NM1 - ___39____

VADOSE ZONE RESPONSE PLAN APPROVAL

JAN. 24, 2017

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division

January 24, 2017

Ms. Monte Carol Madera
Pitchfork Landfarm, LLC
524 Antelope Road
Jal, New Mexico 88252

Re: Quarterly Vadose Zone Monitoring, and Vadose Zone Resampling Event Report, and Vadose Zone Response Action Plan Review
Pitchfork Landfarm, LLC
Permit NM1-039
Location: NE/4, NW/4, NE/4 Section 5, Township 24 South, Range 34 East, NMPM
Lea County, New Mexico

Dear Ms. Madera:

The Oil Conservation Division (OCD) has completed the review of Pitchfork Landfarm, LLC's (Pitchfork) Vadose Zone Response Action Plan, dated November 9, 2016, to further delineate, vertically and horizontally, the potential release to the vadose zone and to remove soils that have been impacted by the release. Based on the information provided in the November 9, 2016 Vadose Zone Response Action Plan, OCD hereby approves the request with the following understandings and conditions:

1. Pitchfork shall comply with all applicable requirements of the Oil and Gas Act (Chapter 70, Article 2 NMSA 1978), and all conditions specified in this approval and shall implement the Vadose Zone Response Action Plan in accordance with the November 9, 2016 request;

2. Pitchfork shall continue to monitor the vadose zone for "total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) quarterly and for major cations/anions and Water Quality Control Commission (WQCC) metals annually" as require of the existing permit NM1-039 and semi-annually for chlorides as required of Subsection E of 19.15.36.15 NMAC to demonstrate compliance to the transitional provision of Subsection A of 19.15.36.20 NMAC.

3. Pitchfork shall continue to monitor the treatment zone semi-annually for TPH and chlorides as required of Subsection D of 19.15.36.15 NMAC to demonstrate compliance to the transitional provision of Subsection A of 19.15.36.20 NMAC.

4. Pitchfork shall obtain written approval from OCD prior to implementing any changes to the November 9, 2016 Vadose Zone Response Action Plan.

Please be advised that approval of this request does not relieve Pitchfork of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve Pitchfork of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please do not hesitate to contact Brad Jones on my staff at (505) 476-3487 or brad.a.jones@state.nm.us.

Sincerely,

Jim Griswold
Environmental Bureau Chief

JG/baj

Cc: OCD District I Office, Hobbs
Bruce McKenzie, Enviro Clean Services, LLC, Tulsa, OK 74136

Pitchfork Cattle Company

P.O. Box 2795
Ruidoso, NM 88355
575.390.5618

November 9, 2016

Mr. Brad Jones Environmental Engineer
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Quarterly Vadose Zone Monitoring and
Vadose Zone Resampling Event Report, and
Vadose Zone Response Action Plan
Pitchfork Landfarm, LLC
Lea County, New Mexico Permit Number: NM1-039

Dear Mr. Jones:

Please find enclosed one (1) copy of the ***Quarterly Vadose Zone Monitoring and Vadose Zone Resampling Event Report, and Vadose Zone Response Action Plan*** (Report/Plan) for the Pitchfork Landfarm, LLC (Pitchfork) site located in the NE/4, NW/4, NE/4 of Section 5, Township 24 South, Range 34 East NMPM in Lea County, New Mexico. Pitchfork has read the Report and concurs with the information provided.

Sincerely,
Pitchfork Landfarm, LLC

Montie Carol Madera
Agent

Enclosure:
Quarterly Vadose Zone Monitoring and Vadose Zone Resampling Event Report, and Vadose Zone Response Action Plan (1 copy)

ENVIRO CLEAN CARDINAL

November 7, 2016

Mr. Brad Jones
Environmental Engineer
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Quarterly Vadose Zone Monitoring and Vadose Zone Resampling Event Report, and Vadose Zone Response Action Plan
Pitchfork Landfarm, LLC
Lea County, New Mexico
Permit Number: NM1-039

Dear Mr. Jones:

Enviro Clean Cardinal, LLC (ECC) on behalf of our client Pitchfork Landfarm, LLC (Pitchfork), is pleased to submit to the New Mexico Oil Conservation Division (NMOCD) the following report summarizing the quarterly vadose zone monitoring activities conducted at the Pitchfork Landfarm site (Site) located in the NE/4, NW/4, NE/4 of Section 5, Township 24 South, Range 34 East NMPM in Lea County, New Mexico. The Site location and topographic features are shown on attached **Figure 1**.

Pursuant to a conference call on October 12, 2016 with NMOCD, ECC calculated Combined Radium (Radium-226 plus Radium-228) values for all samples analyzed for Radium-226 (Ra-226) and Radium-228 (Ra-228), including Background Samples. The Combined Radium Mean Background "Concentration" (MBC) is 0.38 +/- 0.57 pCi/g and the Combined Radium Mean Background "Practical Quantitation Limit" (MBPQL) is 0.47 pCi/g. The approach taken to calculate Combined Radium is found as **Attachment A**.

Quarterly Vadose Zone Monitoring Event

Prior to arriving at the Site to conduct the quarterly vadose zone sampling activities, ECC completed the utility locate process through the New Mexico 811 system. No utility lines were noted within the sampling area. On March 24, 2015, ECC arrived at the Site to collect the quarterly vadose zone monitoring soil samples. On this date, ECC divided the Site into three zones of equal area and selected sampling locations within each zone. At each of these locations ECC installed one soil boring to a depth of approximately 3 feet below the native ground surface (bngs) utilizing a decontaminated hand-auger. A soil sample was collected from each of these soil borings from the depth interval of 2.0 to 3.0 feet below ground level (bgl). The locations

of quarterly vadose zone monitoring soil samples QVZM-1, QVZM-2, and QVZM-3 are shown on attached **Figure 2**. The soil samples collected from the soil borings were placed directly into laboratory prepared sample containers, labeled as to source and contents, placed on ice for preservation, placed under chain-of-custody control, and shipped via overnight courier to the analytical laboratory (ALS Environmental Laboratory, Houston, Texas). The quarterly vadose zone monitoring soil samples were analyzed for total petroleum hydrocarbons (TPH) (SW-846 8015C); benzene, toluene, ethylbenzene, and xylenes (BTEX) (SW-846 8260C); and chloride (SW-846 9056A). Pitchfork recognizes that the analytical method utilized to analyze chloride in these soil samples is not a recognized method per 19.15.36.15 E NMAC. EPA method 300.1 will be utilized for the analysis of chloride in future samples. These analytical data are summarized in **Table 1**, and complete copies of the laboratory analytical reports and chain-of-custody documentation are provided in **Attachment B**. Upon completion of soil boring/sampling activities the soil borings were plugged with hydrated bentonite chips.

The concentrations of TPH, BTEX, and chloride observed in quarterly vadose zone monitoring soil samples QVZM-1, QVZM-2, and QVZM-3 were compared to the higher of the Mean Background Concentrations (MBC) or the mean background laboratory Practical Quantitation Limits (MBPQL) established in the revised ***Background Demonstration Sampling Report***, dated April 11, 2016.

Table 1 presents the Quarterly Vadose Zone Monitoring data results from the March 2015 sampling event. These results are summarized below.

Sample QVZM-1:

- For the all of the constituents of concern, the results and Reporting Limits (RLs) *did not exceed* the higher of their respective MBCs and/or the MBPQLs.

Sample QVZM-2:

- Chloride had a result of <4.98 mg/kg with an RL of 4.98 mg/kg. This RL exceeds the MBPQL of 4.97 mg/kg for chloride.

- For the remaining constituents of concern, the results and Reporting Limits (RLs) *did not exceed* the higher of their respective MBCs and/or the MBPQLs.

Sample QVZM-3:

- Chloride had a result of 67.0 mg/kg with an RL of 4.95 mg/kg. This result exceeds the MBPQL of 4.97 mg/kg for chloride.

- For the remaining constituents of concern, the results and/or Reporting Limits (RLs) *did not exceed* the higher of their respective MBCs and/or the MBPQLs.

On April 28, 2015, Pitchfork, NMOCD, and ECC participated in a conference call to discuss the analytical data from the quarterly vadose zone monitoring. During this call it was discussed that

a potential release to the vadose zone had occurred in the vicinity of quarterly vadose zone monitoring soil sample QVZM-3. It was further discussed that in response to the levels of chloride observed in soil sample QVZM-3, Pitchfork would collect four randomly selected independent soil samples around the former QVZM-3 sample location and comply with the release response requirements of 19.15.36.15E(5) NMAC.

Vadose Zone Resampling Event

On May 4, 2015 in response to the potential release to the vadose zone in the vicinity of quarterly vadose zone monitoring soil sample QVZM-3, ECC collected four additional vadose zone soil samples (VZRS-1, VZRS-2, VZRS-3, and VZRS-4) located approximately 15 linear feet in the four cardinal directions from the former QVZM-3 sample location. At each of these locations ECC installed one soil boring to a depth of approximately 3 feet bngs utilizing a decontaminated hand-auger. A soil sample was collected from each of these soil borings from the depth interval of 2.0 to 3.0 feet bgl. The locations of additional vadose zone soil samples VZRS-1, VZRS-2, VZRS-3, and VZRS-4 are shown on attached **Figure 2**. The soil samples collected from the soil borings were placed directly into laboratory prepared sample containers, labeled as to source and contents, placed on ice for preservation, placed under chain-of-custody control, and shipped via overnight courier to the analytical laboratory (ALS Environmental Laboratory, Houston, Texas). Samples collected for radiochemical analysis were shipped from ALS in Houston, Texas to their Fort Collins, Colorado location. The additional vadose zone samples were analyzed for TPH (SW-846 8015C), BTEX (SW-846 8260C), chloride (SW-846 9056A), and constituents listed in Subsections A and B of 20.6.2.3103 NMAC. Pitchfork recognizes that the analytical method utilized to analyze chloride in these soil samples is not a recognized method per 19.15.36.15 E NMAC. EPA method 300.1 will be utilized for the analysis of chloride in future samples. These analytical data are summarized on **Table 2** and complete copies of the laboratory analytical reports and chain-of-custody documentation are provided in **Attachment B**. Upon completion of soil boring/sampling activities the soil borings were plugged with hydrated bentonite chips.

The concentrations of constituents observed in the additional vadose zone soil samples VZRS-1, VZRS-2, VZRS-3, and VZRS-4 were compared to the higher of the MBC or the MBPQL established in the revised ***Background Demonstration Sampling Report***, dated April 11, 2016. Pursuant to the conference call conducted on October 12, 2016 between ECC and NMOCD, ECC has calculated the Combined Radium (Radium-226 plus Radium-228) values for all samples analyzed for Radium-226 (Ra-226) and Radium-228 (Ra-228), including Background Samples. The Combined Radium Mean Background "Concentration" (MBC) is 0.38 +/- 0.57 pCi/L and the Combined Radium Mean Background "Practical Quantitation Limit" (MBPQL) is 0.47 pCi/L. The approach taken to calculate Combined Radium is found in **Attachment A**. Table 1 of the *Background Demonstration Sampling Report* has been revised to show these calculated values and is presented as **Table 3** in this report (Quarterly Vadose Zone Monitoring and Vadose Zone Resampling Event Report, and Vadose Zone Response Action Plan).

Table 2 presents the Vadose Zone Resampling Event data results from May 2015. These results are summarized below.

Sample VZRS-1:

- Barium had a result of 267 mg/kg with an RL of 44.7 mg/kg.
  This result exceeds the MBC of 66.6 mg/kg for barium.
- Chloride had a result of 32.0 mg/kg with an RL of 4.91 mg/kg.
  This result exceeds the MBPQL of 4.97 mg/kg for chloride.
- Nitrate had a result of 5.68 mg/kg with an RL of 0.983 mg/kg.
  This result exceeds the MBPQL of 0.993 mg/kg for nitrate.
- Sulfate had a result of 80.7 mg/kg with an RL of 4.91 mg/kg.
  This result exceeds the MBC of 5.23 mg/kg for sulfate.
- For the remaining constituents of concern, the results and/or Reporting Limits (RLs) *did not exceed* the higher of their respective MBCs and/or the MBPQLs.

Sample VZRS-2:

- Barium had a result of 144 mg/kg with an RL of 0.424 mg/kg.
  This result exceeds the MBC of 66.6 mg/kg for barium.
- Chromium had a result of 5.38 mg/kg with an RL of 0.424 mg/kg.
  This result exceeds the MBC of 5.07 mg/kg for chromium.
- Chloride had a result of 32.7 mg/kg with an RL of 4.95 mg/kg.
  This result exceeds the MBPQL of 4.97 mg/kg for chloride.
- Fluoride had a result of 3.08 mg/kg with an RL of 0.991 mg/kg.
  This result exceeds the MBC of 3.04 mg/kg for fluoride.
- Nitrate had a result of 2.76 mg/kg with an RL of 0.991 mg/kg.
  This result exceeds the MBPQL of 0.993 mg/kg for nitrate.
- Sulfate had a result of 31.7 mg/kg with an RL of 4.95 mg/kg.
  This result exceeds the MBC of 5.23 mg/kg for sulfate.
- For the remaining constituents of concern, the results and/or Reporting Limits (RLs) *did not exceed* the higher of their respective MBCs and/or the MBPQLs.

Sample VZRS-3:

- Barium had a result of 119 mg/kg with an RL of 0.449 mg/kg.
  This result exceeds the MBC of 66.6 mg/kg for barium.

- Nitrate had a result of 1.58 mg/kg with an RL of 0.992 mg/kg.
  This result exceeds the MBPQL of 0.993 mg/kg for nitrate.

- Sulfate had a result of 26.9 mg/kg with an RL of 4.96 mg/kg.
  This result exceeds the MBC of 5.23 mg/kg for sulfate.

- Combined Radium had a result of 0.59 +/- 0.40 pCi/g with a laboratory "RL" of 0.44 pCi/g.
  This result exceeds the "MBPQL" of 0.47 pCi/g for Combined Radium.

- For the remaining constituents of concern, the results and/or Reporting Limits (RLs) *did not exceed* the higher of their respective MBCs and/or the MBPQLs.

It should be noted, however, that radionuclide data cannot be evaluated in the same way as chemical data due to inherent uncertainties in the measurement of radioactivity. Radionuclide data must be reported as the activity plus or minus a laboratory-determined uncertainty. Uncertainties, often referred to as "counting errors", vary widely from sample to sample as they are derived mathematically. Therefore, "PQL" and "MBC" are not accurate terminology when describing or interpreting radionuclide data.

Sample VZRS-4:

- Barium had a result of 108 mg/kg with an RL of 0.461 mg/kg.
  This result exceeds the MBC of 66.6 mg/kg for barium.

- Lead had a result of 4.63 mg/kg with an RL of 0.461 mg/kg.
  This result exceeds the MBC of 4.21 mg/kg for lead.

- Mercury had a result of <0.00351 mg/kg with an RL of 0.00351 mg/kg.
  This RL exceeds the MBPQL of 0.00343 mg/kg for mercury.

- Chloride had a result of 499 mg/kg with an RL of 4.97 mg/kg.
  This result exceeds the MBPQL of 4.97 mg/kg for chloride.

- Fluoride had a result of 3.17 mg/kg with an RL of 0.994 mg/kg.
  This result exceeds the MBC of 3.04 mg/kg for fluoride.

- Nitrate had a result of 8.21 mg/kg with an RL of 0.994 mg/kg.
  This result exceeds the MBPQL of 0.993 mg/kg for nitrate.

- Sulfate had a result of 70.7 mg/kg with an RL of 4.97 mg/kg. This result exceeds the MBC of 5.23 mg/kg for sulfate.

- For the remaining constituents of concern, the results and/or Reporting Limits (RLs) *did not exceed* the higher of their respective MBCs and/or the MBPQLs.

Vadose Zone Response Action Plan

The analytical data presented above suggest that a release to the vadose zone may have occurred in the area located in close proximity to quarterly vadose zone soil sample QVZM-3. In response to the potential release in this area, Pitchfork will delineate the soil containing concentrations of barium, chromium, lead, mercury, chloride, fluoride, nitrate as N, and sulfate exceeding the higher of the MBC or the MBPQL in this portion of the Site. Inherent uncertainties in the measurement of radioactivity make it difficult to determine if the Combined Radium level observed in the VZRS-3 soil sample exceeds the "MBC". However, any potential levels of Combined Radium above the "MBC" in this portion of the Site are likely associated with the impacted material that will be delineated using the analytical data of the other constituents of interest. Therefore, soil samples will not be collected for submittal to the analytical laboratory for Combined Radium analysis to delineate the impacts in this portion of the Site. Pitchfork has not accepted oil field waste material at the Site since August 2013, and will not be accepting any additional waste material. Therefore, future impact from operations will not be an issue.

To delineate the extent of the vadose zone soils containing concentrations of barium, chromium, lead, mercury, chloride, fluoride, nitrate as N, and sulfate exceeding the MBC or the MBPQL in this area, ECC will collect samples of the vadose zone soils for submittal to the analytical laboratory. Soil delineation activities are proposed to be conducted in two separate phases: shallow and deep. The shallow delineation activities will focus upon the depth interval from the native ground surface to 10 feet bngs and the deep delineation activities will focus upon the depth interval from 10 feet bngs to groundwater saturation which in the area is anticipated to be encountered at approximately 70 feet bngs. The proposed "shallow" vadose zone delineation sample locations (green dots) are presented on attached **Figure 3**. As shown on this figure, an initial 15 foot grid has been superimposed on this portion of the Site with the vadose zone delineation sample locations located in the center of each grid area. The analytical results for each vadose zone delineation soil sample will be considered representative of the material within the grid area from which the soil sample was collected. To eliminate the potential for cross-contaminating the vadose zone, at each of the proposed sample locations ECC will first remove all waste material present down to the native ground surface. Following these activities, ECC will install soil borings to 10 feet bngs, or to refusal, utilizing a decontaminated hand-auger. In general, soil grab samples will be collected from these soil borings from the depth intervals of 0 to 1 feet bngs, 1 to 2 feet bngs, 2 to 3 feet bngs, 3 to 4 feet bngs, 4 to 5 feet bngs, 5 to 6 feet bngs, 6 to 7 feet bngs, 7 to 8 bngs, 8 to 9 bngs, and 9 to 10 bngs. The soil samples collected will be placed into laboratory prepared sample containers, labeled as to source and contents, placed on ice for preservation, placed under chain-of-custody control, and shipped via overnight courier to the analytical laboratory (ALS Environmental Laboratory, Houston, Texas). The proposed soil

samples will be analyzed for barium (SW-846 6020A), chromium (SW-846 6020A), lead (SW-846 6020A), mercury (SW-846 7471B), chloride (EPA 300.1), fluoride (EPA 300.1), nitrate as N (EPA 300.1), and sulfate (EPA 300.1). Upon completion of soil boring/sampling activities the soil borings will be plugged with hydrated bentonite chips. If analytical data from the first round of shallow delineation sampling indicate that the shallow soils containing concentrations of barium, chromium, lead, mercury, chloride, fluoride, nitrate as N, and sulfate exceeding the MBC or the MBPQL in this area have not been fully delineated, an additional sampling grid or grids will be added and additional delineation soil sampling conducted utilizing the methodology described above until these constituents are delineated.

If shallow delineation activities are not sufficient to vertically delineate impacts, then vertical delineation of the impacts to the deep vadose zone will be conducted. The number of deep soil borings to be installed in this area will be determined based upon the areal extent of the shallow vadose zone impacts. ECC proposes to install and sample 1 deep soil boring per approximately 2,500 ft^2 of shallow vadose zone areal impact. Based upon the analytical data presented within this report it is anticipated that at least 2 deep soil boings will be installed in this area of the Site, but the exact number of deep soil borings will be determined by the results of the shallow vadose zone delineation activities. As previously described, groundwater saturation in the Site area is anticipated to be encountered at approximately 70 feet bngs. Therefore, deep soil borings will be installed to a depth of 70 feet bngs, or to groundwater saturation, utilizing a decontaminated truck-mounted air-rotary drilling rig. To eliminate the potential for cross-contaminating the vadose zone, at each of the proposed boring locations ECC will first remove all waste material present down to the native ground surface. Following these activities, ECC will collect soil grab samples from the deep soil borings on 5-foot intervals until groundwater saturation is reached. The proposed sample depth intervals in the deep soil borings are as follows: 10 to 11 feet bngs, 15 to 16 feet bngs, 20 to 21 feet bngs, 25 to 26 feet bngs, 30 to 31 feet bngs, 35 to 36 feet bngs, 40 to 41 feet bngs, 45 to 46 feet bngs, 50 to 51 feet bngs, 55 to 56 feet bngs, 60 to 61 feet bngs, 65 to 66 feet bngs, and 70 to 71 feet bngs unless groundwater is encountered at a shallower depth. Upon completion of soil boring/sampling activities the soil borings will be plugged with hydrated bentonite chips. The soil samples collected will be placed into laboratory prepared sample containers, labeled as to source and contents, placed on ice for preservation, placed under chain-of-custody control, and shipped via overnight courier to the analytical laboratory (ALS Environmental Laboratory, Houston, Texas). The proposed soil samples will be analyzed for barium (SW-846 6020A), chromium (SW-846 6020A), lead (SW-846 6020A), mercury (SW-846 7471B), chloride (EPA Method 300.1), fluoride (EPA Method 300.1), nitrate as N (EPA Method 300.1), and sulfate (EPA Method 300.1). Once the vadose zone soils exhibiting concentrations of barium, chromium, lead, mercury, chloride, fluoride, nitrate as N, and sulfate exceeding the higher of the MBC or the MBPQL have been delineated, the shallow impacted soil materials will be removed to a maximum depth of 4 feet bngs and disposed of off-site at a NMOCD approved disposal facility. In general, the impacted material will be excavated and loaded directly into semi-dump trucks for transportation to the disposal facility. The excavated soil will be manifested via Form C-138, transported to and disposed of, at the Lea Land, Inc. landfill, located approximately 32 miles west of Hobbs, New Mexico. Areas of the Site where soil material

containing concentrations of barium, chromium, lead, mercury, chloride, fluoride, nitrate as N, and sulfate exceeding the higher of the MBC or the MBPQL are encountered at depths greater than 4 feet bngs will be excavated to a depth of 4 feet bngs and lined with a 60mil high-density polyethylene (HDPE) liner having a hydraulic conductivity no greater than $1x10^{-9}$ cm/sec. Following liner installation activities, the excavated areas will be restored. Restoration of the excavated areas will consist of the placement and compaction of soil backfill material derived from a non-impacted, on-site borrow source. The location of the proposed on-site borrow source is shown on **Figure 4**.

