



2014 GCCS Phase 3 Construction Certification Report for Lorain County II Landfill

**Prepared for:
Republic Services, Inc.**

January 23, 2015

Notarized Statement

"I, Chris Jaquet, certify that this 2014 GCCS Phase 3 Construction Certification Report for the Republic Services, Inc. Lorain County II Landfill in Lorain County, Oberlin, Ohio and all attachments were prepared in accordance with the provisions and requirements of Ohio Administrative Code (OAC) Rule 3745-27-08(H) effective August 2003. Based on my inquiry of the person or persons who were directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."



Signature

1/21/15

Date

Chris Jaquet

Name

Area Environmental Manager

Title

On this, the 21 day of January 2015, before me, a notary public, the above signed person, known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.



Notary Public



LYNN C WILLIAMS
NOTARY PUBLIC - OHIO
MY COMMISSION EXPIRES 08-23-16

Engineer's Certification

"I, Jeff DeLaet, being a Registered Professional Engineer in the State of Ohio, PE No. E-55904, certify under penalty of law that this 2014 GCCS Phase 3 Construction Certification Report for the Republic Services, Inc. Lorain County II Landfill in Lorain County, Oberlin, Ohio and all attachments were prepared by me or under my direction or supervision in accordance with the provisions and requirements of Ohio Administrative Code (OAC) Rule 3745-27-08(H) effective August 2003 and in accordance with good engineering practices. I have personally visited and examined the facility and am familiar with the information submitted in this document and based on my inquiry of the person or persons directly responsible for preparing this 2014 GCCS Phase 3 Construction Certification Report, the information submitted in the 2014 GCCS Phase 3 Construction Certification Report is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant civil and/or criminal penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature

Date

Jeff DeLaet, P.E.

Name



On this, the 23 day of January 2015, before me, a notary public, the above signed person, known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Notary Public



Kyle Kief
Notary Public, State of Ohio
My Commission Expires 02-18-2018

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1.0 INTRODUCTION

The purpose of this 2014 Gas Collection and Control System (GCCS) – Phase 3 Construction Certification Report (Certification Report) is to detail the materials, construction/installation methods, and observations and tests performed for the 2014 GCCS – Phase 3 Construction Project at the Lorain County II Landfill (herein after referred to as the “Landfill”), Lorain County, Oberlin, Ohio. This Certification Report was prepared in general conformance with Ohio Administrative Code (OAC) 3745-27-08(H). The owner’s Notarized Statement and the Engineer’s Certification attesting to the accuracy and compliance of this Certification Report are included herein.

The Certification Report includes the following sections:

1. Introduction
2. Landfill Gas Extraction Wells
3. Landfill Gas Collection System
4. Airline and Force Main System
5. System Repairs and Maintenance

A discussion of each new or altered component of the Landfill GCCS materials, construction/installation methods, and observations/tests performed is provided in the appropriate section. Daily field logs, photographs, project record drawings, extraction well boring logs, laboratory test results, pipe pressure test results, and additional relevant information is provided in the appendices.

Under the approval of Republic Services, Inc. (Republic), maintenance was performed on the existing Landfill GCCS. Eleven GCCS extraction wells were replaced (re-drilled). No new GCCS extraction wells were installed. Refer to the Project Record Drawings in Appendix D for re-drilled well locations.

The field work was performed from November 17, 2014 to December 20, 2014. Republic’s subcontractor, American Environmental Group Ltd. (AEGL) of Richfield, Ohio. AEGL, under the supervision of Kevin Shull (Gas Extraction System Operations Manager) and Jeff Enochs (Drilling Operations Manager), performed the construction/installation of the extraction wells and pipeline components. Construction quality assurance (CQA) oversight was performed by T&M Associates with Janet Todia providing day-to-day observations and documentation. Jeff DeLaet, PE, of T&M Associates (T&M) provided project management and served as the certifying engineer. Daily field logs and construction/installation photographs are included in Appendices A and B, respectively. Qualifications for Ms. Todia and Mr. DeLaet are included in Appendix C.

For the purposes of this Certification Report, CQA is used to refer to activities performed by T&M, where quality control (QC) refers to observation and testing activities performed by the GCCS component’s installer (AEG) and manufacturer (ISCO).

1.1 FIELD ALTERATIONS/DEVIATIONS

During the course of the construction/installation activities, minor alterations/deviations from the construction drawings were implemented in the field. These minor alterations/deviations are listed below, and are also reflected in the Project Record Drawings included in Appendix D:

- The following redrill well was added to the original draft drilling schedule. As construction commenced, it was determined the preexisting well EW-316 was pinched and needed to be replaced.



Well ID	Actual Depth (ft.)	Scheduled Bore Depth (ft.)
EW-316R	78	78

- In addition, the following wells were drilled to a depth less than the scheduled bore depth due to refusal for the following noted reasons.

Well ID	Scheduled Bore Depth (ft.)	Actual Depth (ft.)	Reason for Refusal
EW-154R3	140	120	IMT drilling rig has a maximum bore depth of 120'
EW-47R3	140	113	Impassible steel obstruction encountered at 113'; broke teeth off of drilling bucket
EW-124R2	115	80	Impassible steel obstruction encountered at 80'; broke teeth off of drilling bucket twice
EW-36R2	63	40	Impassible steel obstruction encountered at 40'; broke teeth off of drilling bucket
EW-54R3	78	67	Encountered sludge at 67'
EW-169R	120	113	Encountered sludge at 113'

- Due to the inability to recover preexisting pumps from wells to be abandoned as corresponding re-drilled wells came on line, no pumps were installed in wells EW-38R, EW-57R3, EW-153R, EW-321, EW-323, EW-324, and TEW-9R2. These wells will be gauged for liquids and evaluated for pump installation for the Phase 1 2015 construction event.
- During the construction event, it was determined that wells EW-156R and EW-49R4 required an alternative vacuum source due to a significant reduction in available vacuum at the original lateral. Therefore, vacuum was obtained from a 6" lateral fabricated off of the new 12" x 18" tie in.
- The original construction plan view shows installation of 2" air, 2" force main, and pumps in redrilled wells EW-47R3, EW-169R, EW-158R2, and EW-154R3 on the new 18" spur. While on site, it was discovered the air and force main in this area was not functional due to pinching. Therefore, new air, new force main, and pumps will be installed during the Phase 1 2015 event when fully operational tie in points will be identified. This will require much more extensive air and force main installation than originally identified in the Plan View of Phase 3 2014.
- Due to the relatively shallow depth of redrill well EW-36R2 (40 feet due to impassible obstruction), it was determined that 10 feet of solid pipe, rather than 20 feet of solid pipe, be fabricated above the slotted portion of the well casing to achieve maximum extraction.
- The 12" subheader replacement scheduled for the north slope was placed above grade due to the original 12" subheader tie in points being greater than 30 feet below grade on the both east side and the west side connections. The 12" subheader was tied into the 12" isolation riser near EW-303R on the east side and the sump near H12N on the west



side. This termination reflected the most reasonable way to locate and tie into the existing 12" subheader to restore maximum vacuum to the north slope.

- One additional gas collection riser was connected to the leachate collection system conveyance pipes at the 24" header along the east side of cell D1 to accentuate gas collection from the leachate collection system. The collection riser was fitted with a well head to control the amount of extraction applied to that point.



2.0 LANDFILL GAS EXTRACTION WELLS

A total of eleven replacement extraction wells were installed at the Landfill. The existing extraction wells that were abandoned and replaced with new extraction wells are listed in Table 1 below:

Table 1. Existing Landfill Gas Extraction Wells	
Replacement	Abandoned
EW-27R2	EW-27R
EW-36R2	EW-36R
EW-47R3	EW-47R2
EW-54R3	EW-54R2
EW-124R2	EW-124R
EW-154R3	EW-154R2
EW-158R2	EW-158R
EW-169R	EW-169
EW-306R2	EW-306R
EW-332R	EW-332
EW-316R	EW-316

Existing extraction wells were abandoned by excavating around the existing well casing to an approximate 5' depth below the existing ground surface and cutting off the exposed casing. After filling the casing with soil, a polyvinyl chloride (PVC) slip cap, with a bead of silicone gel inside the cap, was lag-bolted on top of the well casing and the excavation was backfilled with the excavated materials and clean onsite soil, as needed.

Those existing extraction wells that were located within the final cover area were abandoned by excavating the vegetative/protective soils around the existing well casing down to the geosynthetic components of the final cover system. The geosynthetics were removed/cut to expose the underlying recompacted soil barrier (RSB) component of the final cover system only to the extent required to provide access to continue excavating around the existing well casing. The excavation into the RSB was limited to 1' to 2'. The excavation was then backfilled and recompacted with the RSB material. The geosynthetic components of the final cover system were repaired and/or replaced (see Section 2.2 for a discussion of how the repairs were performed) and the excavated vegetative/protective soils were placed in the excavation back to the level of the adjacent soil material.

Most of the eleven re-drilled (replacement) extraction wells are connected to the Landfill GCCS with a 6" lateral that ties into the 6" lateral that served the associated abandoned extraction well. In some cases, vacuum had been lost at the associated abandon extraction well and new 6" laterals had to be run to restore vacuum at the location. This is primarily the case for redrills located on the newly installed 18" spur (EW-47R3, EW154R3, EW-158R2, and EW-169R).

The eleven re-drilled (replacement) extraction wells were tied into the existing GCCS as follows:

- EW-154R3 is tied into the new 18" subheader.
- EW-47R3 is tied into the new 18" subheader.
- EW-158R2 is tied into the new 18" subheader.



- EW-169R is tied into the new 18" subheader.
- EW-27R2 is tied into a new 6" lateral run off of the preexisting 8" subheader.
- EW-124R2 is tied into the preexisting 6" lateral at EW-124R.
- EW-36R2 is tied into the preexisting 6" lateral at EW-36R.
- EW-54R3 is tied into the preexisting 6" lateral at EW-54R2.
- EW-306R2 is tied into the preexisting 6" lateral at EW-306R.
- EW-332R is tied into the preexisting 6" lateral at EW-332.
- EW-316 is tied into the replacement above grade 12" subheader.

Two of the extraction wells installed for the 2014 GCCS – Phase 3 program were installed within the area of the Landfill with final cover present (location of these extraction wells is shown on the Project Record Drawings in Appendix D). The geosynthetic components of the final cover system were compromised as the auger advanced through the final cover system. Following installation of the casing for the above-mentioned replacement extraction wells, repair of the geosynthetic components was performed by AEGL (see Section 2.2 for a discussion of how the repairs were performed). The repairs provided a continuous and intact barrier at the replacement extraction well locations.

2.1 MATERIALS

The materials used for the construction/installation of the replacement extraction wells included the following:

- 6" and 8" diameter solid and perforated SDR11 HDPE pipe with HDPE butt caps (bottom of well) and 6" and 8" Schedule 40 PVC temporary caps (top of well)
- No. 4 stone (1" to 3" washed non-carbonate) backfill material
- 8-mesh granulated bentonite
- Nominal 40-mil thick LLDPE flexible membrane liner (FML)
- Geocomposite
- HDPE extrusion welding rod

2.2 CONSTRUCTION/INSTALLATION METHODS

Equipment used to construct/install the extraction wells included an IMT AF-130 track-mounted drill rig, Caterpillar 953D track-mounted loader, JCB 725 articulated dump truck, ISCO Hotline HDPE butt-fusion pipe welding equipment, DemTech Pro-X extrusion welder and Pro-Tester, hot air machine, DemTech vacuum box, and various hand tools. The general construction/installation methods were as follows:

- A field survey was conducted by the Wellert Corporation of Medina, Ohio, to stake the design location for each extraction well and the final well schedule was updated accordingly (see Appendix E for the landfill gas well boring logs).
- Boreholes for the extraction wells were drilled into the waste in advance of installing the extraction well materials and equipment. Drilling was performed using an IMT AF-130 track-mounted drill rig with a 36" diameter auger to the depth for each individual extraction well indicated in the final extraction well schedule.



- Waste material encountered within the borehole was placed in the articulated dump truck for transportation and disposal at the active working face of the Landfill.
- Depth of the borehole was controlled and verified using a weighted tape measure. As the auger advanced, the cuttings were visually observed to ensure no geosynthetics were encountered. Waste temperatures and waste composition were also recorded (see boring logs in Appendix E).
- Final borehole depth was confirmed using a weighted tape measure prior to extraction well casing placement.
- Solid wall and perforated sections of HDPE pipe were butt-fusion welded to the lengths provided in the final extraction well schedule for placement into the borehole. A typical detail for the extraction well construction is provided on the Project Record Drawings in Appendix D.
- Using the Caterpillar 953D track-mounted loader, the welded HDPE casing was raised and slipped into the borehole. A metal grate was placed around the casing to position the casing as close as possible to the middle of the borehole. The casing was secured to the metal grate to prevent the casing from sagging.
- No. 4, washed, non-carbonate stone was placed in the borehole annulus from the bottom up to a minimum of 2' above the top of the perforated section of the 6" or 8" HDPE casing. The geotechnical test results for the No. 4 stone are provided in Appendix F.
- Geonet with geofabric (i.e., Geocomposite), which was heat-bonded to one side of the geonet, was placed over the stone with the geonet in contact with the stone. A 1' clean soil plug was placed on top of the geofabric overlying the geonet.
- A 2' thick (minimum) granular bentonite seal was placed on top of the clean soil plug. The granular bentonite was hydrated with water and on-site clean soil material was placed on top of the granular bentonite seal. The clean soil material varied in thickness. The 2' thick (minimum) granular bentonite seal was placed on top of the clean soil material so that the top of the upper granular bentonite seal extended a minimum of 6" into the cover soil.
- Repairs to the geosynthetic components of the final cover system consisted of installing and extrusion welding a "boot sleeve" around the new replacement well casing and extrusion welding the boot sleeve to the FML component of the final cover system. The repair procedures included the following:
 - The excavator and hand tools were used to expose an area around the new replacement well casing.
 - Surface of the existing FML was cleaned of debris.
 - A section of the 40-mil LLDPE FML was cut to overlay the damaged area of the existing FML by a minimum of six inches.
 - The 40-mil LLDPE FML boot sleeve was placed over the casing leaving enough material to secure the boot sleeve to the casing.
 - The 40-mil LLDPE FML boot sleeve was heat-bonded to the existing FML component of the final cover system and the new replacement well casing.
 - A hand grinder (60-grit sand paper) was used to prepare the area of the existing FML component where the extrusion welding would be performed prior to initiating welding.



- Trial welds were performed for the extrusion welders prior to performing the extrusion welding of the 40-mil LLDPE FML boot sleeve to the existing FML component of the final cover system.
- The 40-mil LLDPE FML boot sleeve was extrusion welded to the existing FML component of the existing final cover system and the new replacement well casing.
- The geocomposite was repaired by placing a section of geocomposite material cut to overlay the damaged area by a minimum of 1'.
- Schedule 40 PVC temporary caps were installed using set screws and silicone sealant on top of the new well casings. Upon completion of the Landfill GCCS piping, Landtec wellheads were installed as permanent replacements for the temporary caps. In most cases, each newly drilled extraction well was connected the same day to either temporary or permanent vacuum laterals to proactively mitigate potential odor issues. All wells and associated risers were marked with reflective tape to increase visibility.
- Landtec wellheads were installed using flexible couplers secured with hose clamps.

2.3 OBSERVATIONS/TESTS

The following observations and tests were performed during the construction/installation of the new and replacement extraction wells:

- Materials used in the construction/installation of the new and replacement extraction wells were visually observed for conformance with the construction drawings, as well as to verify there were no signs of damage. The extraction well casing materials were determined to be in conformance with the construction drawings and no visual damage to the materials was observed.
- Perforation size (diameter) and pattern (spacing around the circumference and along the length) for the perforated portion of the extraction well casings were observed for general conformance with the construction drawings.
- Boreholes were observed during the drilling to document that the boreholes were completed to the appropriate depth as provided in the final extraction well schedule provided on the Project Record Drawings included in Appendix D.
- No. 4 washed non-carbonate stone was used to backfill the annular space between the perforated extraction well casing and the borehole. The geotechnical test results for the gradation and carbonate content of the No. 4 stone are provided in Appendix F.
- T&M Associates CQA monitor observed the butt-fusion welding process used to connect the HDPE pipe casing sections together to verify appropriate welding procedure guidelines were followed. The butt-fusion welding was performed according to acceptable standards.
- T&M Associates CQA monitor obtained and recorded measurements to verify the extraction wells were constructed according to the construction drawings as well as to create the Project Record Drawings.
- The AEGL driller and the T&M Associates CQA monitor recorded refuse temperature, composition, and degree of moisture at approximately five-foot intervals during drilling activities. The AEGL well logs are provided in Appendix E.



The following observations and tests were performed during the installation of the 40-mil LLDPE FML repairs:

- T&M Associates CQA monitor performed visual observation and documentation of the repairs and vacuum box testing.
- Prior to welding of the 40-mil LLDPE FML to the existing FML and new replacement well casing, trial welds were performed using the extrusion welder. Test sections of the welds were cut and a tensiometer was used to perform three peel and three shear tests on the test weld sections. The minimum required value for a passing peel test for 40-mil LLDPE is 60 lb/in. The minimum required value for passing a shear test for 40-mil LLDPE is 44 lb/in. The results of the peel and shear tests are presented in Appendix G.

2.4 AIR MONITORING

Air monitoring was performed during the drilling of the new and replacement extraction wells. A multi-gas QRAE monitoring device, manufactured by RAE Systems, was used to conduct the air monitoring. The atmospheric concentrations within the breathing zone were monitored for methane (lower explosive limit [LEL]), oxygen, carbon monoxide, and hydrogen sulfide. The air monitoring results, which were recorded by the T&M Associates CQA monitor, are provided in Appendix H.



3.0 LANDFILL GAS COLLECTION SYSTEM

AEGL installed the GCCS components required to incorporate the replacement extraction wells into the existing GCCS. Approximately 754 linear feet of 6" SDR17 solid-wall HDPE pipe and 327 feet of 8" SDR17 was installed to connect the replacement extraction wells on line with the existing Landfill GCCS. Approximately 1,004 linear feet of 12" SDR17 solid-wall HDPE pipe was used to construct the new above grade replacement header on the northslope. In addition, approximately 503 linear feet of 18" SDR17 HDPE was used to install the new 18" subheader. The approximate linear footage of pipeline installed is included in the daily field logs for AEGL (see Appendix A).

3.1 MATERIALS

The components used to connect the new and replacement extraction wells into the existing Landfill GCCS included the following:

- 6" diameter solid SDR17 HDPE lateral pipe
- 8" diameter SDR17 HDPE pipe
- 12" diameter solid SDR17 HDPE header pipe
- 18" diameter solid SDR17 HDPE header pipe
- Landtec well heads and combination well heads
- Various sizes of HDPE tie-in couplings, reducers, tees, elbows and other fittings and appurtenances

3.2 CONSTRUCTION/INSTALLATION METHODS

Equipment used to connect the new and replacement extraction wells into the existing Landfill GCCS included Caterpillar 320D and 325C track-mounted excavators, Caterpillar 725 articulated dump trucks, a Caterpillar D5K track-mounted dozer, ISCO Hotline HDPE butt-fusion pipe welding equipment, and various hand tools.

The general construction/installation methods used to connect the new and replacement extraction wells into the existing Landfill GCCS were as follows:

- HDPE pipe of various diameters was delivered to the Landfill and stored in the designated area(s).
- The 6", 8", 12", and 18" HDPE pipe was butt-fusion welded on-site by AEGL prior to being connected to the existing Landfill GCCS.
- HDPE pipe was placed in the trenches following completion of the excavation.
 - HDPE pipe was installed to achieve the minimum design slopes of 3-percent within the limits of waste and 1-percent outside the limits of waste.
 - Inside the limits of waste, pipe bedding consisted of clean cover soil material removed from the trench excavation.
 - Survey markers were placed at 50' intervals along the pipelines, at road crossings, and at fitting locations. The survey markers were removed following completion of the field survey activities.
- Installed pipelines, fittings, components, and road crossings were field surveyed after installation from a third order benchmark using global positioning system (GPS) technology.



- Locations of the pipelines, components, and appurtenances are provided on the Project Record Drawings in Appendix D.
- 5-mil x 3" underground detectable tape with the words "CAUTION BURIED GAS LINE BELOW" was placed approximately 1' above the HDPE pipe during backfilling activities.
- Waste material encountered within the excavated soil was separated from the soil as the trenches were backfilled. The waste material was placed in an articulated dump truck for transportation and disposal at the active working face of the Landfill.
 - Additional soil was obtained from an onsite stockpile to augment the backfill soil, if needed.

3.3 OBSERVATION/TESTS

The following observations and tests were performed during the connection of the new and replacement extraction wells to the existing Landfill GCCS:

- Pipe was visually observed for conformance with the construction drawings, as well as to verify there were no signs of damage. The pipe was determined to be in conformance with the construction drawings and no visual damage to the pipe was observed.
- Butt-fusion welds were visually observed prior to back-filling the trenches. T&M CQA monitors observed hot plate temperature, holding times, and welding techniques. The welds were determined to be in conformance with the specifications.
- Pipelines were pressure tested prior to being connected to the existing Landfill GCCS, and while in place. Pressure tests consisted of applying a minimum of 25 psi for 6" SDR17 and 8" SDR17 and 10 psi for 12" SDR17 and 18" SDR17HDPE. All tests were conducted over a minimum four-hour period. Prior to beginning the test, during the test, and following completion of the test, the gauges were visually assessed for damage and proper units of measurement. The results of the pressure tests determined that the pipelines did not have any leaks. Pipe pressure test results are provided in Appendix I.
- The geotechnical results for the No. 4 stone was reviewed and determined to be in compliance with the gradation and carbonate residue requirements (minimum acceptable carbonate content ≤5 percent). Testing results are presented in Appendix F.



4.0 AIRLINE AND FORCE MAIN SYSTEM

AEGL installed the airline and force main system components required to incorporate the new extraction well leachate pumps into the existing Landfill GCCS. A total of three pneumatic pumps were installed at the Landfill as listed in Table 3. An estimated 444 linear feet of HDPE pipe was installed to connect the new extraction well pumps with the leachate collection and compressed air system. Of that linear footage of pipeline installed, 222 linear feet was 2" diameter HDPE airline, 44 linear feet was 2" x 4" diameter dual-contained HDPE leachate force main, and 178 linear feet was 2" diameter HDPE force main. The approximate linear footage of pipeline installed is included in the daily field logs for AEGL (see Appendix A).

Extraction Well Pumps and Depths	
Well	Pump Depth (ft)
EW-36R2	35
EW-306R2	110
EW-124R2	75

Two-inch airline, and 2" and 2" x 4" force main was installed to operate newly installed pumps and to accommodate future installation of additional pumps. The airline and force main was connected to the existing airline and force main by pinching the preexisting lines and butt fusing new lines to extend the runs. The locations of the new extended airlines and force main are shown on the Project Record Drawings in Appendix D.

4.1 MATERIALS

The airline and force main components include the following materials:

- 2" diameter SDR9 HDPE pipe (airline)
- 2" diameter SDR11 HDPE pipe (force main carrier pipe)
- 4" diameter SDR11 HDPE pipe (force main containment pipe)
- QED Pneumatic pumps and associated hardware
- Various sizes of HDPE tees, fittings, and appurtenances

4.2 CONSTRUCTION/INSTALLATION METHODS

Equipment used to install the airline and force main system included Caterpillar 320D track-mounted excavators and CAT 725 articulated dump trucks, electro-fusion couplers and welding equipment, ISCO Hotline butt-fusion welding equipment and various hand tools.

The general construction/installation methods used to install the airline and force main system were as follows:

- The HDPE pipe was butt-fusion welded on-site by AEGL.
- A trench was excavated at the specified location to a depth of approximately 36 inches below the existing ground surface.
- The leachate force main and airline piping were placed in a trench on a bed of compacted soil and backfilled with clean on-site soil.



- Waste encountered was separated from the fill as the trench was backfilled. Excavated waste was placed in an articulated dump truck for disposal at the active working face of the Landfill.
- Riser pipes at each extraction well were connected to the pumps installed in the extraction wells listed in the above table.

4.3 OBSERVATIONS/TESTS

The following observations and tests were performed during the installation of the leachate force main and airline:

- The HDPE pipe was visually observed for conformance with the construction drawings, as well as to verify there were no signs of damage. The pipe was determined to be in conformance with the construction drawings and no visual damage to the pipe was observed.
- Butt-fusion welds were visually observed to be completed according to the butt-fusion welding specifications.
- Installed force main and airlines were pressure tested prior to being connected to the existing Landfill GCCS. The pressure test for the airline consisted of applying 100 psi of pressure over a minimum 4-hour period. The pressure test for the leachate force main consisted of applying 50 psi of pressure over a minimum 4-hour period. Prior to beginning the test, during the test, and following completion of the test, the gauges were visually assessed for damage and proper units of measurement. The results of the pressure tests determined that the pipelines did not have any leaks. Pipe pressure test results are provided in Appendix I.
- For testing of dual-contained force main, the interior 2" force main was pressurized to 60 psi and the exterior 4" containment line was tested to 50 psi over a minimum 4-hour period.



5.0 SYSTEM REPAIRS AND MAINTENANCE

Gas header line repairs/maintenance was performed by AEGL. The following repairs/maintenance activities were performed:

- During the construction event, it was determined that wells EW-156R and EW-49R4 required an alternative vacuum source due to a significant reduction in available vacuum at the original lateral. Therefore, vacuum was obtained from a 6" lateral fabricated off of the new 12" x 18" tie in.
- One additional gas collection riser was connected to the leachate collection system conveyance pipes at the 24" header along the east side of cell D1 to accentuate gas collection from the leachate collection system. The collection riser was fitted with a well head to control the amount of extraction applied to that point.

5.1 MATERIALS

The components used to repair and maintain the existing Landfill GCCS included the following:

- 6" diameter SDR17 HDPE lateral pipe.
- Various sizes of HDPE tie-in couplings, reducers, tees, and other fittings and appurtenances.

5.2 CONSTRUCTION/INSTALLATION METHODS

Equipment used to perform the GCCS repairs and maintenance included Caterpillar 320D and 325C track-mounted excavators, Caterpillar 725 articulated dump trucks Caterpillar D4K and D5K dozers, butt-fusion and electro-fusion welding equipment and various hand tools.

The general construction/installation methods used to repair and maintain the existing Landfill GCCS were as follows:

- HDPE pipe of various diameters was delivered to the Landfill and stored in the designated area(s).
- The 6" HDPE pipe was butt-fusion welded on-site by AEGL prior to being connected to the existing Landfill GCCS.
- HDPE pipe was placed in the trenches following completion of the excavation.
 - HDPE pipe was installed to achieve the minimum design slopes of 3-percent within the limits of waste.
 - Pipe bedding consisted of clean cover soil material removed from the trench excavation.
 - Survey markers were placed at 50' intervals along the pipelines, at road crossings, and at fitting locations. The survey markers were removed following completion of the field survey activities.
- Installed pipelines, fittings, components, and road crossings were field surveyed after installation from a third order benchmark using global positioning system (GPS) technology.
 - Locations of the pipelines, components, and appurtenances are provided on the Project Record Drawings in Appendix D.
 - 5-mil x 3" underground detectable tape with the words "CAUTION BURIED GAS LINE BELOW" was placed approximately 1' above the HDPE pipe during backfilling activities.



- Waste material encountered within the excavated soil was separated from the soil as the trenches were backfilled. The waste material was placed in an articulated dump truck for transportation and disposal at the active working face of the Landfill.
 - Additional soil was obtained from an onsite stockpile to augment the backfill soil, if needed.

5.3 OBSERVATIONS/TESTS

The following observations and tests were performed during the above detailed construction activities:

- Pipe, shop-fabricated tees and branch saddles, elbows, flanges and appurtenances were visually observed to verify there was no sign of damage. No visual damage to the materials installed for the GCCS maintenance activities was observed.
- Backfilling operations were monitored to assure that there were no negative impacts to the new and existing components of the GCCS system.
- Butt-fusion welds for the various pipe sizes were visually observed prior to back-filling the trenches. T&M Associates CQA monitor observed hot plate temperature, fusion pressure, holding times, and welding techniques. The welds were determined to be in conformance with the butt-fusion welding specifications.
- Installed lateral pipelines were pressure tested prior to being connected to the existing Landfill GCCS. The pressure test for the lateral pipelines consisted of applying a minimum of 25 psi of pressure over a minimum 4-hour period. Prior to beginning the test, during the test, and following completion of the test, the gauges were visually assessed for damage and proper units of measurement. The results of the pressure tests determined that the pipelines did not have any leaks. Pipe pressure test results are provided in Appendix I.



APPENDIX A – Daily Field Logs



American
Environmental
Group Ltd.

