



November 7, 2014

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, Illinois 62761

**Subject: Groundwater Monitoring Well Construction Report
Roxana, Illinois**

To whom it may concern:

URS Corporation, on behalf of Shell Oil Products US, is submitting the boring logs and well construction diagrams for four groundwater monitoring wells installed within the investigation area in Roxana, Illinois. Enclosed are the boring logs and well completion diagrams for the following wells recently installed at the site:

- MW-25
- MW-26
- MW-27
- MW-28

If you have any questions or require further information, please contact Bob Billman at (314) 429-0100 or bob.billman@urs.com.

Sincerely,
URS Corporation, on behalf of Shell Oil Products US

Eric Fritsch
Task Manager

Bob Billman
Senior Project Manager

cc: Kevin Dyer, SOPUS
Shannon Haney, Greensfelder, Hemker & Gale P.C.
Repositories (Village Hall, Library, Website)

LOG OF BORING AND WELL CONSTRUCTION DETAIL

MW-25

Starting Date: 8/26/14
 Completion Date: 8/29/14
 Casing Elevation: 438.35
 Ground Elevation: 438.86
 Quadrangle Sec:34 T:5N R:9W
 UTM (or State Plane) Coord
 N: (X):792086.69
 E: (Y):2321991.75

| Depth In feet | Well Construction | Inches Driven | Inches Recovered | PID/FID (ppm) | Sampler Graphic | Symbol | USCS | DESCRIPTION | NOTES |
|---------------|-------------------|---------------|------------------|---------------|-----------------|------------------|------|------------------------------------------------------|----------------------------------------------------------------|
| 0 - 10 | Asphalt | | | | | [Cross-hatch] | FILL | Asphalt (FILL) | Air knifed to 10' bgs to clear for utilities and obstructions. |
| 10 - 14.8 | | | | 20.0 | | [Vertical lines] | ML | Loose, moist, brown, very fine, Clayey SILT (ML) | |
| 14.8 - 17.3 | | | | 14.8 | | [Dotted] | SP | Loose, dry, brown, fine grained SAND (SP) | |
| 17.3 - 19.8 | | | | | | [Vertical lines] | ML | Loose, wet, brown, very fine, Clayey SILT (ML) | |
| 19.8 - 22.3 | | | | 2.5 | | [Dotted] | SP | Loose, dry, brown, fine grained SAND (SP), with clay | |
| 22.3 - 28.8 | | | | 68.2 | | [Dotted] | | Grades to fine sand | |
| 28.8 - 32.8 | | 24 | 18 | 3.4 | | [Dotted] | | Grades to fine to medium grained sand | |
| 32.8 - 36.8 | | 24 | 19 | 4.0 | | [Dotted] | | | |
| 36.8 - 40.8 | | 24 | 16 | 4.9 | | [Dotted] | | | |
| 40.8 - 44.8 | | 24 | 18 | 4.8 | | [Dotted] | | | |
| 44.8 - 48.8 | | 24 | 18 | 5.0 | | [Dotted] | | | |
| 48.8 - 52.8 | | 24 | 20 | 4.7 | | [Dotted] | | | |
| 52.8 - 56.8 | | 24 | 20 | 12.1 | | [Dotted] | | | |

Completion Depth: 47.0 Ft bgs
 Project No.: 21562973
 Project Name: Additional Characterization
 Drilling Contractor: Roberts Environmental Drilling Inc.
 Driller Name: J. Crank
 Drilling Method: HSA
 Drill Rig Type: CME 75
 Logged by: E. Arthur
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD 080 012 305

Water Depth: 38 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.
 Water level at time of drilling
 Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

Geoprobe
 Air Knife/Hand Auger Sampler
 Air Rotary
 Sonic
 Splitspoon Sampler
 Hollow Stem Auger- Soil samples not collected

URS
 USC based on field visual observations

LOG OF BORING AND WELL CONSTRUCTION DETAIL

MW-25

Starting Date: 8/26/14
 Completion Date: 8/29/14
 Casing Elevation: 438.35
 Ground Elevation: 438.86

Quadrangle Sec:34 T:5N R:9W
 UTM (or State Plane) Coord
 N: (X):792086.69
 E: (Y):2321991.75

| Depth In feet | Well Construction | Inches Driven | Inches Recovered | PID/FID (ppm) | Sampler Graphic | Symbol | USCS | DESCRIPTION | NOTES |
|---------------|-------------------|---------------|------------------|---------------|-----------------|--------|------|-----------------------------------------------------------|-------|
| 30 | | 24 | 16 | 6.7 | | | | Same: Loose, dry, brown, fine to medium grained SAND (SP) | |
| | | 24 | 19 | 12.5 | | | | Becomes gray | |
| | | 24 | 20 | 12.7 | | | | Becomes light brown | |
| | | 24 | 18 | 13.0 | | | | | |
| | | 24 | 20 | 9.5 | | | | | |
| 35 | | 24 | 19 | 7.3 | | | SP | | |
| | | 24 | 18 | 51 | | | | Grades to medium to coarse grained | |
| | | 24 | 14 | 890 | | | | Becomes wet, coarse grained | ▽ |
| 40 | | 24 | 6 | 308 | | | | Becomes gray | |
| | | 24 | 12 | 111 | | | | | |
| 45 | | 24 | 24 | 2985 | | | | | |
| | | | | | | | | Bottom of boring at 47' bgs | |

Completion Depth: 47.0 Ft bgs
 Project No.: 21562973
 Project Name: Additional Characterization
 Drilling Contractor: Roberts Environmental Drilling Inc.
 Driller Name: J. Crank
 Drilling Method: HSA
 Drill Rig Type: CME 75
 Logged by: E. Arthur
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD 080 012 305