Upon completion of the soil removal activities and restoration of the Site, ECC will prepare a report for submittal to the NMOCD that will describe the removal and restoration activities conducted at the Site. This report will include a discussion of the field removal activities, a drawing that illustrates both the confirmed constituent concentrations and the limits of the excavation activities, the volumes of waste material removed, and the waste disposal manifests.

If you have any questions regarding the activities discussed or the data presented herein, please do not hesitate to contact me at (918) 906-6780.

Sincerely,
Enviro Clean Cardinal, LLC

Bruce E. McKenzie, P.G.
Senior Project Manager

Attachments:

Table 1 - Summary of Quarterly Vadose Zone Monitoring Laboratory Analytical Results
Table 2 - Summary of Vadose Zone Resampling Event Laboratory Analytical Results
Table 3 - Revised Table 1 of the *Background Demonstration Sampling Report* : Summary of Background Soil Analytical Results
Figure 1 - Site Location and Topographic Features
Figure 2 - Quarterly Vadose Zone Monitoring and Vadose Zone Resampling Locations
Figure 3 - Mean Background Concentration Exceedance Delineation Sample Locations
Figure 4 - Location of Proposed On-Site Borrow Source
Attachment A - Calculation of Combined Radium
Attachment B - Laboratory Analytical Reports and Chain-of-Custody Documentation

TABLES

Table 1 : Summary of QVZM Laboratory Analytical Results
Pitchfork Landfarm, LLC - NM1-039
Lea County, New Mexico

Parameters	Sample ID: / Sample Date:	Mean Background Concentration	Mean Background PQL	QVZM-1 (2-3) 24-Mar-15	ALS RL for QVZM-1	QVZM-2 (2-3) 24-Mar-15	ALS RL for QVZM-2	QVZM-3 (2-3) 24-Mar-15	ALS RL for QVZM-3
Volatile Organic Compounds (VOCs)	***Units***								
Benzene	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
Toluene	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
Ethylbenzene	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
Xylenes (total)	mg/kg	0.005	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
Total Petroleum Hydrocarbons	***Units***								
C6 - C10	mg/kg	0.025	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050
C10 - C28	mg/kg	0.850	1.7	<1.7	1.7	<1.7	1.7	<1.7	1.7
C24 - C40	mg/kg	4.6	3.4	3.6	3.4	<3.4	3.4	3.6	3.4
General Chemistry and Radionuclides	***Units***								
Chloride	mg/kg	2.48	4.97	<4.91	4.91	<4.98	4.98	67.0	4.95

Notes:

1. mg/kg : milligrams per kilogram.
2. < : Analyte not detected at the laboratory reporting limit (RL) at the time of analysis.
3. All analyses performed by ALS Laboratory Group in Houston, Texas.
4. Cells shaded in blue indicate results that are detected above the Mean Background Concentration (MBC) and/or the mean Background PQL (MBPQL).

Table 2 : Summary of VZRS Laboratory Analytical Results
Pitchfork Landfarm, LLC - NM1-039
Lea County, New Mexico

Parameters	Sample ID: / Sample Date:	Mean Background Concentration	Mean Background PQL	VZRS-1 4-May-15	ALS RL for VZRS-1	VZRS-2 4-May-15	ALS RL for VZRS-2	VZRS-3 4-May-15	ALS RL for VZRS-3	VZRS-4 4-May-15	ALS RL for VZRS-4
Volatile Organic Compounds (VOCs)	***Units***										
Benzene	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
Toluene	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
Carbon Tetrachloride	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
1,2-Dichloroethane	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
1,1-Dichloroethene	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
1,1,2,2-Tetrachloroethene	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
1,1,2-Trichloroethene	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
Ethylbenzene	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
Xylenes (total)	mg/kg	0.005	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
Methylene chloride	mg/kg	0.005	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
Chloroform	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0064	<0.0050	0.0050	<0.0050	0.0050
1,1-Dichloroethane	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
Ethylene dibromide	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
1,1,1-Trichloroethane	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
1,1,2-Trichloroethane	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
1,1,2,2-Tetrachloroethane	mg/kg	0.0025	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050
Vinyl chloride	mg/kg	0.0010	0.0020	<0.0020	0.0020	<0.0020	0.0020	<0.0020	0.0020	<0.0020	0.0020
Polynuclear Aromatic Hydrocarbons (PAHs)	***Units***										
Benzo(a)pyrene	mg/kg	0.0017	0.0033	<0.0033	0.0033	<0.0033	0.0033	<0.0033	0.0033	<0.0033	0.0033
1-Methylnaphthalene	mg/kg	0.0017	0.0033	<0.0033	0.0033	<0.0033	0.0033	<0.0033	0.0033	<0.0033	0.0033
2-Methylnaphthalene	mg/kg	0.0017	0.0033	<0.0033	0.0033	<0.0033	0.0033	<0.0033	0.0033	<0.0033	0.0033
Naphthalene	mg/kg	0.0017	0.0033	<0.0033	0.0033	<0.0033	0.0033	<0.0033	0.0033	<0.0033	0.0033
Total Petroleum Hydrocarbons	***Units***										
C6 - C10	mg/kg	0.025	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050
C10 - C28	mg/kg	0.850	1.7	<1.7	1.7	<1.7	1.7	<1.7	1.7	<1.7	1.7
C24 - C40	mg/kg	4.6	3.4	<3.4	3.4	<3.4	3.4	<3.4	3.4	<3.4	3.4
Metals	***Units***										
Arsenic	mg/kg	2.72	0.473	2.37	0.447	2.42	0.424	1.97	0.449	2.35	0.461
Barium	mg/kg	66.6	0.473	267	44.7	144	0.424	119	0.449	108	0.461
Cadmium	mg/kg	0.236	0.473	<0.447	0.447	<0.424	0.424	<0.449	0.449	<0.461	0.461
Chromium	mg/kg	5.07	0.473	3.43	0.447	5.38	0.424	2.63	0.449	3.12	0.461
Lead	mg/kg	4.21	0.473	3.04	0.447	3.63	0.424	2.21	0.449	4.63	0.461
Mercury (total)	mg/kg	0.00268	0.00343	<0.00333	0.00333	<0.00342	0.00342	<0.00341	0.00341	<0.00351	0.00351
Selenium	mg/kg	0.236	0.473	<0.447	0.447	0.457	0.424	<0.449	0.449	<0.461	0.461
Silver	mg/kg	0.236	0.473	<0.447	0.447	<0.424	0.424	<0.449	0.449	<0.461	0.461
Copper	mg/kg	3.08	0.473	1.41	0.447	1.72	0.424	1.11	0.449	1.63	0.461
Iron	mg/kg	4,710	47.3	2,910	44.7	3,600	42.4	2,180	44.9	2,720	46.1
Manganese	mg/kg	59.5	0.473	43.9	0.447	37.4	0.424	24.9	0.449	30.2	0.461
Zinc	mg/kg	11.0	0.473	7.63	0.447	8.07	0.424	4.93	0.449	6.90	0.461
Uranium	mg/kg	0.236	0.473	<0.447	0.447	<0.424	0.424	<0.449	0.449	<0.461	0.461

Table 2 : Summary of VZRS Laboratory Analytical Results
Pitchfork Landfarm, LLC - NM1-039
Lea County, New Mexico

Parameters	Sample ID: / Sample Date:	Mean Background Concentration	Mean Background PQL	VZRS-1 4-May-15	ALS RL for VZRS-1	VZRS-2 4-May-15	ALS RL for VZRS-2	VZRS-3 4-May-15	ALS RL for VZRS-3	VZRS-4 4-May-15	ALS RL for VZRS-4
Polychlorinated Biphenyls (PCBs)	***Units***										
Aroclor 1016	mg/kg	0.009	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017
Aroclor 1221	mg/kg	0.009	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017
Aroclor 1232	mg/kg	0.009	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017
Aroclor 1242	mg/kg	0.009	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017
Aroclor 1248	mg/kg	0.009	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017
Aroclor 1254	mg/kg	0.009	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017
Aroclor 1260	mg/kg	0.009	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017	<0.017	0.017
General Chemistry and Radionuclides	***Units***										
Chloride	mg/kg	2.48	4.97	32.0	4.91	32.7	4.95	<4.96	4.96	499	4.97
Cyanide, total	mg/kg	0.993	1.99	<1.97	1.97	<1.99	1.99	<1.87	1.87	<1.95	1.95
Fluoride	mg/kg	3.04	0.993	2.38	0.983	3.08	0.991	2.87	0.992	3.17	0.994
Nitrate as N	mg/kg	0.497	0.993	5.68	0.983	2.76	0.991	1.58	0.992	8.21	0.994
Combined Radium	pCi/g	0.38 +/- 0.57	0.47	0.19 (+/- 0.35)	0.38	0.46 (+/- 0.39)	0.45	0.59 (+/- 0.40)	0.44	0.42 (+/- 0.39)	0.35
Phenols	mg/kg	1.25	2.50	<2.49	2.49	<2.48	2.48	<2.49	2.49	<2.49	2.49
Sulfate	mg/kg	5.23	4.97	80.7	4.91	31.7	4.95	26.9	4.96	70.7	4.97

Notes:

1. mg/kg : milligrams per kilogram.
2. pCi/g : picoCuries per gram.
3. < : Analyte not detected at the laboratory reporting limit (RL) at the time of analysis.
4. All analyses performed by ALS Laboratory Group in Houston, Texas with the exception of Ra-226 and Ra-228 which were subcontracted to ALS Laboratory Group in Fort Collins, Colorado.
5. Cells shaded in blue indicate results that are detected above the mean Background Concentration (MBC) and/or the mean Background PQL (MBPQL).
6. Combined Radium values were calculated from Radium-226 (Ra-226) and Radium-228 (Ra-228) to comply with 19.15.36.15B NMAC and were added to the table on November 1, 2016.

Table 3 : Summary of Background Soil Analytical Results - Revised November 7, 2016
Pitchfork Landfarm, LLC - NM1-039
Lea County, New Mexico

Parameters	Sample ID: / Sample Date:	BG-1 (2-3)FT 24-Mar-15	ALS PQL for BG-1 (2-3)FT	BG-2 (2-3)FT 24-Mar-15	ALS PQL for BG-2 (2-3)FT	Mean Background Concentration	Mean Background PQL
Volatile Organic Compounds (VOCs)	***Units***						
Benzene	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
Toluene	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
Carbon Tetrachloride	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
1,2-Dichloroethane	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
1,1-Dichloroethene	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
1,1,2,2-tetrachloroethene	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
1,1,2-trichloroethene	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
Ethylbenzene	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
Xylenes (total)	mg/kg	<0.010	0.010	<0.010	0.010	0.005	0.010
Methylene chloride	mg/kg	<0.010	0.010	<0.010	0.010	0.005	0.010
Chloroform	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
1,1-Dichloroethane	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
Ethylene dibromide	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
1,1,1-trichloroethane	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
1,1,2-trichloroethane	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
1,1,2,2-tetrachloroethane	mg/kg	<0.0050	0.0050	<0.0050	0.0050	0.0025	0.0050
Vinyl chloride	mg/kg	<0.0020	0.0020	<0.0020	0.0020	0.0010	0.0020
Polynuclear Aromatic Hydrocarbons (PAHs)	***Units***						
Benzo(a)pyrene	mg/kg	<0.0033	0.0033	<0.0033	0.0033	0.0017	0.0033
1-Methylnaphthalene	mg/kg	<0.0033	0.0033	<0.0033	0.0033	0.0017	0.0033
2-Methylnaphthalene	mg/kg	<0.0033	0.0033	<0.0033	0.0033	0.0017	0.0033
Naphthalene	mg/kg	<0.0033	0.0033	<0.0033	0.0033	0.0017	0.0033
Total Petroleum Hydrocarbons	***Units***						
C6 - C10	mg/kg	<0.050	0.050	<0.050	0.050	0.025	0.050
C10 - C28	mg/kg	<1.7	1.7	<1.7	1.7	0.850	1.7
C24 - C40	mg/kg	5.0	3.4	4.1	3.4	4.6	3.4
Metals	***Units***						
Arsenic	mg/kg	2.69	0.483	2.74	0.462	2.72	0.473
Barium	mg/kg	69.1	0.483	64.1	0.462	66.6	0.473
Cadmium	mg/kg	<0.483	0.483	<0.462	0.462	0.236	0.473
Chromium	mg/kg	5.58	0.483	4.56	0.462	5.07	0.473
Lead	mg/kg	4.69	0.483	3.72	0.462	4.21	0.473
Mercury (total)	mg/kg	0.00364	0.00342	<0.00344	0.00344	0.00268	0.00343
Selenium	mg/kg	<0.483	0.483	<0.462	0.462	0.236	0.473
Silver	mg/kg	<0.483	0.483	<0.462	0.462	0.236	0.473
Copper	mg/kg	3.42	0.483	2.74	0.462	3.08	0.473
Iron	mg/kg	5,290	48.3	4,130	46.2	4,710	47.3
Manganese	mg/kg	65.3	0.483	53.6	0.462	59.5	0.473
Zinc	mg/kg	11.9	0.483	10.0	0.462	11.0	0.473
Uranium	mg/kg	<0.483	0.483	<0.462	0.462	0.236	0.473

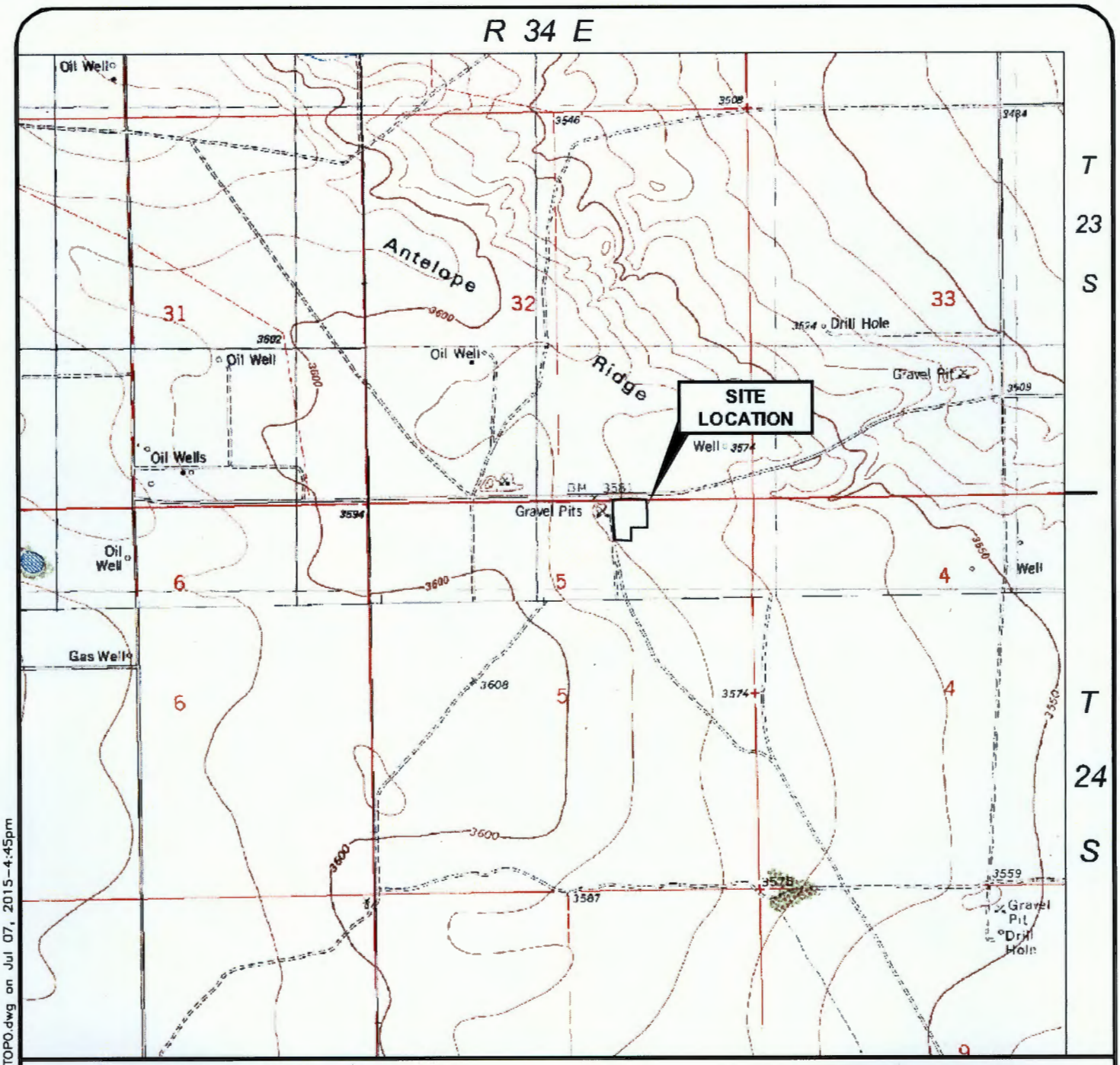
Table 3 : Summary of Background Soil Analytical Results - Revised November 2, 2016
Pitchfork Landfarm, LLC - NM1-039
Lea County, New Mexico

Parameters	Sample ID: / Sample Date:	BG-1 (2-3)FT 24-Mar-15	ALS PQL for BG-1 (2-3)FT	BG-2 (2-3)FT 24-Mar-15	ALS PQL for BG-2 (2-3)FT	Mean Background Concentration	Mean Background PQL
Polychlorinated Biphenyls (PCBs)	***Units***						
Aroclor 1016	mg/kg	<0.017	0.017	<0.017	0.017	0.009	0.017
Aroclor 1221	mg/kg	<0.017	0.017	<0.017	0.017	0.009	0.017
Aroclor 1232	mg/kg	<0.017	0.017	<0.017	0.017	0.009	0.017
Aroclor 1242	mg/kg	<0.017	0.017	<0.017	0.017	0.009	0.017
Aroclor 1248	mg/kg	<0.017	0.017	<0.017	0.017	0.009	0.017
Aroclor 1254	mg/kg	<0.017	0.017	<0.017	0.017	0.009	0.017
Aroclor 1260	mg/kg	<0.017	0.017	<0.017	0.017	0.009	0.017
General Chemistry and Radionuclides	***Units***						
Chloride	mg/kg	<4.98	4.98	<4.95	4.95	2.48	4.97
Cyanide, total	mg/kg	<1.98	1.98	<1.99	1.99	0.993	1.99
Fluoride	mg/kg	3.58	0.996	2.50	0.990	3.04	0.993
Nitrate as N	mg/kg	<0.996	0.996	<0.990	0.990	0.497	0.993
Combined Radium	pCi/g	0.38 (+/- 0.41)	0.49	0.39 (+/- 0.40)	0.46	0.38 +/- 0.57	0.47
Phenols	mg/kg	<2.50	2.50	<2.50	2.50	1.25	2.50
Sulfate	mg/kg	5.15	4.98	5.30	4.95	5.23	4.97

Notes:

1. µg/kg : micrograms per kilogram.
2. mg/kg : milligrams per kilogram.
3. pCi/g : picoCuries per gram.
4. < : Analyte not detected at the laboratory practical quantitation limit (PQL).
5. All analyses performed by ALS Laboratory Group in Houston, Texas with the exception of Ra-226 and Ra-228 which were subcontracted to ALS Laboratory Group in Fort Collins, Colorado.
6. Cells shaded in blue indicate results that are above the laboratory PQL.
7. N/A : Not Applicable
8. Combined Radium values were calculated from Radium-226 (Ra-226) and Radium-228 (Ra-228) to comply with 19.15.36.15B NMAC and were added to the table on November 1, 2016.