Drill Crew Daily Report

SUPERVISOR: Eric Steen
PROJECT NAME: Lorain Co.
PROJECT #: 10-115-103

DATE: November 17, 2014

Start Time 6:00AM End Time 4:30PM Total Hrs. 10.50

DRILLING		Owned Equipment	
120' LINEAR FEET OF DRILLING		Equipment # <u>7285</u>	Start Miles <u>54280</u>
LINEAR FEET OF DRILLING-ABANDONMENT		Equipment Type / <u>F-350 Flatbed</u>	Ending Miles <u>54308</u>
120' LINEAR FEET OF WELL COMPLETION			Total Miles <u>28</u>
How many benches built		Equipment # <u>7235</u>	Start Hrs. <u></u>
# Of Safety Grates Installed		Equipment Type <u>Job Trailer</u>	Ending Hrs. <u></u>
			Total Hrs. <u></u>
COMPLETION		Equipment # <u>A125NXV1781</u>	Start Hrs. <u>851</u>
WELL # <u>EW-154R3</u>	VF <u>120'</u>	Equipment Type <u>A-125 Drill Rig</u>	Ending Hrs. <u>861</u>
			Total Hrs. <u>10</u>
		Equipment # <u></u>	Start Hrs. <u></u>
		Equipment Type <u></u>	Ending Hrs. <u></u>
			Total Hrs. <u></u>
COMMENTS		Rental Equipment	
We arrived on site at 6:00AM. Started our equipment up and had a safety meeting. We then started fusing up the 8" well while we waited on pipe and parts. After confirming the trucks arrived on site with pipe and bentonite I started drilling EW-154R3 at 8:40AM. I finished drilling to a 120' depth at 2:25PM. We set the well casing and completed. Loaded out all trash. Fueled and greased the rig then set up on the next 8" well for tomorrow. We left site at 4:30PM.		Rental Company <u></u>	Start Hrs. <u></u>
		Location <u></u>	Ending Hrs. <u></u>
		Equipment Type <u></u>	Total Hrs. <u></u>
		Unit # <u></u>	
		Rental Company <u></u>	Start Hrs. <u></u>
		Location <u></u>	Ending Hrs. <u></u>
		Equipment Type <u></u>	Total Hrs. <u></u>
		Unit # <u></u>	
		Rental Company <u></u>	Start Hrs. <u></u>
		Location <u></u>	Ending Hrs. <u></u>
		Equipment Type <u></u>	Total Hrs. <u></u>
		Unit # <u></u>	

CLIENT REPRESENTATIVE

DATE

Eric Steen
AEGL SITE SUPERVISOR

11/17/2014
DATE

NAME & TITLE



American
Environmental
Group Ltd.

Drill Crew Daily Report

SUPERVISOR: Eric Steen
PROJECT NAME: Lorain Co.
PROJECT #: 10-115-103

DATE: November 18, 2014

Start Time 6:00AM End Time 3:00PM Total Hrs. 9.00

DRILLING		Owned Equipment	
113'	LINEAR FEET OF DRILLING	Equipment # <u>7285</u>	Start Miles <u>54308</u>
	LINEAR FEET OF DRILLING-ABANDONMENT	Equipment Type / <u>F-350 Flatbed</u>	Ending Miles <u>54350</u>
113'	LINEAR FEET OF WELL COMPLETION		Total Miles <u>42</u>
1	How many benches built	Equipment # <u>7235</u>	Start Hrs. <u></u>
	# Of Safety Grates Installed	Equipment Type <u>Job Trailer</u>	Ending Hrs. <u></u>
			Total Hrs. <u></u>
COMPLETION		Equipment # <u>A125NXV1781</u>	Start Hrs. <u>870</u>
WELL #	VF	Equipment Type <u>A-125 Drill Rig</u>	Ending Hrs. <u>880</u>
EW-47R3	113'		Total Hrs. <u>10</u>
		Equipment # <u>DPLBP01212</u>	Start Hrs. <u>2634</u>
		Equipment Type <u>953</u>	Ending Hrs. <u>2644</u>
			Total Hrs. <u>10</u>
COMMENTS		Rental Equipment	
We arrived on site at 6:00AM. Started our equipment. Had a safety meeting then started drilling EW-47R3 at 6:45AM. I finished drilling to 113' on a obstruction. EW-47R3 was called at 113'. We set the well casing and completed. Loaded out all trash. Built a bench for the drill rigs next location. Fueled and greased the iron. Left site at 3:00PM.		Rental Company <u>Ohio cat</u>	
		Location <u>Lorain Co</u>	Start Hrs. <u>1400</u>
		Equipment Type <u>312</u>	Ending Hrs. <u>1410</u>
		Unit # <u>EKMJD00453</u>	Total Hrs. <u>10</u>
		Rental Company <u></u>	
		Location <u></u>	Start Hrs. <u></u>
		Equipment Type <u></u>	Ending Hrs. <u></u>
		Unit # <u></u>	Total Hrs. <u></u>
		Rental Company <u></u>	
		Location <u></u>	Start Hrs. <u></u>
Equipment Type <u></u>	Ending Hrs. <u></u>		
Unit # <u></u>	Total Hrs. <u></u>		

Eric Steen 11/18/14
CLIENT REPRESENTATIVE DATE
Eric Steen
NAME & TITLE

Eric Steen
AEGL SITE SUPERVISOR

11/18/2014
DATE



American
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Drill Crew Daily Report

SUPERVISOR: Eric Steen
PROJECT NAME: Lorain Co.
PROJECT #: 10-115-103

DATE: November 19, 2014

Start Time 6:00AM **End Time** 4:30PM **Total Hrs.** 11.50

DRILLING		Owned Equipment	
120' LINEAR FEET OF DRILLING		Equipment # <u>7285</u>	Start Miles <u>54350</u>
LINEAR FEET OF DRILLING-ABANDONMENT		Equipment Type / <u>F-350 Flatbed</u>	Ending Miles <u>54392</u>
120' LINEAR FEET OF WELL COMPLETION			Total Miles <u>42</u>
4 How many benches built		Equipment # <u>7235</u>	Start Hrs. <u></u>
# Of Safety Grates Installed		Equipment Type <u>Job Trailer</u>	Ending Hrs. <u></u>
			Total Hrs. <u></u>
COMPLETION		Equipment # <u>A125NXV1781</u>	Start Hrs. <u>880</u>
WELL # <u>EW-158R2</u>	VF <u>120'</u>	Equipment Type <u>A-125 Drill Rig</u>	Ending Hrs. <u>888</u>
			Total Hrs. <u>8</u>
		Equipment # <u>DPLBP01212</u>	Start Hrs. <u>2644</u>
		Equipment Type <u>953</u>	Ending Hrs. <u>2655</u>
			Total Hrs. <u>11</u>
COMMENTS		Rental Equipment	
We arrived on site at 6:00AM. Started our equipment. Had a safety meeting then started drilling EW-158R2 at 6:40AM. I finished drilling to a 120' bore depth at 12:40PM. We set the well casing and completed. I fueled and greased the rig. I then cut a bench for my next well location on the cap and stood the rig up. We then built 3 more benches for scope of work drilling. We left site at 4:30PM. NOTE: We have a additional well to drill on the north slope.		Rental Company <u>Ohio cat</u>	
		Location <u>Lorain Co</u>	Start Hrs. <u>1410</u>
		Equipment Type <u>312</u>	Ending Hrs. <u>1420</u>
		Unit # <u>EKMJD00453</u>	Total Hrs. <u>10</u>
		Rental Company <u></u>	
		Location <u></u>	Start Hrs. <u></u>
		Equipment Type <u></u>	Ending Hrs. <u></u>
		Unit # <u></u>	Total Hrs. <u></u>
		Rental Company <u></u>	
		Location <u></u>	Start Hrs. <u></u>
Equipment Type <u></u>	Ending Hrs. <u></u>		
Unit # <u></u>	Total Hrs. <u></u>		

Eric Steen 11/19/14
CLIENT REPRESENTATIVE DATE
Eric Steen
NAME & TITLE

Eric Steen
AEGL SITE SUPERVISOR

11/19/2014
DATE



Drill Crew Daily Report

SUPERVISOR: Eric Steen
PROJECT NAME: Lorain Co.
PROJECT #: 10-115-103

DATE: November 20, 2014

Start Time 6:00AM **End Time** 5:00PM **Total Hrs.** 11.00

DRILLING		Owned Equipment	
126' LINEAR FEET OF DRILLING		Equipment # <u>7285</u>	Start Miles <u>54392</u>
LINEAR FEET OF DRILLING-ABANDONMENT		Equipment Type / <u>F-350 Flatbed</u>	Ending Miles <u>54436</u>
126' LINEAR FEET OF WELL COMPLETION			Total Miles <u>44</u>
How many benches built		Equipment # <u>7235</u>	Start Hrs. <u></u>
# Of Safety Grates Installed		Equipment Type <u>Job Trailer</u>	Ending Hrs. <u></u>
			Total Hrs. <u></u>
COMPLETION		Equipment # <u>A125NXV1781</u>	Start Hrs. <u>888</u>
WELL # <u>EW-27R2</u>	VF <u>46'</u>	Equipment Type <u>A-125 Drill Rig</u>	Ending Hrs. <u>899</u>
<u>EW-124R2</u>	<u>80'</u>		Total Hrs. <u>11</u>
		Equipment # <u>DPLBP01212</u>	Start Hrs. <u>2655</u>
		Equipment Type <u>953</u>	Ending Hrs. <u>2664</u>
			Total Hrs. <u>9</u>
COMMENTS		Rental Equipment	
We arrived on site at 6:00AM. Started our equipment. Had a safety meeting then started drilling EW-27R2 at 6:30AM. I finished drilling to depth at 7:57AM. We set the well casing then I moved to EW-124R2 and started drilling at 8:37AM while the crew completed 27R2. I finished drilling EW-124R2 at 1:07PM. 124R2 was called at 80' due to bucket refusal. We set the well casing and completed. We loaded out all trash. Fueled and greased the rig. Moved the rig down the east slope onto my bench for EW-36R2 for drilling tomorrow morning. We left site at 5:00PM.		Rental Company <u>Ohio cat</u>	
		Location <u>Lorain Co</u>	Start Hrs. <u>1420</u>
		Equipment Type <u>312</u>	Ending Hrs. <u>1430</u>
		Unit # <u>EKMJD00453</u>	Total Hrs. <u>10</u>
		Rental Company <u></u>	
		Location <u></u>	Start Hrs. <u></u>
		Equipment Type <u></u>	Ending Hrs. <u></u>
		Unit # <u></u>	Total Hrs. <u></u>
		Rental Company <u></u>	
		Location <u></u>	Start Hrs. <u></u>
Equipment Type <u></u>	Ending Hrs. <u></u>		
Unit # <u></u>	Total Hrs. <u></u>		

Eric Steen 11/20/14
 CLIENT REPRESENTATIVE DATE
Eric Steen
 NAME & TITLE

Eric Steen
 AEGL SITE SUPERVISOR

11/20/2014
 DATE



American
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Group Ltd.

Drill Crew Daily Report

SUPERVISOR: Eric Steen
PROJECT NAME: Lorain Co.
PROJECT #: 10-115-103

DATE: November 21, 2014

Start Time 6:00AM **End Time** 5:30PM **Total Hrs.** 11.50

DRILLING		Owned Equipment	
107' LINEAR FEET OF DRILLING		Equipment # 7281	Start Miles 54436
LINEAR FEET OF DRILLING-ABANDONMENT		Equipment Type / F-350 Flatbed	Ending Miles 54507
107' LINEAR FEET OF WELL COMPLETION			Total Miles 61
How many benches built		Equipment # 7235	Start Hrs.
# Of Safety Grates Installed		Equipment Type Job Trailer	Ending Hrs.
			Total Hrs.
COMPLETION		Equipment # A125NXV1781	Start Hrs. 899
WELL #	VF	Equipment Type A-125 Drill Rig	Ending Hrs. 910
EW-36R2	40'		Total Hrs. 11
EW-54R3	67'		
		Equipment # DPLBP01212	Start Hrs. 2664
		Equipment Type 953	Ending Hrs. 2674
			Total Hrs. 10
COMMENTS		Rental Equipment	
We arrived on site at 6:00AM. Started our equipment. Had a safety meeting then started drilling EW-36R2 at 6:40AM. I finished drilling to a 40' bore depth on a obstruction breaking multiple bucket teeth for 1 hour. EW-36R2 was then called at 9:15AM due to a obstruction. We set the well casing and completed. Loaded out all trash then I moved the rig to EW-54R3. I began drilling at 11:25AM. I finished drilling at 2:30PM to 67'. 54R3 was called at 67' due to sludge. We set the casing and completed 54R3. I loaded out all trash then moved the rig to the active working phase to set up on EW-306R2. Fueled and greased the rig. Left site at 5:30PM.		Rental Company Ohio cat	
		Location Lorain Co	Start Hrs. 1430
		Equipment Type 312	Ending Hrs. 1441
		Unit # EKMJD00453	Total Hrs. 11
		Rental Company	
		Location	Start Hrs.
		Equipment Type	Ending Hrs.
		Unit #	Total Hrs.
		Rental Company	
		Location	Start Hrs.
Equipment Type	Ending Hrs.		
Unit #	Total Hrs.		

Eric Steen 11/21/14
CLIENT REPRESENTATIVE DATE
Eric Steen
ME & TITLE

Eric Steen
AEGL SITE SUPERVISOR

11/21/2014
DATE



American
Environmental
Group Ltd.

Drill Crew Daily Report

SUPERVISOR: Eric Steen
PROJECT NAME: Lorain Co.
PROJECT #: 10-115-103

DATE: November 22, 2014

Start Time 5:00AM End Time 3:00PM Total Hrs. 10.00

DRILLING		Owned Equipment	
115'	LINEAR FEET OF DRILLING	Equipment # <u>7281</u>	Start Miles <u>54507</u>
	LINEAR FEET OF DRILLING-ABANDONMENT	Equipment Type / <u>F-350 Flatbed</u>	Ending Miles <u>54536</u>
115'	LINEAR FEET OF WELL COMPLETION		Total Miles <u>29</u>
1	How many benches built	Equipment # <u>7235</u>	Start Hrs. <u></u>
	# Of Safety Grates Installed	Equipment Type <u>Job Trailer</u>	Ending Hrs. <u></u>
			Total Hrs. <u></u>
COMPLETION		Equipment # <u>A125NXV1781</u>	Start Hrs. <u>910</u>
WELL # <u>EW-306R2</u>	VF <u>115'</u>	Equipment Type <u>A-125 Drill Rig</u>	Ending Hrs. <u>919</u>
			Total Hrs. <u>9</u>
		Equipment # <u>DPLBP01212</u>	Start Hrs. <u>2674</u>
		Equipment Type <u>953</u>	Ending Hrs. <u>2682</u>
			Total Hrs. <u>8</u>
COMMENTS		Rental Equipment	
We arrived on site at 5:00AM. Started our equipment. Had a safety meeting then started drilling EW-306R2 at 5:30AM. I finished drilling to depth at 12:00PM. We set the well casing and completed. We added 10' of solid pipe to make a 14' stick up in the active working phase. We loaded out all trash. Built a bench for EW-332R. Fueled and greased the rig then moved the rig onto the bench. We left site at 3:00PM.		Rental Company <u>Ohio cat</u>	
		Location <u>Lorain Co</u>	Start Hrs. <u>1441</u>
		Equipment Type <u>312</u>	Ending Hrs. <u>1449</u>
		Unit # <u>EKMJD00453</u>	Total Hrs. <u>8</u>
		Rental Company <u></u>	
		Location <u></u>	Start Hrs. <u></u>
		Equipment Type <u></u>	Ending Hrs. <u></u>
		Unit # <u></u>	Total Hrs. <u></u>
		Rental Company <u></u>	
		Location <u></u>	Start Hrs. <u></u>
Equipment Type <u></u>	Ending Hrs. <u></u>		
Unit # <u></u>	Total Hrs. <u></u>		

Eric Steen 11/22/14
CLIENT REPRESENTATIVE DATE
Eric Steen
NAME & TITLE

Eric Steen
AEGL SITE SUPERVISOR

11/22/2014
DATE



American
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Drill Crew Daily Report

SUPERVISOR: Eric Steen
PROJECT NAME: Lorain Co.
PROJECT #: 10-115-103

DATE: November 24, 2014

Start Time 5:00AM End Time 3:00PM Total Hrs. 10.00

DRILLING		Owned Equipment	
LINEAR FEET OF DRILLING		Equipment # <u>7281</u>	Start Miles <u>54507</u>
LINEAR FEET OF DRILLING-ABANDONMENT		Equipment Type / <u>F-350 Flatbed</u>	Ending Miles <u>54536</u>
LINEAR FEET OF WELL COMPLETION			Total Miles <u>29</u>
How many benches built		Equipment # <u>7235</u>	Start Hrs. <u></u>
# Of Safety Grates Installed		Equipment Type <u>Job Trailer</u>	Ending Hrs. <u></u>
			Total Hrs. <u></u>
COMPLETION		Equipment # <u>A125NXV1781</u>	Start Hrs. <u>910</u>
WELL # <u></u>	VF <u></u>	Equipment Type <u>A-125 Drill Rig</u>	Ending Hrs. <u>919</u>
<u></u>	<u></u>		Total Hrs. <u>9</u>
<u></u>	<u></u>	Equipment # <u>DPLBP01212</u>	Start Hrs. <u>2674</u>
<u></u>	<u></u>	Equipment Type <u>953</u>	Ending Hrs. <u>2682</u>
<u></u>	<u></u>		Total Hrs. <u>8</u>
COMMENTS		Rental Equipment	
No drilling today due to heavy winds (50-60 mile per hour).		Rental Company <u>Ohio cat</u>	Start Hrs. <u>1441</u>
		Location <u>Lorain Co</u>	Ending Hrs. <u>1449</u>
		Equipment Type <u>312</u>	Total Hrs. <u>8</u>
		Unit # <u>EKMJD00453</u>	
		Rental Company <u></u>	Start Hrs. <u></u>
		Location <u></u>	Ending Hrs. <u></u>
		Equipment Type <u></u>	Total Hrs. <u></u>
		Unit # <u></u>	
		Rental Company <u></u>	Start Hrs. <u></u>
		Location <u></u>	Ending Hrs. <u></u>
Equipment Type <u></u>	Total Hrs. <u></u>		
Unit # <u></u>			

Eric Steen 11/24/14
CLIENT REPRESENTATIVE DATE
Eric Steen CDR
NAME & TITLE

Eric Steen
AEGL SITE SUPERVISOR

11/24/2014
DATE



American
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Group Ltd.

Drill Crew Daily Report

SUPERVISOR: Eric Steen
PROJECT NAME: Lorain Co.
PROJECT #: 10-115-103

DATE: November 25, 2014

Start Time 5:00AM End Time 4:30PM. Total Hrs. 11.50

DRILLING		Owned Equipment	
158'	LINEAR FEET OF DRILLING	Equipment # <u>7281</u>	Start Miles <u>54536</u>
	LINEAR FEET OF DRILLING-ABANDONMENT	Equipment Type / <u>F-350 Flatbed</u>	Ending Miles <u>54566</u>
158'	LINEAR FEET OF WELL COMPLETION		Total Miles <u>30</u>
1	How many benches built	Equipment # <u>7235</u>	Start Hrs. <u></u>
	# Of Safety Grates Installed	Equipment Type <u>Job Trailer</u>	Ending Hrs. <u></u>
			Total Hrs. <u></u>
COMPLETION		Equipment # <u>A125NXV1781</u>	Start Hrs. <u>919</u>
WELL #	VF	Equipment Type <u>A-125 Drill Rig</u>	Ending Hrs. <u>929</u>
EW-332R	45'		Total Hrs. <u>10</u>
EW-169R	113'	Equipment # <u>DPLBP01212</u>	Start Hrs. <u>2682</u>
		Equipment Type <u>953</u>	Ending Hrs. <u>2692</u>
			Total Hrs. <u>10</u>
COMMENTS		Rental Equipment	
We arrived on site at 5:00AM. Started the iron and had a safety meeting. I started drilling EW-332R at 5:30AM. Finished to depth at 7:00AM. We set the well casing then I moved the rig to EW-169R and began drilling at 8:10AM while the crew completed EW-332R. I finished drilling 169R at 1:45PM. 169R was called at a 113' bore depth due to sludge. We set the well casing and completed. We loaded out all trash. Moved the rig to the final well location. Fueled and greased the equipment. Built a bench for EW-316R. We left site at 4:30PM.		Rental Company <u>Ohio cat</u>	
		Location <u>Lorain Co</u>	Start Hrs. <u>1449</u>
		Equipment Type <u>312</u>	Ending Hrs. <u>1459</u>
		Unit # <u>EKMJD00453</u>	Total Hrs. <u>10</u>
		Rental Company <u></u>	
		Location <u></u>	Start Hrs. <u></u>
		Equipment Type <u></u>	Ending Hrs. <u></u>
		Unit # <u></u>	Total Hrs. <u></u>
		Rental Company <u></u>	
		Location <u></u>	Start Hrs. <u></u>
Equipment Type <u></u>	Ending Hrs. <u></u>		
Unit # <u></u>	Total Hrs. <u></u>		

Eric Steen 11/25/14
CLIENT REPRESENTATIVE DATE
Eric Steen CQA
NAME & TITLE

Eric Steen
AEGL SITE SUPERVISOR

11/25/2014
DATE



American
Environmental
Group Ltd.

Drill Crew Daily Report

SUPERVISOR: Eric Steen
PROJECT NAME: Lorain Co.
PROJECT #: 10-115-103

DATE: November 26, 2014

Start Time 5:30AM End Time 4:30PM Total Hrs. 11.00

DRILLING		Owned Equipment	
78' LINEAR FEET OF DRILLING		Equipment # <u>7281</u>	Start Miles <u>54566</u>
LINEAR FEET OF DRILLING-ABANDONMENT		Equipment Type / <u>F-350 Flatbed</u>	Ending Miles <u>54598</u>
78' LINEAR FEET OF WELL COMPLETION			Total Miles <u>32</u>
1 How many benches built		Equipment # <u>7235</u>	Start Hrs. <u></u>
# Of Safety Grates Installed		Equipment Type <u>Job Trailer</u>	Ending Hrs. <u></u>
			Total Hrs. <u></u>
COMPLETION		Equipment # <u>A125NXV1781</u>	Start Hrs. <u>929</u>
WELL # <u>EW-316R</u>	VF <u>78'</u>	Equipment Type <u>A-125 Drill Rig</u>	Ending Hrs. <u>940</u>
			Total Hrs. <u>11</u>
		Equipment # <u>DPLBP01212</u>	Start Hrs. <u>2692</u>
		Equipment Type <u>953</u>	Ending Hrs. <u>2693</u>
			Total Hrs. <u>1</u>
COMMENTS		Rental Equipment	
We arrived on site at 5:30AM. Started the iron and had a safety meeting. I started drilling EW-316R at 6:15AM. Finished to depth at 10:00AM. We set the well casing and completed. Loaded out all trash. Moved the rig to the bottom and set up for mobilization. Fueled and greased all iron. Moved the rest of the rental equipment except the 725 haul truck to the bottom as well. Cleaned out all tracks and moved the job trailer to the bottom with the rest of the equipment. We left site at 4:30PM.		Rental Company <u>Ohio cat</u>	
		Location <u>Lorain Co</u>	Start Hrs. <u>1459</u>
		Equipment Type <u>312</u>	Ending Hrs. <u>1469</u>
		Unit # <u>EKMJD00453</u>	Total Hrs. <u>10</u>
		Rental Company <u></u>	
		Location <u></u>	Start Hrs. <u></u>
		Equipment Type <u></u>	Ending Hrs. <u></u>
		Unit # <u></u>	Total Hrs. <u></u>
		Rental Company <u></u>	
		Location <u></u>	Start Hrs. <u></u>
		Equipment Type <u></u>	Ending Hrs. <u></u>
		Unit # <u></u>	Total Hrs. <u></u>

Eric Steen 11/26/14
CLIENT REPRESENTATIVE DATE
Eric Steen COA
NAME & TITLE

Eric Steen
AEGL SITE SUPERVISOR

11/26/2014
DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/17/2014

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT#: 20-215-103

MISC. INSTALLED ITEMS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY
VALVES:	
VALVE STEMS:	
LAND-TEC WELLHEADS:	
IN-LINE SUMPS:	
QED VAULT KITS:	
QED PUMPS:	
ENCASEMENTS:	
MISC. ITEMS / EXTRA DETAIL: (Described Below)	
WEATHER & TIME INFORMATION	
DAILY CONDITIONS: cold/snow	
START TIME 7:00AM	
STOP TIME 3:00PM	

FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
HAR:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
AIR: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
AIR: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
AIR: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH

Today we started with our safety meeting and then unloaded job trailer. We then had trucks arrive with pipe and parts. We unloaded 3 trucks. Once trucks were unloaded we then set up and started fusing up 12" pipe , 6" pipe and started 18" pipe. While we were fusing we also went thur parts and took inventory on all pipe fittings. Once we finished for the day we then cleaned out tracks the the hoe and wrapped things up and left for the day.

James A. Toledo CAA 11/17/14
CLIENT REPRESENTATIVE
NAME & TITLE

[Signature] 11/17/2014
AEGL SUPERINTENDENT
DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/18/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		AIR: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		LATERAL: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS: very cold	
START TIME	7:00AM
STOP TIME	3:00PM

COMMENTS (Description of Work Order Completed):

Today we started with our morning safety meeting and then went and finished fusing up pipe and fittings. While we were fusing we had our pre construction meeting. Once meeting was over and pipe was all fused up we then wrapped things up and left for the day.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

AEGL SUPERINTENDENT

DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/19/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		HEADER: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN:#	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		AIR: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		HEADER:#	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN:#	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
WEATHER & TIME INFORMATION		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN:#	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN:#	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
DAILY CONDITIONS:		STATION:	LINEAR FT.
very cold		RISER HEIGHT:	TRENCH DEPTH
START TIME 7:00AM		FORCEMAIN:#	PIPE DIA.
STOP TIME 6:00PM		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

Today we started with our morning safety meeting and then went over and started hauling dirt for bench over on the north slope. While we were building bench the site got with us and asked us to raise the 12" risers 20ft in the face. So Chris approved it at T&M rate. We spent a total of 2.5hrs on fusing and raising 12" riser. We had 2 guys and the cat 320 hoe on raising 12" riser. Once we had enough dirt on north slope we then wrapped things up and left for the day.

CLIENT REPRESENTATIVE

DATE

AEGL SUPERINTENDENT

11/19/2014

DATE

NAME & TITLE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/20/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		FORCEMAIN: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		LATERAL: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS: cold/windy	
START TIME	7:00AM
STOP TIME	5:45PM

COMMENTS (Description of Work Order Completed):

Today we started with our morning safety meeting and then went over on the northslope and went over and tried finding tie in point on the north west tie in we dug down 11ft and sill no pipe so we stopped and got with Chris and we then had the surveyors come out and give us different shots to see how far down the 12" header is. We spent a total of 4 hrs trying to find pipe and backfilling hole. We then went over and exposed around EW-27R2 and made liner repair. We spent a total of 2hrs exposing liner and making liner repair. Once we had liner repair complete we then went over and dug up tie in point for new lateral going to EW-27R2. We spent 1hr on digging up tie in point. Once tie in point was dug up we then went up and dug down on the 24x18 tie in point to see how deep it was. We dug down 13ft and found top of pipe so we then back filled hole. We spent 2.5hrs on digging down to tie in point. While we were digging we also hauled dirt and staged it for the 18" header pipe. We then wrapped things up and left for the day.

CLIENT REPRESENTATIVE

DATE

Tom A. Todio CCA
NAME & TITLE

AEGL SUPERINTENDENT

DATE

11/20/2014



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/21/2014

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT#: 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY	LATERAL: # downslope wells	PIPE DIA. 6"
VALVES:		STATION: 0+00 to 0+09	LINEAR FT. 9'
VALVE STEMS:		RISER HEIGHT:	TRENCH DEPTH 3' to 5'
LAND-TEC WELLHEADS:		AIR: #	PIPE DIA.
IN-LINE SUMPS:		STATION:	LINEAR FT.
QED VAULT KITS:		RISER HEIGHT:	TRENCH DEPTH
QED PUMPS:		FORCEMAIN: #	PIPE DIA.
ENCASEMENTS:		STATION:	LINEAR FT.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		RISER HEIGHT:	TRENCH DEPTH
3-6" abandonment with 6" slip caps		AIR: #	PIPE DIA.
1-6" abandonment with fused 6" buttcap		STATION:	LINEAR FT.
1-12" tie in		RISER HEIGHT:	TRENCH DEPTH
WEATHER & TIME INFORMATION		FORCEMAIN: #	PIPE DIA.
DAILY CONDITIONS:		STATION:	LINEAR FT.
cloudy		RISER HEIGHT:	TRENCH DEPTH
START TIME 7:00AM		FORCEMAIN: #	PIPE DIA.
STOP TIME 6:00PM		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

Today we started with our morning and then went up and dug on north end of the 18" header around existing 12" riser. Once we had tie in dug out we started by abandon existing 3-6" risers with 6" slip caps and 1-6" vacuum riser with 6" buttcap. Once abandonments were complete we then cut the existing 12" riser and installed a 12" tee. We then installed a 12x6 tee for 6" downslope risers. We then installed 12" flanges with pan blank and then had a 12x18 reducer for the new header system. We then welded 6" lateral to 12x6 tee. Once tie in was complete we gave the gas system back to the gas plant. We spent a total of 7hrs on digging up tie in point and installing pipe. Once tie in was complete we then hauled dirt to tie in point and back filled tie in and staged more dirt on the 18" header system. Once back filling was complete we then wrapped things up and left for the day.

