

Well 1

# WELL DRILLER'S REPORT

State of Utah

Division of Water Rights

For additional space, use "Additional Well Data Form" and attach

### Well Identification

Non-Production Well: 1149002M00

WIN: 434855

### Owner

Note any changes

Earth Energy Resources  
Suite 950, 633 6th Avenue SW  
Calgary, Alberta, Canada T2P 245

Contact Person/Engineer: \_\_\_\_\_

### Well Location

Note any changes

N 2100 W 900 from the SE corner of section 26, Township 15S, Range 23E, SL B&M

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #)

### Drillers Activity

Start Date: 6-8-11 Completion Date: 6-20-11

Check all that apply:  New  Repair  Deepen  Clean  Replace  Public Nature of Use: \_\_\_\_\_

If a replacement well, provide location of new well. \_\_\_\_\_ feet north/south and \_\_\_\_\_ feet east/west of the existing well.

| DEPTH (feet)<br>FROM TO | BOREHOLE<br>DIAMETER (in) | DRILLING METHOD | DRILLING FLUID |
|-------------------------|---------------------------|-----------------|----------------|
| 0 30                    | 12 1/4                    | air rotary      | Wn             |
|                         |                           |                 |                |
|                         |                           |                 |                |

### Well Log

| DEPTH (feet)<br>FROM TO | WATER | PERMEABLE<br>High Low | UNCONSOLIDATED |      |        |         |          | CONSOLIDATED |  | ROCK TYPE | COLOR | DESCRIPTION AND REMARKS<br>(e.g., relative %, grain size, sorting, angularity, bedding, grain composition density, plasticity, shape, cementation, consistency, water bearing, odor, fracturing, mineralogy, texture, degree of weathering, hardness, water quality, etc.) |
|-------------------------|-------|-----------------------|----------------|------|--------|---------|----------|--------------|--|-----------|-------|--|
|                         |       |                       | CLAY           | SAND | GRAVEL | COBBLES | Boulders | Other        |  |           |       |  |
| <del>0-30</del>         |       |                       |                |      |        |         |          |              |  |           |       | See attached spreadsheet   |
|                         |       |                       |                |      |        |         |          |              |  |           |       |  |
|                         |       |                       |                |      |        |         |          |              |  |           |       |  |
|                         |       |                       |                |      |        |         |          |              |  |           |       |  |
|                         |       |                       |                |      |        |         |          |              |  |           |       |  |
|                         |       |                       |                |      |        |         |          |              |  |           |       |  |
|                         |       |                       |                |      |        |         |          |              |  |           |       |  |
|                         |       |                       |                |      |        |         |          |              |  |           |       |  |

RECEIVED

JUL 14 2011 pm

WATER RIGHTS  
SALT LAKE

### Static Water Level

Date 6-20-11 Water Level Dry feet Flowing?  Yes  No  
Method of Water Level Measurement \_\_\_\_\_ If Flowing, Capped Pressure \_\_\_\_\_ PSI  
Point to Which Water Level Measurement was Referenced \_\_\_\_\_ Elevation \_\_\_\_\_  
Height of Water Level reference point above ground surface \_\_\_\_\_ feet Temperature \_\_\_\_\_ degrees  C  F

**Construction Information**

| DEPTH (feet) |    | CASING                         |                 |                    | DEPTH (feet) |    | <input type="checkbox"/> SCREEN    | <input type="checkbox"/> PERFORATIONS | <input checked="" type="checkbox"/> OPEN BOTTOM |
|--------------|----|--------------------------------|-----------------|--------------------|--------------|----|------------------------------------|---------------------------------------|---|
| FROM         | TO | CASING TYPE AND MATERIAL/GRADE | WALL THICK (in) | NOMINAL DIAM. (in) | FROM         | TO | SCREEN SLOT SIZE OR PERF SIZE (in) | SCREEN DIAM. OR PERF LENGTH (in)      | SCREEN TYPE OR NUMBER PERF (per round/interval) |
| 0            | 30 | Steel                          | 250             | 8"                 |              |    |                                    |                                       |   |
|              |    |                                |                 |                    |              |    |                                    |                                       |   |
|              |    |                                |                 |                    |              |    |                                    |                                       |   |
|              |    |                                |                 |                    |              |    |                                    |                                       |   |

Well Head Configuration: plugged back hole Access Port Provided?  Yes  No  
 Casing Joint Type: welded Perforator Used: N/A  
 Was a Surface Seal Installed?  Yes  No Depth of Surface Seal: 30 feet Drive Shoe?  Yes  No  
 Surface Seal Material Placement Method: Membrane Paper  
 Was a temporary surface casing used?  Yes  No If yes, depth of casing: \_\_\_\_\_ feet diameter: \_\_\_\_\_ inches

| DEPTH (feet) |    | SURFACE SEAL / INTERVAL SEAL / FILTER PACK / PACKER INFORMATION |   |  |
|--------------|----|---|---|--|
| FROM         | TO | SEAL MATERIAL, FILTER PACK and PACKER TYPE and DESCRIPTION      | Quantity of Material Used (if applicable) | GROUT DENSITY (lbs./gal., # bag mix, gal./sack etc.) |
| 0            | 30 | Benlonten hole plug   | 15 SACKS                                  | 6 lb water per sack                                  |
|              |    |   |   |  |
|              |    |   |   |  |
|              |    |   |   |  |

**Well Development and Well Yield Test Information**

| DATE | METHOD     | YIELD | Units Check One |     | DRAWDOWN (ft) | TIME PUMPED (hrs & min) |
|------|------------|-------|-----------------|-----|---------------|-------------------------|
|      |            |       | GPM             | CFS |               |                         |
|      | <u>Dry</u> |       |                 |     |               |                         |
|      |            |       |                 |     |               |                         |
|      |            |       |                 |     |               |                         |

**Pump (Permanent)**

Pump Description: \_\_\_\_\_ Horsepower: \_\_\_\_\_ Pump Intake Depth: \_\_\_\_\_ feet  
 Approximate Maximum Pumping Rate: \_\_\_\_\_ Well Disinfected upon Completion?  Yes  No

**Comments** Description of construction activity, additional materials used, problems encountered, extraordinary Circumstances, abandonment procedures. Use additional well data form for more space.  
N/A

**Well Driller Statement**

This well was drilled and constructed under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge and belief.