FIGURES



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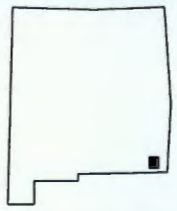
TIP TOP WELLS, NEW MEXICO 1984 AND
WOODLEY FLAT, NEW MEXICO 1973

NEW MEXICO



N

SCALE
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LOCATION: NE/4 NW/4 NE/4, SECTION 5, T24S, R34E LEA COUNTY, NEW MEXICO	DOCUMENT TITLE: QUARTERLY VADOSE ZONE MONITORING REPORT

ENVIRO CLEAN SERVICES, LLC

Enviro Clean Services, LLC
7060 South Yale Avenue, Suite 603
Tulsa, Oklahoma 74136
918.794.7828
www.EnviroCleanPS.com

		DESIGNED BY	BEM
DATE	7/8/2015	APPROVED BY	BEM
SCALE	AS SHOWN	DRAWN BY	SKG
PROJECT NUMBER		FIGURE NUMBER	
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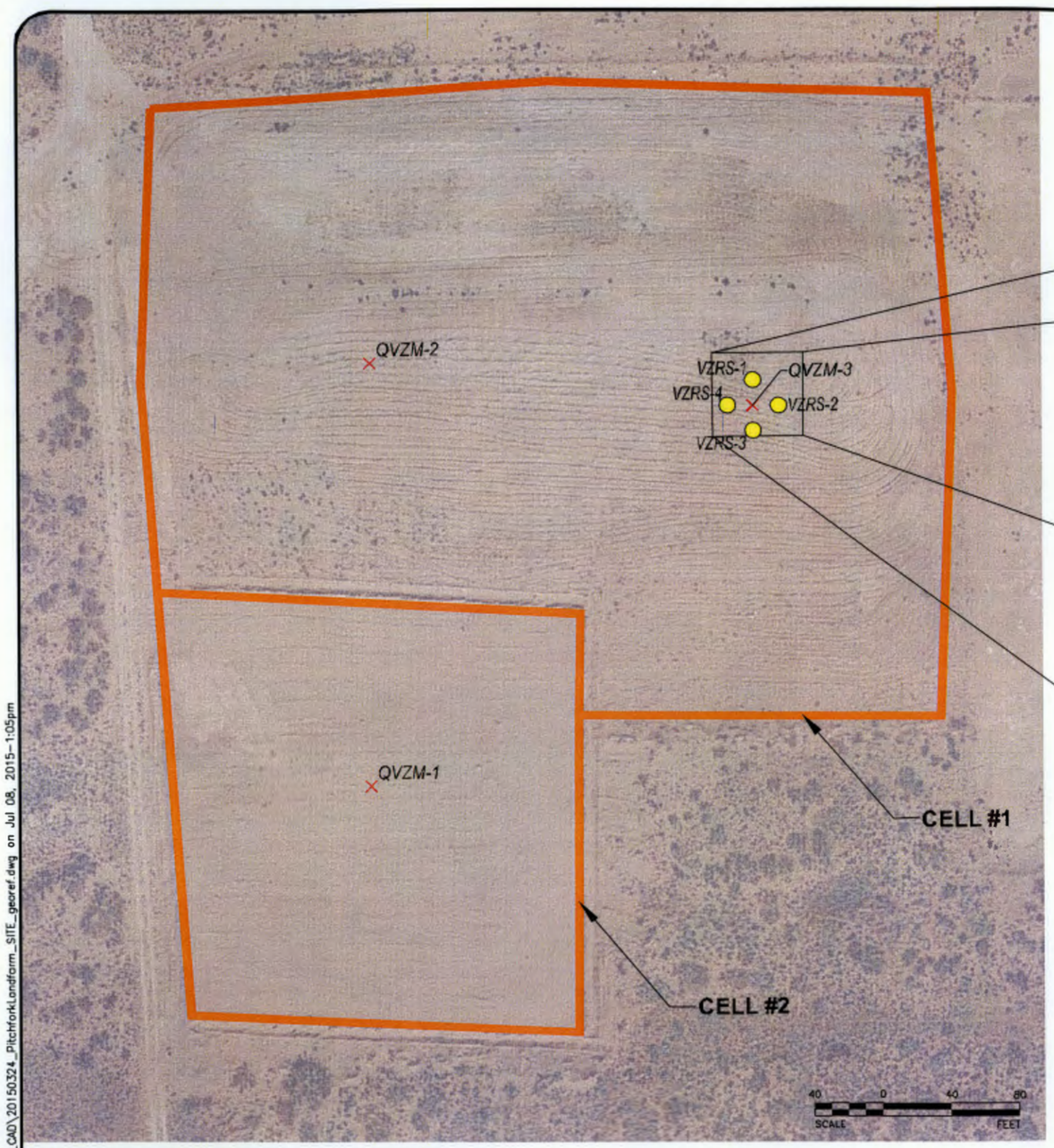

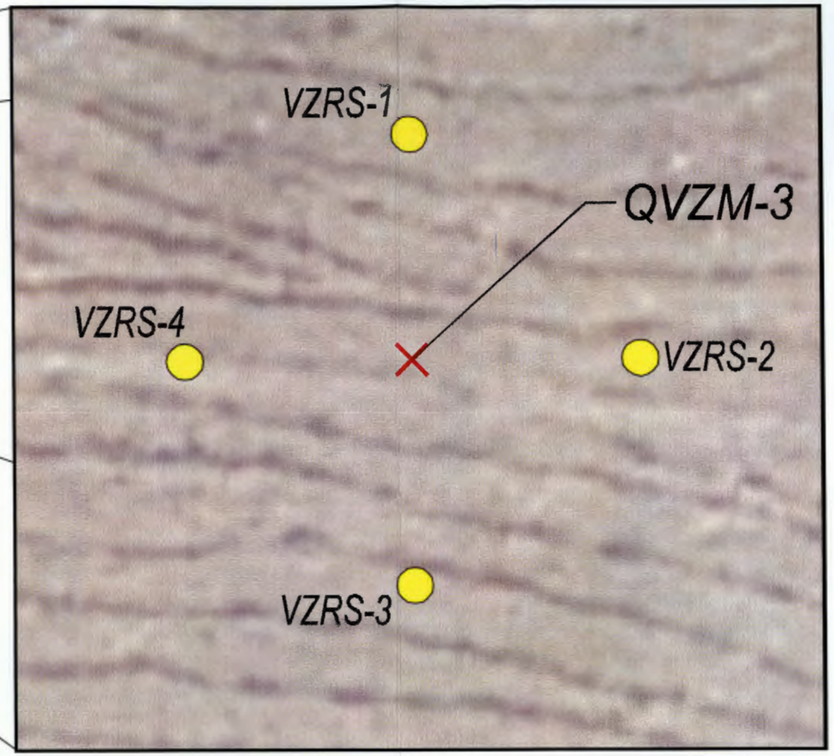

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LEGEND

QVZM-3 — LOCATION OF MARCH 2015 QUARTERLY VADOSE ZONE MONITORING SAMPLE

VZRS-2 — LOCATION OF VADOSE ZONE RESAMPLING EVENT SAMPLE

LANDFARM BOUNDARY WITH CELLS

N

ENVIRO CLEAN SERVICES, LLC

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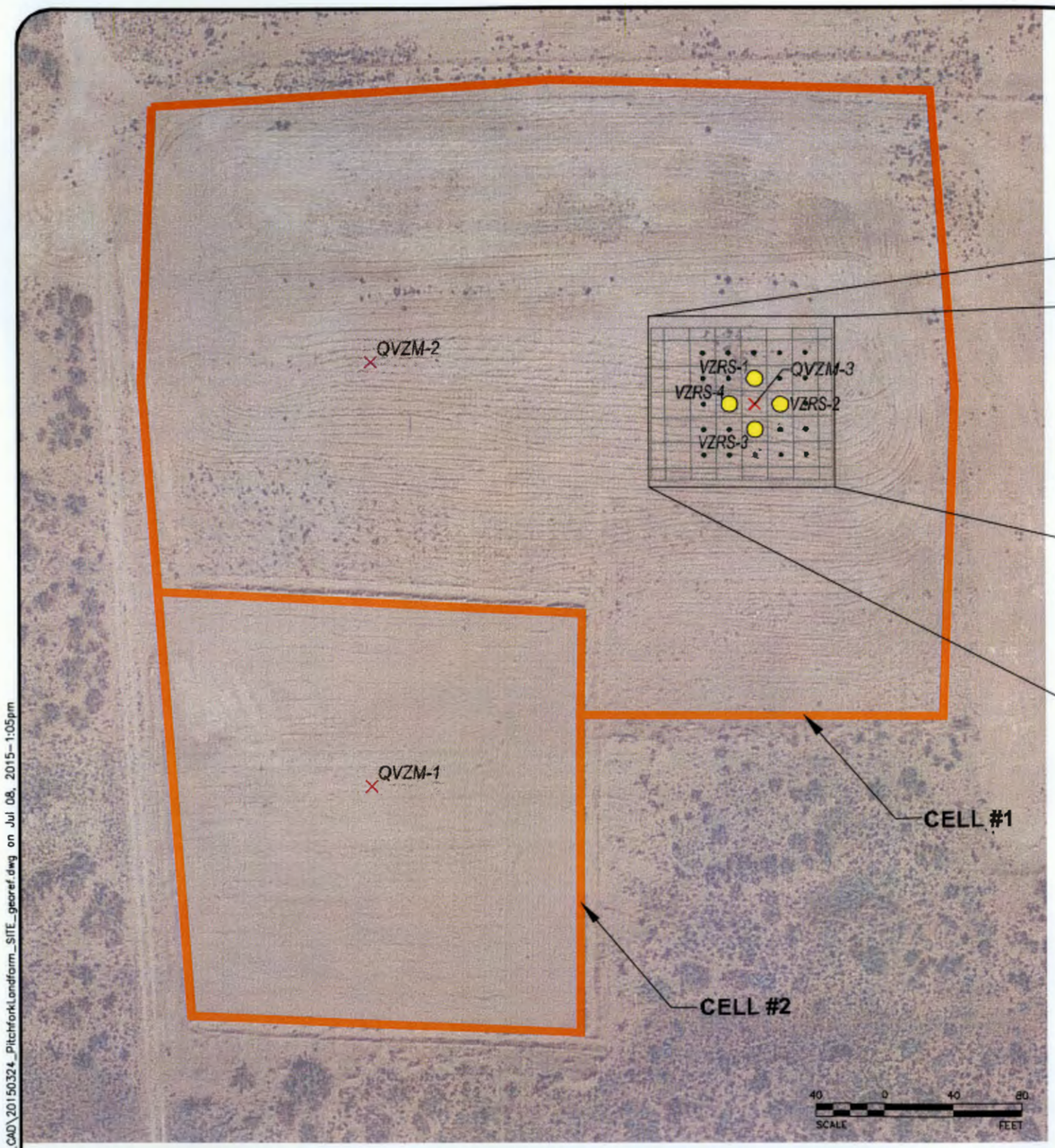
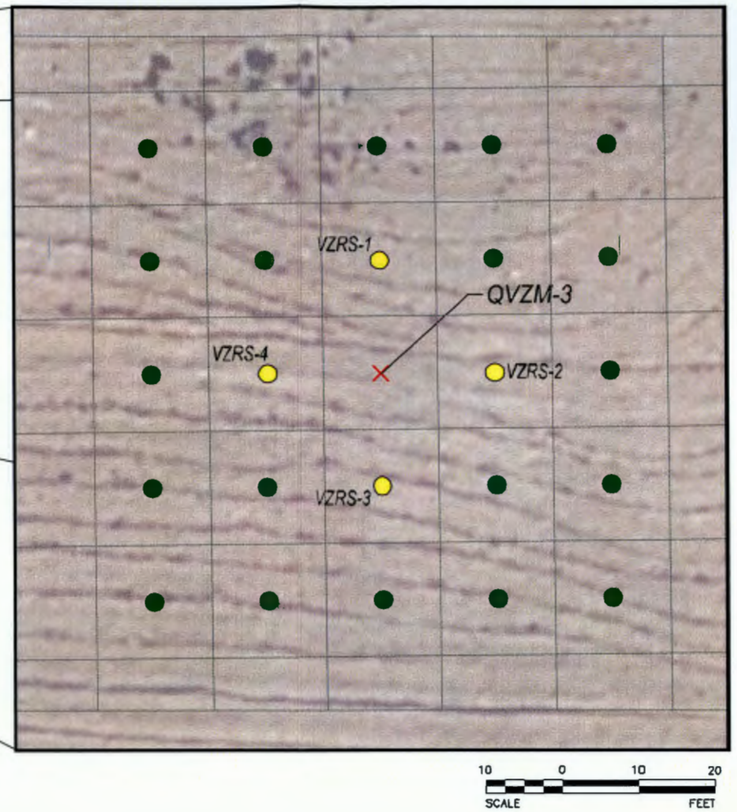
Tulsa, Oklahoma 74136
918.794.7828

www.EnviroCleanPS.com

SOURCE: AERIAL PHOTOGRAPH DATED FEBRUARY 13, 2014 - GOOGLE EARTH PRO SCREEN CAPTURE

DOCUMENT TITLE: QUARTERLY VADOSE ZONE MONITORING REPORT	FIGURE TITLE: *QUARTERLY VADOZE ZONE MONITORING AND VADOSE ZONE RESAMPLING LOCATIONS*
CLIENT: PITCHFORK LANDFARM, LLC	
LOCATION: NW/4 NE/4 SECTION 5, NM T24S R34E LEA COUNTY, NEW MEXICO	DESIGNED BY: BEM; APPROVED BY: BEM; DRAWN BY: SKG; SCALE: AS SHOWN; DATE: 7/8/2015
	PROJECT NUMBER: PITHLAND01
	FIGURE NUMBER: 2





LEGEND

QVZM-3 — LOCATION OF MARCH 2015 QUARTERLY VADOSE ZONE MONITORING SAMPLE

VZRS-2 — LOCATION OF VADOSE ZONE RESAMPLING EVENT SAMPLE

LOCATION OF PROPOSED VADOSE ZONE MBC EXCEEDANCE DELINEATION SAMPLE

SAMPLING GRID – 15 FOOT SQUARE

LANDFARM BOUNDARY WITH CELLS

N

ENVIRO CLEAN SERVICES, LLC
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SOURCE: AERIAL PHOTOGRAPH DATED FEBRUARY 13, 2014 - GOOGLE EARTH PRO SCREEN CAPTURE

DOCUMENT TITLE: QUARTERLY VADOSE ZONE MONITORING REPORT	FIGURE TITLE: *MEAN BACKGROUND CONCENTRATION (MBC) EXCEEDANCE DELINEATION SAMPLE LOCATIONS*
CLIENT: PITCHFORK LANDFARM, LLC	
LOCATION: NW/4 NE/4 SECTION 5, NM T24S R34E LEA COUNTY, NEW MEXICO	DESIGNED BY: BEM; APPROVED BY: BEM; DRAWN BY: SKG; SCALE: AS SHOWN; DATE: 7/8/2015
	PROJECT NUMBER: PITHLAND01
	FIGURE NUMBER: 3

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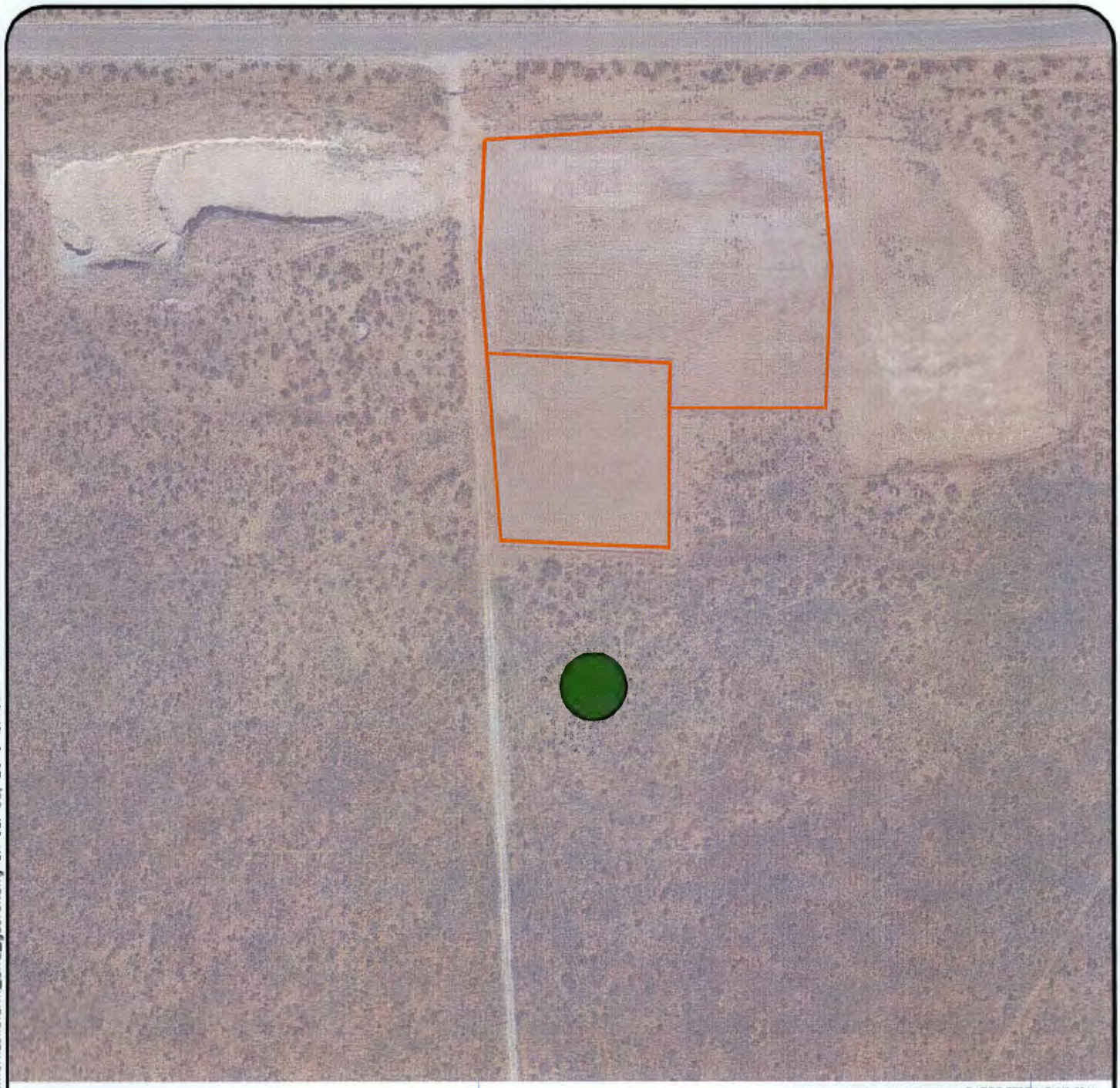

SOURCE: AERIAL PHOTOGRAPH DATED FEBRUARY 13, 2014 - GOOGLE EARTH PRO SCREEN CAPTURE

LEGEND

- LOCATION OF PROPOSED ON-SITE BORROW SOILS
- LANDFARM BOUNDARY WITH CELLS

N

100 0 100 200

SCALE FEET

CLIENT: PITCHFORK LANDFARM, LLC	FIGURE TITLE: *LOCATION OF PROPOSED ON-SITE BORROW SOURCE*
LOCATION: NW/4 NE/4 SECTION 5, NM T24S R34E LEA COUNTY, NEW MEXICO	DOCUMENT TITLE: QUARTERLY VADOSE ZONE MONITORING REPORT

ENVIRO CLEAN SERVICES, LLC

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		DESIGNED BY	BEM
DATE	7/29/2015	APPROVED BY	BEM
SCALE	1"=200'	DRAWN BY	SKG
PROJECT NUMBER		FIGURE NUMBER	
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ATTACHMENT A

CALCULATION OF COMBINED RADIUM

Calculation of Combined Radium
Pitchfork Landfarm, LLC - NM1-039
Lea County, New Mexico

Compliance with 19.15.36.15B NMAC (Specific Requirements Applicable to Landfarms, Background Testing) necessitates reporting a Combined Radium value (Subsections A and B of 20.6.2.3103 NMAC). To determine a Combined Radium value, the two major isotopes of Radium (Radium-226, an α-emitter, and a result of the decay of naturally-occurring Uranium-238, and Radium-228, a β-emitter, and a result of the decay of naturally-occurring Thorium-232) are analyzed separately and their "concentrations" simply summed, their "Practical Quantitation Limits" (PQLs) averaged, and the standard deviation of their Total Propagated Uncertainties (TPU) calculated.

ECC's approach to the calculation of a Combined Radium "concentration" from Radium-226 (Ra-226) and Radium-228 (Ra-228) was based on discussions with analysts from the project analytical laboratory, ALS (Fort Collins, CO); guidance provided in the California Department of Health Services Drinking Water Program's "*Counting Errors in Radioactivity Analyses*" (Counting Errors) dated December 1, 2006; the "*Joint Guidance for the Cleanup and Reclamation of Existing Uranium Mining Operations in New Mexico*" (Joint Guidance) dated March 2016 and co-authored by the Energy, Minerals & Natural Resources Department (EMNRD) and the New Mexico Environment Department (NMED); and Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual Volume III: Chapter 19, *Measurement Uncertainty* (MARLAP Chapter 19).

