | | | | | | | |
| | 2nd | 11:26 | 5.65 | 98.6 | 21.2 | 1.49 | 47.4 | | | | | | | | |
| | 3rd | 11:27 | 5.47 | 94.1 | 20.1 | 1.56 | 58.8 | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| | Sampling | 11:37 | 5.43 | 96.5 | 19.4 | 1.75 | 45.1 | | | | | | | | |
| Mw-14 | Initial | 11:01 | 4.71 | 89.4 | 19.8 | 5.90 | 25.1 | | | | | | | | |
| | 1st | 11:03 | 4.68 | 54.7 | 19.1 | 6.12 | 47.8 | | | | | | | | |
| | 2nd | 11:05 | 4.63 | 41.2 | 18.5 | 6.47 | 72.7 | | | | | | | | |
| | 3rd | 11:07 | 4.55 | 34.6 | 17.6 | 6.67 | 84.3 | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| | Sampling | 11:18 | 4.64 | 35.4 | 17.6 | 6.72 | 52.5 | | | | | | | | |
| Mw-15 | Initial | 14:05 | Sheen | | | | | | | | | | | | |
| | 1st | 14:06 | Sheen | | | | | | | | | | | | |
| | 2nd | 14:07 | Sheen | | | | | | | | | | | | |
| | 3rd | 14:08 | Sheen | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| | Sampling | 14:18 | Sheen | | | | | | | | | | | | |
| Mw-16 | Initial | 11:16 | 5.76 | 124.8 | 25.3 | 0.96 | 14.2 | | | | | | | | |
| | 1st | 11:17 | 5.64 | 118.4 | 23.1 | 1.07 | 33.3 | | | | | | | | |
| | 2nd | 11:18 | 5.49 | 111.2 | 22.4 | 1.18 | 47.8 | | | | | | | | |
| | 3rd | 11:19 | 5.47 | 101.7 | 21.8 | 1.23 | 66.7 | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| | Sampling | 11:29 | 5.42 | 96.4 | 21.2 | 1.34 | 52.0 | | | | | | | | |

* = (Depth of Well) - (Depth to Water) = Water Height
 One Well Volume = x.047 for 1" wells * x .163 for 2" wells, or * x .66 for 4" wells, 1.469 for 6" wells
 ** = One Well Volume x 5 = Gallons Purged (calculated)

| Casing | Gallons |
|--------|---------|
| 1" | 0.047 |
| 2" | 0.163 |
| 4" | 0.653 |
| 6" | 1.469 |

| Sampling Case# | PH/Conductance SN | DO SN | Turbidity |
|----------------|-------------------|-----------|-----------|
| Case #1 | 15H101448 | 17E101302 | 201301183 |
| Case #2 | 15E101481 | 14H103098 | 201301174 |
| Case #3 | 17E100512 | 17E103488 | 201510251 |



Monitoring Well Purge And Sampling Data

Field Personnel: JC, KJ
 Sampling Date(s): 9/16/18
 Sampling Case#: 3

Job Name: 18-6518
 Job Number: Morris Oil Co

Calibration Data for:
 Calibration Successful? Yes or No (Please Circle)
 pH: Yes No
 Conductivity: Yes No
 Dissolved Oxygen: Yes No
 Turbidity: Yes No
 Conductivity Calibrated Every 3 Months by QA Manager

| Well No. | Purge Volume | Sample Time | pH(i) | cond(i) | Temp. (°C) | DO (mg/l) | Turbidity (NTU) | Depth to (feet): | | | Well Depth (feet) | Water Height *(feet) | Gallons Purged | | Notes |
|----------|--------------|------------------|-------|---------|------------|-----------|-----------------|------------------|--------------------------|------------------------|-------------------|----------------------|----------------|--------|--|
| | | | | | | | | product | Initial H ₂ O | final H ₂ O | | | **calc. | actual | |
| Mw-17 | Initial | 12:05 | | | | | | | | | | | | | metallic rocks & Kudzu overgrowth |
| | 1st | | | | | | | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| Mw-18 | Initial | 12:05 | 4.88 | 89.1 | 22.4 | 2.07 | 18.9 | | | | | | | | talked to project manager Quincy Hoppers 14:55 dry No Odor |
| | 1st | 12:07 | 4.83 | 81.2 | 22.0 | 1.92 | 25.6 | | | | | 1.60 | | | |
| | 2nd | 12:09 | 4.76 | 70.0 | 21.3 | 1.85 | 31.0 | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| Mw-19 | Initial | 12:15 | green | | | | 35.6 | | | | | | | | Strong Odor green |
| | 1st | 12:16 | green | | | | | | | | | | | | |
| | 2nd | 12:17 | green | | | | | | | | | | | | |
| | 3rd | 12:19 | green | | | | | | | | | | | | |
| | 4th | 12:21 | green | | | | | | | | | | | | |
| | 5th | 12:22 | green | | | | | | | | | | | | |
| Mw-20 | Initial | 10:11 | 6.21 | 188.9 | 26.5 | 4.90 | 21.0 | | | | | | | | Purged No Odor |
| | 1st | 10:13 | 6.17 | 106.5 | 26.1 | 4.97 | 26.6 | | | | | | | | |
| | 2nd | 10:15 | 5.99 | 97.8 | 25.6 | 5.75 | 36.5 | | | | | | | | |
| | 3rd | 10:16 | 5.70 | 95.4 | 25.2 | 5.42 | 54.2 | | | | | | | | |
| | 4th | 10:18 | 5.52 | 94.2 | 24.9 | 5.58 | 69.7 | | | | | | | | |
| | 5th | 10:21 | 5.46 | 93.9 | 24.5 | 5.61 | 45.6 | | | | | | | | |
| | Sampling | | | | | | | | | | | | | | |

* = (Depth of Well) - (Depth to Water) = Water Height
 One Well Volume = x.047 for 1" wells * x .163 for 2" wells, or * x .66 for 4" wells, 1.469 for 6" wells
 ** = One Well Volume x 5 = Gallons Purged (calculated)

| Casing | Gallons |
|--------|---------|
| 1" | 0.047 |
| 2" | 0.163 |
| 4" | 0.653 |
| 6" | 1.469 |

| Sampling Case# | Ph/Conductance SN | DO SN | Turbidity |
|----------------|-------------------|-----------|-----------|
| Case #1 | 15H101448 | 17E101302 | 201301183 |
| Case #2 | 15E101481 | 14H103098 | 201301174 |
| Case #3 | 17E100512 | 17E103488 | 201510251 |



Monitoring Well Purge And Sampling Data

Field Personnel: JC, KJ
 Sampling Date(s): 9/6/18
 Sampling Case#: 3

Job Name: 18-6518
 Job Number: Morris Oil Co

Calibration Data for:
 Calibration Successful? Yes Yes or No (Please Circle)
 pH: Yes No
 Conductivity: Yes No
 Dissolved Oxygen: Yes No
 Turbidity: Yes No
 Conductivity Calibrated Every 3 Months by QA Manager

| Well No. | Purge Volume | Sample Time | pH(l) | cond(l) | Temp. (°C) | DO (mg/l) | Turbidity (NTU) | Depth to (feet): | | | Well Depth (feet) | Water Height *(feet) | Gallons Purged | | Notes |
|----------|--------------|-------------|-------|---------|------------|-----------|-----------------|------------------|--------------------------|------------------------|-------------------|----------------------|----------------|--------|-------|
| | | | | | | | | product | Initial H ₂ O | final H ₂ O | | | **calc. | actual | |
| Mw-21 | Initial | 9:45 | 8.10 | 97.8 | 26.6 | 3.39 | 39.6 | | | | | | | | |
| | 1st | 9:47 | 7.64 | 87.4 | 25.1 | 3.44 | 45.8 | | | | | | | | |
| | 2nd | 9:49 | 7.22 | 81.0 | 24.6 | 3.58 | 67.8 | | | | | | | | |
| | 3rd | 9:51 | 7.18 | 72.7 | 24.0 | 3.67 | 92.4 | | | | | | | | |
| | 4th | 9:53 | 7.11 | 69.5 | 23.8 | 3.68 | 75.8 | | | | | | | | |
| | 5th | 9:55 | 7.05 | 58.5 | 23.7 | 3.72 | 63.4 | | | | | | | | |
| | Sampling | | | | | | | | | | | | | | |
| Mw-22 | Initial | 10:00 | 5.89 | 84.2 | 26.7 | 2.78 | 20.7 | | | | | | | | |
| | 1st | 10:01 | 5.72 | 76.1 | 26.4 | 2.84 | 33.2 | | | | | | | | |
| | 2nd | 10:02 | 5.66 | 53.4 | 26.1 | 2.86 | 45.7 | | | | | | | | |
| | 3rd | 10:03 | 5.64 | 48.6 | 25.7 | 2.95 | 60.2 | | | | | | | | |
| | 4th | 10:04 | 5.61 | 45.6 | 25.5 | 3.01 | 72.1 | | | | | | | | |
| | 5th | 10:06 | 5.59 | 43.5 | 25.2 | 3.15 | 78.2 | | | | | | | | |
| | Sampling | | | | | | | | | | | | | | |
| Mw-23 | Initial | 13:23 | * | * | 22.1 | 2.68 | 33.1 | | | | | | | | |
| | 1st | 13:25 | * | * | 20.7 | 2.76 | 48.9 | | | | | | | | |
| | 2nd | 13:27 | * | * | 20.3 | 2.80 | 52.3 | | | | | | | | |
| | 3rd | 13:29 | * | * | 20.0 | 2.87 | 76.8 | | | | | | | | |
| | 4th | 13:31 | * | * | 19.8 | 3.02 | 94.3 | | | | | | | | |
| | 5th | 13:33 | * | * | 19.6 | 3.08 | 66.4 | | | | | | | | |
| | Sampling | | | | | | | | | | | | | | |
| Sw | Initial | 8:01 | 14:55 | | | | | | | | | | | | |
| | 1st | | | | | | | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | |
| | 3rd | 8:02 | dry | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | 8:03 | dry | | | | | | | | | | | | |
| | Sampling | | | | | | | | | | | | | | |

* = (Depth of Well) - (Depth to Water = Water Height)
 One Well Volume = x.047 for 1" wells * x .163 for 2" wells, or * x .66 for 4" wells, 1.469 for 6" wells
 ** = One Well Volume x 5 = Gallons Purged (calculated)

| Casing | Gallons |
|--------|---------|
| 1" | 0.047 |
| 2" | 0.163 |
| 4" | 0.653 |
| 6" | 1.469 |

| Sampling Case# | Ph/Conductance SN | DO SN | Turbidity |
|----------------|-------------------|-----------|-----------|
| Case #1 | 15H101448 | 17E101302 | 201301183 |
| Case #2 | 15E101481 | 14H103098 | 201301174 |
| Case #3 | 17E100512 | 17E103488 | 201510251 |



Monitoring Well Purge And Sampling Data

Field Personnel: JC, KJ
 Sampling Date(s): 9/16/18
 Sampling Case#: 3

Job Name: 18-6518
 Job Number: Morris Oil Co

Calibration Data for:
 Calibration Successful? Yes or No (Please Circle)
 pH: Yes / No
 Conductivity: Yes / No
 Dissolved Oxygen: Yes / No
 Turbidity: Conductivity Calibrated Every 3 Months by QA Manager

| Well No. | Purge Volume | Sample Time | pH(l) | cond(l) | Temp. (°C) | DO (mg/l) | Turbidity (NTU) | Depth to (feet): | | | Well Depth (feet) | Water Height *(feet) | Gallons Purged | | Notes |
|----------------------|--------------|-------------|---------|---------|------------|-----------|-----------------|------------------|--------------------------|------------------------|-------------------|----------------------|----------------|--------|-------|
| | | | | | | | | product | initial H ₂ O | final H ₂ O | | | **calc. | actual | |
| Dup-1 Dup-2 FB | Initial | 13:33 | No Odor | | | Mw-23 | | | | | | | | | |
| | 1st | 13:55 | No Odor | | | Mw-23 | | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | 15:05 | | | | | | | | | | | | | |
| TB | Initial | | | | | | | | | | | | | | |
| | 1st | 15:05 | | | | | | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| | Initial | | | | | | | | | | | | | | |
| | 1st | | | | | | | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |
| | Initial | | | | | | | | | | | | | | |
| | 1st | | | | | | | | | | | | | | |
| | 2nd | | | | | | | | | | | | | | |
| | 3rd | | | | | | | | | | | | | | |
| | 4th | | | | | | | | | | | | | | |
| | 5th | | | | | | | | | | | | | | |

Cancelled Day 2
 Called Key Carter @
 4:30 9/11/18

Talked to Kyle P. @ 12:55
 about the pH and conductivity
 meter breaking.

* = (Depth of Well) - (Depth to Water) = Water Height
 One Well Volume = x.047 for 1" wells, x .163 for 2" wells, or * x .66 for 4" wells, 1.469 for 6" wells
 ** = One Well Volume x 5 = Gallons Purged (calculated)

| Casing | Gallons |
|--------|---------|
| 1" | 0.047 |
| 2" | 0.163 |
| 4" | 0.653 |
| 6" | 1.469 |

| Sampling Case# | pH/Conductance SN | DO SN | Turbidity |
|----------------|-------------------|-----------|-----------|
| Case #1 | 15H101448 | 17E101302 | 201301183 |
| Case #2 | 15E101481 | 14H103098 | 201301174 |
| Case #3 | 17E100512 | 17E103488 | 201510251 |



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| | | | | |
|--|---------------|-----------|-------------|--|
| Page: 1 of 2 | | | | |
| 2193286 | | | | |
| REGULATORY AGENCY | | | | |
| <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input checked="" type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER | | | | |
| <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Site Location</td> <td style="width: 50%;">STATE: SC</td> </tr> <tr> <td colspan="2" style="text-align: right;">Spartanburg</td> </tr> </table> | Site Location | STATE: SC | Spartanburg | |
| Site Location | STATE: SC | | | |
| Spartanburg | | | | |

| | | | | | |
|--|--|---|--|--|--|
| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | |
| Company: SC DHEC | | Report To: R. Dunn | | Attention: | |
| Address: 2600 Bull St. Columbia, SC 29201 | | Copy To: | | Company Name: | |
| Email To: rdunn@dhc.sc.gov | | Purchase Order No.: 4600640194 | | Address: | |
| Phone: | | Project Name: Morris Oil Co. | | Pace Quote Reference: | |
| Requested Due Date/TAT: | | Project Number: UST-08641/CA-57560 & 57562 | | Pace Project Manager: T. Carter | |
| | | | | Pace Profile #: | |

| ITEM # | SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED | | | | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives | | | | | | Analysis Test (Y/N) | Requested Analysis Filtered (Y/N) | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|--------|--|--|-----------------------------|-----------|-------|------|------|---------------------------|-----------------|---------------|--------------------------------|------------------|-----|------|---|---------------------|-----------------------------------|-------------------------|----------------------------|
| | | | | DATE | TIME | DATE | TIME | | | Unpreserved | H ₂ SO ₄ | HNO ₃ | HCl | NaOH | Na ₂ S ₂ O ₃ | | | | |
| 1 | Mw-1 | WTG | | 9/6/18 | 14:45 | 6 | | X | | | | | | | X | X | X | X | Strong Odor |
| 2 | Mw-2 | WTG | | 9/6/18 | 13:55 | 6 | | X | | | | | | | X | X | X | X | No Odor |
| 3 | Mw-3 | | | | | | | | | | | | | | | | | | DNS |
| 4 | Mw-4 | | | | | | | | | | | | | | | | | | DNS |
| 5 | Mw-5 | WTG | | 9/6/18 | 13:10 | 6 | | X | | | | | | | X | X | X | X | No Odor |
| 6 | Mw-6 | | | | | | | | | | | | | | | | | | DNS |
| 7 | Mw-7 | | | | | | | | | | | | | | | | | | DNS |
| 8 | Mw-8 | WTG | | 9/6/18 | 13:15 | 6 | | X | | | | | | | X | X | X | X | Odor |
| 9 | Mw-9 | | | | | | | | | | | | | | | | | | Odor |
| 10 | Mw-10 | | | | | | | | | | | | | | | | | | No Odor |
| 11 | Mw-11 | | | | | | | | | | | | | | | | | | No Odor |
| 12 | Mw-12 | WTG | | 9/6/18 | 12:10 | 6 | | X | | | | | | | X | X | X | X | No Odor |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---------------------|-------------------------------|---------|------|---------------------------|-----------|------|-------------------|
| | <i>[Signature]</i> | 9/19/18 | 0808 | <i>[Signature]</i> | 9/21/2018 | 0805 | |
| | | | | | | | |
| | | | | | | | |

2

| | | | |
|--|--|----------------------------------|--|
| SAMPLER NAME AND SIGNATURE | | | |
| PRINT Name of SAMPLER: K. Jacobs | | DATE Signed (MM/DD/YY): 09/06/18 | |
| SIGNATURE of SAMPLER: <i>[Signature]</i> | | | |



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| | | | | | | | |
|--|--|---|--|--|--|---|--|
| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | | Page: 2 of 3 | |
| Company: <u>SCDHEC</u> | | Report To: <u>R. Dunn</u> | | Attention: | | 2193287 | |
| Address: <u>2600 Bull St</u> | | Copy To: | | Company Name: | | | |
| Address: <u>Columbia, SC 29201</u> | | Purchase Order No.: <u>460064094</u> | | Address: | | REGULATORY AGENCY <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input checked="" type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER | |
| Email To: <u>dunnra@dhcec.sc.gov</u> | | Project Name: <u>Morris Oil Co.</u> | | Pace Quote Reference: | | | |
| Phone: Fax: | | Project Number: <u>US-T-058641/CA-57560857502</u> | | Pace Project Manager: <u>T. Carter</u> | | Site Location STATE: <u>SC</u> <u>Spartanburg</u> | |
| Requested Due Date/TAT: | | | | Pace Profile #: | | | |

| ITEM # | SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE | Matrix Codes MATRIX / CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED | | | | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Requested Analysis Filtered (Y/N) | | | | | | | | | | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. | | | | | | | | |
|---------------------|--|--|--|--------------------------------|-----------------|-------|--------------------|---------------------------|---------------------------|-----------------|-----------------------------------|--------------------------------|------------------|-------------------|------|---|----------|-------|---------------|----|-------------------------|----------------------------|----|----|----|-------------------|----|----|----|----|
| | | | | | COMPOSITE START | | COMPOSITE END/GRAB | | | | Unpreserved | H ₂ SO ₄ | HNO ₃ | HCl | NaOH | Na ₂ S ₂ O ₃ | Methanol | Other | Analysis Test | | | | | | | | | | | |
| | | | | | DATE | TIME | DATE | TIME | | | | | | | | | | | As | TK | | | MM | MM | MM | MM | MM | MM | MM | MM |
| 1 | Mw-13 | | G | | 9/6/18 | 11:37 | | 6 | | | | | | | | | | | | | | | | | | No Odor | | | | |
| 2 | Mw-14 | | | | | 11:33 | | 1 | | | | | | | | | | | | | | | | | | No Odor | | | | |
| 3 | Mw-15 | | | | | 14:18 | | 1 | | | | | | | | | | | | | | | | | | Strong Odor/Sheen | | | | |
| 4 | Mw-16 | | G | | 9/6/18 | 11:29 | | 6 | | | | | | | | | | | | | | | | | | No Odor | | | | |
| 5 | Mw-17 | | | | | | | | | | | | | | | | | | | | | | | | | DNS | | | | |
| 6 | Mw-18 | | G | | 9/6/18 | 12:25 | | 6 | | | | | | | | | | | | | | | | | | No Odor | | | | |
| 7 | Mw-19 | | | | | 12:22 | | 1 | | | | | | | | | | | | | | | | | | Strong Odor/Sheen | | | | |
| 8 | Mw-20 | | | | | 10:21 | | 1 | | | | | | | | | | | | | | | | | | No Odor | | | | |
| 9 | Mw-21 | | | | | 9:55 | | 1 | | | | | | | | | | | | | | | | | | No Odor | | | | |
| 10 | Mw-22 | | | | | 10:06 | | 1 | | | | | | | | | | | | | | | | | | No Odor | | | | |
| 11 | Mw-23 | | | | | 13:33 | | 1 | | | | | | | | | | | | | | | | | | No Odor | | | | |
| 12 | Sw-1 | | G | | 9/6/18 | 14:55 | | 6 | | | | | | | | | | | | | | | | | | No Odor | | | | |
| ADDITIONAL COMMENTS | | RELINQUISHED BY / AFFILIATION | | DATE | | TIME | | ACCEPTED BY / AFFILIATION | | DATE | | TIME | | SAMPLE CONDITIONS | | | | | | | | | | | | | | | | |
| | | <i>[Signature]</i> | | 9/6/18 | | 0805 | | <i>[Signature]</i> | | 9/18 | | 0808 | | | | | | | | | | | | | | | | | | |

| | | | |
|---|-----------------------|---|----------------------|
| SAMPLER NAME AND SIGNATURE | | | |
| PRINT Name of SAMPLER: <u>Kyle Jacobs</u> | | DATE Signed (MM/DD/YY): <u>09/06/18</u> | |
| SIGNATURE of SAMPLER: <i>[Signature]</i> | | | |
| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
| | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| | | | |
|--|--|---|---|
| Section A Required Client Information: | Section B Required Project Information: | Section C Invoice Information: | Page: <u>3</u> of <u>3</u> 2193285 |
| Company: <u>SCDHEC</u> Address: <u>2600 Bull St.</u> <u>Columbia, SC 29201</u> Email To: <u>dunn@cdhec.sc.gov</u> Phone: _____ Fax: _____ Requested Due Date/TAT: _____ | Report To: <u>R. Dunn</u> Copy To: _____ Purchase Order No.: <u>4666640194</u> Project Name: <u>Morris Oil Co.</u> Project Number: <u>UST-0364/CA575085297</u> | Attention: _____ Company Name: _____ Address: _____ Pace Quote Reference: _____ Pace Project Manager: <u>T. Carter</u> Pace Profile #: _____ | REGULATORY AGENCY <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input checked="" type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____ Site Location STATE: <u>SC</u> <u>Spartanburg</u> |

| ITEM # | SAMPLE ID (A-Z, 0-9 / . -) Sample IDs MUST BE UNIQUE | Matrix Codes MATRIX / CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED | | | | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Requested Analysis Filtered (Y/N) | | | | | | | | | | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. | | | | |
|--------|--|--|---------------------------------------|-----------------------------|-----------------|------|--------------------|------|---------------------------|-----------------|-----------------------------------|--------------------------------|------------------|-----|------|---|----------|-------|--------------------------|--------------------------|-------------------------|----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | | | | | COMPOSITE START | | COMPOSITE END/GRAB | | | | Preservatives | | | | | | | | | | | | | | | |
| | | | | | DATE | TIME | DATE | TIME | | | Unpreserved | H ₂ SO ₄ | HNO ₃ | HCl | NaOH | Na ₂ S ₂ O ₅ | Methanol | Other | Analysis Test ↓ (Y/N) | Analysis Test ↓ (Y/N) | | | Analysis Test ↓ (Y/N) | Analysis Test ↓ (Y/N) | Analysis Test ↓ (Y/N) | Analysis Test ↓ (Y/N) |
| 1 | Su-2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Su-3 | | | | | | | | | | | | | | | | | | | | | | | | | DNS |
| 3 | Dup-1 | | | | | | | | | | | | | | | | | | | | | | | | | DNS |
| 4 | Dup-2 | | | | | | | | | | | | | | | | | | | | | | | | | No odor |
| 5 | FB | | | | | | | | | | | | | | | | | | | | | | | | | OMC Sample |
| 6 | TB | | | | | | | | | | | | | | | | | | | | | | | | | FB |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | TB |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---------------------|-------------------------------|---------|------|---------------------------|---------|------|-------------------|
| | <i>[Signature]</i> | 9/11/18 | 0808 | <i>[Signature]</i> | 9/11/18 | 0808 | |

| | | | | | |
|---|--|------------|-----------------------|-----------------------------|----------------------|
| SAMPLER NAME AND SIGNATURE | | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
| PRINT Name of SAMPLER: <u>Kyle Jacobs</u> | | | | | |
| SIGNATURE of SAMPLER: <i>[Signature]</i> | | | | | |
| DATE Signed (MM/DD/YY): <u>09/16/18</u> | | | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days. F-ALL-Q-020rev.07, 15-May-2007



September 11, 2018

Re: Treatment of Purge Water
Morris Oil Company
Spartanburg, South Carolina
SCDHEC Site ID Number 08641
MECI Project Number 18-6518

To Whom It May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The purge/bail water from all wells is mixed before usage of the Activated Carbon Unit.
2. No free-product was detected in any of the purge water drums.
3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.
5. Record of usage is maintained by Contractor.
6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.
7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

A total of 77.00 gallons were treated on September 6, 2018, at the referenced site.

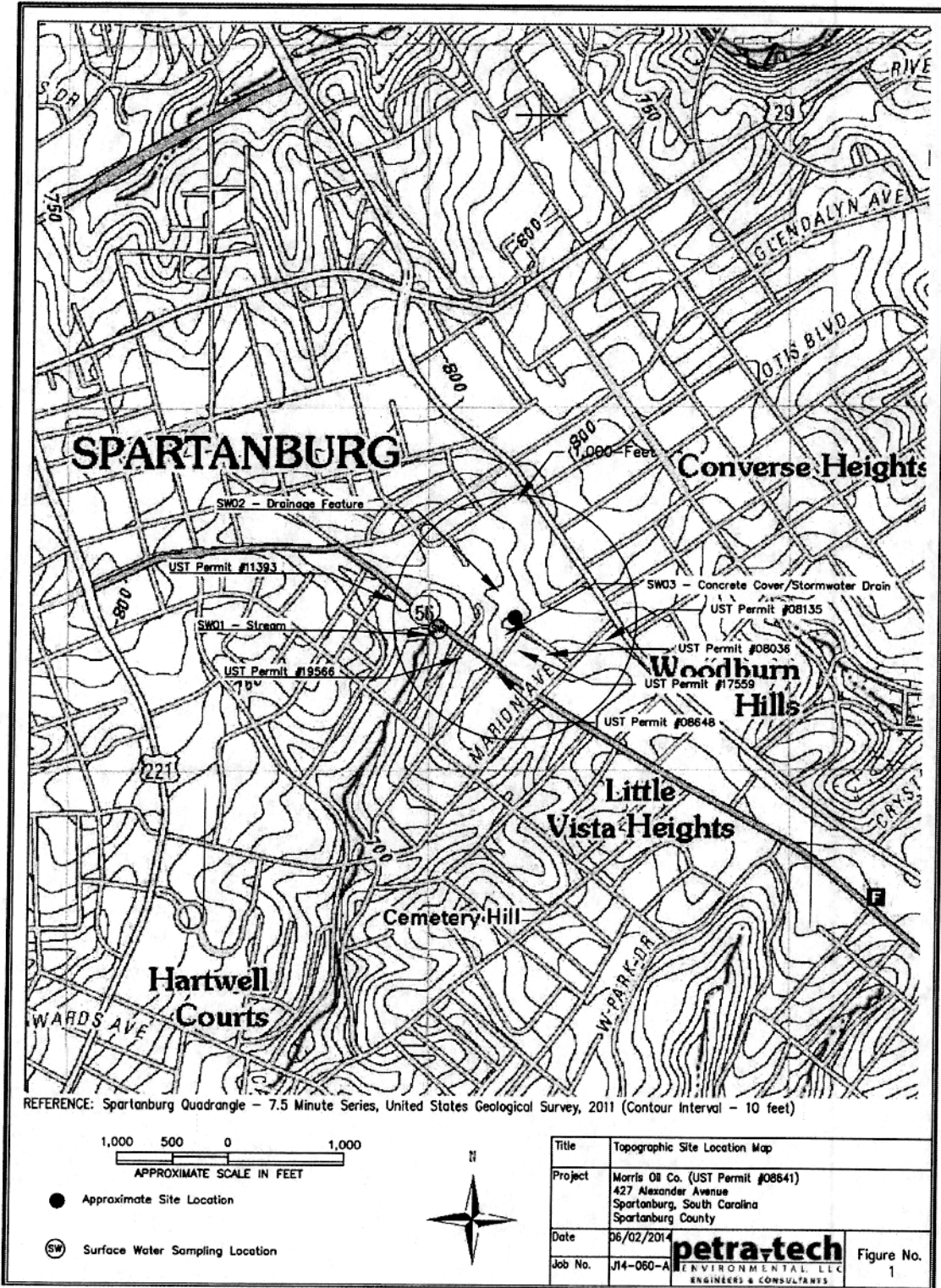
Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

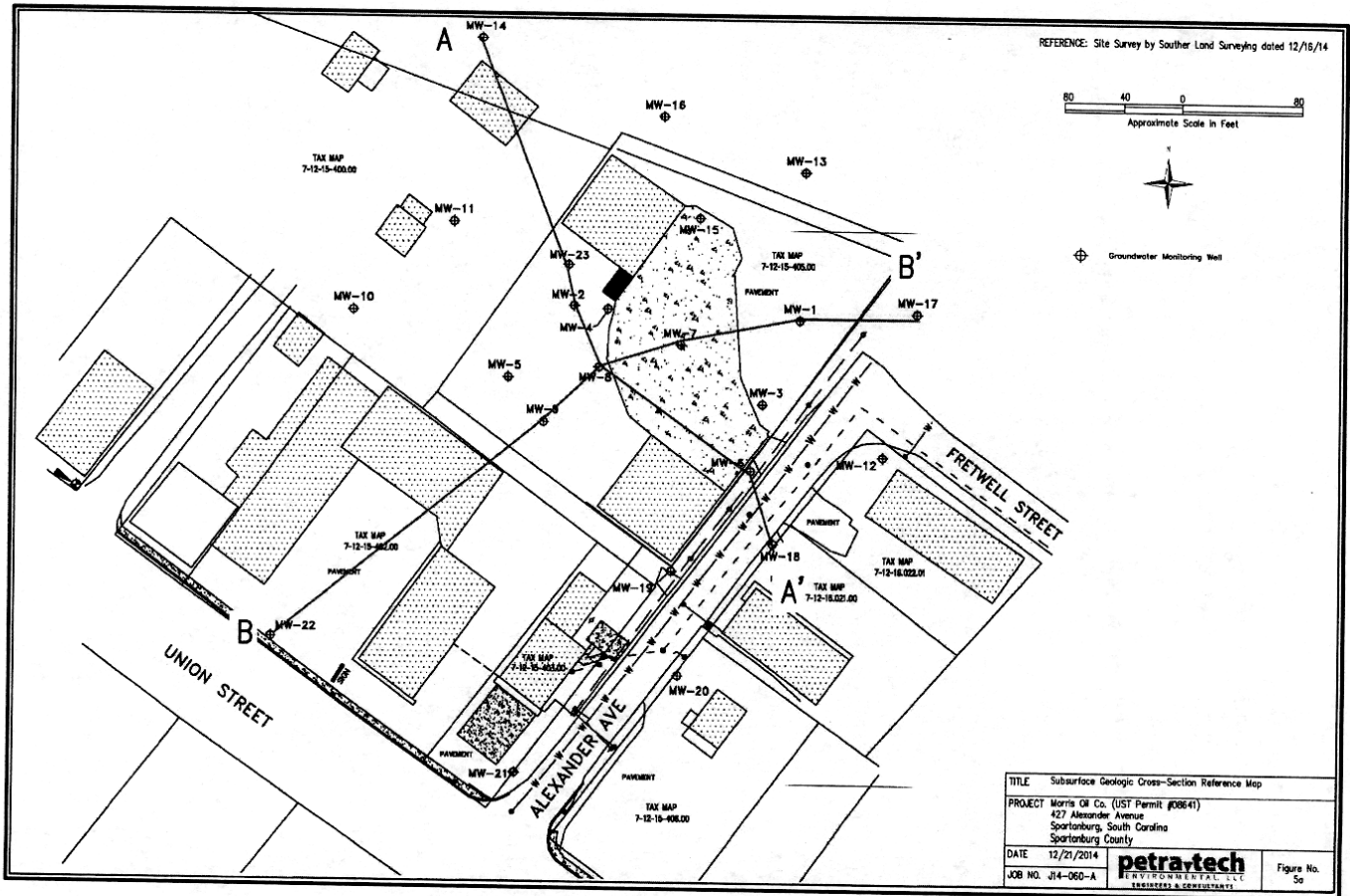
Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.