Name ROSS DRILLING & CONSTRUCTION INC License No. 346  
(Person, Firm, or Corporation - Print or Type)  
 Signature Max [Signature] Date July 11, 2011  
(Licensed Well Driller)

# Earth Energy

## GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description   |
|--------------------|---|
| 0-10               | Shale (80%), Siltstone (10%), Sand Gravel (10%).<br>Shale is yellowish/gray, smooth texture and comprises most of the sample, cuttings range from gravel to medium sand, grains are sub angular to sub rounded, calcareous (dry fizz), poorly sorted. |
| 10-20              | Siltstone (100%).<br>Pink/yellow gray, very fine texture, calcareous (dry fizz), cuttings range from medium sand to gravel (0.04- 0.02 inches), grains are sub rounded to sub angular, calcareous (dry fizz), poorly sorted.                          |
| 20-30              | Siltstone (80%), Sand Gravel (20%).<br>Siltstone is gray brown, sand gravel is medium brown, cuttings range from gravel to medium sand (0.04-0.2 inches), grains are sub rounded to sub angular, calcareous (dry fizz), poorly sorted.                |
| 30-40              | Siltstone (60%), Sand Gravel (40%).<br>Siltstone is gray brown, sand gravel is medium brown, cuttings range from gravel to medium sand, sub rounded to sub angular, calcareous (dry fizz), poorly sorted.   |
| 40-50              | Mudstone (50%), Siltstone (50%).<br>Mudstone is light pale green, powdery texture, fine grained (<0.003 inches), sub rounded to fine, calcareous (dry fizz), poorly sorted.   |
| 50-60              | Mudstone (100%).<br>Light pale green, powdery texture, grain size ranges from some larger (0.03 inches) down to the dominant silt size particles (<0.03 inches), calcareous (dry fizz), poorly sorted.  |
| 60-70              | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous (dry fizz), well sorted.   |
| 70-80              | Mudstone (95%), Siltstone (5%).<br>Mudstone is a light pale green, powdery texture. Some dark brown silt size particles are present, grain size is very fine (<0.003 inches), well sorted.  |
| 80-90              | Mudstone (95%), Siltstone (5%).<br>Light pale green, powdery texture. Some dark brown silt size particles are present, grain size is very fine (<0.003 inches), well sorted.  |
| 90-100             | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted.  |
| 100-110            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted.  |
| 110-120            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted.  |
| 120-130            | <b>Tar Sand, Siltstone (?)</b><br><b>Some bitumen present, medium to dark brown, grain size is very fine (0.02-0.003 inches), not reactant to hydrochloric acid, poorly sorted.</b>   |
| 130-140            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted.  |
|                    |   |

**RECEIVED** 6/12/11

JUL 14 2011

WATER RIGHTS  
SALT LAKE

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description  |
|--------------------|--|
| 140-150            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 150-160            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 160-170            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 170-180            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 180-190            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 190-200            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 200-210            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 210-220            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 220-230            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 230-240            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 240-250            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 250-260            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 260-270            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 270-280            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
| 280-290            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted. |
|                    |  |

**RECEIVED** 6/22/11

JUL 14 2011  
WATER RIGHTS  
SALT LAKE

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description  |
|--------------------|--|
| 290-300            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted.   |
| 300-310            | Mudstone (100%).<br>Light pale green, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted.   |
| 310-320            | Mudstone (100%).<br>Light yellow to pale cream, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted.   |
| 320-330            | Mudstone (80%), Siltstone (20%).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches), slightly calcareous, well sorted.       |
| 330-340            | Mudstone (80%), Siltstone (20%).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches), slightly calcareous, well sorted.       |
| 340-350            | Mudstone (100%).<br>Light yellow to pale cream, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted.   |
| 350-360            | Mudstone (100%).<br>Light yellow to pale cream, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted.   |
| 360-370            | Mudstone (100%).<br>Light yellow to pale cream, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted.   |
| 370-380            | Mudstone (100%).<br>Light yellow to pale cream, powdery texture, grain size is very fine (<0.003 inches), calcareous, well sorted.   |
| 380-390            | Mudstone (90%), Siltstone (10%).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches), slightly calcareous, well sorted. |
| 390-400            | Mudstone (90%), Siltstone (10%).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches), slightly calcareous, well sorted. |
| 400-410            | Mudstone (90%), Siltstone (10%).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches), slightly calcareous, well sorted. |
| 410-420            | Mudstone (90%), Siltstone (10%).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches), slightly calcareous, well sorted. |
|                    |  |

**RECEIVED**

6/22/11

JUL 14 2011

**WATER RIGHTS  
SALT LAKE**

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description   |
|--------------------|---|
| 420-430            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted. |
| 430-440            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted. |
| 440-450            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted. |
| 450-460            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted. |
| 460-470            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted. |
| 470-480            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted. |
| 480-490            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted. |
| 490-500            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted. |
| 500-510            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted. |
| 510-520            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted. |
| 520-530            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted. |
|                    |   |