The *Joint Guidance* refers to Texas Administrative Code (TAC) Title 30, Part 1, Chapter 290, Subchapter F, Rule §290.108 (b)(1)(A) which states "...combined Radium, as calculated by the summation of the results for Ra-226 and Ra-228" and in (f)(1)(c) of this TAC, "if a sample result is less than the detection limit, zero will be used...". Analysts at ALS in Fort Collins, Colorado corroborated this approach. The *Counting Errors* document demonstrated how to combine the TPUs of the two different isotopes. Section 19.3.7 of MARLAP, "Significant Figures", describes the common convention for reporting radionuclide TPUs [rounded to two (2) significant figures] and states that "intermediate results in a series of calculation steps should be carried through all steps with additional figures to prevent unnecessary roundoff errors" and that "rounding should be performed only when the result is reported". Significant figures are handled in accordance to the specifications presented in ASTM E29-13: *Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications* (ASTM E29-13). Thus, the calculation of Combined Radium for each sample collected at Pitchfork is based on:

1. non-detected isotopes, as shown on the laboratory analytical report as ND, are considered to have a "concentration" of zero (0);
2. all calculations are performed without rounding any numbers;
3. the method specified in ASTM E29 – 13 shall be used to round numbers; and
4. final calculated "concentrations", "PQLs", and TPUs will be reported to two (2) significant figures.

It should be noted that the "mean background concentration" (MBC) and the "mean background practical quantitation limit" (MBPQL) for Combined Radium cannot be considered in the same manner as MBCs and MBPQLs from chemical analysis due to the inherent relative uncertainty related to

measurements of radioactivity. The "MBC" and "MBPQL" for the calculated Combined Radium are based on calculations reserved for chemical constituents. The calculation of a Combined Radium "concentration" +/- the TPU and a Combined Radium "PQL" are based on these additive limitations:

1 the unconventional, yet widely accepted, method to calculate a Combined Radium "concentration" by the summation of the activities of not only two different radioactive emitters (α versus β), but two different radioactive emitters analyzed by different analytical methodologies;

2 the unconventional, yet widely accepted, method to calculate a Combined Radium "PQL" by taking an average of the "PQLs" generated from, and inherent to, different analytical methodologies; and

3 the widely accepted, yet not completely accurate, method to determine a Combined Radium TPU by calculating the standard deviation between the mathematically-derived and analytical method-specific TPUs of the two isotopes.

The associated radiochemical analytical reports found as **Attachment B** refer to a "Report Limit" for Ra-226 and a "Report Limit" for Ra-228. For the purposes of this discussion, the term Report Limit is interchangeable with the term PQL. It should be noted, however, that the term "PQL" has no applicability to radiochemical analysis. Radionuclide data must be reported as an activity, typically expressed in picocuries per gram (pCi/g) or picocuries per liter (pCi/L), plus or minus (+/-) a laboratory-determined uncertainty (TPU). This mathematically-derived TPU not only differs between analytical methodology but differs with every sample. A TPU is typically determined at two standard deviations which means that there is a 95% probability that the reported plus or minus (+/-) range contains the actual value of the true activity.

Background Sample BG-01 - Combined Radium Calculation

Sample BG-01 was analyzed for Ra-226 and Ra-228 separately, as there is no method to analyze both isotopes simultaneously. The results for BG-01 are reported to two significant figures in the laboratory analytical report. The activity, or "concentration", of Ra-226 was measured to be 0.38 +/- 0.19 picocuries per gram (pCi/g) and the activity of Ra-228 was not-detected (ND) +/- 0.81 pCi/g. Non-detects are considered zero (0), thus the calculation for Combined Radium is the activity of Ra-226 plus the activity of Ra-228 (0.38 pCi/g plus 0 pCi/g) yields a value of 0.38 pCi/g. The Combined Radium "concentration" in sample BG-01 (reported to two significant figures) is 0.38 pCi/g.

The TPUs for Ra-226 and Ra-228 were +/- 0.19 pCi/g and +/- 0.36 pCi/g, respectively. To calculate the Combined Radium TPU, the TPU of each isotope is squared and the square root of the addition of the squares becomes the Combined Radium TPU. The TPU for Ra-226 was +/- 0.19 pCi/g and the square is 0.0361 pCi/g. The TPU for Ra-228 was +/- 0.36 pCi/g and the square is 0.1296 pCi/g. The addition of these values is 0.0361 pCi/g plus 0.1296 pCi/g yielding a value of 0.1657 pCi/g. The square root of this value is 0.407062649 and becomes the TPU of Combined Radium: +/- 0.41 pCi/g (as reported to two significant figures).

The "PQL" for Ra-226 was 0.18 pCi/g and the "PQL" for Ra-228 was 0.81 pCi/g. An average of the two values yields a value of 0.495 which, reported to two significant figures, becomes the Combined Radium "PQL": 0.49 pCi/g.

The Combined Radium "concentration" in sample BG-01 is 0.38 +/- 0.41 pCi/g with a "PQL" of 0.49 pCi/g. The calculated Combined Radium "concentration" in sample BG-01 does not exceed the calculated Combined Radium "PQL" of 0.49 pCi/g and therefore, Combined Radium is not detected in sample BG-01.

Background Sample BG-02 - Combined Radium Calculation

Sample BG-02 was analyzed for Ra-226 and Ra-228 separately, as there is no method to analyze both isotopes simultaneously. The results for BG-02 are reported to two significant figures in the laboratory analytical report. The activity, or "concentration", of Ra-226 was measured to be 0.39 +/- 0.18 pCi/g and the activity of Ra-228 was ND +/- 0.36 pCi/g. Non-detects are considered zero (0), thus the calculation for Combined Radium is the activity of Ra-226 plus the activity of Ra-228 (0.39 pCi/g plus 0 pCi/g) yields a value of 0.39 pCi/g. The Combined Radium "concentration" in sample BG-02 (reported to two significant figures) is 0.39 pCi/g.

The TPUs for Ra-226 and Ra-228 were +/- 0.18 pCi/g and +/- 0.36 pCi/g, respectively. To calculate the Combined Radium TPU, the TPU of each isotope is squared and the square root of the addition of the squares becomes the Combined Radium TPU. The TPU for Ra-226 was +/- 0.18 pCi/g and the square is 0.0324 pCi/g. The TPU for Ra-228 was +/- 0.36 pCi/g and the square is 0.1296 pCi/g. The addition of these values (0.0324 pCi/g plus 0.1296 pCi/g) yields a value of +/- 0.162 pCi/g. The square root of this value is 0.402492236 and becomes the TPU of Combined Radium: +/- 0.40 pCi/g (as reported to two significant figures).

The "PQL" for Ra-226 was 0.12 pCi/g and the "PQL" for Ra-228 was 0.8 pCi/g. An average of the two values yields a value of 0.46 which, reported to two significant figures, becomes the Combined Radium "PQL": 0.46 pCi/g.

The Combined Radium "concentration" in sample BG-02 is 0.39 +/- 0.40 pCi/g with a "PQL" of 0.46 pCi/g. The calculated Combined Radium "concentration" in sample BG-02 does not exceed the calculated Combined Radium "PQL" of 0.46 pCi/g and therefore, Combined Radium is not detected in sample BG-02.

Mean Background Concentration - Combined Radium Calculation

Samples BG-01 and BG-02 were analyzed for Ra-226 and Ra-228 separately, as there is no method to analyze both isotopes simultaneously. As described above, the Combined Radium result for sample BG-01 was calculated to have a "concentration" of 0.38 pCi/g with a TPU of +/- 0.41 pCi/g and a "PQL" of 0.49 pCi/g. As described above, the Combined Radium result for sample BG-02 was calculated to have a "concentration" of 0.39 pCi/g with a TPU of +/- 0.40 pCi/g and a "PQL" of 0.46 pCi/g

Calculation of Combined Radium
Pitchfork Landfarm, LLC - NM1-039
Lea County, New Mexico

A mean background "concentration" ("MBC") of Combined Radium is calculated by adding the "concentration" of Combined Radium in sample BG-01 (0.38 pCi/g) to the "concentration" of Combined Radium in sample BG-02 (0.39 pCi/g) and averaging them. This calculation yields a value of 0.385 and, as reported to two significant figures, the "MBC" of Combined Radium in the Background is calculated to be 0.38 pCi/g.

To calculate the average Combined Radium TPU for the "MBC", the calculated TPU of sample BG-01 and the calculated TPU of BG-02 are squared and the square root of the addition of the squares becomes the Combined Radium TPU for the "MBC". The calculated Combined Radium TPU for sample BG-01 is +/- 0.41 pCi/g and the square is 0.1681 pCi/g. The calculated Combined Radium TPU for sample BG-02 is +/- 0.40 pCi/g and the square is 0.16 pCi/g. The summation of these values is 0.3281 pCi/g. The square root of this value (0.3281 pCi/g) is 0.57280014 and the TPU of Combined Radium in the Background (reported to two significant figures) is +/- 0.57 pCi/g.

The calculated Combined Radium "PQL" for sample BG-01 was 0.49 pCi/g and the calculated Combined Radium "PQL" for sample BG-02 was 0.46 pCi/g. An average of the two values yields a value of 0.475 and as reported to two significant figures, the calculated Combined Radium "MBPQL" calculates to 0.47 pCi/g.

The calculated Combined Radium "MBC" in the Background is 0.38 +/- 0.57 pCi/g with a calculated Combined Radium "MBPQL" of 0.47 pCi/g. The Combined Radium "MBC" and "MBPQL", calculated as described above, are now the benchmarks from which all other samples will be compared.

Summary

Radionuclide data must be reported as the activity plus or minus a laboratory-determined uncertainty. The summation of all uncertainties, often referred to as total propagated error (TPU), differ from sample to sample as they are derived mathematically. They also differ between Radium-226 (Ra-226) and Radium-288 (Ra-228) as these isotopes are not only analyzed by different methods, but each emits different radiation (alpha versus beta). The TPU is typically determined at two standard deviations which means that there is a 95% probability that the reported plus or minus range contains the actual value of the true activity. As such, combining the "concentrations" of the two isotopes (Ra-226 and Ra-228) and their TPUs provides a misleading value for Ra-226 and Ra-228 (Combined Radium). Whilst misleading from a chemistry standpoint, Combined Radium is a parameter adopted by most Regulatory Agencies.

Note that for Pitchfork, Ra-226 was the only isotope detected in both the Background and Vadose Zone samples. Per Section 20.2.7 of MARLAP Manual Volume III: Chapter 20, *Detection and Quantification Capabilities Overview* (MARLAP Chapter 20), "(if) the purpose of a project is to determine whether the Ra-226 concentration [sic] in soil from a site is below an action level. Since Ra-226 occurs naturally in almost any type of soil, the analyte may be assumed to be present in every sample, making detection decisions irrelevant".

Calculation of Combined Radium
Pitchfork Landfarm, LLC - NM1-039
Lea County, New Mexico

Per New Mexico's Indicator-Based Information System (NM-IBIS), "in the natural environment, all rocks (and)...soil...contain very low amounts of radium. However, when rocks contain high levels of uranium (such as the Southwestern US) or thorium, radium is also found in high levels."

Indeed, with the calculated Combined Radium "MBC" in the Background of 0.38 +/- 0.57 pCi/g with a calculated Combined Radium "MBPQL" of 0.47 pCi/g, considering the facts regarding the inherent uncertainty in the measurement of radioactivity, the ubiquity of Ra-226, and the unconventional (albeit accepted as standard practice) approach presented herein to the calculation of Combined Radium, the Combined Radium detection in sample VZRS-3 (0.59 +/- 0.40 pCi/g) may be statistically insignificant.

ATTACHMENT B

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

ALS Environmental

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www.alsglobal.com

March 28, 2016

Julie Czech
Enviro Clean Services, LLC
7060 S. Yale Avenue, Suite 603
Tulsa, OK 74136

Work Order: **HS15030907**

Revision: **2**

Laboratory Results for: **Pitchforkland Farm, LLC**

Dear Julie,

ALS Environmental received 3 sample(s) on Mar 25, 2015 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Sonia West

Generated By: Sonia.West

Sonia West
Project Manager

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Work Order: HS15030907

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS15030907-01	QVZM-1 (2-3)	Soil		24-Mar-2015 12:40	25-Mar-2015 09:20	☐
HS15030907-02	QVZM-2 (2-3)	Soil		24-Mar-2015 13:00	25-Mar-2015 09:20	☐
HS15030907-03	QVZM-3 (2-3)	Soil		24-Mar-2015 13:40	25-Mar-2015 09:20	☐

Revision:2

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Work Order: HS15030907

CASE NARRATIVE

Work Order Comments

- Revision I:
  This report has been revised to report the PQL (Reporting Limit).

- Revision II:
  As per the clients request on March 25, 2016, this report has been revised to report results on a wet-weight basis.

GC Semivolatiles by Method SW8015M

Batch ID: 91779

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GC Volatiles by Method SW8015

Batch ID: R251832

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Volatiles by Method SW8260

Batch ID: R251744

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW3550

Batch ID: R251854

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: 91760

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Revision:2

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Sample ID: QVZM-1 (2-3)
Collection Date: 24-Mar-2015 12:40

ANALYTICAL REPORT
WorkOrder:HS15030907
Lab ID:HS15030907-01
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	27-Mar-2015 13:41
Ethylbenzene	ND		5.0	ug/Kg	1	27-Mar-2015 13:41
Toluene	ND		5.0	ug/Kg	1	27-Mar-2015 13:41
Xylenes, Total	ND		10	ug/Kg	1	27-Mar-2015 13:41
Surr: 1,2-Dichloroethane-d4	*94.6*		*70-128*	*%REC*	*1*	*27-Mar-2015 13:41*
Surr: 4-Bromofluorobenzene	*95.3*		*73-126*	*%REC*	*1*	*27-Mar-2015 13:41*
Surr: Dibromofluoromethane	*101*		*71-128*	*%REC*	*1*	*27-Mar-2015 13:41*
Surr: Toluene-d8	*98.8*		*73-127*	*%REC*	*1*	*27-Mar-2015 13:41*
ANIONS BY SW9056A		**Method:SW9056**		Prep:SW9056 / 26-Mar-2015		Analyst: JBA
Chloride	ND		4.91	mg/Kg	1	26-Mar-2015 13:03
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	26-Mar-2015 21:47
Surr: 4-Bromofluorobenzene	*87.9*		*70-130*	*%REC*	*1*	*26-Mar-2015 21:47*
MOISTURE		**Method:SW3550**				Analyst: JHD
Percent Moisture	**9.43**		**0.0100**	**wt%**	1	30-Mar-2015 12:08
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 26-Mar-2015		Analyst: KMB
TPH (Diesel Range)	ND		1.7	mg/Kg	1	27-Mar-2015 19:15
TPH (Motor Oil Range)	**3.6**		**3.4**	**mg/Kg**	1	27-Mar-2015 19:15
Surr: 2-Fluorobiphenyl	*79.2*		*60-135*	*%REC*	*1*	*27-Mar-2015 19:15*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:2

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Sample ID: QVZM-2 (2-3)
Collection Date: 24-Mar-2015 13:00

ANALYTICAL REPORT
WorkOrder:HS15030907
Lab ID:HS15030907-02
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	27-Mar-2015 14:05
Ethylbenzene	ND		5.0	ug/Kg	1	27-Mar-2015 14:05
Toluene	ND		5.0	ug/Kg	1	27-Mar-2015 14:05
Xylenes, Total	ND		10	ug/Kg	1	27-Mar-2015 14:05
Surr: 1,2-Dichloroethane-d4	*92.4*		*70-128*	*%REC*	*1*	*27-Mar-2015 14:05*
Surr: 4-Bromofluorobenzene	*98.5*		*73-126*	*%REC*	*1*	*27-Mar-2015 14:05*
Surr: Dibromofluoromethane	*100*		*71-128*	*%REC*	*1*	*27-Mar-2015 14:05*
Surr: Toluene-d8	*102*		*73-127*	*%REC*	*1*	*27-Mar-2015 14:05*
ANIONS BY SW9056A		**Method:SW9056**		Prep:SW9056 / 26-Mar-2015		Analyst: JBA
Chloride	ND		4.98	mg/Kg	1	26-Mar-2015 13:18
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	26-Mar-2015 22:03
Surr: 4-Bromofluorobenzene	*87.9*		*70-130*	*%REC*	*1*	*26-Mar-2015 22:03*
MOISTURE		**Method:SW3550**				Analyst: JHD
Percent Moisture	**14.2**		**0.0100**	**wt%**	1	30-Mar-2015 12:08
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 26-Mar-2015		Analyst: KMB
TPH (Diesel Range)	ND		1.7	mg/Kg	1	27-Mar-2015 19:38
TPH (Motor Oil Range)	ND		3.4	mg/Kg	1	27-Mar-2015 19:38
Surr: 2-Fluorobiphenyl	*79.0*		*60-135*	*%REC*	*1*	*27-Mar-2015 19:38*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:2

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Sample ID: QVZM-3 (2-3)
Collection Date: 24-Mar-2015 13:40

ANALYTICAL REPORT
WorkOrder:HS15030907
Lab ID:HS15030907-03
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	27-Mar-2015 14:28
Ethylbenzene	ND		5.0	ug/Kg	1	27-Mar-2015 14:28
Toluene	ND		5.0	ug/Kg	1	27-Mar-2015 14:28
Xylenes, Total	ND		10	ug/Kg	1	27-Mar-2015 14:28
Surr: 1,2-Dichloroethane-d4	*97.3*		*70-128*	*%REC*	*1*	*27-Mar-2015 14:28*
Surr: 4-Bromofluorobenzene	*95.1*		*73-126*	*%REC*	*1*	*27-Mar-2015 14:28*
Surr: Dibromofluoromethane	*98.0*		*71-128*	*%REC*	*1*	*27-Mar-2015 14:28*
Surr: Toluene-d8	*98.5*		*73-127*	*%REC*	*1*	*27-Mar-2015 14:28*
ANIONS BY SW9056A		**Method:SW9056**		Prep:SW9056 / 26-Mar-2015		Analyst: JBA
Chloride	**70.3**		**4.95**	**mg/Kg**	1	26-Mar-2015 13:32
Chloride	**67.0**		**4.96**	**mg/Kg**	1	22-Apr-2015 13:28
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	26-Mar-2015 22:18
Surr: 4-Bromofluorobenzene	*94.3*		*70-130*	*%REC*	*1*	*26-Mar-2015 22:18*
MOISTURE		**Method:SW3550**				Analyst: JHD
Percent Moisture	**14.5**		**0.0100**	**wt%**	1	30-Mar-2015 12:08
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 26-Mar-2015		Analyst: KMB
TPH (Diesel Range)	ND		1.7	mg/Kg	1	27-Mar-2015 20:00
TPH (Motor Oil Range)	**3.6**		**3.4**	**mg/Kg**	1	27-Mar-2015 20:00
Surr: 2-Fluorobiphenyl	*84.9*		*60-135*	*%REC*	*1*	*27-Mar-2015 20:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:2

WEIGHT LOG

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15030907

Batch ID: 91760 **Method:** ANIONS BY SW9056A **Prep:** 9056_S_PR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15030907-01	1	5.0879	50 (mL)	9.827
HS15030907-02	1	5.0173	50 (mL)	9.966
HS15030907-03	1	5.0551	50 (mL)	9.891

Batch ID: 91779 **Method:** TPH DRO/ORO BY SW8015C **Prep:** 8015SPR_LL

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15030907-01	1	30.06	1 (mL)	0.03327
HS15030907-02	1	30.03	1 (mL)	0.0333
HS15030907-03	1	30.04	1 (mL)	0.03329

Batch ID: 92629 **Method:** ANIONS BY SW9056A **Prep:** 9056_S_PR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15030907-03	1	5.0446	50 (mL)	9.912

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15030907

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 91760	**Test Name :** ANIONS BY SW9056A			**Matrix:** Soil		
HS15030907-01	QVZM-1 (2-3)	24 Mar 2015 12:40		26 Mar 2015 08:44	26 Mar 2015 13:03	1
HS15030907-02	QVZM-2 (2-3)	24 Mar 2015 13:00		26 Mar 2015 08:44	26 Mar 2015 13:18	1
HS15030907-03	QVZM-3 (2-3)	24 Mar 2015 13:40		26 Mar 2015 08:44	26 Mar 2015 13:32	1
Batch ID 91779	**Test Name :** TPH DRO/ORO BY SW8015C			**Matrix:** Soil		
HS15030907-01	QVZM-1 (2-3)	24 Mar 2015 12:40		26 Mar 2015 11:21	27 Mar 2015 19:15	1
HS15030907-02	QVZM-2 (2-3)	24 Mar 2015 13:00		26 Mar 2015 11:21	27 Mar 2015 19:38	1
HS15030907-03	QVZM-3 (2-3)	24 Mar 2015 13:40		26 Mar 2015 11:21	27 Mar 2015 20:00	1
Batch ID 92629	**Test Name :** ANIONS BY SW9056A			**Matrix:** Soil		
HS15030907-03	QVZM-3 (2-3)	24 Mar 2015 13:40		21 Apr 2015 15:50	22 Apr 2015 13:28	1
Batch ID R251744	**Test Name :** VOLATILES BY SW8260C			**Matrix:** Soil		
HS15030907-01	QVZM-1 (2-3)	24 Mar 2015 12:40			27 Mar 2015 13:41	1
HS15030907-02	QVZM-2 (2-3)	24 Mar 2015 13:00			27 Mar 2015 14:05	1
HS15030907-03	QVZM-3 (2-3)	24 Mar 2015 13:40			27 Mar 2015 14:28	1
Batch ID R251832	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C			**Matrix:** Soil		
HS15030907-01	QVZM-1 (2-3)	24 Mar 2015 12:40			26 Mar 2015 21:47	1
HS15030907-02	QVZM-2 (2-3)	24 Mar 2015 13:00			26 Mar 2015 22:03	1
HS15030907-03	QVZM-3 (2-3)	24 Mar 2015 13:40			26 Mar 2015 22:18	1
Batch ID R251854	**Test Name :** MOISTURE			**Matrix:** Soil		
HS15030907-01	QVZM-1 (2-3)	24 Mar 2015 12:40			30 Mar 2015 12:08	1
HS15030907-02	QVZM-2 (2-3)	24 Mar 2015 13:00			30 Mar 2015 12:08	1
HS15030907-03	QVZM-3 (2-3)	24 Mar 2015 13:40			30 Mar 2015 12:08	1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15030907