Jordan W. Floyd
Staff Hydrogeologist





September 14, 2018

Robert Dunn
SCHDEC
2600 Bull St
Columbia, SC 29201



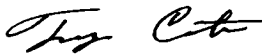
RE: Project: Morris Oil Co 08641/57560
Pace Project No.: 92398710

Dear Robert Dunn:

Enclosed are the analytical results for sample(s) received by the laboratory on September 07, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Trey Carter
treycarter@pacelabs.com
(704)875-9092
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
9800 Kincey Ave Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: Morris Oil Co 08641/57560
Pace Project No 92398710

Charlotte Certification IDs

9800 Kincey Ave Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification # 37706
North Carolina Field Services Certification # 5342
North Carolina Wastewater Certification # 12

South Carolina Certification # 99006001
Florida/NELAP Certification # E87627
Kentucky UST Certification # 84
Virginia/VELAP Certification # 460221

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SAMPLE SUMMARY

Project: Morris Oil Co 08641/57560
Pace Project No 92398710

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|-----------|--------|----------------|----------------|
| 92398710001 | MW-1 | Water | 09/06/18 14 45 | 09/07/18 08 08 |
| 92398710002 | MW-2 | Water | 09/06/18 13 55 | 09/07/18 08 08 |
| 92398710003 | MW-5 | Water | 09/06/18 13 10 | 09/07/18 08 08 |
| 92398710004 | MW-8 | Water | 09/06/18 13:15 | 09/07/18 08 08 |
| 92398710005 | MW-9 | Water | 09/06/18 13 20 | 09/07/18 08 08 |
| 92398710006 | MW-10 | Water | 09/06/18 10 41 | 09/07/18 08.08 |
| 92398710007 | MW-11 | Water | 09/06/18 10 56 | 09/07/18 08 08 |
| 92398710008 | MW-12 | Water | 09/06/18 12 10 | 09/07/18 08 08 |
| 92398710009 | MW-13 | Water | 09/06/18 11:37 | 09/07/18 08 08 |
| 92398710010 | MW-14 | Water | 09/06/18 11 13 | 09/07/18 08.08 |
| 92398710011 | MW-15 | Water | 09/06/18 14 18 | 09/07/18 08 08 |
| 92398710012 | MW-16 | Water | 09/06/18 11 29 | 09/07/18 08 08 |
| 92398710013 | MW-18 | Water | 09/06/18 12:25 | 09/07/18 08 08 |
| 92398710014 | MW-19 | Water | 09/06/18 12.22 | 09/07/18 08 08 |
| 92398710015 | MW-20 | Water | 09/06/18 10:21 | 09/07/18 08 08 |
| 92398710016 | MW-21 | Water | 09/06/18 09:55 | 09/07/18 08 08 |
| 92398710017 | MW-22 | Water | 09/06/18 10 06 | 09/07/18 08 08 |
| 92398710018 | MW-23 | Water | 09/06/18 13 33 | 09/07/18 08 08 |
| 92398710019 | SW-1 | Water | 09/06/18 14 55 | 09/07/18 08 08 |
| 92398710020 | DUP-1 | Water | 09/06/18 13 33 | 09/07/18 08 08 |
| 92398710022 | FB | Water | 09/06/18 15 05 | 09/07/18 08 08 |
| 92398710023 | TB | Water | 09/06/18 15 05 | 09/07/18 08 08 |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-----------|----------|-------------------|------------|
| 92398710001 | MW-1 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | SAS | 20 | PASI-C |
| 92398710002 | MW-2 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | SAS | 20 | PASI-C |
| 92398710003 | MW-5 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | SAS | 20 | PASI-C |
| 92398710004 | MW-8 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | SAS | 20 | PASI-C |
| 92398710005 | MW-9 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | SAS | 20 | PASI-C |
| 92398710006 | MW-10 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | GAW | 20 | PASI-C |
| 92398710007 | MW-11 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | GAW | 20 | PASI-C |
| 92398710008 | MW-12 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | GAW | 20 | PASI-C |
| 92398710009 | MW-13 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | GAW | 20 | PASI-C |
| 92398710010 | MW-14 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | GAW | 20 | PASI-C |
| 92398710011 | MW-15 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | SAS | 20 | PASI-C |
| 92398710012 | MW-16 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | SAS | 20 | PASI-C |
| 92398710013 | MW-18 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | SAS | 20 | PASI-C |
| 92398710014 | MW-19 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | SAS | 20 | PASI-C |
| 92398710015 | MW-20 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | GAW | 20 | PASI-C |
| 92398710016 | MW-21 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | GAW | 20 | PASI-C |
| 92398710017 | MW-22 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | GAW | 20 | PASI-C |
| 92398710018 | MW-23 | EPA 8011 | SEM | 2 | PASI-C |
| | | EPA 8260B | GAW | 20 | PASI-C |
| 92398710019 | SW-1 | EPA 8011 | SEM | 2 | PASI-C |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Morris Oil Co 08641/57560
Pace Project No 92398710

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|-----------|-----------|----------|-------------------|------------|
| 92398710020 | DUP-1 | EPA 8260B | GAW | 20 | PASI-C |
| | | EPA 8011 | SEM | 2 | PASI-C |
| 92398710022 | FB | EPA 8260B | GAW | 20 | PASI-C |
| | | EPA 8011 | SEM | 2 | PASI-C |
| 92398710023 | TB | EPA 8260B | GAW | 20 | PASI-C |
| | | EPA 8260B | GAW | 20 | PASI-C |

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Morris Oil Co 08641/57560
 Pace Project No: 92398710

| Lab Sample ID | Client Sample ID | Result | Units | Report Limit | Analyzed | Qualifiers |
|--------------------|-------------------|--------|-------|--------------|----------------|------------|
| Method | Parameters | | | | | |
| 92398710001 | MW-1 | | | | | |
| EPA 8260B | Benzene | 512 | ug/L | 50 0 | 09/11/18 02:33 | |
| EPA 8260B | Ethylbenzene | 740 | ug/L | 50 0 | 09/11/18 02:33 | |
| EPA 8260B | Naphthalene | 691 | ug/L | 50 0 | 09/11/18 02:33 | |
| EPA 8260B | Xylene (Total) | 461 | ug/L | 50 0 | 09/11/18 02:33 | |
| EPA 8260B | m&p-Xylene | 395 | ug/L | 100 | 09/11/18 02:33 | |
| EPA 8260B | o-Xylene | 65 6 | ug/L | 50 0 | 09/11/18 02:33 | |
| 92398710002 | MW-2 | | | | | |
| EPA 8260B | tert-Amyl Alcohol | 88 0J | ug/L | 100 | 09/09/18 20:06 | |
| EPA 8260B | Benzene | 55 2 | ug/L | 5 0 | 09/09/18 20:06 | |
| EPA 8260B | Ethylbenzene | 86 1 | ug/L | 5 0 | 09/09/18 20:06 | |
| EPA 8260B | Naphthalene | 80 7 | ug/L | 5 0 | 09/09/18 20:06 | |
| EPA 8260B | Toluene | 3 7J | ug/L | 5 0 | 09/09/18 20:06 | |
| EPA 8260B | Xylene (Total) | 10 8 | ug/L | 5 0 | 09/09/18 20:06 | |
| EPA 8260B | m&p-Xylene | 10 8 | ug/L | 10 0 | 09/09/18 20:06 | |
| EPA 8260B | o-Xylene | 2 9J | ug/L | 5 0 | 09/09/18 20:06 | |
| 92398710003 | MW-5 | | | | | |
| EPA 8260B | Benzene | 145 | ug/L | 50.0 | 09/11/18 09:41 | |
| EPA 8260B | Ethylbenzene | 1290 | ug/L | 50 0 | 09/11/18 09:41 | |
| EPA 8260B | Naphthalene | 647 | ug/L | 50 0 | 09/11/18 09:41 | |
| EPA 8260B | Toluene | 26 5J | ug/L | 50.0 | 09/11/18 09:41 | |
| EPA 8260B | Xylene (Total) | 52.5 | ug/L | 50 0 | 09/11/18 09:41 | |
| EPA 8260B | m&p-Xylene | 84 5J | ug/L | 100 | 09/11/18 09:41 | |
| EPA 8260B | o-Xylene | 52 5 | ug/L | 50.0 | 09/11/18 09:41 | |
| 92398710004 | MW-8 | | | | | |
| EPA 8260B | Benzene | 51 7 | ug/L | 5 0 | 09/09/18 20:24 | |
| EPA 8260B | Ethylbenzene | 17 2 | ug/L | 5 0 | 09/09/18 20:24 | |
| EPA 8260B | Naphthalene | 10 6 | ug/L | 5 0 | 09/09/18 20:24 | |
| EPA 8260B | Toluene | 3 9J | ug/L | 5 0 | 09/09/18 20:24 | |
| EPA 8260B | Xylene (Total) | 13 5 | ug/L | 5 0 | 09/09/18 20:24 | |
| EPA 8260B | m&p-Xylene | 13 5 | ug/L | 10.0 | 09/09/18 20:24 | |
| 92398710005 | MW-9 | | | | | |
| EPA 8260B | Benzene | 149 | ug/L | 25 0 | 09/11/18 00:29 | |
| EPA 8260B | Ethylbenzene | 713 | ug/L | 25 0 | 09/11/18 00:29 | |
| EPA 8260B | Naphthalene | 502 | ug/L | 25 0 | 09/11/18 00:29 | |
| EPA 8260B | Toluene | 17 6J | ug/L | 25.0 | 09/11/18 00:29 | |
| EPA 8260B | Xylene (Total) | 579 | ug/L | 25 0 | 09/11/18 00:29 | |
| EPA 8260B | m&p-Xylene | 532 | ug/L | 50 0 | 09/11/18 00:29 | |
| EPA 8260B | o-Xylene | 47.0 | ug/L | 25 0 | 09/11/18 00:29 | |
| 92398710011 | MW-15 | | | | | |
| EPA 8260B | Ethylbenzene | 39 7 | ug/L | 5 0 | 09/09/18 20:42 | |
| EPA 8260B | Naphthalene | 23 5 | ug/L | 5 0 | 09/09/18 20:42 | |
| EPA 8260B | Xylene (Total) | 37 4 | ug/L | 5 0 | 09/09/18 20:42 | |
| EPA 8260B | m&p-Xylene | 37 4 | ug/L | 10 0 | 09/09/18 20:42 | |

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Morris Oil Co 08641/57560
 Pace Project No. 92398710

| Lab Sample ID | Client Sample ID | Result | Units | Report Limit | Analyzed | Qualifiers |
|--------------------|------------------|--------|-------|--------------|----------------|------------|
| Method | Parameters | | | | | |
| 92398710013 | MW-18 | | | | | |
| EPA 8260B | Naphthalene | 16.3 | ug/L | 5.0 | 09/09/18 21:17 | |
| 92398710014 | MW-19 | | | | | |
| EPA 8260B | Benzene | 103 | ug/L | 25.0 | 09/11/18 00:47 | |
| EPA 8260B | Ethylbenzene | 508 | ug/L | 25.0 | 09/11/18 00:47 | |
| EPA 8260B | Naphthalene | 210 | ug/L | 25.0 | 09/11/18 00:47 | |
| EPA 8260B | Toluene | 13.5J | ug/L | 25.0 | 09/11/18 00:47 | |
| EPA 8260B | Xylene (Total) | 136 | ug/L | 25.0 | 09/11/18 00:47 | |
| EPA 8260B | m&p-Xylene | 136 | ug/L | 50.0 | 09/11/18 00:47 | |
| 92398710019 | SW-1 | | | | | |
| EPA 8260B | Benzene | 0.66J | ug/L | 1.0 | 09/13/18 05:23 | |
| 92398710023 | TB | | | | | |
| EPA 8260B | Benzene | 5.5 | ug/L | 5.0 | 09/09/18 09:15 | |
| EPA 8260B | Ethylbenzene | 5.4 | ug/L | 5.0 | 09/09/18 09:15 | |
| EPA 8260B | Naphthalene | 6.3 | ug/L | 5.0 | 09/09/18 09:15 | |

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project Morris Oil Co 08641/57560
Pace Project No. 92398710

Method: EPA 8011
Description: 8011 GCS EDB and DBCP
Client: SCDHEC
Date: September 14, 2018

General Information:

21 samples were analyzed for EPA 8011 All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below

Sample Preparation:

The samples were prepared in accordance with EPA 8011 with any exceptions noted below

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below

Surrogates:

All surrogates were within QC limits with any exceptions noted below

QC Batch 429760

S3. Surrogate recovery exceeded laboratory control limits Analyte presence below reporting limits in associated sample

- DUP (Lab ID 2371893)
- 1-Chloro-2-bromopropane (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project Morris Oil Co 08641/57560
Pace Project No.: 92398710

Method: EPA 8260B
Description: 8260 MSV Low Level SC
Client: SCDHEC
Date: September 14, 2018

General Information:

1 sample was analyzed for EPA 8260B All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below

Internal Standards:

All internal standards were within QC limits with any exceptions noted below

Surrogates:

All surrogates were within QC limits with any exceptions noted below

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 430371

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92398732008

M1 Matrix spike recovery exceeded QC limits Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2375649)
 - Toluene
- MSD (Lab ID: 2375650)
 - Diisopropyl ether
 - Naphthalene
 - m&p-Xylene
 - tert-Butyl Formate

R1 RPD value was outside control limits

- MSD (Lab ID: 2375650)
 - Diisopropyl ether

Additional Comments:

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PROJECT NARRATIVE

Project Morris Oil Co 08641/57560
Pace Project No 92398710

Method: EPA 8260B
Description: 8260 MSV Low Level SC
Client: SCDHEC
Date: September 14, 2018

Analyte Comments

QC Batch 430371

1g Initial calibration evaluation met acceptance criteria. Compound did not meet additional accuracy assessment for percent error

- LCS (Lab ID: 2374712)
 - Diisopropyl ether
 - Methyl-tert-butyl ether
 - Toluene

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PROJECT NARRATIVE

Project Morris Oil Co 08641/57560
Pace Project No 92398710

Method: EPA 8260B
Description: 8260 MSV
Client: SCDHEC
Date: September 14, 2018

General Information:

21 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch 429618

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s) 92398715003

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID 2371535)
- Benzene

P5 The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

- MS (Lab ID 2371535)
- tert-Butyl Formate
- MSD (Lab ID 2371536)
- tert-Butyl Formate

QC Batch: 429731

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s) 92398397006

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2371803)

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PROJECT NARRATIVE

Project Morris Oil Co 08641/57560
Pace Project No 92398710

Method: EPA 8260B
Description: 8260 MSV
Client: SCDHEC
Date: September 14, 2018

QC Batch 429731

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s) 92398397006

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- tert-Butyl Alcohol

P5: The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes

- MS (Lab ID 2371803)
- tert-Butyl Formate

QC Batch 429847

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s) 92398710001

P5 The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes

- MS (Lab ID 2372403)
- tert-Butyl Formate
- MSD (Lab ID 2372404)
- tert-Butyl Formate

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below

Additional Comments:

Analyte Comments:

QC Batch 429618

1g Initial calibration evaluation met acceptance criteria. Compound did not meet additional accuracy assessment for percent error

- LCS (Lab ID 2371534)
- Diisopropyl ether
- Methyl-tert-butyl ether
- Toluene

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-1 | | Lab ID: 92398710001 | | Collected | 09/06/18 14 45 | Received | 09/07/18 08 08 | Matrix Water | |
|------------------------------|---------|------------------------------|--------------|------------------------------|----------------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 8011 GCS EDB and DBCP | | Analytical Method: EPA 8011 | | Preparation Method: EPA 8011 | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.020 | 0.020 | 1 | 09/10/18 10:21 | 09/11/18 11:49 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 122 | % | 60-140 | | 1 | 09/10/18 10:21 | 09/11/18 11:49 | 301-79-56 | |
| 8260 MSV | | Analytical Method: EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 1000 | 768 | 10 | | 09/11/18 02:33 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 100 | 34.0 | 10 | | 09/11/18 02:33 | 994-05-8 | |
| Benzene | 512 | ug/L | 50.0 | 17.0 | 10 | | 09/11/18 02:33 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 1000 | 321 | 10 | | 09/11/18 02:33 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 1000 | 577 | 10 | | 09/11/18 02:33 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 500 | 73.0 | 10 | | 09/11/18 02:33 | 762-75-4 | P5 |
| 1,2-Dichloroethane | ND | ug/L | 50.0 | 18.0 | 10 | | 09/11/18 02:33 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 50.0 | 17.0 | 10 | | 09/11/18 02:33 | 108-20-3 | |
| Ethanol | ND | ug/L | 2000 | 1310 | 10 | | 09/11/18 02:33 | 64-17-5 | |
| Ethylbenzene | 740 | ug/L | 50.0 | 16.0 | 10 | | 09/11/18 02:33 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 100 | 36.0 | 10 | | 09/11/18 02:33 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 50.0 | 17.0 | 10 | | 09/11/18 02:33 | 1634-04-4 | |
| Naphthalene | 691 | ug/L | 50.0 | 20.0 | 10 | | 09/11/18 02:33 | 91-20-3 | |
| Toluene | ND | ug/L | 50.0 | 16.0 | 10 | | 09/11/18 02:33 | 108-88-3 | |
| Xylene (Total) | 461 | ug/L | 50.0 | 50.0 | 10 | | 09/11/18 02:33 | 1330-20-7 | |
| m&p-Xylene | 395 | ug/L | 100 | 31.0 | 10 | | 09/11/18 02:33 | 179601-23-1 | |
| o-Xylene | 65.6 | ug/L | 50.0 | 16.0 | 10 | | 09/11/18 02:33 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 100 | % | 70-130 | | 10 | | 09/11/18 02:33 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 105 | % | 70-130 | | 10 | | 09/11/18 02:33 | 17060-07-0 | |
| Toluene-d8 (S) | 101 | % | 70-130 | | 10 | | 09/11/18 02:33 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-2 | | Lab ID: 92398710002 | | Collected | 09/06/18 13 55 | Received | 09/07/18 08 08 | Matrx | Water |
|------------------------------|--------------|------------------------------|--------------|-----------------------------|----------------|----------------|----------------|-------------|-------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | Analytical Method EPA 8011 | | Preparation Method EPA 8011 | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0 020 | 0 020 | 1 | 09/10/18 10:21 | 09/11/18 12 09 | 106-93-4 | |
| <i>Surrogates</i> | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 110 | % | 60-140 | | 1 | 09/10/18 10:21 | 09/11/18 12 09 | 301-79-56 | |
| 8260 MSV | | Analytical Method: EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | 88.0J | ug/L | 100 | 76.8 | 1 | | 09/09/18 20 06 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10 0 | 3 4 | 1 | | 09/09/18 20 06 | 994-05-8 | |
| Benzene | 55.2 | ug/L | 5 0 | 1 7 | 1 | | 09/09/18 20 06 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32 1 | 1 | | 09/09/18 20 06 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57 7 | 1 | | 09/09/18 20 06 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50 0 | 7 3 | 1 | | 09/09/18 20 06 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5 0 | 1 8 | 1 | | 09/09/18 20 06 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5 0 | 1 7 | 1 | | 09/09/18 20 06 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 20:06 | 64-17-5 | |
| Ethylbenzene | 86.1 | ug/L | 5 0 | 1 6 | 1 | | 09/09/18 20:06 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10 0 | 3 6 | 1 | | 09/09/18 20 06 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5 0 | 1 7 | 1 | | 09/09/18 20 06 | 1634-04-4 | |
| Naphthalene | 80.7 | ug/L | 5 0 | 2 0 | 1 | | 09/09/18 20 06 | 91-20-3 | |
| Toluene | 3.7J | ug/L | 5 0 | 1 6 | 1 | | 09/09/18 20 06 | 108-88-3 | |
| Xylene (Total) | 10.8 | ug/L | 5 0 | 5 0 | 1 | | 09/09/18 20 06 | 1330-20-7 | |
| m&p-Xylene | 10.8 | ug/L | 10 0 | 3 1 | 1 | | 09/09/18 20 06 | 179601-23-1 | |
| o-Xylene | 2.9J | ug/L | 5 0 | 1 6 | 1 | | 09/09/18 20.06 | 95-47-6 | |
| <i>Surrogates</i> | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 101 | % | 70-130 | | | | 09/09/18 20 06 | 460-06-4 | |
| 1,2-Dichloroethane-d4 (S) | 109 | % | 70-130 | | 1 | | 09/09/18 20 06 | 17060-07-0 | |
| Toluene-d8 (S) | 99 | % | 70-130 | | 1 | | 09/09/18 20 06 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project: Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-5 | | Lab ID: 92398710003 | | Collected | 09/06/18 13 10 | Received | 09/07/18 08:08 | Matrix Water | |
|------------------------------|---------|--|--------------|-----------|----------------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.019 | 0.019 | 1 | 09/10/18 10:21 | 09/11/18 12:29 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 110 | % | 60-140 | | 1 | 09/10/18 10:21 | 09/11/18 12:29 | 301-79-56 | |
| 8260 MSV | | Analytical Method: EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 1000 | 768 | 10 | | 09/11/18 09:41 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 100 | 34.0 | 10 | | 09/11/18 09:41 | 994-05-8 | |
| Benzene | 145 | ug/L | 50.0 | 17.0 | 10 | | 09/11/18 09:41 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 1000 | 321 | 10 | | 09/11/18 09:41 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 1000 | 577 | 10 | | 09/11/18 09:41 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 500 | 73.0 | 10 | | 09/11/18 09:41 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 50.0 | 18.0 | 10 | | 09/11/18 09:41 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 50.0 | 17.0 | 10 | | 09/11/18 09:41 | 108-20-3 | |
| Ethanol | ND | ug/L | 2000 | 1310 | 10 | | 09/11/18 09:41 | 64-17-5 | |
| Ethylbenzene | 1290 | ug/L | 50.0 | 16.0 | 10 | | 09/11/18 09:41 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 100 | 36.0 | 10 | | 09/11/18 09:41 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 50.0 | 17.0 | 10 | | 09/11/18 09:41 | 1634-04-4 | |
| Naphthalene | 647 | ug/L | 50.0 | 20.0 | 10 | | 09/11/18 09:41 | 91-20-3 | |
| Toluene | 26.5J | ug/L | 50.0 | 16.0 | 10 | | 09/11/18 09:41 | 108-88-3 | |
| Xylene (Total) | 52.5 | ug/L | 50.0 | 50.0 | 10 | | 09/11/18 09:41 | 1330-20-7 | |
| m&p-Xylene | 84.5J | ug/L | 100 | 31.0 | 10 | | 09/11/18 09:41 | 179601-23-1 | |
| o-Xylene | 52.5 | ug/L | 50.0 | 16.0 | 10 | | 09/11/18 09:41 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 100 | % | 70-130 | | 10 | | 09/11/18 09:41 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 107 | % | 70-130 | | 10 | | 09/11/18 09:41 | 17060-07-0 | |
| Toluene-d8 (S) | 102 | % | 70-130 | | 10 | | 09/11/18 09:41 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project: Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-8 | Lab ID: 92398710004 | Collected | 09/06/18 13 15 | Received | 09/07/18 08:08 | Matrix | Water | | |
|------------------------------|-----------------------------|-----------|-----------------------------|----------|----------------|----------------|----------------|-------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | Analytical Method EPA 8011 | | Preparation Method EPA 8011 | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.020 | 0.020 | 1 | 09/10/18 10 21 | 09/11/18 12 49 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 115 | % | 60-140 | | 1 | 09/10/18 10 21 | 09/11/18 12 49 | 301-79-56 | |
| 8260 MSV | Analytical Method EPA 8260B | | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 20 24 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 20 24 | 994-05-8 | |
| Benzene | 51.7 | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 20 24 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 20 24 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 20 24 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 20 24 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 20 24 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 20 24 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 20 24 | 64-17-5 | |
| Ethylbenzene | 17.2 | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 20 24 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 20 24 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 20 24 | 1634-04-4 | |
| Naphthalene | 10.6 | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 20 24 | 91-20-3 | |
| Toluene | 3.9J | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 20 24 | 108-88-3 | |
| Xylene (Total) | 13.5 | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 20 24 | 1330-20-7 | |
| m&p-Xylene | 13.5 | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 20 24 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 20:24 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 108 | % | 70-130 | | 1 | | 09/09/18 20 24 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 107 | % | 70-130 | | 1 | | 09/09/18 20 24 | 17060-07-0 | |
| Toluene-d8 (S) | 100 | % | 70-130 | | 1 | | 09/09/18 20 24 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: | MW-9 | Lab ID: | 92398710005 | Collected | 09/06/18 13:20 | Received | 09/07/18 08:08 | Matrix | Water |
|------------------------------|---------|-----------------------------|--------------|-----------------------------|----------------|----------------|----------------|-------------|-------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | Analytical Method EPA 8011 | | Preparation Method EPA 8011 | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.019 | 0.019 | 1 | 09/10/18 10:21 | 09/11/18 13:09 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 108 | % | 60-140 | | 1 | 09/10/18 10:21 | 09/11/18 13:09 | 301-79-56 | |
| 8260 MSV | | Analytical Method EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 500 | 384 | 5 | | 09/11/18 00:29 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 50.0 | 17.0 | 5 | | 09/11/18 00:29 | 994-05-8 | |
| Benzene | 149 | ug/L | 25.0 | 8.5 | 5 | | 09/11/18 00:29 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 500 | 160 | 5 | | 09/11/18 00:29 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 500 | 288 | 5 | | 09/11/18 00:29 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 250 | 36.5 | 5 | | 09/11/18 00:29 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 25.0 | 9.0 | 5 | | 09/11/18 00:29 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 25.0 | 8.5 | 5 | | 09/11/18 00:29 | 108-20-3 | |
| Ethanol | ND | ug/L | 1000 | 655 | 5 | | 09/11/18 00:29 | 64-17-5 | |
| Ethylbenzene | 713 | ug/L | 25.0 | 8.0 | 5 | | 09/11/18 00:29 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 50.0 | 18.0 | 5 | | 09/11/18 00:29 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 25.0 | 8.5 | 5 | | 09/11/18 00:29 | 1634-04-4 | |
| Naphthalene | 502 | ug/L | 25.0 | 10.0 | 5 | | 09/11/18 00:29 | 91-20-3 | |
| Toluene | 17.6J | ug/L | 25.0 | 8.0 | 5 | | 09/11/18 00:29 | 108-88-3 | |
| Xylene (Total) | 579 | ug/L | 25.0 | 25.0 | 5 | | 09/11/18 00:29 | 1330-20-7 | |
| m&p-Xylene | 532 | ug/L | 50.0 | 15.5 | 5 | | 09/11/18 00:29 | 179601-23-1 | |
| o-Xylene | 47.0 | ug/L | 25.0 | 8.0 | 5 | | 09/11/18 00:29 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 99 | % | 70-130 | | 5 | | 09/11/18 00:29 | 460-00-7 | |
| 1,2-Dichloroethane-d4 (S) | 107 | % | 70-130 | | 5 | | 09/11/18 00:29 | 17060-07-0 | |
| Toluene-d8 (S) | 99 | % | 70-130 | | 5 | | 09/11/18 00:29 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-10 | | Lab ID: 92398710006 | | Collected | 09/06/18 10 41 | Received | 09/07/18 08 08 | Matrix | Water |
|------------------------------|---------|--|--------------|-----------|----------------|----------------|----------------|-------------|-------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | Analytical Method EPA 8011 Preparation Method EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0 020 | 0 020 | 1 | 09/10/18 10 21 | 09/11/18 13 29 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 106 | % | 60-140 | | 1 | 09/10/18 10 21 | 09/11/18 13 29 | 301-79-56 | |
| 8260 MSV | | Analytical Method. EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76 8 | 1 | | 09/09/18 02 46 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10 0 | 3 4 | 1 | | 09/09/18 02 46 | 994-05-8 | |
| Benzene | ND | ug/L | 5 0 | 1 7 | 1 | | 09/09/18 02 46 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32 1 | 1 | | 09/09/18 02 46 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57 7 | 1 | | 09/09/18 02 46 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50 0 | 7 3 | 1 | | 09/09/18 02 46 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5 0 | 1 8 | 1 | | 09/09/18 02 46 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5 0 | 1 7 | 1 | | 09/09/18 02 46 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 02 46 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 5 0 | 1 6 | 1 | | 09/09/18 02 46 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10 0 | 3 6 | 1 | | 09/09/18 02 46 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5 0 | 1 7 | 1 | | 09/09/18 02 46 | 1634-04-4 | |
| Naphthalene | ND | ug/L | 5 0 | 2 0 | 1 | | 09/09/18 02 46 | 91-20-3 | |
| Toluene | ND | ug/L | 5 0 | 1 6 | 1 | | 09/09/18 02 46 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5 0 | 5 0 | 1 | | 09/09/18 02 46 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10 0 | 3 1 | 1 | | 09/09/18 02 46 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5 0 | 1 6 | 1 | | 09/09/18 02 46 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 103 | % | 70-130 | | 1 | | 09/09/18 02 46 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 93 | % | 70-130 | | 1 | | 09/09/18 02 46 | 17060-07-0 | |
| Toluene-d8 (S) | 105 | % | 70-130 | | 1 | | 09/09/18 02 46 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project: Morris Oil Co 08641/57560
 Pace Project No: 92398710

| Sample: MW-11 | | | | | | | | | |
|---|---------|-------|--------------|-------|----|----------------|----------------|-------------|------|
| Lab ID: 92398710007 | | | | | | | | | |
| Collected 09/06/18 10:56 Received 09/07/18 08:08 Matrix Water | | | | | | | | | |
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | | | | | | | | |
| Analytical Method EPA 8011 Preparation Method EPA 8011 | | | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.020 | 0.020 | 1 | 09/10/18 10:21 | 09/11/18 13:49 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 104 | % | 60-140 | | 1 | 09/10/18 10:21 | 09/11/18 13:49 | 301-79-56 | |
| 8260 MSV | | | | | | | | | |
| Analytical Method EPA 8260B | | | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 03:03 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 03:03 | 994-05-8 | |
| Benzene | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 03:03 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 03:03 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 03:03 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 03:03 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 03:03 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 03:03 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 03:03 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 03:03 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 03:03 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 03:03 | 1634-04-4 | |
| Naphthalene | ND | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 03:03 | 91-20-3 | |
| Toluene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 03:03 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 03:03 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 03:03 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 03:03 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 104 | % | 70-130 | | 1 | | 09/09/18 03:03 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 90 | % | 70-130 | | 1 | | 09/09/18 03:03 | 17060-07-0 | |
| Toluene-d8 (S) | 108 | % | 70-130 | | 1 | | 09/09/18 03:03 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project: Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-12 | | | | | | | | | |
|--|---------|-------|--------------|-------|----|----------------|----------------|-------------|------|
| Lab ID: 92398710008 Collected: 09/06/18 12 10 Received 09/07/18 08 08 Matrix Water | | | | | | | | | |
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | | | | | | | | |
| Analytical Method EPA 8011 Preparation Method EPA 8011 | | | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0 019 | 0 019 | 1 | 09/10/18 10 21 | 09/11/18 14 09 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 107 | % | 60-140 | | 1 | 09/10/18 10.21 | 09/11/18 14 09 | 301-79-56 | |
| 8260 MSV | | | | | | | | | |
| Analytical Method EPA 8260B | | | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76 8 | 1 | | 09/09/18 03 20 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10 0 | 3 4 | 1 | | 09/09/18 03 20 | 994-05-8 | |
| Benzene | ND | ug/L | 5 0 | 1 7 | 1 | | 09/09/18 03 20 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32 1 | 1 | | 09/09/18 03 20 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57 7 | 1 | | 09/09/18 03 20 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7 3 | 1 | | 09/09/18 03 20 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5 0 | 1 8 | 1 | | 09/09/18 03 20 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5 0 | 1 7 | 1 | | 09/09/18 03 20 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 03 20 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 5 0 | 1 6 | 1 | | 09/09/18 03.20 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10 0 | 3 6 | 1 | | 09/09/18 03:20 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5 0 | 1 7 | 1 | | 09/09/18 03:20 | 1634-04-4 | |
| Naphthalene | ND | ug/L | 5 0 | 2 0 | 1 | | 09/09/18 03.20 | 91-20-3 | |
| Toluene | ND | ug/L | 5 0 | 1 6 | 1 | | 09/09/18 03:20 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5 0 | 5 0 | 1 | | 09/09/18 03 20 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10 0 | 3 1 | 1 | | 09/09/18 03:20 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5 0 | 1 6 | 1 | | 09/09/18 03 20 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromobromobenzene (S) | 105 | % | 70-130 | | 1 | | 09/09/18 03 20 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 89 | % | 70-130 | | 1 | | 09/09/18 03 20 | 17060-07-0 | |
| Toluene-d8 (S) | 108 | % | 70-130 | | 1 | | 09/09/18 03 20 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-13 | Lab ID: 92398710009 | Collected 09/06/18 11 37 | Received 09/07/18 08 08 | Matrix Water | Report | | | | |
|------------------------------|---------------------|-----------------------------|-------------------------|-----------------------------|--------|----------------|----------------|-------------|------|
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | Analytical Method EPA 8011 | | Preparation Method EPA 8011 | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.020 | 0.020 | 1 | 09/10/18 10:21 | 09/12/18 06:58 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 107 | % | 60-140 | | 1 | 09/10/18 10:21 | 09/12/18 06:58 | 301-79-56 | |
| 8260 MSV | | Analytical Method EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 03:37 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 03:37 | 994-05-8 | |
| Benzene | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 03:37 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 03:37 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 03:37 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 03:37 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 03:37 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 03:37 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 03:37 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 03:37 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 03:37 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 03:37 | 1634-04-4 | |
| Naphthalene | ND | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 03:37 | 91-20-3 | |
| Toluene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 03:37 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 03:37 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 03:37 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 03:37 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 104 | % | 70-130 | | 1 | | 09/09/18 03:37 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 90 | % | 70-130 | | 1 | | 09/09/18 03:37 | 17060-07-0 | |
| Toluene-d8 (S) | 108 | % | 70-130 | | 1 | | 09/09/18 03:37 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project: Morris Oil Co 08641/57560
 Pace Project No.: 92398710

| Sample: MW-14 | Lab ID: 92398710010 | Collected | 09/06/18 11 13 | Received | 09/07/18 08 08 | Matrix | Water | | |
|------------------------------|---------------------|-----------------------------|----------------|-----------------------------|----------------|----------------|----------------|-------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | Analytical Method EPA 8011 | | Preparation Method EPA 8011 | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0 019 | 0 019 | 1 | 09/10/18 10 21 | 09/12/18 07 16 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 128 | % | 60-140 | | 1 | 09/10/18 10 21 | 09/12/18 07 16 | 301-79-56 | |
| 8260 MSV | | Analytical Method EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76 8 | 1 | | 09/09/18 03 54 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10 0 | 3 4 | 1 | | 09/09/18 03 54 | 994-05-8 | |
| Benzene | ND | ug/L | 5 0 | 1 7 | 1 | | 09/09/18 03 54 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32 1 | 1 | | 09/09/18 03 54 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57 7 | 1 | | 09/09/18 03 54 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50 0 | 7 3 | 1 | | 09/09/18 03 54 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5 0 | 1 8 | 1 | | 09/09/18 03 54 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5 0 | 1 7 | 1 | | 09/09/18 03 54 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 03 54 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 5 0 | 1 6 | 1 | | 09/09/18 03 54 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3 6 | 1 | | 09/09/18 03 54 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5 0 | 1 7 | 1 | | 09/09/18 03 54 | 1634-04-4 | |
| Naphthalene | ND | ug/L | 5 0 | 2 0 | 1 | | 09/09/18 03 54 | 91-20-3 | |
| Toluene | ND | ug/L | 5 0 | 1 6 | 1 | | 09/09/18 03 54 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 03 54 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10 0 | 3 1 | 1 | | 09/09/18 03 54 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5 0 | 1 6 | 1 | | 09/09/18 03 54 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromodibromobenzene (S) | 101 | % | 70-130 | | 1 | | 09/09/18 03 54 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 86 | % | 70-130 | | 1 | | 09/09/18 03 54 | 17060-07-0 | |
| Toluene-d8 (S) | 109 | % | 70-130 | | 1 | | 09/09/18 03 54 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No. 92398710

| Sample: MW-15 Lab ID: 92398710011 Collected: 09/06/18 14:18 Received: 09/07/18 08:08 Matrix: Water | | | | | | | | | |
|--|---------|-------|--------------|-------|----|----------------|----------------|-------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.019 | 0.019 | 1 | 09/10/18 10:21 | 09/12/18 07:35 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 125 | % | 60-140 | | 1 | 09/10/18 10:21 | 09/12/18 07:35 | 301-79-56 | |
| 8260 MSV Analytical Method: EPA 8260B | | | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 20:42 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 20:42 | 994-05-8 | |
| Benzene | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 20:42 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 20:42 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 20:42 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 20:42 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 20:42 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 20:42 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 13.1 | 1 | | 09/09/18 20:42 | 64-17-5 | |
| Ethylbenzene | 39.7 | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 20:42 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 20:42 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 20:42 | 1634-04-4 | |
| Naphthalene | 23.5 | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 20:42 | 91-20-3 | |
| Toluene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 20:42 | 108-88-3 | |
| Xylene (Total) | 37.4 | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 20:42 | 1330-20-7 | |
| m&p-Xylene | 37.4 | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 20:42 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 20:42 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 103 | % | 70-130 | | 1 | | 09/09/18 20:42 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 106 | % | 70-130 | | 1 | | 09/09/18 20:42 | 17060-07-0 | |
| Toluene-d8 (S) | 100 | % | 70-130 | | 1 | | 09/09/18 20:42 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-16 | Lab ID: 92398710012 | Collected 09/06/18 11:29 | Received 09/07/18 08:08 | Matrix | Water | | | | |
|------------------------------|---------------------|--|-------------------------|--------|-------|----------------|----------------|-------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.020 | 0.020 | 1 | 09/10/18 10:21 | 09/12/18 08:30 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 123 | % | 60-140 | | 1 | 09/10/18 10:21 | 09/12/18 08:30 | 301-79-56 | |
| 8260 MSV | | Analytical Method: EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 21:00 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 21:00 | 994-05-8 | |
| Benzene | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 21:00 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 21:00 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 21:00 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 21:00 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 21:00 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 21:00 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 21:00 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 21:00 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 21:00 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 21:00 | 1634-04-4 | |
| Naphthalene | ND | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 21:00 | 91-20-3 | |
| Toluene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 21:00 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 21:00 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 21:00 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 21:00 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 101 | % | 70-130 | | 1 | | 09/09/18 21:00 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 107 | % | 70-130 | | 1 | | 09/09/18 21:00 | 17060-07-0 | |
| Toluene-d8 (S) | 107 | % | 70-130 | | 1 | | 09/09/18 21:00 | 2037-26-5 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-18 | | | | | | | | | |
|--|---------|-------|--------------|-------|----|----------------|----------------|-------------|------|
| Lab ID: 92398710013 Collected: 09/06/18 12 25 Received 09/07/18 08 08 Matrix Water | | | | | | | | | |
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | | | | | | | | |
| Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.020 | 0.020 | 1 | 09/10/18 10:21 | 09/12/18 08:48 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 107 | % | 60-140 | | 1 | 09/10/18 10:21 | 09/12/18 08:48 | 301-79-56 | |
| 8260 MSV | | | | | | | | | |
| Analytical Method: EPA 8260B | | | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 21:17 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 21:17 | 994-05-8 | |
| Benzene | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 21:17 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 21:17 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 21:17 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 21:17 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 21:17 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 21:17 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 21:17 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 21:17 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 21:17 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 21:17 | 1634-04-4 | |
| Naphthalene | 16.3 | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 21:17 | 91-20-3 | |
| Toluene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 21:17 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 21:17 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 21:17 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 21:17 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 102 | % | 70-130 | | 1 | | 09/09/18 21:17 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 109 | % | 70-130 | | 1 | | 09/09/18 21:17 | 17060-07-0 | |
| Toluene-d8 (S) | 103 | % | 70-130 | | 1 | | 09/09/18 21:17 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project: Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-19 | Lab ID: 92398710014 | Collected: 09/06/18 12 22 | Received: 09/07/18 08 08 | Matrix: Water | | | | | |
|------------------------------|---------------------|--|--------------------------|---------------|----|----------------|----------------|-------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | Analytical Method EPA 8011 Preparation Method EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.020 | 0.020 | 1 | 09/10/18 10 21 | 09/12/18 09 07 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 105 | % | 60-140 | | 1 | 09/10/18 10 21 | 09/12/18 09 07 | 301-79-56 | |
| 8260 MSV | | Analytical Method EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 500 | 384 | 5 | | 09/11/18 00:47 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 50.0 | 17.0 | 5 | | 09/11/18 00 47 | 994-05-8 | |
| Benzene | 103 | ug/L | 25.0 | 8.5 | 5 | | 09/11/18 00 47 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 500 | 160 | 5 | | 09/11/18 00 47 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 500 | 288 | 5 | | 09/11/18 00 47 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 250 | 36.5 | 5 | | 09/11/18 00 47 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 25.0 | 9.0 | 5 | | 09/11/18 00 47 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 25.0 | 8.5 | 5 | | 09/11/18 00 47 | 108-20-3 | |
| Ethanol | ND | ug/L | 1000 | 655 | 5 | | 09/11/18 00 47 | 64-17-5 | |
| Ethylbenzene | 508 | ug/L | 25.0 | 8.0 | 5 | | 09/11/18 00 47 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 50.0 | 18.0 | 5 | | 09/11/18 00 47 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 25.0 | 8.5 | 5 | | 09/11/18 00 47 | 1634-04-4 | |
| Naphthalene | 210 | ug/L | 25.0 | 10.0 | 5 | | 09/11/18 00:47 | 91-20-3 | |
| Toluene | 13.5J | ug/L | 25.0 | 8.0 | 5 | | 09/11/18 00 47 | 108-88-3 | |
| Xylene (Total) | 136 | ug/L | 25.0 | 25.0 | 5 | | 09/11/18 00 47 | 1330-20-7 | |
| m&p-Xylene | 136 | ug/L | 50.0 | 15.5 | 5 | | 09/11/18 00 47 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 25.0 | 8.0 | 5 | | 09/11/18 00 47 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 102 | % | 70-130 | | 5 | | 09/11/18 00 47 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 108 | % | 70-130 | | 5 | | 09/11/18 00 47 | 17060-07-0 | |
| Toluene-d8 (S) | 101 | % | 70-130 | | 5 | | 09/11/18 00 47 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-20 Lab ID: 92398710015 Collected: 09/06/18 10:21 Received 09/07/18 08:08 Matrix Water | | | | | | | | | |
|--|---------|-------|--------------|-------|----|----------------|----------------|-------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | | | | | | | | |
| Analytical Method EPA 8011 Preparation Method EPA 8011 | | | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.019 | 0.019 | 1 | 09/10/18 10:21 | 09/12/18 09:25 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 108 | % | 60-140 | | 1 | 09/10/18 10:21 | 09/12/18 09:25 | 301-79-56 | |
| 8260 MSV | | | | | | | | | |
| Analytical Method: EPA 8260B | | | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 04:11 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 04:11 | 994-05-8 | |
| Benzene | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 04:11 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 04:11 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 04:11 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 04:11 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 04:11 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 04:11 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 04:11 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 04:11 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 04:11 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 04:11 | 1634-04-4 | |
| Naphthalene | ND | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 04:11 | 91-20-3 | |
| Toluene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 04:11 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 04:11 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 04:11 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 04:11 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 104 | % | 70-130 | | 1 | | 09/09/18 04:11 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 88 | % | 70-130 | | 1 | | 09/09/18 04:11 | 17060-07-0 | |
| Toluene-d8 (S) | 105 | % | 70-130 | | 1 | | 09/09/18 04:11 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project: Morris Oil Co 08641/57560
 Pace Project No: 92398710