Joe M. Laska 11/21/14
CLIENT REPRESENTATIVE DATE
Greg A. Todio CQA
NAME & TITLE

[Signature] 11/21/2014
AEGL SUPERINTENDENT DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/22/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		LATERAL: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		HAR:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		AIR: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS:	
START TIME	7:00AM
STOP TIME	8:00AM

COMMENTS (Description of Work Order Completed):

Today we showed up on site but due to the freezing rain we wrapped things up and left site for the day.

CLIENT REPRESENTATIVE

DATE

AEGL SUPERINTENDENT

11/22/2014

DATE

NAME & TITLE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/23/2014

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT#: 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		LATERAL: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		AIR: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS:	
START TIME	
STOP TIME	

COMMENTS (Description of Work Order Completed):

Today we didnt work.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

AEGL SUPERINTENDENT

DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/24/2014

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT#: 20-215-103

MISC. INSTALLED ITEMS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY
VALVES:	
VALVE STEMS:	
LAND-TEC WELLHEADS:	
IN-LINE SUMPS:	
QED VAULT KITS:	
QED PUMPS:	
ENCASEMENTS:	
MISC. ITEMS / EXTRA DETAIL: (Described Below)	
WEATHER & TIME INFORMATION	
DAILY CONDITIONS: rain	
START TIME _____	
STOP TIME _____	

FORCEMAIN: # _____	PIPE DIA. _____
STATION: _____	LINEAR FT. _____
HAR: _____	TRENCH DEPTH _____
FORCEMAIN: # _____	PIPE DIA. _____
STATION: _____	LINEAR FT. _____
RISER HEIGHT: _____	TRENCH DEPTH _____
FORCEMAIN: # _____	PIPE DIA. _____
STATION: _____	LINEAR FT. _____
RISER HEIGHT: _____	TRENCH DEPTH _____
AIR: # _____	PIPE DIA. _____
STATION: _____	LINEAR FT. _____
RISER HEIGHT: _____	TRENCH DEPTH _____
FORCEMAIN: # _____	PIPE DIA. _____
STATION: _____	LINEAR FT. _____
RISER HEIGHT: _____	TRENCH DEPTH _____
AIR: # _____	PIPE DIA. _____
STATION: _____	LINEAR FT. _____
RISER HEIGHT: _____	TRENCH DEPTH _____
FORCEMAIN: # _____	PIPE DIA. _____
STATION: _____	LINEAR FT. _____
RISER HEIGHT: _____	TRENCH DEPTH _____
AIR: # _____	PIPE DIA. _____
STATION: _____	LINEAR FT. _____
RISER HEIGHT: _____	TRENCH DEPTH _____

Today we didnt work to to the weather

Matthew A. Tadi 11/24/14
CLIENT REPRESENTATIVE

Matthew A. Tadi CQA
NAME & TITLE

[Signature]
AEGL SUPERINTENDENT

11/24/2014
DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/25/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		AIR: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		LATERAL: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS:	
rain/muddy	
START TIME	
STOP TIME	

COMMENTS (Description of Work Order Completed):

Today we didnt work do to the wet conditions

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

AEGL SUPERINTENDENT

11/25/2014

DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/26/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		HEADER: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN:#	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		HEADER:#	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN:#	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN:#	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

MISC. ITEMS / EXTRA DETAIL: (Described Below)
2hrs on digging up and making liner repair at EW-124R2

WEATHER & TIME INFORMATION

DAILY CONDITIONS:
cold/muddy

START TIME 7:00AM

STOP TIME 11:00AM

Today we started with our morning safety meeting and then up on the hill and dug around EW-124R2 to make liner repair where new well was drilled. Once we had liner exposed the guys were doing testing on liner and once Janet the QC watch test and checked numbers on test and passed it. They then did liner repair and well boot around EW-124R2. We spent a total of 2hrs on repair and digging up liner. Once we had liner repaired done we then back filled hole and then did clean up work so we could shut down for the holiday weekend. Once clean up work was complete we cleaned out tracks on all equipment and then wrapped things up and left for the day.

CLIENT REPRESENTATIVE

DATE

AEGL SUPERINTENDENT

DATE

NAME & TITLE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/27/2014

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT#: 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		FORCEMAIN: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		LATERAL: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS:	
START TIME	
STOP TIME	

COMMENTS (Description of Work Order Completed):

Today we didnt work do to the fact of thanksgiving

John A. Todia 11/27/14
CLIENT REPRESENTATIVE DATE
John A. Todia CEA
NAME & TITLE

John A. Todia 11/27/2014
AEGL SUPERINTENDENT DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT#: 20-215-103

DATE: 11/28/2014

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		LATERAL: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		AIR: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		FORCEMAIN: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
WEATHER & TIME INFORMATION		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
DAILY CONDITIONS:		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
START TIME _____		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
STOP TIME _____		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.

Today we didnt work

Frank A. Todor 11/28/14
CLIENT REPRESENTATIVE DATE

Frank A Todor CBA
NAME & TITLE

[Signature] 11/28/2014
AEGL SUPERINTENDENT DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/29/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		LATERAL: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		HAR:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		AIR: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS:	
START TIME	
STOP TIME	

COMMENTS (Description of Work Order Completed):

Today we didnt work

Scott Todis 11/29/14
CLIENT REPRESENTATIVE DATE
Scott A Todis CQA
NAME & TITLE

[Signature] 11/29/2014
AEGL SUPERINTENDENT DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 11/30/2014

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		LATERAL: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		AIR: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS:	
START TIME _____	
STOP TIME _____	

COMMENTS (Description of Work Order Completed):

Today we didnt work.

Justin Todio 11/30/14
CLIENT REPRESENTATIVE DATE
Bret A Todio COA
NAME & TITLE

[Signature] 11/30/2014
AEGL SUPERINTENDENT DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 12/1/2014

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT#: 20-215-103

MISC. INSTALLED ITEMS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY
VALVES:	
VALVE STEMS:	
LAND-TEC WELLHEADS:	
IN-LINE SUMPS:	
QED VAULT KITS:	
QED PUMPS:	
ENCASEMENTS:	
MISC. ITEMS / EXTRA DETAIL: (Described Below)	
WEATHER & TIME INFORMATION	
DAILY CONDITIONS:	
START TIME 7:00AM	
STOP TIME 8:15AM	

FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
HAR:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
AIR: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
AIR: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
AIR: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH

Today we showed up and got with the site but do to the fact we wasnt allowed to use the main road we shut down and left for the day do to the wet and sloppy conditions.

Amel Torkia 12/1/14
CLIENT REPRESENTATIVE
Amel A Torkia COA
NAME & TITLE

[Signature] 12/1/2014
AEGL SUPERINTENDENT DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 12/2/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		AIR: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		LATERAL: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION
DAILY CONDITIONS: Cold
START TIME 7:00AM
STOP TIME 5:45PM

COMMENTS (Description of Work Order Completed):

Today we started with our morning safety meeting and then went up and started digging on 24" tie in that is a 20ft tie in. While we were digging we fabbed up 24" tee for tie in. Then the site got with us and told us they were shutting down the face up on the hill at 3:00PM so we then had to haul trash down to the new cell which then it is a very long haul around 4 miles one way. We then fabbed up some liner and then shut down digging and covered hole up with liner. Once hole was covered up we then wrapped things up and left for the day.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

AEGL SUPERINTENDENT

DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 12/3/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		HEADER: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN:#	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		HEADER:#	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN:#	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN:#	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

MISC. ITEMS / EXTRA DETAIL: (Described Below)

WEATHER & TIME INFORMATION

DAILY CONDITIONS:
ccold/muddy

START TIME 7:00AM

STOP TIME 5:30PM

Today we started with our morning safety meeting and then went back and uncovered hole and started digging on tie in point. Due to the fact that its such a long distance to get to the active face and the muddy conditions we had due to the overnight rain we had to cover the hole back up with liner at the end of the day and finish digging it tomorrow. Once hole was covered up and caution taped off we cleaned out tracks on all equipment and then wrapped things up and left for the day.

Paul Todia 12/3/14
CLIENT REPRESENTATIVE DATE
Paul A Todia CQA
NAME & TITLE

[Signature] 12/3/2014
AEGL SUPERINTENDENT DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 12/4/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		FORCEMAIN: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		LATERAL: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS: cold	
START TIME	7:00AM
STOP TIME	5:15PM

COMMENTS (Description of Work Order Completed):

Today we started with our morning safety meeting and then went back up top and removed liner over top of the hole. While we were getting ready to start digging Bob went down and went to our weekly meeting and got with Chris about the long haul for trash. So they told us we could stage it off to the side and put back in trench after tie in was complete as long as we covered trash with dirt. So we then started staging trash off to the side. Once we had the tie in completely dug we then covered hole back up with liner and then hauled dirt over to the trash pile and cover it with dirt. Once trash was covered we then cleaned out all tracks on equipment and wrapped things up for the day.

CLIENT REPRESENTATIVE

DATE

James A Todio CQA

NAME & TITLE

AEGL SUPERINTENDENT

DATE

12/4/2014



American
Environmental
Group Ltd.

AEGL DAILY DIARY

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT# 20-215-103

DATE: 12/5/2014

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		HEADER: # _____	PIPE DIA. _____
VALVE STEMS:		STATION: _____	LINEAR FT. _____
LAND-TEC WELLHEADS:		RISER HEIGHT: _____	TRENCH DEPTH _____
IN-LINE SUMPS:		AIR: # _____	PIPE DIA. _____
QED VAULT KITS:		STATION: _____	LINEAR FT. _____
QED PUMPS:		RISER HEIGHT: _____	TRENCH DEPTH _____
ENCASEMENTS:		FORCEMAIN: # _____	PIPE DIA. _____
MISC. ITEMS / EXTRA DETAIL: (Described Below) 24" tie in 10.5hrs		STATION: _____	LINEAR FT. _____
		RISER HEIGHT: _____	TRENCH DEPTH _____
		AIR: # _____	PIPE DIA. _____
WEATHER & TIME INFORMATION		STATION: _____	LINEAR FT. _____
		RISER HEIGHT: _____	TRENCH DEPTH _____
		FORCEMAIN: # _____	PIPE DIA. _____
DAILY CONDITIONS: cold		STATION: _____	LINEAR FT. _____
		RISER HEIGHT: _____	TRENCH DEPTH _____
		FORCEMAIN: # _____	PIPE DIA. _____
START TIME <u>7:00AM</u>		STATION: _____	LINEAR FT. _____
		RISER HEIGHT: _____	TRENCH DEPTH _____
		AIR: # _____	PIPE DIA. _____
STOP TIME <u>5:30PM</u>		STATION: _____	LINEAR FT. _____
		RISER HEIGHT: _____	TRENCH DEPTH _____
		AIR: # _____	PIPE DIA. _____

Today we started with our morning safety meeting and then went up on the hill and removed liner from 24" tie in hole. Once the gas plant backed down and we got the ok to cut pipe we then cut out section of 24" pipe. We then fused in 2-24" flanges to each side of the existing 24" header. Once flanges were fused in we then got measurement on pipe and then fused 24" flanges to the 24" x 18" tee. Once flanges we welded in we then took tee down in the hole and then made 24" flange bolt ups to both sides of the tee. Once bolt ups were complete we then gave the gas plant there system back. We then started hauling dirt up to hole and covering all trash in the hole. and compacting around the existing 24" hearer. Once all trash was covered it started raining so we then cleaned out tracks and wrapped things up for the day.

Note: We spent a total of 10.5 hrs on tie in and staring to back filling tie in point for the day.

Paul Todia 12/5/14
CLIENT REPRESENTATIVE DATE
Paul A Todia CRA
NAME & TITLE

[Signature] 12/5/2014
AEGL SUPERINTENDENT DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

PROJECT NAME:

Lorain County Landfill

DATE:

12/6/2014

CLIENT/PROJECT#

20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		LATERAL: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		HAR:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		AIR: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS:	
Rain	
START TIME	
STOP TIME	

COMMENTS (Description of Work Order Completed):

Today we didn't work do to the rain and sloppy conditions.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

AEGL SUPERINTENDENT

DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT# 20-215-103

DATE: 12/7/2014

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		LATERAL: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		AIR: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS:	
START TIME _____	
STOP TIME _____	

COMMENTS (Description of Work Order Completed):

Today we didnt work.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

AEGL SUPERINTENDENT

DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

PROJECT NAME:

Lorain County Landfill

DATE:

12/8/2014

CLIENT/PROJECT#

20-215-103

MISC. INSTALLED ITEMS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY
VALVES:	
VALVE STEMS:	
LAND-TEC WELLHEADS:	
IN-LINE SUMPS:	
QED VAULT KITS:	
QED PUMPS:	
ENCASEMENTS:	
MISC. ITEMS / EXTRA DETAIL: (Described Below)	
WEATHER & TIME INFORMATION	
DAILY CONDITIONS: cold	
START TIME 7:00AM	
STOP TIME 5:00PM	

FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
HAR:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
AIR: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
AIR: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
AIR: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH

Today we started with our morning safety meeting and then went up top and started burying the 24" tie in. Once we had dirt under header and over top of pipe we then started hauling trash from stock pile and compacted it back over tie in hole. Once we ran out of time for the day we covered trash up with dirt and then wrapped things up and left for the day.

James A. Todia 12/8/14
CLIENT REPRESENTATIVE

James A. Todia QA
NAME & TITLE

[Signature]
AEGL SUPERINTENDENT

12/8/2014

DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

PROJECT NAME:

Lorain County Landfill

DATE:

12/9/2014

CLIENT/PROJECT#

20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		HEADER: # 18" southside	PIPE DIA. 18"
VALVE STEMS:		STATION: 0+00 to 0+50	LINEAR FT. 50'
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH 10' to 13'
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:			
MISC. ITEMS / EXTRA DETAIL: (Described Below)		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS:	
Cold	
START TIME	7:00AM
STOP TIME	5:00PM

COMMENTS (Description of Work Order Completed):

Today we started with our morning safety meeting and then went up and started digging on the 18" header on the south side. Trenching was slow because we were 13ft to 10ft deep and had a 4mile round trip with the trucks. Once we finished trenching we broke down machine and welded onto the 24x18 tee. Once pipe was welded and in trench we shot in pipe and then back filled what trench we could we then put liner over top of end of the trench. Once liner was in place we then wrapped things up and left for the day.

CLIENT REPRESENTATIVE

DATE

Kenneth A. Todaro CDA

NAME & TITLE

AEGL SUPERINTENDENT

DATE

12/9/2014



American
Environmental
Group Ltd.

AEGL DAILY DIARY

PROJECT NAME:

Lorain County Landfill

DATE:

12/10/2014

CLIENT/PROJECT#

20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		HEADER: # 18" southside	PIPE DIA. 18"
VALVE STEMS:		STATION: 0+50 to 1+20	LINEAR FT. 70'
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH 7' to 10'
IN-LINE SUMPS:		HEADER: # 18" southside	PIPE DIA. 18"
QED VAULT KITS:		STATION: 1+20 to 1+50	LINEAR FT. 30'
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH 5' to 7'
ENCASEMENTS:		HEADER: # 18" southside	PIPE DIA. 18"
		STATION: 1+50 to 2+97	LINEAR FT. 147'
MISC. ITEMS / EXTRA DETAIL: (Described Below)		RISER HEIGHT:	TRENCH DEPTH 3' to 5'
		HEADER: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS: cold/windy	
START TIME	7:00AM
STOP TIME	6:00PM

Today we started with our morning safety meeting and then went up and started trenching on 18" header from the south side to high point. Once we trenched up to high point we then installed pipe in trench line and installed 18x6 tee riser at 1+76 for EW-158R2 and then installed a 18x6 tee riser at 1+78 for remote wellhead EW-169R. Once all pipe was in bottom of trench line we then shot in pipe at 3% or more grade so we then started back filling trench line. We set survey risers every 50ft mark and fitting and rolled caution tape down trench line. While we were back filling trench line we went over to the 18" header on the north in and dug up pipe when we tied into the 12" existing riser and started digging up to high point. Once we finished trenching for the day we covered up trench with liner and hauled dirt up to trench line. We then cleaned out all tracks on the equipment and wrapped things up and left for the day.

CLIENT REPRESENTATIVE

DATE

AEGL SUPERINTENDENT

12/10/2014

DATE

NAME & TITLE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

PROJECT NAME:

Lorain County Landfill

DATE:

12/11/2014

CLIENT/PROJECT#

20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		HEADER: # 18" Northside	PIPE DIA. 18"
VALVE STEMS:		STATION: 0+00 to 1+00	LINEAR FT. 100'
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH 5' to 7'
IN-LINE SUMPS:		HEADER: # 18" Northside	PIPE DIA. 18"
QED VAULT KITS:		STATION: 1+00 to 2+06	LINEAR FT. 106'
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH 3' to 5'
ENCASEMENTS:		LATERAL: # Remote EW-169R	PIPE DIA. 6"
MISC. ITEMS / EXTRA DETAIL: (Described Below) 1-6" tie in		STATION: 0+00 to 1+85	LINEAR FT. 185'
		RISER HEIGHT:	TRENCH DEPTH 3' to 5'
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
WEATHER & TIME INFORMATION		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
DAILY CONDITIONS: cold/windy		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
START TIME 7:00AM		AIR: #	PIPE DIA.
STOP TIME 6:00PM		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

COMMENTS (Description of Work Order Completed):

Today we started with our morning safety meeting and then went up on the 18" header and remover liner and finished trenching on 18" header. Once trenching was complete we then installed pipe in trench line and installed a 18x6 tee riser at 0+54 for EW-47R3 and then went up and installed a 18x6 tee riser at 2+06 for EW-154R3. Once all 18" header was fused in and in bottom of trench line we then shot in pipe at 3% or more grade so we started backfilling trench line. We set survey risers every 50ft mark and fittings and rolled caution tape down trench line. Once survey riser were set we then started hauling dirt to trench line. While we were back filling we then went over and trenched in down slope well to EW-169R. While were trenching on down slope we put 6" lateral on air test for 4hrs at 25psi. Once air test was on Janet the QCA came over and checked air test and passed it. So we then installed 6" pipe in trench line and then went down and tied into new well EW-169R with a 6" tee and then connect lateral to well for down slope well. Once 6" lateral was fused in and in the trench we then shot in pipe at 3% or more grade so we back filled trench line. we set survey risers every 50ft mark and fittings. We then put air test on the 18" header at 10psi over night. Once back filling was complete for the day and air test was on 18" header we then wrapped things up and left for the day.

CLIENT REPRESENTATIVE

DATE

AEGL SUPERINTENDENT

DATE

NAME & TITLE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT#: 20-215-103

DATE: 12/12/2014

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		HEADER: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		AIR: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

MISC. ITEMS / EXTRA DETAIL: (Described Below)
4-6" slip cap abandonments 4-6" butt cap abandonments
1-3" butt cap abandonment 7-2" butt cap abandonments

WEATHER & TIME INFORMATION

DAILY CONDITIONS:
cold

START TIME 7:00AM
STOP TIME 6:00PM

Today we started with our morning safety meeting and then went up and dug up Well abandonment for EW-47R2, EW-154R2, EW-169 and EW-158R. We had a total of 4-6" slip caps old wells, 4-6" butt caps on existing vacuum risers, 1-3" butt cap on forcemain and 7-2" butt cap on air and forcemain. Once all abandonment were made below grade we then hooked up wellheads up to new wells EW-47R3, EW-154R3, EW-169R and EW-158R2 a total of 4 wellheads. Once wellheads were on we then pulled pan blanks on each end of the 18" header. After pan blanks were pulled and flanges were bolted back up we then gave the gas [plant the system back. We then hauled the stock pile of trash back to the hole and then started hauling dirt and back filled trench lines. While we were back filling we fused up 12" pipe and 6" laterals and 2" air and forcemain laterals and up the 6" laterals on air test at 25psi and the 2" air and forcemain at 100psi. Once we finished hauling dirt for the day we cleaned out tracks and wrapped things up for the day.

Tamara Tadia 12/12/14
CLIENT REPRESENTATIVE DATE
Tamara Tadia USA
NAME & TITLE

[Signature] 12/12/2014
AEGL SUPERINTENDENT DATE



AEGL DAILY DIARY

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT# 20-215-103

DATE: 12/13/2014

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		LATERAL: # EW-306R2	PIPE DIA. 6"
VALVE STEMS:		STATION: 0+00 to 0+37	LINEAR FT. 37'
LAND-TEC WELLHEADS:	1-3" 2-2"	HAR:	TRENCH DEPTH 3' to 5'
IN-LINE SUMPS:		FORCEMAIN: # EW-306R2	PIPE DIA. 2" SDR 11
QED VAULT KITS:		STATION: 0+00 to 0+37	LINEAR FT. 37'
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH 3' to 5'
ENCASEMENTS:		AIR: # EW-306R2	PIPE DIA. 2" SDR9
MISC. ITEMS / EXTRA DETAIL: (Described Below) 2hrs at T&M rate with 3 guys and cat 320 on 6" cleanout down at 24" header 2-6" slip cap abandonments 2-6" tie ins 3-2" tie ins 1-3" tie in 1-12" tie in 1-2" buttcap abandonment		STATION: 0+00 to 0+37	LINEAR FT. 37'
		RISER HEIGHT:	TRENCH DEPTH 3' to 5'
		LATERAL: # EW-54R3	PIPE DIA. 6"
		STATION: 0+00 to 0+44	LINEAR FT. 44'
		RISER HEIGHT:	TRENCH DEPTH 3' to 5'
		AIR: # EW-54R3	PIPE DIA. 2" SDR9
		STATION: 0+00 to 0+44	LINEAR FT. 44'
		RISER HEIGHT:	TRENCH DEPTH 3' to 5'
		FORCEMAIN: # EW-54R3	PIPE DIA. 2" SDR11
		STATION: 0+00 to 0+44	LINEAR FT. 44'
		RISER HEIGHT:	TRENCH DEPTH 3' to 5'
		LATERAL: # Cleanout at 24"	PIPE DIA. 6"
		STATION: 0+00 to 0+57	LINEAR FT. 57'
		RISER HEIGHT:	TRENCH DEPTH above grade

WEATHER & TIME INFORMATION	
DAILY CONDITIONS: cold	
START TIME	7:00AM
STOP TIME	2:30PM

COMMENTS (Description of Work Order Completed):

Today we started with our morning safety meeting and then went over and dug up redrill laterals for EW-54R3 and EW-306R2. While we were digging up laterals we went down and dug around 6" cleanout riser at the 24" that we installed earlier this year. Once cleanout was dug up we then put 6" tee going to existing 6" lateral at above grade. Once tee was installed we put blind flange on end of tee and then welded 6" lateral over to existing lateral and 90 riser. We then went over to existing 6" riser and installed a 6" tee into riser then hooked up 3" wellhead to new lateral. We spent a total of 2 hrs at T&M rate with 3 guys and a cat 320. We then went up top and did 6" laterals at EW-54R3 and EW-306R2. We tied both 6" laterals to existing 6" pipe with 6" 90 elbows and ran pipe over to new well and 6" 90 risers. We then tied in both 2" air with 2" 90 elbows and ran them over to new wells and 90 riser them up. We then ran both 2" forcemain laterals with 2" 90 elbows at tie in and ran pipe over to new wells and 90 riser them up. We then hooked up 2-2" wellheads at EW-54R3 and EW-306R2. Once all pipes were in trench line we shot in pipes and they all had 3% or more grade so we then back filled trench lines. While we were doing laterals we also made 12" tie in on the north east slope to existing 12" riser with 12" tee pointing down the hill going to sump for above ground 12" pipe. going to existing sump. Once back filling was complete we then cleanout tracks on all equipment and wrapped things up and left for the day.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

AEGL SUPERINTENDENT

DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

PROJECT NAME:

Lorain County Landfill

DATE:

12/14/2014

CLIENT/PROJECT#

20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		LATERAL: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		AIR: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
WEATHER & TIME INFORMATION		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
DAILY CONDITIONS:		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
START TIME _____		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
STOP TIME _____		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
COMMENTS (Description of Work Order Completed):		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.

COMMENTS (Description of Work Order Completed):

Today we didnt work.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

AEGL SUPERINTENDENT

DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

PROJECT NAME:

Lorain County Landfill

DATE:

12/15/2014

CLIENT/PROJECT#

20-215-103

MISC. INSTALLED ITEMS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY
VALVES:	
VALVE STEMS:	
LAND-TEC WELLHEADS:	2-2"
IN-LINE SUMPS:	
QED VAULT KITS:	
QED PUMPS:	
ENCASEMENTS:	
MISC. ITEMS / EXTRA DETAIL: (Described Below) 2-6" tie ins 1-2" tie in 1-4" tie in 1-12" tie in 2-6" abandonment w/ 6" slip caps for old wells 1-pump remove and reinstall at sump on north slope.	
WEATHER & TIME INFORMATION	
DAILY CONDITIONS: cold	
START TIME 7:00AM	
STOP TIME 6:00PM	

LATERAL: # EW-316R2	PIPE DIA. 6"
STATION: 0+00 to 0+32	LINEAR FT. 32'
HAR:	TRENCH DEPTH 3' to 5'
FORCEMAIN: # EW-316R2	PIPE DIA. 2" SDR11
STATION: 0+00 to 0+32	LINEAR FT. 32'
RISER HEIGHT:	TRENCH DEPTH 3' to 5'
AIR: # EW-316R2	PIPE DIA. 2" SDR9
STATION: 0+00 to 0+32	LINEAR FT. 32'
RISER HEIGHT:	TRENCH DEPTH 3' to 5'
LATERAL: # EW-322R2	PIPE DIA. 6"
STATION: 0+00 to 0+40	LINEAR FT. 40'
RISER HEIGHT:	TRENCH DEPTH 3' to 5'
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
AIR: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
FORCEMAIN: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH
AIR: #	PIPE DIA.
STATION:	LINEAR FT.
RISER HEIGHT:	TRENCH DEPTH

Today we started with our morning safety meeting and then went up and trenched on redrills EW-316R2 and EW-322R2. Once we had laterals trenched we then started with EW-316R2. We started by tie in the existing 6" vacuum riser with 6" 45 elbow and then ran lateral to EW-316R2 with 90 riser at well. We then tied into the 2" air and forcemain and ran pipe over to EW-316R2 in the same trench with the 6" lateral. Once we had pipe all ran over to EW-316R2 we abandoned old EW-316R with 6" slip cap and then hooked up wellhead to EW-316R. We then went up and installed 6" lateral to EW-322R2. We started by cutting existing 6" 90 riser off and ran new pipe over to EW-322R2 with a 6" 90 riser. Once lateral was at new well we cut existing EW-322R and abandoned it with a 6" slip cap and then hooked up wellhead to new well EW-322R2. Once we had both laterals tied in we then shot in pipes and they had 3% or more grade so we then went down and installed a 12" tee into existing sump for the 12" header. We had to move 4" forcemain out of the way and remove pump out of sump. Once we had forcemain out of the way we fused in 12" tee and blind in place we then dropped pump back in sump and gave the system back to the gas plant. We then hauled dirt to laterals and back filled laterals. and then put fence back up around EW-322R2. While we were hauling dirt we fused up pipe and fitting for the rest of the redrill laterals. Once we ran out of time for the day we then cleaned out tracks on equipment and then wrapped things up and left for the day.