Water Depth: 38 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.
 ▽ Water level at time of drilling
 ▼ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

Geoprobe
 Air Knife/Hand Auger Sampler
 Air Rotary
 Sonic
 Splitspoon Sampler
 Hollow Stem Auger- Soil samples not collected



USC based on field visual observations

Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram



| | | | | | |
|----------------------|-----------------------------------------------------------------|------------------|-----------------------------------------------------|------------------|------------|
| Project: | Roxana Monitoring Well Drilling & Installation / 21562973.15000 | | Well ID: | MW-25 | |
| Project Location: | Roxana, Illinois | Date Started: | 8/26/2014 | | |
| Well Location: | On East 8th Street | Date Completed: | 8/29/2014 | | |
| Drilling Contractor: | Roberts Environmental Drilling, Inc. | Time Seal Set: | 17:00 / 8-28-14 | | |
| Driller: | J. Crank | Type of Rig: | CME-75 | | |
| Consulting Firm: | URS Corporation | Drilling Method: | H S A (4.25" ID) | | |
| Geologist: | E. Arthur | Owner: | Equilon Enterprises LLC d/b/a Shell Oil Products US | Elevation Datum: | NAVD 88 |
| | | | | Township: | T5N |
| | | | | Range: | R9W |
| | | | | Section: | Section 34 |

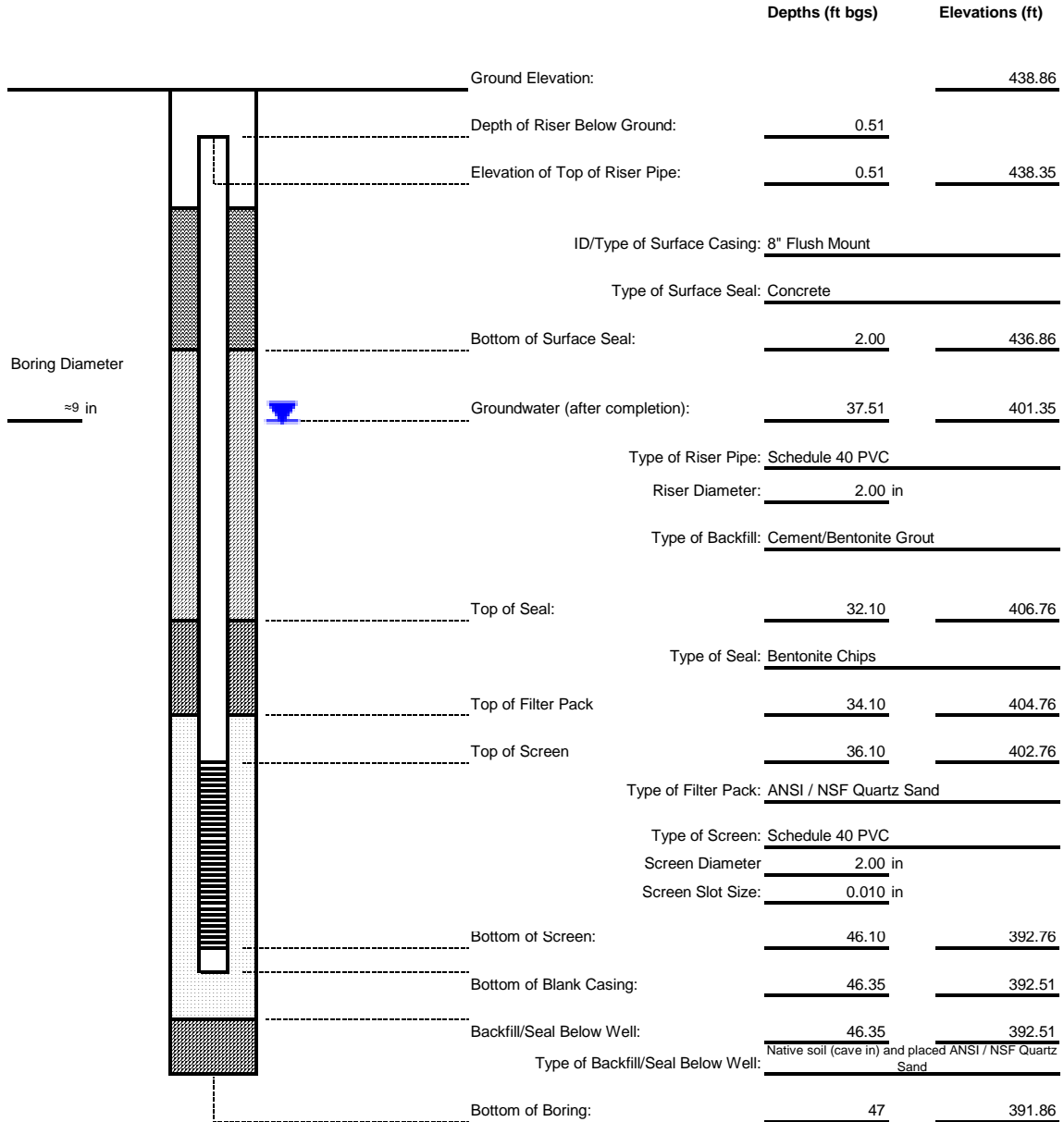


DIAGRAM IS NOT TO SCALE

LOG OF BORING AND WELL CONSTRUCTION DETAIL

MW-26

Starting Date: 8/25/14
 Completion Date: 8/28/14
 Casing Elevation: 441.02
 Ground Elevation: 441.29
 Quadrangle Sec: 34
 T: 5N
 R: 9W
 UTM (or State Plane) Coord
 N: (X): 792393.52
 E: (Y): 2322012.55