| Sample: MW-21 | Lab ID: 92398710016 | Collected: 09/06/18 09:55 | Received: 09/07/18 08:08 | Matrix: Water | | | | | |
|------------------------------|---------------------|---|--------------------------|---------------|----|----------------|----------------|-------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | Analytical Method EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.019 | 0.019 | 1 | 09/10/18 10:21 | 09/12/18 11:17 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 110 | % | 60-140 | | 1 | 09/10/18 10:21 | 09/12/18 11:17 | 301-79-56 | |
| 8260 MSV | | Analytical Method EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 07:33 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 07:33 | 994-05-8 | |
| Benzene | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 07:33 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 07:33 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 07:33 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 07:33 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 07:33 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 07:33 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 07:33 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 07:33 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 07:33 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 07:33 | 1634-04-4 | |
| Naphthalene | ND | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 07:33 | 91-20-3 | |
| Toluene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 07:33 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 07:33 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 07:33 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 07:33 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 101 | % | 70-130 | | 1 | | 09/09/18 07:33 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 93 | % | 70-130 | | 1 | | 09/09/18 07:33 | 17060-07-0 | |
| Toluene-d8 (S) | 106 | % | 70-130 | | 1 | | 09/09/18 07:33 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-22 | | Lab ID: 92398710017 | | Collected | 09/06/18 10 06 | Received | 09/07/18 08 08 | Matrix Water | |
|------------------------------|---------|---|--------------|-----------|----------------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | Analytical Method: EPA 8011 Preparation Method EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.020 | 0.020 | 1 | 09/10/18 10:21 | 09/12/18 11 55 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 108 | % | 60-140 | | 1 | 09/10/18 10 21 | 09/12/18 11 55 | 301-79-56 | |
| 8260 MSV | | Analytical Method: EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 07 50 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 07 50 | 994-05-8 | |
| Benzene | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 07 50 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 07 50 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 07 50 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 07 50 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 07:50 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 07 50 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 07 50 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 07 50 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 07 50 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 07 50 | 1634-04-4 | |
| Naphthalene | ND | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 07 50 | 91-20-3 | |
| Toluene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 07:50 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 07 50 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 07 50 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 07 50 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 102 | % | 70-130 | | 1 | | 09/09/18 07 50 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 89 | % | 70-130 | | 1 | | 09/09/18 07 50 | 17060-07-0 | |
| Toluene-d8 (S) | 104 | % | 70-130 | | 1 | | 09/09/18 07:50 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: MW-23 | | | | | | | | | |
|--|---------|-------|--------------|-------|----|----------------|----------------|-------------|------|
| Lab ID: 92398710018 Collected 09/06/18 13 33 Received: 09/07/18 08 08 Matrix Water | | | | | | | | | |
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | | | | | | | | |
| Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.020 | 0.020 | 1 | 09/10/18 10 21 | 09/12/18 12 13 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 111 | % | 60-140 | | 1 | 09/10/18 10 21 | 09/12/18 12 13 | 301-79-56 | |
| 8260 MSV | | | | | | | | | |
| Analytical Method: EPA 8260B | | | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 08:07 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 08:07 | 994-05-8 | |
| Benzene | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 08:07 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 08:07 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 08:07 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 08:07 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 08:07 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 08:07 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 08:07 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 08:07 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 08:07 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 08:07 | 1634-04-4 | |
| Naphthalene | ND | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 08:07 | 91-20-3 | |
| Toluene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 08:07 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 08:07 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 08:07 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 08:07 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 161 | % | 70-130 | | 1 | | 09/09/18 08:07 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 90 | % | 70-130 | | 1 | | 09/09/18 08:07 | 17060-07-0 | |
| Toluene-d8 (S) | 107 | % | 70-130 | | 1 | | 09/09/18 08:07 | 2037-26-5 | |

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ANALYTICAL RESULTS

Project: Morris Oil Co 08641/57560
 Pace Project No.: 92398710

| Sample: | Lab ID: | Collected | Received | Matrix | Water | | | | |
|------------------------------|------------------------------|-----------|-----------------------------|--------|-------|----------------|----------------|-------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | Analytical Method EPA 8011 | | Preparation Method EPA 8011 | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.020 | 0.020 | 1 | 09/10/18 10:21 | 09/12/18 12:32 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 117 | % | 60-140 | | 1 | 09/10/18 10:21 | 09/12/18 12:32 | 301-79-56 | |
| 8260 MSV Low Level SC | Analytical Method: EPA 8260B | | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 50.0 | 1 | | 09/13/18 05:23 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 0.10 | 1 | | 09/13/18 05:23 | 994-05-8 | |
| Benzene | 0.66J | ug/L | 1.0 | 0.25 | 1 | | 09/13/18 05:23 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 50.0 | 1 | | 09/13/18 05:23 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 3.6 | 1 | | 09/13/18 05:23 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 1.9 | 1 | | 09/13/18 05:23 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 0.24 | 1 | | 09/13/18 05:23 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 1.0 | 0.12 | 1 | | 09/13/18 05:23 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/13/18 05:23 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 1.0 | 0.30 | 1 | | 09/13/18 05:23 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 0.070 | 1 | | 09/13/18 05:23 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 0.21 | 1 | | 09/13/18 05:23 | 1634-04-4 | |
| Naphthalene | ND | ug/L | 1.0 | 0.24 | 1 | | 09/13/18 05:23 | 91-20-3 | |
| Toluene | ND | ug/L | 1.0 | 0.26 | 1 | | 09/13/18 05:23 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 1.0 | 1.0 | 1 | | 09/13/18 05:23 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 2.0 | 0.66 | 1 | | 09/13/18 05:23 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 1.0 | 0.23 | 1 | | 09/13/18 05:23 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 84 | % | 70-130 | | 1 | | 09/13/18 05:23 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 85 | % | 70-130 | | 1 | | 09/13/18 05:23 | 17060-07-0 | |
| Toluene-d8 (S) | 104 | % | 70-130 | | 1 | | 09/13/18 05:23 | 2037-26-5 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: DUP-1 | | Lab ID: 92398710020 | | Collected: 09/06/18 13 33 | Received: 09/07/18 08 08 | Matrix: Water | | | |
|------------------------------|---------|-----------------------------|--------------|-----------------------------|--------------------------|----------------|----------------|-------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8011 GCS EDB and DBCP | | Analytical Method EPA 8011 | | Preparation Method EPA 8011 | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.020 | 0.020 | 1 | 09/10/18 10 21 | 09/12/18 12 51 | 106-93-4 | |
| Surrogates | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 104 | % | 60-140 | | 1 | 09/10/18 10 21 | 09/12/18 12:51 | 301-79-56 | |
| 8260 MSV | | Analytical Method EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 08 24 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 08 24 | 994-05-8 | |
| Benzene | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 08 24 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 08 24 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 08 24 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 08 24 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 08 24 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 08 24 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 08 24 | 64-17-5 | |
| Ethylbenzene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 08 24 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 08 24 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 08 24 | 1634-04-4 | |
| Naphthalene | ND | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 08 24 | 91-20-3 | |
| Toluene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 08 24 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 08 24 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 08 24 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 08 24 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 101 | % | 70-130 | | 1 | | 09/09/18 06 24 | 400-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 90 | % | 70-130 | | 1 | | 09/09/18 08 24 | 17060-07-0 | |
| Toluene-d8 (S) | 106 | % | 70-130 | | 1 | | 09/09/18 08 24 | 2037-26-5 | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: FB | Lab ID: 92398710022 | Collected 09/06/18 15 05 | Received 09/07/18 08.08 | Matrix | Water | | | | | | |
|------------------------------|---------------------|---|-------------------------|--------|-------|----------------|----------------|-------------|------|--|--|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual | | |
| 8011 GCS EDB and DBCP | | Analytical Method. EPA 8011 Preparation Method EPA 8011 | | | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.020 | 0.020 | 1 | 09/10/18 10 21 | 09/12/18 13.29 | 106-93-4 | | | |
| Surrogates | | | | | | | | | | | |
| 1-Chloro-2-bromopropane (S) | 105 | % | 60-140 | | 1 | 09/10/18 10.21 | 09/12/18 13 29 | 301-79-56 | | | |
| 8260 MSV | | Analytical Method. EPA 8260B | | | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 08 58 | 75-85-4 | | | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 08 58 | 994-05-8 | | | |
| Benzene | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 08:58 | 71-43-2 | | | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 08:58 | 624-95-3 | | | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 08:58 | 75-65-0 | | | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 08 58 | 762-75-4 | | | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 08 58 | 107-06-2 | | | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 08 58 | 108-20-3 | | | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 08 58 | 64-17-5 | | | |
| Ethylbenzene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 08 58 | 100-41-4 | | | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 08.58 | 637-92-3 | | | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 08:58 | 1634-04-4 | | | |
| Naphthalene | ND | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 08:58 | 91-20-3 | | | |
| Toluene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 08 58 | 108-88-3 | | | |
| Xylene (Total) | ND | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 08 58 | 1330-20-7 | | | |
| m&p-Xylene | ND | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 08 58 | 179601-23-1 | | | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 08 58 | 95-47-6 | | | |
| Surrogates | | | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 102 | % | 70-130 | | 1 | | 09/09/18 08 58 | 460-00-4 | | | |
| 1,2-Dichloroethane-d4 (S) | 89 | % | 70-130 | | 1 | | 09/09/18 08 58 | 17060-07-0 | | | |
| Toluene-d8 (S) | 106 | % | 70-130 | | 1 | | 09/09/18 08:58 | 2037-26-5 | | | |

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

| Sample: TB | | Lab ID: 92398710023 | | Collected | 09/06/18 15:05 | Received | 09/07/18 08:08 | Matrix: Water | |
|---------------------------|---------|-----------------------------|--------------|-----------|----------------|----------|----------------|---------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No | Qual |
| 8260 MSV | | Analytical Method EPA 8260B | | | | | | | |
| tert-Amyl Alcohol | ND | ug/L | 100 | 76.8 | 1 | | 09/09/18 09:15 | 75-85-4 | |
| tert-Amylmethyl ether | ND | ug/L | 10.0 | 3.4 | 1 | | 09/09/18 09:15 | 994-05-8 | |
| Benzene | 5.5 | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 09:15 | 71-43-2 | |
| 3,3-Dimethyl-1-Butanol | ND | ug/L | 100 | 32.1 | 1 | | 09/09/18 09:15 | 624-95-3 | |
| tert-Butyl Alcohol | ND | ug/L | 100 | 57.7 | 1 | | 09/09/18 09:15 | 75-65-0 | |
| tert-Butyl Formate | ND | ug/L | 50.0 | 7.3 | 1 | | 09/09/18 09:15 | 762-75-4 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.8 | 1 | | 09/09/18 09:15 | 107-06-2 | |
| Diisopropyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 09:15 | 108-20-3 | |
| Ethanol | ND | ug/L | 200 | 131 | 1 | | 09/09/18 09:15 | 64-17-5 | |
| Ethylbenzene | 5.4 | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 09:15 | 100-41-4 | |
| Ethyl-tert-butyl ether | ND | ug/L | 10.0 | 3.6 | 1 | | 09/09/18 09:15 | 637-92-3 | |
| Methyl-tert-butyl ether | ND | ug/L | 5.0 | 1.7 | 1 | | 09/09/18 09:15 | 1634-04-4 | |
| Naphthalene | 6.3 | ug/L | 5.0 | 2.0 | 1 | | 09/09/18 09:15 | 91-20-3 | |
| Toluene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 09:15 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 5.0 | 5.0 | 1 | | 09/09/18 09:15 | 1330-20-7 | |
| m&p-Xylene | ND | ug/L | 10.0 | 3.1 | 1 | | 09/09/18 09:15 | 179601-23-1 | |
| o-Xylene | ND | ug/L | 5.0 | 1.6 | 1 | | 09/09/18 09:15 | 95-47-6 | |
| Surrogates | | | | | | | | | |
| 4-Bromofluorobenzene (S) | 103 | % | 70-130 | | 1 | | 09/09/18 09:15 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 70-130 | | 1 | | 09/09/18 09:15 | 17060-07-0 | |
| Toluene-d8 (S) | 105 | % | 70-130 | | 1 | | 09/09/18 09:15 | 2037-26-5 | |

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

QC Batch 430371 Analysis Method: EPA 8260B
 QC Batch Method EPA 8260B Analysis Description: 8260 MSV Low Level SC
 Associated Lab Samples 92398710019

METHOD BLANK 2374711 Matrix Water
 Associated Lab Samples 92398710019

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---------------------------|-------|--------------|-----------------|-------|----------------|------------|
| 1,2-Dichloroethane | ug/L | ND | 10 | 0.24 | 09/12/18 23:47 | |
| 3,3-Dimethyl-1-Butanol | ug/L | ND | 100 | 50.0 | 09/12/18 23:47 | |
| Benzene | ug/L | ND | 10 | 0.25 | 09/12/18 23:47 | |
| Diisopropyl ether | ug/L | ND | 10 | 0.12 | 09/12/18 23:47 | |
| Ethanol | ug/L | ND | 200 | 131 | 09/12/18 23:47 | |
| Ethyl-tert-butyl ether | ug/L | ND | 100 | 0.070 | 09/12/18 23:47 | |
| Ethylbenzene | ug/L | ND | 10 | 0.30 | 09/12/18 23:47 | |
| m&p-Xylene | ug/L | ND | 20 | 0.66 | 09/12/18 23:47 | |
| Methyl-tert-butyl ether | ug/L | ND | 10 | 0.21 | 09/12/18 23:47 | |
| Naphthalene | ug/L | ND | 10 | 0.24 | 09/12/18 23:47 | |
| o-Xylene | ug/L | ND | 10 | 0.23 | 09/12/18 23:47 | |
| tert-Amyl Alcohol | ug/L | ND | 100 | 50.0 | 09/12/18 23:47 | |
| tert-Amylmethyl ether | ug/L | ND | 10.0 | 0.10 | 09/12/18 23:47 | |
| tert-Butyl Alcohol | ug/L | ND | 100 | 3.6 | 09/12/18 23:47 | |
| tert-Butyl Formate | ug/L | ND | 50.0 | 1.9 | 09/12/18 23:47 | |
| Toluene | ug/L | ND | 10 | 0.26 | 09/12/18 23:47 | |
| Xylene (Total) | ug/L | ND | 10 | 1.0 | 09/12/18 23:47 | |
| 1,2-Dichloroethane-d4 (S) | % | 81 | 70-130 | | 09/12/18 23:47 | |
| 4-Bromofluorobenzene (S) | % | 100 | 70-130 | | 09/12/18 23:47 | |
| Toluene-d8 (S) | % | 102 | 70-130 | | 09/12/18 23:47 | |

LABORATORY CONTROL SAMPLE 2374712

| Parameter | Units | Spike Conc | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|------------|------------|-----------|--------------|------------|
| 1,2-Dichloroethane | ug/L | 50 | 45.6 | 91 | 70-130 | |
| 3,3-Dimethyl-1-Butanol | ug/L | 1000 | 907 | 91 | 70-130 | |
| Benzene | ug/L | 50 | 52.9 | 106 | 70-130 | |
| Diisopropyl ether | ug/L | 50 | 41.9 | 84 | 70-130 1g | |
| Ethanol | ug/L | 2000 | 1640 | 82 | 70-130 | |
| Ethyl-tert-butyl ether | ug/L | 100 | 86.6 | 87 | 70-130 | |
| Ethylbenzene | ug/L | 50 | 50.3 | 101 | 70-130 | |
| m&p-Xylene | ug/L | 100 | 99.9 | 100 | 70-130 | |
| Methyl-tert-butyl ether | ug/L | 50 | 43.8 | 88 | 70-130 1g | |
| Naphthalene | ug/L | 50 | 50.2 | 100 | 70-130 | |
| o-Xylene | ug/L | 50 | 52.3 | 105 | 70-130 | |
| tert-Amyl Alcohol | ug/L | 1000 | 1050 | 105 | 70-130 | |
| tert-Amylmethyl ether | ug/L | 100 | 102 | 102 | 70-130 | |
| tert-Butyl Alcohol | ug/L | 500 | 424 | 85 | 70-130 | |
| tert-Butyl Formate | ug/L | 400 | 340 | 85 | 70-130 | |
| Toluene | ug/L | 50 | 51.1 | 102 | 70-130 1g | |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
 Pace Project No. 92398710

LABORATORY CONTROL SAMPLE. 2374712

| Parameter | Units | Spike Conc | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|------------|------------|-----------|--------------|------------|
| Xylene (Total) | ug/L | 150 | 152 | 101 | 70-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 83 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 94 | 70-130 | |
| Toluene-d8 (S) | % | | | 92 | 70-130 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE 2375649 2375650

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual | |
|---------------------------|-------|--------------------|------------|------------|-----------|----------|-----------|--------------|--------|---------|------|------------|
| | | 92398732008 Result | Spike Conc | Spike Conc | MS Result | | | | | | | MSD Result |
| 1,2-Dichloroethane | ug/L | <4 8 | 400 | 400 | 437 | 472 | 109 | 118 | 70-130 | 8 | 30 | |
| 3,3-Dimethyl-1-Butanol | ug/L | <1000 | 8000 | 8000 | 9220 | 10000 | 115 | 125 | 70-130 | 8 | 30 | |
| Benzene | ug/L | 143 | 400 | 400 | 620 | 630 | 119 | 122 | 70-130 | 2 | 30 | |
| Diisopropyl ether | ug/L | <2 4 | 400 | 400 | 404 | 552 | 101 | 138 | 70-130 | 31 | 30 | M1, R1 |
| Ethanol | ug/L | <2620 | 16000 | 16000 | 16000 | 17500 | 100 | 109 | 70-130 | 9 | 30 | |
| Ethyl-tert-butyl ether | ug/L | <1 4 | 800 | 800 | 781 | 971 | 98 | 121 | 70-130 | 22 | 30 | |
| Ethylbenzene | ug/L | 445 | 400 | 400 | 924 | 761 | 120 | 79 | 70-130 | 19 | 30 | |
| m&p-Xylene | ug/L | 1440 | 800 | 800 | 2350 | 1980 | 114 | 68 | 70-130 | 17 | 30 | M1 |
| Methyl-tert-butyl ether | ug/L | <4 2 | 400 | 400 | 403 | 501 | 101 | 125 | 70-130 | 22 | 30 | |
| Naphthalene | ug/L | 72 3 | 400 | 400 | 583 | 603 | 128 | 133 | 70-130 | 3 | 30 | M1 |
| o-Xylene | ug/L | 579 | 400 | 400 | 1030 | 1010 | 113 | 107 | 70-130 | 2 | 30 | |
| tert-Amyl Alcohol | ug/L | <1000 | 8000 | 8000 | 9030 | 9650 | 113 | 121 | 70-130 | 7 | 30 | |
| tert-Amylmethyl ether | ug/L | <2 0 | 800 | 800 | 813 | 878 | 102 | 110 | 70-130 | 8 | 30 | |
| tert-Butyl Alcohol | ug/L | <72 4 | 4000 | 4000 | 3360 | 4180 | 84 | 105 | 70-130 | 22 | 30 | |
| tert-Butyl Formate | ug/L | <37 8 | 3200 | 3200 | 3880 | 4390 | 121 | 137 | 70-130 | 12 | 30 | M1 |
| Toluene | ug/L | 3170 | 400 | 400 | 3900 | 3580 | 181 | 102 | 70-130 | 8 | 30 | M1 |
| Xylene (Total) | ug/L | 2020 | 1200 | 1200 | 3380 | 2990 | 114 | 81 | 70-130 | 12 | 30 | MS |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 96 | 95 | 70-130 | | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 102 | 97 | 70-130 | | | |
| Toluene-d8 (S) | % | | | | | | 96 | 92 | 70-130 | | | |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

QC Batch 429618 Analysis Method: EPA 8260B
 QC Batch Method EPA 8260B Analysis Description: 8260 MSV SC
 Associated Lab Samples 92398710006, 92398710007, 92398710008, 92398710009, 92398710010, 92398710015, 92398710016, 92398710017, 92398710018, 92398710020, 92398710022, 92398710023

METHOD BLANK: 2371533 Matrix: Water
 Associated Lab Samples 92398710006, 92398710007, 92398710008, 92398710009, 92398710010, 92398710015, 92398710016, 92398710017, 92398710018, 92398710020, 92398710022, 92398710023

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---------------------------|-------|--------------|-----------------|------|----------------|------------|
| 1,2-Dichloroethane | ug/L | ND | 5 0 | 1 8 | 09/09/18 01:39 | |
| 3,3-Dimethyl-1-Butanol | ug/L | ND | 100 | 32 1 | 09/09/18 01:39 | |
| Benzene | ug/L | ND | 5 0 | 1 7 | 09/09/18 01:39 | |
| Diisopropyl ether | ug/L | ND | 5 0 | 1 7 | 09/09/18 01:39 | |
| Ethanol | ug/L | ND | 200 | 131 | 09/09/18 01:39 | |
| Ethyl-tert-butyl ether | ug/L | ND | 10 0 | 3 6 | 09/09/18 01:39 | |
| Ethylbenzene | ug/L | ND | 5 0 | 1 6 | 09/09/18 01:39 | |
| m&p-Xylene | ug/L | ND | 10 0 | 3 1 | 09/09/18 01:39 | |
| Methyl-tert-butyl ether | ug/L | ND | 5 0 | 1 7 | 09/09/18 01:39 | |
| Naphthalene | ug/L | ND | 5 0 | 2 0 | 09/09/18 01:39 | |
| o-Xylene | ug/L | ND | 5 0 | 1 6 | 09/09/18 01:39 | |
| tert-Amyl Alcohol | ug/L | ND | 100 | 76 8 | 09/09/18 01:39 | |
| tert-Amylmethyl ether | ug/L | ND | 10 0 | 3 4 | 09/09/18 01:39 | |
| tert-Butyl Alcohol | ug/L | ND | 100 | 57 7 | 09/09/18 01:39 | |
| tert-Butyl Formate | ug/L | ND | 50 0 | 7 3 | 09/09/18 01:39 | |
| Toluene | ug/L | ND | 5 0 | 1 6 | 09/09/18 01:39 | |
| Xylene (Total) | ug/L | ND | 5 0 | 5 0 | 09/09/18 01:39 | |
| 1,2-Dichloroethane-d4 (S) | % | 93 | 70-130 | | 09/09/18 01:39 | |
| 4-Bromofluorobenzene (S) | % | 104 | 70-130 | | 09/09/18 01:39 | |
| Toluene-d8 (S) | % | 103 | 70-130 | | 09/09/18 01:39 | |

LABORATORY CONTROL SAMPLE. 2371534

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,2-Dichloroethane | ug/L | 50 | 48.4 | 97 | 70-130 | |
| 3,3-Dimethyl-1-Butanol | ug/L | 1000 | 920 | 92 | 70-130 | |
| Benzene | ug/L | 50 | 52.9 | 106 | 70-130 | |
| Diisopropyl ether | ug/L | 50 | 43.8 | 88 | 70-130 1g | |
| Ethanol | ug/L | 2000 | 1870 | 94 | 70-130 | |
| Ethyl-tert-butyl ether | ug/L | 100 | 87.9 | 88 | 70-130 | |
| Ethylbenzene | ug/L | 50 | 48.5 | 97 | 70-130 | |
| m&p-Xylene | ug/L | 100 | 96.2 | 96 | 70-130 | |
| Methyl-tert-butyl ether | ug/L | 50 | 46.7 | 93 | 70-130 1g | |
| Naphthalene | ug/L | 50 | 46.6 | 93 | 70-130 | |
| o-Xylene | ug/L | 50 | 50.6 | 101 | 70-130 | |
| tert-Amyl Alcohol | ug/L | 1000 | 1050 | 105 | 70-130 | |
| tert-Amylmethyl ether | ug/L | 100 | 102 | 102 | 70-130 | |
| tert-Butyl Alcohol | ug/L | 500 | 454 | 91 | 70-130 | |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

LABORATORY CONTROL SAMPLE 2371534

| Parameter | Units | Spike Conc | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|------------|------------|-----------|--------------|------------|
| tert-Butyl Formate | ug/L | 400 | 355 | 89 | 70-130 | |
| Toluene | ug/L | 50 | 50.5 | 101 | 70-130 | 1g |
| Xylene (Total) | ug/L | 150 | 147 | 98 | 70-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 91 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 95 | 70-130 | |
| Toluene-d8 (S) | % | | | 95 | 70-130 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE 2371535 2371536

| Parameter | Units | MS | | MSD | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual | |
|---------------------------|-------|--------------------|-------------|------------|-----------|----------|-----------|--------------|--------|---------|------|------------|
| | | 92398715003 Result | Spike Conc. | Spike Conc | MS Result | | | | | | | MSD Result |
| 1,2-Dichloroethane | ug/L | ND | 400 | 400 | 414 | 403 | 104 | 101 | 70-130 | 3 | 30 | |
| 3,3-Dimethyl-1-Butanol | ug/L | ND | 8000 | 8000 | 6830 | 7290 | 85 | 91 | 70-130 | 6 | 30 | |
| Benzene | ug/L | 253 | 400 | 400 | 778 | 753 | 131 | 125 | 70-130 | 3 | 30 | M1 |
| Diisopropyl ether | ug/L | ND | 400 | 400 | 371 | 369 | 93 | 92 | 70-130 | 0 | 30 | |
| Ethanol | ug/L | ND | 16000 | 16000 | 15600 | 15500 | 98 | 97 | 70-130 | 1 | 30 | |
| Ethyl-tert-butyl ether | ug/L | ND | 800 | 800 | 759 | 746 | 95 | 93 | 70-130 | 2 | 30 | |
| Ethylbenzene | ug/L | 2540 | 400 | 400 | 2850 | 2970 | 78 | 108 | 70-130 | 4 | 30 | |
| m&p-Xylene | ug/L | 4210 | 800 | 800 | 4870 | 5020 | 82 | 100 | 70-130 | 3 | 30 | |
| Methyl-tert-butyl ether | ug/L | ND | 400 | 400 | 368 | 368 | 92 | 92 | 70-130 | 0 | 30 | |
| Naphthalene | ug/L | 648 | 400 | 400 | 1030 | 1040 | 95 | 98 | 70-130 | 1 | 30 | |
| o-Xylene | ug/L | 1720 | 400 | 400 | 2130 | 2180 | 101 | 114 | 70-130 | 2 | 30 | |
| tert-Amyl Alcohol | ug/L | ND | 8000 | 8000 | 8040 | 8020 | 101 | 100 | 70-130 | 0 | 30 | |
| tert-Amylmethyl ether | ug/L | ND | 800 | 800 | 825 | 803 | 103 | 100 | 70-130 | 3 | 30 | |
| tert-Butyl Alcohol | ug/L | ND | 4000 | 4000 | 4970 | 4860 | 124 | 121 | 70-130 | 2 | 30 | |
| tert-Butyl Formate | ug/L | ND | 3200 | 3200 | 1310 | 1310 | 41 | 41 | 70-130 | 0 | 30 | P5 |
| Toluene | ug/L | 348 | 400 | 400 | 827 | 785 | 120 | 109 | 70-130 | 5 | 30 | |
| Xylene (Total) | ug/L | 5940 | 1200 | 1200 | 6990 | 7190 | 88 | 105 | 70-130 | 3 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 90 | 84 | 70-130 | | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 94 | 94 | 70-130 | | | |
| Toluene-d8 (S) | % | | | | | | 100 | 97 | 70-130 | | | |

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

QC Batch: 429731 Analysis Method EPA 8260B
 QC Batch Method EPA 8260B Analysis Description 8260 MSV SC
 Associated Lab Samples 92398710002, 92398710004, 92398710011, 92398710012, 92398710013

METHOD BLANK 2371800 Matrix: Water
 Associated Lab Samples 92398710002, 92398710004, 92398710011, 92398710012, 92398710013

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---------------------------|-------|--------------|-----------------|------|----------------|------------|
| 1,2-Dichloroethane | ug/L | ND | 5.0 | 1.8 | 09/09/18 17:09 | |
| 3,3-Dimethyl-1-Butanol | ug/L | ND | 100 | 32.1 | 09/09/18 17:09 | |
| Benzene | ug/L | ND | 5.0 | 1.7 | 09/09/18 17:09 | |
| Diisopropyl ether | ug/L | ND | 5.0 | 1.7 | 09/09/18 17:09 | |
| Ethanol | ug/L | ND | 200 | 131 | 09/09/18 17:09 | |
| Ethyl-tert-butyl ether | ug/L | ND | 10.0 | 3.6 | 09/09/18 17:09 | |
| Ethylbenzene | ug/L | ND | 5.0 | 1.6 | 09/09/18 17:09 | |
| m&p-Xylene | ug/L | ND | 10.0 | 3.1 | 09/09/18 17:09 | |
| Methyl-tert-butyl ether | ug/L | ND | 5.0 | 1.7 | 09/09/18 17:09 | |
| Naphthalene | ug/L | ND | 5.0 | 2.0 | 09/09/18 17:09 | |
| o-Xylene | ug/L | ND | 5.0 | 1.6 | 09/09/18 17:09 | |
| tert-Amyl Alcohol | ug/L | ND | 100 | 76.8 | 09/09/18 17:09 | |
| tert-Amylmethyl ether | ug/L | ND | 10.0 | 3.4 | 09/09/18 17:09 | |
| tert-Butyl Alcohol | ug/L | ND | 100 | 57.7 | 09/09/18 17:09 | |
| tert-Butyl Formate | ug/L | ND | 50.0 | 7.3 | 09/09/18 17:09 | |
| Toluene | ug/L | ND | 5.0 | 1.6 | 09/09/18 17:09 | |
| Xylene (Total) | ug/L | ND | 5.0 | 5.0 | 09/09/18 17:09 | |
| 1,2-Dichloroethane-d4 (S) | % | 107 | 70-130 | | 09/09/18 17:09 | |
| 4-Bromofluorobenzene (S) | % | 100 | 70-130 | | 09/09/18 17:09 | |
| Toluene-d8 (S) | % | 105 | 70-130 | | 09/09/18 17:09 | |

LABORATORY CONTROL SAMPLE 2371801

| Parameter | Units | Spike Conc | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|------------|------------|-----------|--------------|------------|
| 1,2-Dichloroethane | ug/L | 50 | 50.7 | 101 | 70-130 | |
| 3,3-Dimethyl-1-Butanol | ug/L | 1000 | 1100 | 110 | 70-130 | |
| Benzene | ug/L | 50 | 53.1 | 106 | 70-130 | |
| Diisopropyl ether | ug/L | 50 | 55.8 | 112 | 70-130 | |
| Ethanol | ug/L | 2000 | 2020 | 101 | 70-130 | |
| Ethyl-tert-butyl ether | ug/L | 100 | 106 | 106 | 70-130 | |
| Ethylbenzene | ug/L | 50 | 51.0 | 102 | 70-130 | |
| m&p-Xylene | ug/L | 100 | 104 | 104 | 70-130 | |
| Methyl-tert-butyl ether | ug/L | 50 | 52.4 | 105 | 70-130 | |
| Naphthalene | ug/L | 50 | 55.8 | 112 | 70-130 | |
| o-Xylene | ug/L | 50 | 52.5 | 105 | 70-130 | |
| tert-Amyl Alcohol | ug/L | 1000 | 1160 | 116 | 70-130 | |
| tert-Amylmethyl ether | ug/L | 100 | 104 | 104 | 70-130 | |
| tert-Butyl Alcohol | ug/L | 500 | 497 | 99 | 70-130 | |
| tert-Butyl Formate | ug/L | 400 | 449 | 112 | 70-130 | |
| Toluene | ug/L | 50 | 49.4 | 99 | 70-130 | |

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

LABORATORY CONTROL SAMPLE 2371801

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| Xylene (Total) | ug/L | 150 | 157 | 105 | 70-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 110 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 101 | 70-130 | |
| Toluene-d8 (S) | % | | | 98 | 70-130 | |

MATRIX SPIKE SAMPLE 2371803

| Parameter | Units | 92398397006 Result | Spike Conc | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|--------------------|------------|-----------|----------|--------------|------------|
| 1,2-Dichloroethane | ug/L | ND | 20 | 22.5 | 112 | 70-130 | |
| 3,3-Dimethyl-1-Butanol | ug/L | ND | 400 | 419 | 105 | 70-130 | |
| Benzene | ug/L | ND | 20 | 22.0 | 110 | 70-130 | |
| Diisopropyl ether | ug/L | ND | 20 | 22.5 | 112 | 70-130 | |
| Ethanol | ug/L | ND | 800 | 898 | 112 | 70-130 | |
| Ethyl-tert-butyl ether | ug/L | ND | 40 | 41.6 | 104 | 70-130 | |
| Ethylbenzene | ug/L | 6.5 | 20 | 27.3 | 104 | 70-130 | |
| m&p-Xylene | ug/L | ND | 40 | 43.7 | 107 | 70-130 | |
| Methyl-tert-butyl ether | ug/L | ND | 20 | 20.1 | 100 | 70-130 | |
| Naphthalene | ug/L | 15.2 | 20 | 38.2 | 115 | 70-130 | |
| o-Xylene | ug/L | ND | 20 | 21.4 | 107 | 70-130 | |
| tert-Amyl Alcohol | ug/L | ND | 400 | 469 | 117 | 70-130 | |
| tert-Amylmethyl ether | ug/L | ND | 40 | 40.9 | 102 | 70-130 | |
| tert-Butyl Alcohol | ug/L | ND | 200 | 319 | 160 | 70-130 M1 | |
| tert-Butyl Formate | ug/L | ND | 160 | ND | 0 | 70-130 P5 | |
| Toluene | ug/L | ND | 20 | 20.4 | 102 | 70-130 | |
| Xylene (Total) | ug/L | ND | 60 | 65.1 | 108 | 70-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 103 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | | 102 | 70-130 | |
| Toluene-d8 (S) | % | | | | 98 | 70-130 | |

SAMPLE DUPLICATE 2371802

| Parameter | Units | 92398397005 Result | Dup Result | RPD | Max RPD | Qualifiers |
|-------------------------|-------|--------------------|------------|-----|---------|------------|
| 1,2-Dichloroethane | ug/L | ND | ND | | 30 | |
| 3,3-Dimethyl-1-Butanol | ug/L | ND | ND | | 30 | |
| Benzene | ug/L | ND | ND | | 30 | |
| Diisopropyl ether | ug/L | ND | ND | | 30 | |
| Ethanol | ug/L | ND | ND | | 30 | |
| Ethyl-tert-butyl ether | ug/L | ND | ND | | 30 | |
| Ethylbenzene | ug/L | ND | ND | | 30 | |
| m&p-Xylene | ug/L | ND | ND | | 30 | |
| Methyl-tert-butyl ether | ug/L | ND | ND | | 30 | |
| Naphthalene | ug/L | ND | ND | | 30 | |
| o-Xylene | ug/L | ND | ND | | 30 | |
| tert-Amyl Alcohol | ug/L | ND | ND | | 30 | |