CLIENT REPRESENTATIVE

AEGL SUPERINTENDENT

12/15/2014

DATE

NAME & TITLE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 12/16/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		HEADER: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		LATERAL: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS:	
Rain	
START TIME	
STOP TIME	

COMMENTS (Description of Work Order Completed):

Today we didnt work do to the weather.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

AEGL SUPERINTENDENT

12/16/2014

DATE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 12/17/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		HEADER: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		HEADER: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		HEADER: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		HEADER: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		HEADER: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
WEATHER & TIME INFORMATION		STATION:	LINEAR FT.
DAILY CONDITIONS:		RISER HEIGHT:	TRENCH DEPTH
rain/muddy		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

Today we didnt work do to the fact of all the rain over night and sloppy conditions.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

AEGL SUPERINTENDENT

DATE



AEGL DAILY DIARY

DATE: 12/18/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		HEADER: # 12" north slope	PIPE DIA. 12"
VALVE STEMS:		STATION: 0+00 to 4+60	LINEAR FT. 460'
LAND-TEC WELLHEADS:	3-2"	RISER HEIGHT:	TRENCH DEPTH above ground
IN-LINE SUMPS:		LATERAL: # EW-27R2	PIPE DIA. 6"
QED VAULT KITS:		STATION: 0+00 to 0+91	LINEAR FT. 91'
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH 3'
ENCASEMENTS:		LATERAL: # EW-124R2	PIPE DIA. 6"
		STATION: 0+00 to 0+44	LINEAR FT. 44'
		RISER HEIGHT:	TRENCH DEPTH 3'
		FORCEMAIN: # EW-124R2	PIPE DIA. 4x2 dual cont.
		STATION: 0+00 to 0+44	LINEAR FT. 44'
		RISER HEIGHT:	TRENCH DEPTH 3'
		AIR: # EW-124R2	PIPE DIA. 2"
		STATION: 0+00 to 0+44	LINEAR FT. 44'
		RISER HEIGHT:	TRENCH DEPTH 3'
		LATERAL: # EW-36R2	PIPE DIA. 6"
		STATION: 0+00 to 0+65	LINEAR FT. 65'
		RISER HEIGHT:	TRENCH DEPTH 3'
		FORCEMAIN: # EW-36R2	PIPE DIA. 2"
		STATION: 0+00 to 0+65	LINEAR FT. 65'
		RISER HEIGHT:	TRENCH DEPTH 3'
		AIR: # EW-36R2	PIPE DIA. 2"
		STATION: 0+00 to 0+65	LINEAR FT. 65'
		RISER HEIGHT:	TRENCH DEPTH 3'

MISC. ITEMS / EXTRA DETAIL: (Described Below)
3-6" abandonments with 6" slip caps
4-2" tie ins 2-6" tie ins 1-8" tie in

WEATHER & TIME INFORMATION

DAILY CONDITIONS: cold/cloudy

START TIME 7:00AM

STOP TIME 6:00PM

COMMENTS (Description of Work Order Completed):

Today we started with our morning safety meeting and then went up and dug redrill laterals at EW-27R2, EW-124R2 and EW-36R2. Once we finished trenching on laterals we started with EW-124R2. We started by trying to remove pump we were unable to remove pump. So we cut old well and abandoned it with 6" slip cap. We then installed 6" 90 elbow into existing 6" vacuum riser and then ran pipe over to new well EW-124R2 and hooked 2" wellhead to new line. We then did the same with the 2" air and the 4x2 dual contain forcemain. We then went down to EW-27R2 and made 8" tie in with a 8x6 tee and then ran lateral over to new well EW-27R2 and hooked up 2" wellhead. We then abandon old well with 6" slip cap. We then went over to EW-36R2 and cut existing 6" vacuum riser off and ran new lateral to EW-36R2 and hooked up wellhead. We then tied into the existing 2" air and forcemain and ran it to new well. We also abandon old well with 6" slip cap. Once all tie ins were made and wells were hooked up we then gave the gas plant there system back and back filled trenches. We then went over and started installing 12" header on the north slope above ground. We started by bolting flange to 12" blind and then went and installed a 12x6 tee at 0+84 with 6" blind for future. We then went down to 2+44 and installed a 12x6 for EW-308R. We then went installed a 12x6 future tee in at 3+76. Once we had tee fused in we ran out of time for the day so we clean out tracks on equipment and wrapped things up for the day

CLIENT REPRESENTATIVE

DATE

AEGL SUPERINTENDENT

12/18/2014

DATE

NAME & TITLE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 12/19/2014

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT#: 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		HEADER: # 12" North slope	PIPE DIA. 12"
VALVE STEMS:		STATION: 4+60 to 10+04	LINEAR FT. 544'
LAND-TEC WELLHEADS:	4	RISER HEIGHT:	TRENCH DEPTH above ground
IN-LINE SUMPS:		LATERAL: # EW-308R	PIPE DIA. 6"
QED VAULT KITS:		STATION: 0+00 to 1+50	LINEAR FT. 150'
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH above ground
ENCASEMENTS:		LATERAL: # From LR4	PIPE DIA. 8"
MISC. ITEMS / EXTRA DETAIL: (Described Below) 40ft of 12" CMP road crossing		STATION: 0+00 to 2+00	LINEAR FT. 200'
		RISER HEIGHT:	TRENCH DEPTH above ground
		LATERAL: # From	PIPE DIA. 8"
		STATION: 2+00 to 3+27	LINEAR FT. 127'
		RISER HEIGHT:	TRENCH DEPTH 3' to 5'
WEATHER & TIME INFORMATION		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
DAILY CONDITIONS: cold		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
START TIME 7:00AM		AIR: #	PIPE DIA.
STOP TIME 6:00PM		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

Today we started with our morning safety meeting and then went up and finished installing the 12" header on the north slope above ground. We started by installing a 12x6 tee at 5+69 for future then also installed 12x8 tee for 8" lateral and installed a 12x6 tee to connect existing 6" lateral. Once all tees were in we fused 12" flange on and bolted up to 12" blind to sump. Once 12" was all bolted up we installed 6" lateral to EW-308R above grade and then went over and trenched road crossing for 8" lateral. Once road crossing was open we started by installing 8" lateral by bolting up to 8" flange connection at the 12x8 tee and then installed a 8" tee riser at EW-318. We then put 40ft of 12" CMP at 2+23 and ended at 2+63. We then installed 8x6 tee riser at 2+88 for EW-324 and then installed a 6" 90 8x6 90 riser at LR-4. Once 8" lateral was all in we then started back filling road crossing. While we were back filling we then put air test on all laterals and 12" header on the north slope at 10 PSI over night. Once we finished back filling we then wrapped things up and left for the day.

CLIENT REPRESENTATIVE

DATE

AEGL SUPERINTENDENT

DATE

NAME & TITLE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

DATE: 12/20/2014

PROJECT NAME: Lorain County Landfill

CLIENT/PROJECT# 20-215-103

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		LATERAL: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:	2-3" and 3-2"	HAR:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:	3-6"	STATION:	LINEAR FT.
QED PUMPS:	3	RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		AIR: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below) 5-6" buttcap abandonments 3-4" abandonments 3 pumps at EW-36R2, EW-306R2 & EW-124R2 2-3" wellheads 3-2" wellheads 1-6" tie in		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS: cold	
START TIME	7:00AM
STOP TIME	5:00PM

COMMENTS (Description of Work Order Completed):

Today we started with our morning safety meeting and then went up top and got ready to started abandon all existing 6" vacuum risers. Once we got the ok from the gas plant we dug and abandon 6" vacuum risers with 6" buttcaps. We abandon risers at EW-318, EW-308R, EW-324, at the road crossing where it came on of the ground and at H-12A. Once all abandonment we made we then hooked up wellheads to all new 6" vacuum risers and at LR-4. We then went down and removed 12" blind at sump and bolted up flange to flange connection. We then went up and remove 12" blind on the east end of the 12" tee in the 12" riser. Once we had bolt up complete we then gave system back to gas plant. We then went over on the west end on the liner and dug up 4" risers pipes that the site added on to us monday and cut and abandon them below grade with 4" buttcaps. We then back filled holes and started hualing dirt for dress up work and putting over top of 12" header pipe on the north slope. While we were doing dirt work we went around and dropped 3 pumps at EW-36R2 pump S/N# 4-14043, EW-306R2 pump S/N#4-14117 and at EW-124R2 pump S/N#4-14118. All pump kits were 6" vault packs. We then move all pipe and fitting over to staging area and litter lugged laterals and hual road. Once we ran out of time for the day we cleaned out tracks on equipment and wrapped things up for the day.

CLIENT REPRESENTATIVE

DATE

AEGL SUPERINTENDENT

12/20/2014

DATE

NAME & TITLE



American
Environmental
Group Ltd.

AEGL DAILY DIARY

PROJECT NAME: Lorain County Landfill
CLIENT/PROJECT# 20-215-103

DATE: 12/21/2014

MISC. INSTALLED ITEMS / Construction		PIPELINE INSTALLATION DETAILS / Construction	
INSTALLED ITEM	INSTALLED QUANTITY		
VALVES:		LATERAL: #	PIPE DIA.
VALVE STEMS:		STATION:	LINEAR FT.
LAND-TEC WELLHEADS:		RISER HEIGHT:	TRENCH DEPTH
IN-LINE SUMPS:		FORCEMAIN: #	PIPE DIA.
QED VAULT KITS:		STATION:	LINEAR FT.
QED PUMPS:		RISER HEIGHT:	TRENCH DEPTH
ENCASEMENTS:		AIR: #	PIPE DIA.
MISC. ITEMS / EXTRA DETAIL: (Described Below)		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		FORCEMAIN: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		LATERAL: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH
		AIR: #	PIPE DIA.
		STATION:	LINEAR FT.
		RISER HEIGHT:	TRENCH DEPTH

WEATHER & TIME INFORMATION	
DAILY CONDITIONS:	
START TIME _____	
STOP TIME _____	

COMMENTS (Description of Work Order Completed):

Today we didnt work.

CLIENT REPRESENTATIVE

DATE

Janet A Todia CQA
NAME & TITLE

AEGL SUPERINTENDENT

12/21/2014

DATE



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 280.0001

Project/Site Location: Oberlin, OH

Date: 11/17/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: Snow + 26°F

Time Offsite: 1800

Items Worked On:

- | | |
|---|--|
| ☒ Gas Extraction Wells | ☐ Pressure Testing |
| ☐ Gas Extraction Well Abandonment | ☐ Temporary FML Installation/Repair |
| ☒ Waste Excavation/Relocation | ☐ Stormwater Channels/Structures |
| ☐ GCCS Piping | ☐ Other - |

Contractor(s): ABG construction, ABG drilling

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: HDPE pipe

Summary of Work: 0700 safety meeting
0830 begin drilling EW154R3: 8" well casing
will complete one well today
construction is staging & casing; no trenching
or pipe installation today.
EW154R3 completed to 120' on 140' core due
to IMT rig being able to go to max
depth of 120'
1800 clean up cuttings & leave site

Attachments:

- ☐ Contractor Report
☐ Field Notes
☐ Other:

Signature of CQA Monitor

Date

Janet Todia 11/17/14



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 11/18/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: -7°F w/ wind chill; winds 20 mph

Time Offsite: 1800

Items Worked On:



☒ Gas Extraction Wells
☐ Gas Extraction Well Abandonment
☒ Waste Excavation/Relocation
☒ GCCS Piping

☐ Pressure Testing
☐ Temporary FML Installation/Repair
☐ Stormwater Channels/Structures
☐ Other -

Dangerous subzero temps + wind

Contractor(s): ABG construction; ABG drilling

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

0700 arrive on site; safety meeting
0800 PRE CON kick off meeting
0830 drill RW4R3: construction fusing
12" pipe due to icy conditions on slopes
1238 drilling hit an obstruction (impossible) @
113' on a 140' bore after attempting
to drill through it for one hour
construction stopped fusing pipe & left site
@ 3pm
1800 drilling completed clean up & left site

Attachments:

- ☐ Contractor Report
☐ Field Notes
☐ Other:

Signature of CQA Monitor

Date

Janet Todia 11/18/14



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 11/19/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: 29°F + overcast

Time Offsite: 1700

Items Worked On:

- ☒ Gas Extraction Wells
- ☐ Gas Extraction Well Abandonment
- ☒ Waste Excavation/Relocation
- ☒ GCCS Piping

- ☐ Pressure Testing
- ☐ Temporary FML Installation/Repair
- ☐ Stormwater Channels/Structures
- ☐ Other -

Contractor(s): ABG construction ; ABG drilling

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

0700 arrive on site; safety meeting
0730 drill BW158R2
0800 begin building benches for 12" x 8" new
header + subheader installation
1000 site operations asked ABG to raise 12" access
man in active phase with spool piece
1030 notify SDS of plant de-rate for spool piece @
1330 for 2 day de-rate (shut down of rock
header)
construction stop, pipe & build benches for
rest of the day
1700 leave site

Attachments:

- ☐ Contractor Report
- ☐ Field Notes
- ☐ Other:

Signature of CQA Monitor

Date

Janet Todia 11/19/14

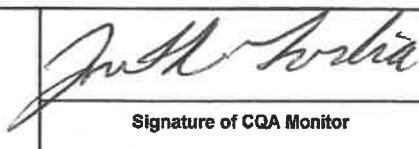


Daily Field Report

Name of Project/Site: <u>Lorain II GCCS Construction Phase 3</u>		Project No: <u>260.0001</u>								
Project/Site Location: <u>Oberlin, OH</u>		Date: <u>11/20/14</u>								
CQA Monitor: <u>Janet Todia</u>		Time Onsite: <u>0700</u>								
Weather: <u>overcast + 29°F</u>		Time Offsite: <u>1700</u>								
Items Worked On: <table border="0"><tr><td>☐ Gas Extraction Wells</td><td>☐ Pressure Testing</td></tr><tr><td>☐ Gas Extraction Well Abandonment</td><td>☒ Temporary FML Installation/Repair</td></tr><tr><td>☒ Waste Excavation/Relocation</td><td>☐ Stormwater Channels/Structures</td></tr><tr><td>☒ GCCS Piping</td><td>☐ Other -</td></tr></table>			☐ Gas Extraction Wells	☐ Pressure Testing	☐ Gas Extraction Well Abandonment	☒ Temporary FML Installation/Repair	☒ Waste Excavation/Relocation	☐ Stormwater Channels/Structures	☒ GCCS Piping	☐ Other -
☐ Gas Extraction Wells	☐ Pressure Testing									
☐ Gas Extraction Well Abandonment	☒ Temporary FML Installation/Repair									
☒ Waste Excavation/Relocation	☐ Stormwater Channels/Structures									
☒ GCCS Piping	☐ Other -									
Contractor(s): <u>ARG construction; ARG drilling</u>										
Subcontractor(s): <u>N/A</u>										
Visitor(s): <u>N/A</u>										
Phone Call(s): <u>N/A</u>										
Alteration(s): <u>N/A</u>										
Deliveries: <u>N/A</u>										
Summary of Work: <u>0700 arrive on site; safety meeting</u> <u>0730 drill BW27R2</u> <u>0800 attempt to locate 12" header on</u> <u>north slope below grade; staked @</u> <u>17' deep, but will still attempt</u> <u>1200 can't locate 12" header; will</u> <u>complete bore seal repair for BW27R2</u> <u>when drilling done w/ well completion</u> <u>drill BW124R2</u> <u>haul dirt for 18" header excavation</u> <u>1700 clean up & leave site</u>										
Attachments: ☐ Contractor Report ☐ Field Notes ☐ Other:		<u>Janet Todia 11/20/14</u> Signature of CQA Monitor Date								



Daily Field Report

Name of Project/Site: <u>Lorain II GCCS Construction Phase 3</u>		Project No: <u>280.0001</u>
Project/Site Location: <u>Oberlin, OH</u>		Date: <u>11/21/14</u>
CQA Monitor: <u>Janet Todia</u>		Time Onsite: <u>0700</u>
Weather: <u>overcast & 34°F</u>		Time Offsite: <u>1800</u>
Items Worked On:		
☒ Gas Extraction Wells	☐ Pressure Testing	
☐ Gas Extraction Well Abandonment	☐ Temporary FML Installation/Repair	
☒ Waste Excavation/Relocation	☐ Stormwater Channels/Structures	
☒ GCCS Piping	☐ Other -	
Contractor(s): <u>AEG construction, AEG drilling</u>		
Subcontractor(s): <u>N/A</u>		
Visitor(s): <u>N/A</u>		
Phone Call(s): <u>N/A</u>		
Alteration(s): <u>N/A</u>		
Deliveries: <u>N/A</u>		
Summary of Work:		
<u>0700 safety meeting</u>		
<u>0730 drill EW34R2 & EW54R3</u>		
<u>0800 uncover 12" tie in point for 18" sewer</u>		
<u>restored full available vacuum to EW156R</u>		
<u>& EW44R2 per request of SCH & RSI by</u>		
<u>adapting a 4" "T" in the 12" tie in</u>		
<u>point</u>		
<u>left pan blanks @ 12" tie in point for</u>		
<u>air pressure test</u>		
<u>1800 clean up, litter bag, backfill &</u>		
<u>cover site</u>		
Attachments:		
☐ Contractor Report	 <u>11/21/14</u>	
☐ Field Notes		
☐ Other:		
Signature of CQA Monitor		Date



Daily Field Report

Name of Project/Site: <u>Lorain II GCCS Construction Phase 3</u>		Project No: <u>260.0001</u>								
Project/Site Location: <u>Oberlin, OH</u>		Date: <u>11/22/14</u>								
CQA Monitor: <u>Janet Todia</u>		Time Onsite: <u>0700</u>								
Weather: <u>freezing rain; 32°F dangerous road conditions</u>		Time Offsite: <u>1400</u>								
Items Worked On: <table border="0"><tr><td>☒ Gas Extraction Wells</td><td>☐ Pressure Testing</td></tr><tr><td>☐ Gas Extraction Well Abandonment</td><td>☐ Temporary FML Installation/Repair</td></tr><tr><td>☒ Waste Excavation/Relocation</td><td>☐ Stormwater Channels/Structures</td></tr><tr><td>☒ GCCS Piping</td><td>☐ Other -</td></tr></table> <i>NO CONSTRUCTION due to ice</i>			☒ Gas Extraction Wells	☐ Pressure Testing	☐ Gas Extraction Well Abandonment	☐ Temporary FML Installation/Repair	☒ Waste Excavation/Relocation	☐ Stormwater Channels/Structures	☒ GCCS Piping	☐ Other -
☒ Gas Extraction Wells	☐ Pressure Testing									
☐ Gas Extraction Well Abandonment	☐ Temporary FML Installation/Repair									
☒ Waste Excavation/Relocation	☐ Stormwater Channels/Structures									
☒ GCCS Piping	☐ Other -									
Contractor(s): <u>AEG drilling</u>										
Subcontractor(s): <u>N/A</u>										
Visitor(s): <u>N/A</u>										
Phone Call(s): <u>N/A</u>										
Alteration(s): <u>N/A</u>										
Deliveries: <u>N/A</u>										
Summary of Work: <u>0700 arrive on site; safety meeting</u> <u>cancel construction because they can't</u> <u>haul</u> <u>drilling will continue because BW306R2</u> <u>is in active phase, so no haul</u> <u>necessary. soil is already staged</u> <u>drill BW306R2 set up on BW332R for</u> <u>monday</u> <u>1400 clean up & leave site</u>										
Attachments: <table border="0"><tr><td>☐</td><td>Contractor Report</td></tr><tr><td>☐</td><td>Field Notes</td></tr><tr><td>☐</td><td>Other:</td></tr></table>		☐	Contractor Report	☐	Field Notes	☐	Other:	 Signature of CQA Monitor <u>11/22/14</u> Date		
☐	Contractor Report									
☐	Field Notes									
☐	Other:									



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 11/24/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: Rain + mud 38°F

Time Offsite: 1000

Items Worked On:

- | | |
|--|--|
| ☐ Gas Extraction Wells | ☐ Pressure Testing |
| ☐ Gas Extraction Well Abandonment | ☐ Temporary FML Installation/Repair |
| ☐ Waste Excavation/Relocation | ☐ Stormwater Channels/Structures |
| ☐ GCCS Piping | ☐ Other |

NO WORK DUE TO RAIN

Contractor(s): ARG construction + ARG drilling

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work: 0700 safety meeting; will not work
drilling or construction today due to
mud

Attachments:

- ☐ Contractor Report
☐ Field Notes
☐ Other:

Janet Todia 11/24/14

Signature of CQA Monitor

Date



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 11/25/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: Overcast + 39°F

Time Offsite: 1700

Items Worked On:

- ☒ Gas Extraction Wells
- ☐ Gas Extraction Well Abandonment
- ☒ Waste Excavation/Relocation
- ☒ GCCS Piping

- ☐ Pressure Testing
- ☐ Temporary FML Installation/Repair
- ☐ Stormwater Channels/Structures
- ☐ Other -

DRILLING ONLY

Contractor(s): ABG construction, ABG drilling

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work: 0700 arrive on site; safety meeting
0730 drill BW322R to scheduled 110'
depth
1800 weekly construction meeting / EPA +
Health Dept on site
1100 drill BW149R to 113' true depth on a
120' scheduled true due to budget
approved by project
1700 finish well, clean up or leave site

Attachments:

- ☐ Contractor Report
- ☐ Field Notes
- ☐ Other:

Janet Todia 11/25/14
Signature of CQA Monitor Date



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 11/26/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: overcast & wet 32°F

Time Offsite: 1800

Items Worked On:



Gas Extraction Wells



Pressure Testing



Gas Extraction Well Abandonment



Temporary FML Installation/Repair



Waste Excavation/Relocation



Stormwater Channels/Structures



GCCS Piping



Other -

Contractor(s):

Last Day for Drilling
AEG Construction; AEG Drilling

Subcontractor(s):

N/A

Visitor(s):

N/A

Phone Call(s):

N/A

Alteration(s):

N/A

Deliveries:

N/A

Summary of Work:

0700 arrive on site, safety meeting
0730 drill BWS16R
Membrane test well not performed &
passed for repair of BWS14R2. No seal
inspected drilling overall w/ Karlrick
& Wright so setup drilling from site &
obtain approval for drilling to
demolish
rest of the day is hauling & earth work
to assure site construction areas are
suited for holiday

Attachments:



Contractor Report



Field Notes



Other:

Janet Todia 11/26/14

Signature of CQA Monitor

Date



Daily Field Report

Name of Project/Site:	Lorain II GCCS Construction Phase 3	Project No:	260.0001
Project/Site Location:	Oberlin, OH	Date:	12/2/14
CQA Monitor:	Janet Todia	Time Onsite:	0700
Weather:	0 overcast + 30°F	Time Offsite:	1700

Items Worked On:

- | | | | |
|-------------------------------------|---------------------------------|--------------------------|-----------------------------------|
| ☐ | Gas Extraction Wells | ☐ | Pressure Testing |
| ☐ | Gas Extraction Well Abandonment | ☐ | Temporary FML Installation/Repair |
| ☒ | Waste Excavation/Relocation | ☐ | Stormwater Channels/Structures |
| ☒ | GCCS Piping | ☐ | Other - |

Contractor(s): ARG construction
Subcontractor(s): N/A
Visitor(s): N/A
Phone Call(s): N/A
Alteration(s): N/A
Deliveries: N/A

Summary of Work:

0700 arrive on site; safety meeting
0730 dig on the survey marker to locate
the tie in point for the 18" x 24" tie
in.
Operations moved active phase which
extended our haul route for disposal
whole day spent excavating & benching;
final tie in will be approximately
25' deep
ARG safety will come to site to manage
excavation & benching
1700 cover hole w/ geomembrane liner

Attachments:

- ☐ Contractor Report
☐ Field Notes
☐ Other:

Janet Todia 12/2/14

Signature of CQA Monitor

Date



Daily Field Report

Name of Project/Site: <u>Lorain II GCCS Construction Phase 3</u>		Project No: <u>260.0001</u>								
Project/Site Location: <u>Oberlin, OH</u>		Date: <u>12/3/14</u>								
CQA Monitor: <u>Janet Todia</u>		Time Onsite: <u>8700</u>								
Weather: <u>overcast + 29°F muddy + wet</u>		Time Offsite: <u>1745</u>								
Items Worked On: <table border="0"><tr><td>☐ Gas Extraction Wells</td><td>☐ Pressure Testing</td></tr><tr><td>☐ Gas Extraction Well Abandonment</td><td>☐ Temporary FML Installation/Repair</td></tr><tr><td>☒ Waste Excavation/Relocation</td><td>☐ Stormwater Channels/Structures</td></tr><tr><td>☒ GCCS Piping</td><td>☐ Other -</td></tr></table>			☐ Gas Extraction Wells	☐ Pressure Testing	☐ Gas Extraction Well Abandonment	☐ Temporary FML Installation/Repair	☒ Waste Excavation/Relocation	☐ Stormwater Channels/Structures	☒ GCCS Piping	☐ Other -
☐ Gas Extraction Wells	☐ Pressure Testing									
☐ Gas Extraction Well Abandonment	☐ Temporary FML Installation/Repair									
☒ Waste Excavation/Relocation	☐ Stormwater Channels/Structures									
☒ GCCS Piping	☐ Other -									
Contractor(s): <u>AEG construction; AEG Safety</u>										
Subcontractor(s): <u>N/A</u>										
Visitor(s): <u>N/A</u>										
Phone Call(s): <u>N/A</u>										
Alteration(s): <u>N/A</u>										
Deliveries: <u>N/A</u>										
Summary of Work: <u>0700 arrive on site; safety meeting</u> <u>0730 continue excavation of the 24"</u> <u>the in point + benching</u> <u>muddy conditions + long haul cutting</u> <u>lots of time</u> <u>AEG safety on site to certify benching</u> <u>is correct + safe</u> <u>1745 cover excavation with geomembrane</u> <u>liner for overnight to prevent odors +</u> <u>make w/ caution tape for safety</u>										
Attachments: ☐ Contractor Report ☐ Field Notes ☐ Other:		<u>Janet Todia 12/3/14</u> Signature of CQA Monitor Date								



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/4/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: 34°F & overcast

Time Offsite: 1730

Items Worked On:

- ☐ Gas Extraction Wells
- ☐ Gas Extraction Well Abandonment
- ☒ Waste Excavation/Relocation
- ☒ GCCS Piping

- ☐ Pressure Testing
- ☐ Temporary FML Installation/Repair
- ☐ Stormwater Channels/Structures
- ☐ Other -

Contractor(s): ABC construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

0700 safety meeting
0730 continue w/ excavation of 24" x 18"
fill in point
0800 weekly progress meeting; rec'd
permission from Jagud to stockpile
excavation spoils as long as we cover
with dirt & keep moving trash to
the active phase
keep on excavating & working to 25'
cover excavation overnight w/ geomembrane
& mark for safety

Attachments:

- ☐ Contractor Report
- ☐ Field Notes
- ☐ Other:

Signature of CQA Monitor

Date

Janet Todia 12/4/14



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/15/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: Overcast 34°F + threatening rain

Time Offsite: 1730

Items Worked On:

- | | |
|---|--|
| ☐ Gas Extraction Wells | ☐ Pressure Testing |
| ☐ Gas Extraction Well Abandonment | ☐ Temporary FML Installation/Repair |
| ☒ Waste Excavation/Relocation | ☐ Stormwater Channels/Structures |
| ☒ GCCS Piping | ☐ Other - |

Contractor(s): ABG Construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

0700 arrive on site; safety meeting
0730 EOT will start so ABG can perform tie in
0800 cut out 24" pipe + fused flanges on each side of the pre existing 24" header
1130 installed pre fabricated spool piece for the 24" x 18" tie in
1230 all headers connected; called EOT to bring the plant back to full power
rest of the day hauling + clean up; no need for geomembrane; all excavation is filled

Attachments:

- ☐ Contractor Report
☐ Field Notes
☐ Other:

Janet Todia 12/15/14

Signature of CQA Monitor

Date



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/8/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: Sunny + 38°F; overcast

Time Offsite: 1200

Items Worked On:

- ☐ Gas Extraction Wells
- ☐ Gas Extraction Well Abandonment
- ☐ Waste Excavation/Relocation
- ☒ GCCS Piping

- ☐ Pressure Testing
- ☐ Temporary FML Installation/Repair
- ☐ Stormwater Channels/Structures
- ☐ Other -

Contractor(s): ARG construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

0700 arrive on site; safety meeting
0730 spoke w/ minor & SCS; will stage
dirt & prep for work tomorrow; lots of
mud on site; minor will clean up road
for hauling
no excavation today; just piling & hauling
1200 left site after speaking w/ Jeff
Reis & Kostelnick

Attachments:

- ☐ Contractor Report
- ☐ Field Notes
- ☐ Other:

Janet Todia
Signature of CQA Monitor

12/8/14
Date



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/9/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: overcast & rainy 39°F

Time Offsite: 1700

Items Worked On:

- | | |
|---|--|
| ☐ Gas Extraction Wells | ☐ Pressure Testing |
| ☐ Gas Extraction Well Abandonment | ☐ Temporary FML Installation/Repair |
| ☒ Waste Excavation/Relocation | ☐ Stormwater Channels/Structures |
| ☒ GCCS Piping | ☐ Other - |

Contractor(s): REG construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

0700 safety meeting
0730 will continue 18" header from 18" x
24" tie in point towards the north
trench by deepening trench for trench
excavation; continue trenching
completed excavation to 75' north including
risers for RW1169R (remote) & RW158R2
lateral
1700 put down liner cover over trench
end point; litter bag & leave site

Attachments:

- ☐ Contractor Report
☐ Field Notes
☐ Other:

Signature of CQA Monitor

Date

Janet Todia 12/9/14



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/10/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: overcast + snow 32°F windy

Time Offsite: 1700

Items Worked On:

- | | |
|---|--|
| ☐ Gas Extraction Wells | ☐ Pressure Testing |
| ☐ Gas Extraction Well Abandonment | ☐ Temporary FML Installation/Repair |
| ☒ Waste Excavation/Relocation | ☐ Stormwater Channels/Structures |
| ☒ GCCS Piping | ☐ Other - |