QC BATCH REPORT

Batch ID: 91779 **Instrument: FID-7** **Method: SW8015M**

MBLK Sample ID: **MBLK-91779** Units: **mg/Kg** Analysis Date: **27-Mar-2015 17:46**
Client ID: Run ID: **FID-7_251848** SeqNo: **3227118** PrepDate: **26-Mar-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	ND	1.7								
TPH (Motor Oil Range)	ND	3.4								
Surr: 2-Fluorobiphenyl	*2.447*	*0.10*	*3.33*	*0*	*73.5*	*60 - 135*				

LCS Sample ID: **LCS-91779** Units: **mg/Kg** Analysis Date: **27-Mar-2015 18:08**
Client ID: Run ID: **FID-7_251848** SeqNo: **3227119** PrepDate: **26-Mar-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	28.03	1.7	33.33	0	84.1	70 - 130				
TPH (Motor Oil Range)	24.04	3.4	33.33	0	72.1	70 - 130				
Surr: 2-Fluorobiphenyl	*2.391*	*0.10*	*3.33*	*0*	*71.8*	*60 - 135*				

MS Sample ID: **HS15030907-03MS** Units: **mg/Kg** Analysis Date: **27-Mar-2015 20:23**
Client ID: **QVZM-3 (2-3)** Run ID: **FID-7_251848** SeqNo: **3227125** PrepDate: **26-Mar-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	30.62	1.7	33.31	0.57	90.2	70 - 130				
TPH (Motor Oil Range)	28.09	3.4	33.31	3.588	73.5	70 - 130				
Surr: 2-Fluorobiphenyl	*3.081*	*0.10*	*3.328*	*0*	*92.6*	*60 - 135*				

MSD Sample ID: **HS15030907-03MSD** Units: **mg/Kg** Analysis Date: **27-Mar-2015 20:45**
Client ID: **QVZM-3 (2-3)** Run ID: **FID-7_251848** SeqNo: **3227126** PrepDate: **26-Mar-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	29.58	1.7	33.26	0.57	87.2	70 - 130	30.62	3.44	30	
TPH (Motor Oil Range)	27.01	3.4	33.26	3.588	70.4	70 - 130	28.09	3.9	30	
Surr: 2-Fluorobiphenyl	*2.527*	*0.10*	*3.323*	*0*	*76.0*	*60 - 135*	*3.081*	*19.8*	*30*	

The following samples were anayzed in this batch: HS15030907-01 HS15030907-02 HS15030907-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 2

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15030907

QC BATCH REPORT

Batch ID: R251832 **Instrument: FID-14** **Method: SW8015**

MBLK	Sample ID: **BLK-150326**			Units: **mg/Kg**		Analysis Date: **26-Mar-2015 18:22**			
Client ID:		Run ID: **FID-14_251832**		SeqNo: **3226799**		PrepDate:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Gasoline Range Organics	ND	0.050							
Surr: 4-Bromofluorobenzene	*0.0844*	*0.0050*	*0.1*	*0*	*84.4*	*70 - 130*			

LCS	Sample ID: **LCS-150326**			Units: **mg/Kg**		Analysis Date: **26-Mar-2015 17:50**			
Client ID:		Run ID: **FID-14_251832**		SeqNo: **3226798**		PrepDate:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Gasoline Range Organics	1.108	0.050	1	0	111	70 - 130			
Surr: 4-Bromofluorobenzene	*0.09899*	*0.0050*	*0.1*	*0*	*99.0*	*70 - 130*			

MS	Sample ID: **HS15030627-19MS**			Units: **mg/Kg**		Analysis Date: **26-Mar-2015 19:08**			
Client ID:		Run ID: **FID-14_251832**		SeqNo: **3226801**		PrepDate:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Gasoline Range Organics	1.002	0.050	1	0	100	70 - 130			
Surr: 4-Bromofluorobenzene	*0.0943*	*0.0050*	*0.1*	*0*	*94.3*	*70 - 130*			

MSD	Sample ID: **HS15030627-19MSD**			Units: **mg/Kg**		Analysis Date: **26-Mar-2015 19:24**			
Client ID:		Run ID: **FID-14_251832**		SeqNo: **3226802**		PrepDate:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Gasoline Range Organics	0.9025	0.050	1	0	90.2	70 - 130	1.002	10.5	30
Surr: 4-Bromofluorobenzene	*0.07193*	*0.0050*	*0.1*	*0*	*71.9*	*70 - 130*	*0.0943*	*26.9*	*30*

The following samples were anayzed in this batch: HS15030907-01 HS15030907-02 HS15030907-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15030907

QC BATCH REPORT

Batch ID: R251744 **Instrument: VOA5** **Method: SW8260**

MBLK Sample ID: **VBLKS1-032715** Units: **ug/Kg** Analysis Date: **27-Mar-2015 09:02**
Client ID: Run ID: **VOA5_251744** SeqNo: **3225129** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	5.0								
Ethylbenzene	ND	5.0								
Toluene	ND	5.0								
Xylenes, Total	ND	10								
Surr: 1,2-Dichloroethane-d4	*49.3*	*5.0*	*50*	*0*	*98.6*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*49.22*	*5.0*	*50*	*0*	*98.4*	*73 - 126*				
Surr: Dibromofluoromethane	*51.38*	*5.0*	*50*	*0*	*103*	*71 - 128*				
Surr: Toluene-d8	*51.04*	*5.0*	*50*	*0*	*102*	*73 - 127*				

LCS Sample ID: **VLCSS1-032715** Units: **ug/Kg** Analysis Date: **27-Mar-2015 08:15**
Client ID: Run ID: **VOA5_251744** SeqNo: **3225128** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	48.81	5.0	50	0	97.6	79 - 122				
Ethylbenzene	47.13	5.0	50	0	94.3	80 - 122				
Toluene	46.04	5.0	50	0	92.1	79 - 120				
Xylenes, Total	141.5	10	150	0	94.4	80 - 120				
Surr: 1,2-Dichloroethane-d4	*52.97*	*5.0*	*50*	*0*	*106*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*50.39*	*5.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Dibromofluoromethane	*52.5*	*5.0*	*50*	*0*	*105*	*71 - 128*				
Surr: Toluene-d8	*50.03*	*5.0*	*50*	*0*	*100*	*73 - 127*				

MS Sample ID: **HS15030958-04MS** Units: **ug/Kg** Analysis Date: **27-Mar-2015 10:58**
Client ID: Run ID: **VOA5_251744** SeqNo: **3225274** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	48.94	5.0	50	0	97.9	79 - 122				
Ethylbenzene	46.86	5.0	50	0	93.7	80 - 122				
Toluene	46.18	5.0	50	0	92.4	79 - 120				
Xylenes, Total	141.1	10	150	0	94.1	80 - 120				
Surr: 1,2-Dichloroethane-d4	*51.61*	*5.0*	*50*	*0*	*103*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*50.38*	*5.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Dibromofluoromethane	*52.11*	*5.0*	*50*	*0*	*104*	*71 - 128*				
Surr: Toluene-d8	*50.88*	*5.0*	*50*	*0*	*102*	*73 - 127*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15030907

QC BATCH REPORT

Batch ID: R251744 **Instrument: VOA5** **Method: SW8260**

MSD Sample ID: **HS15030958-04MSD** Units: **ug/Kg** Analysis Date: **27-Mar-2015 11:21**
Client ID: Run ID: **VOA5_251744** SeqNo: **3225275** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	48.4	5.0	50	0	96.8	79 - 122	48.94	1.11	30	
Ethylbenzene	46.59	5.0	50	0	93.2	80 - 122	46.86	0.567	30	
Toluene	45.47	5.0	50	0	90.9	79 - 120	46.18	1.55	30	
Xylenes, Total	139.1	10	150	0	92.7	80 - 120	141.1	1.44	30	
Surr: 1,2-Dichloroethane-d4	*53.15*	*5.0*	*50*	*0*	*106*	*70 - 128*	*51.61*	*2.96*	*30*	
Surr: 4-Bromofluorobenzene	*50.79*	*5.0*	*50*	*0*	*102*	*73 - 126*	*50.38*	*0.808*	*30*	
Surr: Dibromofluoromethane	*53.52*	*5.0*	*50*	*0*	*107*	*71 - 128*	*52.11*	*2.66*	*30*	
Surr: Toluene-d8	*51.51*	*5.0*	*50*	*0*	*103*	*73 - 127*	*50.88*	*1.23*	*30*	

The following samples were anayzed in this batch: HS15030907-01 HS15030907-02 HS15030907-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15030907

QC BATCH REPORT

Batch ID: 91760 **Instrument: ICS2100** **Method: SW9056**

MBLK Sample ID: **MBLK-91760** Units: **mg/Kg** Analysis Date: **26-Mar-2015 09:42**
Client ID: Run ID: **ICS2100_251688** SeqNo: **3224198** PrepDate: **26-Mar-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	5.00								

LCS Sample ID: **LCS-91760** Units: **mg/Kg** Analysis Date: **26-Mar-2015 09:56**
Client ID: Run ID: **ICS2100_251688** SeqNo: **3224199** PrepDate: **26-Mar-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	185.9	5.00	200	0	93.0	80 - 120				

LCSD Sample ID: **LCSD-91760** Units: **mg/Kg** Analysis Date: **26-Mar-2015 10:11**
Client ID: Run ID: **ICS2100_251688** SeqNo: **3224200** PrepDate: **26-Mar-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	194.2	5.00	200	0	97.1	80 - 120	185.9	4.33	20	

MS Sample ID: **HS15030885-01MS** Units: **mg/Kg** Analysis Date: **26-Mar-2015 12:19**
Client ID: Run ID: **ICS2100_251688** SeqNo: **3224202** PrepDate: **26-Mar-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	90.73	4.97	99.46	1.334	89.9	80 - 120				

MSD Sample ID: **HS15030885-01MSD** Units: **mg/Kg** Analysis Date: **26-Mar-2015 12:34**
Client ID: Run ID: **ICS2100_251688** SeqNo: **3224203** PrepDate: **26-Mar-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	96.96	4.96	99.28	1.334	96.3	80 - 120	90.73	6.64	20	

The following samples were anayzed in this batch: HS15030907-01 HS15030907-02 HS15030907-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15030907

QC BATCH REPORT

Batch ID: 92629 **Instrument: ICS2100** **Method: SW9056**

MBLK Sample ID: **MBLK-92629** Units: **mg/Kg** Analysis Date: **22-Apr-2015 08:24**
Client ID: Run ID: **ICS2100_253288** SeqNo: **3256741** PrepDate: **21-Apr-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	5.00								

LCS Sample ID: **LCS-92629** Units: **mg/Kg** Analysis Date: **22-Apr-2015 08:38**
Client ID: Run ID: **ICS2100_253288** SeqNo: **3256742** PrepDate: **21-Apr-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	193.2	5.00	200	0	96.6	80 - 120				

LCSD Sample ID: **LCSD-92629** Units: **mg/Kg** Analysis Date: **22-Apr-2015 08:53**
Client ID: Run ID: **ICS2100_253288** SeqNo: **3256743** PrepDate: **21-Apr-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	179.6	5.00	200	0	89.8	80 - 120	193.2	7.29	20	

MS Sample ID: **HS15040824-12MS** Units: **mg/Kg** Analysis Date: **22-Apr-2015 12:59**
Client ID: Run ID: **ICS2100_253288** SeqNo: **3256758** PrepDate: **21-Apr-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	119.2	4.83	96.64	18.98	104	80 - 120				

MSD Sample ID: **HS15040824-12MSD** Units: **mg/Kg** Analysis Date: **22-Apr-2015 13:14**
Client ID: Run ID: **ICS2100_253288** SeqNo: **3256759** PrepDate: **21-Apr-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	124.7	4.95	98.91	18.98	107	80 - 120	119.2	4.57	20	

The following samples were anayzed in this batch: HS15030907-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15030907

QC BATCH REPORT

Batch ID: R251854 **Instrument: Balance1** **Method: SW3550**

DUP Sample ID: **HS15030994-01DUP** Units: **wt%** Analysis Date: **30-Mar-2015 12:08**
Client ID: Run ID: **Balance1_251854** SeqNo: **3227163** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	11.7	0.0100					12.1	3.36	20	

The following samples were anayzed in this batch: HS15030907-01 HS15030907-02 HS15030907-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: **HS15030907**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg	Milligrams per Kilogram

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	16-022-0	27-Mar-2017
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Work Order: HS15030907

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS15030907-01	QVZM-1 (2-3)	Login	3/25/2015 4:33:32 PM	RPG	BTEX B2
HS15030907-01	QVZM-1 (2-3)	Login	3/25/2015 4:33:32 PM	RPG	VW-2
HS15030907-01	QVZM-1 (2-3)	Login	3/25/2015 4:33:32 PM	RPG	19B
HS15030907-02	QVZM-2 (2-3)	Login	3/25/2015 4:33:32 PM	RPG	BTEX B2
HS15030907-02	QVZM-2 (2-3)	Login	3/25/2015 4:33:32 PM	RPG	VW-2
HS15030907-02	QVZM-2 (2-3)	Login	3/25/2015 4:33:32 PM	RPG	19B
HS15030907-03	QVZM-3 (2-3)	Login	3/25/2015 4:33:32 PM	RPG	BTEX B2
HS15030907-03	QVZM-3 (2-3)	Login	3/25/2015 4:33:32 PM	RPG	VW-2
HS15030907-03	QVZM-3 (2-3)	Login	3/25/2015 4:33:32 PM	RPG	19B

ALS Group USA, Corp Date: 28-Mar-16

Sample Receipt Checklist

Client Name: Enviro Clean Services-Tulsa
Work Order: HS15030907

Date/Time Received: **25-Mar-2015 09:20**
Received by: **PMG**

Checklist completed by: *Raegen Giga* eSignature — 25-Mar-2015 Date
Reviewed by: *Sonia West* eSignature — 26-Mar-2015 Date

Matrices: **soil**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☐	No ☑	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☐
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.6c/1.6c c/u	IR 1	
Cooler(s)/Kit(s):	R/W		
Date/Time sample(s) sent to storage:	03/25/2015 16:30		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

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Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 125771

HS15030907

Enviro Clean Services, LLC

Pitchforkland Farm, LLC

ALS Project Manager:

Customer Information		Project Information	
Purchase Order		Project Name	Pitchforkland Farm, LLC
Work Order		Project Number	
Company Name	Enviro Clean Services, LLC	Bill To Company	Enviro Clean Services, LLC
Send Report To	Julie Czech	Invoice Attn	Julie Czech
Address	7060 S. Yale Avenue, Suite 603	Address	7060 S. Yale Avenue, Suite 603
City/State/Zip	Tulsa	City/State/Zip	Tulsa
Phone	(918) 794-7828	Phone	(918) 794-7828
Fax		Fax	
e-Mail Address	jczech@envirocleanps.com	e-Mail Address	

Parameter/Method Request for Analysis

A Chloride (9056) — % MOISTURE. ←
B BTEX(8260),GRO(8015),DRO/ORO(8015),Chloride(9056) — CORRECT
C VOC (8260) Select List — ALL FOR
D PAH (8270) Select List — DRY WEIGHT.
E GRO, DRO, ORO (8015)
F PCB(8082)
G Total Metals (6020/7471) 16 Metals+Uranium
H Chloride, Fluoride, Nitrate, Sulfate (9056)
I Phenolics
J Radium 226 & Radium 228

No.	Sample Description	Date	Time	Matrix	Pres.	#Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	QVZM-1 (2-3)	3.24.15	1240	SOIL	4°C	3	X	X	X		X						
2	QVZM-2 (0-3)	3.24.15	1300	SOIL	4°C	3	X	X	X		X						
3	QVZM-3 (2-3)	3.24.15	1340	SOIL	4°C	3	X	X	X		X						
4	TEMP BLANK	—	—	WATER	4°C	1											
5																	
6				REVISED 3-25-15 ②			NO		NO		NO						
7																	
8																	
9																	
10																	

a "2", not a # "2". 03/25/15 ②

THESE SAMPLES REQUIRE: BTEX, GRO/DRO/ORO, Cl⁻, % MOISTURE.

Sampler(s) Please Print & Sign:		Shipment Method: FED EX	Required Turnaround Time: (Check Box) ☐ Std 10 Wk days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other		Results Due Date:
Relinquished by:	Date: 3.24.15	Time: 1700 CDT	Received by:	Notes: SAMPLE TIMES CDT	
Relinquished by:	Date:	Time:	Received by (Laboratory): 3.25.15 09:20	Cooler ID	Cooler Temp.
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		

QC Package: (Check One Box Below)
☒ Level 2 Std QC ☐ TRRP ChkList
☐ Level 3 Std QC/Raw da ☐ TRRP Level 4
☐ Level 4 SW846/CLP
☐ Other/EDD

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Environmental

Cincinnati, OH +1 513 733 5336
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Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 125771

HS15030907

Enviro Clean Services, LLC

Pitchforkland Farm, LLC

ALS Project Manager:

Customer Information		Project Information	
Purchase Order		Project Name	Pitchforkland Farm, LLC
Work Order		Project Number	
Company Name	Enviro Clean Services, LLC	Bill To Company	Enviro Clean Services, LLC
Send Report To	Julie Czech	Invoice Attn	Julie Czech
Address	7060 S. Yale Avenue, Suite 603	Address	7060 S. Yale Avenue, Suite 603
City/State/Zip	Tulsa	City/State/Zip	Tulsa
Phone	(918) 794-7828	Phone	(918) 794-7828
Fax		Fax	
e-Mail Address	jczech@envirocleanps.com	e-Mail Address	

A	Chloride (9056) %Moisture
B	BTEX(8260),GRO(8015),DRO/ORO(8015),Chloride(9056)
C	VOC (8260) Select List
D	PAH (8270) Select List
E	GRO, DRO, ORO (8015)
F	PCB(8082)
G	Total Metals (6020/7471) 16 Metals+Uranium
H	Chloride, Fluoride, Nitrate, Sulfate (9056)
I	Phenolics
J	Radium 226 & Radium 228

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	QVZM-1 (2-3)	3-24-15	1240	SOIL	4°C	3	X	X	X		X						
2	QVZM-2 (0-3	3-24-15	1300	SOIL	4°C	3	X	X	X		X						
3	QVZM-3 (2-3)	3-24-15	1340	SOIL	4°C	3	X	X	X		X						
4	TEMP BLANK	—	—	WATER	4°C	1											
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: [signature]

Shipment Method: FED EX

Required Turnaround Time: (Check Box)
☐ Std 10 Wk days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date:

Notes: SAMPLE TIMES CDT

Relinquished by:	Date:	Time:	Received by:
[signature]	3-24-15	1700 CDT	[signature]
Relinquished by:	Date:	Time:	Received by (Laboratory):
—			[signature] 3-25-15 09:20
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Cooler ID	Cooler Temp.
RIW	1.6
	#1

QC Package: (Check One Box Below)
☒ Level 2 Std QC ☐ TRRP ChkList
☐ Level 3 Std QC/Row da ☐ TRRP Level 4
☐ Level 4 SW846/CLP
☐ Other/EDD

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must

ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 3 24 15 Time:
Seal Broken By:
Date: 3/25/15

ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 3.24.15 Time:
Name:
Company:
Seal Broken By:
Date: 3/25/15

ORIGIN ID:HOBA (281) 530-5656
ALS ENVIRONMENTAL HOUSTON LAB
10450 STANCLIFF RD STE 210
HOUSTON, TX 770994338
UNITED STATES US

SHIP DATE: 24MAR15
ACTWGT: 44.9 LB
CAD: /POS1601
DIMS: 25x18x14 IN
BILL SENDER

TO
ALS LABORATORY GROUP
10450 STANCLIFF RD
STE 210
HOUSTON TX 77099
(000) 000-0000
INV:
PO:
REF:

FedEx Express

TRK# 0215 8035 6168 6010

WED - 25 MAR 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

ALS Environmental

10450 Stancliff Rd. Suite 210
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T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

March 28, 2016

Julie Czech
Enviro Clean Services, LLC
7060 S. Yale Avenue, Suite 603
Tulsa, OK 74136

Work Order: **HS15050245**

Revision: **1**

Laboratory Results for: **Pitchforkland Farm, LLC**

Dear Julie,

ALS Environmental received 5 sample(s) on May 06, 2015 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Sonia West

Generated By: Sonia.West
Sonia West
Project Manager

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Work Order: HS15050245

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS15050245-01	VZRS-1	Soil		04-May-2015 17:49	06-May-2015 09:25	☐
HS15050245-02	VZRS-2	Soil		04-May-2015 18:00	06-May-2015 09:25	☐
HS15050245-03	VZRS-3	Soil		04-May-2015 18:12	06-May-2015 09:25	☐
HS15050245-04	VZRS-4	Soil		04-May-2015 18:26	06-May-2015 09:25	☐
HS15050245-05	TB 042815-41	Water		04-May-2015 00:00	06-May-2015 09:25	☐

Revision:1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Work Order: HS15050245

CASE NARRATIVE

Work Order Comments

- Revision I:
  As per the clients request on March 25, 2016, this report has been revised to report results on a wet-weight basis.
- The analyses for Radium-226 and Radium-228 were subcontracted to ALS Environmental in Fort Collins, CO.