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

SAMPLE DUPLICATE: 2371802

| Parameter | Units | 92398397005 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---------------------------|-------|-----------------------|---------------|-----|------------|------------|
| tert-Amylmethyl ether | ug/L | ND | ND | | 30 | |
| tert-Butyl Alcohol | ug/L | ND | ND | | 30 | |
| tert-Butyl Formate | ug/L | ND | ND | | 30 | |
| Toluene | ug/L | ND | ND | | 30 | |
| Xylene (Total) | ug/L | ND | ND | | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | 109 | 108 | 1 | | |
| 4-Bromofluorobenzene (S) | % | 100 | 102 | 2 | | |
| Toluene-d8 (S) | % | 107 | 105 | 2 | | |

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

QC Batch 429847 Analysis Method EPA 8260B
 QC Batch Method: EPA 8260B Analysis Description: 8260 MSV SC
 Associated Lab Samples. 92398710001, 92398710005, 92398710014

METHOD BLANK 2372401 Matrix Water
 Associated Lab Samples 92398710001, 92398710005, 92398710014

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---------------------------|-------|--------------|-----------------|------|----------------|------------|
| 1,2-Dichloroethane | ug/L | ND | 5.0 | 1.8 | 09/10/18 20.21 | |
| 3,3-Dimethyl-1-Butanol | ug/L | ND | 100 | 32.1 | 09/10/18 20.21 | |
| Benzene | ug/L | ND | 5.0 | 1.7 | 09/10/18 20.21 | |
| Diisopropyl ether | ug/L | ND | 5.0 | 1.7 | 09/10/18 20.21 | |
| Ethanol | ug/L | ND | 200 | 131 | 09/10/18 20.21 | |
| Ethyl-tert-butyl ether | ug/L | ND | 10.0 | 3.6 | 09/10/18 20.21 | |
| Ethylbenzene | ug/L | ND | 5.0 | 1.6 | 09/10/18 20.21 | |
| m&p-Xylene | ug/L | ND | 10.0 | 3.1 | 09/10/18 20.21 | |
| Methyl-tert-butyl ether | ug/L | ND | 5.0 | 1.7 | 09/10/18 20.21 | |
| Naphthalene | ug/L | ND | 5.0 | 2.0 | 09/10/18 20.21 | |
| o-Xylene | ug/L | ND | 5.0 | 1.6 | 09/10/18 20.21 | |
| tert-Amyl Alcohol | ug/L | ND | 100 | 76.8 | 09/10/18 20.21 | |
| tert-Amylmethyl ether | ug/L | ND | 10.0 | 3.4 | 09/10/18 20.21 | |
| tert-Butyl Alcohol | ug/L | ND | 100 | 57.7 | 09/10/18 20.21 | |
| tert-Butyl Formate | ug/L | ND | 50.0 | 7.3 | 09/10/18 20.21 | |
| Toluene | ug/L | ND | 5.0 | 1.6 | 09/10/18 20.21 | |
| Xylene (Total) | ug/L | ND | 5.0 | 5.0 | 09/10/18 20.21 | |
| 1,2-Dichloroethane-d4 (S) | % | 111 | 70-130 | | 09/10/18 20.21 | |
| 4-Bromofluorobenzene (S) | % | 102 | 70-130 | | 09/10/18 20.21 | |
| Toluene-d8 (S) | % | 105 | 70-130 | | 09/10/18 20.21 | |

LABORATORY CONTROL SAMPLE 2372402

| Parameter | Units | Spike Conc | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|------------|------------|-----------|--------------|------------|
| 1,2-Dichloroethane | ug/L | 50 | 50.5 | 101 | 70-130 | |
| 3,3-Dimethyl-1-Butanol | ug/L | 1000 | 989 | 99 | 70-130 | |
| Benzene | ug/L | 50 | 51.9 | 104 | 70-130 | |
| Diisopropyl ether | ug/L | 50 | 56.3 | 113 | 70-130 | |
| Ethanol | ug/L | 2000 | 1890 | 95 | 70-130 | |
| Ethyl-tert-butyl ether | ug/L | 100 | 105 | 105 | 70-130 | |
| Ethylbenzene | ug/L | 50 | 48.9 | 98 | 70-130 | |
| m&p-Xylene | ug/L | 100 | 101 | 101 | 70-130 | |
| Methyl-tert-butyl ether | ug/L | 50 | 53.4 | 107 | 70-130 | |
| Naphthalene | ug/L | 50 | 54.4 | 109 | 70-130 | |
| o-Xylene | ug/L | 50 | 50.2 | 100 | 70-130 | |
| tert-Amyl Alcohol | ug/L | 1000 | 1080 | 108 | 70-130 | |
| tert-Amylmethyl ether | ug/L | 100 | 101 | 101 | 70-130 | |
| tert-Butyl Alcohol | ug/L | 500 | 470 | 94 | 70-130 | |
| tert-Butyl Formate | ug/L | 400 | 444 | 111 | 70-130 | |
| Toluene | ug/L | 50 | 47.9 | 96 | 70-130 | |

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
Pace Project No: 92398710

LABORATORY CONTROL SAMPLE 2372402

| Parameter | Units | Spike Conc | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|------------|------------|-----------|--------------|------------|
| Xylene (Total) | ug/L | 150 | 151 | 101 | 70-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 116 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 100 | 70-130 | |
| Toluene-d8 (S) | % | | | 98 | 70-130 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE 2372403 2372404

| Parameter | Units | 2372403 | | 2372404 | | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual | |
|---------------------------|-------|--------------------|---------------|----------------|-----------|----------|-----------|--------------|--------|---------|------|------------|
| | | 92398710001 Result | MS Spike Conc | MSD Spike Conc | MS Result | | | | | | | MSD Result |
| 1,2-Dichloroethane | ug/L | ND | 200 | 200 | 222 | 205 | 111 | 102 | 70-130 | 8 | 30 | |
| 3,3-Dimethyl-1-Butanol | ug/L | ND | 4000 | 4000 | 3940 | 3810 | 98 | 95 | 70-130 | 3 | 30 | |
| Benzene | ug/L | 512 | 200 | 200 | 742 | 729 | 115 | 109 | 70-130 | 2 | 30 | |
| Diisopropyl ether | ug/L | ND | 200 | 200 | 221 | 200 | 110 | 100 | 70-130 | 10 | 30 | |
| Ethanol | ug/L | ND | 8000 | 8000 | 8500 | 8060 | 106 | 101 | 70-130 | 5 | 30 | |
| Ethyl-tert-butyl ether | ug/L | ND | 400 | 400 | 413 | 387 | 103 | 97 | 70-130 | 7 | 30 | |
| Ethylbenzene | ug/L | 740 | 200 | 200 | 949 | 946 | 105 | 103 | 70-130 | 0 | 30 | |
| m&p-Xylene | ug/L | 395 | 400 | 400 | 806 | 776 | 103 | 95 | 70-130 | 4 | 30 | |
| Methyl-tert-butyl ether | ug/L | ND | 200 | 200 | 197 | 183 | 99 | 91 | 70-130 | 8 | 30 | |
| Naphthalene | ug/L | 691 | 200 | 200 | 898 | 915 | 103 | 112 | 70-130 | 2 | 30 | |
| o-Xylene | ug/L | 65.6 | 200 | 200 | 272 | 252 | 103 | 93 | 70-130 | 8 | 30 | |
| tert-Amyl Alcohol | ug/L | ND | 4000 | 4000 | 5250 | 5150 | 113 | 111 | 70-130 | 2 | 30 | |
| tert-Amylmethyl ether | ug/L | ND | 400 | 400 | 420 | 388 | 105 | 97 | 70-130 | 8 | 30 | |
| tert-Butyl Alcohol | ug/L | ND | 2000 | 2000 | 2540 | 2460 | 127 | 123 | 70-130 | 3 | 30 | |
| tert-Butyl Formate | ug/L | ND | 1600 | 1600 | 680 | 615 | 42 | 38 | 70-130 | 10 | 30 | P5 |
| Toluene | ug/L | ND | 200 | 200 | 218 | 200 | 103 | 94 | 70-130 | 9 | 30 | |
| Xylene (Total) | ug/L | 461 | 600 | 600 | 1080 | 1030 | 103 | 94 | 70-130 | 5 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 105 | 106 | 70-130 | | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 100 | 100 | 70-130 | | | |
| Toluene-d8 (S) | % | | | | | | 99 | 99 | 70-130 | | | |

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

QC Batch 429849 Analysis Method EPA 8260B
 QC Batch Method: EPA 8260B Analysis Description 8260 MSV SC
 Associated Lab Samples 92398710003

METHOD BLANK 2372408 Matrix: Water
 Associated Lab Samples 92398710003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---------------------------|-------|--------------|-----------------|------|----------------|------------|
| 1,2-Dichloroethane | ug/L | ND | 5.0 | 1.8 | 09/11/18 05:49 | |
| 3,3-Dimethyl-1-Butanol | ug/L | ND | 100 | 32.1 | 09/11/18 05:49 | |
| Benzene | ug/L | ND | 5.0 | 1.7 | 09/11/18 05:49 | |
| Diisopropyl ether | ug/L | ND | 5.0 | 1.7 | 09/11/18 05:49 | |
| Ethanol | ug/L | ND | 200 | 131 | 09/11/18 05:49 | |
| Ethyl-tert-butyl ether | ug/L | ND | 10.0 | 3.6 | 09/11/18 05:49 | |
| Ethylbenzene | ug/L | ND | 5.0 | 1.6 | 09/11/18 05:49 | |
| m&p-Xylene | ug/L | ND | 10.0 | 3.1 | 09/11/18 05:49 | |
| Methyl-tert-butyl ether | ug/L | ND | 5.0 | 1.7 | 09/11/18 05:49 | |
| Naphthalene | ug/L | ND | 5.0 | 2.0 | 09/11/18 05:49 | |
| o-Xylene | ug/L | ND | 5.0 | 1.6 | 09/11/18 05:49 | |
| tert-Amyl Alcohol | ug/L | ND | 100 | 76.8 | 09/11/18 05:49 | |
| tert-Amylmethyl ether | ug/L | ND | 10.0 | 3.4 | 09/11/18 05:49 | |
| tert-Butyl Alcohol | ug/L | ND | 100 | 57.7 | 09/11/18 05:49 | |
| tert-Butyl Formate | ug/L | ND | 50.0 | 7.3 | 09/11/18 05:49 | |
| Toluene | ug/L | ND | 5.0 | 1.6 | 09/11/18 05:49 | |
| Xylene (Total) | ug/L | ND | 5.0 | 5.0 | 09/11/18 05:49 | |
| 1,2-Dichloroethane-d4 (S) | % | 109 | 70-130 | | 09/11/18 05:49 | |
| 4-Bromofluorobenzene (S) | % | 100 | 70-130 | | 09/11/18 05:49 | |
| Toluene-d8 (S) | % | 100 | 70-130 | | 09/11/18 05:49 | |

LABORATORY CONTROL SAMPLE 2372409

| Parameter | Units | Spike Conc | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|------------|------------|-----------|--------------|------------|
| 1,2-Dichloroethane | ug/L | 50 | 52.9 | 106 | 70-130 | |
| 3,3-Dimethyl-1-Butanol | ug/L | 1000 | 1170 | 117 | 70-130 | |
| Benzene | ug/L | 50 | 54.5 | 109 | 70-130 | |
| Diisopropyl ether | ug/L | 50 | 58.8 | 118 | 70-130 | |
| Ethanol | ug/L | 2000 | 2130 | 106 | 70-130 | |
| Ethyl-tert-butyl ether | ug/L | 100 | 111 | 111 | 70-130 | |
| Ethylbenzene | ug/L | 50 | 51.4 | 103 | 70-130 | |
| m&p-Xylene | ug/L | 100 | 104 | 104 | 70-130 | |
| Methyl-tert-butyl ether | ug/L | 50 | 53.2 | 106 | 70-130 | |
| Naphthalene | ug/L | 50 | 58.2 | 116 | 70-130 | |
| o-Xylene | ug/L | 50 | 52.4 | 105 | 70-130 | |
| tert-Amyl Alcohol | ug/L | 1000 | 1250 | 125 | 70-130 | |
| tert-Amylmethyl ether | ug/L | 100 | 108 | 108 | 70-130 | |
| tert-Butyl Alcohol | ug/L | 500 | 546 | 109 | 70-130 | |
| tert-Butyl Formate | ug/L | 400 | 462 | 115 | 70-130 | |
| Toluene | ug/L | 50 | 50.8 | 102 | 70-130 | |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

LABORATORY CONTROL SAMPLE: 2372409

| Parameter | Units | Spike Conc | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|------------|------------|-----------|--------------|------------|
| Xylene (Total) | ug/L | 150 | 156 | 104 | 70-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 115 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 100 | 70-130 | |
| Toluene-d8 (S) | % | | | 99 | 70-130 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2372410 2372411

| Parameter | Units | 92398397009 | | 2372410 | | 2372411 | | % Rec | MSD % Rec | % Rec Limits | Max RPD | Qual |
|---------------------------|-------|-------------|----------------|-----------|----------------|-----------|------------|-------|-----------|--------------|---------|------|
| | | MS Result | MSD Spike Conc | MS Result | MSD Spike Conc | MS Result | MSD Result | | | | | |
| 1,2-Dichloroethane | ug/L | ND | 1000 | 1000 | 1000 | 1210 | 1070 | 121 | 107 | 70-130 | 12 | 30 |
| 3,3-Dimethyl-1-Butanol | ug/L | ND | 20000 | 20000 | 20000 | 21000 | 19200 | 105 | 96 | 70-130 | 9 | 30 |
| Benzene | ug/L | 2030 | 1000 | 1000 | 1000 | 3290 | 3110 | 126 | 109 | 70-130 | 5 | 30 |
| Diisopropyl ether | ug/L | ND | 1000 | 1000 | 1000 | 1190 | 1060 | 119 | 106 | 70-130 | 11 | 30 |
| Ethanol | ug/L | ND | 40000 | 40000 | 40000 | 46900 | 42400 | 117 | 106 | 70-130 | 10 | 30 |
| Ethyl-tert-butyl ether | ug/L | ND | 2000 | 2000 | 2000 | 2280 | 2050 | 114 | 102 | 70-130 | 11 | 30 |
| Ethylbenzene | ug/L | 382 | 1000 | 1000 | 1000 | 1460 | 1320 | 108 | 94 | 70-130 | 10 | 30 |
| m&p-Xylene | ug/L | 1270 | 2000 | 2000 | 2000 | 3500 | 3170 | 111 | 95 | 70-130 | 10 | 30 |
| Methyl-tert-butyl ether | ug/L | ND | 1000 | 1000 | 1000 | 1130 | 965 | 113 | 97 | 70-130 | 16 | 30 |
| Naphthalene | ug/L | 258 | 1000 | 1000 | 1000 | 1280 | 1210 | 102 | 95 | 70-130 | 6 | 30 |
| o-Xylene | ug/L | 782 | 1000 | 1000 | 1000 | 1900 | 1720 | 112 | 94 | 70-130 | 10 | 30 |
| tert-Amyl Alcohol | ug/L | ND | 20000 | 20000 | 20000 | 28700 | 26700 | 125 | 115 | 70-130 | 7 | 30 |
| tert-Amylmethyl ether | ug/L | ND | 2000 | 2000 | 2000 | 2230 | 2040 | 112 | 102 | 70-130 | 9 | 30 |
| tert-Butyl Alcohol | ug/L | ND | 10000 | 10000 | 10000 | 12200 | 11100 | 122 | 111 | 70-130 | 9 | 30 |
| tert-Butyl Formate | ug/L | ND | 8000 | 8000 | 8000 | 6750 | 6030 | 84 | 75 | 70-130 | 11 | 30 |
| Toluene | ug/L | 5230 | 1000 | 1000 | 1000 | 6290 | 6030 | 106 | 80 | 70-130 | 4 | 30 |
| Xylene (Total) | ug/L | 2050 | 3000 | 3000 | 3000 | 5400 | 4890 | 111 | 95 | 70-130 | 10 | 30 |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | | 105 | 105 | 70-130 | | |
| 4-Bromofluorobenzene (S) | % | | | | | | | 100 | 99 | 70-130 | | |
| Toluene-d8 (S) | % | | | | | | | 100 | 100 | 70-130 | | |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
 Pace Project No. 92398710

QC Batch 429759 Analysis Method. EPA 8011
 QC Batch Method EPA 8011 Analysis Description: GCS 8011 EDB DBCP
 Associated Lab Samples 92398710001, 92398710002, 92398710003, 92398710004, 92398710005, 92398710006, 92398710007, 92398710008

METHOD BLANK 2371882 Matrix: Water
 Associated Lab Samples 92398710001, 92398710002, 92398710003, 92398710004, 92398710005, 92398710006, 92398710007, 92398710008

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------------------------|-------|--------------|-----------------|-------|----------------|------------|
| 1,2-Dibromoethane (EDB) | ug/L | ND | 0.020 | 0.020 | 09/11/18 02:51 | |
| 1-Chloro-2-bromopropane (S) | % | 113 | 60-140 | | 09/11/18 02:51 | |

LABORATORY CONTROL SAMPLE & LCSD 2371883 2371884

| Parameter | Units | Spike Conc | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|-----------------------------|-------|------------|------------|-------------|-----------|------------|--------------|-----|---------|------------|
| 1,2-Dibromoethane (EDB) | ug/L | 24 | 0.29 | 0.31 | 119 | 127 | 60-140 | 6 | 20 | |
| 1-Chloro-2-bromopropane (S) | % | | | | 111 | 120 | 60-140 | | | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE 2371885 2371886

| Parameter | Units | 92398564030 Result | MS Spike Conc | MSD Spike Conc | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------------------------|-------|--------------------|---------------|----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| 1,2-Dibromoethane (EDB) | ug/L | ND | 24 | 24 | 0.27 | 0.28 | 114 | 117 | 60-140 | 3 | 20 | |
| 1-Chloro-2-bromopropane (S) | % | | | | | | 129 | 111 | 60-140 | | | |

SAMPLE DUPLICATE 2371887

| Parameter | Units | 92398564031 Result | Dup Result | RPD | Max RPD | Qualifiers |
|-----------------------------|-------|--------------------|------------|-----|---------|------------|
| 1,2-Dibromoethane (EDB) | ug/L | ND | ND | | 20 | |
| 1-Chloro-2-bromopropane (S) | % | 107 | 106 | 1 | | |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project Morris Oil Co 08641/57560
 Pace Project No 92398710

QC Batch 429760 Analysis Method. EPA 8011
 QC Batch Method EPA 8011 Analysis Description: GCS 8011 EDB DBCP
 Associated Lab Samples 92398710009, 92398710010, 92398710011, 92398710012, 92398710013, 92398710014, 92398710015,
 92398710016, 92398710017, 92398710018, 92398710019, 92398710020, 92398710022

METHOD BLANK 2371888 Matrix Water
 Associated Lab Samples 92398710009, 92398710010, 92398710011, 92398710012, 92398710013, 92398710014, 92398710015,
 92398710016, 92398710017, 92398710018, 92398710019, 92398710020, 92398710022

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------------------------|-------|--------------|-----------------|-------|----------------|------------|
| 1,2-Dibromoethane (EDB) | ug/L | ND | 0 020 | 0 020 | 09/12/18 06 04 | |
| 1-Chloro-2-bromopropane (S) | % | 110 | 60-140 | | 09/12/18 06 04 | |

LABORATORY CONTROL SAMPLE & LCSD 2371889 2371890

| Parameter | Units | Spike Conc | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|-----------------------------|-------|------------|------------|-------------|-----------|------------|--------------|-----|---------|------------|
| 1,2-Dibromoethane (EDB) | ug/L | 25 | 0 31 | 0 30 | 125 | 120 | 60-140 | 4 | 20 | |
| 1-Chloro-2-bromopropane (S) | % | | | | 122 | 115 | 60-140 | | | |

SAMPLE DUPLICATE 2371893

| Parameter | Units | 92398710022 Result | Dup Result | RPD | Max RPD | Qualifiers |
|-----------------------------|-------|--------------------|------------|-----|---------|------------|
| 1,2-Dibromoethane (EDB) | ug/L | ND | ND | | 20 | |
| 1-Chloro-2-bromopropane (S) | % | 105 | 149 | 34 | | S3 |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project Morris Oil Co 08641/57560
Pace Project No . 92398710

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot
 ND - Not Detected at or above adjusted reporting limit.
 TNTC - Too Numerous To Count
 J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
 MDL - Adjusted Method Detection Limit
 PQL - Practical Quantitation Limit
 RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix
 S - Surrogate
 1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270 The result for each analyte is a combined concentration
 Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values
 LCS(D) - Laboratory Control Sample (Duplicate)
 MS(D) - Matrix Spike (Duplicate)
 DUP - Sample Duplicate
 RPD - Relative Percent Difference
 NC - Not Calculable
 SG - Silica Gel - Clean-Up
 U - Indicates the compound was analyzed for, but not detected.
 Acid preservation may not be appropriate for 2 Chloroethylvinyl ether
 A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260
 N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270 The result reported for each analyte is a combined concentration
 Pace Analytical is TNI accredited Contact your Pace PM for the current list of accredited analytes
 TNI - The NELAC Institute

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

1g Initial calibration evaluation met acceptance criteria. Compound did not meet additional accuracy assessment for percent error
 M1 Matrix spike recovery exceeded QC limits Batch accepted based on laboratory control sample (LCS) recovery
 MS Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result
 P5 The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes
 R1 RPD value was outside control limits
 S3 Surrogate recovery exceeded laboratory control limits Analyte presence below reporting limits in associated sample

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Morris Oil Co 08641/57560
 Pace Project No.: 92398710

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|-----------|-----------------|----------|-------------------|------------------|
| 92398710001 | MW-1 | EPA 8011 | 429759 | EPA 8011 | 429853 |
| 92398710002 | MW-2 | EPA 8011 | 429759 | EPA 8011 | 429853 |
| 92398710003 | MW-5 | EPA 8011 | 429759 | EPA 8011 | 429853 |
| 92398710004 | MW-8 | EPA 8011 | 429759 | EPA 8011 | 429853 |
| 92398710005 | MW-9 | EPA 8011 | 429759 | EPA 8011 | 429853 |
| 92398710006 | MW-10 | EPA 8011 | 429759 | EPA 8011 | 429853 |
| 92398710007 | MW-11 | EPA 8011 | 429759 | EPA 8011 | 429853 |
| 92398710008 | MW-12 | EPA 8011 | 429759 | EPA 8011 | 429853 |
| 92398710009 | MW-13 | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710010 | MW-14 | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710011 | MW-15 | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710012 | MW-16 | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710013 | MW-18 | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710014 | MW-19 | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710015 | MW-20 | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710016 | MW-21 | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710017 | MW-22 | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710018 | MW-23 | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710019 | SW-1 | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710020 | DUP-1 | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710022 | FB | EPA 8011 | 429760 | EPA 8011 | 429855 |
| 92398710019 | SW-1 | EPA 8260B | 430371 | | |
| 92398710001 | MW-1 | EPA 8260B | 429847 | | |
| 92398710002 | MW-2 | EPA 8260B | 429731 | | |
| 92398710003 | MW-5 | EPA 8260B | 429849 | | |
| 92398710004 | MW-8 | EPA 8260B | 429731 | | |
| 92398710005 | MW-9 | EPA 8260B | 429847 | | |
| 92398710006 | MW-10 | EPA 8260B | 429618 | | |
| 92398710007 | MW-11 | EPA 8260B | 429618 | | |
| 92398710008 | MW-12 | EPA 8260B | 429618 | | |
| 92398710009 | MW-13 | EPA 8260B | 429618 | | |
| 92398710010 | MW-14 | EPA 8260B | 429618 | | |
| 92398710011 | MW-15 | EPA 8260B | 429731 | | |
| 92398710012 | MW-16 | EPA 8260B | 429731 | | |
| 92398710013 | MW-18 | EPA 8260B | 429731 | | |
| 92398710014 | MW-19 | EPA 8260B | 429847 | | |
| 92398710015 | MW-20 | EPA 8260B | 429618 | | |
| 92398710016 | MW-21 | EPA 8260B | 429618 | | |
| 92398710017 | MW-22 | EPA 8260B | 429618 | | |
| 92398710018 | MW-23 | EPA 8260B | 429618 | | |
| 92398710020 | DUP-1 | EPA 8260B | 429618 | | |
| 92398710022 | FB | EPA 8260B | 429618 | | |
| 92398710023 | TB | EPA 8260B | 429618 | | |

REPORT OF LABORATORY ANALYSIS

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| | | |
|--|--------------------------------------|--|
| | Document Name: | Document Revised: February 7, 2018 |
| | Sample Condition Upon Receipt (SCUR) | Page 1 of 2 |
| | Document No.: F-CAR-CS-033-Rev.06 | Issuing Authority: Pace Carolinas Quality Office |

Laboratory receiving samples:
 Asheville Eden Greenwood Huntersville Raleigh Mechanicsville

Client Name: SCDHEC Project #: **WO#: 92398710**

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____



Custody Seal Present? Yes No Seals Intact? Yes No Date/Initials Person Examining Contents: 9-7-18

Packing Material: Bubble Wrap Bubble Bags None Other _____ Biological Tissue Frozen? Yes No N/A

Thermometer: R Gun ID: 92T045 Type of Ice: Dry Blue None Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp (°C): 5.6 Correction Factor: Add/Subtract (°C) -0.1 Temp should be above freezing to 0°C
 Cooler Temp Corrected (°C): 5.5

USDA Regulated Soil N/A, water sample? Yes No Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? Yes No
 Did samples originate from a foreign source (Internationally, including Hawaii and Puerto Rico)? Yes No

| Chain of Custody Present? | Yes | No | N/A | 1. | Comments/Discrepancy: |
|---|-------------------------------------|-------------------------------------|--------------------------|-----|-----------------------|
| Chain of Custody Present? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. | |
| Samples Arrived within Hold Time? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. | |
| Short Hold Time Analysis (<72 hr.)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. | |
| Rush Turn Around Time Requested? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. | |
| Sufficient Volume? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5. | |
| Correct Containers Used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. | |
| -Pace Containers Used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. | |
| Containers Intact? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. | |
| Dissolved analysis: Samples Field Filtered? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8. | |
| Sample Labels Match COC? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9. | |
| -Includes Date/Time/ID/Analysis Matrix: <u>WT</u> | | | | | |
| Headspace in VOA Vials (>5-6mm)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10. | |
| Trip Blank Present? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11. | |
| Trip Blank Custody Seals Present? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | |

Field Data Required? Yes No

Lot ID of split containers: _____

CLIENT NOTIFICATION/RESOLUTION _____

Person contacted: _____ Date/Time: _____

Project Manager SCLRF Review: TC Date: 9/6/18
 Project Manager SRF Review: TC Date: 9/6/18



Document Name:
Sample Condition Upon Receipt (SCUR)
 Document No.:
 F-CAR-05-093-Rev.06

Document Revised: February 7, 2018
 Page 1 of 2
 Issuing Authority:
 Pace Carolinas Quality Office

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.
 Exceptions: VOA, Cellform, TOC, Oil and Grease, DRG/8015 (water) DOC, LHM
 **Bottom half of box is to list number of bottle

Project #

W0#: 92398710

PH: RMC
 Due Date: 08/14/18
 CLIENT: 62-6CDHEC

pg 1

| Item # | Item Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|--------|---|---|---|---|---|---|---|---|---|---|----|----|----|
| 1 | BP34-125 ml. Plastic Unpreserved (N/A) (C-) | | | | | | | | | | | | |
| 2 | BP34-250 ml. Plastic Unpreserved (N/A) | | | | | | | | | | | | |
| 3 | BP34-500 ml. Plastic Unpreserved (N/A) | | | | | | | | | | | | |
| 4 | BP102 1 liter Plastic Unpreserved (N/A) | | | | | | | | | | | | |
| 5 | BP65-125 ml. Plastic H2SO4 (pH < 2) (C-) | | | | | | | | | | | | |
| 6 | BP65-250 ml. Plastic HNO3 (pH < 2) | | | | | | | | | | | | |
| 7 | BP65-125 ml. Plastic 20 Acetate, 8. NaOH (P-) | | | | | | | | | | | | |
| 8 | BP65-125 ml. Plastic HNO3 (pH > 12) (C-) | | | | | | | | | | | | |
| 9 | Weight-Volume-mouthed Glass jar Unpreserved | | | | | | | | | | | | |
| 10 | AP21U-1 liter Amber Unpreserved (N/A) (C-) | | | | | | | | | | | | |
| 11 | AP31K-1 liter Amber HCl (pH < 2) | | | | | | | | | | | | |
| 12 | AP31U-250 ml. Amber Unpreserved (N/A) (C-) | | | | | | | | | | | | |
| 13 | AP31S-1 liter Amber H2SO4 (pH < 2) | | | | | | | | | | | | |
| 14 | AP31K-250 ml. Amber H2SO4 (pH < 2) | | | | | | | | | | | | |
| 15 | AP31U-250 ml. Amber HNO3 (pH < 2) | | | | | | | | | | | | |
| 16 | AP31U-250 ml. Amber HNO3 (pH > 12) (C-) | | | | | | | | | | | | |
| 17 | AP31U-250 ml. Amber H2O2 (P-) | | | | | | | | | | | | |
| 18 | DEHN-40 ml. VOA HCl (N/A) | | | | | | | | | | | | |
| 19 | VEBT-40 ml. VOA HCl (N/A) | | | | | | | | | | | | |
| 20 | VGMU-40 ml. VOA Linc (N/A) | | | | | | | | | | | | |
| 21 | DGBR-40 ml. VOA H3PO4 (N/A) | | | | | | | | | | | | |
| 22 | WQAR (6 vials per 145-555 set (N/A) | | | | | | | | | | | | |
| 23 | VWCE (3 vials per 145-555 set (N/A) | | | | | | | | | | | | |
| 24 | SPPT-125 ml. Sterile Plastic (N/A - 14) | | | | | | | | | | | | |
| 25 | SPPT-250 ml. Sterile Plastic (N/A - 14) | | | | | | | | | | | | |
| 26 | BP34-250 ml. Plastic (N/A) (H2SO4 (pH < 2)) | | | | | | | | | | | | |
| 27 | AP21U-100 ml. Amber Unpreserved vials (N/A) | | | | | | | | | | | | |
| 28 | VWCE-125 ml. Sterilization vials (N/A) | | | | | | | | | | | | |
| 29 | DGBR-40 ml. Amber Unpreserved vials (N/A) | | | | | | | | | | | | |

pH Adjustment Log for Preserved Samples

| Sample ID | Type of Preservative | pH upon receipt | Date preservation adjusted | Time preservation adjusted | Amount of Preservative added | Lot # |
|-----------|----------------------|-----------------|----------------------------|----------------------------|------------------------------|-------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNM Certification Office (i.e. Out of hold, incorrect preservative, out of time, incorrect containers).



Document Name: Simple Condition Upon Receipt (SCUR)
 Document No.: F-CAR-CS-033-Rev.06

Document Revised: February 7, 2018
 Page 1 of 2
 Issuing Authority: Pace Carolina Quality Office

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.
 Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/RO15 (water) DOC, LHg
 **Bottom half of box is to list number of bottle

Project # **WO# : 92398710**
 PH: RMC Due Date: 08/14/18
 CLIENT: 02-SCOHEC

PSZ

| Sample ID | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|
| BP4U-250 mL Plastic Unpreserved (N/A) (C-1) | | | | | | | | | | | | |
| BP1U-250 mL Plastic Unpreserved (N/A) | | | | | | | | | | | | |
| BP2U-500 mL Plastic Unpreserved (N/A) | | | | | | | | | | | | |
| BP7U-1 Liter Plastic Unpreserved (N/A) | | | | | | | | | | | | |
| BPNS-225 mL Plastic NDS04 (pH < 2) (C-1) | | | | | | | | | | | | |
| BPNS-250 mL Plastic NDS04 (pH < 2) | | | | | | | | | | | | |
| BPNS-225 mL Plastic 20 Acetate & Indol (PH) | | | | | | | | | | | | |
| BPNS-225 mL Plastic NDS04 (pH > 12) (C-1) | | | | | | | | | | | | |
| WSPH-1000 mL-maintained (Class per Unpreserved) | | | | | | | | | | | | |
| AG1U-1 Liter Amber Unpreserved (N/A) (C-1) | | | | | | | | | | | | |
| AG2U-1 Liter Amber NCI (pH < 2) | | | | | | | | | | | | |
| AG3U-250 mL Amber Unpreserved (N/A) (C-1) | | | | | | | | | | | | |
| AG3L-1 Liter Amber NDS04 (pH < 2) | | | | | | | | | | | | |
| AG3B-250 mL Amber NDS04 (pH < 2) | | | | | | | | | | | | |
| AG3A (D3BA)-250 mL Amber NDS04 (N/A) (C-1) | | | | | | | | | | | | |
| DBNH-40 mL VOA NCI (N/A) | | | | | | | | | | | | |
| V08T-40 mL VOA N2203 (N/A) | | | | | | | | | | | | |
| V08U-40 mL VOA Up (N/A) | | | | | | | | | | | | |
| V08W-40 mL VOA HPO4 (N/A) | | | | | | | | | | | | |
| V08X (6 vials per 160-5035 kit (N/A) | | | | | | | | | | | | |
| V08Y (8 vials per 160-5035 kit (N/A) | | | | | | | | | | | | |
| SPTT-250 mL Sterile Plastic (N/A - 160) | | | | | | | | | | | | |
| BP2A-250 mL Plastic (N22204) (S-3-3-7) | | | | | | | | | | | | |
| AG0U-100 mL Amber Unpreserved (N/A) | | | | | | | | | | | | |
| V06U-20 mL Sulfuration vial (N/A) | | | | | | | | | | | | |
| D08U-40 mL Amber Unpreserved (N/A) | | | | | | | | | | | | |

| Sample ID | Type of Preservative | pH upon receipt | Date preservation adjusted | Time preservation adjusted | Amount of Preservative added | Lot # |
|-----------|----------------------|-----------------|----------------------------|----------------------------|------------------------------|-------|
| | | | | | | |
| | | | | | | |

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHQ Certification Office B-4. Out of hold, incorrect preservative, out of temp, incorrect containers.



Document Name: Simple Condition Upon Receipt (SCUR) Document Revised: February 7, 2018
 Document No.: F-CAR-CS-033-Rev.06 Page 1 of 2
 Issuing Authority: Pace Carolina Quality Office

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.
 Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/RO15 (water) DOC, U/Hg
 **Bottom half of box is to list number of bottle

Project # **NO# : 92398710**
 PH: RHC Due Date: 09/14/18
 CLIENT: 92-SCONEC

| Item# | Material | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|
| BP46-125 | ml. Plastic Unpreserved (N/A) (C-) | | | | | | | | | | | | |
| BP10-250 | ml. Plastic Unpreserved (N/A) | | | | | | | | | | | | |
| BP10-500 | ml. Plastic Unpreserved (N/A) | | | | | | | | | | | | |
| BP10-1 | liter Plastic Unpreserved (N/A) | | | | | | | | | | | | |
| BP46-125 | ml. Plastic (pH < 2) (C-) | | | | | | | | | | | | |
| BP38-250 | ml. Plastic (pH < 2) | | | | | | | | | | | | |
| BP46-125 | ml. Plastic (pH > 12) (C+) | | | | | | | | | | | | |
| WP50 | Wides-mouthed Glass Jar Unpreserved | | | | | | | | | | | | |
| AS10-2 | liter Amber Unpreserved (N/A) (C-) | | | | | | | | | | | | |
| AS10-4 | liter Amber (C) (pH < 2) | | | | | | | | | | | | |
| AS10-250 | ml. Amber Unpreserved (N/A) (C-) | | | | | | | | | | | | |
| AS15-1 | liter Amber (N2SO4) (pH < 2) | | | | | | | | | | | | |
| AS15-250 | ml. Amber (N2SO4) (pH < 2) | | | | | | | | | | | | |
| AS15(N2SO4) | 250 ml. Amber (N2SO4) (N/A)(C-) | | | | | | | | | | | | |
| DB10-40 | ml. VOA 100 (N/A) | | | | | | | | | | | | |
| V010-40 | ml. VOA 100 (N/A) | | | | | | | | | | | | |
| D010-40 | ml. VOA 100 (N/A) | | | | | | | | | | | | |
| V010 | (6 vials per lot) 5000 ml (N/A) | | | | | | | | | | | | |
| V010 | (3 vials per lot) 5000 ml (N/A) | | | | | | | | | | | | |
| S010-125 | ml. Sterile Plastic (N/A - lab) | | | | | | | | | | | | |
| S010-250 | ml. Sterile Plastic (N/A - lab) | | | | | | | | | | | | |
| BP10-250 | ml. Plastic (N2SO4) (pH < 2) | | | | | | | | | | | | |
| AG10-100 | ml. Amber Unpreserved vial (N/A) | | | | | | | | | | | | |
| V010-20 | ml. Scintillation vial (N/A) | | | | | | | | | | | | |
| DB10-40 | ml. Amber Unpreserved vial (N/A) | | | | | | | | | | | | |

pg 3

6
6
6
2-73

| Sample ID | Type of Preservative | pH upon receipt | Date preservation adjusted | Time preservation adjusted | Amount of Preservative added | Lot # |
|-----------|----------------------|-----------------|----------------------------|----------------------------|------------------------------|-------|
| | | | | | | |
| | | | | | | |
| | | | | | | |

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR Certification Office P.O. Out of hold, incorrect preservative, out of temp, incorrect containers.



CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| | | | | | | | |
|--|--|---|--|--|--|--|--|
| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | | Page: <u>1</u> of <u>2</u> | |
| Company: <u>SCDHES</u> | | Report To: <u>R. Dunn</u> | | Attention: | | 2193286 | |
| Address: <u>2600 Bull St.</u> | | Copy To: | | Company Name: | | REGULATORY AGENCY | |
| City/State: <u>Columbia, SC 29201</u> | | Purchase Order No.: <u>4600646194</u> | | Address: | | <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input checked="" type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER | |
| Email To: <u>dunnr@dhcs.sc.gov</u> | | Project Name: <u>Morris Oil Co.</u> | | Price Code Reference: | | Site Location: | |
| Phone: | | Project Number: <u>WST-0864/CA-53560&5762</u> | | Phase Project Manager: <u>T. Carter</u> | | STATE: <u>SC</u> <u>Spartanburg</u> | |
| Requested Due Date/TAT: | | Project Number: | | Phase Profile #: | | STATE: <u>SC</u> <u>Spartanburg</u> | |

| ITEM # | SAMPLE ID (A-Z, 0-9 / -) | MATRIX CODE (See valid codes to left) | COLLECTED | | | | # OF CONTAINERS | Preservatives | | | | | | | | Analysis Test # | Y/N | Requested Analysis Filtered (Y/N) | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|--------|-----------------------------|--|-----------------|-------|---------------|------|-----------------|---------------|--------------------------------|------------------|-----|---------------------|---------------------------------|----------|-------|-----------------|-----|-----------------------------------|-------------------------|----------------------------|
| | | | COMPOSITE START | | COMPOSITE END | | | Unpreserved | H ₂ SO ₄ | HNO ₃ | HCl | Ni(OH) ₂ | Na ₂ SO ₃ | Methanol | Other | | | | | |
| | | | DATE | TIME | DATE | TIME | | | | | | | | | | | | | | |
| 1 | MW-1 | WTG | 9/6/18 | 14:45 | | 6 | | | X | | | | | | X | X | X | X | Strong Odor 001 | |
| 2 | MW-2 | WTG | 9/6/18 | 15:55 | | 6 | | | X | | | | | | X | X | X | X | No Odor 002 | |
| 3 | MW-3 | | | | | | | | | | | | | | | | | | DNS | |
| 4 | MW-4 | | | | | | | | | | | | | | | | | | DNS | |
| 5 | MW-5 | WTG | 9/18/18 | 15:10 | | 6 | | | X | | | | | | X | X | X | X | No Odor 003 | |
| 6 | MW-6 | | | | | | | | | | | | | | | | | | DNS | |
| 7 | MW-7 | | | | | | | | | | | | | | | | | | DNS | |
| 8 | MW-8 | WTG | 9/6/18 | 13:15 | | 6 | | | X | | | | | | X | X | X | X | Odor 004 | |
| 9 | MW-9 | | | | | | | | | | | | | | | | | | Odor 005 | |
| 10 | MW-10 | | | | | | | | | | | | | | | | | | No Odor 006 | |
| 11 | MW-11 | | | | | | | | | | | | | | | | | | No Odor 007 | |
| 12 | MW-12 | WTG | 9/6/18 | 12:10 | | 6 | | | X | | | | | | X | X | X | X | No Odor 008 | |

| | | | | | | | | | | | | | | | | | |
|---------------------|--|-------------------------------|--|------|--|------|--|---------------------------|--|---------|--|------|--|-------------------|--|--|--|
| ADDITIONAL COMMENTS | | RELINQUISHED BY / AFFILIATION | | DATE | | TIME | | ACCEPTED BY / AFFILIATION | | DATE | | TIME | | SAMPLE CONDITIONS | | | |
| | | <i>[Signature]</i> | | 9-18 | | 1300 | | <i>[Signature]</i> | | 9-21-18 | | 1300 | | 55 Y N Y | | | |
| | | <i>[Signature]</i> | | 9-20 | | 1350 | | Michael R | | 9-21-18 | | 1350 | | 55 Y N Y | | | |



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| | | | | | | | |
|--|-------------------------------------|--|------------------|-----------------------------------|-------------|--|--|
| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | | Page: 2 of 3 | |
| Company: SCDHEC | Report To: R. Dunn | Address: | | Attention: | | 2193287 | |
| Address: 2600 Bull St. Columbia, SC 29201 | Copy To: | Purchase Order No: 460064094 | | Company Name: | | REGULATORY AGENCY | |
| Email To: dunn@sdhec.sc.gov | Project Name: Morris Oil Co. | Project Number: US-08641/CA-57560/57562 | | Address: | | <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input checked="" type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER | |
| Phone: | Fac: | Face Project Manager: T. Carter | | Face Profile #: | | Site Location | |
| Requested Due Date/TAT: | Project Number: | | STATE: SC | | Spartanburg | | |

| ITEM # | SAMPLE ID (N-Z, 0-9 / -) Sample IDs MUST BE UNIQUE | Matrix Codes MATRIX CODE | DW WT WW P SL OL WR AR TS OT | COLLECTED | | | | # OF CONTAINERS | Preservatives | | | | | | | | | | Requested Analysis Filtered (Y/N) | | Residual Chlorine (Y/N) | Pace Project No / Lab ID | |
|--------|--|-----------------------------|---|-----------|-------|------|------|-----------------|---------------|------|-------|-----|------|---------|----------|-------|-----------------|-----|-----------------------------------|--|-------------------------|--------------------------|-------------------------|
| | | | | DATE | TIME | DATE | TIME | | UNPRESERVED | HNO3 | H2SO4 | HCl | NaOH | Na2S2O8 | Methanol | Other | Analysis Test # | Y/N | | | | | |
| 1 | Mw-13 | WTG | | 9/6/18 | 11:37 | | 6 | | | | | | | | | | | | | | | | No Odor 007 |
| 2 | Mw-14 | | | | 11:38 | | 1 | | | | | | | | | | | | | | | | No Odor 010 |
| 3 | Mw-15 | | | | 14:19 | | 1 | | | | | | | | | | | | | | | | Strong Odor / Sheen 011 |
| 4 | Mw-16 | WTG | | 9/6/18 | 11:29 | | 6 | | | | | | | | | | | | | | | | No Odor 012 |
| 5 | Mw-17 | | | | | | | | | | | | | | | | | | | | | | DNS |
| 6 | Mw-18 | WTG | | 9/6/18 | 12:25 | | 6 | | | | | | | | | | | | | | | | No Odor 013 |
| 7 | Mw-19 | | | | 12:28 | | 1 | | | | | | | | | | | | | | | | Strong Odor / Sheen 014 |
| 8 | Mw-20 | | | | 10:21 | | 1 | | | | | | | | | | | | | | | | No Odor 015 |
| 9 | Mw-21 | | | | 9:55 | | 1 | | | | | | | | | | | | | | | | No Odor 016 |
| 10 | Mw-22 | | | | 10:06 | | 1 | | | | | | | | | | | | | | | | No Odor 017 |
| 11 | Mw-23 | | | | 13:33 | | 1 | | | | | | | | | | | | | | | | No Odor 018 |
| 12 | Bw-1 | WTG | | 9/6/18 | 14:55 | | 6 | | | | | | | | | | | | | | | | LDL 019 |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---------------------|-------------------------------|------|------|---------------------------|------|------|-------------------|
| | <i>[Signature]</i> | 9/18 | 1:35 | <i>[Signature]</i> | 9/18 | 1:35 | Y N Y |
| | <i>[Signature]</i> | 9/18 | 1:35 | <i>[Signature]</i> | 9/18 | 1:35 | Y N Y |

ORIGINAL

| | |
|---|------------------------------|
| SAMPLER NAME AND SIGNATURE | |
| PRINT Name of SAMPLER: Kyle J. Jones | DATE Signed: 09/06/18 |
| SIGNATURE OF SAMPLER: <i>[Signature]</i> | |

| | | | |
|------------|------------------------|------------------------|---------------------|
| Temp in °C | Received on list (Y/N) | Custody Sign-off (Y/N) | Sample Intact (Y/N) |
| | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| | | | | | | |
|--|--|--|--|---|--|---------------------------------------|
| Section A Required Client Information: Company: <u>SCDHEC</u> Address: <u>2000 Bu 1137</u> <u>Columbia, SC 29201</u> Email To: <u>duan@dhec.sc.gov</u> Phone: _____ Fax: _____ Requested Due Date/TAT: _____ | | Section E Required Project Information: Report To: <u>R. Duan</u> Copy To: _____ Purchase Order No.: <u>460040174</u> Project Name: <u>Morris Oil Co.</u> Project Number: <u>USF-02641/CA5256085762</u> | | Section C Invoice Information: Attention: _____ Company Name: _____ Address: _____ Pain Durré Reference: _____ Pace Project Manager: <u>T. Carter</u> Pace Profile #: _____ | | Page: <u>3</u> of <u>3</u> 2193285 |
| | | REGULATORY AGENCY: _____ <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input checked="" type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER | | Site Location: _____ STATE: <u>SC</u> <u>Spartanburg</u> | | |

| ITEM # | SAMPLE ID (A-Z, 0-9 / . -) Sample IDs MUST BE UNIQUE | Matrix Codes MATRIX CODE Drinking Water Water Waste Water Product Soils/Solid Oil Wipe Air Tissue Other | DW WT WW P SL CL WP AR TS OT | COLLECTED | | | | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives | | | | | | | | | | Analysis Test | Residual Chlorine (Y/N) | | | | | | | | | | | | | | | | | | | | | | |
|--------|--|--|---|-----------------|------|--------------------|------|---------------------------|-----------------|---------------|--------------------------------|------|-----|-------|----------------------|-----------|-------|--|--|---------------|-------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | | COMPOSITE START | | COMPOSITE END/GRAB | | | | Unpreserved | H ₂ SO ₄ | PHOS | PHI | NIOSH | Na-S-Cl ₂ | Mercurial | Other | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | DATE | TIME | DATE | TIME | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Sw-1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Sw-3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Dwp-1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Dwp-2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | FB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | TB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | |
|-----------------------------------|-------------------------------|---|------|--|--------|---|-------------------|
| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
| | <i>[Signature]</i> | 9-2-18 | 135 | <i>[Signature]</i> | 9-2-18 | 1350 | 55 Y N Y |
| SAMPLER NAME AND SIGNATURE | | PRINT Name of SAMPLER: <u>Kyle Jacobs</u> | | SIGNATURE OF SAMPLER: <i>[Signature]</i> | | DATE Signed (MM/DD/YY): <u>09/06/18</u> | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



DEC 07 2020



**RONNIE LOWDER
EMERALD INC
PO BOX 3050
SUMTER SC 29151-3050**

Re: Aggressive Fluid Vapor Recovery (AFVR) Directive
Contract #IFB-5400016539-11/29/18: PO #4600749360
Notice to Proceed

Dear Mr. Lowder:

Under the terms and conditions of the referenced contract, Aggressive Fluid Vapor Recovery (AFVR) has been approved for the UST facilities listed below. Emerald, Inc. may proceed upon receipt of this letter. The complete packets containing necessary information for each facility are enclosed. Each facility has been assigned an individual cost agreement (CA) number and work scope.

| Permit | Facility | County | Work Scope | CA # |
|--------|---------------|-------------|------------------|-------|
| 08641 | Morris Oil Co | Spartanburg | Two 96-hour AFVR | 62758 |

The due date for each of the reports in this block of sites is 90-days from the date of this correspondence. If extenuating circumstances become apparent that will result in a need for an extension, the site-specific circumstances must be communicated in written form with a request for an extension.

AFVR at each facility will be performed in accordance with the referenced contract on behalf of the UST Owner/Operator (O/O). Payment will be made from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval is obtained from the SCDHEC UST Division.

Page 2

Any changes to the work scope must be pre-approved by the UST Management Division in order for Emerald to seek payment. Please contact the UST Project Manager for technical and financial approval of any proposed changes to the work scope.

DHEC grants preapproval for transportation of free-phase product (FPP) and virgin petroleum-contaminated groundwater from the referenced site(s) to a permitted treatment facility(ies). There can be no spillage or leakage in transport. A copy of the disposal manifest(s) from the receiving facility that clearly designates the quantity received must be included as part of the final report.

If you have any questions, please contact me at (803) 898-0608 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

A handwritten signature in black ink that reads "Read S. Miner".

Read S. Miner, P.G., Hydrogeologist
Corrective Action and Field Support Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreements
Site Information Packets (1)

cc: Technical Files (with enclosures)



UNDERGROUND STORAGE TANK MANAGEMENT DIVISION
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Telephone: 803-898-2544

MEMORANDUM

TO: Emerald

FROM: Quincy Hoffer

RE: NOTICE TO PROCEED

Facility Name: Morris Oil Co. (Former)

Permit Number: 08641

County: Spartanburg

Work to be completed: 2 96 Hour AFVR Events: Event #1 MW-3/4 TD=22' - Event #2 MW-6/7 TD=21'

Target wells: Event #1: MW-3/7 and Event #2: MW-6/7

Target depth for Stingers (feet below top of casing) : Event #1: 22" Event #2: 21'

Site rank: 2BA

Effluent quantity during last event No Data

CA #: 62758

Approved Cost Agreement**62758**

Facility: 08641 MORRIS OIL CO

HOFFERQM

PO Number:

| <u>Task / Description</u> | <u>Categories</u> | <u>Item Description</u> | <u>Qty / Pct</u> | <u>Unit Price</u> | <u>Amount</u> |
|---------------------------|-------------------|------------------------------|---------------------|-------------------|------------------|
| 23 | EFR | | | | |
| | | A4 96 HOUR EVENT | 2.0000 | \$5,000.000 | 10,000.00 |
| | | C4 OFF GAS TREATMENT 96 HOUR | 2.0000 | \$200.000 | 400.00 |
| | | D SITE RECONNAISSANCE | 1.0000 | \$200.000 | 200.00 |
| | | F1 EFFLUENT DISPOSAL | 60,000.0000 | \$0.130 | 7,800.00 |
| | | G AFVR EQUIPMENT MOB | 2.0000 | \$550.000 | 1,100.00 |
| | | | Total Amount | | 19,500.00 |



Healthy People. Healthy Communities.

ART MCQUEEN
MCQUEEN LAW FIRM
175 ALABAMA ST.
SPARTANBURG, SC 29302

FORM 06 2021



Re: Site History Summary

Morris Oil Company, 427 Alexander Ave, Spartanburg, SC
Spartanburg County
UST Permit #08641
Request for Site History Summary received January 5, 2021

Dear Mr. McQueen:

In response to your request for information about environmental conditions associated with the referenced facility, the following is provided.

On June 8, 1999, petroleum releases 1 and 2 were reported at the facility assigned the underground storage tank (UST) permit number referenced above. According to UST Management Division (Division) records, nine (9) USTs were registered with the S.C. Department of Health and Environmental Control (DHEC). UST's 1 through 9 were registered by Morris Oil Company and abandoned June 8, 1999.

Division records indicate that Don Morris, the tank owner at the time of the above referenced releases, complied with the regulatory requirements and performed the initial response actions outlined in R.61-92, Section 280.61. The Division is investigating the extent and severity of petroleum chemicals of concern.

The releases of petroleum products from the facility assigned the UST permit number referenced above are both qualified to receive funding under the conditions of the State Underground Petroleum Environmental Response Bank (SUPERB) Act. This means that reasonable costs can be paid by the SUPERB Account up to \$1,000,000 for site rehabilitation actions associated with each release, but the Division would pursue cost recovery for the \$25,000 deductibles once the releases have achieved closure status. Don Morris, as the tank owner at the time of the above referenced releases, retains responsibility under state and federal law for any additional actions and associated costs for each release should site rehabilitation cost exceed \$1,000,000 coverage per release.

The SUPERB Act does not preclude or restrict the use or redevelopment of property on which a petroleum release has occurred. However, DHEC advises against installing a water

supply well for drinking, cooking, or bathing purposes until rehabilitation activities are completed to achieve no further action status or as otherwise approved by DHEC.

To obtain a better understanding of the statutory and regulatory framework regarding releases and/or UST systems, please use the following links:

South Carolina UST Control Regulations R.61-92

https://scdhec.gov/sites/default/files/media/document/R.61-92_0.pdf

State Underground Petroleum Environmental Response Bank Act

<https://www.scstatehouse.gov/code/t44c002.php>

If you have any questions, please contact me at (803) 898-9418. I can also be reached by email at ariailrd@dhec.sc.gov or by fax at 803-898-0673.

Sincerely,

A handwritten signature in black ink, appearing to read "Ryan D. Ariail". The signature is fluid and cursive, with a large loop at the end.

Ryan D. Ariail, Customer Service Liaison
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Technical File

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

RECEIVED
MAR 01 2021
UST DIVISION

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

February 19, 2021



Quincy Hoffer, Hydrogeologist
Corrective Action and Quality Assurance Section
Underground Storage Tank Management Division
Bureau of Underground Storage Tank Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, SC 29201

Aggressive Fluid Vapor Recovery Report
Morris Oil Company
Spartanburg, South Carolina
Spartanburg County
UST Permit #08641; CA #62758
Emerald Job 20-059A

Mr. Hoffer,

Please find the attached Aggressive Fluid Vapor Recovery (AFVR) Report for the Morris Oil Company site. A site visit was conducted on December 28, 2020 to locate monitoring wells, coordinate the event with the property owner, and assess site conditions. Prior to conducting this AFVR event, information gathered during the site reconnaissance was presented to the SCDHEC project manager for review.

AGGRESSIVE FLUID VAPOR RECOVERY EVENT

On February 1 through 5, 2021, Emerald, Inc. personnel performed a 96-hour AFVR event utilizing MW-4 and MW-7 as the extraction locations. This 96-hour AFVR event was conducted to remove free product and reduce dissolved phase chemicals of concern previously detected at the subject site. Prior to the event, free phase petroleum product was detected in MW-4 at a thickness of 1.25 feet and in MW-7 at a thickness of 0.61 feet. At the conclusion of

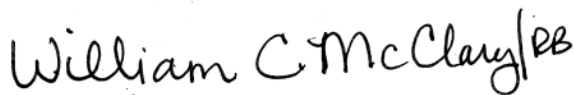
the event, free phase product was detected in MW-7 at a thickness of 0.02 feet. Monitoring well locations are presented on the attached site map provided by SCDHEC.

Table 1 presents the off-gas concentrations (using a Photoionization Detector), post treatment off-gas concentrations, off-gas velocity, and knockout tank vacuum. Table 2 presents the stinger depths, wellhead vacuum measurements, water levels measurements and magnehelic readings obtained during the event. Emerald, Inc. field personnel normally record data at thirty-minute intervals for the first eight hours of the event, then at one-hour intervals from hours nine through twenty-four and at two-hour intervals from hour twenty-four until the conclusion of the event. During the hours of midnight to 8 AM event monitoring was suspended. Off-gas treatment was utilized during business hours to limit exposure of the off-gas to the general public using a catalytic oxidizer.

According to the calculations as presented on Table 1, a total of 181.73 pounds of hydrocarbons (as vapor) and 29.06 equivalent gallons of hydrocarbons were removed during this event. Free phase product was not detected in the knockout tank during this event. According to the meter, a total of 14,412 gallons of petroleum contaminated groundwater was transported to the City of Manning Wastewater Treatment Facility in Manning SC for proper disposal. A copy of the disposal manifests for this event are included as an attachment.

If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454.

Sincerely,
Emerald, Inc.

Handwritten signature of William C. McClary in black ink, with the initials 'PB' written at the end of the signature.

William C. McClary, P.G.
Project Manager

Handwritten signature of Ronny L. Lowder in black ink, consisting of a stylized 'R' followed by a long horizontal flourish.

Ronny L. Lowder
President

Attachments

**TABLE 1
AFVR MONITORING DATA
MORRIS OIL COMPANY
SPARTANBURG, SOUTH CAROLINA
SCDHEC SITE ID # 08641
EMERALD JOB # 20-059A**

| Extraction Wells | Date | Time (hh:mm) | Differential Time (hr) | Knockout Tank Vacuum (in. Hg) | Off Gas Concentration(PPM) | Post-Treatment Concentration (PPM) | Offgas Velocity (ft/min) | Flow Rate (CFM) | CG:M (mg/dsm ³) | Cg (Lb/Dscf) | Removal Rate (Lbs/Hr) | Interval Removal (Lbs) |
|------------------|--------|--------------|------------------------|-------------------------------|-----------------------------|------------------------------------|--------------------------|-----------------|-----------------------------|--------------|-----------------------|------------------------|
| MW-4 | 2/1/21 | 11:00 | Start | 18 | 1,116 | <0.1 | N/A | 80 | 5,935 | 3.70E-04 | 1.78 | - |
| MW-7 | | 11:30 | 0.5 | 18 | 1,087 | <0.1 | N/A | 80 | 5,780 | 3.61E-04 | 1.73 | 0.88 |
| | | 12:00 ↓ | 0.5 | 18 | 1,248 | <0.1 | N/A | 80 | 6,636 | 4.14E-04 | 1.99 | 0.93 |
| | | 12:30 | 0.5 | 18 | 1,296 | <0.1 | N/A | 80 | 6,892 | 4.30E-04 | 2.07 | 1.01 |
| | | 13:00 ↓ | 0.5 | 18 | 1,381 | <0.1 | N/A | 80 | 7,344 | 4.58E-04 | 2.20 | 1.07 |
| | | 13:30 | 0.5 | 18 | 1,265 | <0.1 | N/A | 80 | 6,727 | 4.20E-04 | 2.02 | 1.05 |
| | | 14:00 ↓ | 0.5 | 18 | 1,381 | <0.1 | N/A | 80 | 7,344 | 4.58E-04 | 2.20 | 1.05 |
| | | 14:30 | 0.5 | 18 | 1,330 | <0.1 | N/A | 80 | 7,073 | 4.42E-04 | 2.12 | 1.08 |
| | | 15:00 ↓ | 0.5 | 18 | 1,296 | <0.1 | N/A | 80 | 6,892 | 4.30E-04 | 2.07 | 1.05 |
| | | 15:30 | 0.5 | 18 | 1,274 | <0.1 | N/A | 80 | 6,775 | 4.23E-04 | 2.03 | 1.02 |
| | | 16:00 ↓ | 0.5 | 18 | 1,244 | <0.1 | N/A | 80 | 6,615 | 4.13E-04 | 1.98 | 1.00 |
| | | 16:30 | 0.5 | 18 | 1,216 | <0.1 | N/A | 80 | 6,466 | 4.04E-04 | 1.94 | 0.98 |
| | | 17:00 | 0.5 | 18 | 1,332 | <0.1 | N/A | 80 | 7,083 | 4.42E-04 | 2.12 | 1.02 |
| | | 17:30 | 0.5 | 18 | 1,286 | <0.1 | N/A | 80 | 6,839 | 4.27E-04 | 2.05 | 1.04 |
| | | 18:00 | 0.5 | 18 | 1,277 | <0.1 | N/A | 80 | 6,791 | 4.24E-04 | 2.03 | 1.02 |
| | | 18:30 | 0.5 | 18 | 1,296 | <0.1 | N/A | 80 | 6,892 | 4.30E-04 | 2.07 | 1.03 |
| | | 19:00 | 0.5 | 18 | 1,257 | <0.1 | N/A | 80 | 6,684 | 4.17E-04 | 2.00 | 1.02 |
| | | 20:00 | 1.0 | 18 | 1,303 | N/A | N/A | 80 | 6,929 | 4.33E-04 | 2.08 | 2.04 |
| | | 21:00 | 1.0 | 18 | 1,246 | N/A | N/A | 80 | 6,626 | 4.14E-04 | 1.99 | 2.03 |
| | | 22:00 | 1.0 | 18 | 1,267 | N/A | N/A | 80 | 6,738 | 4.21E-04 | 2.02 | 2.00 |
| | | 23:00 | 1.0 | 18 | 1,229 | N/A | N/A | 80 | 6,535 | 4.08E-04 | 1.96 | 1.99 |
| | 2/2/21 | 0:00 | 1.0 | 18 | 1,301 | N/A | N/A | 80 | 6,918 | 4.32E-04 | 2.07 | 2.02 |
| | | 1:00 | 1.0 | 18 | 1,285 | N/A | N/A | 80 | 6,833 | 4.27E-04 | 2.05 | 2.06 |
| | | 2:00 | 1.0 | 18 | 1,291 | N/A | N/A | 80 | 6,865 | 4.29E-04 | 2.06 | 2.05 |
| | | 8:00 | 6.0 | 18 | 1,142 | <0.1 | N/A | 80 | 6,073 | 3.79E-04 | 1.82 | 11.63 |
| | | 9:00 ↑ | 1.0 | 18 | 1,263 | <0.1 | N/A | 80 | 6,716 | 4.19E-04 | 2.01 | 1.92 |
| | | 10:00 ↓ | 1.0 | 18 | 1,289 | <0.1 | N/A | 80 | 6,855 | 4.28E-04 | 2.05 | 2.03 |
| | | 12:00 ↓ | 2.0 | 18 | 1,256 | <0.1 | N/A | 80 | 6,679 | 4.17E-04 | 2.00 | 4.06 |
| | | 14:00 ↓ | 2.0 | 18 | 1,218 | <0.1 | N/A | 80 | 6,477 | 4.04E-04 | 1.94 | 3.94 |
| | | 16:00 | 2.0 | 18 | 1,246 | <0.1 | N/A | 80 | 6,626 | 4.14E-04 | 1.99 | 3.93 |
| | | 18:00 | 2.0 | 18 | 1,197 | <0.1 | N/A | 80 | 6,365 | 3.97E-04 | 1.91 | 3.89 |
| | | 20:00 | 2.0 | 18 | 1,224 | N/A | N/A | 80 | 6,509 | 4.06E-04 | 1.95 | 3.86 |
| | | 22:00 | 2.0 | 18 | 1,156 | N/A | N/A | 80 | 6,147 | 3.84E-04 | 1.84 | 3.79 |

TABLE 1 Cont'd.
AFVR MONITORING DATA
MORRIS OIL COMPANY
SPARTANBURG, SOUTH CAROLINA
SCDHEC SITE ID # 08641
EMERALD JOB # 20-059A

| Extraction Wells | Date | Time (hh:mm) | Differential Time (hr) | Knockout Tank Vacuum (in. Hg) | Off Gas Concentration(PPM) | Post-Treatment Concentration (PPM) | Offgas Velocity (ft/min) | Flow Rate (CFM) | CG:M (mg/dsm ³) | Cg (Lb/Dscf) | Removal Rate (Lbs/Hr) | Interval Removal (Lbs) |
|------------------|--------|--------------|------------------------|-------------------------------|----------------------------|------------------------------------|--------------------------|-----------------|-----------------------------|--------------|-----------------------|------------------------|
| MW-4 | 2/3/21 | 0:00 | 2.0 | 18 | 1,204 | N/A | N/A | 80 | 6,403 | 4.00E-04 | 1.92 | 5.71 |
| MW-7 | | 8:00 | 8.0 | 18 | 1,129 | <0.1 | N/A | 80 | 6,004 | 3.75E-04 | 1.80 | 14.87 |
| | | 10:00 | 2.0 | 18 | 1,160 | <0.1 | N/A | 80 | 6,169 | 3.85E-04 | 1.85 | 3.65 |
| | | 12:00 | 2.0 | 18 | 1,266 | <0.1 | N/A | 80 | 6,732 | 4.20E-04 | 2.02 | 3.87 |
| | | 14:00 | 2.0 | 18 | 1,143 | <0.1 | N/A | 80 | 6,078 | 3.79E-04 | 1.82 | 3.84 |
| | | 16:00 | 2.0 | 18 | 1,116 | <0.1 | N/A | 80 | 5,935 | 3.70E-04 | 1.78 | 3.60 |
| | | 18:00 | 2.0 | 18 | 1,149 | <0.1 | N/A | 80 | 6,110 | 3.81E-04 | 1.83 | 3.61 |
| | | 20:00 | 2.0 | 18 | 1,106 | N/A | N/A | 80 | 5,881 | 3.67E-04 | 1.76 | 3.59 |
| | | 22:00 | 2.0 | 18 | 1,143 | N/A | N/A | 80 | 6,078 | 3.79E-04 | 1.82 | 3.58 |
| | 2/4/21 | 0:00 | 2.0 | 18 | 1,119 | N/A | N/A | 80 | 5,951 | 3.71E-04 | 1.78 | 3.60 |
| | | 8:00 | 8.0 | 18 | 1,132 | <0.1 | N/A | 80 | 6,020 | 3.76E-04 | 1.80 | 14.35 |
| | | 10:00 | 2.0 | 18 | 1,120 | <0.1 | N/A | 80 | 5,956 | 3.72E-04 | 1.78 | 3.59 |
| | | 12:00 | 2.0 | 18 | 1,111 | <0.1 | N/A | 80 | 5,908 | 3.69E-04 | 1.77 | 3.56 |
| | | 14:00 | 2.0 | 18 | 1,207 | <0.1 | N/A | 80 | 6,418 | 4.01E-04 | 1.92 | 3.69 |
| | | 16:00 | 2.0 | 18 | 1,113 | <0.1 | N/A | 80 | 5,919 | 3.69E-04 | 1.77 | 3.70 |
| | | 18:00 | 2.0 | 18 | 1,129 | <0.1 | N/A | 80 | 6,004 | 3.75E-04 | 1.80 | 3.57 |
| | | 20:00 | 2.0 | 18 | 1,097 | N/A | N/A | 80 | 5,834 | 3.64E-04 | 1.75 | 3.55 |
| | | 22:00 | 2.0 | 18 | 1,104 | N/A | N/A | 80 | 5,871 | 3.67E-04 | 1.76 | 3.51 |
| | 2/5/21 | 0:00 | 2.0 | 18 | 1,110 | N/A | N/A | 80 | 5,903 | 3.69E-04 | 1.77 | 3.53 |
| | | 8:00 | 8.0 | 18 | 1,084 | <0.1 | N/A | 80 | 5,764 | 3.60E-04 | 1.73 | 13.98 |
| | | 10:00 | 2.0 | 18 | 1,126 | <0.1 | N/A | 80 | 5,988 | 3.74E-04 | 1.79 | 3.52 |
| | | 11:00 | 1.0 | 18 | 1,101 | <0.1 | N/A | 80 | 5,855 | 3.66E-04 | 1.75 | 1.77 |

| Well Gauging Data | | | Before AFVR Event | | | After AFVR Event | | | Equations |
|-------------------|---------------|------------------------|-----------------------|-----------------------|------------------------|-----------------------|---------------------|------------------------|---|
| Well No. | Diameter (in) | Screened Interval (ft) | Depth to Product (ft) | Depth to Product (ft) | Product Thickness (ft) | Depth to Product (ft) | Depth to Water (ft) | Product Thickness (ft) | |
| MW-4 | 2 | 13-23 | 14.56 | 15.81 | 1.25 | --- | 19.56 | --- | Cg,m = PPMg*(Mg/K3) Removal Rate = Cg * Flow Rate * 60Min/Hr Interval Removal = (T ₁ + T ₂)/2 PPM = Part per Million (by PID) Cg,m = mg/dsm ³ (mass concentration of gasoline emission) Mg = 128 mg/mg-mole, molecular weight of gasoline K3 = 24.07 dsm ³ /1E6 mg-mole, mass to volume conversion Cg = lb/dscf, mass concentration of gasoline by emission Removal Rate = lb/hr,pollutant mass removal rate of emission |
| MW-7 | 2 | 11.75-21.75 | 13.80 | 14.41 | 0.61 | 12.00 | 12.12 | 0.02 | |
| | | | | | | | | | |
| | | | | | | | | | |

| Product Thickness | | Recovery / Disposal Information | |
|---------------------------------|-----------------|------------------------------------|---|
| Product observed in Sight Tube? | No | Hydrocarbons Removed (vapor): | 181.73 Pounds |
| Product detected in Tanker? | No | Hydrocarbons Removed (liquid): | 0.00 Gallons |
| Weather Conditions | | Total Hydrocarbons Removed: | 29.06 Equivalent Gallons |
| 2/1/21 | Cloudy, 32-48°F | Molecular Weight Utilized: | 128 mg/mg-mole |
| 2/2/21 | Cloudy, 30-52°F | Disposal Facility: | City of Manning Wastewater Facility, Manning, SC |
| 2/3/21 | Sunny, 24-52°F | Total Liquids Removed: | 14,412 Gallons |
| 2/4/21 | Sunny, 46-51°F | | |
| 2/5/21 | Rain, 36-56°F | | |

| Notes | |
|--------------------|---------------------|
| ↑ = Stinger raised | ↓ = Stinger lowered |

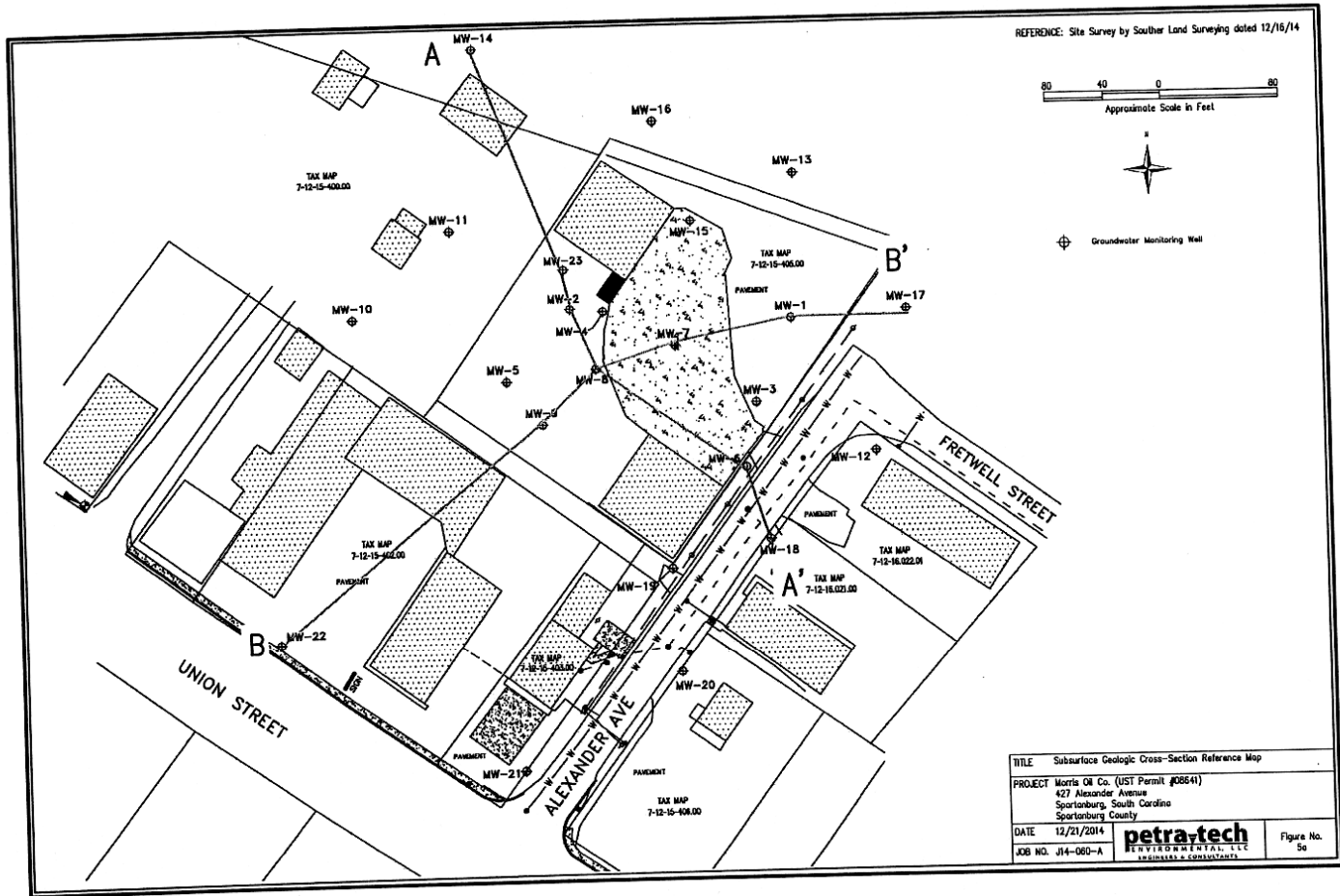
**TABLE 2
EVENT MONITORING DATA
MORRIS OIL COMPANY
SPARTANBURG, SOUTH CAROLINA
SCDHEC SITE ID # 08641
EMERALD JOB # 20-059A**


| Date | Time (hh:mm) | Extraction Wells | | | | Event Monitoring | | | |
|--------|--------------|---------------------|--------------------------|---------------------|--------------------------|--------------------------------------|----------------------|--------------------------------------|----------------------|
| | | MW-4 | | MW-7 | | MW-3 | | MW-6 | |
| | | Stinger Depth (ft.) | Wellhead Vacuum (in. Hg) | Stinger Depth (ft.) | Wellhead Vacuum (in. Hg) | Magnehelic Reading (inches of water) | Depth to Water (ft.) | Magnehelic Reading (inches of water) | Depth to Water (ft.) |
| 2/1/21 | 11:00 | 16 | 14 | 16 | 15 | Pre | 13.16 | Pre | 15.74 |
| | 11:30 | 16 | 14 | 16 | 15 | <0.1 | --- | <0.1 | --- |
| | 12:00 | 18 | 14 | 18 | 15 | <0.1 | --- | <0.1 | --- |
| | 12:30 | 18 | 14 | 18 | 15 | <0.1 | --- | <0.1 | --- |
| | 13:00 | 19 | 14 | 19 | 15 | <0.1 | --- | <0.1 | --- |
| | 13:30 | 19 | 14 | 19 | 15 | <0.1 | --- | <0.1 | --- |
| | 14:00 | 20 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 14:30 | 20 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 15:00 | 21 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 15:30 | 21 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 16:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 16:30 | 22 | 14 | 20 | 15 | <0.1 | 13.09 | <0.1 | 15.68 |
| | 17:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 17:30 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 18:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 18:30 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 19:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 20:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 21:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 22:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 23:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| 2/2/21 | 0:00 | 22 | 14 | 20 | 15 | <0.1 | 13.20 | <0.1 | 15.66 |
| | 1:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 2:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 8:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 9:00 | 16 | 14 | 16 | 15 | <0.1 | --- | <0.1 | --- |
| | 10:00 | 18 | 14 | 18 | 15 | <0.1 | 13.20 | <0.1 | 15.69 |
| | 12:00 | 20 | 14 | 20 | 15 | <0.1 | 13.16 | <0.1 | 15.26 |
| | 14:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 16:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 18:00 | 22 | 14 | 20 | 15 | <0.1 | 13.17 | <0.1 | 15.24 |
| | 20:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 22:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |

Notes:

TABLE 2 Cont'd.
EVENT MONITORING DATA
MORRIS OIL COMPANY
SPARTANBURG, SOUTH CAROLINA
SCDHEC SITE ID # 08641
EMERALD JOB # 20-059A

| Date | Time (hh:mm) | Extraction Wells | | | | Event Monitoring | | | |
|--------|--------------|---------------------|--------------------------|---------------------|--------------------------|--------------------------------------|----------------------|--------------------------------------|----------------------|
| | | MW-4 | | MW-7 | | MW-3 | | MW-6 | |
| | | Stinger Depth (ft.) | Wellhead Vacuum (in. Hg) | Stinger Depth (ft.) | Wellhead Vacuum (in. Hg) | Magnehelic Reading (inches of water) | Depth to Water (ft.) | Magnehelic Reading (inches of water) | Depth to Water (ft.) |
| 2/3/21 | 0:00 | 22 | 14 | 20 | 15 | <0.1 | 13.19 | <0.1 | 15.27 |
| | 8:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 10:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 12:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 14:00 | 22 | 14 | 20 | 15 | <0.1 | 13.18 | <0.1 | 15.27 |
| | 16:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 18:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 20:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 22:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| 2/4/21 | 0:00 | 22 | 14 | 20 | 15 | <0.1 | 13.17 | <0.1 | 15.25 |
| | 8:00 | 22 | 14 | 20 | 15 | <0.1 | 13.15 | <0.1 | 15.24 |
| | 10:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 12:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 14:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 16:00 | 22 | 14 | 20 | 15 | <0.1 | 13.18 | <0.1 | 15.26 |
| | 18:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 20:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 22:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| 2/5/21 | 0:00 | 22 | 14 | 20 | 15 | <0.1 | 13.20 | <0.1 | 15.27 |
| | 8:00 | 22 | 14 | 20 | 15 | <0.1 | 13.19 | <0.1 | 15.24 |
| | 10:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
| | 11:00 | 22 | 14 | 20 | 15 | <0.1 | --- | <0.1 | --- |
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| Notes: | | | | | | | | | |



| | | | |
|---------|---|--|------------|
| TITLE | Subsurface Geologic Cross-Section Reference Map | | |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | | |
| DATE | 12/21/2014 |  petra-tech ENGINEERS & CONSULTANTS | Figure No. |
| JOB NO. | J14-060-A | | 5a |

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on site (12 pitch) typewriter)

| | | | | |
|---|---------------------|--|-------------------------------|--------------|
| NON-HAZARDOUS WASTE MANIFEST | | 1. Generator's US EPA ID No. | Manifest Document No. 1581- / | 2. Page 1 of |
| 3. Generator's Name and Mailing Address | | Morris Oil Company 427 Alexander Avenue Spartanburg S.C. UST #08641 | | |
| 4. Generator's Phone () | | | | |
| 5. Transporter 1 Company Name | 6. US EPA ID Number | A. State Transporter's ID | | |
| Emerald, Inc. | | B. Transporter 1 Phone 803-469-5454 | | |
| 7. Transporter 2 Company Name | 8. US EPA ID Number | C. State Transporter's ID | | |
| | | D. Transporter 2 Phone | | |
| 9. Designated Facility Name and Site Address | | 10. US EPA ID Number | E. State Facility's ID | |
| City of Manning Wastewater Treatment Facility PO Box 546 Manning, SC 29102 | | | F. Facility's Phone | |

| 11. WASTE DESCRIPTION | 12. Containers | | 13. Total Quantity | 14. Unit Wt./Vol. |
|---|----------------|------|--------------------|-------------------|
| | No. | Type | | |
| a. Non-Hazardous Petroleum Contaminated Groundwater | | | 5903 | GAL |
| b. | | | | |
| c. | | | | |
| d. | | | | |

| | |
|---|---|
| G. Additional Descriptions for Materials Listed Above | H. Handling Codes for Wastes Listed Above |
| | |

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

| | | |
|---|---------------------------------|--|
| Printed/Typed Name ADAM RICHARDSON | Signature <i>[Signature]</i> | Date Month Day Year 2 2 21 |
| 17. Transporter 1 Acknowledgement of Receipt of Materials | | |
| Printed/Typed Name ERIC FORD | Signature <i>[Signature]</i> | Date Month Day Year 02 02 21 |
| 18. Transporter 2 Acknowledgement of Receipt of Materials | | |
| Printed/Typed Name | Signature | Date Month Day Year |

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

| | | |
|---|---------------------------------|--------------------------------------|
| Printed/Typed Name James Bethge | Signature <i>[Signature]</i> | Date Month Day Year 2 2 21 |
|---|---------------------------------|--------------------------------------|

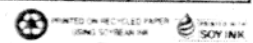
NON-HAZARDOUS WASTE GENERATOR

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on white 12 pitch typewriter)

NON-HAZARDOUS WASTE

| | | | | | |
|---|--|--|---|-------------------------------------|--------------------|
| NON-HAZARDOUS WASTE MANIFEST | | 1. Generator's US EPA ID No. | | Manifest Document No. 1581-2 | 2. Page 1 of |
| 3. Generator's Name and Mailing Address | | Morris Oil Company 427 Alexander Avenue Spartanburg S.C. UST #08641 | | | |
| 4. Generator's Phone | | | | | |
| 5. Transporter 1 Company Name | | 6. US EPA ID Number | | A. State Transporter's ID | |
| Emerald, Inc. | | | | B. Transporter 1 Phone 803-469-5454 | |
| 7. Transporter 2 Company Name | | 8. US EPA ID Number | | C. State Transporter's ID | |
| | | | | D. Transporter 2 Phone | |
| 9. Designated Facility Name and Site Address | | 10. US EPA ID Number | | E. State Facility's ID | |
| City of Manning Wastewater Treatment Facility PO Box 546 Manning, SC 29102 | | | | F. Facility's Phone | |
| 11. WASTE DESCRIPTION | | | 12. Containers | | 13. Total Quantity |
| | | | No. Type | | 14. Unit Wt./Vol. |
| a. Non-Hazardous Petroleum Contaminated Groundwater | | | | | 5190 GAL |
| b. | | | | | |
| c. | | | | | |
| d. | | | | | |
| G. Additional Descriptions for Materials Listed Above | | | H. Handling Codes for Wastes Listed Above | | |
| | | | | | |
| 15. Special Handling Instructions and Additional Information | | | | | |
| | | | | | |
| 16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations. | | | | | |
| Printed/Typed Name | | Signature | | Date | |
| Adam Richardson | | | | 2 4 21 | |
| 17. Transporter 1 Acknowledgement of Receipt of Materials | | Signature | | Date | |
| Printed/Typed Name | | Signature | | Date | |
| ERIC FORD | | | | 2 04 21 | |
| 18. Transporter 2 Acknowledgement of Receipt of Materials | | Signature | | Date | |
| Printed/Typed Name | | Signature | | Date | |
| | | | | | |
| 19. Discrepancy Indication Space | | | | | |
| | | | | | |
| 20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19. | | | | | |
| Printed/Typed Name | | Signature | | Date | |
| James Bethea | | | | 2 6 21 | |

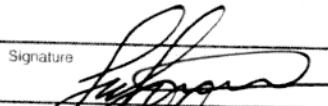
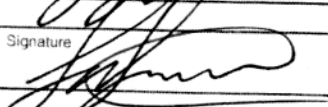
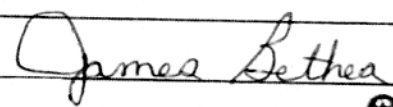


Manhole Across from Georgio's

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on a 12 pitch typewriter)

NON-HAZARDOUS WASTE

| | | | | | |
|---|--|--|---|-------------------------------------|--------------|
| NON-HAZARDOUS WASTE MANIFEST | | 1. Generator's US EPA ID No. | | Manifest Document No. 1581-3 | 2. Page 1 of |
| 3. Generator's Name and Mailing Address | | Morris Oil Company 427 Alexander Avenue Spartanburg S.C. UST #08641 | | | |
| 4. Generator's Phone () | | | | | |
| 5. Transporter 1 Company Name | | 6. US EPA ID Number | | A. State Transporter's ID | |
| Emerald, Inc. | | | | B. Transporter 1 Phone 803-469-5454 | |
| 7. Transporter 2 Company Name | | 8. US EPA ID Number | | C. State Transporter's ID | |
| | | | | D. Transporter 2 Phone | |
| 9. Designated Facility Name and Site Address | | 10. US EPA ID Number | | E. State Facility's ID | |
| City of Manning Wastewater Treatment Facility PO Box 546 Manning, SC 29102 | | | | F. Facility's Phone | |
| 11. WASTE DESCRIPTION | | 12. Containers | | 13. Total Quantity | |
| | | No. Type | | 14. Unit Wt./Vol. | |
| a. Non-Hazardous Petroleum Contaminated Groundwater | | | | 3019 | |
| b. | | | | | |
| c. | | | | | |
| d. | | | | | |
| G. Additional Descriptions for Materials Listed Above | | | H. Handling Codes for Wastes Listed Above | | |
| 15. Special Handling Instructions and Additional Information | | | | | |
| 16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations. | | | | | |
| Printed/Typed Name | | Signature | | Date | |
| Lee Stagner | |  | | Month Day Year 2 5 21 | |
| 17. Transporter 1 Acknowledgement of Receipt of Materials | | Signature | | Date | |
| Lee Stagner | |  | | Month Day Year 2 8 21 | |
| 18. Transporter 2 Acknowledgement of Receipt of Materials | | Signature | | Date | |
| | | | | Month Day Year | |
| 19. Discrepancy Indication Space | | | | | |
| 20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19. | | | | | |
| Printed/Typed Name | | Signature | | Date | |
| James Bethea | |  | | Month Day Year 2 13 21 | |

Manhole Across from Geary's

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

RECEIVED
MAR 01 2021
UST DIVISION

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

February 19, 2021



Quincy Hoffer, Hydrogeologist
Corrective Action and Quality Assurance Section
Underground Storage Tank Management Division
Bureau of Underground Storage Tank Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, SC 29201

Aggressive Fluid Vapor Recovery Report
Morris Oil Company
Spartanburg, South Carolina
Spartanburg County
UST Permit #08641; CA #62758
Emerald Job 20-059B

Mr. Hoffer,

Please find the attached Aggressive Fluid Vapor Recovery (AFVR) Report for the Morris Oil Company site. A site visit was conducted on December 28, 2020 to locate monitoring wells, coordinate the event with the property owner, and assess site conditions. Prior to conducting this AFVR event, information gathered during the site reconnaissance was presented to the SCDHEC project manager for review.

AGGRESSIVE FLUID VAPOR RECOVERY EVENT

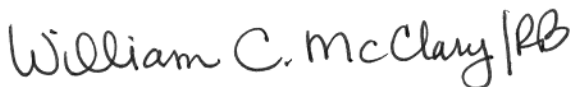
On February 5 through 9, 2021, Emerald, Inc. personnel performed a 96-hour AFVR event utilizing MW-3, and MW-6 as the extraction locations. This 96-hour AFVR event was conducted to remove free product and dissolved chemicals of concern previously detected at the subject site. Free phase petroleum product was not detected prior to or at the conclusion of the event.

Table 1 presents the off-gas concentrations (using a Photoionization Detector), post treatment off-gas concentrations, off-gas velocity, and knockout tank vacuum. Table 2 presents the stinger depths, wellhead vacuum measurements, water levels measurements and magnehelic readings obtained during the event. Emerald, Inc. field personnel normally record data at thirty-minute intervals for the first eight hours of the event, then at one-hour intervals from hours nine through twenty-four and at two-hour intervals from hour twenty-four until the conclusion of the event. During the hours of midnight to 8 AM event monitoring was suspended. Off-gas treatment was utilized during business hours to limit exposure of the off-gas to the general public using a catalytic oxidizer.

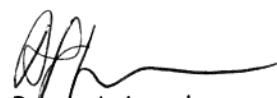
According to the calculations as presented on Table 1, a total of 123.0 pounds of hydrocarbons (as vapor) and 19.67 equivalent gallons of hydrocarbons were removed during this event. Free phase product was not detected in the knockout tank during this event. According to the meter, a total of 6,649 gallons of petroleum contaminated groundwater was transported to the City of Manning Wastewater Treatment Facility in Manning SC and The Blue Meadows Treatment Facility in Belton SC for proper disposal. A copy of the disposal manifests for this event are included as an attachment.

If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454.

Sincerely,
Emerald, Inc.

Handwritten signature of William C. McClary in black ink, including the initials 'PB' at the end.

William C. McClary, P.G.
Project Manager

Handwritten signature of Ronny L. Lowder in black ink, featuring a long horizontal flourish.

Ronny L. Lowder
President

Attachments

**TABLE 1
AFVR MONITORING DATA
MORRIS OIL COMPANY
SPARTANBURG, SOUTH CAROLINA
SCDHEC SITE ID # 08641
EMERALD JOB # 20-059B**

| Extraction Wells | Date | Time (hh:mm) | Differential Time (hr) | Knockout Tank Vacuum (in. Hg) | Off Gas Concentration(PPM) | Post-Treatment Concentration (PPM) | Offgas Velocity (ft/min) | Flow Rate (CFM) | CG:M (mg/dsm ³) | Cg (Lb/Dscf) | Removal Rate (Lbs/Hr) | Interval Removal (Lbs) |
|------------------|--------|--------------|------------------------|-------------------------------|-----------------------------|------------------------------------|--------------------------|-----------------|-----------------------------|--------------|-----------------------|------------------------|
| MW-3 | 2/5/21 | 12:30 | Start | 20 | 805 | <0.1 | N/A | 80 | 4,281 | 2.67E-04 | 1.28 | - |
| MW-6 | | 13:00 | 0.5 | 20 | 749 | <0.1 | N/A | 80 | 3,983 | 2.49E-04 | 1.19 | 0.62 |
| | | 13:30 ↓ | 0.5 | 20 | 876 | <0.1 | N/A | 80 | 4,658 | 2.91E-04 | 1.40 | 0.65 |
| | | 14:00 | 0.5 | 20 | 844 | <0.1 | N/A | 80 | 4,488 | 2.80E-04 | 1.34 | 0.69 |
| | | 14:30 ↓ | 0.5 | 20 | 890 | <0.1 | N/A | 80 | 4,733 | 2.95E-04 | 1.42 | 0.69 |
| | | 15:00 | 0.5 | 20 | 888 | <0.1 | N/A | 80 | 4,722 | 2.95E-04 | 1.42 | 0.71 |
| | | 15:30 ↓ | 0.5 | 20 | 891 | <0.1 | N/A | 80 | 4,738 | 2.96E-04 | 1.42 | 0.71 |
| | | 16:00 | 0.5 | 20 | 872 | <0.1 | N/A | 80 | 4,637 | 2.89E-04 | 1.39 | 0.70 |
| | | 16:30 ↓ | 0.5 | 20 | 901 | <0.1 | N/A | 80 | 4,791 | 2.99E-04 | 1.44 | 0.71 |
| | | 17:00 | 0.5 | 20 | 836 | <0.1 | N/A | 80 | 4,446 | 2.78E-04 | 1.33 | 0.69 |
| | | 17:30 ↓ | 0.5 | 20 | 852 | <0.1 | N/A | 80 | 4,531 | 2.83E-04 | 1.36 | 0.67 |
| | | 18:00 | 0.5 | 20 | 863 | <0.1 | N/A | 80 | 4,589 | 2.87E-04 | 1.38 | 0.68 |
| | | 18:30 ↓ | 0.5 | 20 | 854 | <0.1 | N/A | 80 | 4,541 | 2.84E-04 | 1.36 | 0.68 |
| | | 19:00 | 0.5 | 20 | 887 | <0.1 | N/A | 80 | 4,717 | 2.94E-04 | 1.41 | 0.69 |
| | | 19:30 | 0.5 | 20 | 916 | <0.1 | N/A | 80 | 4,871 | 3.04E-04 | 1.46 | 0.72 |
| | | 20:00 | 0.5 | 20 | 876 | <0.1 | N/A | 80 | 4,658 | 2.91E-04 | 1.40 | 0.71 |
| | | 20:30 | 0.5 | 20 | 904 | <0.1 | N/A | 80 | 4,807 | 3.00E-04 | 1.44 | 0.71 |
| | | 21:00 | 0.5 | 20 | 861 | N/A | N/A | 80 | 4,579 | 2.86E-04 | 1.37 | 0.70 |
| | | 22:00 | 1.0 | 20 | 885 | N/A | N/A | 80 | 4,706 | 2.94E-04 | 1.41 | 1.39 |
| | | 23:00 | 1.0 | 20 | 893 | N/A | N/A | 80 | 4,749 | 2.96E-04 | 1.42 | 1.42 |
| | 2/6/21 | 0:00 | 1.0 | 20 | 907 | N/A | N/A | 80 | 4,823 | 3.01E-04 | 1.45 | 1.43 |
| | | 1:00 | 1.0 | 20 | 873 | N/A | N/A | 80 | 4,642 | 2.90E-04 | 1.39 | 1.42 |
| | | 2:00 | 1.0 | 20 | 865 | N/A | N/A | 80 | 4,600 | 2.87E-04 | 1.38 | 1.38 |
| | | 8:00 | 6.0 | 20 | 821 | N/A | N/A | 80 | 4,366 | 2.73E-04 | 1.31 | 8.06 |
| | | 9:00 | 1.0 | 20 | 838 | <0.1 | N/A | 80 | 4,456 | 2.78E-04 | 1.34 | 1.32 |
| | | 10:00 ↑ | 1.0 | 20 | 816 | <0.1 | N/A | 80 | 4,339 | 2.71E-04 | 1.30 | 1.32 |
| | | 12:00 ↓ | 2.0 | 20 | 782 | <0.1 | N/A | 80 | 4,158 | 2.60E-04 | 1.25 | 2.55 |
| | | 14:00 ↓ | 2.0 | 20 | 810 | <0.1 | N/A | 80 | 4,307 | 2.69E-04 | 1.29 | 2.54 |
| | | 16:00 ↓ | 2.0 | 20 | 762 | <0.1 | N/A | 80 | 4,052 | 2.53E-04 | 1.21 | 2.51 |
| | | 18:00 | 2.0 | 20 | 743 | <0.1 | N/A | 80 | 3,951 | 2.47E-04 | 1.18 | 2.40 |
| | | 20:00 | 2.0 | 20 | 761 | <0.1 | N/A | 80 | 4,047 | 2.53E-04 | 1.21 | 2.40 |
| | | 22:00 | 2.0 | 20 | 729 | N/A | N/A | 80 | 3,877 | 2.42E-04 | 1.16 | 2.37 |
| | 2/7/21 | 0:00 | 2.0 | 20 | 743 | N/A | N/A | 80 | 3,951 | 2.47E-04 | 1.18 | 2.35 |

TABLE 1 Cont'd.
AFVR MONITORING DATA
MORRIS OIL COMPANY
SPARTANBURG, SOUTH CAROLINA
SCDHEC SITE ID # 08641
EMERALD JOB # 20-059B

| Extraction Wells | Date | Time (hh:mm) | Differential Time (hr) | Knockout Tank Vacuum (in. Hg) | Off Gas Concentration(PPM) | Post-Treatment Concentration (PPM) | Offgas Velocity (ft/min) | Flow Rate (CFM) | CG:M (mg/dsm ³) | Cg (Lb/Dscf) | Removal Rate (Lbs/Hr) | Interval Removal (Lbs) |
|---|------------------------|-------------------------------|--|---------------------------------------|-------------------------------|--|----------------------------|-------------------------------|---|--------------|-----------------------|------------------------|
| MW-3 | | 8:00 | 8.0 | 20 | 766 | N/A | N/A | 80 | 4,073 | 2.54E-04 | 1.22 | 14.27 |
| MW-6 | | 10:00 | 2.0 | 20 | 794 | <0.1 | N/A | 80 | 4,222 | 2.64E-04 | 1.27 | 2.49 |
| | | 12:00 | 2.0 | 20 | 740 | <0.1 | N/A | 80 | 3,935 | 2.46E-04 | 1.18 | 2.44 |
| | | 14:00 | 2.0 | 20 | 752 | <0.1 | N/A | 80 | 3,999 | 2.50E-04 | 1.20 | 2.38 |
| | | 16:00 | 2.0 | 20 | 766 | <0.1 | N/A | 80 | 4,073 | 2.54E-04 | 1.22 | 2.42 |
| | | 18:00 | 2.0 | 20 | 742 | <0.1 | N/A | 80 | 3,946 | 2.46E-04 | 1.18 | 2.40 |
| | | 20:00 | 2.0 | 20 | 729 | <0.1 | N/A | 80 | 3,877 | 2.42E-04 | 1.16 | 2.34 |
| | | 22:00 | 2.0 | 20 | 735 | N/A | N/A | 80 | 3,909 | 2.44E-04 | 1.17 | 2.33 |
| | 2/8/21 | 0:00 | 2.0 | 20 | 704 | N/A | N/A | 80 | 3,744 | 2.34E-04 | 1.12 | 2.29 |
| | | 8:00 | 8.0 | 20 | 739 | N/A | N/A | 80 | 3,930 | 2.45E-04 | 1.18 | 9.20 |
| | | 10:00 | 2.0 | 20 | 717 | <0.1 | N/A | 80 | 3,813 | 2.38E-04 | 1.14 | 2.32 |
| | | 12:00 | 2.0 | 20 | 745 | <0.1 | N/A | 80 | 3,962 | 2.47E-04 | 1.19 | 2.33 |
| | | 14:00 | 2.0 | 20 | 762 | <0.1 | N/A | 80 | 4,052 | 2.53E-04 | 1.21 | 2.40 |
| | | 16:00 | 2.0 | 20 | 720 | <0.1 | N/A | 80 | 3,829 | 2.39E-04 | 1.15 | 2.36 |
| | | 18:00 | 2.0 | 20 | 734 | <0.1 | N/A | 80 | 3,903 | 2.44E-04 | 1.17 | 2.32 |
| | | 20:00 | 2.0 | 20 | 702 | <0.1 | N/A | 80 | 3,733 | 2.33E-04 | 1.12 | 2.29 |
| | | 22:00 | 2.0 | 20 | 693 | N/A | N/A | 80 | 3,685 | 2.30E-04 | 1.10 | 2.22 |
| | 2/9/21 | 0:00 | 2.0 | 20 | 681 | N/A | N/A | 80 | 3,621 | 2.26E-04 | 1.09 | 2.19 |
| | | 8:00 | 8.0 | 20 | 693 | N/A | N/A | 80 | 3,685 | 2.30E-04 | 1.10 | 8.76 |
| | | 10:00 | 2.0 | 20 | 710 | <0.1 | N/A | 80 | 3,776 | 2.36E-04 | 1.13 | 2.24 |
| | | 12:00 | 2.0 | 20 | 684 | <0.1 | N/A | 80 | 3,637 | 2.27E-04 | 1.09 | 2.22 |
| | | 12:30 | 2.0 | 20 | 700 | <0.1 | N/A | 80 | 3,722 | 2.32E-04 | 1.12 | 2.21 |
| Well Gauging Data | | | Before AFVR Event | | | After AFVR Event | | | Equations | | | |
| Well No. | Diameter (in) | Screened Interval (ft) | Depth to Product (ft) | Depth to Product (ft) | Product Thickness (ft) | Depth to Product (ft) | Depth to Water (ft) | Product Thickness (ft) | Cg,m = PPMg*(Mg/K3) Removal Rate = Cg * Flow Rate * 60Min/Hr Interval Removal = (T ₁ + T ₂)/2 PPM = Part per Million (by PID) Cg,m = mg/dsm ³ (mass concentration of gasoline emission) Mg = 128 mg/mg-mole, molecular weight of gasoline K3 = 24.07 dsm ³ /1E6 mg-mole, mass to volume conversion Cg = lb/dscf, mass concentration of gasoline by emission Removal Rate = lb/hr,pollutant mass removal rate of emission | | | |
| MW-3 | 2 | 14-24 | --- | 13.19 | --- | --- | 14.01 | --- | | | | |
| MW-6 | 2 | 18.5-28.5 | --- | 15.24 | --- | --- | 19.89 | --- | | | | |
| Product Thickness | | | Recovery / Disposal Information | | | | | | | | | |
| Product observed in Sight Tube? | | | No | Hydrocarbons Removed (vapor): | | 123.00 | Pounds | | | | | |
| Product detected in Tanker? | | | No | Hydrocarbons Removed (liquid): | | 0.00 | Gallons | | | | | |
| Weather Conditions | | | Emerald, Inc. Personnel | Total Hydrocarbons Removed: | | 19.67 | Equivalent Gallons | | | | | |
| 2/5/21 | Rain, 42-55°F | | | Molecular Weight Utilized: | | 128 | mg/mg-mole | | | | | |
| 2/6/21 | Rain, 35-49°F | | A.Richardson | Disposal Facility: | | City of Manning Wastewater Facility, Manning, SC | | | | | | |
| 2/7/21 | Sunny, 28-52°F | | M. Slaybaugh | Total Liquids Removed: | | 6,649 | Gallons | | | | | |
| 2/8/21 | Partly Cloudy, 46-59°F | | | | | | | | | | | |
| 2/9/21 | Rain, 46-64°F | | | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| ↑ = Stinger raised ↓ = Stinger lowered | | | | | | | | | | | | |

**TABLE 2
EVENT MONITORING DATA
MORRIS OIL COMPANY
SPARTANBURG, SOUTH CAROLINA
SCDHEC SITE ID # 08641
EMERALD JOB # 20-059B**

| Date | Time (hh:mm) | Extraction Wells | | | | Event Monitoring | | | | | |
|--------|--------------|---------------------|--------------------------|---------------------|--------------------------|--------------------------------------|------------------------|----------------------|--------------------------------------|------------------------|----------------------|
| | | MW-3 | | MW-6 | | MW-4 | | | MW-7 | | |
| | | Stinger Depth (ft.) | Wellhead Vacuum (in. Hg) | Stinger Depth (ft.) | Wellhead Vacuum (in. Hg) | Magnehelic Reading (inches of water) | Depth to Product (ft.) | Depth to Water (ft.) | Magnehelic Reading (inches of water) | Depth to Product (ft.) | Depth to Water (ft.) |
| 2/5/21 | 12:30 | 16 | 10 | 16 | 13 | Pre | 15.14 | 15.24 | Pre | 12.33 | 13.09 |
| | 13:00 | 16 | 10 | 16 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 13:30 | 17 | 10 | 17 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 14:00 | 17 | 10 | 17 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 14:30 | 18 | 10 | 18 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 15:00 | 18 | 10 | 18 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 15:30 | 19 | 10 | 19 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 16:00 | 19 | 10 | 19 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 16:30 | 20 | 10 | 20 | 13 | <0.1 | 15.27 | 15.37 | <0.1 | 12.32 | 13.08 |
| | 17:00 | 20 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 17:30 | 21 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 18:00 | 21 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 18:30 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 19:00 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 19:30 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 20:00 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 20:30 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 21:00 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 22:00 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 23:00 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| 2/6/21 | 0:00 | 22 | 10 | 20 | 13 | <0.1 | 15.34 | 15.43 | <0.1 | 12.34 | 13.10 |
| | 1:00 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 2:00 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 8:00 | 22 | 10 | 20 | 13 | <0.1 | 15.31 | 15.41 | <0.1 | 12.34 | 13.10 |
| | 9:00 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 10:00 | 16 | 10 | 16 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 12:00 | 18 | 10 | 18 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 14:00 | 20 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 16:00 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 18:00 | 22 | 10 | 20 | 13 | <0.1 | 15.45 | 15.55 | <0.1 | 12.34 | 13.10 |
| | 20:00 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 22:00 | 22 | 10 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| 2/7/21 | 0:00 | 22 | 10 | 20 | 13 | <0.1 | 15.47 | 15.57 | <0.1 | 12.39 | 13.15 |

Notes:

**TABLE 2 Cont'd.
EVENT MONITORING DATA
MORRIS OIL COMPANY
SPARTANBURG, SOUTH CAROLINA
SCDHEC SITE ID # 08641
EMERALD JOB # 20-059B**

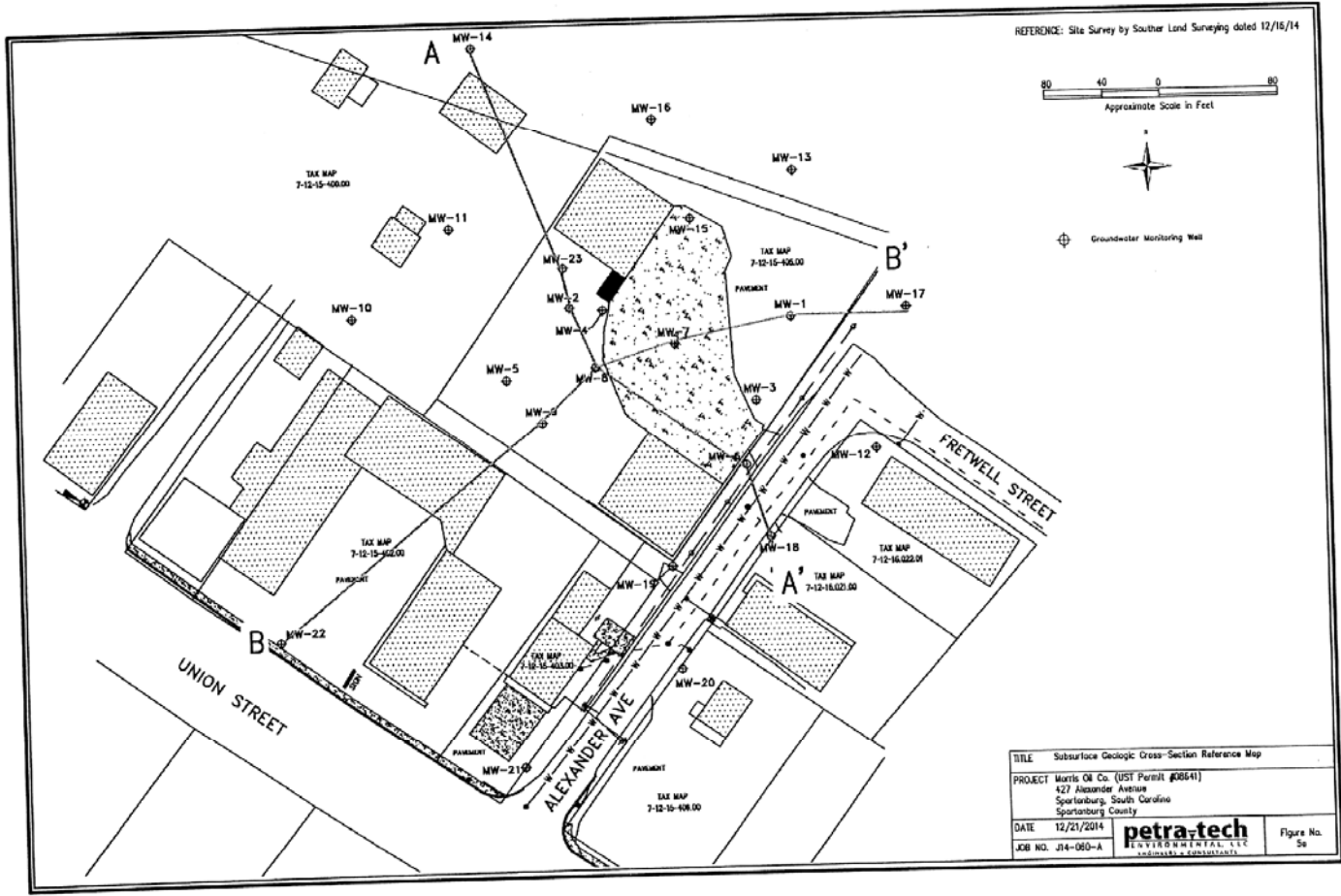
| Date | Time (hh:mm) | Extraction Wells | | | | Event Monitoring | | | | | |
|--------|-----------------|---------------------|--------------------------|---------------------|--------------------------|--------------------------------------|------------------------|----------------------|--------------------------------------|------------------------|----------------------|
| | | MW-3 | | MW-7 | | MW-4 | | | MW-7 | | |
| | | Stinger Depth (ft.) | Wellhead Vacuum (in. Hg) | Stinger Depth (ft.) | Wellhead Vacuum (in. Hg) | Magnehelic Reading (inches of water) | Depth to Product (ft.) | Depth to Water (ft.) | Magnehelic Reading (inches of water) | Depth to Product (ft.) | Depth to Water (ft.) |
| | 8:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 10:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 12:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 14:00 | 22 | 14 | 20 | 13 | <0.1 | 15.34 | 15.42 | <0.1 | 12.36 | 13.12 |
| | 16:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 18:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 20:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 22:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| 2/8/21 | 0:00 | 22 | 14 | 20 | 13 | <0.1 | 15.43 | 15.53 | <0.1 | 13.30 | 13.06 |
| | 8:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 10:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 12:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 14:00 | 22 | 14 | 20 | 13 | <0.1 | 15.45 | 15.55 | <0.1 | 12.33 | 13.09 |
| | 16:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 18:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 20:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 22:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| 2/9/21 | 0:00 | 22 | 14 | 20 | 13 | <0.1 | 15.44 | 15.54 | <0.1 | 12.32 | 13.08 |
| | 8:00 | 22 | 14 | 20 | 13 | <0.1 | 15.40 | 15.50 | <0.1 | 12.29 | 13.05 |
| | 10:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 12:00 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
| | 12:30 | 22 | 14 | 20 | 13 | <0.1 | --- | --- | <0.1 | --- | --- |
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Notes:

REFERENCE: Site Survey by Souther Land Surveying dated 12/16/14



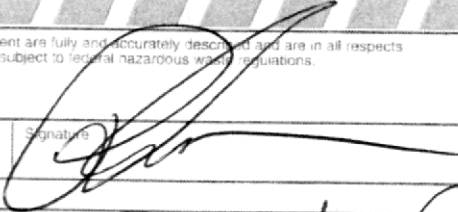
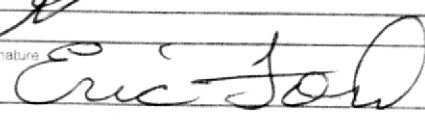
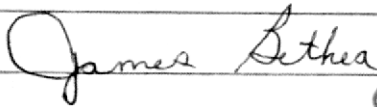
⊕ Groundwater Monitoring Well



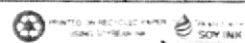
| | | | |
|---------|---|--|---------------|
| TITLE | Subsurface Geologic Cross-Section Reference Map | | |
| PROJECT | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | | |
| DATE | 12/21/2014 | | Figure No. 5a |
| JOB NO. | J14-060-A | | |

NON-HAZARDOUS WASTE MANIFEST

Please print or type. (Form designed for use on a 12 pitch typewriter)

| | | | | | |
|---|--|---|---|---|-------------------|
| NON-HAZARDOUS WASTE MANIFEST | | 1. Generator's US EPA ID No. | | Manifest Document No. 1582-1 | 2. Page 1 of |
| 3. Generator's Name and Mailing Address Morris Oil Company 427 Alexander Avenue Spartanburg S.C. UST #08641 | | 4. Generator's Phone | | | |
| 5. Transporter 1 Company Name Emerald, Inc. | | 6. US EPA ID Number | | A. State Transporter's ID | |
| 7. Transporter 2 Company Name | | 8. US EPA ID Number | | B. Transporter 1 Phone 803-469-5454 | |
| 9. Designated Facility Name and Site Address City of Manning Wastewater Treatment Facility PO Box 546 Manning, SC 29102 | | 10. US EPA ID Number | | C. State Transporter's ID | |
| | | | | D. Transporter 2 Phone | |
| | | | | E. State Facility's ID | |
| | | | | F. Facility's Phone | |
| 11. WASTE DESCRIPTION | | | 12. Containers | 13. Total Quantity | 14. Unit Wt./Vol. |
| | | | No. | Type | |
| a. Non-Hazardous Petroleum Contaminated Groundwater | | | | | 5231 GAL |
| b. | | | | | |
| c. | | | | | |
| d. | | | | | |
| G. Additional Descriptions for Materials Listed Above | | | H. Handling Codes for Wastes Listed Above | | |
| | | | | | |
| 15. Special Handling Instructions and Additional Information | | | | | |
| | | | | | |
| 16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations. | | | | | |
| Printed/Typed Name Adam Richardson | | Signature  | | Date Month Day Year 2 08 21 | |
| 17. Transporter 1 Acknowledgement of Receipt of Materials | | Printed/Typed Name ERIC FORD | | Signature  | |
| | | | | Date Month Day Year 2 08 21 | |
| 18. Transporter 2 Acknowledgement of Receipt of Materials | | Printed/Typed Name | | Signature | |
| | | | | Date Month Day Year | |
| 19. Discrepancy Indication Space | | | | | |
| | | | | | |
| 20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19. | | | | | |
| Printed/Typed Name James Bethea | | Signature  | | Date Month Day Year 2 9 21 | |

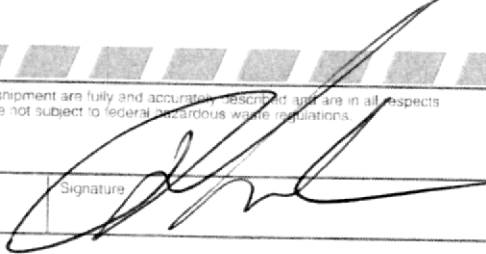

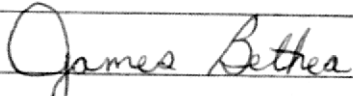
NON-HAZARDOUS WASTE GENERATOR



Manhole Across from Georgia's

NON-HAZARDOUS WASTE MANIFEST

Please print or type. Form designed for use on 8 1/2 inch (210 mm) typewriter.

| | | | | | |
|---|--|--|--|--|-------------------|
| NON-HAZARDOUS WASTE MANIFEST | | 1. Generator's US EPA ID No. | | Manifest Document No. 1582-2 | 2. Page 1 of |
| 3. Generator's Name and Mailing Address | | Morris Oil Company 427 Alexander Avenue Spartanburg S.C. UST #08641 | | | |
| 4. Generator's Phone: | | | | | |
| 5. Transporter 1 Company Name | | 6. US EPA ID Number | | A. State Transporter's ID | |
| Emerald, Inc. | | | | B. Transporter 1 Phone 803-469-5454 | |
| 7. Transporter 2 Company Name | | 8. US EPA ID Number | | C. State Transporter's ID | |
| | | | | D. Transporter 2 Phone | |
| 9. Designated Facility Name and Site Address | | 10. US EPA ID Number | | E. State Facility's ID | |
| City of Manning Wastewater Treatment Facility PO Box 546 Manning, SC 29102 | | | | F. Facility's Phone | |
| 11. WASTE DESCRIPTION | | 12. Containers | | 13. Total Quantity | 14. Unit Wt./Vol. |
| | | No. Type | | | |
| a. Non-Hazardous Petroleum Contaminated Groundwater | | | | 1418 | GAL |
| b. | | | | | |
| c. | | | | | |
| d. | | | | | |
| G. Additional Descriptions for Materials Listed Above | | H. Handling Codes for Wastes Listed Above | | | |
| | | | | | |
| 15. Special Handling Instructions and Additional Information | | | | | |
| 16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations. | | | | | |
| Printed/Typed Name | | Signature | | Date | |
| Adam Richardson | |  | | Month Day Year 2 9 21 | |
| 17. Transporter 1 Acknowledgement of Receipt of Materials | | Signature | | Date | |
| Printed/Typed Name | | Signature | | Date | |
| ERIC FORD | |  | | Month Day Year 02 09 21 | |
| 18. Transporter 2 Acknowledgement of Receipt of Materials | | Signature | | Date | |
| Printed/Typed Name | | Signature | | Date | |
| | | | | Month Day Year | |
| 19. Discrepancy Indication Space | | | | | |
| 20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19. | | | | | |
| Printed/Typed Name | | Signature | | Date | |
| James Bethea | |  | | Month Day Year 2 10 21 | |

NON-HAZARDOUS WASTE GENERATOR

TRANSPORTER FACILITY

Manhole Across from Georgia's



the physical characteristics of rock or soil (lithology) in order to estimate the effective porosity for different lithological formations.