Contractor(s): REG construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work: 0700 safety meeting
0730 continue excavation of trench to
75' north towards 12" isolation riser
haul + dump soils on the way back from
the active phase
put up snow fencing to catch wind
blown excavation spoils + litter dug
1700 completed excavation to 400'
from 24" x 18" tie in point
1715 assure area is cleaned + sealed +
leave site

Attachments:

- ☐ Contractor Report
☐ Field Notes
☐ Other:

Signature of CQA Monitor

Date

Janet Todia 12/10/14



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/11/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: Sunny + 29°F

Time Offsite: 1800

Items Worked On:

- ☒ Gas Extraction Wells
- ☐ Gas Extraction Well Abandonment
- ☒ Waste Excavation/Relocation
- ☒ GCCS Piping

- ☒ Pressure Testing
- ☐ Temporary FML Installation/Repair
- ☐ Stormwater Channels/Structures
- ☐ Other -

Contractor(s): ARB Construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work: 0700 arrive on site; safety meeting
0730 continue remaining 200' of 18" spur excavation
0800 construction progress meeting
PRESSURE TEST 6" remote lateral RW169R+ entire 18" spur (overnight); will do tie ins for 18" tomorrow morning
will attempt to complete entire phase prior to christmas & will continue next phase into January 2015
1800 complete clean up & leave site

Attachments:

- ☐ Contractor Report
- ☐ Field Notes
- ☐ Other:

Janet Todia 12/11/14

Signature of CQA Monitor

Date



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 290.0001

Project/Site Location: Oberlin, OH

Date: 12/12/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: 05/05/14 + 32°F

Time Offsite: 1700

Items Worked On:



☒ Gas Extraction Wells
☒ Gas Extraction Well Abandonment
☒ Waste Excavation/Relocation
☒ GCCS Piping



☒ Pressure Testing
☐ Temporary FML Installation/Repair
☐ Stormwater Channels/Structures
☐ Other -

Contractor(s): ARG construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

0700 arrive on site; safety meeting
0730 PASS 18" header and pressure test
deplete plant & isolate to remove span
blanks & perform isolations
successfully tie in 18" span & abandon
laterals & air & force main for Bldg 9, Bldg 58R,
Bldg 154R2 & Bldg 47R2; SCSS brought wells
on line
rest of day all dress up of 18" area & clean
up; no flagging; 1 foot of soil placed
on French
1700 leave site

Attachments:

- ☐ Contractor Report
☐ Field Notes
☐ Other:

Signature of CQA Monitor

Date

Janet Todia 12/12/14



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/13/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: overcast + 40°F

Time Offsite: 1600

Items Worked On:



☒ Gas Extraction Wells

☐ Pressure Testing

☒ Gas Extraction Well Abandonment

☐ Temporary FML Installation/Repair

☒ Waste Excavation/Relocation

☐ Stormwater Channels/Structures

☒ GCCS Piping

☐ Other -

Contractor(s): AEI construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

0700 arrive on site; safety meeting
Tie in leachate collection riser off of 24" header; abandon Bw54R2 & tie in Bw54R3
run 12" "T" on to isolation riser by 12" north header to be installed above grade next week
abandon Bw306 & tie in Bw306R
SCS brought Bw54R3 & Bw306R & leachate collection riser on line
1600 clean up & leave site

Attachments:

- ☐ Contractor Report
☐ Field Notes
☐ Other:

Janet Todia 12/13/14

Signature of CQA Monitor

Date



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/15/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: overcast + 38°F

Time Offsite: 1200

Items Worked On:



Gas Extraction Wells

Gas Extraction Well Abandonment

Waste Excavation/Relocation

GCCS Piping



Pressure Testing



Temporary FML Installation/Repair



Stormwater Channels/Structures



Other -

Contractor(s): ARE construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

0700 arrive on site; safety meeting
0730 isolate 90 tie in BW332R & abandon
BW332; tie in BW316R & abandon BW316
tie in 12" 4" @ the vacuuming pump end
of the 12" header
install pan blank in 12" flange @ the
vacuuming pump for pressure test @ a
future time
clean up & haul dirt for 3 hours @
end of the day
1800 leave site

Attachments:

- ☐ Contractor Report
- ☐ Field Notes
- ☐ Other:

Signature of CQA Monitor

Date

Janet Todia 12/15/14



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/16/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: rain + drizzle periods 36°F

Time Offsite: 0730

Items Worked On:

- ☐ Gas Extraction Wells
- ☐ Gas Extraction Well Abandonment
- ☐ Waste Excavation/Relocation
- ☐ GCCS Piping

- ☐ Pressure Testing
- ☐ Temporary FML Installation/Repair
- ☐ Stormwater Channels/Structures
- ☐ Other -

RAIN DAY

Contractor(s): ABG construction

Subcontractor(s): _____

Visitor(s): _____

Phone Call(s): _____

Alteration(s): _____

Deliveries: _____

Summary of Work:

work called off today due to rain

Attachments:

- ☐ Contractor Report
- ☐ Field Notes
- ☐ Other:

Signature of CQA Monitor

Date

Janet Todia 12/16/14



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/17/14

CQA Monitor: Janet Todia

Time Onsite: _____

Weather: Overcast, drizzle, 34°F

Time Offsite: _____

Items Worked On:

- ☐ Gas Extraction Wells
- ☐ Gas Extraction Well Abandonment
- ☐ Waste Excavation/Relocation
- ☐ GCCS Piping

- ☐ Pressure Testing
- ☐ Temporary FML Installation/Repair
- ☐ Stormwater Channels/Structures
- ☐ Other - MUD DAY

Contractor(s): REG construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

work called off today due to mud

Attachments:

- ☐ Contractor Report
- ☐ Field Notes
- ☐ Other:

Signature of CQA Monitor

Date

Janet Todia 12/17/14



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/18/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: WPCAST - 27°F

Time Offsite: 1800

Items Worked On:



☒ Gas Extraction Wells
☒ Gas Extraction Well Abandonment
☒ Waste Excavation/Relocation
☒ GCCS Piping



☒ Pressure Testing
☒ Temporary FML Installation/Repair
☐ Stormwater Channels/Structures
☐ Other -

ALL WELLS NOW ON LINE (NEW)

Contractor(s): AKG construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

0700 arrive on site; safety meeting
0730 tie in & abandon BW2R2, BW124R2 &
BW36R2 w/ or excavations &
abandonments; plant devoted for tie
ins
Operations asked H&B to raise lateral for
BW2BR & regrade soils
1300 plant back to full power; SCS
bought all new tie ins on line,
continuing work on 12" above grade header w/
12" x 6" tie ins
1800 clean up & leave site

Attachments:

- ☐ Contractor Report
☐ Field Notes
☐ Other:

Signature of CQA Monitor

Date

Janet Todia 12/18/14



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/19/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: overcast + freezing rain 32°F

Time Offsite: 1800

Items Worked On:



☒ Gas Extraction Wells
☒ Gas Extraction Well Abandonment
☒ Waste Excavation/Relocation
☒ GCCS Piping



☒ Pressure Testing
☐ Temporary FML Installation/Repair
☐ Stormwater Channels/Structures
☐ Other -

Contractor(s): REG construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

0700 arrive on site, safety meeting
0730 continue extension of above grade
12" rock header
0800 weekly construction progress meeting
completion of 12" header, above grade
on west side to old barometric
slumps
complete 8" lateral for RW 324 + CMP
16 gauge for road crossing to LL4
pressure test for 12", 8", & 6" laterals @
10psi PASSED
1800 leave site

Attachments:

- ☐ Contractor Report
☐ Field Notes
☐ Other:

Janet Todia 12/19/14

Signature of CQA Monitor

Date



Daily Field Report

Name of Project/Site: Lorain II GCCS Construction Phase 3

Project No: 260.0001

Project/Site Location: Oberlin, OH

Date: 12/20/14

CQA Monitor: Janet Todia

Time Onsite: 0700

Weather: 28°F + overcast

Time Offsite: 1600

Items Worked On:



☒ Gas Extraction Wells
☒ Gas Extraction Well Abandonment
☐ Waste Excavation/Relocation
☒ GCCS Piping



☒ Pressure Testing
☐ Temporary FML Installation/Repair
☐ Stormwater Channels/Structures
☐ Other -

Contractor(s): ABC construction

Subcontractor(s): N/A

Visitor(s): N/A

Phone Call(s): N/A

Alteration(s): N/A

Deliveries: N/A

Summary of Work:

0700 arrive on site; safety meeting
0730 call BPE to prepare for final tie
in of above grade 12" subheader
abandon vacuum risers @ BW318, BW308K,
+ BW324
pumps installed in BW36R2, BW306R2,
BW124R2
dress up work on entire north slope
hooked up LRT to restore maximum
vacuum
1600 leave site for holiday week

Attachments:

- ☐ Contractor Report
☐ Field Notes
☐ Other:

Janet Todia 12/20/14
Signature of CQA Monitor Date



APPENDIX B – Construction Photographs and Description Logs

2014 GCCS - Phase 3 Construction Certification Report - Photograph Log

Date	Photo ID	Direction	Description
11/17/2014	1080	South	Drilling spoils stockpiled for EW154R3
11/17/2014	1086	East	Drilling EW154R3
11/17/2014	1088	East	Grate installation EW154R3
11/17/2014	1089	East	Well casing installation EW154R3
11/19/2014	1090	East	12" pipe staged and butt fused with flange connection
11/19/2014	1095	Southeast	Installation of No. 4 stone EW154R3
11/19/2014	1094	North	Deoderizer drum
11/19/2014	1096	East	Geotextile ring installation EW154R3
11/19/2014	1099	East	Bentonite installation and hydration EW154R3
11/20/2014	1100	West	Excavate to locate the 24" x 18" tie in point and haul spoils from excavation
11/21/2014	1110	Northeast	Uncover 12" tie in point with flange connection for 18" run and showing lateral to restore vacuum to EW156R and EW46R2
11/21/2014	1109	East	Pre fabricated tie in piece for 12" to 18" connection and 6" adapter to restore vacuum to EW156R and EW46R2
11/26/2014	1121	East	Excavation of redrill EW124R2 to boot the redrill well to liner
11/26/2014	1124	Southeast	EW124R2 after new boot is sealed
12/2/2014	1128	West	24" pre existing header located and uncovered to prepare for tie in
12/3/2014	1131	West	24" pre fabricated spool piece to connect the 24" header to the 18" subheader
12/3/2014	1136	South	Geomembrane liner patch used to cover excavation and prevent odors
12/3/2014	1137	East	Snow fence put up to keep excavated waste from blowing east
12/5/2014	1164	Northwest	24" x 18" tie in completed
12/9/2014	1169	West	Prefabricated 18" x 6" gusseted risers in place and connected to 18" subheader
12/9/2014	1176	Northwest	18" x 6" gusseted risers in place and connected to 18" subheader
12/11/2014	1193	North	18" header in trench with 6" risers terminating at the 12" isolation riser
12/11/2014	1194	Ground	Air rig showing pressure test for 6" pipe at 25 psi for 4 hours
12/11/2014	1196	West	6" pressure tested stringer (full view)
12/11/2014	1199	North	6" vacuum riser for remote well head EW169R and vacuum riser and well EW159R2
12/12/2014	1216	Ground	Abandonment of EW169 showing fusion equipment 2" air and 2" force main also abandoned
12/13/2014	1223	Ground	Pump removed from EW154R2 showing effects of silt
12/13/2014	1225	Northeast	12" isolation riser, east side termination point for above grade 12" header replacement
12/18/2014	1238	Northeast	EW124R2 air and force main and tie in vacuum source



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction Certification Report for Lorain County II Landfill		Location: Lorain, OH	Project No. REPU00260
Photo No. 1080	Date: 11/17/14		
Direction Photo Taken: South			
Description: Drilling spoils stockpiles for EW154R3.			



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction Certification Report for Lorain County II Landfill		Location: Lorain, OH	Project No. REPU00260
Photo No. 1086	Date: 11/17/14		
Direction Photo Taken: East			
Description: Drilling EW154R3.			



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1088

Date:
11/17/14

Direction Photo Taken:

East

Description:

Grate installation
EW154R3.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1089

Date:
11/17/14

Direction Photo Taken:

East

Description:

Well casing installation
EW154R3.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1090

Date:
11/19/14

Direction Photo Taken:

East

Description:

12" pipe staged and butt fused with flange connection.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1095

Date:
11/19/14

Direction Photo Taken:

Southeast

Description:

Installation of No. 4
stone EW154R3.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1094

Date:
11/19/14

Direction Photo Taken:

North

Description:

Deoderizer Drum.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1096

Date:
11/19/14

Direction Photo Taken:

East

Description:

Geotextile ring
installation EW154R3.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1099

Date:
11/19/14

Direction Photo Taken:

East

Description:

Bentonite installation and hydration EW154R3.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1100

Date:
11/29/14

Direction Photo Taken:

West

Description:

Excavate to locate the 24" x 18" tie in point and haul spoils from excavation.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

**Photo
No.**
1110

Date:
11/21/14

**Direction Photo
Taken:**

Northeast

Description:

Uncover 12" tie in point
with flange connection
for 18" run and showing
lateral to restore
vacuum to EW156R
and EW46R2.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

**Photo
No.**
1109

Date:
11/21/14

**Direction Photo
Taken:**

East

Description:

Prefabricated tie in
piece for 12" to 18"
connection and 6"
adapter to restore
vacuum to EW156R
and EW46R2.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

**Photo
No.**
1121

Date:
11/26/14

**Direction Photo
Taken:**

East

Description:

Excavation of redrill
EW124R2 to boot the
redrill well to liner.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

**Photo
No.**
1124

Date:
11/26/14

**Direction Photo
Taken:**

Southeast

Description:

EW124R2 after new
boot is sealed.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1128

Date:
12/2/14

Direction Photo Taken:

West

Description:

24" preexisting header located and uncovered to prepare for tie in.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1131

Date:
12/3/14

Direction Photo Taken:

West

Description:

24" prefabricated spool piece to connect the 24" header to the 18" subheader.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1136

Date:
12/3/14

Direction Photo Taken:

South

Description:

Geomembrane liner patch used to cover excavation and prevent odors.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1137

Date:
12/3/14

Direction Photo Taken:

East

Description:

Snow fence put up to keep excavated waste from blowing east.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1164

Date:
12/5/14

Direction Photo Taken:

Northwest

Description:

24" x 18" tie in completed.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1169

Date:
12/9/14

Direction Photo Taken:

West

Description:

Prefabricated 18" x 6" gusseted risers in place and connected to 18" subheader.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1176

Date:
12/9/14

Direction Photo Taken:

Northwest

Description:

18" x 6" gusseted risers in place and connected to 18" subheader.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1193

Date:
12/11/14

Direction Photo Taken:

North

Description:

18" header in trench with 6" risers terminating at the 12" isolation riser.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1194

Date:
12/11/14

Direction Photo Taken:

Ground

Description:

Air rig showing pressure test for 6" pipe at 25 psi for 4 hours.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1196

Date:
12/11/14

Direction Photo Taken:

West

Description:

6" pressure tested stringer (full view).





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1199

Date:
12/11/14

Direction Photo Taken:

North

Description:

6" vacuum riser for remote well head EW169R and vacuum riser and well EW158R2.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1216

Date:
12/12/14

Direction Photo Taken:

Ground

Description:

Abandonment of EW169 showing fusion equipment; 2" air and 2" force main also abandoned.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1223

Date:
12/13/14

Direction Photo Taken:

Ground

Description:

Pump removed from
EW54R2 showing
effects of silt.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1225

Date:
12/13/14

Direction Photo Taken:

Northeast

Description:

12" isolation riser; east
side termination point
for above grade 12"
header replacement.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1238

Date:
12/18/14

Direction Photo Taken:

Northeast

Description:

EW124R2 air and force main and tie in vacuum source.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1226

Date:
12/13/14

Direction Photo Taken:

West

Description:

EW54R3 completed and prior to earth work being performed.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1246

Date:
12/18/14

Direction Photo Taken:

East

Description:

Tie in new 6" vacuum lateral to 8" lateral EW27R2 (in background) and showing abandonment of EW27R.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1243

Date:
12/18/14

Direction Photo Taken:

East

Description:

Tie in of EW36R2 and extension of 2" air and 2" force main from EW36R.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1252

Date:
12/18/14

Direction Photo Taken:

West

Description:

12" above grade header with 6" gusseted riser for new vacuum source.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1256

Date:
12/19/14

Direction Photo Taken:

Northeast

Description:

Excavation for new vacuum source LR4 to EW324 to H15N and EW318 to 12" header.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1260

Date:
12/19/14

Direction Photo Taken:

Southeast

Description:

View of 12" above grade header and new 6" lateral vacuum lines.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1262

Date:
12/19/14

Direction Photo Taken:

Southeast

Description:

Second view of 12" above grade header and new 6" lateral vacuum lines.





PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1268

Date:
12/19/14

Direction Photo Taken:

Ground

Description:

12" 16 gauge CMP
(corrugated metal pipe)
for road crossing to
LR4.



PHOTOGRAPHIC LOG

Project: 2014 GCCS Phase 3 Construction
Certification Report for Lorain County II Landfill

Location: Lorain, OH

Project No.
REPU00260

Photo No.
1273

Date:
12/20/14

Direction Photo Taken:

West

Description:

10 psi pressure test on
12" above grade
header.





APPENDIX C – Resumes for CQA Certifying Engineer and Monitors



Education

University of Cincinnati, BS
Civil Engineering, 1987

Professional Registrations / Affiliations

Licensed Professional
Engineer in Ohio, Kentucky,
Illinois, Michigan &
Pennsylvania

Ohio Voluntary Action
Program Certified
Professional

Years in the Industry

25

Areas of Expertise

Solid Waste Landfill Design,
Construction Quality
Assurance, Property
Assessment, Environmental
Compliance, Environmental
Investigations, Remedial
Design, Brownfield
Redevelopment,
Underground Storage Tank
Management,
Stormwater/Wastewater
Permitting

Summary of Qualifications

Mr. DeLaet is a licensed Professional Engineer with 25 years of experience in environmental consulting, specializing in landfill design, construction, closure, auditing, and compliance; remedial investigation and engineering design support to private industry, environmental attorneys, and potentially responsible parties (PRPs) pursuant to their CERCLA (Comprehensive Environmental Response, Compensation and Liability Act), RCRA (Resource Conservation Recovery Act), NPDES (National Pollutant Discharge Elimination System), and/or other state and federal regulatory compliance obligations. He also works closely with senior executives, legal counsel, and regulatory officials to develop and implement cost-effective and innovative remedial strategies to support business and/or property transactions.

Mr. DeLaet has also had responsibility as a technical resources leader, managing professional staff in multiple offices within the Midwest. He directed this multi-disciplined team of engineers, scientists, geologists, statisticians, field technicians, contractors, etc., on the implementation of cost-effective and sustainable solutions for environmental remediation; remediation system OM&M, and Brownfield redevelopment projects throughout the Midwest.

In addition to his technical and project management responsibilities, Mr. DeLaet serves as a Client Service Manager (CSM) for several national private sector clients with active manufacturing facilities and/or legacy sites with a wide range of environmental impairments. Mr. DeLaet acts as a "trusted strategic advisor" to his clients where he (and his team) formulated remedial strategies that align with the clients' business objectives.

Construction Quality Assurance (CQA)

Countywide Landfill Remediation Action, Republic Services, East Sparta, OH. Certifying Engineering during this USEPA-required project that created complete separation between an 88-acre remediation area and the remainder of the solid waste cells at the facility. This project was necessary due to an ongoing chemical reaction that is believed to be attributed to aluminum dross waste that the facility historically received. The project involved installation of 52 landfill gas wells and associated headers and laterals, relocation of site flares, installation of 24 acres of HPDE geomembrane, construction of two pump stations, and reconstruction/ upgrade of the facility's leachate system to isolate the 88-acre remediation area leachate from the solid waste cells leachate. To document this work, certified four separate CQA certification reports for submittal to various state and federal regulatory agencies.

Landfill Gas System Expansion at Countywide Landfill, Republic Services, East Sparta, OH. Certifying Engineering during upgrade/expansion of the facility's landfill gas collection system. This project involved installation of additional gas extraction wells, header and later piping, and condensation sumps for the facility.



Leachate Collection and Storage System Upgrade at Countywide Landfill, Republic Services, East Sparta, OH. Certifying Engineer and Project manager during expansion of the facility's leachate collection system. This project was necessary to keep solid waste leachate from contracting to leachate suspect of containing aluminum dross byproducts. The project involved installation of a 500,000-gallon aboveground storage tank, multiple collection manholes, and associated header piping at the facility. Certified the CQA report for submittal to the Ohio EPA.

New Solid Waste Landfill Cell, Allied Waste Services, Carey, OH. Project Manager and Certifying Engineer for CQA related activities during construction of an approximately 9-acre horizontal expansion of a solid waste landfill. The project involved monitoring the contractor's quality control activities during installation of structural fill for the landfill cell's sub-base and perimeter berms, recompacted soil layer, 60-mil HDPE geomembrane component of the landfill liner system, and leachate collection. Performed the project under a very compressed schedule to meet an emergency need of the client. Responsible for managing the team of onsite field engineers that monitored installation of the landfill liner system and leachate control system. Also prepared the construction summary report that certified the new cell construction was in accordance with the design plans and technical specifications.

Vertical Expansion of Solid Waste Landfill, Allied Waste Services, Celina, OH. Project Manager and Certifying Engineer for CQA-related activities during construction of an approximately 8.5-acre vertical expansion of a solid waste landfill. The project involved monitoring the contractor's quality control activities during installation of structural fill for the landfill cell's sub-base and perimeter berms, recompacted soil layer, and leachate collection system. Responsible for managing onsite field engineers that monitored installation of the landfill liner system and leachate collection system. Also prepared the construction summary report that certified the new cell construction was in accordance with design plans and technical specifications.

Closure of Hazardous Waste Surface Impoundments, Cynthiaana, KY. Project manager for performing CQA services during closure of two hazardous waste surface impoundments. Work involved in-place stabilization of sludge and contaminated soils and construction of a RCRA cover system over the stabilized impoundments.

Closure of Hazardous Waste Impoundment, Florence, KY. Project Manager for performing CQA services during closure of a hazardous waste surface impoundment. Project involved removal and disposal of contaminated soils and backfilling the impoundment with imported clean soil. Responsibilities included evaluating the limits of soil contamination, coordinating field services, and preparing the closure certification report.

Closure of Hazardous Waste Landfill, Toledo, OH. Project Engineer for performance of CQA monitoring services for closure of a hazardous waste landfill and installation of a leachate extraction system. This project included construction of a RCRA multi-layer cover of the landfill and installation of a leachate extraction system; e.g., extraction well, UST, and process control building. Generated a summary report to certify the multi-layer cover and installed leachate extraction system was in accordance with design plans and technical specifications.

Expansion of Solid Waste Landfill, Jackson, TN. Project Manager for performance of CQA services during installation of geosynthetic components for an approximately 10-acre solid waste landfill expansion. The project involved monitoring the contractor's quality control activities during installation of the 60-mil HDPE geomembrane components of the landfill liner system. Generated a summary report to certify the geomembrane installation was in accordance with the design plans and technical specifications.

Expansion of Solid Waste Landfill, Jackson, TN. Project Manager for performance of CQA services during installation of geosynthetic components for an approximately 3.5-acre industrial landfill expansion. The project involved monitoring the contractor's quality control activities during installation of the 60-mil HDPE geomembrane and geosynthetic leachate collection system components of the landfill liner system. Generated a summary report to certify the installations were in accordance with design plans and technical specifications.

Construction of Residual and Industrial Waste Landfills, KY and FL. Project manager for performing CQA services during construction of residual and industrial waste landfills and associated stormwater management systems; e.g., sedimentation basin, silt traps, etc. Responsibilities involved monitoring the contractor's quality control activities during



installation of the engineered clay liner, HDPE geomembrane, leachate collection system, and stormwater sedimentation basin. Due to regulatory deadlines and industrial facility operational constraints at one landfill in Kentucky, 24-hour construction services were necessary during different time periods of the project. Led the team during the continuous construction periods. At the conclusion of each of the construction projects, generated a summary report to certify the various engineered components of the landfill facility installation were in accordance with design plans and technical specifications.

Solid Waste Landfill Design

Fly Ash Landfill Remedial Design Support, KY. Project Manager for redesign of a new cell and alternative landfill leachate management structures to collect both leachate from the fly ash landfill and natural springs containing boron-laden groundwater. Responsibilities included development of construction drawings and general construction notes.

Design of Solid, Industrial, and Construction and Demolition Debris Landfills, OH, FL and NY. Project Engineer for development of design drawings, technical specifications, operations and maintenance (O&M) plans, surface water management plans, and local/state permits. Also conducted a fatal flaw analysis on two parcels of land identified as potential landfill construction sites. Responsible for site reconnaissance activities, preparation of a conceptual level landfill designs, and capital cost estimates.

Remedial Design and Permitting for Cover System of Waste Disposal Area, DE and NJ. Project Manager for coordination of remedial design and permitting efforts associated with construction a multi-layer cover system over a 7-acre waste disposal area within a manufacturing facility. Responsibilities included obtaining local, state, and federal permits; preparation of construction plans and technical specifications and a CQA plan.



Years in the Industry

15

Areas of Expertise

Solid Waste Management,
Landfill Gas Systems, Air
Compliance, Gas Control
and Collection System CQA,
Monthly EPA Reports for
active cross site landfills

Summary of Qualifications

Ms. Todia has more than 15 years of experience in the area of Landfill Gas Operations, Maintenance and Compliance. Ms. Todia is an expert in ensuring landfill gas and waste water systems remains in compliance with all federal, state and local laws and regulations. She has adequately performed routine system inspections and repairs on landfills. Her expertise lies in reviewing and understanding all permits governing landfills to ensure compliance has been achieved. She has also reviewed and approved industrial and special waste profiles against applicable rules and regulations to protect landfills and facility personnel.

Ms. Todia has proven success at maintaining relationships with landfill employees, consultants, vendors, customers generating industrial waste. As well as being the primary point of contact with the waste screening protection program and supporting outside sales teams with customer service. Ms. Todia is especially equipped to review all monitoring reports and environmental plans (SPCC, SWPPP, GHG, and Groundwater & Title V) and perform landfill environmental reviews/audits. She understands the intricate details of landfill gas systems and well field technology. She can drive functional plans within the operations group to execute against the business plan to achieve or exceed the business unit's budget and strategic plan to grow the business, and meet or exceed service objectives.

Ms. Todia's ability to define problems, collect/interpret data and draw valid conclusions has enabled her career advancement. An especially valuable asset is Ms. Todia's skill to interpret an extensive variety of technical instructions in mathematical or diagram form, deal with several abstracts and concrete variables.

Key Projects

Monthly Operating Reports for Landfill Dross Reaction Sites, Republic Services, Inc., Multiple Sites.

Ms. Todia has assembled monthly reports on behalf of Republic Services for presentation to the State and Federal EPA on dross reaction chemistry and progress. She does this for the following landfills:

- **Leachate Compliance Sampling, Lorain I Landfill, Republic Services, Inc., Lorain, OH.**

Ms. Todia has performed leachate sampling according the monthly Waste Water Treatment Plant system requirements per Direct Discharge Permits.

- **Lorain II Landfill, Republic Services, Inc., Lorain, Ohio CQA.** Ms. Todia has performed CQA functions and construction management for Gas Collection and Control System.

Cuyahoga Regional Sanitary Landfill, Nestle USA, Solon, OH. Project Manager for landfill gas services to supply a 3.8 megawatt power plant on site and a 72 mmbtu boiler system to Nestle USA. She managed the coordination of field operations with pipeline and compression skid construction activities for the startup of the Nestle Gas-to-Energy Project.

Hazel Road Landfill, Waste Management, Akron, OH. Project Manager for landfill gas field services. She assisted field technicians in trouble shooting potential landfill gas migration issues and pneumatic pump installation.



Hoffman Road Landfill, City of Toledo, Toledo, OH. Project Manager for landfill gas field services. She managed environmental compliance and reporting and assisted site technicians in small-scale construction repairs, installation of pneumatic pumps, potential site migration issues, and routine well field tuning. She was responsible for routine and non-routine construction budgets. SSM reports, semiannual Title V reports, and annual compliance certifications. She submitted variance requests/alternative timeline requests, and well decommissioning requests.

Lake County RDF, Waste Management, Chesterland, OH. Project Manager for small-scale construction repairs, submitted proposals for small-scale construction projects, and coordinated well field compliance with Environmental Specialists, Inc.

Oakland Heights Development Allied Waste Industries, Inc., Auburn Hills, MI. Project Manager for a landfill gas project that provides methane to the GM Lake Orion boiler system. She managed budget and non-routine activities and worked with Air Quality Specialists, Inc. to maintain environmental compliance.

Pine Tree Acres Landfill, Inc., Waste Management, Lenox Township, MI. Project Manager for well field technicians and aided in routine well field tuning to increase flow to the gas energy plant on site. She worked with Air Quality Specialists, Inc. to maintain environmental compliance.

Statewide Landfill, Waste Management, Canton, OH. Project Manager for well field technicians and aided in routine well field tuning, installation of pneumatic pumps, small scale construction repairs, and troubleshooting potential landfill gas migration issues.