ECD Organics by Method SW8082

Batch ID: 93255

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GC Semivolatiles by Method SW8015M

Batch ID: 93250

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GC Volatiles by Method SW8015

Batch ID: R254408

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Semivolatiles by Method SW8270

Batch ID: 93207

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Volatiles by Method SW8260

Batch ID: R254412

Sample ID: **HS15050140-16**
- MS and MSD are for an unrelated sample

Batch ID: R254334

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method SW7471A

Batch ID: 93245

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method SW6020

Batch ID: 93221

Sample ID: **VZRS-1 (HS15050245-01BS)**
- The PDS recovery is unavailable due to sample matrix interference for Silver, confirmed in the MS/MSD.

Sample ID: **VZRS-1 (HS15050245-01MS)**
- Due to non-homogeneity of the soil sample matrix the MS/MSD recoveries and RPD were outside the control limits. Iron

Sample ID: **VZRS-1 (HS15050245-01MS)**
- The MS and/or MSD recovery is unavailable due to sample matrix interference for silver, confirmed in the PDS.

Sample ID: **VZRS-1 (HS15050245-01MS)**

Client: Enviro Clean Services, LLC **CASE NARRATIVE**
Project: Pitchforkland Farm, LLC
Work Order: HS15050245

Metals by Method SW6020

Batch ID: 93221

- The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. Barium, Manganese

WetChemistry by Method SW3550

Batch ID: R254358

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9014

Batch ID: 93524

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9065

Batch ID: 93238

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: 93206

Sample ID: **HS15050196-04**
- MS and MSD are for an unrelated sample

Revision:1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Sample ID: VZRS-1
Collection Date: 04-May-2015 17:49

ANALYTICAL REPORT
WorkOrder:HS15050245
Lab ID:HS15050245-01
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
1,1,1-Trichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 17:23
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/Kg	1	12-May-2015 17:23
1,1,2-Trichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 17:23
1,1-Dichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 17:23
1,1-Dichloroethene	ND		0.0050	mg/Kg	1	12-May-2015 17:23
1,2-Dibromoethane	ND		0.0050	mg/Kg	1	12-May-2015 17:23
1,2-Dichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 17:23
Benzene	ND		0.0050	mg/Kg	1	12-May-2015 17:23
Carbon tetrachloride	ND		0.0050	mg/Kg	1	12-May-2015 17:23
Chloroform	ND		0.0050	mg/Kg	1	12-May-2015 17:23
Ethylbenzene	ND		0.0050	mg/Kg	1	12-May-2015 17:23
Methylene chloride	ND		0.010	mg/Kg	1	12-May-2015 17:23
Toluene	ND		0.0050	mg/Kg	1	12-May-2015 17:23
Vinyl chloride	ND		0.0020	mg/Kg	1	12-May-2015 17:23
Xylenes, Total	ND		0.010	mg/Kg	1	12-May-2015 17:23
Surr: 1,2-Dichloroethane-d4	*92.5*		*70-128*	*%REC*	*1*	*12-May-2015 17:23*
Surr: 4-Bromofluorobenzene	*95.8*		*73-126*	*%REC*	*1*	*12-May-2015 17:23*
Surr: Dibromofluoromethane	*93.7*		*71-128*	*%REC*	*1*	*12-May-2015 17:23*
Surr: Toluene-d8	*100*		*73-127*	*%REC*	*1*	*12-May-2015 17:23*
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**		Prep:SW3541 / 07-May-2015		Analyst: LG
1-Methylnaphthalene	ND		0.0033	mg/Kg	1	08-May-2015 11:46
2-Methylnaphthalene	ND		0.0033	mg/Kg	1	08-May-2015 11:46
Benzo(a)pyrene	ND		0.0033	mg/Kg	1	08-May-2015 11:46
Naphthalene	ND		0.0033	mg/Kg	1	08-May-2015 11:46
Surr: 2-Fluorobiphenyl	*76.5*		*43-125*	*%REC*	*1*	*08-May-2015 11:46*
Surr: 4-Terphenyl-d14	*87.3*		*32-125*	*%REC*	*1*	*08-May-2015 11:46*
Surr: Nitrobenzene-d5	*75.7*		*37-125*	*%REC*	*1*	*08-May-2015 11:46*
PCBS BY SW8082A		**Method:SW8082**		Prep:SW3546/3665A / 08-May-2015		Analyst: STH
Aroclor 1016	ND		0.017	mg/Kg	1	08-May-2015 19:47
Aroclor 1221	ND		0.017	mg/Kg	1	08-May-2015 19:47
Aroclor 1232	ND		0.017	mg/Kg	1	08-May-2015 19:47
Aroclor 1242	ND		0.017	mg/Kg	1	08-May-2015 19:47
Aroclor 1248	ND		0.017	mg/Kg	1	08-May-2015 19:47
Aroclor 1254	ND		0.017	mg/Kg	1	08-May-2015 19:47
Aroclor 1260	ND		0.017	mg/Kg	1	08-May-2015 19:47
Surr: Decachlorobiphenyl	*65.2*		*54-143*	*%REC*	*1*	*08-May-2015 19:47*
Surr: Tetrachloro-m-xylene	*58.8*		*55-137*	*%REC*	*1*	*08-May-2015 19:47*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Sample ID: VZRS-1
Collection Date: 04-May-2015 17:49

ANALYTICAL REPORT
WorkOrder:HS15050245
Lab ID:HS15050245-01
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-May-2015		Analyst: JCJ
Arsenic	**2.37**		**0.447**	**mg/Kg**	1	11-May-2015 21:00
Barium	**267**		**44.7**	**mg/Kg**	100	12-May-2015 13:45
Cadmium	ND		0.447	mg/Kg	1	11-May-2015 21:00
Chromium	**3.43**		**0.447**	**mg/Kg**	1	11-May-2015 21:00
Copper	**1.41**		**0.447**	**mg/Kg**	1	11-May-2015 21:00
Iron	**2,910**		**44.7**	**mg/Kg**	1	11-May-2015 21:00
Lead	**3.04**		**0.447**	**mg/Kg**	1	11-May-2015 21:00
Manganese	**43.9**		**0.447**	**mg/Kg**	1	11-May-2015 21:00
Selenium	ND		0.447	mg/Kg	1	11-May-2015 21:00
Silver	ND		0.447	mg/Kg	1	11-May-2015 21:00
Uranium	ND		0.447	mg/Kg	1	11-May-2015 21:00
Zinc	**7.63**		**0.447**	**mg/Kg**	1	11-May-2015 21:00
ANIONS BY SW9056A		**Method:SW9056**		Prep:SW9056 / 07-May-2015		Analyst: JBA
Chloride	**32.0**		**4.91**	**mg/Kg**	1	07-May-2015 21:05
Fluoride	**2.38**		**0.983**	**mg/Kg**	1	07-May-2015 21:05
Nitrogen, Nitrate (As N)	**5.68**		**0.983**	**mg/Kg**	1	07-May-2015 21:05
Sulfate	**80.7**		**4.91**	**mg/Kg**	1	07-May-2015 21:05
CYANIDE		**Method:SW9014**		Prep:SW9010C / 16-May-2015		Analyst: KHT
Cyanide	ND		1.97	mg/Kg	1	16-May-2015 15:17
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	11-May-2015 12:58
Surr: 4-Bromofluorobenzene	*88.0*		*70-130*	*%REC*	*1*	*11-May-2015 12:58*
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-May-2015		Analyst: OFO
Mercury	ND		0.00333	mg/Kg	1	11-May-2015 16:35
SUBCONTRACTED ANALYSIS		**Method:NA**				Analyst: SUBFC
Miscellaneous Analysis	See Attached				1	29-May-2015 09:48
MOISTURE		**Method:SW3550**				Analyst: JHD
Percent Moisture	**17.6**		**0.0100**	**wt%**	1	11-May-2015 12:15
PHENOLICS		**Method:SW9065**		Prep:SW9065 / 08-May-2015		Analyst: JHD
Phenolics, Total Recoverable	ND		2.49	mg/kg	1	08-May-2015 16:43
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 08-May-2015		Analyst: PPM
TPH (Diesel Range)	ND		1.7	mg/Kg	1	09-May-2015 17:46
TPH (Motor Oil Range)	ND		3.4	mg/Kg	1	09-May-2015 17:46
Surr: 2-Fluorobiphenyl	*89.1*		*60-135*	*%REC*	*1*	*09-May-2015 17:46*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Sample ID: VZRS-2
Collection Date: 04-May-2015 18:00

ANALYTICAL REPORT
WorkOrder:HS15050245
Lab ID:HS15050245-02
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
1,1,1-Trichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 17:47
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/Kg	1	12-May-2015 17:47
1,1,2-Trichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 17:47
1,1-Dichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 17:47
1,1-Dichloroethene	ND		0.0050	mg/Kg	1	12-May-2015 17:47
1,2-Dibromoethane	ND		0.0050	mg/Kg	1	12-May-2015 17:47
1,2-Dichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 17:47
Benzene	ND		0.0050	mg/Kg	1	12-May-2015 17:47
Carbon tetrachloride	ND		0.0050	mg/Kg	1	12-May-2015 17:47
Chloroform	ND		0.0050	mg/Kg	1	12-May-2015 17:47
Ethylbenzene	ND		0.0050	mg/Kg	1	12-May-2015 17:47
Methylene chloride	ND		0.010	mg/Kg	1	12-May-2015 17:47
Toluene	ND		0.0050	mg/Kg	1	12-May-2015 17:47
Vinyl chloride	ND		0.0020	mg/Kg	1	12-May-2015 17:47
Xylenes, Total	ND		0.010	mg/Kg	1	12-May-2015 17:47
Surr: 1,2-Dichloroethane-d4	*90.8*		*70-128*	*%REC*	*1*	*12-May-2015 17:47*
Surr: 4-Bromofluorobenzene	*95.8*		*73-126*	*%REC*	*1*	*12-May-2015 17:47*
Surr: Dibromofluoromethane	*94.1*		*71-128*	*%REC*	*1*	*12-May-2015 17:47*
Surr: Toluene-d8	*100*		*73-127*	*%REC*	*1*	*12-May-2015 17:47*
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**		Prep:SW3541 / 07-May-2015		Analyst: LG
1-Methylnaphthalene	ND		0.0033	mg/Kg	1	11-May-2015 16:38
2-Methylnaphthalene	ND		0.0033	mg/Kg	1	11-May-2015 16:38
Benzo(a)pyrene	ND		0.0033	mg/Kg	1	11-May-2015 16:38
Naphthalene	ND		0.0033	mg/Kg	1	11-May-2015 16:38
Surr: 2-Fluorobiphenyl	*78.0*		*43-125*	*%REC*	*1*	*11-May-2015 16:38*
Surr: 4-Terphenyl-d14	*76.4*		*32-125*	*%REC*	*1*	*11-May-2015 16:38*
Surr: Nitrobenzene-d5	*66.7*		*37-125*	*%REC*	*1*	*11-May-2015 16:38*
PCBS BY SW8082A		**Method:SW8082**		Prep:SW3546/3665A / 08-May-2015		Analyst: STH
Aroclor 1016	ND		0.017	mg/Kg	1	08-May-2015 20:03
Aroclor 1221	ND		0.017	mg/Kg	1	08-May-2015 20:03
Aroclor 1232	ND		0.017	mg/Kg	1	08-May-2015 20:03
Aroclor 1242	ND		0.017	mg/Kg	1	08-May-2015 20:03
Aroclor 1248	ND		0.017	mg/Kg	1	08-May-2015 20:03
Aroclor 1254	ND		0.017	mg/Kg	1	08-May-2015 20:03
Aroclor 1260	ND		0.017	mg/Kg	1	08-May-2015 20:03
Surr: Decachlorobiphenyl	*58.0*		*54-143*	*%REC*	*1*	*08-May-2015 20:03*
Surr: Tetrachloro-m-xylene	*55.8*		*55-137*	*%REC*	*1*	*08-May-2015 20:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Sample ID: VZRS-2
Collection Date: 04-May-2015 18:00

ANALYTICAL REPORT
WorkOrder:HS15050245
Lab ID:HS15050245-02
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-May-2015		Analyst: JCJ
Arsenic	**2.42**		**0.424**	**mg/Kg**	1	11-May-2015 21:26
Barium	**144**		**0.424**	**mg/Kg**	1	11-May-2015 21:26
Cadmium	ND		0.424	mg/Kg	1	11-May-2015 21:26
Chromium	**5.38**		**0.424**	**mg/Kg**	1	11-May-2015 21:26
Copper	**1.72**		**0.424**	**mg/Kg**	1	11-May-2015 21:26
Iron	**3,600**		**42.4**	**mg/Kg**	1	11-May-2015 21:26
Lead	**3.63**		**0.424**	**mg/Kg**	1	11-May-2015 21:26
Manganese	**37.4**		**0.424**	**mg/Kg**	1	11-May-2015 21:26
Selenium	**0.457**		**0.424**	**mg/Kg**	1	11-May-2015 21:26
Silver	ND		0.424	mg/Kg	1	11-May-2015 21:26
Uranium	ND		0.424	mg/Kg	1	11-May-2015 21:26
Zinc	**8.07**		**0.424**	**mg/Kg**	1	11-May-2015 21:26
ANIONS BY SW9056A		**Method:SW9056**		Prep:SW9056 / 07-May-2015		Analyst: JBA
Chloride	**32.7**		**4.95**	**mg/Kg**	1	07-May-2015 21:26
Fluoride	**3.08**		**0.991**	**mg/Kg**	1	07-May-2015 21:26
Nitrogen, Nitrate (As N)	**2.76**		**0.991**	**mg/Kg**	1	07-May-2015 21:26
Sulfate	**31.7**		**4.95**	**mg/Kg**	1	07-May-2015 21:26
CYANIDE		**Method:SW9014**		Prep:SW9010C / 16-May-2015		Analyst: KHT
Cyanide	ND		1.99	mg/Kg	1	16-May-2015 15:17
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	11-May-2015 13:45
Surr: 4-Bromofluorobenzene	*89.9*		*70-130*	*%REC*	*1*	*11-May-2015 13:45*
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-May-2015		Analyst: OFO
Mercury	ND		0.00342	mg/Kg	1	11-May-2015 16:37
SUBCONTRACTED ANALYSIS		**Method:NA**				Analyst: SUBFC
Miscellaneous Analysis	See Attached				1	29-May-2015 09:48
MOISTURE		**Method:SW3550**				Analyst: JHD
Percent Moisture	**11.6**		**0.0100**	**wt%**	1	11-May-2015 12:15
PHENOLICS		**Method:SW9065**		Prep:SW9065 / 08-May-2015		Analyst: JHD
Phenolics, Total Recoverable	ND		2.48	mg/kg	1	08-May-2015 16:43
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 08-May-2015		Analyst: PPM
TPH (Diesel Range)	ND		1.7	mg/Kg	1	09-May-2015 18:15
TPH (Motor Oil Range)	ND		3.4	mg/Kg	1	09-May-2015 18:15
Surr: 2-Fluorobiphenyl	*62.5*		*60-135*	*%REC*	*1*	*09-May-2015 18:15*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Sample ID: VZRS-3
Collection Date: 04-May-2015 18:12

ANALYTICAL REPORT
WorkOrder:HS15050245
Lab ID:HS15050245-03
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
1,1,1-Trichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 18:10
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/Kg	1	12-May-2015 18:10
1,1,2-Trichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 18:10
1,1-Dichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 18:10
1,1-Dichloroethene	ND		0.0050	mg/Kg	1	12-May-2015 18:10
1,2-Dibromoethane	ND		0.0050	mg/Kg	1	12-May-2015 18:10
1,2-Dichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 18:10
Benzene	ND		0.0050	mg/Kg	1	12-May-2015 18:10
Carbon tetrachloride	ND		0.0050	mg/Kg	1	12-May-2015 18:10
Chloroform	ND		0.0050	mg/Kg	1	12-May-2015 18:10
Ethylbenzene	ND		0.0050	mg/Kg	1	12-May-2015 18:10
Methylene chloride	ND		0.010	mg/Kg	1	12-May-2015 18:10
Toluene	ND		0.0050	mg/Kg	1	12-May-2015 18:10
Vinyl chloride	ND		0.0020	mg/Kg	1	12-May-2015 18:10
Xylenes, Total	ND		0.010	mg/Kg	1	12-May-2015 18:10
Surr: 1,2-Dichloroethane-d4	*87.2*		*70-128*	*%REC*	*1*	*12-May-2015 18:10*
Surr: 4-Bromofluorobenzene	*94.3*		*73-126*	*%REC*	*1*	*12-May-2015 18:10*
Surr: Dibromofluoromethane	*91.1*		*71-128*	*%REC*	*1*	*12-May-2015 18:10*
Surr: Toluene-d8	*99.7*		*73-127*	*%REC*	*1*	*12-May-2015 18:10*
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**		Prep:SW3541 / 07-May-2015		Analyst: LG
1-Methylnaphthalene	ND		0.0033	mg/Kg	1	11-May-2015 16:57
2-Methylnaphthalene	ND		0.0033	mg/Kg	1	11-May-2015 16:57
Benzo(a)pyrene	ND		0.0033	mg/Kg	1	11-May-2015 16:57
Naphthalene	ND		0.0033	mg/Kg	1	11-May-2015 16:57
Surr: 2-Fluorobiphenyl	*61.6*		*43-125*	*%REC*	*1*	*11-May-2015 16:57*
Surr: 4-Terphenyl-d14	*59.3*		*32-125*	*%REC*	*1*	*11-May-2015 16:57*
Surr: Nitrobenzene-d5	*52.5*		*37-125*	*%REC*	*1*	*11-May-2015 16:57*
PCBS BY SW8082A		**Method:SW8082**		Prep:SW3546/3665A / 08-May-2015		Analyst: STH
Aroclor 1016	ND		0.017	mg/Kg	1	08-May-2015 20:19
Aroclor 1221	ND		0.017	mg/Kg	1	08-May-2015 20:19
Aroclor 1232	ND		0.017	mg/Kg	1	08-May-2015 20:19
Aroclor 1242	ND		0.017	mg/Kg	1	08-May-2015 20:19
Aroclor 1248	ND		0.017	mg/Kg	1	08-May-2015 20:19
Aroclor 1254	ND		0.017	mg/Kg	1	08-May-2015 20:19
Aroclor 1260	ND		0.017	mg/Kg	1	08-May-2015 20:19
Surr: Decachlorobiphenyl	*73.7*		*54-143*	*%REC*	*1*	*08-May-2015 20:19*
Surr: Tetrachloro-m-xylene	*71.7*		*55-137*	*%REC*	*1*	*08-May-2015 20:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Sample ID: VZRS-3
Collection Date: 04-May-2015 18:12

ANALYTICAL REPORT
WorkOrder:HS15050245
Lab ID:HS15050245-03
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-May-2015		Analyst: JCJ
Arsenic	**1.97**		**0.449**	**mg/Kg**	1	11-May-2015 21:31
Barium	**119**		**0.449**	**mg/Kg**	1	11-May-2015 21:31
Cadmium	ND		0.449	mg/Kg	1	11-May-2015 21:31
Chromium	**2.63**		**0.449**	**mg/Kg**	1	11-May-2015 21:31
Copper	**1.11**		**0.449**	**mg/Kg**	1	11-May-2015 21:31
Iron	**2,180**		**44.9**	**mg/Kg**	1	11-May-2015 21:31
Lead	**2.21**		**0.449**	**mg/Kg**	1	11-May-2015 21:31
Manganese	**24.9**		**0.449**	**mg/Kg**	1	11-May-2015 21:31
Selenium	ND		0.449	mg/Kg	1	11-May-2015 21:31
Silver	ND		0.449	mg/Kg	1	11-May-2015 21:31
Uranium	ND		0.449	mg/Kg	1	11-May-2015 21:31
Zinc	**4.93**		**0.449**	**mg/Kg**	1	11-May-2015 21:31
ANIONS BY SW9056A		**Method:SW9056**		Prep:SW9056 / 07-May-2015		Analyst: JBA
Chloride	ND		4.96	mg/Kg	1	07-May-2015 21:48
Fluoride	**2.87**		**0.992**	**mg/Kg**	1	07-May-2015 21:48
Nitrogen, Nitrate (As N)	**1.58**		**0.992**	**mg/Kg**	1	07-May-2015 21:48
Sulfate	**26.9**		**4.96**	**mg/Kg**	1	07-May-2015 21:48
CYANIDE		**Method:SW9014**		Prep:SW9010C / 16-May-2015		Analyst: KHT
Cyanide	ND		1.87	mg/Kg	1	16-May-2015 15:17
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	11-May-2015 14:01
Surr: 4-Bromofluorobenzene	*94.5*		*70-130*	*%REC*	*1*	*11-May-2015 14:01*
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-May-2015		Analyst: OFO
Mercury	ND		0.00341	mg/Kg	1	11-May-2015 16:39
SUBCONTRACTED ANALYSIS		**Method:NA**				Analyst: SUBFC
Miscellaneous Analysis	See Attached				1	29-May-2015 09:48
MOISTURE		**Method:SW3550**				Analyst: JHD
Percent Moisture	**20.3**		**0.0100**	**wt%**	1	11-May-2015 12:15
PHENOLICS		**Method:SW9065**		Prep:SW9065 / 08-May-2015		Analyst: JHD
Phenolics, Total Recoverable	ND		2.49	mg/kg	1	08-May-2015 16:43
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 08-May-2015		Analyst: PPM
TPH (Diesel Range)	ND		1.7	mg/Kg	1	09-May-2015 18:44
TPH (Motor Oil Range)	ND		3.4	mg/Kg	1	09-May-2015 18:44
Surr: 2-Fluorobiphenyl	*87.8*		*60-135*	*%REC*	*1*	*09-May-2015 18:44*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Sample ID: VZRS-4
Collection Date: 04-May-2015 18:26