**RECEIVED**

6/22/11

JUL 14 2011

WATER RIGHTS  
SALT LAKE

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description   |
|--------------------|---|
| 530-540            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray color, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted. |
| 540-550            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.       |
| 550-560            | Siltstone (80%), Mudstone (20%).<br>Siltstone is gray to brown, grain size is very fine (<0.003 inches). Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.                     |
| 560-570            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.       |
| 570-580            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.       |
| 580-590            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.       |
| 590-600            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.       |
| 600-610            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.       |
| 610-620            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.       |
| 620-630            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.       |
| 630-640            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.       |
|                    |   |

**RECEIVED** 6/22/11

JUL 14 2011

**WATER RIGHTS  
SALT LAKE**

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description  |
|--------------------|--|
| 640-650            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.  |
| 650-660            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.  |
| 660-670            | Siltstone (60%), Mudstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches), slightly calcareous, well sorted.  |
| 670-680            | Siltstone (40%), Mudstone (40%), Sandstone (20%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Sandstone is clear to gray colored, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted. |
| 680-690            | Siltstone (40%), Mudstone (40%), Sandstone (20%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Sandstone is clear to gray colored, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted. |
| 690-700            | Siltstone (40%), Mudstone (40%), Sandstone (20%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Sandstone is clear to gray colored, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted. |
| 700-710            | Siltstone (70%), Sandstone (30%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.  |
| 710-720            | Siltstone (70%), Sandstone (30%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.  |
| 720-730            | Siltstone (40%), Mudstone (40%), Sandstone (20%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Sandstone is clear to gray colored, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted. |
| 730-740            | Siltstone (40%), Mudstone (40%), Sandstone (20%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Sandstone is clear to gray colored, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted. |
|                    |  |

RECEIVED

JUL 14 2011

WATER RIGHTS  
SALT LAKE

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description  |
|--------------------|--|
| 740-750            | Siltstone (60%), Sandstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (0.003 inches).<br>Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.   |
| 750-760            | Siltstone (60%), Mudstone (20%), Sandstone (20%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Sandstone is clear to gray colored, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted. |
| 760-770            | Siltstone (60%), Mudstone (20%), Sandstone (20%).<br>Siltstone is light tan to medium gray, grain size is very fine (<0.003 inches).<br>Mudstone is light pale green to cream tan, powdery texture, grain size is (<0.003 inches). Sandstone is clear to gray colored, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted. |
| 770-780            | Siltstone (60%), Sandstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (0.003 inches).<br>Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.   |
| 780-790            | Siltstone (70%), Sandstone (30%).<br>Siltstone is light tan to medium gray, grain size is very fine (0.003 inches).<br>Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.   |
| 790-800            | Siltstone (50%), Sandstone (50%).<br>Siltstone is light tan to medium gray, grain size is very fine (0.003 inches).<br>Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.   |
| 800-810            | Siltstone (50%), Sandstone (50%).<br>Siltstone is light tan to medium gray, grain size is very fine (0.003 inches).<br>Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.   |
| 810-820            | Siltstone (70%), Sandstone (30%).<br>Siltstone is light tan to medium gray, grain size is very fine (0.003 inches).<br>Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.   |
| 820-830            | Siltstone (60%), Sandstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (0.003 inches).<br>Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.   |
| 830-840            | Siltstone (70%), Sandstone (30%).<br>Siltstone is light tan to medium gray, grain size is very fine (0.003 inches).<br>Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.   |
| 840-850            | Siltstone (60%), Sandstone (40%).<br>Siltstone is light tan to medium gray, grain size is very fine (0.003 inches).<br>Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.   |

RECEIVED

JUL 14 2011

WATER RIGHTS  
SALT LAKE

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description   |
|--------------------|---|
| 850-860            | Siltstone (70%), Sandstone (30%).<br>Siltstone is light tan to medium gray, grain size is very fine (0.003 inches). Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.   |
| 860-870            | Siltstone (90%), Sandstone (10%).<br>Siltstone is light tan to medium gray, grain size is very fine (0.003 inches). Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.   |
| 870-880            | Siltstone (80%), Sandstone (20%).<br>Siltstone is light tan to medium gray, grain size is very fine (0.003 inches). Sandstone is clear to gray, comprised mostly of clear quartz, grain size is (0.008-0.003 inches), slightly calcareous, well sorted.   |
| 880-890            | Very fine grained sandstone-siltstone (Misting hole, sample wet), some pyrite, poorly sorted.   |
| 890-900            | Very fine grained sandstone-siltstone (Misting hole, sample wet), some pyrite, poorly sorted.   |
| 900-910            | Very fine grained sandstone-siltstone (Misting hole, sample wet), some pyrite, poorly sorted.   |
| 910-920            | Very fine grained sandstone-siltstone (Misting hole, sample wet).   |
| 920-930            | Very fine grained sandstone-siltstone (Misting hole, sample wet).   |
| 930-940            | Very fine grained sandstone-siltstone (Misting hole, sample wet).   |
| 940-950            | Very fine grained sandstone-siltstone (Misting hole, sample wet).   |
| 950-960            | Very fine grained sandstone-siltstone (Misting hole, sample wet).   |
| 960-970            | Very fine grained sandstone-siltstone (Misting hole, sample wet).   |
| 970-980            | Very fine grained sandstone-siltstone (Misting hole, sample wet).   |
| 980-990            | Very fine grained sandstone-siltstone (Misting hole, sample wet).   |
| 990-1000           | Very fine grained sandstone-siltstone (Misting hole, sample wet).   |
| 1000-1010          | Very fine grained sandstone-siltstone (Misting hole, sample wet).   |
| 1010-1020          | Sandstone (50%), Siltstone (20%), Conglomeratic Sandstone (10%), Dark maroon Siltstone(10%), Oolitic Limestone (10%).<br>Sandstone is slightly pinkish, fine grained (0.008-0.003 inches). Siltstone is yellowish gray, grain size is (<0.003 inches). Oolitic limestone is light tan to dark gray, calcareous, sample is poorly sorted.  |
| 1020-1030          | Sandstone (50%), Siltstone (20%), Conglomeratic Sandstone (10%), Dark maroon Siltstone (10%), Oolitic Limestone (10%).<br>Sandstone is slightly pinkish, fine grained (0.008-0.003 inches). Siltstone is yellowish gray, grain size is (<0.003 inches). Oolitic limestone is light tan to dark gray, calcareous, sample is poorly sorted. |
| 1030-1040          | Sandstone (50%), Siltstone (20%), Conglomeratic Sandstone (10%), Dark maroon Siltstone (10%), Oolitic Limestone (10%).<br>Sandstone is slightly pinkish, fine grained (0.008-0.003 inches). Siltstone is yellowish gray, grain size is (<0.003 inches). Oolitic limestone is light tan to dark gray, calcareous, sample is poorly sorted. |
|                    |   |