Valley View Landfill, Republic Services, Sulphur, KY. Supervisor for well field technicians and managed routine and non-routine budgets. She was responsible for environmental compliance reporting.

Deercroft Recycling and Disposal Facility, Waste Management, Michigan City, IN. Supervised and prepared semiannual Title V reports, semiannual new source performance standards (NSPS) reports, and semiannual startup, shutdown, and malfunction (SSM) reports. She submitted variance requests/alternative timeline requests, Title V annual compliance certification, and well decommissioning requests and Deviation Occurrence Reports.

Hazel Road Landfill, Waste Management, Akron, OH. Project Manager for landfill gas field services. She assisted field technicians in trouble shooting potential landfill gas migration issues and pneumatic pump installation.

Hoffman Road Landfill, City of Toledo, Toledo, OH. Project Manager for landfill gas field services. She managed environmental compliance and reporting and assisted site technicians in small-scale construction repairs, installation of pneumatic pumps, potential site migration issues, and routine well field tuning. She was responsible for routine and non-routine construction budgets. SSM reports, semiannual Title V reports, and annual compliance certifications. She submitted variance requests/alternative timeline requests, and well decommissioning requests.

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Statewide Landfill, Waste Management, Canton, OH. Project Manager for well field technicians and aided in routine well field tuning, installation of pneumatic pumps, small scale construction repairs, and troubleshooting potential landfill gas migration issues.



BILL FOSTER

Senior Staff Designer

Bill Foster has extensive engineering experience ranging from project management to design engineer to field engineer. As a design engineer, Mr. Foster has worked on landfill design, sewer design, grading, technical report preparation, landfill gas collection and control systems (GCCS), leachate management systems, and surface water management systems. As a field engineer, he has provided construction quality assurance (CQA) services for the construction and certification of municipal solid waste facilities, sanitary landfill facilities, and construction and demolition debris facilities. He also has experience in observing and inspecting the installation of soils, aggregates, geosynthetics, structural fill berms, landfill gas collection and control systems, leachate management systems, recompacted soil barriers (baseliner and cap systems), protective cover placement, drainage structures, and final cover placement.

Mr. Foster's list of projects include site selection, borrow study evaluation, wetlands delineation, remedial site investigations, cost analysis, design of leachate management systems, design of surface water management systems, design of Class I, II, and III water reservoirs, design of landfill gas collection and control systems, cap and liner stability analysis, air emission calculations, and access road development. Compost facilities and transfer station applications have also been prepared under his direction.

KEY PROJECTS

RD/RA and Implementation of Closure, Construction Management and CQA Services, Closed Facility, Elyria, OH. Design engineer, field engineer and construction quality assurance (CQA) lead. Prepared the bid documents, technical specifications, and construction drawings for the construction of a steep slope (2:1) soil buttress from the river plain to the crest and installation of a 1976 Ohio EPA-compliant final cover system at a former landfill site. Soil buttress had specific strength requirements for the soil related to slope stability issues and the final cover system incorporated low permeability soil ($k \leq 1 \times 10^{-5}$ cm/sec). The steep slope incorporated GreenArmour™ 7020 turf reinforcement mat with Flexterra® HP-FGM™ flexible growth medium with a steep slope seed mix developed for the site to control erosion. Bid documents and technical specifications were prepared to following the CSI 2004 format. Participated in pre-bid meetings, bid evaluation, and contractor recommendation and contract award. Prepared the construction certification report for submission and approval by the USEPA.

EDUCATION

Ohio State University, BS Civil & Environmental Engineering, 2001

PROFESSIONAL REGISTRATIONS AND AFFILIATIONS

**Engineering Intern (EI) - Ohio
Surveying Intern (SI) - Ohio**

YEARS IN THE INDUSTRY

13

AREAS OF EXPERTISE

**Construction Quality Assurance (CQA)
Construction Management
Project Management
Permitting
Compliance
Design
Quality Control**

**BILL FOSTER****Landfill Cell and Leachate Pond Design, CQA Services, Industrial Waste Facility, Morgantown, KY.**

Design engineer, field engineer and CQA lead for the construction of a 10-acre, double lined industrial waste disposal cell. Cell components included a 36-inch recompacted soil liner, 80-mil textured high-density polyethylene (HDPE) geomembrane, double-sided geocomposite, 80-mil textured HDPE geomembrane, double-sided geocomposite and protective cover. Cell also has a leachate detection and collection system. Observed construction of a 1-acre leachate pond which consisted of a 6-inch recompacted soil liner and a 60-mil textured HDPE geomembrane. Provided soil testing for compaction and moisture utilizing a Troxler Nuclear Density Gauge. Also, provided written and photographic documentation of installation methods, as well as equipment and materials onsite. Reviewed daily paperwork and test results.

Raw Water Reservoir, CQA Services, Fremont, OH. Field Engineer and construction quality assurance (CQA) lead for this project that included installation of 94 acres of geosynthetic clay liner (GCL), 40-mil linear low-density polyethylene (LLDPE) geomembrane, and geotextile. Reviewed daily paperwork and test results. Performed compaction testing of structural fill. Prepared the construction certification report for submission and approval by the Ohio Department of Natural Resources (ODNR).

Gas, Leachate, and Liner Systems, Design and CQA Services, Solid Waste Facility, East Sparta, OH.

Provided engineering expertise and served as the construction quality assurance (CQA) lead for this project that included modifications to the existing south slope, the existing leachate collection system, the existing gas collection and control system (GCCS), and the existing temporary flexible membrane liner (FML). These modifications consisted of the:

- Relocation of approximately 142,000 cubic yards of waste
- Replacement of approximately 1,900 feet of toe drain
- Installation of approximately 11,000 feet of high-density polyethylene (HDPE) pipe of various diameters.
- Installation of 5 new extraction wells
- Installation of 11 replacement extraction wells
- Installation of approximately 22 acres of temporary FML

CQA activities included documenting waste relocation, leachate, GCCS, and FML installation, field testing of HDPE pipe and FML, coordination and review of laboratory testing, interpretation of specifications, documentation of all construction activities, documentation of the construction progress and collecting data for an "as-built" construction certification report. Served as liaison between several parties including the US EPA, the Ohio EPA, the contractor, surveyor, pipe manufacturer, liner manufacturer, and the client. Prepared the construction certification report for submission and approval by the Ohio Environmental Protection Agency (Ohio EPA).

Gas and Leachate Systems, Cell Construction, Design and CQA Services, Solid Waste Facility, Findlay Township, Allegheny County, PA. Provided engineering expertise and served as the construction quality assurance (CQA) lead for this \$8 million project to address odors resulting from hydrogen sulfide generation at a landfill located adjacent to an elementary school. Major project elements included the following:

**BILL FOSTER**

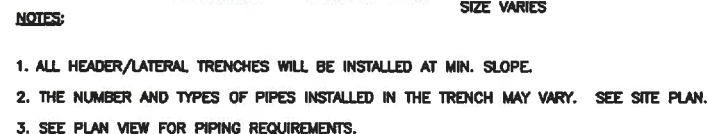
- Installation of 42 acres of 40 mil geomembrane and 16 oz geotextile
- Construction of two new sedimentation ponds
- Expansion of an existing sedimentation pond
- Construction of nearly 20,000 feet of surface water channels
- Installation of 11 surface water culverts
- Installation of nearly 60,000 feet of high-density polyethylene (HDPE) header, lateral, horizontal collector, toe drain, forcemain, and airline piping of various diameters
- Installation of 28 new extraction wells
- Installation of 11 replacement extraction wells
- Construction of a 3.7 acre dual-lined cell

The project involved assistance in developing the design, facilitating the permitting process, overseeing the construction, and providing the construction quality assurance services. Prepared the construction certification reports for submission and approval by the Pennsylvania Department of Environmental Protection for this time critical and substantial corrective action.



APPENDIX D – Project Record Drawings

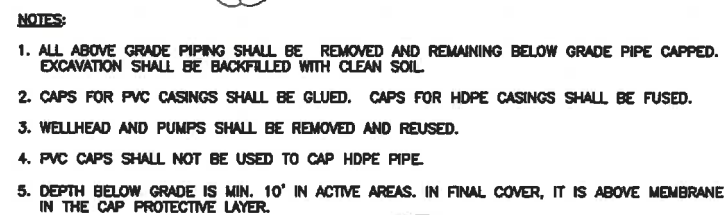
RD-2



1
RD-3



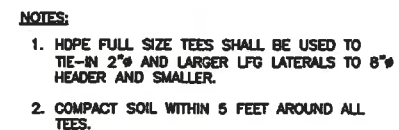
2
RD-3



4
RD-3



5
RD-3



LFG LATERAL TIE-IN WITH TEE 6
NOT TO SCALE RD 3

6
RD-3



7
RD-3

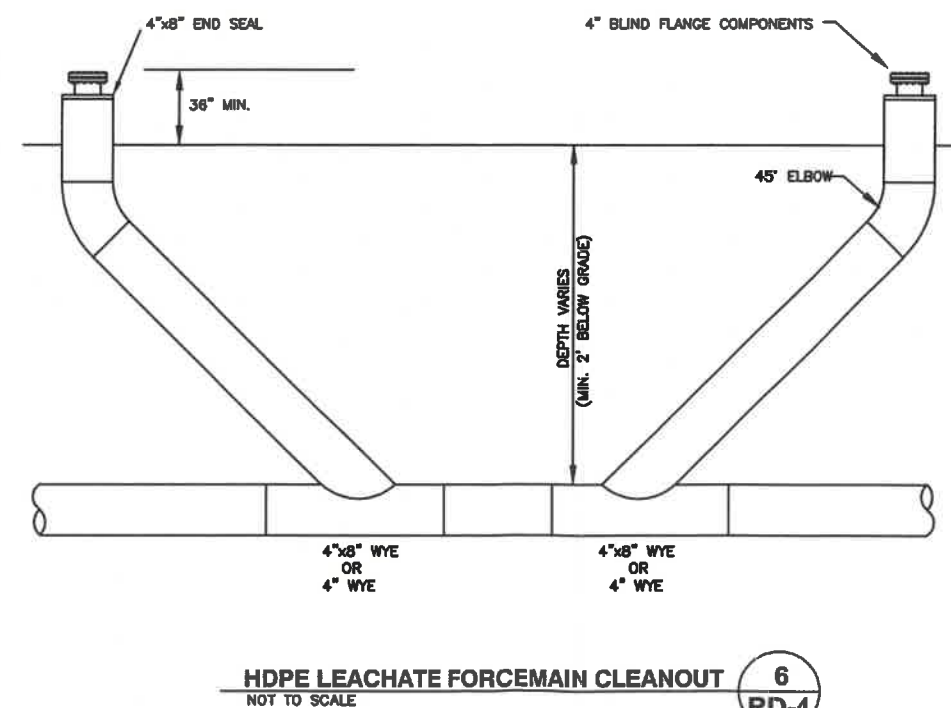
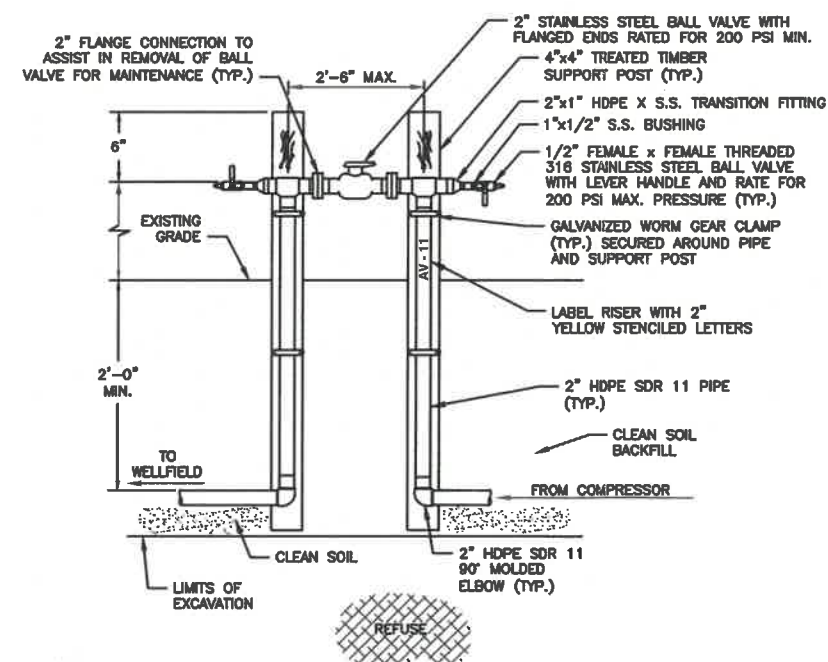
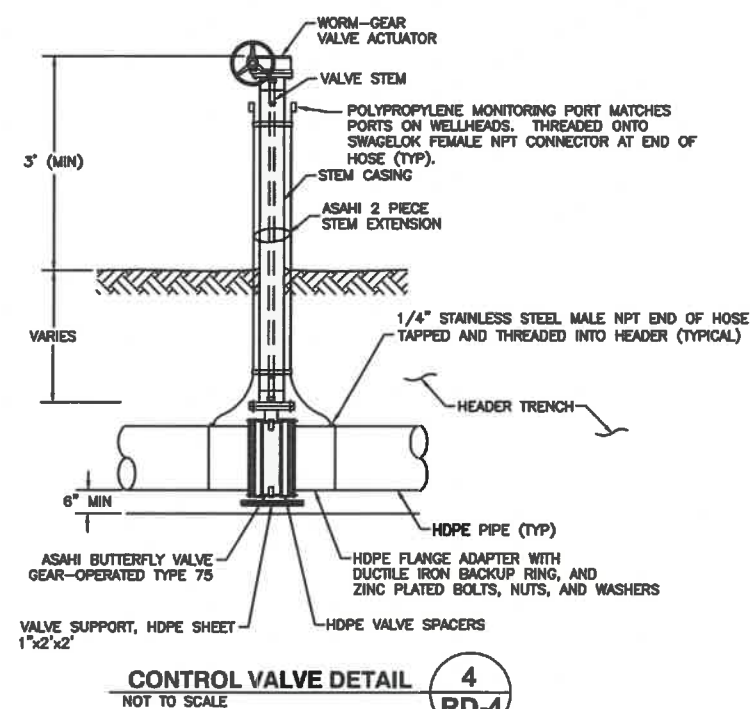
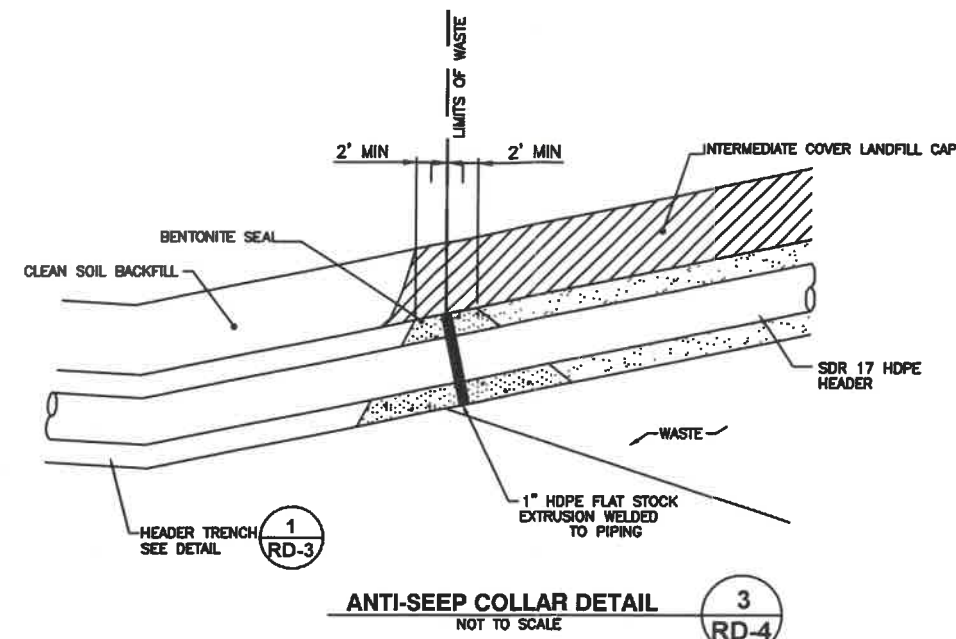
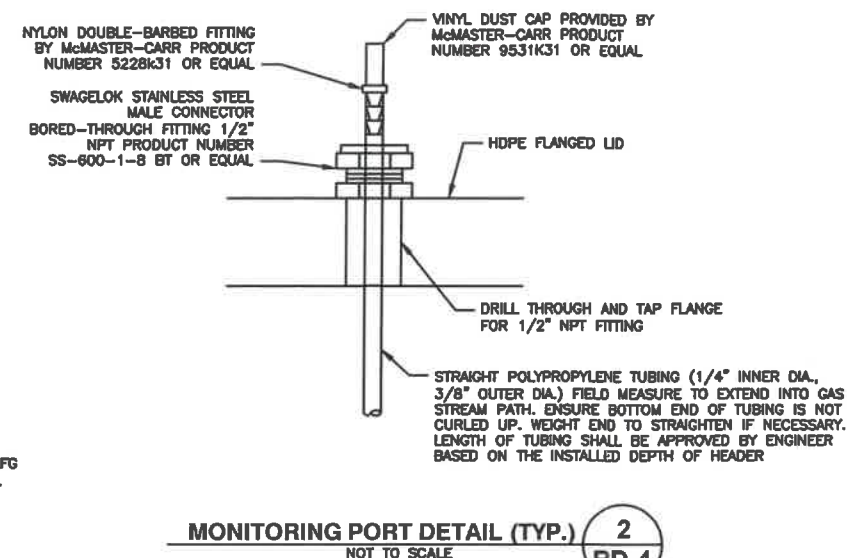
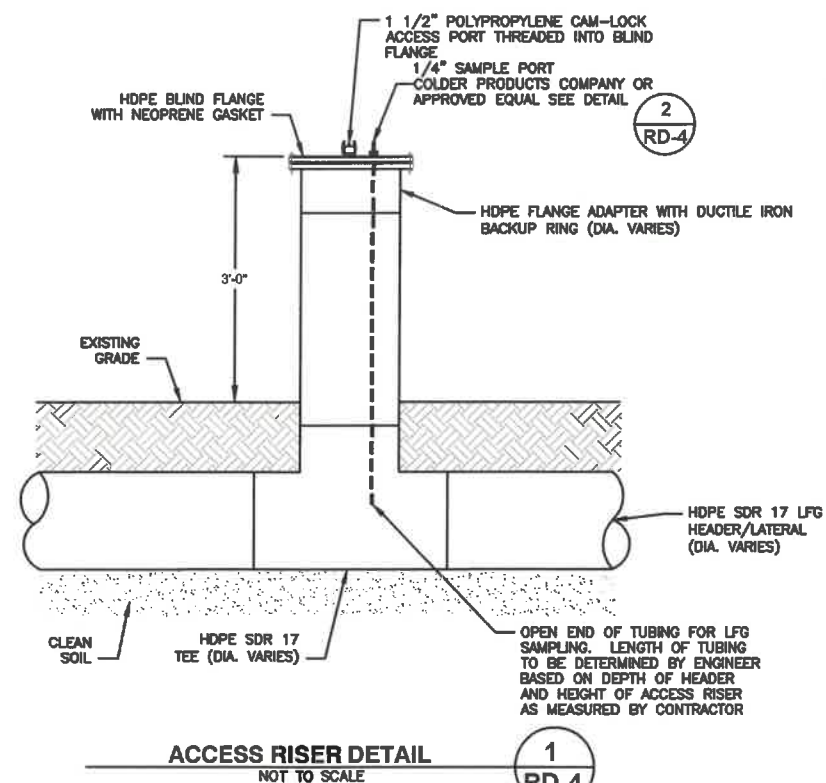


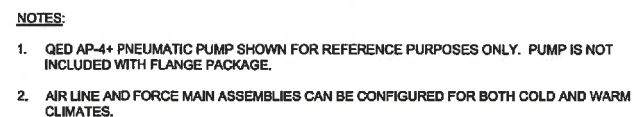
TYPICAL ROAD CROSSING DETAIL **3**
NOT TO SCALE

3
RD-3

PROJECT NO. REPU00280	DATE 01/05/17
SCALE AS NOTED	CADD FILE
DESIGNED BY	DWG PATH
CHECKED BY JT	DRAWN BY BF

RD-3



[illegible]

PROJECT NO. REPU00260	DATE 01/05/15
SCALE AS NOTED	CADD FILE
DESIGNED BY	DWG PATH
CHECKED BY JT	DRAWN BY BF

RD-5



APPENDIX E – Landfill Gas Extraction Well Boring Logs



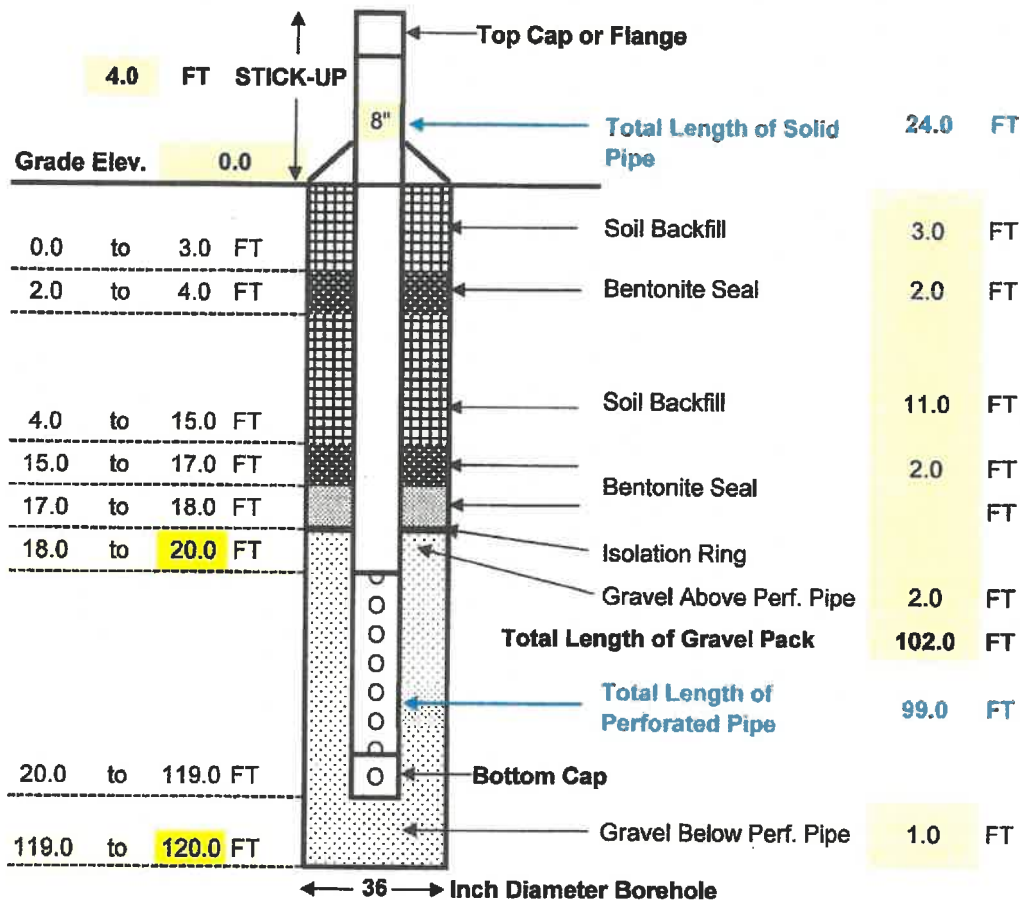
WELL INSTALLATION REPORT

Project Name: Lorain Co.
Site Location: Oberlin , Oh
AEGL Project #: 10-115-103
Date Drilled: November 17, 2014
Type of Casing: 8" SDR-11 HDPE Pipe

Time in: 8:40AM
Time out: 2:25PM
Rig Hrs: 851
Weather: 32 degrees

WELL ID #: EW-154R3

TOTAL WELL DEPTH: 120.0 FT



Time	O2	H2S	LEL/CO
7am	20.9	0 0	
8am	20.9	0 0	
9am	20.9	0 0	
10am	20.9	0 10co	
11am	20.9	0 0	
noon	20.9	0 0	
1pm	20.9	0 0	
2pm	20.9	0 0	
3pm	20.9	0 0	
4pm			
5pm			

NOTES:

EW-154R3 made a 120' bore depth.

CLIENT REP: *[Signature]*

SUPERVISOR: Eric V. Steen

Amerion Environmental Group, Ltd.
DRILLING LOG DATA

Project Name: Lorain Co.
AEGL Project #: 10-115-103
Date Drilled: November 17, 2014

Well ID #: EW-154R3
Total Depth: 120'
Supervisor: Eric V. Steen

Drilling Depth	Type of Material	Degree of Composition	Amount of Moisture	Material Temperature
0-1				
5-10	msw/cover	mod	dry	72
10-15				
15-20	msw/carpet	mod	dry	108
20-25				
25-30	msw/plastic	mod	dry	118
30-35				
35-40	msw/plastic	mod	dry	103
40-45				
45-50	msw/soil	mod	dry	114
50-55				
55-60	msw/wood	mod	dry	106
60-65				
65-70	msw/plastic	mod	dry	111
70-75				
75-80	msw/wood	mod	damp	127
80-85				
85-90	msw/wood	mod	damp	141
90-95				
95-100	msw/plastic	mod	damp	123
100-105				
105-110	msw/wood	mod	damp	130
110-115				
115-120'	msw/plastic	mod	wet	117
120-125				
125-130				
130-135				
135-140				
140-145				
145-150				



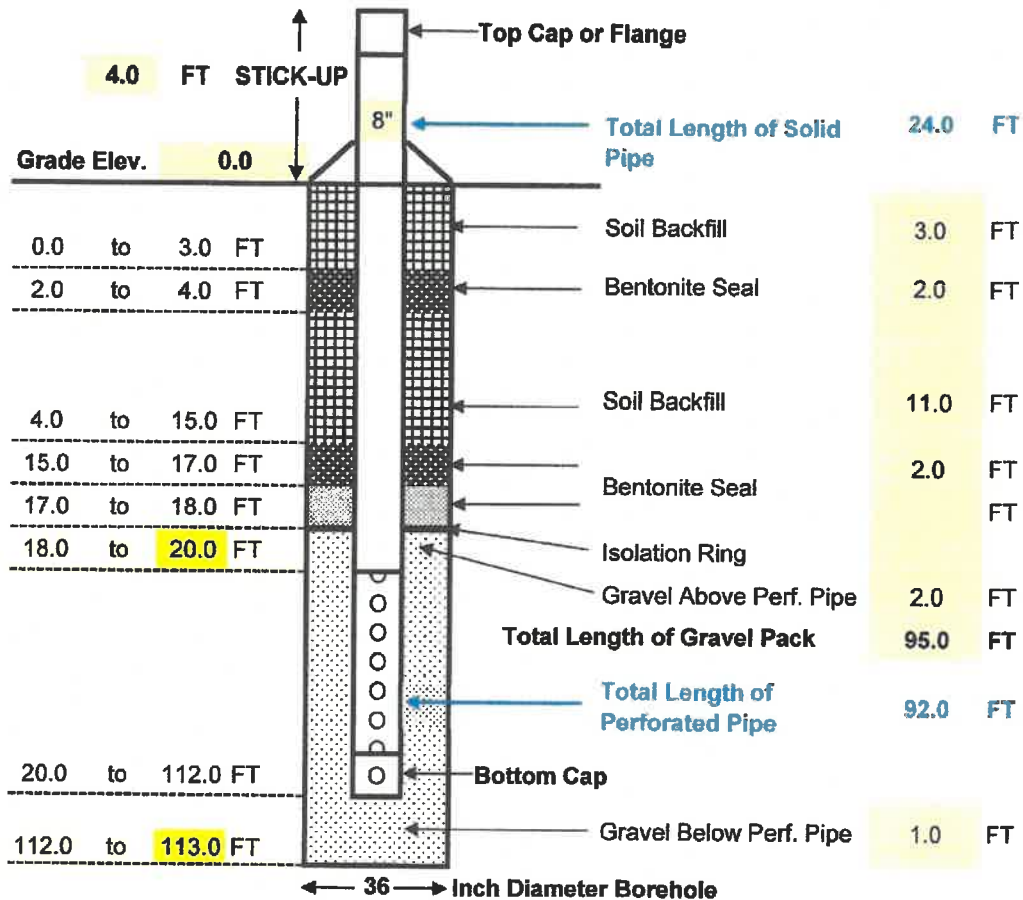
WELL INSTALLATION REPORT

Project Name: Lorain Co.
Site Location: Oberlin , Oh
AEGL Project #: 10-115-103
Date Drilled: November 18, 2014
Type of Casing: 8" SDR-11 HDPE Pipe

Time in: 6:45AM
Time out: 12:45PM
Rig Hrs: 871
Weather: 11 degrees

WELL ID #: EW-47R3

TOTAL WELL DEPTH: 113.0 FT



Time	O2	H2S	LEL/CO
7am	20.9	0.0	0.0
8am	20.9	0.0	0.0
9am	20.9	0.0	0.0
10am	20.9	0.0	0.0
11am	20.9	0.0	0.0
noon	20.9	0.0	0.0
1pm	20.9	0.0	0.0
2pm			
3pm			
4pm			
5pm			

NOTES:

EW-47R3 was called @ 113' due to a obstruction.