| Depth In feet | Well Construction | Inches Driven | Inches Recovered | PID/FID (ppm) | Sampler Graphic | Symbol | USCS | DESCRIPTION | NOTES |
|---------------|-------------------|---------------|------------------|---------------|-----------------|-------------------------|------|-------------------------------------------------------------|----------------------------------------------------------------|
| 0 - 10 | Asphalt | | | | | [Cross-hatch symbol] | FILL | Asphalt (FILL) | Air knifed to 10' bgs to clear for utilities and obstructions. |
| 10 - 11 | | | | 2.0 | | [Diagonal lines symbol] | CL | Soft, dry, reddish brown, low plastic, Silty Sandy CLAY CL) | |
| 11 - 15 | | | | 6.5 | | [Dotted symbol] | SP | Loose, dry, brown, fine grained SAND (SP), trace clay | Clay grades out |
| 15 - 16 | | 24 | 14 | 1.3 | | | | | |
| 16 - 17 | | 24 | 14 | 1.3 | | | | | |
| 17 - 18 | | 24 | 16 | 2.0 | | | | | |
| 18 - 19 | | 24 | 17 | 2.0 | | | | | |
| 19 - 20 | | 24 | 20 | 3.6 | | | | | |
| 20 - 21 | | 24 | 20 | 4.3 | | | | | |
| 21 - 22 | | 24 | 12 | 4.9 | | | | | |

Completion Depth: 49.0 Ft bgs
 Project No.: 21562973
 Project Name: Additional Characterization
 Drilling Contractor: Roberts Environmental Drilling Inc.
 Driller Name: J. Crank
 Drilling Method: HSA
 Drill Rig Type: CME 75
 Logged by: E. Arthur
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD 080 012 305

Water Depth: 40.5 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.
 Water level at time of drilling
 Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

Geoprobe
 Air Knife/Hand Auger Sampler
 Air Rotary
 Sonic
 Splitspoon Sampler
 Hollow Stem Auger- Soil samples not collected



USC based on field visual observations

LOG OF BORING AND WELL CONSTRUCTION DETAIL

MW-26

| Depth In feet | Well Construction | Inches Driven | Inches Recovered | PID/FID (ppm) | Sampler Graphic | Symbol | USCS | LOG OF BORING AND WELL CONSTRUCTION DETAIL | |
|---------------|-------------------|---------------|------------------|---------------|-----------------|--------|------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| | | | | | | | | DESCRIPTION | NOTES |
| | | | | | | | | Starting Date: 8/25/14 Completion Date: 8/28/14 Casing Elevation: 441.02 Ground Elevation: 441.29 | Quadrangle Sec:34 T:5N R:9W UTM (or State Plane) Coord N: (X):792393.52 E: (Y):2322012.55 |
| 30 | | 24 | 18 | 6.4 | | | | Same: Loose, dry, brown, fine to medium grained SAND (SP) | |
| | | 24 | 18 | 5.3 | | | | | |
| | | 24 | 19 | 5.9 | | | | | |
| | | 24 | 20 | 2.9 | | | | Becomes gray Grades to medium grained | |
| | | 24 | 18 | 5.2 | | | | Becomes orange brown Becomes gray | |
| 35 | | 24 | 20 | 5.0 | | | | Becomes fine grained, with silt | |
| | | 24 | 18 | 8.5 | | | SP | Becomes light brown, medium grained | |
| | | 24 | 13 | 25.0 | | | | Becomes moist, brown | |
| 40 | | 24 | 18 | 3.0 | | | | Becomes wet | ▽ |
| | | 24 | 23 | 2.3 | | | | | |
| 45 | | 24 | 23 | 2.0 | | | | | |
| | | 24 | 10 | 3.0 | | | | | |
| | | | | | | | | Bottom of boring at 49' bgs | |

Completion Depth: 49.0 Ft bgs
 Project No.: 21562973
 Project Name: Additional Characterization
 Drilling Contractor: Roberts Environmental Drilling Inc.
 Driller Name: J. Crank
 Drilling Method: HSA
 Drill Rig Type: CME 75
 Logged by: E. Arthur
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD 080 012 305

Water Depth: 40.5 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.
 ▽ Water level at time of drilling
 ▼ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

Geoprobe
 Air Knife/Hand Auger Sampler
 Air Rotary
 Sonic
 Splitspoon Sampler
 Hollow Stem Auger-
 Soil samples not collected



USC based on field visual observations

Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram



| | | | | |
|----------------------|-----------------------------------------------------------------|------------------|-----------------------------------------------------|----------------------------------------------------|
| Project: | Roxana Monitoring Well Drilling & Installation / 21562973.15000 | | Well ID: | MW-26 |
| Project Location: | Roxana, Illinois | Date Started: | 8/25/2014 | |
| Well Location: | On East 7th Street | Date Completed: | 8/28/2014 | Boring ID: MW-26 |
| Drilling Contractor: | Roberts Environmental Drilling, Inc. | Time Seal Set: | 13:30 / 8-27-14 | Northing: 792393.52 |
| Driller: | J. Crank | Type of Rig: | CME-75 | Easting: 2322012.55 |
| Consulting Firm: | URS Corporation | Drilling Method: | H S A (4.25" ID) | Elevation Datum: NAVD 88 |
| Geologist: | E. Arthur | Owner: | Equilon Enterprises LLC d/b/a Shell Oil Products US | Township: T5N Range: R9W Section: Section 34 |