An effective porosity value of 0.33 was estimated for the shallow wells screened in a slightly clayey, silty, fine to medium sand (saprolite and partially weathered rock). The effective porosity was estimated based on published values of effective porosity for a fine sand (McWhorter and Sunada 1977⁴) which ranged from 0.01 to 0.46 with an arithmetic mean of 0.33.

Groundwater Flow Velocity

The velocity of groundwater flow is derived from the equation:

$$V = \frac{Ki}{n_e}$$

Where

- V* is the flow velocity
- K* is the hydraulic conductivity
- i* is the horizontal hydraulic gradient; and
- n_e* is the effective porosity.

Based on these parameters and the data provided above, the geometric mean horizontal movement of groundwater is approximately 49.92 feet/year in the unconfined aquifer at the site. **Table 5** summarizes the groundwater flow velocity calculations.

4.0 TIER II RISK EVALUATION AND RECOMMENDATIONS

- Eighteen groundwater monitoring wells (08641-MW06 through 08641-MW23) were installed from November 7, 2014 through November 11, 2014 to complete the assessment of petroleum hydrocarbons in groundwater at the subject site.
- Twenty-two groundwater monitoring wells and one surface water location were sampled for laboratory analysis during the Tier II Assessment. Nine wells (08641-MW01, 08641-MW03, 08641-MW04, 08641-MW06, 08641-MW07, 08641-MW08, 08641-MW09, 08641-MW15, and 08641-MW19) detected petroleum compounds above South Carolina established Risk-Based Screening Levels. Compounds detected above South Carolina established Risk-Based Screening Levels include benzene, ethylbenzene, naphthalene, and TAA. 0.29 and 1.02 feet of free-phase petroleum product were detected in monitoring wells 08641-MW03 and 08641-MW04, respectively. No petroleum compounds were detected in the surface water sampling location.
- Groundwater flow from the source area is primarily to the southwest.
- Presently, the contaminant plume at the subject site appears to be defined horizontally. Groundwater analytical results indicate that at least two major source areas are present at the site (approximate location of monitoring well 08641-MW04 and approximate location of monitoring well 08641-MW03). Groundwater analytical results also indicate potential source areas located proximate to

⁴ McWhorter, D. and Sunada, D., 1977, *Groundwater Hydrology and Hydraulics*, Water Resources Publication, 290 pp.

TABLE 5
Groundwater Velocity
 Morris Oil - UST Permit #08641
 Spartanburg, Spartanburg County, South Carolina

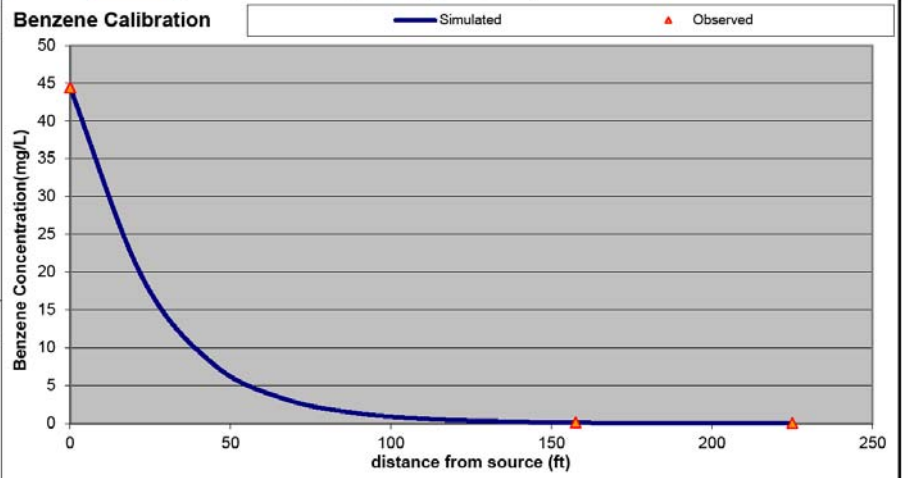
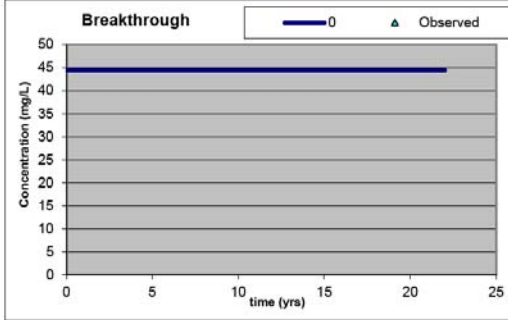
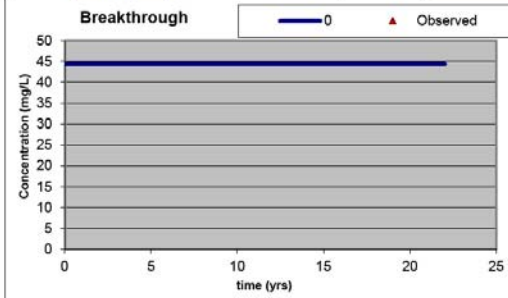
| VELOCITY CALCULATION | Date | Hydraulic Conductivity (K) (centimeters/second) | Hydraulic Conductivity (K) (feet/day) | Hydraulic Conductivity (K) (feet/year) | Hydraulic Gradient (i) (unitless) | Effective Porosity (n) (unitless) | Groundwater Velocity (V) (feet/day) | Groundwater Velocity (V) (feet/year) | Groundwater Velocity (V) (meters/second) |
|----------------------|------------|---|---------------------------------------|--|-----------------------------------|-----------------------------------|-------------------------------------|--------------------------------------|--|
| 08641-MW03 | 04/12/2004 | 2.15E-04 | 0.61 | 2.22E+02 | 0.072 | 0.33 | 1.33E-01 | 48.54 | 4.69E-07 |
| 08641-MW04 | 04/12/2004 | 5.29E-04 | 1.50 | 5.47E+02 | 0.072 | 0.33 | 3.27E-01 | 119.42 | 1.15E-06 |
| 08641-MW05 | 04/12/2004 | 3.54E-04 | 1.00 | 3.66E+02 | 0.072 | 0.33 | 2.19E-01 | 79.92 | 7.72E-07 |
| 08641-MW06 | 12/13/2014 | 5.75E-06 | 0.02 | 5.95E+00 | 0.072 | 0.33 | 3.56E-03 | 1.30 | 1.25E-08 |
| 08641-MW07 | 12/13/2014 | 1.79E-06 | 0.01 | 1.85E+00 | 0.072 | 0.33 | 1.11E-03 | 0.40 | 3.91E-09 |
| Mathematical Mean | --- | 2.21E-04 | 0.63 | 2.29E+02 | 0.072 | 0.33 | 1.37E-01 | 49.92 | 4.82E-07 |

Notes:

Hydraulic conductivity values for groundwater monitoring wells 08641-MW03, 08641-MW04, and 08641-MW05 were obtained from slug tests performed by Spero Corporation during the Tier I Assessment in 2004. Effective porosity values were estimated from published values of effective porosity for a fine sand (ranging from 0.01 to 0.46; arithmetic mean 0.33) (McWorter and Sunada 1977). Hydraulic gradient was calculated based on groundwater elevations from and distances between monitoring wells 08641-MW17 and 08641-MW02 (Figure 4). Groundwater velocity derived from the equation $V = Ki/n$.

| Spatial Calibration Data (centerline) | | | Temporal Calibration Data | | | | Site ID | |
|--|-------------------------|-------------------------|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|----------------|
| x | C _{obs} (mg/L) | C _{sim} (mg/L) | t (yrs) | C _{obs} (mg/L) | C _{sim} (mg/L) | C _{obs} (mg/L) | C _{sim} (mg/L) | Site Name |
| 0 | 44.39 | 44.39 | 0 | | 44.39 | | 44.39 | 08641 |
| 22.5 | | 19.252 | 2.2 | | 44.390 | | 44.390 | Morris Oil Co. |
| 45 | | 7.715 | 4.4 | | 44.390 | | 44.390 | |
| 67.5 | | 3.149 | 6.6 | | 44.390 | | 44.390 | |
| 90 | | 1.313 | 8.8 | | 44.390 | | 44.390 | |
| 112.5 | | 0.556 | 11 | | 44.390 | | 44.390 | |
| 135 | | 0.239 | 13.2 | | 44.390 | | 44.390 | |
| 157.5 | 0.103 | 0.103 | 15.4 | | 44.390 | | 44.390 | |
| 180 | | 0.045 | 17.6 | | 44.390 | | 44.390 | |
| 202.5 | | 0.020 | 19.8 | | 44.390 | | 44.390 | |
| 225 | 0.005 | 0.009 | 22 | | 44.390 | | 44.390 | |

| Model Calibration Parameters | | |
|------------------------------|----------------|--------------------------------|
| t _{1/2} | 0.2915 yrs | λ 2.37736 yr ⁻¹ |
| v _s | 49.74545 ft/yr | |
| R | 1.069 | |
| v _R | 46.546 ft/yr | C _{source} 44.39 mg/L |
| L _p | 311 ft | t _{sim} 22 yrs |
| α _x | 14.10756 ft | |
| α _y | 1.410756 ft | |
| α _z | 1E-99 ft | |

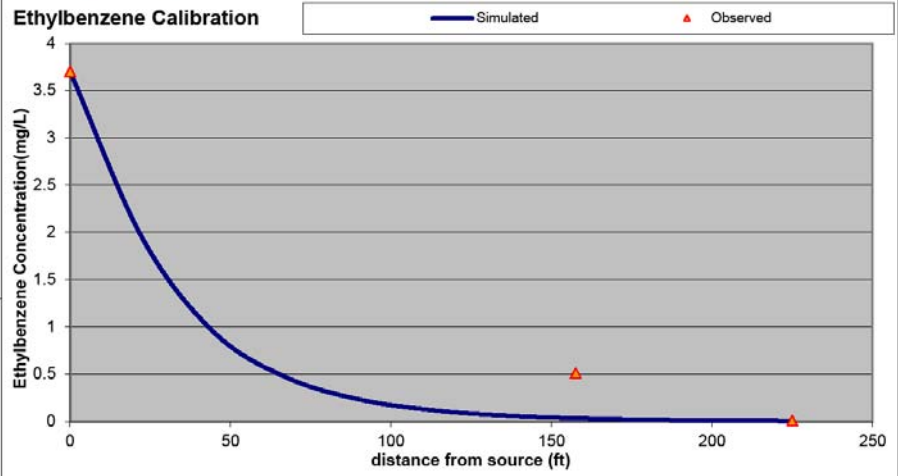
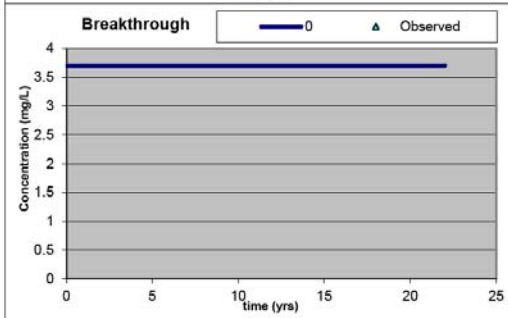
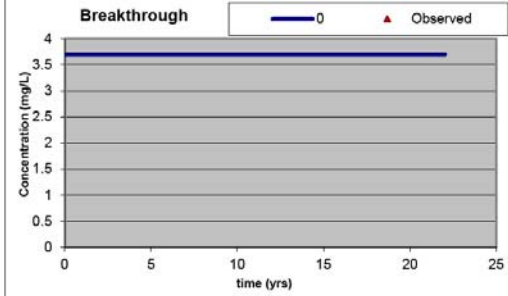


| Source | 22.5 | 45 | 67.5 | 90 | 112.5 | 135 | 157.5 | 180 | 202.5 | 225 |
|--------|------------|------------|------------|------------|------------|-----------|----------|----------|----------|----------|
| 50 | 0.00011459 | 0.00895109 | 0.02440823 | 0.02815354 | 0.02280648 | 0.0154035 | 0.009348 | 0.005298 | 0.002866 | 0.001499 |
| 25 | 2.14434028 | 1.76824763 | 1.01276008 | 0.52070821 | 0.25483263 | 0.1214215 | 0.056944 | 0.026442 | 0.012199 | 0.005604 |
| 0 | 19.2521238 | 7.71518106 | 3.14946425 | 1.31312335 | 0.55631405 | 0.238515 | 0.103197 | 0.04497 | 0.019709 | 0.008679 |
| 25 | 2.14434028 | 1.76824763 | 1.01276008 | 0.52070821 | 0.25483263 | 0.1214215 | 0.056944 | 0.026442 | 0.012199 | 0.005604 |
| 50 | 0.00011459 | 0.00895109 | 0.02440823 | 0.02815354 | 0.02280648 | 0.0154035 | 0.009349 | 0.005298 | 0.002866 | 0.001499 |

Ethylbenzene Calibration

| Spatial Calibration Data (centerline) | | | Temporal Calibration Data | | | | |
|--|-------------------------|-------------------------|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| x | C _{obs} (mg/L) | C _{aim} (mg/L) | t (yrs) | C _{obs} (mg/L) | C _{sim} (mg/L) | C _{obs} (mg/L) | C _{sim} (mg/L) |
| 0 | 3.7 | 3.7 | 0 | | 3.7 | | 3.7 |
| 22.5 | | 1.937 | 2.2 | | 3.700 | | 3.700 |
| 45 | | 0.937 | 4.4 | | 3.700 | | 3.700 |
| 67.5 | | 0.462 | 6.6 | | 3.700 | | 3.700 |
| 90 | | 0.232 | 8.8 | | 3.700 | | 3.700 |
| 112.5 | | 0.119 | 11 | | 3.700 | | 3.700 |
| 135 | | 0.061 | 13.2 | | 3.700 | | 3.700 |
| 157.5 | 0.508 | 0.032 | 15.4 | | 3.700 | | 3.700 |
| 180 | | 0.017 | 17.6 | | 3.700 | | 3.700 |
| 202.5 | | 0.009 | 19.8 | | 3.700 | | 3.700 |
| 225 | 0.005 | 0.005 | 22 | | 3.700 | | 3.700 |

| | | |
|------------------------------|----------------|------------------------------|
| Site ID | 08641 | |
| Site Name | Morris Oil Co. | |
| Model Calibration Parameters | | |
| t _{1/2} | 0.45 yrs | λ 1.54 yr ⁻¹ |
| v _s | 49.74545 ft/yr | |
| R | 1.149 | |
| v _R | 43.282 ft/yr | C _{source} 3.7 mg/L |
| L _p | 311 ft | t _{sim} 22 yrs |
| α _x | 14.10756 ft | |
| α _y | 1.410756 ft | |
| α _z | 1E-99 ft | |

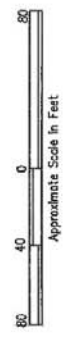


| Source | 22.5 | 45 | 67.5 | 90 | 112.5 | 135 | 157.5 | 180 | 202.5 | 225 |
|--------|------------|------------|------------|------------|------------|-----------|----------|----------|----------|----------|
| 50 | 1.1529E-05 | 0.0010871 | 0.00357823 | 0.00498199 | 0.00487154 | 0.0039716 | 0.00291 | 0.00199 | 0.0013 | 0.000821 |
| 25 | 0.21574892 | 0.21475158 | 0.14846983 | 0.09214344 | 0.05443314 | 0.0313071 | 0.017723 | 0.009934 | 0.005532 | 0.003068 |
| 0 | 1.93701766 | 0.93699961 | 0.46170899 | 0.23236757 | 0.11883062 | 0.0614982 | 0.032118 | 0.016894 | 0.008938 | 0.004751 |
| 25 | 0.21574892 | 0.21475158 | 0.14846983 | 0.09214344 | 0.05443314 | 0.0313071 | 0.017723 | 0.009934 | 0.005532 | 0.003068 |
| 50 | 1.1529E-05 | 0.0010871 | 0.00357823 | 0.00498199 | 0.00487154 | 0.0039716 | 0.00291 | 0.00199 | 0.0013 | 0.000821 |

2.6cm

| FP Thickness |
|--------------|
| -3 |
| -4 |
| -6 |
| -7 |
| 4.21 |

REFERENCE: Site Survey by Southern Land Surveying dated 12/18/14



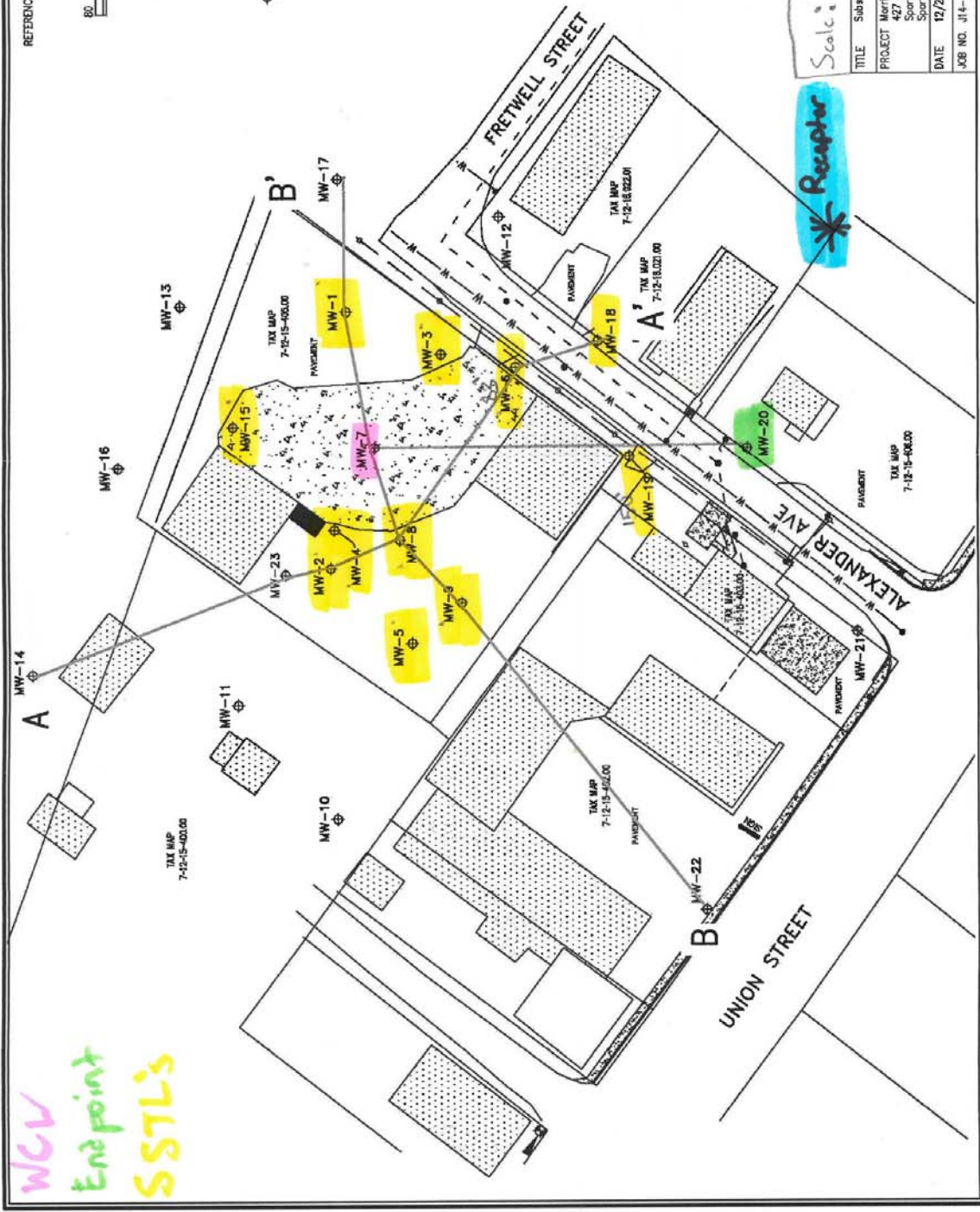
Groundwater Monitoring Well

$X_{max} = 225 \text{ ft}$
 $Y_{max} = 62 \text{ ft}$
 $\text{Flow Length} = 311 \text{ ft}$

Scale: $\frac{80 \text{ ft}}{2.6 \text{ cm}} = 30.77 \text{ ft/cm}$

| | |
|------------|---|
| TITLE | Subsurface Geologic Cross-Section Reference Map |
| PROJECT | Morris Oil Co. (UST Permit #08841) 427 Alexander Avenue Spartanburg, South Carolina |
| DATE | 12/21/2014 |
| JOB NO. | J14-060-A |
| Figure No. | 5a |

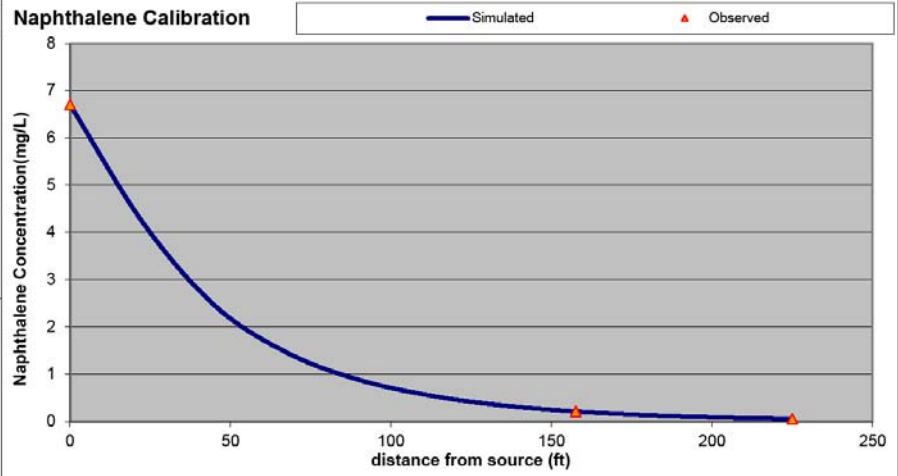
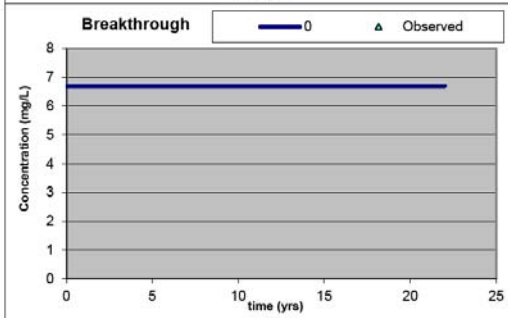
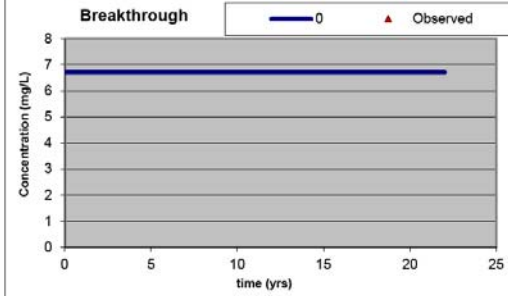
petratech
 ENVIRONMENTAL, LLC
 ENGINEERS & CONSULTANTS



Naphthalene Calibration

| Spatial Calibration Data (centerline) | | | Temporal Calibration Data | | | | |
|--|-------------------------|-------------------------|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| x | C _{obs} (mg/L) | C _{aim} (mg/L) | t (yrs) | C _{obs} (mg/L) | C _{sim} (mg/L) | C _{obs} (mg/L) | C _{sim} (mg/L) |
| 0 | 6.7 | 6.7 | 0 | 6.7 | 6.7 | 6.7 | 6.7 |
| 22.5 | | 4.218 | 2.2 | | 6.700 | | 6.700 |
| 45 | | 2.454 | 4.4 | | 6.700 | | 6.700 |
| 67.5 | | 1.454 | 6.6 | | 6.700 | | 6.700 |
| 90 | | 0.880 | 8.8 | | 6.700 | | 6.700 |
| 112.5 | | 0.541 | 11 | | 6.700 | | 6.700 |
| 135 | | 0.336 | 13.2 | | 6.700 | | 6.700 |
| 157.5 | 0.21 | 0.210 | 15.4 | | 6.700 | | 6.700 |
| 180 | | 0.132 | 17.6 | | 6.700 | | 6.700 |
| 202.5 | | 0.083 | 19.8 | | 6.700 | | 6.700 |
| 225 | 0.05 | 0.052 | 22 | | 6.700 | | 6.700 |

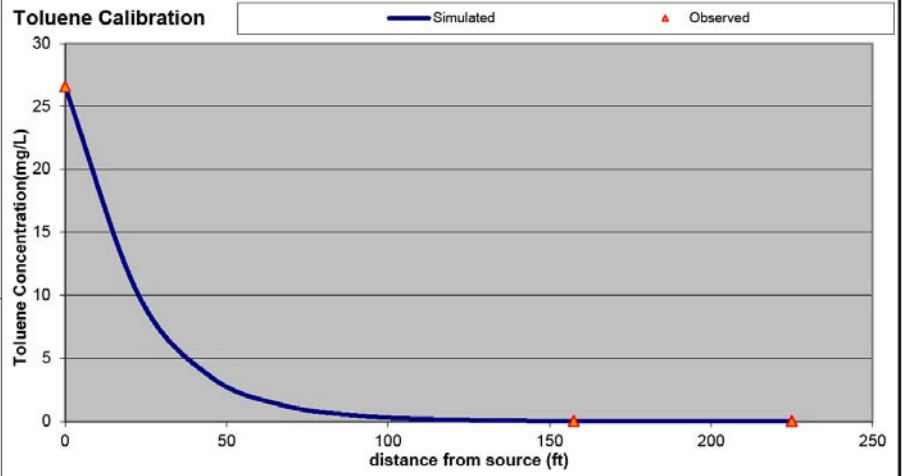
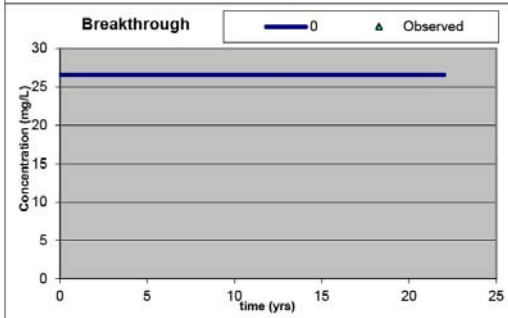
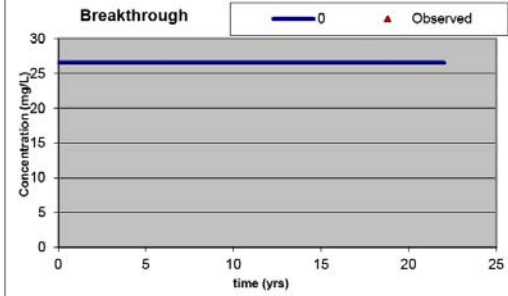
| | |
|------------------------------|--------------------------|
| Site ID | 08641 |
| Site Name | Morris Oil Co. |
| Model Calibration Parameters | |
| t _{1/2} | 2.87 yrs |
| v _x | 25 ft/yr |
| R | 2.309 |
| v _R | 10.826 ft/yr |
| L _p | 311 ft |
| α _x | 14.10756 ft |
| α _y | 1.410756 ft |
| α _z | 1E-99 ft |
| λ | 0.24146 yr ⁻¹ |
| C _{source} | 6.7 mg/L |
| t _{sim} | 22 yrs |



| Source | 22.5 | 45 | 67.5 | 90 | 112.5 | 135 | 157.5 | 180 | 202.5 | 225 |
|--------|------------|------------|------------|------------|------------|-----------|----------|----------|----------|----------|
| 50 | 2.5109E-05 | 0.00284723 | 0.01126991 | 0.01886521 | 0.02216751 | 0.0216945 | 0.019039 | 0.015542 | 0.012031 | 0.008917 |
| 25 | 0.46985895 | 0.56245829 | 0.46761735 | 0.34891771 | 0.247693 | 0.1710111 | 0.115968 | 0.077567 | 0.051215 | 0.03333 |
| 0 | 4.21844552 | 2.45410626 | 1.45418857 | 0.87990161 | 0.54072782 | 0.3359267 | 0.210163 | 0.131918 | 0.082743 | 0.051616 |
| 25 | 0.46985895 | 0.56245829 | 0.46761735 | 0.34891771 | 0.247693 | 0.1710111 | 0.115968 | 0.077567 | 0.051215 | 0.03333 |
| 50 | 2.5109E-05 | 0.00284723 | 0.01126991 | 0.01886521 | 0.02216751 | 0.0216945 | 0.019039 | 0.015542 | 0.012031 | 0.008917 |

| Domenico Model | | | Transport Parameters | | | Simulation Time | | |
|--|---------------------|-----------------|---|-------|-------|---|----|-----|
| UST # 08641 Site Name: Morris Oil Co. Modeler: Quincy Hoffer Date: 9/20/2021 | | | x_{max} 225 ft y_{max} 50 ft z 0 ft Source Width 30 ft Source Thickness 15 ft | | | t_{sim} 22 yrs | | |
| Groundwater Flow Parameters | | | Plume Length | | | Aquifer Characteristics | | |
| K 228 ft/yr dh/dx 0.072 θ 0.33 dec. % v_x 49.74545455 ft/yr | | | 311 ft α_x 14.10756 ft α_y 1.410756 ft α_z 1.00E-99 ft | | | ρ_d 1.4 kg/L f_{oc} 0.0002 | | |
| Source Area CoC Data | | | Retarded Velocity (ft/yr) | | | Simulation Points for Breakthrough Curves | | |
| CoC | C_{source} (mg/L) | K_{oc} (L/kg) | CoC | R | V_R | x | | x |
| Benzene | 44.39 | 81 | Benzene | 1.069 | 46.55 | 0 | ft | 0 |
| Toluene | 26.54 | 133 | Toluene | 1.113 | 44.70 | 0 | ft | 0 |
| Ethylbenzene | 3.7 | 176 | Ethylbenzene | 1.149 | 43.28 | 0 | ft | 0 |
| Xylenes | 21.68 | 639 | Xylenes | 1.542 | 32.26 | 0 | ft | 0 |
| Naphthalene | 6.7 | 1543 | Naphthalene | 2.309 | 21.54 | | | |
| MtBE | | 11 | MtBE | 1.009 | 49.29 | | | |
| EDB | | 28 | EDB | 1.024 | 48.59 | | | |
| 1,2-DCA | | 17.5 | 1,2-DCA | 1.015 | 49.02 | | | |
| $C(x, y, z, t) = \left(\frac{C_0}{8}\right) \exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1 - \sqrt{1 + \frac{4\lambda\alpha_x}{v}}\right)\right] \operatorname{erfc}\left[\frac{x - vt\sqrt{1 + \frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right] \left\{ \operatorname{erf}\left[\frac{y + \frac{Y}{2}}{2\sqrt{\alpha_y x}}\right] - \operatorname{erf}\left[\frac{y - \frac{Y}{2}}{2\sqrt{\alpha_y x}}\right] \right\} \left\{ \operatorname{erf}\left[\frac{z + Z}{2\sqrt{\alpha_z x}}\right] - \operatorname{erf}\left[\frac{z - Z}{2\sqrt{\alpha_z x}}\right] \right\}$ | | | | | | | | |

| Toluene Calibration | | | | Spatial Calibration Data (centerline) | | | | Temporal Calibration Data | | | | Site ID 08641 | |
|---------------------|-------------------------|-------------------------|--|---------------------------------------|-------------------------|-------------------------|-------------------------|---------------------------|--|------------------|----------------|------------------------------|--------------------------|
| x | C _{obs} (mg/L) | C _{aim} (mg/L) | | t (yrs) | C _{obs} (mg/L) | C _{aim} (mg/L) | C _{obs} (mg/L) | C _{aim} (mg/L) | | | | Site Name | Morris Oil Co. |
| 0 | 26.54 | 26.54 | | 0 | | 26.54 | | 26.54 | | | | Model Calibration Parameters | |
| 22.5 | | 10.098 | | 2.2 | | 26.540 | | 26.540 | | t _{1/2} | 0.246 yrs | λ | 2.81707 yr ⁻¹ |
| 45 | | 3.550 | | 4.4 | | 26.540 | | 26.540 | | v _s | 49.74545 ft/yr | | |
| 67.5 | | 1.271 | | 6.6 | | 26.540 | | 26.540 | | R | 1.113 | | |
| 90 | | 0.465 | | 8.8 | | 26.540 | | 26.540 | | v _R | 44.701 ft/yr | C _{source} | 26.54 mg/L |
| 112.5 | | 0.173 | | 11 | | 26.540 | | 26.540 | | L _p | 311 ft | t _{sim} | 22 yrs |
| 135 | | 0.065 | | 13.2 | | 26.540 | | 26.540 | | α _x | 14.10756 ft | | |
| 157.5 | 0.025 | 0.025 | | 15.4 | | 26.540 | | 26.540 | | α _y | 1.410756 ft | | |
| 180 | | 0.009 | | 17.6 | | 26.540 | | 26.540 | | α _z | 1E-99 ft | | |
| 202.5 | | 0.004 | | 19.8 | | 26.540 | | 26.540 | | | | | |
| 225 | 0.005 | 0.001 | | 22 | | 26.540 | | 26.540 | | | | | |