**RECEIVED**  
6/22/11

JUL 14 2011

WATER RIGHTS  
SALT LAKE

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description   |
|--------------------|---|
| 1040-1050          | Sandstone (50%), Siltstone (20%), Conglomeratic Sandstone (10%), Dark maroon Siltstone (10%), Oolitic Limestone (10%).<br>Sandstone is slightly pinkish, fine grained (0.008-0.003 inches). Siltstone is yellowish gray, grain size is (<0.003 inches). Oolitic limestone is light tan to dark gray, calcareous, sample is poorly sorted.                       |
| 1050-1060          | Sandstone (50%), Siltstone (20%), Conglomeratic Sandstone (10%), Dark maroon Siltstone (10%), Oolitic Limestone (10%).<br>Sandstone is slightly pinkish, fine grained (0.008-0.003 inches). Siltstone is yellowish gray, grain size is (<0.003 inches). Oolitic limestone is light tan to dark gray, calcareous, sample is poorly sorted.                       |
| 1060-1070          | Sandstone (50%), Siltstone (20%), Conglomeratic Sandstone (10%), Dark maroon Siltstone (10%), Oolitic Limestone (10%).<br>Sandstone is slightly pinkish, fine grained (0.008-0.003 inches). Siltstone is yellowish gray, grain size is (<0.003 inches). Oolitic limestone is light tan to dark gray, calcareous, sample is poorly sorted.                       |
| 1070-1080          | Sandstone (50%), Siltstone (20%), Conglomeratic Sandstone (10%), Dark maroon Siltstone (10%), Oolitic Limestone (10%).<br>Sandstone is slightly pinkish, fine grained (0.008-0.003 inches). Siltstone is yellowish gray, grain size is (<0.003 inches). Oolitic limestone is light tan to dark gray, calcareous, sample is poorly sorted.                       |
| 1080-1090          | Sandstone (50%), Siltstone (20%), Conglomeratic Sandstone (10%), Dark maroon Siltstone (10%), Oolitic Limestone (10%).<br>Sandstone is slightly pinkish, fine grained (0.008-0.003 inches). Siltstone is yellowish gray, grain size is (<0.003 inches). Oolitic limestone is light tan to dark gray, calcareous, sample is poorly sorted.                       |
| 1090-1100          | Siltstone/ Fine grained Sandstone (100%).<br>Siltstone/ Sandstone is yellowish gray to pale blue. Grain size is fine grained and ranges (0.008-0.003 inches), slightly calcareous, poorly sorted.   |
| 1100-1110          | Siltstone/ Fine grained Sandstone (100%).<br>Siltstone/ Sandstone is yellowish gray to pale blue. Grain size is fine grained and ranges (0.008-0.003 inches), slightly calcareous, poorly sorted.   |
| 1110-1120          | Siltstone/ Fine grained Sandstone (100%).<br>Siltstone/ Sandstone is yellowish gray to pale blue. Grain size is fine grained and ranges (0.008-0.003 inches), slightly calcareous, poorly sorted.   |
| 1120-1130          | Fine grained Sandstone (70%) Siltstone (20%), Dark maroon Siltstone (10%).<br>Sandstone is dark gray with slight pinkish tint, grain size ranges (0.008-0.003 inches). Siltstone is yellowish gray to light gray, grain size (<0.003 inches). Dark maroon siltstone also present, grain size is (<0.003 inches), slightly calcareous, sample is poorly sorted.  |
| 1130-1140          | Fine grained Sandstone (70%), Siltstone (20%), Dark maroon Siltstone (10%).<br>Sandstone is dark gray with slight pinkish tint, grain size ranges (0.008-0.003 inches). Siltstone is yellowish gray to light gray, grain size (<0.003 inches). Dark maroon siltstone also present, grain size is (<0.003 inches), slightly calcareous, sample is poorly sorted. |
|                    |   |