CLIENT REP:

SUPERVISOR: Eric V. Steen

Amercn Environmental Group, Ltd.
DRILLING LOG DATA

Project Name: Lorain Co.

Well ID #: EW-47R3

AEGL Project #: 10-115-103

Total Depth: 113'

Date Drilled: November 18, 2014

Supervisor: Eric V. Steen

Drilling Depth	Type of Material	Degree of Composition	Amount of Moisture	Material Temperature
0-1				
5-10	msw/cover	mod	dry	72
10-15				
15-20	msw/plastic	mod	dry	108
20-25				
25-30	msw/wood	mod	dry	118
30-35				
35-40	msw/metal	mod	dry	103
40-45				
45-50	msw/wood	mod	dry	114
50-55				
55-60	msw/plastic	mod	dry	106
60-65				
65-70	msw/plastic	mod	dry	111
70-75				
75-80	msw/plastic	mod	damp	127
80-85				
85-90	msw/soil	mod	damp	141
90-95				
95-100	msw/plastic	mod	damp	123
100-105				
105-110	msw/wood	mod	damp	130
110-113'	msw/obstruction	mod	wet	117
115-120				
120-125				
125-130				
130-135				
135-140				
140-145				
145-150				



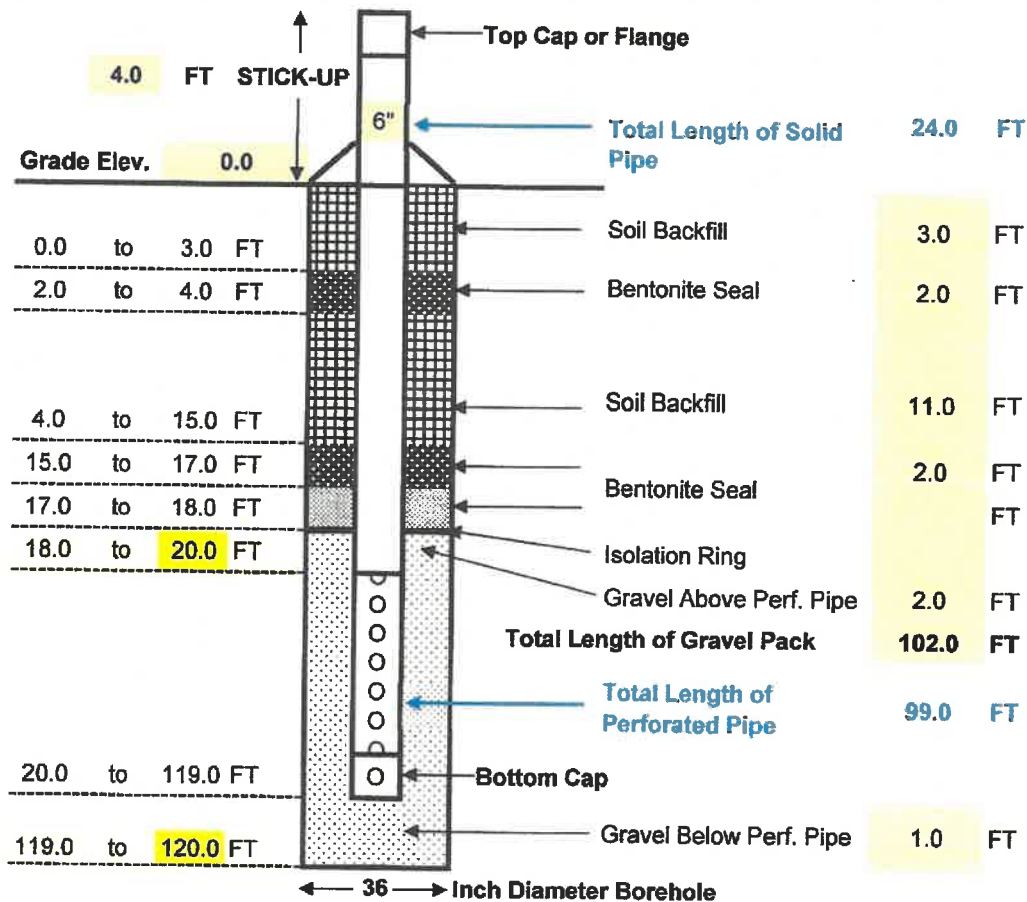
WELL INSTALLATION REPORT

Project Name: Lorain Co.
Site Location: Oberlin, Oh
AEGL Project #: 10-115-103
Date Drilled: November 19, 2014
Type of Casing: 6" SDR-11 HDPE Pipe

Time in: 6:40AM
Time out: 12:40PM
Rig Hrs: 880
Weather: 18 degrees

WELL ID #: EW-158R2

TOTAL WELL DEPTH: 120.0 FT



Time	O2	H2S	LEL/CO
7am	20.9	0 0	
8am	20.9	0 17co	
9am	20.9	0 0	
10am	20.9	0 10co	
11am	20.9	0 0	
noon	20.9	0 0	
1pm	20.9	0 0	
2pm			
3pm			
4pm			
5pm			

NOTES:

EW-158R2 made a 120' bore depth.

CLIENT REP:

[Signature]

SUPERVISOR: Eric V. Steen

Amercn Environmental Group, Ltd.
DRILLING LOG DATA

Project Name: Lorain Co.
AEGL Project #: 10-115-103
Date Drilled: November 19, 2014

Well ID #: EW-158R2
Total Depth: 120'
Supervisor: Eric V. Steen

Drilling Depth	Type of Material	Degree of Composition	Amount of Moisture	Material Temperature
0-1				
5-10	msw/cover	mod	dry	88
10-15				
15-20	msw/plastic	mod	dry	100
20-25				
25-30	msw/plastic	mod	dry	105
30-35				
35-40	msw/wood	mod	dry	96
40-45				
45-50	msw/plastic	mod	dry	101
50-55				
55-60	msw/soil	mod	damp	114
60-65				
65-70	msw/plastic	mod	damp	120
70-75				
75-80	msw/wood	mod	damp	100
80-85				
85-90	msw/soil	mod	damp	128
90-95				
95-100	msw/wood	mod	damp	118
100-105				
105-110	msw/plastic	mod	damp	123
110-115				
115-120'	msw/sludge	mod	wet	108
120-125				
125-130				
130-135				
135-140				
140-145				
145-150				



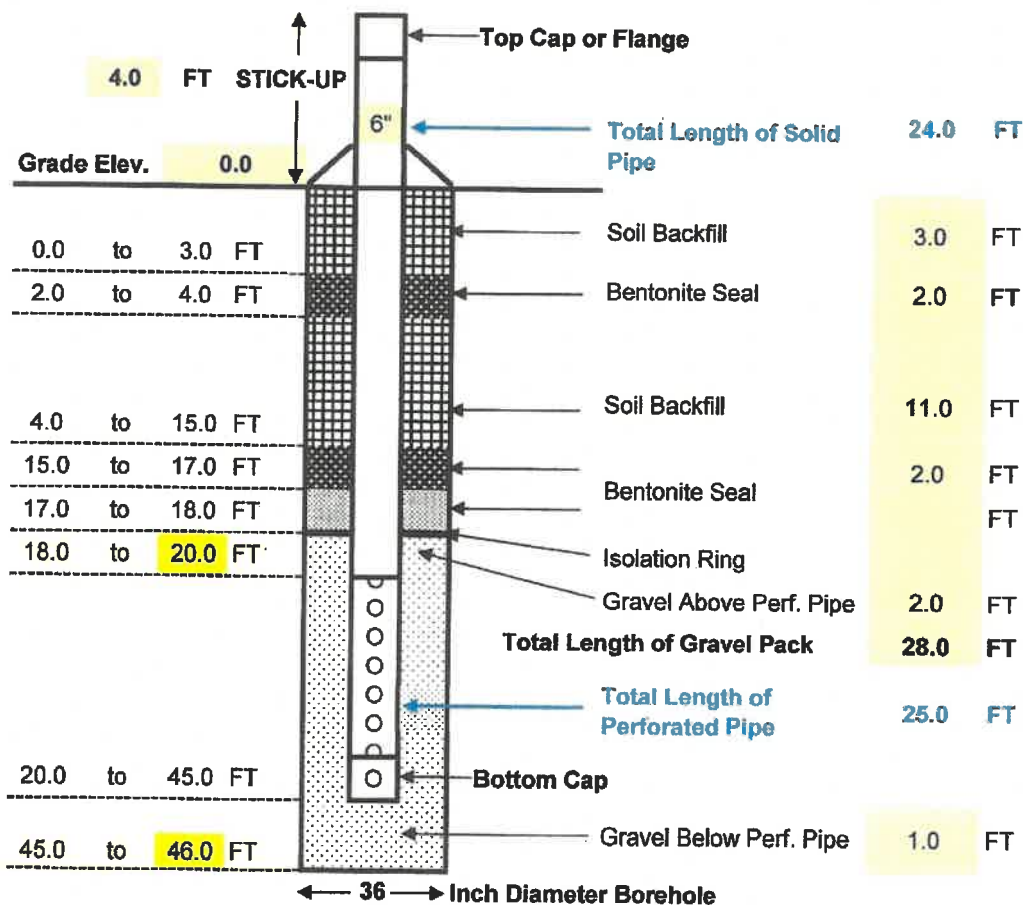
WELL INSTALLATION REPORT

Project Name: Lorain Co.
Site Location: Oberlin, Oh
AEGL Project #: 10-115-103
Date Drilled: November 20, 2014
Type of Casing: 6" SDR-11 HDPE Pipe

Time in: 6:30AM
Time out: 7:57AM
Rig Hrs: 889
Weather: 23 degrees

WELL ID #: EW-27R2

TOTAL WELL DEPTH: 46.0 FT



Time O2 H2S LEL/CO NOTES:

7am	20.9	0.0	0.0
8am	20.9	0.0	0.0
9am			
10am			
11am			
noon			
1pm			
2pm			
3pm			
4pm			
5pm			

EW-27R2 made total depth. Built a bench.

CLIENT REP:

SUPERVISOR: Eric V. Steen

Americon Environmental Group, Ltd.
DRILLING LOG DATA

Project Name: Lorain Co.
 AEGL Project #: 10-115-103
 Date Drilled: November 20, 2014

Well ID #: EW-27R2
 Total Depth: 46'
 Supervisor: Eric V. Steen

Drilling Depth	Type of Material	Degree of Composition	Amount of Moisture	Material Temperature
0-1				
5-10	msw/cover	mod	damp	63
10-15				
15-20	msw/plastic	mod	damp	79
20-25				
25-30	msw/plastic	mod	damp	82
30-35				
35-40	msw/wood	mod	damp	84
40-45				
45-46'	msw/metal	mod	wet	77
50-55				
55-60				
60-65				
65-70				
70-75				
75-80				
80-85				
85-90				
90-95				
95-100				
100-105				
105-110				
110-115				
115-120				
120-125				
125-130				
130-135				
135-140				
140-145				
145-150				



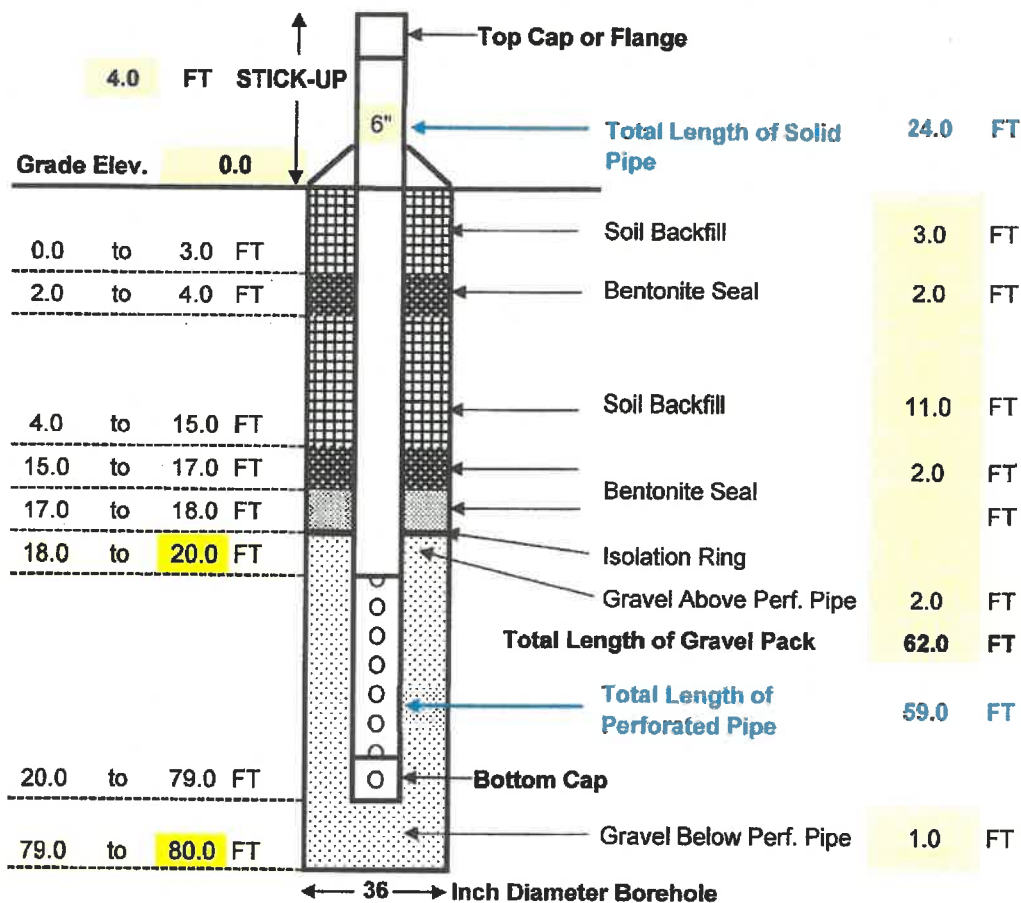
WELL INSTALLATION REPORT

Project Name: Lorain Co.
Site Location: Oberlin, Oh
AEGL Project #: 10-115-103
Date Drilled: November 20, 2014
Type of Casing: 6" SDR-11 HDPE Pipe

Time in: 8:37AM
Time out: 1:07PM
Rig Hrs: 883
Weather: 18 degrees

WELL ID #: EW-124R2

TOTAL WELL DEPTH: 80' FT



Time O2 H2S LEL/CO NOTES:

Time	O2	H2S	LEL/CO
7am			
8am	20.9	0 0	
9am	20.9	0 0	
10am	20.9	0 0	
11am	20.9	0 0	
noon	20.9	0 0	
1pm	20.9	0 0	
2pm			
3pm			
4pm			
5pm			

EW-124R2 was called @ 80' (bucket refusal). Built a bench.

CLIENT REP:

SUPERVISOR: Eric V. Steen

Amercn Environmental Group, Ltd.
DRILLING LOG DATA

Project Name: Lorain Co.
AEGL Project #: 10-115-103
Date Drilled: November 20, 2014

Well ID #: EW-124R2
Total Depth: 80'
Supervisor: Eric V. Steen

Drilling Depth	Type of Material	Degree of Composition	Amount of Moisture	Material Temperature
0-1				
5-10	msw/cover	mod	dry	60
10-15				
15-20	msw/plastic	mod	dry	84
20-25				
25-30	msw/plastic	mod	dry	104
30-35				
35-40	msw/wood	mod	dry	100
40-45				
45-50	msw/plastic	mod	dry	113
50-55				
55-60	msw/plastic	mod	dry	110
60-65				
65-70	msw/wood	mod	dry	118
70-75				
75-80'	msw/obstruction	mod	dry	121
80-85				
85-90				
90-95				
95-100				
100-105				
105-110				
110-115				
115-120				
120-125				
125-130				
130-135				
135-140				
140-145				
145-150				



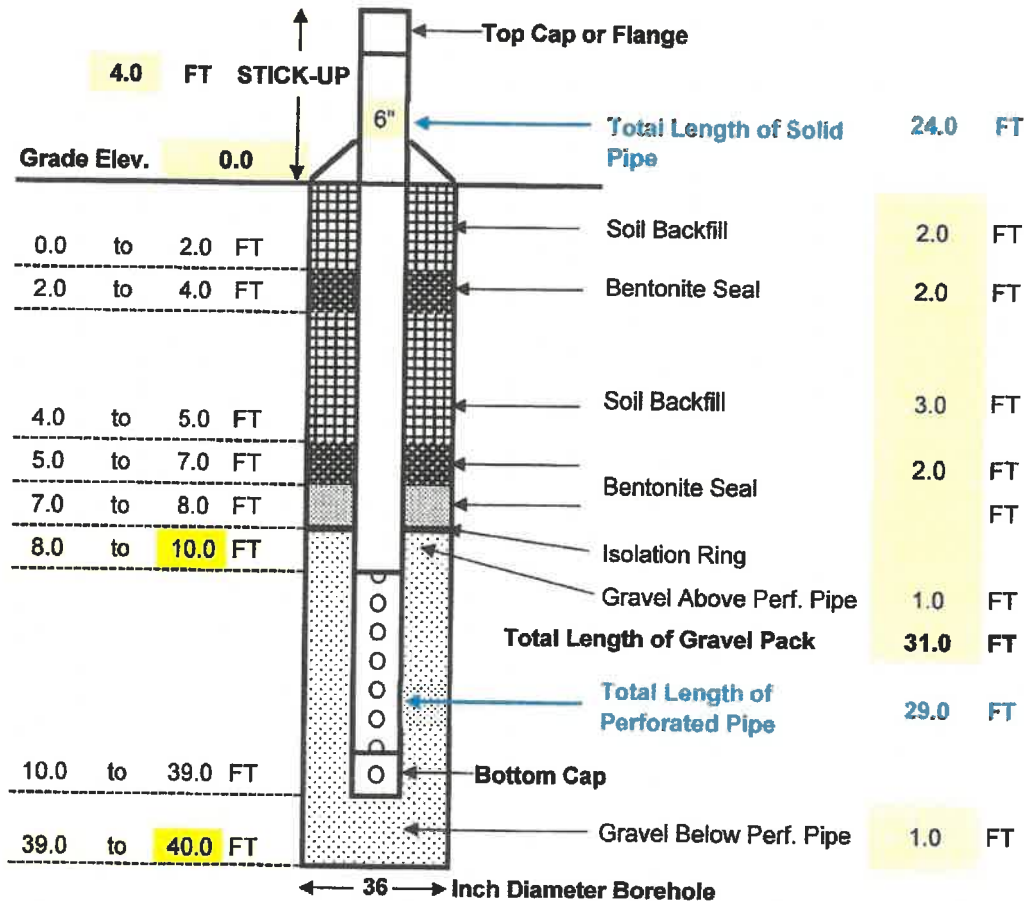
WELL INSTALLATION REPORT

Project Name: Lorain Co.
Site Location: Oberlin, Oh
AEGL Project #: 10-115-103
Date Drilled: November 21, 2014
Type of Casing: 6" SDR-11 HDPE Pipe

Time in: 6:40AM
Time out: 9:15AM
Rig Hrs: 899
Weather: 23 degrees

WELL ID #: EW-36R2

TOTAL WELL DEPTH: 40.0 FT



Time	O2	H2S	LEL/CO
7am	20.9	0 0	
8am	20.9	0 0	
9am	20.9	0 0	
10am			
11am			
noon			
1pm			
2pm			
3pm			
4pm			
5pm			

NOTES:

EW-36R2 was called @ 40' (obstruction). Built a bench.

CLIENT REP:

Eric V. Steen

SUPERVISOR: Eric V. Steen

Amerion Environmental Group, Ltd.
DRILLING LOG DATA

Project Name: Lorain Co.
AEGL Project #: 10-115-103
Date Drilled: November 21, 2014

Well ID #: EW-36R2
Total Depth: 40'
Supervisor: Eric V. Steen

Drilling Depth	Type of Material	Degree of Composition	Amount of Moisture	Material Temperature
0-1				
5-10	msw/cover	mod	dry	76
10-15				
15-20	msw/carpet	mod	dry	100
20-25				
25-30	msw/wood	mod	dry	102
30-35				
35-40'	msw/obstruction	mod	damp	98
40-45				
45-50				
50-55				
55-60				
60-65				
65-70				
70-75				
75-80				
80-85				
85-90				
90-95				
95-100				
100-105				
105-110				
110-115				
115-120				
120-125				
125-130				
130-135				
135-140				
140-145				
145-150				



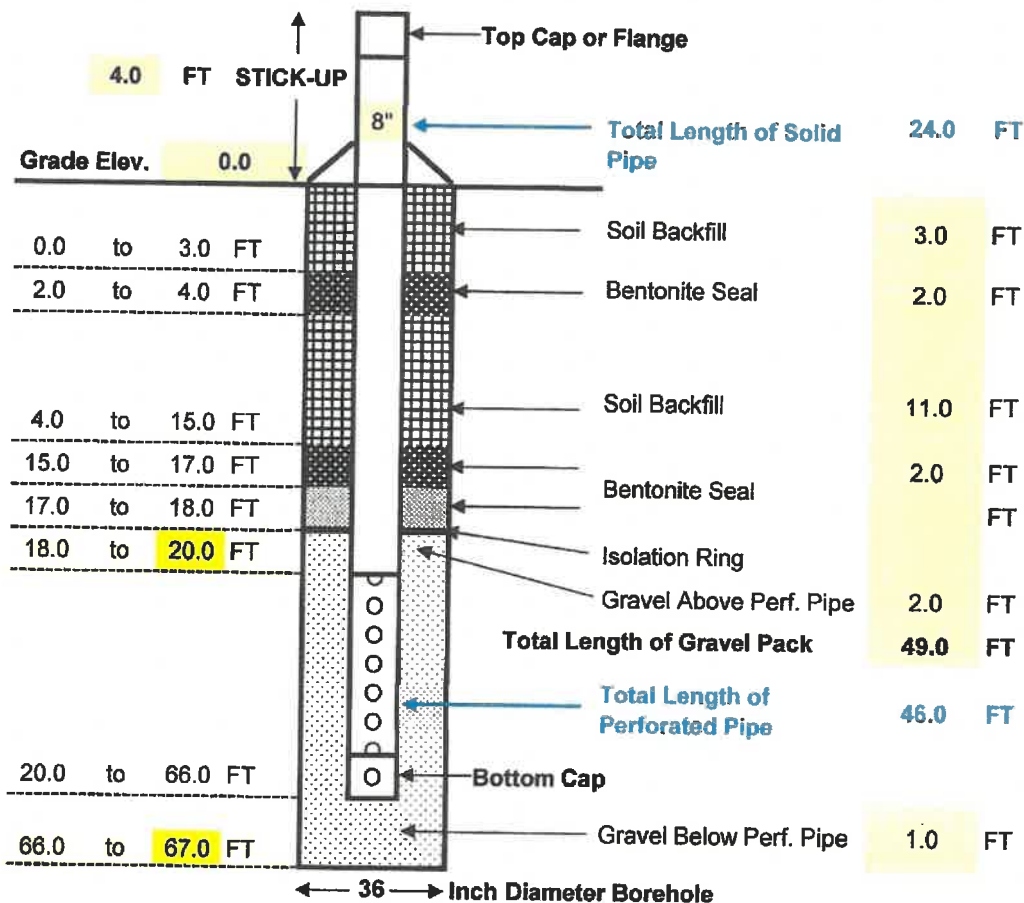
WELL INSTALLATION REPORT

Project Name: Lorain Co.
Site Location: Oberlin, Oh
AEGL Project #: 10-115-103
Date Drilled: November 21, 2014
Type of Casing: 8" SDR-11 HDPE Pipe

Time in: 11:25AM
Time out: 2:30PM
Rig Hrs: 907
Weather: 27 degrees

WELL ID #: EW-54R3

TOTAL WELL DEPTH: 67.0 FT



Time O2 H2S LEL/CO

7am			
8am			
9am			
10am			
11am			
noon	20.9	0.0	
1pm	20.9	0.0	
2pm	20.9	0.0	
3pm	20.9	0.0	
4pm			
5pm			

NOTES:

EW-54R3 was called @ 67' (bucket refusal). Built a bench.

CLIENT REP:

[Signature]

SUPERVISOR: Eric V. Steen

Amercn Environmental Group, Ltd.
DRILLING LOG DATA

Project Name: Lorain Co.
 AEGL Project #: 10-115-103
 Date Drilled: November 21, 2014

Well ID #: EW-54R3
 Total Depth: 67'
 Supervisor: Eric V. Steen

Drilling Depth	Type of Material	Degree of Composition	Amount of Moisture	Material Temperature
0-1				
5-10	msw/cover	mod	dry	91
10-15				
15-20	msw/metal	mod	dry	100
20-25				
25-30	msw/plastic	mod	dry	93
30-35				
35-40	msw/plastic	mod	dry	99
40-45				
45-50	msw/plastic	mod	damp	101
50-55				
55-60	msw/sludge	mod	wet	87
60-65				
65-67'	msw/sludge	heavy	wet	118
70-75				
75-80				
80-85				
85-90				
90-95				
95-100				
100-105				
105-110				
110-115				
115-120				
120-125				
125-130				
130-135				
135-140				
140-145				
145-150				



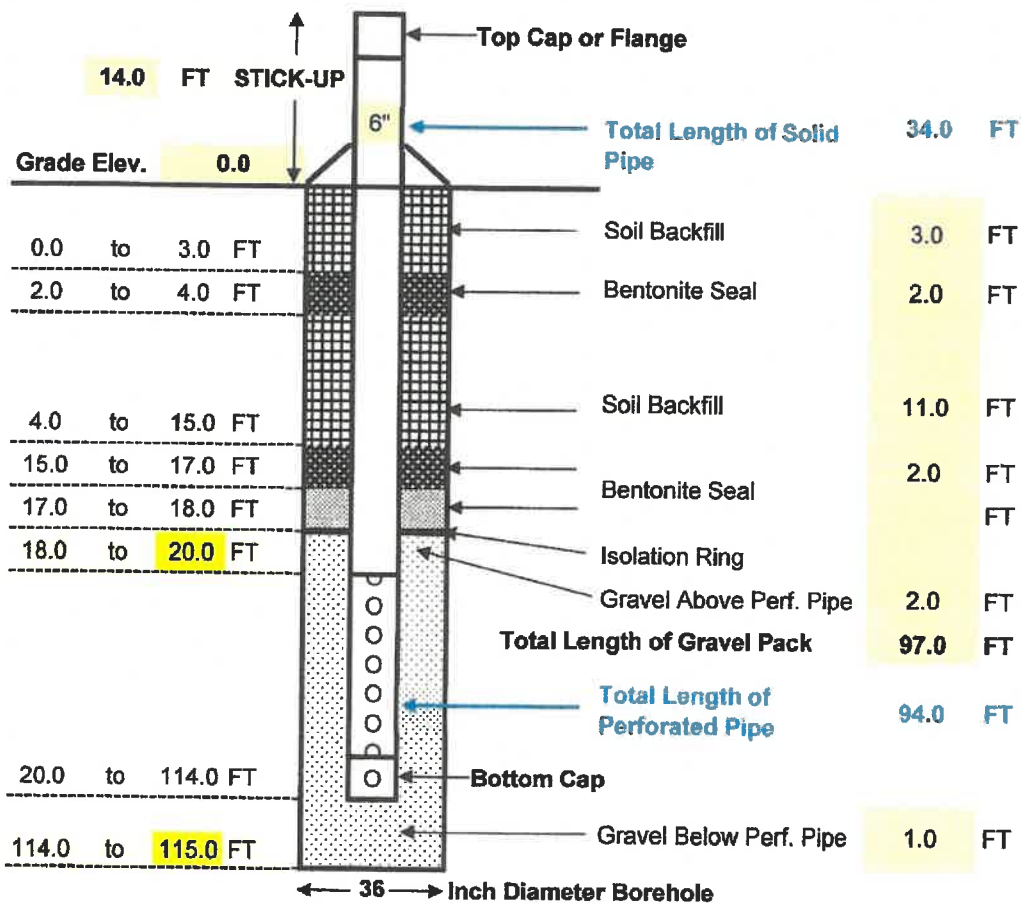
WELL INSTALLATION REPORT

Project Name: Lorain Co.
Site Location: Oberlin, Oh
AEGL Project #: 10-115-103
Date Drilled: November 22, 2014
Type of Casing: 6" SDR-11 HDPE Pipe

Time in: 5:30AM
Time out: 12:00PM
Rig Hrs: 911
Weather: 32 degrees

WELL ID #: EW-306R2

TOTAL WELL DEPTH: 115.0 FT



Time O2 H2S LEL/CO NOTES:

7am	20.9	0.0	0.0
8am	20.9	0.0	0.0
9am	20.9	0.0	0.0
10am	20.9	0.0	0.0
11am	20.9	0.0	0.0
noon	20.9	0.0	0.0
1pm			
2pm			
3pm			
4pm			
5pm			

EW-306R2 made total depth.