ANALYTICAL REPORT
WorkOrder:HS15050245
Lab ID:HS15050245-04
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
1,1,1-Trichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 18:34
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/Kg	1	12-May-2015 18:34
1,1,2-Trichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 18:34
1,1-Dichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 18:34
1,1-Dichloroethene	ND		0.0050	mg/Kg	1	12-May-2015 18:34
1,2-Dibromoethane	ND		0.0050	mg/Kg	1	12-May-2015 18:34
1,2-Dichloroethane	ND		0.0050	mg/Kg	1	12-May-2015 18:34
Benzene	ND		0.0050	mg/Kg	1	12-May-2015 18:34
Carbon tetrachloride	ND		0.0050	mg/Kg	1	12-May-2015 18:34
Chloroform	ND		0.0050	mg/Kg	1	12-May-2015 18:34
Ethylbenzene	ND		0.0050	mg/Kg	1	12-May-2015 18:34
Methylene chloride	ND		0.010	mg/Kg	1	12-May-2015 18:34
Toluene	ND		0.0050	mg/Kg	1	12-May-2015 18:34
Vinyl chloride	ND		0.0020	mg/Kg	1	12-May-2015 18:34
Xylenes, Total	ND		0.010	mg/Kg	1	12-May-2015 18:34
Surr: 1,2-Dichloroethane-d4	*91.0*		*70-128*	*%REC*	*1*	*12-May-2015 18:34*
Surr: 4-Bromofluorobenzene	*97.0*		*73-126*	*%REC*	*1*	*12-May-2015 18:34*
Surr: Dibromofluoromethane	*93.8*		*71-128*	*%REC*	*1*	*12-May-2015 18:34*
Surr: Toluene-d8	*99.5*		*73-127*	*%REC*	*1*	*12-May-2015 18:34*
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**		Prep:SW3541 / 07-May-2015		Analyst: LG
1-Methylnaphthalene	ND		0.0033	mg/Kg	1	11-May-2015 17:16
2-Methylnaphthalene	ND		0.0033	mg/Kg	1	11-May-2015 17:16
Benzo(a)pyrene	ND		0.0033	mg/Kg	1	11-May-2015 17:16
Naphthalene	ND		0.0033	mg/Kg	1	11-May-2015 17:16
Surr: 2-Fluorobiphenyl	*71.4*		*43-125*	*%REC*	*1*	*11-May-2015 17:16*
Surr: 4-Terphenyl-d14	*68.8*		*32-125*	*%REC*	*1*	*11-May-2015 17:16*
Surr: Nitrobenzene-d5	*60.3*		*37-125*	*%REC*	*1*	*11-May-2015 17:16*
PCBS BY SW8082A		**Method:SW8082**		Prep:SW3546/3665A / 08-May-2015		Analyst: STH
Aroclor 1016	ND		0.017	mg/Kg	1	08-May-2015 22:08
Aroclor 1221	ND		0.017	mg/Kg	1	08-May-2015 22:08
Aroclor 1232	ND		0.017	mg/Kg	1	08-May-2015 22:08
Aroclor 1242	ND		0.017	mg/Kg	1	08-May-2015 22:08
Aroclor 1248	ND		0.017	mg/Kg	1	08-May-2015 22:08
Aroclor 1254	ND		0.017	mg/Kg	1	08-May-2015 22:08
Aroclor 1260	ND		0.017	mg/Kg	1	08-May-2015 22:08
Surr: Decachlorobiphenyl	*65.2*		*54-143*	*%REC*	*1*	*08-May-2015 22:08*
Surr: Tetrachloro-m-xylene	*58.2*		*55-137*	*%REC*	*1*	*08-May-2015 22:08*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Sample ID: VZRS-4
Collection Date: 04-May-2015 18:26

ANALYTICAL REPORT
WorkOrder:HS15050245
Lab ID:HS15050245-04
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-May-2015		Analyst: JCJ
Arsenic	**2.35**		**0.461**	**mg/Kg**	1	11-May-2015 21:35
Barium	**108**		**0.461**	**mg/Kg**	1	11-May-2015 21:35
Cadmium	ND		0.461	mg/Kg	1	11-May-2015 21:35
Chromium	**3.12**		**0.461**	**mg/Kg**	1	11-May-2015 21:35
Copper	**1.63**		**0.461**	**mg/Kg**	1	11-May-2015 21:35
Iron	**2,720**		**46.1**	**mg/Kg**	1	11-May-2015 21:35
Lead	**4.63**		**0.461**	**mg/Kg**	1	11-May-2015 21:35
Manganese	**30.2**		**0.461**	**mg/Kg**	1	11-May-2015 21:35
Selenium	ND		0.461	mg/Kg	1	11-May-2015 21:35
Silver	ND		0.461	mg/Kg	1	11-May-2015 21:35
Uranium	ND		0.461	mg/Kg	1	11-May-2015 21:35
Zinc	**6.90**		**0.461**	**mg/Kg**	1	11-May-2015 21:35
ANIONS BY SW9056A		**Method:SW9056**		Prep:SW9056 / 07-May-2015		Analyst: JBA
Chloride	**499**		**4.97**	**mg/Kg**	1	07-May-2015 22:10
Fluoride	**3.17**		**0.994**	**mg/Kg**	1	07-May-2015 22:10
Nitrogen, Nitrate (As N)	**8.21**		**0.994**	**mg/Kg**	1	07-May-2015 22:10
Sulfate	**70.7**		**4.97**	**mg/Kg**	1	07-May-2015 22:10
CYANIDE		**Method:SW9014**		Prep:SW9010C / 16-May-2015		Analyst: KHT
Cyanide	ND		1.95	mg/Kg	1	16-May-2015 15:17
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	11-May-2015 14:17
Surr: 4-Bromofluorobenzene	*95.0*		*70-130*	*%REC*	*1*	*11-May-2015 14:17*
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-May-2015		Analyst: OFO
Mercury	ND		0.00351	mg/Kg	1	11-May-2015 16:41
SUBCONTRACTED ANALYSIS		**Method:NA**				Analyst: SUBFC
Miscellaneous Analysis	See Attached				1	29-May-2015 09:48
MOISTURE		**Method:SW3550**				Analyst: JHD
Percent Moisture	**15.1**		**0.0100**	**wt%**	1	11-May-2015 12:15
PHENOLICS		**Method:SW9065**		Prep:SW9065 / 08-May-2015		Analyst: JHD
Phenolics, Total Recoverable	ND		2.49	mg/kg	1	08-May-2015 16:43
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 08-May-2015		Analyst: PPM
TPH (Diesel Range)	ND		1.7	mg/Kg	1	09-May-2015 19:13
TPH (Motor Oil Range)	ND		3.4	mg/Kg	1	09-May-2015 19:13
Surr: 2-Fluorobiphenyl	*82.9*		*60-135*	*%REC*	*1*	*09-May-2015 19:13*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Sample ID: TB 042815-41
Collection Date: 04-May-2015 00:00

ANALYTICAL REPORT
WorkOrder:HS15050245
Lab ID:HS15050245-05
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**				Analyst: AKP
1,1,1-Trichloroethane	ND		0.0010	mg/L	1	08-May-2015 20:52
1,1,2,2-Tetrachloroethane	ND		0.0010	mg/L	1	08-May-2015 20:52
1,1,2-Trichloroethane	ND		0.0010	mg/L	1	08-May-2015 20:52
1,1-Dichloroethane	ND		0.0010	mg/L	1	08-May-2015 20:52
1,1-Dichloroethene	ND		0.0010	mg/L	1	08-May-2015 20:52
1,2-Dibromoethane	ND		0.0010	mg/L	1	08-May-2015 20:52
1,2-Dichloroethane	ND		0.0010	mg/L	1	08-May-2015 20:52
Benzene	ND		0.0010	mg/L	1	08-May-2015 20:52
Carbon tetrachloride	ND		0.0010	mg/L	1	08-May-2015 20:52
Chloroform	ND		0.0010	mg/L	1	08-May-2015 20:52
Ethylbenzene	ND		0.0010	mg/L	1	08-May-2015 20:52
Methylene chloride	ND		0.0020	mg/L	1	08-May-2015 20:52
Toluene	ND		0.0010	mg/L	1	08-May-2015 20:52
Vinyl chloride	ND		0.0010	mg/L	1	08-May-2015 20:52
Xylenes, Total	ND		0.0030	mg/L	1	08-May-2015 20:52
Surr: 1,2-Dichloroethane-d4	*91.8*		*71-125*	*%REC*	*1*	*08-May-2015 20:52*
Surr: 4-Bromofluorobenzene	*97.1*		*70-125*	*%REC*	*1*	*08-May-2015 20:52*
Surr: Dibromofluoromethane	*93.9*		*74-125*	*%REC*	*1*	*08-May-2015 20:52*
Surr: Toluene-d8	*97.7*		*75-125*	*%REC*	*1*	*08-May-2015 20:52*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision:1

WEIGHT LOG

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

Batch ID: 93206 **Method:** ANIONS BY SW9056A **Prep:** 9056_S_PR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15050245-01	1	5.0865	50 (mL)	9.83
HS15050245-02	1	5.0464	50 (mL)	9.908
HS15050245-03	1	5.0396	50 (mL)	9.921
HS15050245-04	1	5.0307	50 (mL)	9.939

Batch ID: 93207 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15050245-01	1	30.08	1 (mL)	0.03324
HS15050245-02	1	30.01	1 (mL)	0.03332
HS15050245-03	1	30.02	1 (mL)	0.03331
HS15050245-04	1	30.06	1 (mL)	0.03327

Batch ID: 93221 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15050245-01	1	0.5592	50 (mL)	89.41
HS15050245-02	1	0.5892	50 (mL)	84.86
HS15050245-03	1	0.5573	50 (mL)	89.72
HS15050245-04	1	0.5425	50 (mL)	92.17

Batch ID: 93238 **Method:** PHENOLICS **Prep:** PHENOLICS_S PR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15050245-01	1	1.0058	50 (mL)	49.71
HS15050245-02	1	1.0064	50 (mL)	49.68
HS15050245-03	1	1.0031	50 (mL)	49.85
HS15050245-04	1	1.0046	50 (mL)	49.77

Batch ID: 93245 **Method:** MERCURY BY SW7471B **Prep:** HG_S_LOWPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15050245-01	1	0.5994	40 (mL)	66.73
HS15050245-02	1	0.5841	40 (mL)	68.48
HS15050245-03	1	0.5848	40 (mL)	68.4
HS15050245-04	1	0.5687	40 (mL)	70.34

Batch ID: 93250 **Method:** TPH DRO/ORO BY SW8015C **Prep:** 8015SPR_LL

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15050245-01	1	30.1	1 (mL)	0.03322
HS15050245-02	1	30.02	1 (mL)	0.03331
HS15050245-03	1	30.08	1 (mL)	0.03324
HS15050245-04	1	30.02	1 (mL)	0.03331

WEIGHT LOG

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

Batch ID: 93255 **Method:** PCBS BY SW8082A **Prep:** PCBPR_MW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15050245-01	1	15.1	5 (mL)	0.3311
HS15050245-02	1	15.03	5 (mL)	0.3327
HS15050245-03	1	15.09	5 (mL)	0.3313
HS15050245-04	1	15.02	5 (mL)	0.3329

Batch ID: 93524 **Method:** CYANIDE **Prep:** CN_TS_PR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15050245-01	1	1.0164	50 (mL)	49.19
HS15050245-02	1	1.0047	50 (mL)	49.77
HS15050245-03	1	1.0684	50 (mL)	46.8
HS15050245-04	1	1.0277	50 (mL)	48.65

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 93206	**Test Name :** ANIONS BY SW9056A			**Matrix:** Soil		
HS15050245-01	VZRS-1	04 May 2015 17:49		07 May 2015 10:10	07 May 2015 21:05	1
HS15050245-02	VZRS-2	04 May 2015 18:00		07 May 2015 10:10	07 May 2015 21:26	1
HS15050245-03	VZRS-3	04 May 2015 18:12		07 May 2015 10:10	07 May 2015 21:48	1
HS15050245-04	VZRS-4	04 May 2015 18:26		07 May 2015 10:10	07 May 2015 22:10	1
Batch ID 93207	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS15050245-01	VZRS-1	04 May 2015 17:49		07 May 2015 15:24	08 May 2015 11:46	1
HS15050245-02	VZRS-2	04 May 2015 18:00		07 May 2015 15:24	11 May 2015 16:38	1
HS15050245-03	VZRS-3	04 May 2015 18:12		07 May 2015 15:24	11 May 2015 16:57	1
HS15050245-04	VZRS-4	04 May 2015 18:26		07 May 2015 15:24	11 May 2015 17:16	1
Batch ID 93221	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS15050245-01	VZRS-1	04 May 2015 17:49		08 May 2015 12:34	12 May 2015 13:45	100
HS15050245-01	VZRS-1	04 May 2015 17:49		08 May 2015 12:34	11 May 2015 21:00	1
HS15050245-02	VZRS-2	04 May 2015 18:00		08 May 2015 12:34	11 May 2015 21:26	1
HS15050245-03	VZRS-3	04 May 2015 18:12		08 May 2015 12:34	11 May 2015 21:31	1
HS15050245-04	VZRS-4	04 May 2015 18:26		08 May 2015 12:34	11 May 2015 21:35	1
Batch ID 93238	**Test Name :** PHENOLICS			**Matrix:** Soil		
HS15050245-01	VZRS-1	04 May 2015 17:49		08 May 2015 13:39	08 May 2015 16:43	1
HS15050245-02	VZRS-2	04 May 2015 18:00		08 May 2015 13:39	08 May 2015 16:43	1
HS15050245-03	VZRS-3	04 May 2015 18:12		08 May 2015 13:39	08 May 2015 16:43	1
HS15050245-04	VZRS-4	04 May 2015 18:26		08 May 2015 13:39	08 May 2015 16:43	1
Batch ID 93245	**Test Name :** MERCURY BY SW7471B			**Matrix:** Soil		
HS15050245-01	VZRS-1	04 May 2015 17:49		11 May 2015 10:17	11 May 2015 16:35	1
HS15050245-02	VZRS-2	04 May 2015 18:00		11 May 2015 10:17	11 May 2015 16:37	1
HS15050245-03	VZRS-3	04 May 2015 18:12		11 May 2015 10:17	11 May 2015 16:39	1
HS15050245-04	VZRS-4	04 May 2015 18:26		11 May 2015 10:17	11 May 2015 16:41	1
Batch ID 93250	**Test Name :** TPH DRO/ORO BY SW8015C			**Matrix:** Soil		
HS15050245-01	VZRS-1	04 May 2015 17:49		08 May 2015 12:52	09 May 2015 17:46	1
HS15050245-02	VZRS-2	04 May 2015 18:00		08 May 2015 12:52	09 May 2015 18:15	1
HS15050245-03	VZRS-3	04 May 2015 18:12		08 May 2015 12:52	09 May 2015 18:44	1
HS15050245-04	VZRS-4	04 May 2015 18:26		08 May 2015 12:52	09 May 2015 19:13	1
Batch ID 93255	**Test Name :** PCBS BY SW8082A			**Matrix:** Soil		
HS15050245-01	VZRS-1	04 May 2015 17:49		08 May 2015 10:05	08 May 2015 19:47	1
HS15050245-02	VZRS-2	04 May 2015 18:00		08 May 2015 10:05	08 May 2015 20:03	1
HS15050245-03	VZRS-3	04 May 2015 18:12		08 May 2015 10:05	08 May 2015 20:19	1
HS15050245-04	VZRS-4	04 May 2015 18:26		08 May 2015 10:05	08 May 2015 22:08	1

Revision:1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 93524	**Test Name :** CYANIDE			**Matrix:** Soil		
HS15050245-01	VZRS-1	04 May 2015 17:49		16 May 2015 11:17	16 May 2015 15:17	1
HS15050245-02	VZRS-2	04 May 2015 18:00		16 May 2015 11:17	16 May 2015 15:17	1
HS15050245-03	VZRS-3	04 May 2015 18:12		16 May 2015 11:17	16 May 2015 15:17	1
HS15050245-04	VZRS-4	04 May 2015 18:26		16 May 2015 11:17	16 May 2015 15:17	1
Batch ID R254334	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS15050245-05	TB 042815-41	04 May 2015 00:00			08 May 2015 20:52	1
Batch ID R254358	**Test Name :** MOISTURE			**Matrix:** Soil		
HS15050245-01	VZRS-1	04 May 2015 17:49			11 May 2015 12:15	1
HS15050245-02	VZRS-2	04 May 2015 18:00			11 May 2015 12:15	1
HS15050245-03	VZRS-3	04 May 2015 18:12			11 May 2015 12:15	1
HS15050245-04	VZRS-4	04 May 2015 18:26			11 May 2015 12:15	1
Batch ID R254408	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C			**Matrix:** Soil		
HS15050245-01	VZRS-1	04 May 2015 17:49			11 May 2015 12:58	1
HS15050245-02	VZRS-2	04 May 2015 18:00			11 May 2015 13:45	1
HS15050245-03	VZRS-3	04 May 2015 18:12			11 May 2015 14:01	1
HS15050245-04	VZRS-4	04 May 2015 18:26			11 May 2015 14:17	1
Batch ID R254412	**Test Name :** VOLATILES BY SW8260C			**Matrix:** Soil		
HS15050245-01	VZRS-1	04 May 2015 17:49			12 May 2015 17:23	1
HS15050245-02	VZRS-2	04 May 2015 18:00			12 May 2015 17:47	1
HS15050245-03	VZRS-3	04 May 2015 18:12			12 May 2015 18:10	1
HS15050245-04	VZRS-4	04 May 2015 18:26			12 May 2015 18:34	1
Batch ID R255263	**Test Name :** SUBCONTRACTED ANALYSIS			**Matrix:** Soil		
HS15050245-01	VZRS-1	04 May 2015 17:49			29 May 2015 09:48	1
HS15050245-02	VZRS-2	04 May 2015 18:00			29 May 2015 09:48	1
HS15050245-03	VZRS-3	04 May 2015 18:12			29 May 2015 09:48	1
HS15050245-04	VZRS-4	04 May 2015 18:26			29 May 2015 09:48	1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93255 **Instrument: ECD_7** **Method: SW8082**

MBLK Sample ID: **MBLK-93255** Units: **ug/Kg** Analysis Date: **08-May-2015 17:58**
Client ID: Run ID: **ECD_7_254341** SeqNo: **3280591** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	17								
Aroclor 1221	ND	17								
Aroclor 1232	ND	17								
Aroclor 1242	ND	17								
Aroclor 1248	ND	17								
Aroclor 1254	ND	17								
Aroclor 1260	ND	17								
Surr: Decachlorobiphenyl	*5.703*	*1.6*	*6.667*	*0*	*85.5*	*54 - 143*				
Surr: Tetrachloro-m-xylene	*4.906*	*1.6*	*6.667*	*0*	*73.6*	*55 - 137*				

LCS Sample ID: **LCS-93255** Units: **ug/Kg** Analysis Date: **08-May-2015 18:14**
Client ID: Run ID: **ECD_7_254341** SeqNo: **3280592** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	123.7	17	166.7	0	74.2	53 - 135				
Aroclor 1260	133	17	166.7	0	79.8	54 - 137				
Surr: Decachlorobiphenyl	*5.824*	*1.6*	*6.667*	*0*	*87.4*	*54 - 143*				
Surr: Tetrachloro-m-xylene	*5.397*	*1.6*	*6.667*	*0*	*80.9*	*55 - 137*				

MS Sample ID: **HS15050293-01MS** Units: **ug/Kg** Analysis Date: **08-May-2015 19:01**
Client ID: Run ID: **ECD_7_254341** SeqNo: **3280595** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	96.06	17	166.3	0	57.8	53 - 135				
Aroclor 1260	90.62	17	166.3	0	54.5	54 - 137				
Surr: Decachlorobiphenyl	*4.489*	*1.6*	*6.649*	*0*	*67.5*	*54 - 143*				
Surr: Tetrachloro-m-xylene	*4.106*	*1.6*	*6.649*	*0*	*61.7*	*55 - 137*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93255 **Instrument: ECD_7** **Method: SW8082**