**RECEIVED** 6/22/11

JUL 14 2011  
WATER RIGHTS  
SALT LAKE

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description  |
|--------------------|--|
| 1140-1150          | Fine grained Sandstone (70%), Siltstone (20%), Dark maroon Siltstone (10%). Sandstone is dark gray with slight pinkish tint, grain size ranges (0.008-0.003 inches). Siltstone is yellowish gray to light gray, grain size (<0.003 inches). Dark maroon siltstone also present, grain size is (<0.003 inches), slightly calcareous, sample is poorly sorted. |
| 1150-1160          | Fine grained Sandstone (70%), Siltstone (20%), Dark maroon Siltstone (10%). Sandstone is dark gray with slight pinkish tint, grain size ranges (0.008-0.003 inches). Siltstone is yellowish gray to light gray, grain size (<0.003 inches). Dark maroon siltstone also present, grain size is (<0.003 inches), slightly calcareous, sample is poorly sorted. |
| 1160-1170          | Fine grained Sandstone (70%), Siltstone (20%), Dark maroon Siltstone (10%). Sandstone is dark gray with slight pinkish tint, grain size ranges (0.008-0.003 inches). Siltstone is yellowish gray to light gray, grain size (<0.003 inches). Dark maroon siltstone also present, grain size is (<0.003 inches), slightly calcareous, sample is poorly sorted. |
| 1170-1180          | Siltstone (50%), Sandstone (50%). Siltstone is distinct dark blue/ green, grain size is (<0.003 inches). Sandstone has a pink tint, grain size ranges from (0.008-0.003 inches). Sample has a moderate reaction to hydrochloric acid.  |
| 1180-1190          | Siltstone (50%), Sandstone (50%). Siltstone is distinct dark blue/ green, grain size is (<0.003 inches). Sandstone has a pink tint, grain size ranges from (0.008-0.003 inches). Sample has a moderate reaction to hydrochloric acid.  |
| 1190-1200          | Siltstone (50%), Sandstone (50%). Siltstone is distinct dark blue/ green, grain size is (<0.003 inches). Sandstone has a pink tint, grain size ranges from (0.008-0.003 inches). Sample has a moderate reaction to hydrochloric acid.  |
| 1200-1210          | Siltstone (50%), Sandstone (50%). Siltstone is distinct dark blue/ green, grain size is (<0.003 inches). Sandstone has a pink tint, grain size ranges from (0.008-0.003 inches). Sample has a moderate reaction to hydrochloric acid.  |
| 1210-1220          | Siltstone (50%), Sandstone (50%). Siltstone is distinct dark blue/ green, grain size is (<0.003 inches). Sandstone has a pink tint, grain size ranges from (0.008-0.003 inches). Sample has a moderate reaction to hydrochloric acid.  |
| 1220-1230          | Siltstone (50%), Sandstone (50%). Siltstone is distinct dark blue/ green, grain size is (<0.003 inches). Sandstone has a pink tint, grain size ranges from (0.008-0.003 inches). Sample has a moderate reaction to hydrochloric acid.  |
| 1230-1240          | Siltstone (50%), Sandstone (50%). Siltstone is distinct dark blue/ green, grain size is (<0.003 inches). Sandstone has a pink tint, grain size ranges from (0.008-0.003 inches). Sample has a moderate reaction to hydrochloric acid.  |
| 1240-1250          | Siltstone (50%), Sandstone (50%). Siltstone is distinct dark blue/ green, grain size is (<0.003 inches). Sandstone has a pink tint, grain size ranges from (0.008-0.003 inches). Sample has a moderate reaction to hydrochloric acid.  |

**RECEIVED**

6/22/11

JUL 14 2011

WATER RIGHTS  
SALT LAKE

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description   |
|--------------------|---|
| 1250-1260          | Siltstone/ Conglomeratic Sandstone (100%)<br>Siltstone is dark gray to slight pink. Bulk of sample has a strong reaction to hydrochloric acid. Grain size of Siltstone/ Sandstone ranges from (0.008-0.003 inches). Conglomeratic sandstone grain size is mostly (0.005 inches).  |
| 1260-1270          | Siltstone/ Conglomeratic Sandstone (100%)<br>Siltstone is dark gray to slight pink. Bulk of sample has a strong reaction to hydrochloric acid. Grain size of Siltstone/ Sandstone ranges from (0.008-0.003 inches). Conglomeratic sandstone grain size is mostly (0.005 inches).  |
| 1270-1280          | Siltstone/ Conglomeratic Sandstone (100%)<br>Siltstone is dark gray to slight pink. Bulk of sample has a strong reaction to hydrochloric acid. Grain size of Siltstone/ Sandstone ranges from (0.008-0.003 inches). Conglomeratic sandstone grain size is mostly (0.005 inches).  |
| 1280-1290          | Siltstone/ Conglomeratic Sandstone (100%)<br>Siltstone is dark gray to slight pink. Bulk of sample has a strong reaction to hydrochloric acid. Grain size of Siltstone/ Sandstone ranges from (0.008-0.003 inches). Conglomeratic sandstone grain size is mostly (0.005 inches).  |
| 1290-1300          | Siltstone/ Conglomeratic Sandstone (100%)<br>Siltstone is dark gray to slight pink. Bulk of sample has a strong reaction to hydrochloric acid. Grain size of Siltstone/ Sandstone ranges from (0.008-0.003 inches). Conglomeratic sandstone grain size is mostly (0.005 inches).  |
| 1300-1310          | Sandstone/ Siltstone (90%), Conglomerate (10%).<br>Siltstone is dark gray to slight pink. Bulk of sample has a strong reaction to hydrochloric acid. Grain size of sandstone/ siltstone ranges from (0.008-0.003 inches). Conglomerate has a grain size of (0.05 inches). Bulk of sample has a strong reaction to hydrochloric acid. Sample is poorly sorted.   |
| 1310-1320          | Siltstone/ Sandstone (90%), Conglomerate (10%).<br>Sample does not contain as much sandstone in comparison to previous sample. Siltstone is dominant in sample. Siltstone is dark gray to slight pink. Grain size of siltstone/ sandstone ranges from (0.008-0.003 inches). Conglomerate has a grain size of (0.05 inches). Bulk of sample has a strong reaction to hydrochloric acid. Sample is poorly sorted. |
| 1320-1330          | Siltstone/ Sandstone (90%), Conglomerate (10%).<br>Siltstone is dark gray to slight pink, grain size of siltstone/ sandstone ranges from (0.008-0.003 inches). Conglomerate is (0.05 inches). Bulk of sample has a strong reaction to hydrochloric acid. Sample is poorly sorted.   |
| 1330-1340          | Sandstone (100%).<br>Sandstone is tan to light gray, comprised mostly of quartz, spec of biotite? Dark silt/ sand? Moderately to well sorted grains.  |
| 1340-1350          | Sandstone (100%).<br>Sandstone is tan to light gray, comprised mostly of quartz, spec of biotite? Dark silt/ sand? Moderately to well sorted grains.  |
| 1350-1360          | Sandstone/ Siltstone (100%).<br>Sample is predominantly light gray to pale blue. Sand is comprised mostly of quartz, round compacted pieces up to (0.06 inches), surrounded by the majority of the sample (~0.015 inches). Moderately to well sorted grains.  |
|                    |   |