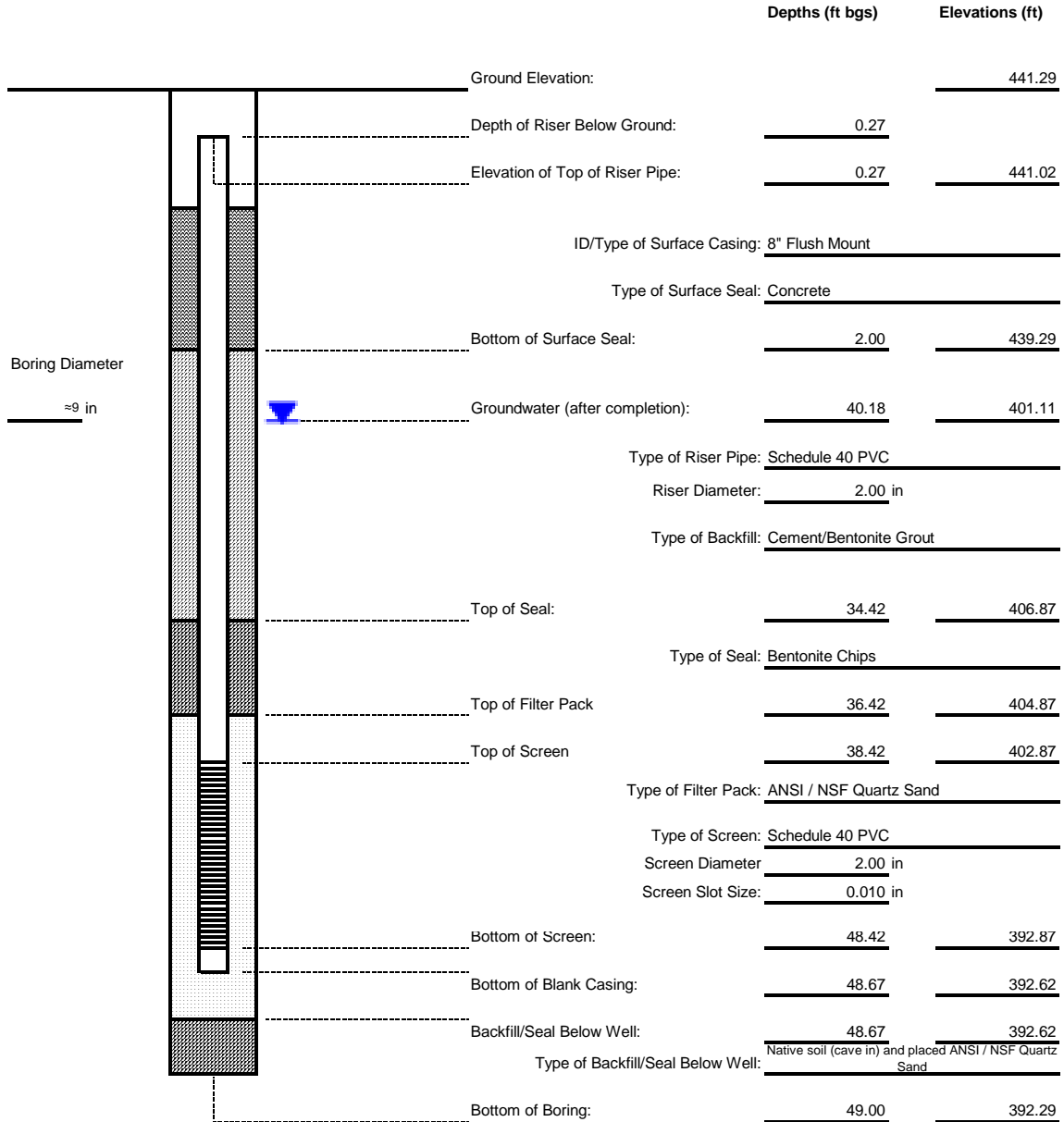


DIAGRAM IS NOT TO SCALE

URS (E/IRON) LOG (EPA FORMAT) #1 WELL P:\RESOURCES\GINT\DATA\GINT\ENVIRONMENTAL\URSSTILEV.GLB 11/06/14

LOG OF BORING AND WELL CONSTRUCTION DETAIL

MW-27

Starting Date: 10/15/14
 Completion Date: 10/17/14
 Casing Elevation: 443.40
 Ground Elevation: 443.70
 Quadrangle Sec:34 T:5N R:9W
 UTM (or State Plane) Coord
 N: (X):793753.22
 E: (Y):2322016.01

| Depth In feet | Well Construction | Inches Driven | Inches Recovered | PID/FID (ppm) | Sampler Graphic | Symbol | USCS | DESCRIPTION | NOTES |
|---------------|-------------------|---------------|------------------|---------------|-----------------|--------|------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 | | | | 0.3 | | | FILL | Asphalt/crushed limestone (FILL) | Air knifed to 10' bgs to clear for utilities and obstructions. 10" diameter surface casing set to 10' bgs due to the proximity of the boring to an underground natural gas line. |
| | | | 1.4 | | | | CL | Soft, moist, brown, Silty CLAY (CL) | |
| | | | 2.2 | | | | | Increasing silt | |
| | | | 0.7 | | | | ML | Soft, moist, brown, Clayey SILT (ML), with sand | |
| | | | 0.5 | | | | SC | Loose, moist, brown, Clayey SAND (SC) | |
| 10 | | 24 | 22 | 3.5 | | | SM | Loose, moist, brown, Silty SAND (SM) | |
| | | 24 | 17 | 4.4 | | | SP | Loose, moist, brown to dark brown banded, fine grained SAND (SP), trace silt | |
| 15 | | 24 | 21 | 5.1 | | | SP | Becomes fine to medium grained | |
| | | 24 | 21 | 3.1 | | | | | |
| 20 | | 24 | 18 | 3.0 | | | SM | Loose, wet, dark brown, fine grained, Silty SAND (SM) | |
| | | 24 | 22 | 3.7 | | | SP | Medium dense, dry, light brown, fine to medium grained SAND (SP), trace silt | |
| | | 24 | 24 | 4.7 | | | SP | | |