CLIENT REP:

SUPERVISOR: Eric V. Steen

Americon Environmental Group, Ltd.
DRILLING LOG DATA

Project Name: Lorain Co.
 AEGL Project #: 10-115-103
 Date Drilled: November 22, 2014

Well ID #: EW-306R2
 Total Depth: 115'
 Supervisor: Eric V. Steen

Drilling Depth	Type of Material	Degree of Composition	Amount of Moisture	Material Temperature
0-1				
5-10	msw/cover	slight	dry	71
10-15				
15-20	msw/wood	slight	dry	80
20-25				
25-30	msw/plastic	mod	dry	77
30-35				
35-40	msw/plastic	mod	dry	98
40-45				
45-50	msw/metal	mod	dry	100
50-55				
55-60	msw/wood	mod	dry	113
60-65				
65-70	msw/wood	mod	dry	82
70-75				
75-80	msw/wire	mod	dry	97
80-85				
85-90	msw/soil	mod	damp	101
90-95				
95-100	msw/plastic	mod	damp	113
100-105				
105-110	msw/wood	mod	damp	116
110-115'	msw/wood	mod	damp	97
115-120				
120-125				
125-130				
130-135				
135-140				
140-145				
145-150				



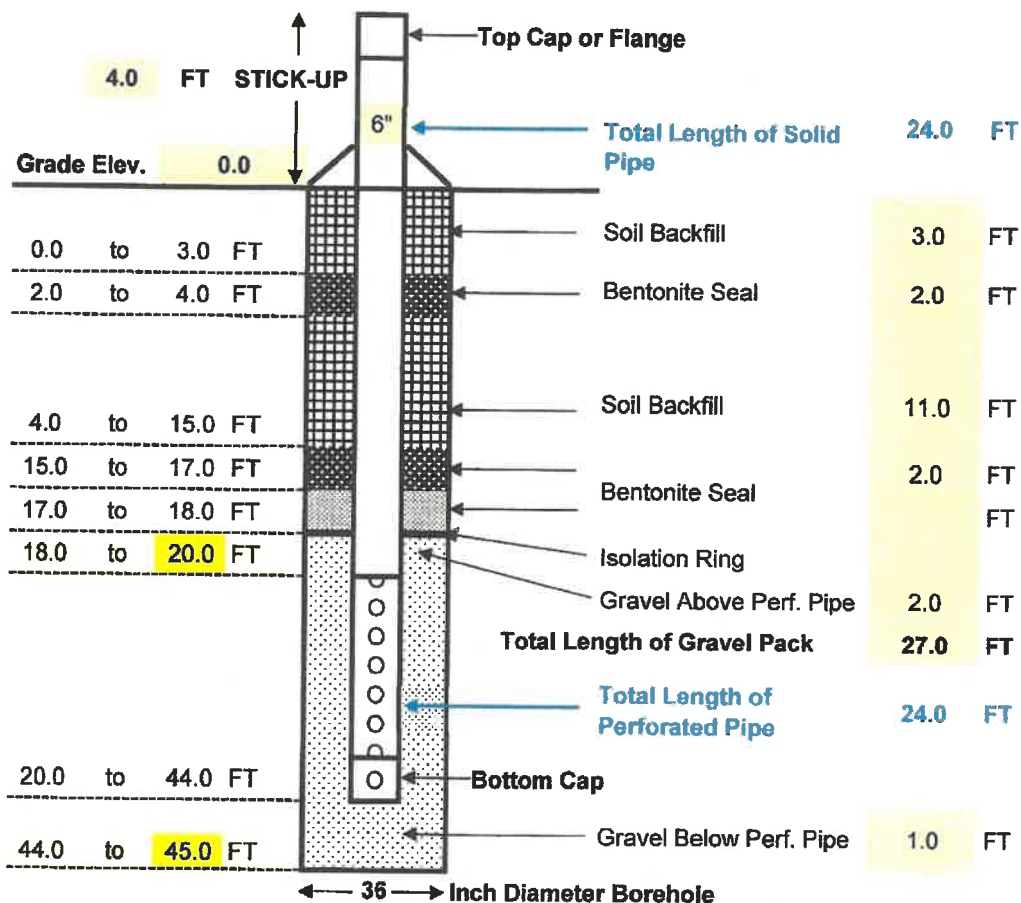
WELL INSTALLATION REPORT

Project Name: Lorain Co.
Site Location: Oberlin, Oh
AEGL Project #: 10-115-103
Date Drilled: November 25, 2014
Type of Casing: 6" SDR-11 HDPE Pipe

Time in: 5:30AM
Time out: 4:30PM
Rig Hrs: 920
Weather: 23 degrees

WELL ID #: EW-332R

TOTAL WELL DEPTH: 45.0 FT



Time	O2	H2S	LEL/CO
7am	20.9	0.0	
8am			
9am			
10am			
11am			
noon			
1pm			
2pm			
3pm			
4pm			
5pm			

NOTES:

EW-332R made total depth. Built a bench.

CLIENT REP:

Eric V. Steen

SUPERVISOR: Eric V. Steen

American Environmental Group, Ltd.
DRILLING LOG DATA

Project Name: Lorain Co.

Well ID #: EW-332R

AEGL Project #: 10-115-103

Total Depth: 45'

Date Drilled: November 25, 2014

Supervisor: Eric V. Steen

Drilling Depth	Type of Material	Degree of Composition	Amount of Moisture	Material Temperature
0-1				
5-10	msw/cover	mod	dry	80
10-15				
15-20	msw/plastic	mod	dry	83
20-25				
25-30	msw/plastic	mod	dry	72
30-35				
35-40	msw/wood	mod	dry	90
40-45'	msw/plastic	mod	dry	101
45-50				
50-55				
55-60				
60-65				
65-70				
70-75				
75-80				
80-85				
85-90				
90-95				
95-100				
100-105				
105-110				
110-115				
115-120				
120-125				
125-130				
130-135				
135-140				
140-145				
145-150				



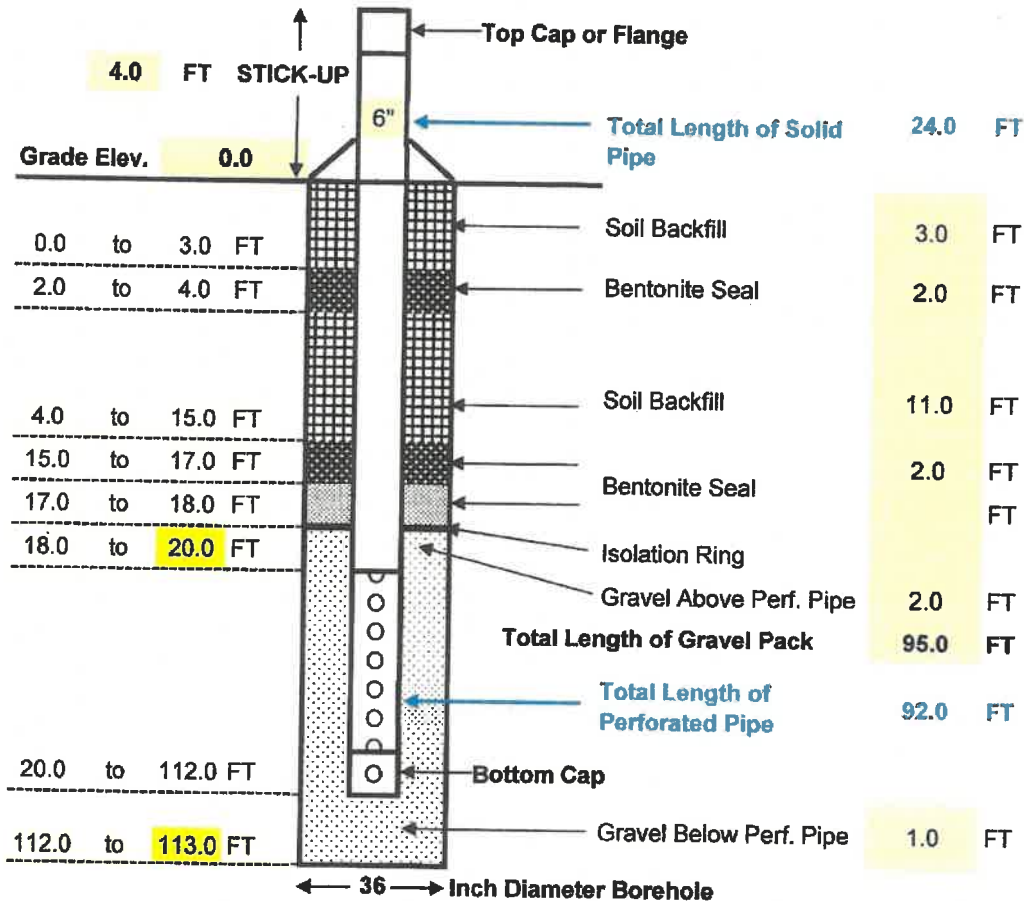
WELL INSTALLATION REPORT

Project Name: Lorain Co.
Site Location: Oberlin, Oh
AEGL Project #: 10-115-103
Date Drilled: November 25, 2014
Type of Casing: 6" SDR-11 HDPE Pipe

Time in: 8:10AM
Time out: 1:45PM
Rig Hrs: 922
Weather: 32 degrees

WELL ID #: EW-169R

TOTAL WELL DEPTH: 113.0 FT



Time O₂ H₂S LEL/CO NOTES:

Time	O ₂	H ₂ S	LEL/CO
7am			
8am	20.9	0 0	
9am	20.9	0 0	
10am	20.9	0 0	
11am	20.9	0 0	
noon	20.9	0 0	
1pm	20.9	0 0	
2pm	20.9	0 0	
3pm			
4pm			
5pm			

EW-169R was called @ 113' due to sludge.

CLIENT REP:

[Signature]

SUPERVISOR: Eric V. Steen

Americn Environmental Group, Ltd.
DRILLING LOG DATA

Project Name: Lorain Co.
 AEGL Project #: 10-115-103
 Date Drilled: November 25, 2014

Well ID #: EW-169R
 Total Depth: 113'
 Supervisor: Eric V. Steen

Drilling Depth	Type of Material	Degree of Composition	Amount of Moisture	Material Temperature
0-1				
5-10	msw/cover	slight	dry	100
10-15				
15-20	msw/wood	mod	dry	105
20-25				
25-30	msw/plastic	mod	dry	110
30-35				
35-40	msw/plastic	mod	dry	113
40-45				
45-50	msw/wood	mod	dry	107
50-55				
55-60	msw/plastic	mod	dry	121
60-65				
65-70	msw/plastic	mod	damp	123
70-75				
75-80	msw/plastic	mod	damp	120
80-85				
85-90	msw/wood	mod	damp	126
90-95				
95-100	msw/sludge	mod	damp	114
100-105				
105-110	msw/sludge	heavy	wet	110
110-113'	msw/sludge	heavy	wet	98
115-120				
120-125				
125-130				
130-135				
135-140				
140-145				
145-150				



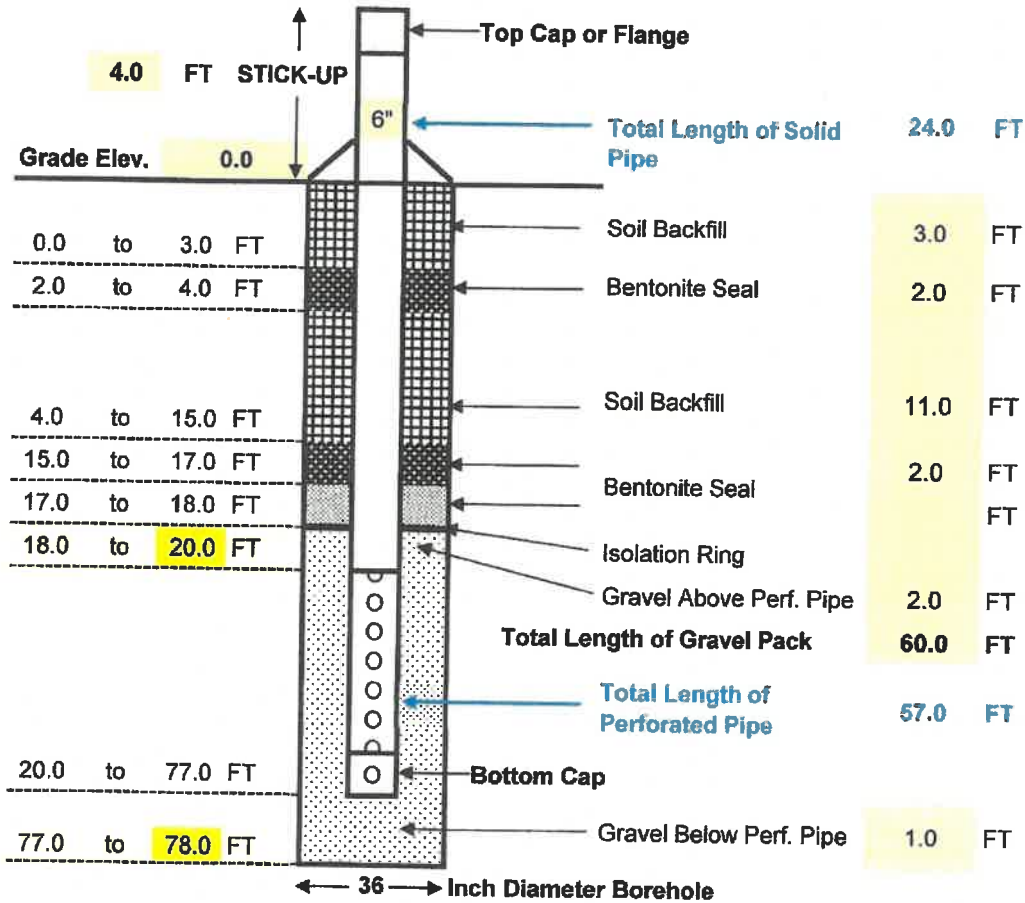
WELL INSTALLATION REPORT

Project Name: Lorain Co.
Site Location: Oberlin , Oh
AEGL Project #: 10-115-103
Date Drilled: November 26, 2014
Type of Casing: 6" SDR-11 HDPE Pipe

Time in: 6:15AM
Time out: 10:00AM
Rig Hrs: 930
Weather: 34 degrees

WELL ID #: EW-316R

TOTAL WELL DEPTH: 78.0 FT



Time O2 H2S LEL/CO NOTES:

Time	O2	H2S	LEL/CO
7am			
8am	20.9	0 0	
9am	20.9	0 0	
10am	20.9	0 0	
11am	20.9	0 0	
noon	20.9	0 0	
1pm	20.9	0 0	
2pm			
3pm			
4pm			
5pm			

EW-316R made total depth. Built a bench.

CLIENT REP:

[Signature]

SUPERVISOR: Eric V. Steen

Americn Environmental Group, Ltd.
DRILLING LOG DATA

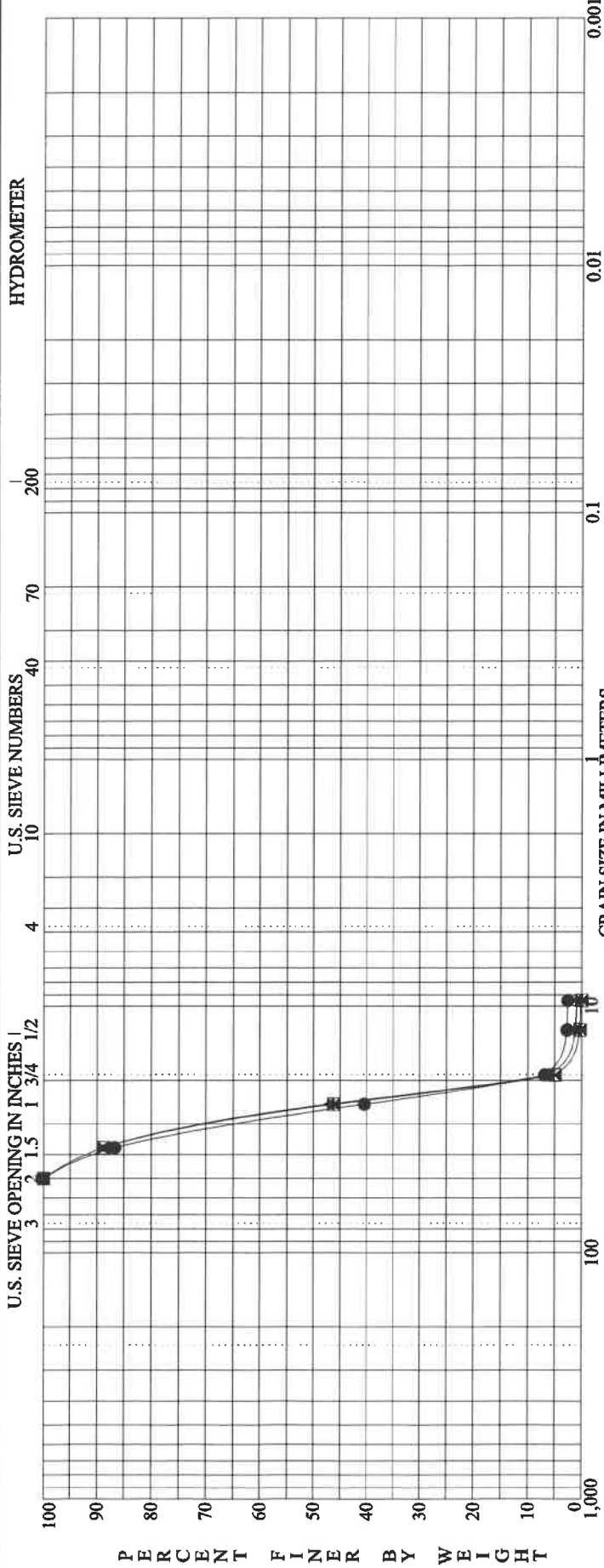
Project Name: Lorain Co.
 AEGL Project #: 10-115-103
 Date Drilled: November 26, 2014

Well ID #: EW-316R
 Total Depth: 78'
 Supervisor: Eric V. Steen

Drilling Depth	Type of Material	Degree of Composition	Amount of Moisture	Material Temperature
0-1				
5-10	msw/cover	mod	dry	87
10-15				
15-20	msw/plastic	mod	dry	112
20-25				
25-30	msw/metal	mod	dry	100
30-35				
35-40	msw/plastic	mod	dry	105
40-45				
45-50	msw/wood	mod	dry	99
50-55				
55-60	msw/plastic	mod	dry	102
60-65				
65-70	msw/wood	mod	dry	103
70-75				
75-78'	msw/plastic	mod	damp	89
80-85				
85-90				
90-95				
95-100				
100-105				
105-110				
110-115				
115-120				
120-125				
125-130				
130-135				
135-140				
140-145				
145-150				



APPENDIX F – No. 4 Stone Laboratory Results



GRAIN SIZE IN MILLIMETERS													
BOULDERS	COBBLES	GRAVEL			SAND			SILT OR CLAY					
		coarse	fine	Classification	coarse	medium	fine	MC%	LL	PL	PI	Cc	Cu
Specimen Identification - Depth													
●	BAG-1 As Received	#4 STONE										0.911	1.522
☒	BAG-1 Before pH4											0.899	1.452
▲	BAG-1 After pH 4	%CARBONATE RESIDUE CONTENT = 0.43										0.899	1.455
Specimen Identification - Depth													
●	BAG-1 As Received	D100	D95	D60	D50	D10	%Gravel	%Sand	%Silt	%Clay			
☒	BAG-1 Before pH4	50.0000	44.8941	29.6836	27.1906	19.5012							
▲	BAG-1 After pH 4	50.0000	44.0619	28.5222	25.9216	19.6472							
		50.0000	44.0372	28.3585	25.7254	19.4948							

ASTM D422

GRADATION CURVE

PROJECT LOCATION
JOB NO.

LORAIN COUNTY II - 2013 GCCS CQA
OBERLIN, OHIO
1173-12-003A, B & C #143908

DATE 1/30/13



APPENDIX G – Geosynthetics Test Results



CQA Monitor:

260.0001

Page 1 of 1



Project Lorain County II Landfill: 2014 GCCS Phase 3

Name: _____ **Construction**

Project Number:	260.0001
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Lorain County II Landfill: 2014 GCCS Phase 3

Name: _____ **Construction**

Project Number:	260.0001
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CQA Monitor: Janet Todia

[illegible]



APPENDIX H – Air Monitoring Results



Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 11/17/14

Manufacturer:
QRAe

Model:
4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	W/11 EW 154R3							
7:15	2nd WP11				20.9	0	0	0
7:30								
7:45								
8:00								
8:15								
8:30								
8:45								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 11/18/14

Manufacturer:
QRAE

Model:
4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	drill 2047R3				20.9	0	0	0
7:15								
7:30								
7:45								
8:00								
8:15								
8:30								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 11/19/14

Manufacturer: QRAe

Model: 4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	2.11 RW 158 RZ4				20.9	0	0	0
7:15	Start p.p.c. &							
7:30	build benches							
7:45								
8:00								
8:15								
8:30								
8:45								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 11/20/14

Manufacturer: QRAE

Model: 4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	Drill 2W21R2							
7:15	attempt to				20.9	0	0	0
7:30	locate 12" north header							
7:45	below grade							
8:00								
8:15								
8:30								
8:45								
9:00								
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9:30								
9:45								
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10:15								
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11:45								
12:00								
12:15	Drill 2W24R2							
12:30								
12:45								
13:00								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 11/21/14

Manufacturer: QRAE

Model: 4 Gas Meter

Manufacturer:

Instrument(s)

Model:

Manufacturer:

Model:

Was Instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	↓ Hill PW36R2				20.9	0	0	0
7:15	↓ Sub up 12" tie in point							
7:30	↓ Sub up 12" tie in point							
7:45	↓ Sub up 12" tie in point							
8:00								
8:15								
8:30								
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9:00								
9:15								
9:30								
9:45								
10:00								
10:15								
10:30								
10:45								
11:00								
11:15	↓ Hill PW54R3							
11:30								
11:45								
12:00								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 11/22/14

Manufacturer: QRAE
Model: 4 Gas Meter

Instrument(s)
Manufacturer: Model:

Manufacturer: Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	d/11 RW 306R2				20.9	0	0	0
7:15								
7:30								
7:45								
8:00								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 11/25/14

Manufacturer:

Model:

4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	drill EW332R				20.9	0	0	0
7:15								
7:30								
7:45								
8:00								
8:15								
8:30								
8:45								
9:00								
9:15								
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9:45								
10:00								
10:15								
10:30								
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11:00								
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11:30								
11:45								
12:00	drill EW114R							
12:15								
12:30								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 11/26/14

Manufacturer: QRAE

Model: 4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	1511 BL314R				20.9	0	0	0
7:15								
7:30								
7:45								
8:00								
8:15								
8:30								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 12/2/14

Manufacturer: QRAE

Model: 4 Gas Meter

Manufacturer:

Instrument(s)

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	Excavate 18" x 24" tie in point				20.9	0	0	0
7:15								
7:30								
7:45								
8:00								
8:15								
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8:45								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 12/3/14

Manufacturer: QRAE

Model: 4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	Excavate 29" tie in point				20.9	0	0	0
7:15								
7:30								
7:45								
8:00								
8:15								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Janet Todia

Date: 12/4/14

Manufacturer: QRAE Model: 4 Gas Meter

Manufacturer:

Instrument(s)

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

		Monitoring Data						
Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	AXIALOTA 18"				20.9	0	0	0
7:15	Subheader							
7:30	Trench							
7:45								
8:00								
8:15								
8:30								
8:45								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 12/5/14

Manufacturer: QRAE

Model: 4 Gas Meter

Manufacturer:

Instrument(s)

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	tie in 18" x 24" subheader				20.9	0	0	0
7:15								
7:30								
7:45								
8:00								
8:15								
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9:00								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 12/8/14

Manufacturer: QRAE

Model: 4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection		CO
Action Level:						%LEL	H ₂ S	
7:00	haul + fuse pipe				20.9	0	0	0
7:15								
7:30								
7:45								
8:00								
8:15								
8:30								
8:45								
9:00								
9:15								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 12/9/14

Manufacturer: QRAE

Model: 4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Instrument(s)

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection		
Action Level:						%LEL	H ₂ S	CO
7:00	Trench from 18" x 24" tie in point towards the north for placement of 18" header				20.9	0	0	0
7:15								
7:30								
7:45								
8:00								
8:15								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todla

Date: 12/10/24

Manufacturer:
QRAe

Model:
4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	continue excavation from 75' mark to the north				20.9	0	0	0
7:15								
7:30								
7:45								
8:00								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project No: 260.0001

Project/Site Location: Oberlin, OH

Employee Performing Air Monitoring (Print and Sign): Janet Todla

Date: 12/11/14

Manufacturer: QRAe

Model: 4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	continue				20.9	0	0	0
7:15	comparing 200' of							
7:30	18" spud + pressure							
7:45	test							
8:00								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project No: 260.0001

Project/ Site Location: Oberlin, OH

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 12/12/14

Instrument(s)

Manufacturer: QRAE

Model: 4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
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Action Level:

7:00	tie in 18" spv +				20.9	0	0	0
7:15	abandon EW 1169							
7:30	EW 158R EW 154R2							
7:45	+ EW 47R2							
8:00								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project/ Site Location: Oberlin, OH

Project No: 260.0001

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 12/13/14

Manufacturer: QRAE

Model: 4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Instrument(s)

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	tie in LCR off of				20.9	0	0	0
7:15	24" header							
7:30	abandon EW316R							
7:45	tie in EW316R							
8:00	tie in 12" 4"							
8:15	for above grade							
8:30	north header							
8:45								
9:00	abandon EW54R2							
9:15	tie in EW54R3							
9:30								
9:45								
10:00								
10:15	abandon EW306R							
10:30	tie in EW306R							
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project No: 260.0001

Project/ Site Location: Oberlin, OH

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 12/15/14

Manufacturer:
QRAE

Model:
4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Instrument(s)

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (If P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	tie in RW3116R				20.9	0	0	0
7:15	+ abandon							
7:30	RW3116; tie in							
7:45	RW332R							
8:00	abandon RW332							
8:15								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project No: 260.0001

Project/Site Location: Oberlin, OH

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 12/18/14

Manufacturer: QRAE

Model: 4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	tie in BW27R2,				20.9	0	0	0
7:15	BW24R2, ✓							
7:30	BW36R2							
7:45								
8:00								
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project No: 260.0001

Project/ Site Location: Oberlin, OH

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 12/19/14

Instrument(s)

Manufacturer:
QRAe

Model:
4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (If P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	north 12" header				20.9	0	0	0
7:15	200.0 ft grade							
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Air Monitoring Form

Name of Project/ Site: Lorain II Phase 3 2014

Project No: 260.0001

Project/Site Location: Oberlin, OH

Employee Performing Air Monitoring (Print and Sign): Janet Todia

Date: 12/20/14

Manufacturer: QRAE

Model: 4 Gas Meter

Manufacturer:

Model:

Manufacturer:

Model:

Was instrument(s) calibrated per manufacturer's instructions? ☒ Yes ☐ No

Remarks:

Monitoring Data

Time	Location and Activity	P/FID (ppm)	Benzene (if P/FID ≥ 1)	Ammonia (ppm)	O ₂	Multi-Gas Detection %LEL	H ₂ S	CO
Action Level:								
7:00	tie in 12" subheader				20.9	0	0	0
7:15								
7:30								
7:45								
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14:15	abandon vac risers @ EW318 EW308R & EW324							
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APPENDIX I – Pipeline Pressure Test Results

2014 GCCS - Phase 3 Construction Certification Report - Pipe Pressure Test Results

Date	HDPE Pipe Description	Length (feet)	Pressure (psi)	Time (hours)	Result (Pass/Fail)	Retest (Yes/No)
11/20/14	2" SDR11 (force main carrier pipe) x 4" SDR11 (containment pipe)	44	60 x 50	4	Pass	No
12/11/14	6" SDR17 (lateral)	EW169R to 18" spur	25	4	Pass	No
12/11/14 to 12/12/14	18" SDR17 (subheader)	18" spur from tie in at 12" to tie in at 24"	10	13	Pass	No
12/12/14 to 12/13/14	6" SDR17 (lateral)	360	25	13	Pass	No
12/12/14 to 12/13/14	2" SDR09 (air)	50	100	13	Pass	No
12/12/14 to 12/13/14	2" SDR11 (force main)	50	50	13	Pass	No
12/18/14	2" SDR11 (force main)	50	50	4	Pass	No
12/18/14	2" SDR09 (air)	50	100	4	Pass	No
12/19/14 - 12/20/14	8" SDR17 and 12" SDR17 and 6" SDR17 (all connected); entire 12" above grade header and subheaders	327' of 8"; 1004' of 12"; 150' of 6"	10	14	Pass	No