**RECEIVED** 6/2/11

JUL 14 2011

WATER RIGHTS  
SALT LAKE

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description  |
|--------------------|--|
| 1360-1370          | Sandstone/ Siltstone (100%).<br>Sample is predominantly light gray to pale blue. Sand is comprised mostly of quartz, round compacted pieces up to (0.06 inches), surrounded by the majority of the sample (~0.015 inches). Moderately to well sorted grains.   |
| 1370-1380          | Sandstone/ Siltstone (100%).<br>Sample is predominantly light gray to pale blue. Sand is comprised mostly of quartz, round compacted pieces up to (0.06 inches), surrounded by the majority of the sample (~0.015 inches). Moderately to well sorted grains.   |
| 1380-1390          | Sandstone/ Siltstone (100%).<br>Sample is predominantly light gray to pale blue. Sand is comprised mostly of quartz, round compacted pieces up to (0.06 inches), surrounded by the majority of the sample (~0.015 inches). Moderately to well sorted grains.   |
| 1390-1400          | Sandstone/ Siltstone (100%).<br>Sample is predominantly light gray to pale blue. Sand is comprised mostly of quartz, round compacted pieces up to (0.06 inches), surrounded by the majority of the sample (~0.015 inches). Moderately to well sorted grains.   |
| 1400-1410          | Siltstone (60%), Dark maroon Siltstone (30%), Sandstone (10%).<br>Sample is predominantly made of a light gray blue colored siltstone. A dark maroon siltstone is also present. Siltstone grain size is (<0.003 inches). Sandstone is light tan, grain size is between (0.008-0.003 inches). Sample is not reactive to hydrochloric acid. Sample is poorly sorted. |
| 1410-1420          | Dark maroon Siltstone (70%), Siltstone (20%), Sandstone (10%).<br>Sample is predominantly made of a dark maroon siltstone. A light gray to blue siltstone is also present. Siltstone grain size is (<0.003 inches). Sandstone is light tan, grain size is between (0.008-0.003 inches). Sample is not reactive to hydrochloric acid. Sample is poorly sorted.      |
| 1420-1430          | Dark maroon Siltstone (80%), Siltstone (10%), Sandstone (10%).<br>Sample is predominantly made of a dark maroon siltstone. A light gray to blue siltstone is also present. Siltstone grain size is (<0.003 inches). Sandstone is light tan, grain size is between (0.008-0.003 inches). Sample is not reactive to hydrochloric acid. Sample is poorly sorted.      |
| 1430-1440          | Dark maroon Siltstone (80%), Siltstone (10%), Sandstone (10%).<br>Sample is predominantly made of a dark maroon siltstone. A light gray to blue siltstone is also present. Siltstone grain size is (<0.003 inches). Sandstone is light tan, grain size is between (0.008-0.003 inches). Sample is not reactive to hydrochloric acid. Sample is poorly sorted.      |
| 1440-1450          | Dark maroon Siltstone (50%), Siltstone (40%), Sandstone (10%).<br>Sample is predominantly made of a dark maroon siltstone. A light gray to blue siltstone is also present. Siltstone grain size is (<0.003 inches). Sandstone is light tan, grain size is between (0.008-0.003 inches). Sample is not reactive to hydrochloric acid. Sample is poorly sorted.      |
| 1450-1460          | Siltstone (60%), Dark maroon Siltstone (20%), Sandstone (20%).<br>Sample is predominantly made of a light gray to blue Siltstone. A dark maroon siltstone is also present. Siltstone grain size is (<0.003 inches). Sandstone is light tan, grain size is between (0.008-0.003 inches). Sample is not reactive to hydrochloric acid. Sample is poorly sorted.      |