Completion Depth: 51.0 Ft bgs
 Project No.: 21562973
 Project Name: Additional Characterization
 Drilling Contractor: Roberts Environmental Drilling Inc.
 Driller Name: P. Seymour
 Drilling Method: HSA
 Drill Rig Type: DT-8040
 Logged by: E. Fritsch/M. Miller
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD 080 012 305

Water Depth: 42 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.
 Water level at time of drilling
 Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

Geoprobe
 Air Knife/Hand Auger Sampler
 Air Rotary
 Sonic
 Splitspoon Sampler
 Hollow Stem Auger- Soil samples not collected



USC based on field visual observations

LOG OF BORING AND WELL CONSTRUCTION DETAIL

MW-27

| | |
|---------------------------|-----------------------------|
| Starting Date: 10/15/14 | Quadrangle Sec:34 T:5N R:9W |
| Completion Date: 10/17/14 | UTM (or State Plane) Coord |
| Casing Elevation: 443.40 | N: (X):793753.22 |
| Ground Elevation: 443.70 | E: (Y):2322016.01 |

| Depth In feet | Well Construction | Inches Driven | Inches Recovered | PID/FID (ppm) | Sampler Graphic | Symbol | USCS | DESCRIPTION | NOTES |
|---------------|-------------------|---------------|------------------|---------------|-----------------|--------|----------|------------------------------------------------------------------------------------|-------|
| 30 | | 24 | 24 | 5.3 | | | | Same: Medium dense, dry, light brown, fine to medium grained SAND (SP), trace silt | |
| | | 24 | 24 | 4.1 | | | | | |
| | | 24 | 24 | 3.7 | | | SP | | |
| | | 24 | 22 | 3.5 | | | | | |
| | | 24 | 22 | 3.0 | | | CL SM | | |
| 35 | | 24 | 24 | 2.3 | | | | Medium dense, moist, brown, fine grained, Silty SAND (SM) | |
| | | 24 | 24 | 2.3 | | | | Medium dense, dry, tan to brown, fine grained SAND (SP), with silt | |
| | | 24 | 21 | 3.6 | | | SP | | |
| | | 24 | 21 | 2.1 | | | | Becomes very moist, gray brown | |
| 40 | | 24 | 21 | 2.1 | | | | With clay | |
| | | 24 | 21 | 8.3 | | | SC | Medium dense, wet, brownish gray, clayey SAND (SC) | |
| | | 24 | 21 | 8.3 | | | | Medium dense, moist to dry, gray to dark gray, fine to medium grained SAND (SP) | ▽ |
| | | 24 | 21 | 3.0 | | | SP | Becomes wet | |
| 45 | | 24 | 23 | 1.8 | | | | 2" silty clay seam | |
| | | 24 | 24 | 14.2 | | | CL | Stiff, moist, dark gray, Silty CLAY (CL) | |
| | | 24 | 24 | 14.2 | | | ML | Medium dense, moist, dark gray, Clayey SILT (ML) | |
| | | 24 | 24 | 16.6 | | | SM | Soft, wet, dark gray, Silty SAND (SM) | |

Completion Depth: 51.0 Ft bgs
 Project No.: 21562973
 Project Name: Additional Characterization
 Drilling Contractor: Roberts Environmental Drilling Inc.
 Driller Name: P. Seymour
 Drilling Method: HSA
 Drill Rig Type: DT-8040
 Logged by: E. Fritsch/M. Miller
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD 080 012 305

Water Depth: 42 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.
 Water level at time of drilling
 Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

Geoprobe
 Air Knife/Hand Auger Sampler
 Air Rotary
 Sonic
 Splitspoon Sampler
 Hollow Stem Auger- Soil samples not collected



USC based on field visual observations

LOG OF BORING AND WELL CONSTRUCTION DETAIL

MW-27

Starting Date: 10/15/14
 Completion Date: 10/17/14
 Casing Elevation: 443.40
 Ground Elevation: 443.70

Quadrangle Sec:34
 T:5N
 R:9W
 UTM (or State Plane) Coord
 N: (X):793753.22
 E: (Y):2322016.01

| Depth In feet | Well Construction | Inches Driven | Inches Recovered | PID/FID (ppm) | Sampler Graphic | Symbol | USCS |
|---------------|-------------------|---------------|------------------|---------------|-----------------|--------|------|
| 55 | | | | | | | SM |
| 60 | | | | | | | |
| 65 | | | | | | | |
| 70 | | | | | | | |

DESCRIPTION NOTES

Same: Soft, wet, dark gray, Silty SAND (SM)

Bottom of boring at 51' bgs

Completion Depth: 51.0 Ft bgs
 Project No.: 21562973
 Project Name: Additional Characterization
 Drilling Contractor: Roberts Environmental Drilling Inc.
 Driller Name: P. Seymour
 Drilling Method: HSA
 Drill Rig Type: DT-8040
 Logged by: E. Fritsch/M. Miller
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD 080 012 305

Water Depth: 42 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.
 Water level at time of drilling
 Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

Geoprobe
 Air Knife/Hand Auger Sampler
 Air Rotary
 Sonic
 Splitspoon Sampler
 Hollow Stem Auger- Soil samples not collected