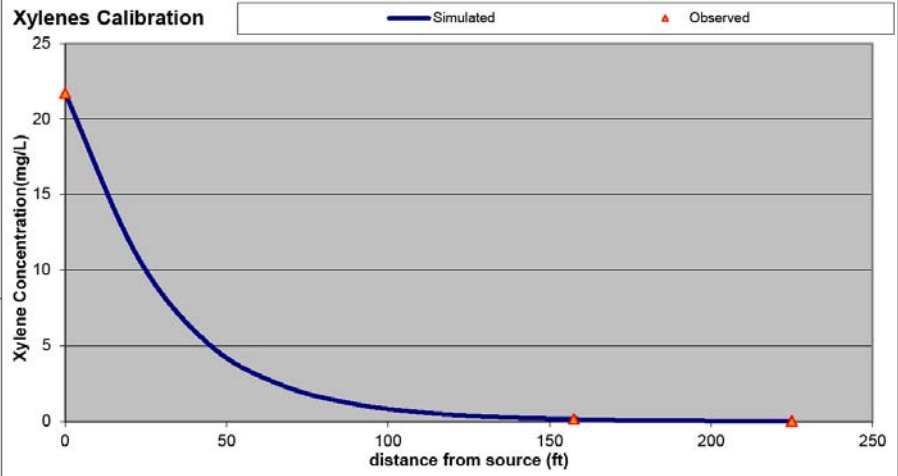
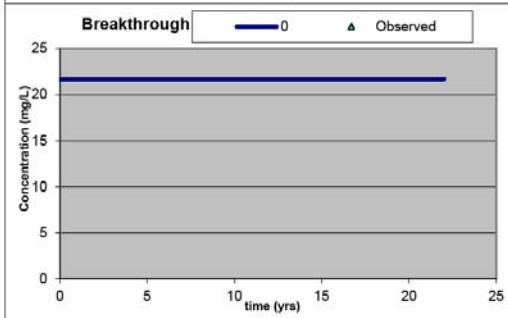
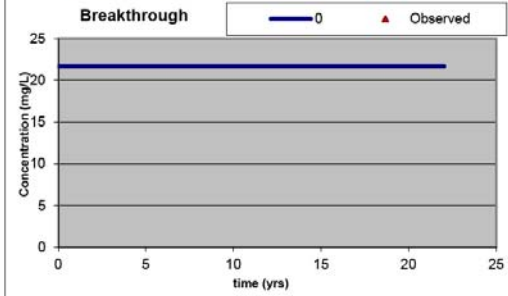


| Source | 22.5 | 45 | 67.5 | 90 | 112.5 | 135 | 157.5 | 180 | 202.5 | 225 |
|--------|------------|------------|------------|------------|------------|-----------|----------|----------|----------|----------|
| 50 | 6.0103E-05 | 0.00411858 | 0.00985227 | 0.00996922 | 0.00708458 | 0.0041976 | 0.002235 | 0.001111 | 0.000527 | 0.000242 |
| 25 | 1.12470223 | 0.81360764 | 0.40879595 | 0.1843837 | 0.07916099 | 0.0330887 | 0.013613 | 0.005545 | 0.002244 | 0.000904 |
| 0 | 10.0977008 | 3.54991584 | 1.27126678 | 0.4649793 | 0.17281292 | 0.064998 | 0.024671 | 0.009431 | 0.003626 | 0.001401 |
| 25 | 1.12470223 | 0.81360764 | 0.40879595 | 0.1843837 | 0.07916099 | 0.0330887 | 0.013613 | 0.005545 | 0.002244 | 0.000904 |
| 50 | 6.0103E-05 | 0.00411858 | 0.00985227 | 0.00996922 | 0.00708458 | 0.0041976 | 0.002235 | 0.001111 | 0.000527 | 0.000242 |

Xylenes Calibration

| Spatial Calibration Data (centerline) | | | Temporal Calibration Data | | | | |
|--|-------------------------|-------------------------|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| x | C _{obs} (mg/L) | C _{sim} (mg/L) | t (yrs) | C _{obs} (mg/L) | C _{sim} (mg/L) | C _{obs} (mg/L) | C _{sim} (mg/L) |
| 0 | 21.68 | 21.68 | 0 | | 21.68 | | 21.68 |
| 22.5 | | 10.837 | 2.2 | | 21.680 | | 21.680 |
| 45 | | 5.005 | 4.4 | | 21.680 | | 21.680 |
| 67.5 | | 2.355 | 6.6 | | 21.680 | | 21.680 |
| 90 | | 1.132 | 8.8 | | 21.680 | | 21.680 |
| 112.5 | | 0.553 | 11 | | 21.680 | | 21.680 |
| 135 | | 0.273 | 13.2 | | 21.680 | | 21.680 |
| 157.5 | 0.136 | 0.136 | 15.4 | | 21.680 | | 21.680 |
| 180 | | 0.068 | 17.6 | | 21.680 | | 21.680 |
| 202.5 | | 0.035 | 19.8 | | 21.680 | | 21.680 |
| 225 | 0.005 | 0.018 | 22 | | 21.680 | | 21.680 |

| | | |
|------------------------------|----------------|--------------------------------|
| Site ID | 08641 | |
| Site Name | Morris Oil Co. | |
| Model Calibration Parameters | | |
| t _{1/2} | 0.548 yrs | λ 1.2646 yr ⁻¹ |
| v _s | 49.74545 ft/yr | |
| R | 1.542 | |
| v _R | 32.257 ft/yr | C _{source} 21.68 mg/L |
| L _p | 311 ft | |
| α _x | 14.10756 ft | t _{sim} 22 yrs |
| α _y | 1.410756 ft | |
| α _z | 1E-99 ft | |



| Source | 22.5 | 45 | 67.5 | 90 | 112.5 | 135 | 157.5 | 180 | 202.5 | 225 |
|--------|------------|------------|------------|------------|------------|-----------|----------|----------|----------|----------|
| 50 | 6.4503E-05 | 0.00580715 | 0.01825071 | 0.02426236 | 0.02265242 | 0.0176333 | 0.012335 | 0.008057 | 0.005022 | 0.003028 |
| 25 | 1.20704731 | 1.14717621 | 0.75726883 | 0.44873959 | 0.25311126 | 0.1389979 | 0.075131 | 0.040208 | 0.02138 | 0.01132 |
| 0 | 10.8370041 | 5.00533525 | 2.35494186 | 1.1316327 | 0.55255619 | 0.2730415 | 0.136156 | 0.068383 | 0.034542 | 0.01753 |
| 25 | 1.20704731 | 1.14717621 | 0.75726883 | 0.44873959 | 0.25311126 | 0.1389979 | 0.075131 | 0.040208 | 0.02138 | 0.01132 |
| 50 | 6.4503E-05 | 0.00580715 | 0.01825071 | 0.02426236 | 0.02265242 | 0.0176333 | 0.012335 | 0.008057 | 0.005022 | 0.003028 |

SSTLs

t 1000 yrs

UST Permit # 08641
Site Name: Morris Oil Co.

| SSTLs in mg/L | | RBSLs (mg/L): | | | 0.005 | 1.000 | 0.700 | 10.000 | | 0.025 | | |
|---------------|--------|---------------|--------|--------------------------------|--------------|-------------------|--------------|--------|------------------|-------|--|--|
| MW # | x (ft) | y (ft) | z (ft) | Benzene SSTL | Toluene SSTL | Ethylbenzene SSTL | Xylenes SSTL | | Naphthalene SSTL | | | |
| MW-1 | 295 | 0 | 0 | 320.826 | >99999 | 3808.180 | 99750.576 | | 12.096 | | | |
| MW-2 | 363 | 0 | 0 | 3659.124 | >99999 | 24591.951 | >99999 | | 44.716 | | | |
| MW-3 | 243 | 0 | 0 | 49.152 | 40437.763 | 901.352 | 21216.837 | | 4.386 | | | |
| MW-4 | 354 | 0 | 0 | 2653.986 | >99999 | 19231.354 | >99999 | | 37.648 | | | |
| MW-5 | 360 | 0 | 0 | 3287.738 | >99999 | 22657.481 | >99999 | | 42.225 | | | |
| MW-6 | 203 | 0 | 0 | 11.469 | 7475.964 | 293.895 | 6372.030 | | 1.985 | | | |
| MW-7 | 298 | 0 | 0 | 357.342 | >99999 | 4136.495 | >99999 | | 12.819 | | | |
| MW-8 | 317 | 0 | 0 | 706.574 | >99999 | 6977.231 | >99999 | | 18.502 | | | |
| MW-9 | 314 | 0 | 0 | 634.534 | >99999 | 6425.080 | >99999 | | 17.463 | | | |
| MW-15 | 378 | 0 | 0 | 6245.807 | >99999 | 37026.466 | >99999 | | 59.532 | | | |
| MW-18 | 151 | 0 | 0 | 1.690 | 813.824 | 66.896 | 1303.387 | | 0.692 | | | |
| MW-19 | 71 | 0 | 0 | 0.081 | 24.443 | 6.250 | 103.308 | | 0.125 | | | |
| | | | | λ (yr ⁻¹): | 2.377 | 2.817 | 1.540 | 1.265 | | 0.241 | | |
| | | | | R: | 1.069 | 1.113 | 1.149 | 1.542 | | 2.309 | | |
| | | | | Pure Substance Solubility: | 1750 | 526 | 169 | 175 | | 31 | | |
| | | | | Effective Solubility: | 44.39 | 26.54 | 3.7 | 21.68 | | 6.7 | | |



**Site-Specific Work Plan for Approved ACQAP
Underground Storage Tank Management Division**



To: Quincy Hoffer (SCDHEC Project Manager)
 From: Quincy Hoffer (Contractor Project Manager)
 Contractor: SC DHEC UST Contractor Certification Number: N/A

Facility Name: Morris Oil Co UST Permit #: 08641
 Facility Address: 427 Alexander Ave., Spartanburg, SC 29304
 Responsible Party: Don Morris Phone: _____
 RP Address: 346 Union St., Spartanburg, SC 29306-3553
 Property Owner (if different): Larry Morris Properties LLC
 Property Owner Address: 427 Alexander Ave, Spartanburg, SC 29306
 Current Use of Property: Retail

Scope of Work (Please check all that apply)

- IGWA Tier II Groundwater Sampling GAC
 Tier I Monitoring Well Installation Other _____

Analyses (Please check all that apply)

Groundwater/Surface Water:

- BTEXNMDCA (8260B) Lead BOD Methane
 Oxygenates (8260B) 8 RCRA Metals Nitrate Ethanol
 EDB (8011) TPH Sulfate Dissolved Iron
 PAH (8270D) pH Other _____

Drinking Water Supply Wells:

- BTEXNMDCA (524.2) Mercury (200.8 245.1 or 245.2) EDB (504.1)
 Oxygenates & Ethanol (8260B) RCRA Metals (200.8)

Soil:

- BTEXNM Lead RCRA Metals TPH-DRO (3550B/8015B) Grain Size
 PAH Oil & Grease (9071) TPH-GRO (5030B/8015B) TOC

Air:

- BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

_____ Soil _____ Water Supply Wells _____ Air 1 _____ Field Blank
 13 _____ Monitoring Wells _____ Surface Water 1 _____ Duplicate 1 _____ Trip Blank

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.
 # of shallow points proposed: _____ Estimated Footage: _____ feet per point
 # of deep points proposed: _____ Estimated Footage: _____ feet per point
 Field Screening Methodology: _____

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.
 # of shallow wells: _____ Estimated Footage: _____ feet per point
 # of deep wells: _____ Estimated Footage: _____ feet per point
 # of recovery wells: _____ Estimated Footage: _____ feet per point
 Comments, if warranted:

UST Permit #: 08641 Facility Name: Morris Oil Co.

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 10 Field Work Completion: 20
Report Submittal: 30 # of Copies Provided to Property Owners: _____

Aquifer Characterization
Pump Test: Slug Test: (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal
Soil: _____ Tons Purge Water: _____ Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

Additional Details For This Scope of Work
For example, list wells to be sampled, wells to be abandoned/repared, well pads/bolts/caps to replace, details of AFVR event, etc.
Sampling of wells with historical CoC detects for pending ACA Solicitation. Samples will be collected via no-purge sampling and analysed for BTEXNM+Oxyg's+1,2 DCA+Eth under 8260B.

Presence of nearby stream will also be confirmed and documented for solicitation.

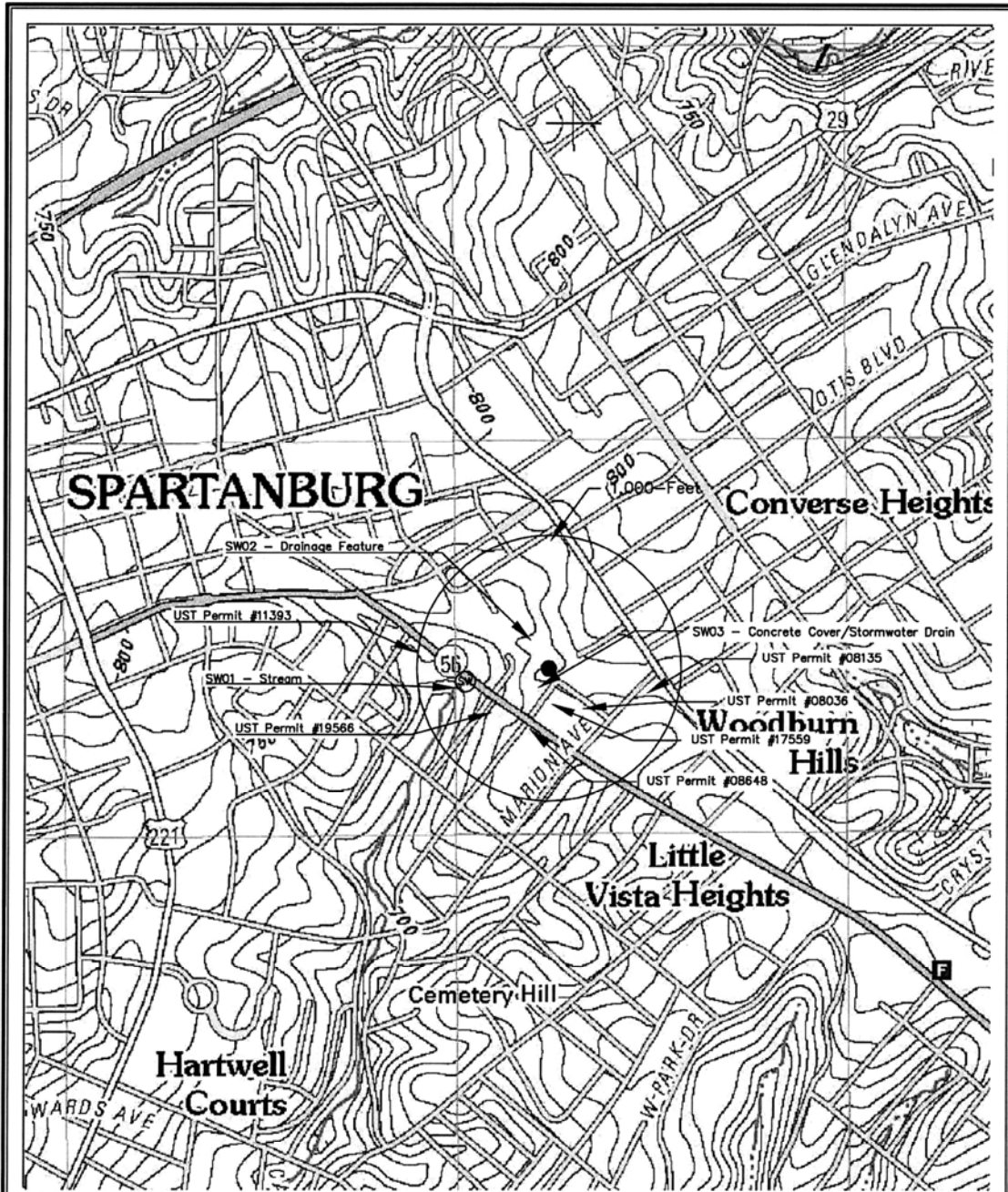
Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____

____ Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____

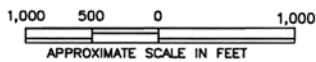
____ Other variations from ACQAP. Please describe below.

Attachments

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:
North Arrow Proposed monitoring well locations
Location of property lines Legend with facility name and address, UST permit number, and bar scale
Location of buildings Streets or highways (indicate names and numbers)
Previous soil sampling locations Location of all present and former ASTs and USTs
Previous monitoring well locations Location of all potential receptors
Proposed soil boring locations
3. Assessment Component Cost Agreement, SCDHEC Form D-3664




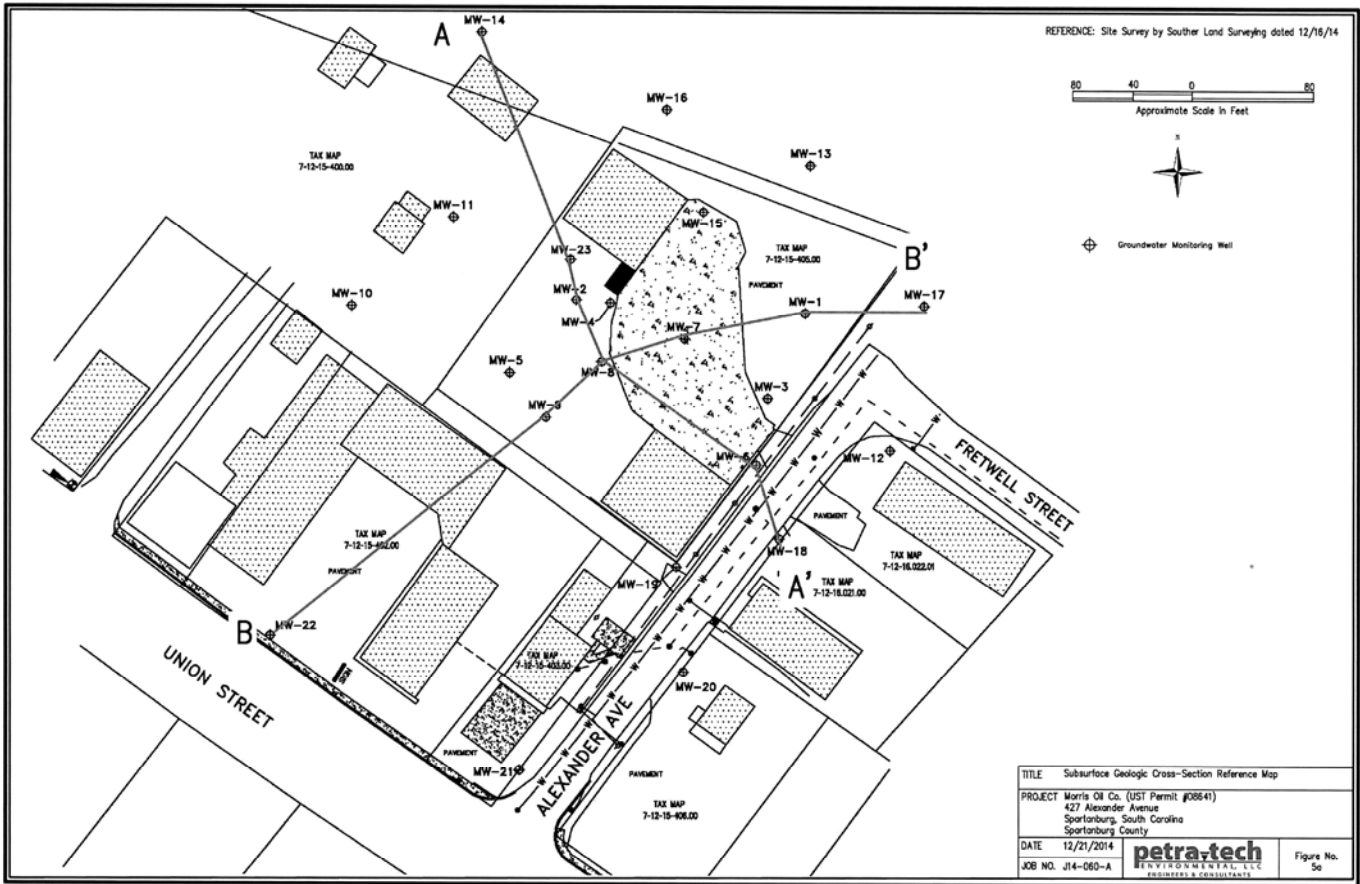
REFERENCE: Spartanburg Quadrangle - 7.5 Minute Series, United States Geological Survey, 2011 (Contour Interval - 10 feet)



- Approximate Site Location
- ⊙ SW Surface Water Sampling Location



| | | |
|---------|---|---|
| Title | Topographic Site Location Map | |
| Project | Morris Oil Co. (UST Permit #08641) 427 Alexander Avenue Spartanburg, South Carolina Spartanburg County | |
| Date | 06/02/2014 |  Figure No. 1 |
| Job No. | J14-060-A | |





**ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA**

Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
CONTRACT PO #4600853244

Facility Name: Morris Oil Co.

UST Permit #: 8641 Cost Agreement #: SSWP

| ITEM | QUANTITY | UNIT | UNIT PRICE | TOTAL |
|---|----------|----------|------------|----------|
| K. Laboratory Analyses-Groundwater | | | | |
| 1. BTEXNM+Oxyg's+1,2 DCA+Eth(8260B) | 16 | each | \$26.00 | \$416.00 |
| 4. Trimethal, Butyl, and Isopropyl Benzenes | | each | \$20.00 | \$0.00 |
| 5. PAH's | | each | \$42.00 | \$0.00 |
| 6. Lead | | each | \$13.00 | \$0.00 |
| 7. EDB by EPA 8011 | | each | \$22.00 | \$0.00 |
| 9. 8 RCRA Metals | | each | \$42.00 | \$0.00 |
| 10. TPH (9070A) | | each | \$22.00 | \$0.00 |
| 11. PH | | each | \$7.00 | \$0.00 |
| 13. Ethanol | | each | \$20.00 | \$0.00 |
| R. BTEX+NAPTH+MTBE | | each | \$20.00 | \$0.00 |
| R. Nitrate | | each | \$7.00 | \$0.00 |
| R. Sulfate | | each | \$7.00 | \$0.00 |
| R. Ferrous Iron | | each | \$7.00 | \$0.00 |
| R. Methane | | each | \$35.00 | \$0.00 |
| R. Oxygenates | | each | \$20.00 | \$0.00 |
| R. BTEX+NAPTH+MTBE+1,2 DCA | | each | \$20.00 | \$0.00 |
| R. Full List 8260D | | each | \$42.00 | \$0.00 |
| R. Full List 8270E | | each | \$90.00 | \$0.00 |
| R. Total Organic Carbon | | each | \$17.00 | \$0.00 |
| K. Analyses-Drinking Water | | | | |
| 14. BTEXNM+1,2 DCA (524.2) | | each | \$42.00 | \$0.00 |
| 15. 7-OXYGENATES & ETHANOL (8260B) | | each | \$20.00 | \$0.00 |
| 16. EDB (504.1) | | each | \$22.00 | \$0.00 |
| 17. RCRA METALS (200.8) | | each | \$42.00 | \$0.00 |
| K. Analyses-Soil | | | | |
| 18. BTEX + Naphth. | | each | \$25.00 | \$0.00 |
| 19. PAH's | | each | \$42.00 | \$0.00 |
| 20. 8 RCRA Metals | | each | \$44.00 | \$0.00 |
| 21. TPH-DRO (3550C/8015C) | | each | \$30.00 | \$0.00 |
| 22. TPH- GRO (5035B/8015C) | | each | \$25.00 | \$0.00 |
| 24. Total Organic Carbon | | each | \$25.00 | \$0.00 |
| R. TPH Waste Oil (9071B) | | each | \$25.00 | \$0.00 |
| R. Lead Soil | | each | \$15.00 | \$0.00 |
| R. TCLP Soil | | each | \$22.00 | \$0.00 |
| K. Analyses-Air | | | | |
| 25. BTEX + Naphthalene, EDB 1,2-DCA | | each | \$170.00 | \$0.00 |
| R. PAH's Air | | each | \$250.00 | \$0.00 |
| R. Analyses-Free Phase Product | | | | |
| Multiplier For 24-Hour Turnaround | | each | \$416.00 | \$0.00 |
| C3-C44 Whole Oil (ASTM D3328) | | each | \$350.00 | \$0.00 |
| Fuel Oxygenates (1624 Mod) | | each | \$280.00 | \$0.00 |
| ALKYL Leads, EDB, MMT (8080) | | each | \$275.00 | \$0.00 |
| Simulated Distillation (ASTM 2887) | | each | \$275.00 | \$0.00 |
| C8-C40 Full Scan (ASTM 5739) | | each | \$500.00 | \$0.00 |
| Parent & Alk. PAH Com. (8270 SIM) | | each | \$550.00 | \$0.00 |
| C3-C10 Piano (8260 Mod) | | each | \$450.00 | \$0.00 |
| C10+Alkane Fingerprint (ASTM 3328) | | each | \$450.00 | \$0.00 |
| Expert Data Interpretation & Report | | per hour | \$250.00 | \$0.00 |
| TOTAL | | | | \$416.00 |



**Underground Storage Tank Management Division
Field Data Information Sheet – Monitoring Well Gauging**



Site Information

| | | |
|----------------------------|---------------------------------------|----------------------------------|
| Date: <u>9/23/2021</u> | Site ID #: <u>08641</u> | Site Name: <u>Morris Oil Co.</u> |
| County: <u>Spokaneburg</u> | Project Manager: <u>Quincy Hoffer</u> | Field Personnel: <u>QH / AJB</u> |

Well Gauging Information

| Well ID: | Total Well Depth (ft.) | Screened Interval (ft.) | Depth to Free Product (ft.) | Depth to Ground water (ft.) | Free Product Thickness (ft.) | Confirmed with Bailer? | Photos Taken ? | Well Pad OK? | Bolts in Well Cover? | Water in Well Vault? |
|-------------|------------------------|-------------------------|-----------------------------|-----------------------------|------------------------------|------------------------|----------------|--------------|----------------------|----------------------|
| <u>MW-3</u> | | | <u>NM*</u> | <u>18.48</u> | <u><0.01</u> | <u>✓</u> | <u>✓</u> | <u>✓</u> | <u>1/2</u> | <u>✓</u> |
| <u>MW-4</u> | | | <u>22.24</u> | <u>22.55</u> | <u>0.31</u> | <u>✓</u> | <u>✓</u> | <u>✓</u> | <u>0/2</u> | <u>X</u> |
| <u>MW-7</u> | | | <u>15.51</u> | <u>18.44</u> | <u>2.93</u> | <u>✓</u> | <u>✓</u> | <u>✓</u> | <u>1/2</u> | <u>X</u> |
| <u>MW-5</u> | | | <u>NM*</u> | <u>19.35</u> | <u><0.01</u> | <u>✓</u> | <u>✓</u> | <u>✓</u> | <u>0/2</u> | <u>✓</u> |
| | | | | | | | | | | |
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Notes: _____

Signature: *Quincy Hoffer*

DHEC 0424 (10/2012)

** probe did not indicate presence of free product*



001 04 2021



LINDSEY WOOTEN
PACE ANALYTICAL SERVICES
9800 KINCEY AVE STE 100
HUNTERSVILLE NC 28078

Re: Laboratory Analyses Approval
Analytical Laboratory Services Bid #IFB-5400019457-04/13/2020-EMW; PO#4600853244
Morris OI Co., 427 Alexander Ave., Spartanburg, SC
UST Permit #08641; CA #64482
Spartanburg County

Dear Ms. Wooten:

Under the terms and conditions of the referenced bid package, analytical sampling has been approved for the referenced facility. Please reference the CA number and Purchase Order number on the appropriate invoice submitted for payment against the facility.

If you have any questions or need further assistance, please contact Matt Wykel by email wykeljm@dhec.sc.gov or phone (803) 898-7705.

Sincerely,

A handwritten signature in black ink, appearing to read "Quincy Hoffer".

Quincy Hoffer, Hydrogeologist
Corrective Action & Quality Assurance Section
UST Management Division
Bureau of Land & Waste Management

Enc: Approved Cost Agreement

Cc: Matt Wykel, UST Management Division, Corrective Action & Field Support Section
Technical File (w/ Enc)

Approved Cost Agreement

64482

Facility: 08641 MORRIS OIL CO

HOFFERQM

PO Number:

| <u>Task / Description</u> | <u>Categories</u> | <u>Item Description</u> | <u>Qty / Pct</u> | <u>Unit Price</u> | <u>Amount</u> |
|---------------------------|-------------------|----------------------------------|---------------------|-------------------|---------------|
| K ANALYSES | GW GROUNDWATER | 1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B | 16.0000 | \$26.000 | 416.00 |
| | | | Total Amount | | 416.00 |



THOMAS MAGUIRE
427 ALEXANDER AVE
SPARTANBURG SC29306

OCT 05 2021

Re: **Request for Property Access**
Former Morris Oil Co., 427 Alexander Ave., Spartanburg, SC
UST Permit #08641
Release #1 and #2 reported June 8, 1999
Spartanburg County

Dear Mr. Maguire:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control documented a petroleum release from the UST system at the referenced facility.

To determine what risk the above reported release may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of monitoring well installation and groundwater sampling are necessary to define the petroleum plume. The UST Division requests your permission for DHEC's contractor to enter your property to perform the necessary work and all future work. The UST Division will keep you apprised of all pending activities and provide you a copy of all reports upon request. **Please complete the attached property access form and return it to my attention within fifteen days of receipt of this letter.**

If you have any questions, please contact me by phone at (803) 898-0655, by fax at (803) 898-0673, or by email at hofferqm@dhec.sc.gov. Thank you for your consideration regarding this matter.

Sincerely,

Quincy Hoffer, Hydrogeologist
Corrective Action & Quality Assurance Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Property Access Agreement for Site Rehabilitation

cc: Technical file (w/o enc)



State Lead Option Property Access Agreement for Site Rehabilitation

Only complete this form if: You are the legal owner of the property **OR** are the designated authorized representative for the legal owner of the property.

I certify that I am the legal owner of the property identified below or serve as the authorized representative for the legal owner of the property. I authorize the South Carolina Department of Health and Environmental Control (DHEC), or a contractor selected by DHEC, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. I understand that the Agency will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

UST Permit # 08641

Facility Name: Former Morris Oil Co.

Facility Address: 427 Alexander Ave., Spartanburg, SC

Facility Phone Number:

Is facility within city limits? (check yes/no) Yes No

Name of nearest intersecting street/road/highway:

Does public water/sewer utility service this facility? Yes No

*If no, please provide a contact name/number that can assist in the location of private water and septic tank lines:

Name: _____ **Phone Number:** _____

Were USTs previously removed from the ground at this facility? Yes No

*If yes, please provide the name/contact number of a person that can assist in the location of the former UST(s):

Name: _____ **Phone Number:** _____

Is the facility currently leased to someone? Yes No

*If yes, notify them of the pending work scope, and please provide their name/contact number:

Name: _____ **Phone Number:** _____

***Please note that if vehicles or other mobile structures are parked over the location of the existing or former USTs, they should be moved prior to DHEC's contractor mobilizes to the facility.**

Name of Property Owner (Print): _____

Signature of Property Owner or authorized representative: _____ **Date:** _____

Affiliation (if applicable) _____

Signature of Witness _____ **Date** _____

Contact Info

Phone Numbers: _____ **Home:** _____ **Cell:** _____

Email Address: _____

State Lead Option Property Access Agreement for Site Rehabilitation

Purpose of the form gives property access to contractor to perform necessary cleanup activities at UST release site(s).

Owner/Operator(s) of UST release sites.

Item-by-item instructions for completing the form.

- Fill in all Site Information boxes.
- Answer all the questions and record any applicable information in the blanks.
- Sign and date the form.

Form is scanned and saved electronically – Record Group Number 169, Retention Schedule 13300

DHEC 3281 (03/2018)

10/7/21

Quincy



State Lead Option Property Access Agreement for Site Rehabilitation

Only complete this form if: You are the legal owner of the property OR are the designated authorized representative for the legal owner of the property.

I certify that I am the legal owner of the property identified below or serve as the authorized representative for the legal owner of the property. I authorize the South Carolina Department of Health and Environmental Control (DHEC), or a contractor selected by DHEC, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. I understand that the Agency will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

UST Permit # 08641

Facility Name: Former Morris Oil Co.

Facility Address: 427 Alexander Ave., Spartanburg, SC

Facility Phone Number: 864 285 3530

Is facility within city limits? (check yes/no) Yes No

Name of nearest intersecting street/road/highway: Union St & Alexander

Does public water/sewer utility service this facility? Yes No

*If no, please provide a contact name/number that can assist in the location of private water and septic tank lines:

Name: Phone Number:

Were USTs previously removed from the ground at this facility? I DON'T KNOW Yes No

*If yes, please provide the name/contact number of a person that can assist in the location of the former UST(s):

Name: Phone Number:

Is the facility currently leased to someone? Yes No

*If yes, notify them of the pending work scope, and please provide their name/contact number:

Name: Phone Number:

***Please note that if vehicles or other mobile structures are parked over the location of the existing or former USTs, they should be moved prior to DHEC's contractor mobilizes to the facility.**

Name of Property Owner (Print): THOMAS MAGUIRE

Signature of Property Owner or authorized representative: *TH* Date: 7 Oct 21

Affiliation (if applicable)

Signature of Witness Date: ? Oct 21

Contact Info

Phone Numbers: Home: 864 285 3530 Cell: 864 542 3119

Email Address: tmaguire@purisclean.com



Underground Storage Tank Management Division
Field Activity Request Form

Date of Request: 9/30/2021

Type of Request (Check one):
[] Emergency (<2 Working Days)
[X] Specific (1-5 Working Days)
[] Routine (10 Working Days)

Please specify type of work to be completed:

Site ID #: 08641
Site Name: Morris Oil Co.
Site Address: 427 Alexander Ave., Spartanburg, SC
County: Spartanburg
Project Manager: Quincy Hoffer



Remember to Establish Cost Proposals

PACE CA#: 64482 PACE PO#: 4600853244

Field Staff Information:

Date Field Activity Completed: 10/4/21
Completed By: C. White
Date Field Notes Entered into EFIS: 10/14/21

Notes: Need to sample 13 wells (indicated on map) for BTEXNM+Oxyg's+1,2 DCA+Eth(8260B) for pending ACA Solicitation.
Also need to verify presence of nearby stream (indicated on map).



Underground Storage Tank Management Division
Field Data Information Sheet – Groundwater Sampling

Site Information

Date: 10/4/21 Site ID #: 08041 Site Name: MORRIS Oil Co.
County: Spartanburg Project Manager: Quincy H. Field Personnel: C. White

Well Sampling Information

| Well ID | Time | Sampled Y/N | Screen Interval (ft.) | Depth to Product (ft.) | Depth to Water (ft.) | Product Thickness (ft.) | D.O. (mg/L) | Temp. (°C) | Specific Conductivity (µmhos/cm) | pH (S.U.) | Turbidity (NTU) | Notes (e.g., Odor, No Odor, Product, etc.) |
|----------|-------|-------------|------------------------|------------------------|------------------------|-------------------------|-------------|------------|----------------------------------|-----------|-----------------|--|
| MW-1 | 1115 | Y | 17-27 | | 13.75 10.25 | | | | | | | * |
| MW-15 | 1115 | Y | 10-20 | | 13.75 | | | | | | | |
| MW-23 | 1125 | Y | 10-20 19-29 | | 19.63 | | | | | | | |
| MW-2 | 1125 | Y | 22-32 | | 21.24 | | | | | | | * |
| MW-5 | — | — | 13-23 | | | | | | | | | |
| MW-9 | — | — | 15-25 | | | | | | | | | |
| MW-8 | — | — | 12-22 | | | | | | | | | |
| MW-12 | 12:05 | Y | 21-31 | | 21.36 | | | | | | | |
| MW-18 | — | — | 16-26 | | | | | | | | | |
| MW-19 | 1150 | Y | 11-21 | | 16.23 | | | | | | | |
| MW-20 | 1220 | Y | 10-20 | | 13.35 | | | | | | | |
| MW-21 | 1240 | Y | 9-19 | | 9.21 | | | | | | | |
| MW-22 | 1245 | Y | 6-16 | | 12.87 | | | | | | | |
| F. Blank | 1103 | — | — | | — | | | | | | | |
| DUP | 1120 | — | — | | — | | | | | | | |

UNDER PARKED TRAILER
under heavy debris

Comments: WL measured

Signature: *C. White*