**RECEIVED**  
6/22/11

JUL 14 2011

**WATER RIGHTS  
SALT LAKE**

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description   |
|--------------------|---|
| 1460-1470          | Siltstone (60%), Dark maroon Siltstone (20%), Sandstone (20%).<br>Sample is predominantly made of a light gray to blue Siltstone. A dark maroon siltstone is also present. Siltstone grain size is (<0.003 inches). Sandstone is light tan, grain size is between (0.008-0.003 inches). Sample is not reactive to hydrochloric acid. Sample is poorly sorted.   |
| 1470-1480          | Siltstone (40%), Sandstone (40%), Dark maroon Siltstone (20%).<br>Sample is predominantly made of a light gray to blue siltstone. A dark maroon siltstone is also present. Siltstone grain size is (<0.003 inches). Sandstone is light tan, grain size is between (0.008-0.003 inches). Siltstone is not reactive to hydrochloric acid. Sample is poorly sorted.  |
| 1480-1490          | Siltstone (40%), Sandstone (40%), Dark maroon Siltstone (20%).<br>Sample is predominantly made of a light gray to blue siltstone. A dark maroon siltstone is also present. Siltstone grain size is (<0.003 inches). Sandstone is light tan, grain size is between (0.008-0.003 inches). Siltstone is not reactive to hydrochloric acid. Sample is poorly sorted.  |
| 1490-1500          | Siltstone (80%), Sandstone (10%), Dark maroon Siltstone (10%).<br>Sample is predominantly made of a light gray to blue siltstone. A dark maroon siltstone is also present. Siltstone grain size is (<0.003 inches). Sandstone is light tan, grain size is between (0.008-0.003 inches). Siltstone is not reactive to hydrochloric acid. Sample is poorly sorted.  |
| 1500-1510          | Siltstone (80%), Sandstone (10%), Dark maroon Siltstone (10%).<br>Sample is predominantly made of a light gray to blue siltstone. A dark maroon siltstone is also present. Siltstone grain size is (<0.003 inches). Sandstone is light tan, grain size is between (0.008-0.003 inches). Siltstone is not reactive to hydrochloric acid. Sample is poorly sorted.  |
| 1510-1520          | Siltstone (80%), Sandstone (10%), Dark maroon Siltstone (10%).<br>Sample is predominantly made of a light gray to blue siltstone. A dark maroon siltstone is also present. Siltstone grain size is (<0.003 inches). Sandstone is light tan, grain size is between (0.008-0.003 inches). Siltstone is not reactive to hydrochloric acid. Sample is poorly sorted.  |
| 1520-1530          | Siltstone (80%), Fine grained Sandstone (10%), Dark maroon Siltstone (10%).<br>Majority of the siltstone is dark gray to light gray. Sandstone is gray with clear quartz crystals and black specs of biotite? Additional siltstone is maroon in color. A fine grained maroon silt covers the sample and can be found in the suspended load, staining the mist a distinct maroon color. Grain size of sandstone ranges from (0.008-0.003 inches), siltstone is predominantly (<0.003 inches). Sample is poorly sorted. |
| 1530-1540          | Siltstone (70%), Dark maroon Siltstone (30%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.   |
| 1540-1550          | Siltstone (70%), Dark maroon Siltstone (30%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.   |
|                    |   |

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description  |
|--------------------|--|
| 1550-1560          | Siltstone (70%), Dark maroon Siltstone (30%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.  |
| 1560-1570          | Siltstone (70%), Dark maroon Siltstone (30%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.  |
| 1570-1580          | Siltstone (80%), Dark maroon Siltstone (20%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.  |
| 1580-1590          | Siltstone (70%), Dark maroon Siltstone (30%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.  |
| 1590-1600          | Siltstone (70%), Dark maroon Siltstone (30%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.  |
| 1600-1610          | Siltstone (90%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.  |
| 1610-1620          | Siltstone (90%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.  |
| 1620-1630          | Siltstone (90%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.  |
| 1630-1640          | Siltstone (80%), Dark maroon Siltstone (10%), Sandstone (10%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1640-1650          | Siltstone (70%), Sandstone (30%).<br>Sample is predominantly comprised of dark to light gray siltstone. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.   |
| 1650-1660          | Siltstone (70%), Sandstone (20%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |

**RECEIVED** 6/22/11

JUL 14 2011

**WATER RIGHTS  
SALT LAKE**

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description  |
|--------------------|--|
| 1660-1670          | Siltstone (60%), Dark maroon Siltstone (40%).<br>Sample is predominantly comprised of dark to light gray siltstone. Dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.   |
| 1670-1680          | Siltstone (60%), Dark maroon Siltstone (40%).<br>Sample is predominantly comprised of dark to light gray siltstone. Dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.   |
| 1680-1690          | Siltstone (50%), Dark maroon Siltstone (30%), Sandstone (20%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1690-1700          | Siltstone (50%), Dark maroon Siltstone (30%), Sandstone (20%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1700-1710          | Siltstone (60%), Sandstone (30%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1710-1720          | Siltstone (50%), Dark maroon Siltstone (30%), Sandstone (20%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1720-1730          | Siltstone (40%), Sandstone (40%), Dark maroon Siltstone (20%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1730-1740          | Siltstone (80%), Dark maroon Siltstone (20%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.   |
| 1740-1750          | Siltstone (80%), Dark maroon Siltstone (20%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.   |
| 1750-1760          | Siltstone (90%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.   |
|                    |  |