USC based on field visual observations

Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram



| | | | | | | |
|----------------------|-----------------------------------------------------------------|------------------|-----------------------------------------------------|-------|------------------|------------|
| Project: | Roxana Monitoring Well Drilling & Installation / 21562973.15000 | | Well ID: | MW-27 | | |
| Project Location: | Roxana, Illinois | Date Started: | 10/15/2014 | | | |
| Well Location: | Alley between East 2nd and East 3rd Streets | Date Completed: | 10/17/2014 | | | |
| Drilling Contractor: | Roberts Environmental Drilling, Inc. | Time Seal Set: | 16:30 / 10-16-14 | | Northing: | 793753.22 |
| Driller: | P. Seymour | Type of Rig: | Geoprobe DT8040 | | Easting: | 2322016.01 |
| Consulting Firm: | URS Corporation | Drilling Method: | H S A (4.25" ID) | | Elevation Datum: | NAVD 88 |
| Geologist: | E. Fritsch M. Miller | Owner: | Equilon Enterprises LLC d/b/a Shell Oil Products US | | Township: | T5N |
| | | | | | Range: | R9W |
| | | | | | Section: | Section 34 |

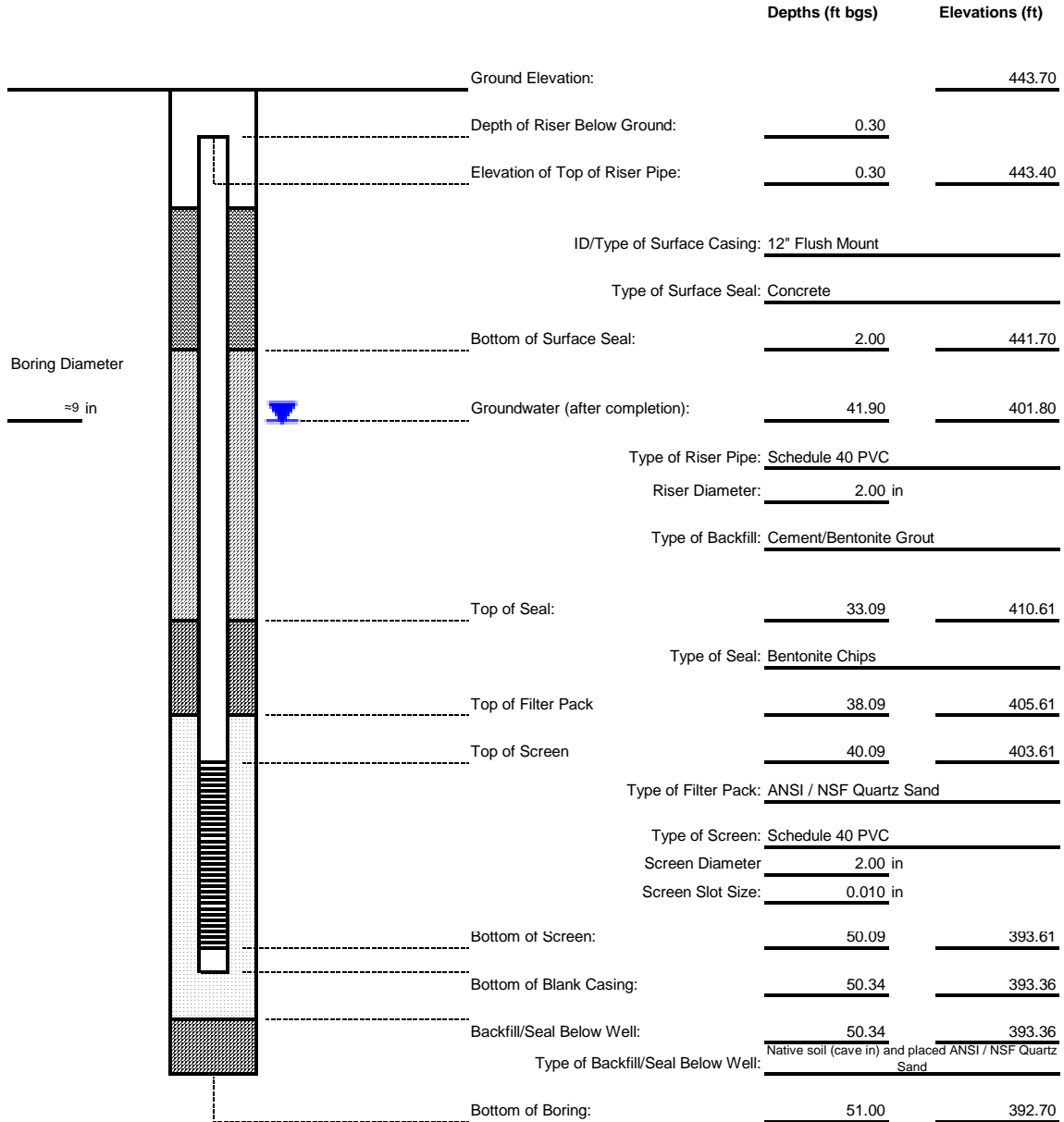


DIAGRAM IS NOT TO SCALE

LOG OF BORING AND WELL CONSTRUCTION DETAIL

MW-28

Starting Date: 8/25/14
 Completion Date: 9/3/14
 Casing Elevation: 443.34
 Ground Elevation: 443.78

Quadrangle Sec: 34
 T: 5N
 R: 9W
 UTM (or State Plane) Coord
 N: (X): 793894.54
 E: (Y): 2322110.57

| Depth In feet | Well Construction | Inches Driven | Inches Recovered | PID/FID (ppm) | Sampler Graphic | Symbol | USCS | DESCRIPTION | NOTES |
|---------------|-------------------|---------------|------------------|---------------|-----------------|------------------|----------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------|
| 0 - 10 | Asphalt | | | | | [Cross-hatch] | FILL | Asphalt (FILL) | Air knifed to 10' bgs to clear for utilities and obstructions. |
| 10 - 10.5 | | | | 0.5 | | [Vertical lines] | ML | Loose, dry, brown, very fine grained, Clayey SILT (ML) | |
| 10.5 - 11 | | | | 0.6 | | [Vertical lines] | SM | Loose, dry, brown, fine grained, Silty SAND (SM) | |
| 11 - 12 | | | | 0.5 | | [Dotted] | SP | Grades to fine grained Loose, dry, brown, fine grained SAND (SP), with clay | |
| 12 - 13 | | | | 0.5 | | [Dotted] | SP | | |
| 13 - 14 | | 24 | 14 | 1.9 | | [Vertical lines] | ML | Loose, moist, brown, very fine grained, Sandy SILT (ML) | |
| 14 - 15 | | 24 | 20 | 4.9 | | [Dotted] | SP | Loose, dry, brown, fine grained SAND (SP) | |
| 15 - 16 | | 24 | 18 | 5.3 | | [Dotted] | | | |
| 16 - 17 | | 24 | 18 | 6.1 | | [Dotted] | | | |
| 17 - 18 | | 24 | 18 | 6.1 | | [Dotted] | | | |
| 18 - 19 | | 24 | 18 | 6.1 | | [Dotted] | | | |
| 19 - 20 | | 24 | 19 | 6.8 | | [Dotted] | Grades to fine to medium grained | | |
| 20 - 21 | | 24 | 20 | 7.0 | | [Dotted] | | Grades to fine grained | |

Completion Depth: 46.0 Ft bgs
 Project No.: 21562973
 Project Name: Additional Characterization
 Drilling Contractor: Roberts Environmental Drilling Inc.
 Driller Name: J. Crank
 Drilling Method: HSA
 Drill Rig Type: CME 75
 Logged by: E. Arthur
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD 080 012 305

Water Depth: 37.4 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.

Water level at time of drilling
 Water level after drilling

ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

Geoprobe
 Air Knife/Hand Auger Sampler
 Air Rotary
 Sonic
 Splitspoon Sampler
 Hollow Stem Auger- Soil samples not collected

URS
 USC based on field visual observations

URS (E/IRON) LOG (EPA FORMAT) #1 WELL P:\RESOURCES\GINT\DATA\GINT\ENVIRONMENTAL\URSSTLEV.GLB 11/06/14

LOG OF BORING AND WELL CONSTRUCTION DETAIL

MW-28

| | |
|--------------------------|-----------------------------|
| Starting Date: 8/25/14 | Quadrangle Sec:34 T:5N R:9W |
| Completion Date: 9/3/14 | UTM (or State Plane) Coord |
| Casing Elevation: 443.34 | N: (X):793894.54 |
| Ground Elevation: 443.78 | E: (Y):2322110.57 |

| Depth In feet | Well Construction | Inches Driven | Inches Recovered | PID/FID (ppm) | Sampler Graphic | Symbol | USCS | DESCRIPTION | NOTES |
|---------------|-------------------|---------------|------------------|---------------|-----------------|--------|------|--------------------------------------------------------------------------------------|-------|
| 30 | | 24 | 22 | 7.6 | | | | Same: Loose, dry, brown, fine grained SAND (SP) | |
| | | 24 | 20 | 8.2 | | | SP | | |
| | | 24 | 15 | 8.6 | | | | | |
| | | 24 | 16 | 8.0 | | | | Becomes with silt | |
| | | 24 | 18 | 82 | | | ML | Loose, dry, brown, very fine grained, Sandy SILT (ML) | |
| | | 24 | 18 | 82 | | | CL | Soft, moist, gray, low plastic CLAY (CL) | |
| | | 24 | 18 | 82 | | | ML | Loose, moist, gray, very fine, Clayey SILT (ML) Clay grades out Become dry | |
| 35 | | 24 | 18 | 13.2 | | | | Grades to sandy silt | |
| | | 24 | 19 | 49.9 | | | SP | Loose, dry, gray, fine grained SAND (SP) | |
| | | 24 | 19 | 49.9 | | | CL | Soft, moist, gray, low plastic CLAY (CL) | |
| | | 24 | 19 | 49.9 | | | SP | Loose, dry, gray, fine grained SAND (SP), with silt | |
| | | 24 | 19 | 49.9 | | | ML | Loose, wet, gray, very fine SILT (ML) | |
| | | 24 | 19 | 49.9 | | | CL | Soft, wet, gray, low plastic, Silty CLAY (CL) | |
| | | 24 | 18 | 81.2 | | | ML | Loose, wet, gray, very fine SILT (ML) | |
| | | 24 | 18 | 81.2 | | | CL | Soft, moist, gray, low plastic, Silty CLAY (CL) | |
| | | 24 | 18 | 81.2 | | | ML | Loose, dry, gray, very fine SILT (ML) | |
| | | 24 | 18 | 81.2 | | | CL | Soft, moist, gray, low plastic, Silty CLAY (CL) | |
| | | 24 | 19 | 3.4 | | | ML | Loose, wet, gray, very fine SILT (ML) | |
| | | 24 | 18 | 39.2 | | | SP | Soft, moist, brown, medium to coarse grained SAND (SP) Becomes wet Become gray | |
| | | 24 | 20 | 21.8 | | | CL | Soft, moist, gray, low plastic CLAY (CL) | |
| 45 | | | | | | | ML | Loose, wet, gray, very fine SILT (ML) | |
| | | | | | | | | Bottom of boring at 46' bgs | |