**RECEIVED** 6/22/11

JUL 14 2011

**WATER RIGHTS  
SALT LAKE**

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description  |
|--------------------|--|
| 1760-1770          | Siltstone (90%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.   |
| 1770-1780          | Siltstone (90%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.   |
| 1780-1790          | Siltstone (50%), Dark maroon Siltstone (50%).<br>Sample is comprised of dark to light gray siltstone. Dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.  |
| 1790-1800          | Siltstone (80%), Dark maroon Siltstone (20%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.   |
| 1800-1810          | Siltstone (80%), Dark maroon Siltstone (20%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.   |
| 1810-1820          | Siltstone (80%), Dark maroon Siltstone (20%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.   |
| 1820-1830          | Siltstone (80%), Dark maroon Siltstone (20%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.   |
| 1830-1840          | Siltstone (90%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.   |
| 1840-1850          | Siltstone (70%), Dark maroon Siltstone (30%).<br>Sample is predominantly comprised of dark to light gray siltstone. Some dark maroon siltstone also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.   |
| 1850-1860          | Dark maroon Siltstone (60%), Siltstone (40%).<br>Sample is predominantly comprised of dark maroon siltstone. Some light gray siltstone is also present. Grain size of siltstone is (<0.003 inches). Somewhat calcareous (bulk of sample has a clean fizz). Sample is poorly sorted.  |
| 1860-1870          | Sandstone (50%), Siltstone (30%), Dark maroon Siltstone (20%).<br>Sample is predominantly comprised of light gray sandstone. A dark gray to grayish blue siltstone is next most abundant in the sample. Some dark maroon siltstone is also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |

**RECEIVED**

JUL 14 2011  
WATER RIGHTS  
SALT LAKE

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description  |
|--------------------|--|
| 1870-1880          | Siltstone (60%), Dark maroon Siltstone (30%), Sandstone (10%).<br>Sample is predominantly comprised of dark gray to grayish blue siltstone. Some dark maroon siltstone also present. A light gray sandstone is also present. Sandstone is medium gray, made mostly of quartz. Grains size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.                 |
| 1880-1890          | Siltstone (40%), Dark maroon Siltstone (30%), Sandstone (30%).<br>Sample is predominantly comprised of dark gray to grayish blue siltstone. Some dark maroon siltstone also present. A light gray sandstone is also present. Sandstone is medium gray, made mostly of quartz. Grains size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.                 |
| 1890-1900          | Sandstone (40%), Siltstone (30%), Dark maroon Siltstone (30%).<br>Sample is predominantly comprised of light gray sandstone. A dark gray to grayish blue siltstone is next most abundant in the sample. Some dark maroon siltstone is also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1900-1910          | Sandstone (50%), Siltstone (30%), Dark maroon Siltstone (20%).<br>Sample is predominantly comprised of light gray sandstone. A dark gray to grayish blue siltstone is next most abundant in the sample. Some dark maroon siltstone is also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1910-1920          | Siltstone (60%), Dark maroon Siltstone (30%), Sandstone (10%).<br>Sample is predominantly comprised of dark gray to grayish blue siltstone. Some dark maroon siltstone also present. A light gray sandstone is also present. Sandstone is medium gray, made mostly of quartz. Grains size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.                 |
| 1920-1930          | Siltstone (50%), Dark maroon Siltstone (30%), Sandstone (20%).<br>Sample is predominantly comprised of dark gray to grayish blue siltstone. Some dark maroon siltstone also present. A light gray sandstone is also present. Sandstone is medium gray, made mostly of quartz. Grains size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted.                 |
| 1930-1940          | Sandstone (60%), Siltstone (20%), Dark maroon Siltstone (20%).<br>Sample is predominantly comprised of light gray sandstone. A dark gray to grayish blue siltstone is next most abundant in the sample. Some dark maroon siltstone is also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
|                    |  |

RECEIVED

JUL 14 2011

WATER RIGHTS  
SALT LAKE

# GROUNDWATER EXPLORATION WELL USOS-1

PR SPRING OIL SANDS LEASES, UINTA COUNTY, UTAH

| Interval<br>(feet) | Description  |
|--------------------|--|
| 1940-1950          | Sandstone (60%), Siltstone (20%), Dark maroon Siltstone (20%).<br>Sample is predominantly comprised of light gray sandstone. A dark gray to grayish blue siltstone is next most abundant in the sample. Some dark maroon siltstone is also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1950-1960          | Sandstone (80%), Siltstone (10%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of light gray sandstone. A dark gray to grayish blue siltstone is next most abundant in the sample. Some dark maroon siltstone is also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1960-1970          | Sandstone (80%), Siltstone (10%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of light gray sandstone. A dark gray to grayish blue siltstone is next most abundant in the sample. Some dark maroon siltstone is also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1970-1980          | Sandstone (80%), Siltstone (10%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of light gray sandstone. A dark gray to grayish blue siltstone is next most abundant in the sample. Some dark maroon siltstone is also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1980-1990          | Sandstone (80%), Siltstone (10%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of light gray sandstone. A dark gray to grayish blue siltstone is next most abundant in the sample. Some dark maroon siltstone is also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |
| 1990-2000          | Sandstone (80%), Siltstone (10%), Dark maroon Siltstone (10%).<br>Sample is predominantly comprised of light gray sandstone. A dark gray to grayish blue siltstone is next most abundant in the sample. Some dark maroon siltstone is also present. Sandstone is clear, made mostly of quartz. Grain size of sandstone is (0.008-0.003 inches). Grain size of siltstone is (<0.003 inches). Sample is poorly sorted. |

- Reached total depth of hole at about 4pm on 6/09/11 @ 2000 ft.
- Hole plugged and abandoned on 6/10/11.
- Hole drilled by Ross Drilling of Roosevelt, Utah (License No. 346).
- Samples logged while wet. Colors determined by comparison with the Geological Society of America (GSA) geological Rock-Color Chart by Munsell, revised 2009 and the Munsell Soil- Color Charts revised 2009.

RECEIVED 6/22/11

JUL 14 2011

WATER RIGHTS  
SALT LAKE