Completion Depth: 46.0 Ft bgs
 Project No.: 21562973
 Project Name: Additional Characterization
 Drilling Contractor: Roberts Environmental Drilling Inc.
 Driller Name: J. Crank
 Drilling Method: HSA
 Drill Rig Type: CME 75
 Logged by: E. Arthur
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD 080 012 305

Water Depth: 37.4 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.
 Water level at time of drilling
 Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

Geoprobe
 Air Knife/Hand Auger Sampler
 Air Rotary
 Sonic
 Splitspoon Sampler
 Hollow Stem Auger- Soil samples not collected

URS
 USC based on field visual observations

Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram



| | | | | |
|----------------------|-----------------------------------------------------------------|------------------|-----------------------------------------------------|----------------------------------------------------|
| Project: | Roxana Monitoring Well Drilling & Installation / 21562973.15000 | | Well ID: | MW-28 |
| Project Location: | Roxana, Illinois | Date Started: | 8/25/2014 | |
| Well Location: | East 2nd Street | Date Completed: | 9/3/2014 | Boring ID: MW-28 |
| Drilling Contractor: | Roberts Environmental Drilling, Inc. | Time Seal Set: | 16:00 / 9-2-14 | Northing: 793894.54 |
| Driller: | J. Crank | Type of Rig: | CME-75 | Easting: 2322110.57 |
| Consulting Firm: | URS Corporation | Drilling Method: | H S A (4.25" ID) | Elevation Datum: NAVD 88 |
| Geologist: | E. Arthur | Owner: | Equilon Enterprises LLC d/b/a Shell Oil Products US | Township: T5N Range: R9W Section: Section 34 |

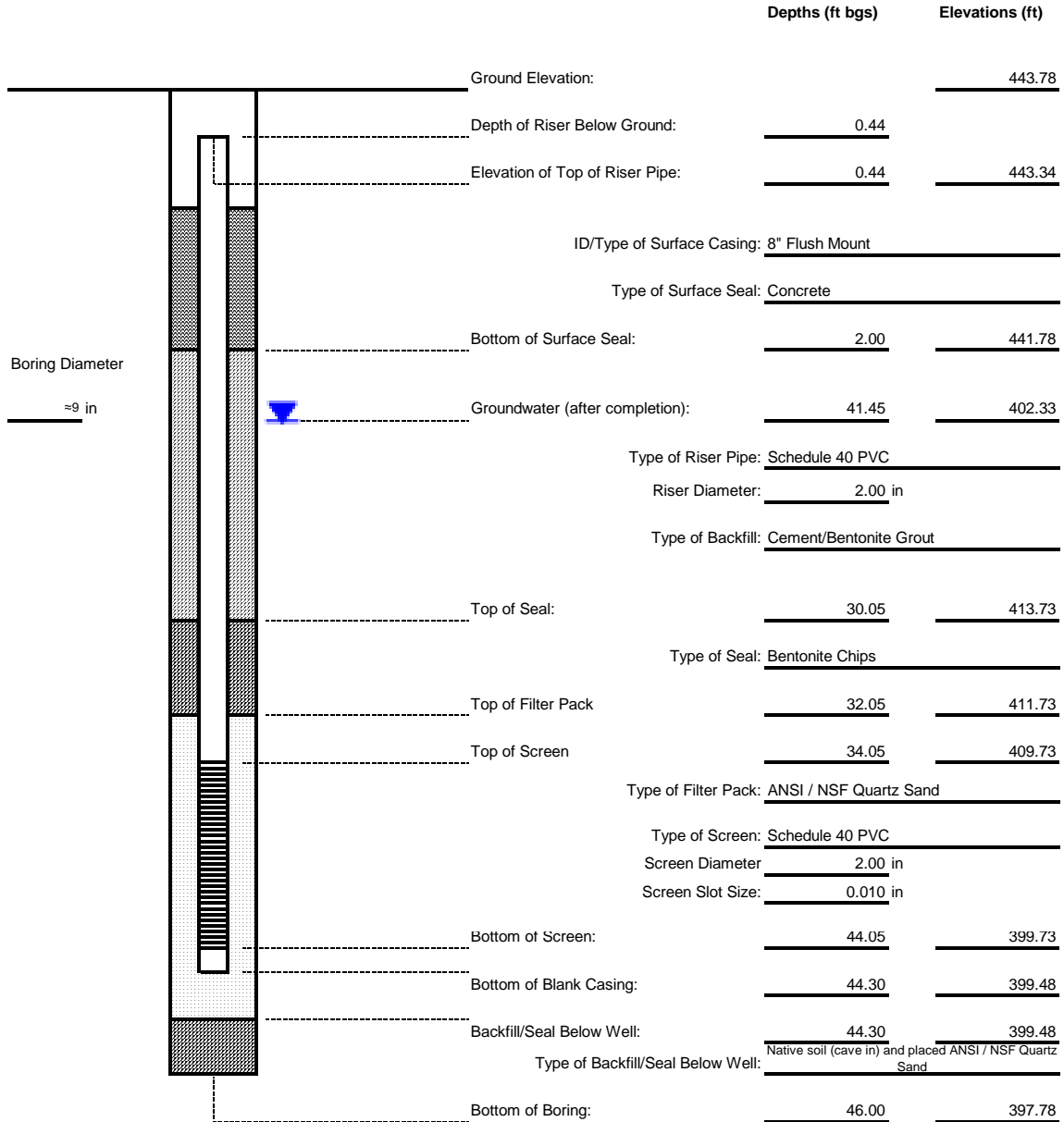


DIAGRAM IS NOT TO SCALE