MSD Sample ID: **HS15050293-01MSD** Units: **ug/Kg** Analysis Date: **08-May-2015 19:16**
Client ID: Run ID: **ECD_7_254341** SeqNo: **3280596** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	111.4	17	165.6	0	67.3	53 - 135	96.06	14.8	30	
Aroclor 1260	94.83	17	165.6	0	57.3	54 - 137	90.62	4.53	30	
Surr: Decachlorobiphenyl	*4.644*	*1.6*	*6.623*	*0*	*70.1*	*54 - 143*	*4.489*	*3.41*	*30*	
Surr: Tetrachloro-m-xylene	*4.431*	*1.6*	*6.623*	*0*	*66.9*	*55 - 137*	*4.106*	*7.63*	*30*	

The following samples were anayzed in this batch: HS15050245-01 HS15050245-02 HS15050245-03 HS15050245-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93250 **Instrument: FID-7** **Method: SW8015M**

MBLK Sample ID: **MBLK** Units: **mg/Kg** Analysis Date: **09-May-2015 16:48**
Client ID: Run ID: **FID-7_254335** SeqNo: **3280879** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	ND	1.7								
TPH (Motor Oil Range)	ND	3.4								
Surr: 2-Fluorobiphenyl	*3.504*	*0.10*	*3.33*	*0*	*105*	*60 - 135*				

LCS Sample ID: **LCS** Units: **mg/Kg** Analysis Date: **09-May-2015 17:17**
Client ID: Run ID: **FID-7_254335** SeqNo: **3280880** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	33.81	1.7	33.33	0	101	70 - 130				
TPH (Motor Oil Range)	34.05	3.4	33.33	0	102	70 - 130				
Surr: 2-Fluorobiphenyl	*3.414*	*0.10*	*3.33*	*0*	*103*	*60 - 135*				

MS Sample ID: **HS15050245-04MS** Units: **mg/Kg** Analysis Date: **09-May-2015 19:42**
Client ID: **VZRS-4** Run ID: **FID-7_254335** SeqNo: **3280885** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	32.67	1.7	33.25	0.3558	97.2	70 - 130				
TPH (Motor Oil Range)	35.92	3.4	33.25	0.1626	108	70 - 130				
Surr: 2-Fluorobiphenyl	*3.061*	*0.10*	*3.322*	*0*	*92.1*	*60 - 135*				

MSD Sample ID: **HS15050245-04MSD** Units: **mg/Kg** Analysis Date: **09-May-2015 20:11**
Client ID: **VZRS-4** Run ID: **FID-7_254335** SeqNo: **3280886** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	28.09	1.7	33.27	0.3558	83.4	70 - 130	32.67	15.1	30	
TPH (Motor Oil Range)	31.22	3.4	33.27	0.1626	93.3	70 - 130	35.92	14	30	
Surr: 2-Fluorobiphenyl	*2.928*	*0.10*	*3.324*	*0*	*88.1*	*60 - 135*	*3.061*	*4.43*	*30*	

The following samples were anayzed in this batch: HS15050245-01 HS15050245-02 HS15050245-03 HS15050245-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: R254408 **Instrument: FID-14** **Method: SW8015**

MBLK Sample ID: **BLK-150511** Units: **mg/Kg** Analysis Date: **11-May-2015 12:02**
Client ID: Run ID: **FID-14_254408** SeqNo: **3282383** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.050								
Surr: 4-Bromofluorobenzene	*0.08175*	*0.0050*	*0.1*	*0*	*81.7*	*70 - 130*				

LCS Sample ID: **LCS-150511** Units: **mg/Kg** Analysis Date: **11-May-2015 11:46**
Client ID: Run ID: **FID-14_254408** SeqNo: **3282382** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.056	0.050	1	0	106	70 - 130				
Surr: 4-Bromofluorobenzene	*0.1002*	*0.0050*	*0.1*	*0*	*100*	*70 - 130*				

MS Sample ID: **HS15050245-01MS** Units: **mg/Kg** Analysis Date: **11-May-2015 13:14**
Client ID: **VZRS-1** Run ID: **FID-14_254408** SeqNo: **3282385** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8974	0.050	1	0	89.7	70 - 130				
Surr: 4-Bromofluorobenzene	*0.08361*	*0.0050*	*0.1*	*0*	*83.6*	*70 - 130*				

MSD Sample ID: **HS15050245-01MSD** Units: **mg/Kg** Analysis Date: **11-May-2015 13:29**
Client ID: **VZRS-1** Run ID: **FID-14_254408** SeqNo: **3282386** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.9218	0.050	1	0	92.2	70 - 130	0.8974	2.68	30	
Surr: 4-Bromofluorobenzene	*0.08353*	*0.0050*	*0.1*	*0*	*83.5*	*70 - 130*	*0.08361*	*0.104*	*30*	

The following samples were anayzed in this batch: HS15050245-01 HS15050245-02 HS15050245-03 HS15050245-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93221 **Instrument: ICP7500** **Method: SW6020**

MBLK Sample ID: **MBLK-93221** Units: **mg/Kg** Analysis Date: **11-May-2015 19:03**
Client ID: Run ID: **ICP7500_254362** SeqNo: **3282267** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.500								
Barium	ND	0.500								
Cadmium	ND	0.500								
Chromium	ND	0.500								
Copper	ND	0.500								
Iron	ND	50.0								
Lead	ND	0.500								
Manganese	ND	0.500								
Selenium	ND	0.500								
Silver	ND	0.500								
Uranium	ND	0.500								
Zinc	ND	0.500								

LCS Sample ID: **MLCS-93221** Units: **mg/Kg** Analysis Date: **11-May-2015 19:07**
Client ID: Run ID: **ICP7500_254362** SeqNo: **3282268** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.676	0.500	10	0	96.8	80 - 120				
Barium	10.67	0.500	10	0	107	80 - 120				
Cadmium	10.54	0.500	10	0	105	80 - 120				
Chromium	10.23	0.500	10	0	102	80 - 120				
Copper	10	0.500	10	0	100	80 - 120				
Iron	1036	50.0	1000	0	104	80 - 120				
Lead	10.89	0.500	10	0	109	80 - 120				
Manganese	10.56	0.500	10	0	106	80 - 120				
Selenium	9.76	0.500	10	0	97.6	80 - 120				
Silver	8.625	0.500	10	0	86.2	80 - 120				
Uranium	11.58	0.500	10	0	116	80 - 120				
Zinc	10.29	0.500	10	0	103	80 - 120				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93221 **Instrument: ICP7500** **Method: SW6020**

MS Sample ID: **HS15050245-01MS** Units: **mg/Kg** Analysis Date: **11-May-2015 21:13**
Client ID: **VZRS-1** Run ID: **ICP7500_254362** SeqNo: **3282296** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.26	0.475	9.502	2.366	93.6	75 - 125				
Barium	229	0.475	9.502	267.6	-406	75 - 125				SEO
Cadmium	9.081	0.475	9.502	0.08582	94.7	75 - 125				
Chromium	14.47	0.475	9.502	3.431	116	75 - 125				
Copper	9.949	0.475	9.502	1.415	89.8	75 - 125				
Iron	4940	47.5	950.2	2914	213	75 - 125				S
Lead	12.57	0.475	9.502	3.045	100	75 - 125				
Manganese	56.55	0.475	9.502	43.87	133	75 - 125				SO
Selenium	10.08	0.475	9.502	0.3976	102	75 - 125				
Silver	7.033	0.475	9.502	-0.02204	74.3	75 - 125				S
Uranium	10.41	0.475	9.502	0.2352	107	75 - 125				
Zinc	18.95	0.475	9.502	7.629	119	75 - 125				

MSD Sample ID: **HS15050245-01MSD** Units: **mg/Kg** Analysis Date: **11-May-2015 21:17**
Client ID: **VZRS-1** Run ID: **ICP7500_254362** SeqNo: **3282297** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.38	0.477	9.547	2.366	94.4	75 - 125	11.26	1.07	20	
Barium	273.3	0.477	9.547	267.6	60.0	75 - 125	229	17.7	20	SEO
Cadmium	8.644	0.477	9.547	0.08582	89.6	75 - 125	9.081	4.93	20	
Chromium	13.95	0.477	9.547	3.431	110	75 - 125	14.47	3.68	20	
Copper	9.738	0.477	9.547	1.415	87.2	75 - 125	9.949	2.14	20	
Iron	4764	47.7	954.7	2914	194	75 - 125	4940	3.63	20	S
Lead	12.12	0.477	9.547	3.045	95.0	75 - 125	12.57	3.69	20	
Manganese	57.15	0.477	9.547	43.87	139	75 - 125	56.55	1.06	20	SO
Selenium	9.815	0.477	9.547	0.3976	98.6	75 - 125	10.08	2.68	20	
Silver	6.916	0.477	9.547	-0.02204	72.7	75 - 125	7.033	1.68	20	S
Uranium	10.21	0.477	9.547	0.2352	104	75 - 125	10.41	2.02	20	
Zinc	18.54	0.477	9.547	7.629	114	75 - 125	18.95	2.17	20	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93221 **Instrument: ICP7500** **Method: SW6020**

DUP Sample ID: **HS15050245-01DUP** Units: **mg/Kg** Analysis Date: **11-May-2015 21:04**
Client ID: **VZRS-1** Run ID: **ICP7500_254362** SeqNo: **3282294** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	2.252	0.472					2.366	4.93	20	
Cadmium	ND	0.472					0.08582	0	20	
Chromium	3.235	0.472					3.431	5.89	20	
Copper	1.445	0.472					1.415	2.11	20	
Iron	2742	47.2					2914	6.07	20	
Lead	2.919	0.472					3.045	4.22	20	
Manganese	42.11	0.472					43.87	4.09	20	
Selenium	ND	0.472					0.3976	0	20	
Silver	ND	0.472					-0.02204	0	20	
Uranium	ND	0.472					0.2352	0	20	
Zinc	7.116	0.472					7.629	6.95	20	

DUP Sample ID: **HS15050245-01DUP** Units: **mg/Kg** Analysis Date: **12-May-2015 13:50**
Client ID: **VZRS-1** Run ID: **ICP7500_254428** SeqNo: **3283365** PrepDate: **08-May-2015** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	217	47.2					267.1	20.7	20	R

PDS Sample ID: **HS15050245-01BS** Units: **mg/Kg** Analysis Date: **11-May-2015 21:22**
Client ID: **VZRS-1** Run ID: **ICP7500_254362** SeqNo: **3282298** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.77	0.447	8.941	2.366	94.0	75 - 125				
Cadmium	8.642	0.447	8.941	0.08582	95.7	75 - 125				
Chromium	11.95	0.447	8.941	3.431	95.3	75 - 125				
Copper	9.093	0.447	8.941	1.415	85.9	75 - 125				
Iron	3617	44.7	894.1	2914	78.6	75 - 125				
Lead	12.01	0.447	8.941	3.045	100	75 - 125				
Manganese	51.32	0.447	8.941	43.87	83.4	75 - 125				O
Selenium	9.451	0.447	8.941	0.3976	101	75 - 125				
Silver	6.557	0.447	8.941	-0.02204	73.6	75 - 125				S
Uranium	9.827	0.447	8.941	0.2352	107	75 - 125				
Zinc	14.74	0.447	8.941	7.629	79.6	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93221 **Instrument: ICP7500** **Method: SW6020**

PDS Sample ID: **HS15050245-01BS** Units: **mg/Kg** Analysis Date: **12-May-2015 13:59**
Client ID: **VZRS-1** Run ID: **ICP7500_254428** SeqNo: **3283367** PrepDate: **08-May-2015** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	1100	44.7	894.1	267.1	93.1	75 - 125				

SD Sample ID: **HS15050245-01 DIL SX** Units: **mg/Kg** Analysis Date: **11-May-2015 21:09**
Client ID: **VZRS-1** Run ID: **ICP7500_254362** SeqNo: **3282295** PrepDate: **08-May-2015** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	2.467	2.24					2.366	4.29	10	
Cadmium	ND	2.24					0.08582	0	10	
Chromium	3.349	2.24					3.431	2.38	10	
Copper	1.701	2.24					1.415	0	10	J
Iron	2891	224					2914	0.782	10	
Lead	3.119	2.24					3.045	2.44	10	
Manganese	43.84	2.24					43.87	0.051	10	
Selenium	ND	2.24					0.3976	0	10	
Silver	ND	2.24					-0.02204	0	10	
Uranium	ND	2.24					0.2352	0	10	
Zinc	8.043	2.24					7.629	5.43	10	

SD Sample ID: **HS15050245-01 DIL SX** Units: **mg/Kg** Analysis Date: **12-May-2015 13:54**
Client ID: **VZRS-1** Run ID: **ICP7500_254428** SeqNo: **3283366** PrepDate: **08-May-2015** DF: **500**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	279.1	224					267.1	4.49	10	

The following samples were anayzed in this batch: HS15050245-01 HS15050245-02 HS15050245-03 HS15050245-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93245 **Instrument: HG02** **Method: SW7471A**

MBLK Sample ID: **GBLKS3-051115** Units: **ug/Kg** Analysis Date: **11-May-2015 15:55**
Client ID: Run ID: **HG02_254395** SeqNo: **3281757** PrepDate: **11-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	3.32								

LCS Sample ID: **GLCSS3-051115** Units: **ug/Kg** Analysis Date: **11-May-2015 15:57**
Client ID: Run ID: **HG02_254395** SeqNo: **3281758** PrepDate: **11-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	348	3.32	333.3	0	104	85 - 115				

MS Sample ID: **HS15050250-22MS** Units: **ug/Kg** Analysis Date: **11-May-2015 16:13**
Client ID: Run ID: **HG02_254395** SeqNo: **3281762** PrepDate: **11-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	384.6	3.46	347.1	29.44	102	85 - 115				

MSD Sample ID: **HS15050250-22MSD** Units: **ug/Kg** Analysis Date: **11-May-2015 16:15**
Client ID: Run ID: **HG02_254395** SeqNo: **3281763** PrepDate: **11-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	377.4	3.45	346.2	29.44	100	85 - 115	384.6	1.9	20	

DUP Sample ID: **HS15050250-22DUP** Units: **ug/Kg** Analysis Date: **11-May-2015 16:01**
Client ID: Run ID: **HG02_254395** SeqNo: **3281760** PrepDate: **11-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	28.93	3.47					29.44	1.74	20	

The following samples were anayzed in this batch: HS15050245-01 HS15050245-02 HS15050245-03 HS15050245-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93207 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-93207** Units: **ug/Kg** Analysis Date: **08-May-2015 11:09**
Client ID: Run ID: **SV-7_254476** SeqNo: **3283852** PrepDate: **07-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1-Methylnaphthalene	ND	3.3								
2-Methylnaphthalene	ND	3.3								
Benzo(a)pyrene	ND	3.3								
Naphthalene	ND	3.3								
Surr: 2-Fluorobiphenyl	*139.3*	*6.6*	*167*	*0*	*83.4*	*43 - 125*				
Surr: 4-Terphenyl-d14	*148.4*	*6.6*	*167*	*0*	*88.9*	*32 - 125*				
Surr: Nitrobenzene-d5	*128.8*	*6.6*	*167*	*0*	*77.2*	*37 - 125*				

LCS Sample ID: **LCS-93207** Units: **ug/Kg** Analysis Date: **08-May-2015 11:27**
Client ID: Run ID: **SV-7_254476** SeqNo: **3283853** PrepDate: **07-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1-Methylnaphthalene	142.6	3.3	167	0	85.4	50 - 120				
2-Methylnaphthalene	145.4	3.3	167	0	87.0	50 - 120				
Benzo(a)pyrene	160.5	3.3	167	0	96.1	50 - 130				
Naphthalene	143.5	3.3	167	0	85.9	50 - 125				
Surr: 2-Fluorobiphenyl	*146.5*	*6.6*	*167*	*0*	*87.7*	*43 - 125*				
Surr: 4-Terphenyl-d14	*163.5*	*6.6*	*167*	*0*	*97.9*	*32 - 125*				
Surr: Nitrobenzene-d5	*141.8*	*6.6*	*167*	*0*	*84.9*	*37 - 125*				

MS Sample ID: **HS15050245-01MS** Units: **ug/Kg** Analysis Date: **08-May-2015 12:04**
Client ID: **VZRS-1** Run ID: **SV-7_254476** SeqNo: **3283849** PrepDate: **07-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1-Methylnaphthalene	141	3.3	166.8	0	84.5	50 - 120				
2-Methylnaphthalene	148.2	3.3	166.8	0	88.8	50 - 120				
Benzo(a)pyrene	155.4	3.3	166.8	0	93.1	50 - 130				
Naphthalene	141	3.3	166.8	0	84.5	50 - 125				
Surr: 2-Fluorobiphenyl	*143.2*	*6.6*	*166.8*	*0*	*85.8*	*43 - 125*				
Surr: 4-Terphenyl-d14	*157*	*6.6*	*166.8*	*0*	*94.1*	*32 - 125*				
Surr: Nitrobenzene-d5	*131.4*	*6.6*	*166.8*	*0*	*78.8*	*37 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93207 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS15050245-01MSD** Units: **ug/Kg** Analysis Date: **08-May-2015 12:23**
Client ID: **VZRS-1** Run ID: **SV-7_254476** SeqNo: **3283850** PrepDate: **07-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1-Methylnaphthalene	132.8	3.3	166.6	0	79.7	50 - 120	141	5.98	30	
2-Methylnaphthalene	135.5	3.3	166.6	0	81.3	50 - 120	148.2	8.99	30	
Benzo(a)pyrene	150.4	3.3	166.6	0	90.3	50 - 130	155.4	3.28	30	
Naphthalene	128.3	3.3	166.6	0	77.0	50 - 125	141	9.47	30	
Surr: 2-Fluorobiphenyl	*131.6*	*6.6*	*166.6*	*0*	*79.0*	*43 - 125*	*143.2*	*8.45*	*30*	
Surr: 4-Terphenyl-d14	*147.4*	*6.6*	*166.6*	*0*	*88.5*	*32 - 125*	*157*	*6.29*	*30*	
Surr: Nitrobenzene-d5	*121.5*	*6.6*	*166.6*	*0*	*72.9*	*37 - 125*	*131.4*	*7.89*	*30*	

The following samples were anayzed in this batch: HS15050245-01 HS15050245-02 HS15050245-03 HS15050245-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: R254334 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-150508** Units: **ug/L** Analysis Date: **08-May-2015 12:16**
Client ID: Run ID: **VOA2_254334** SeqNo: **3280508** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichloroethane	ND	1.0								
Benzene	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chloroform	ND	1.0								
Ethylbenzene	ND	1.0								
Methylene chloride	ND	2.0								
Toluene	ND	1.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	3.0								
Surr: 1,2-Dichloroethane-d4	*46.02*	*1.0*	*50*	*0*	*92.0*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*47.97*	*1.0*	*50*	*0*	*95.9*	*70 - 125*				
Surr: Dibromofluoromethane	*47.91*	*1.0*	*50*	*0*	*95.8*	*74 - 125*				
Surr: Toluene-d8	*48.73*	*1.0*	*50*	*0*	*97.5*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: R254334 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-150508** Units: **ug/L** Analysis Date: **08-May-2015 11:26**
Client ID: Run ID: **VOA2_254334** SeqNo: **3280507** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	46.51	1.0	50	0	93.0	75 - 130				
1,1,2,2-Tetrachloroethane	50.47	1.0	50	0	101	74 - 123				
1,1,2-Trichloroethane	47.86	1.0	50	0	95.7	80 - 120				
1,1-Dichloroethane	44.35	1.0	50	0	88.7	76 - 120				
1,1-Dichloroethene	44.88	1.0	50	0	89.8	75 - 130				
1,2-Dibromoethane	50.39	1.0	50	0	101	80 - 121				
1,2-Dichloroethane	40.98	1.0	50	0	82.0	76 - 120				
Benzene	45.04	1.0	50	0	90.1	80 - 120				
Carbon tetrachloride	44.78	1.0	50	0	89.6	75 - 125				
Chloroform	44.85	1.0	50	0	89.7	70 - 130				
Ethylbenzene	48.13	1.0	50	0	96.3	80 - 120				
Methylene chloride	40.78	2.0	50	0	81.6	65 - 133				
Toluene	45.97	1.0	50	0	91.9	75 - 121				
Vinyl chloride	40.68	1.0	50	0	81.4	70 - 135				
Xylenes, Total	144.6	3.0	150	0	96.4	79 - 124				
Surr: 1,2-Dichloroethane-d4	*44.21*	*1.0*	*50*	*0*	*88.4*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*49.11*	*1.0*	*50*	*0*	*98.2*	*70 - 125*				
Surr: Dibromofluoromethane	*48.49*	*1.0*	*50*	*0*	*97.0*	*74 - 125*				
Surr: Toluene-d8	*49*	*1.0*	*50*	*0*	*98.0*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: R254334 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS15050195-02MS** Units: **ug/L** Analysis Date: **08-May-2015 14:50**
Client ID: Run ID: **VOA2_254334** SeqNo: **3284944** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	50.11	1.0	50	0	100	75 - 130				
1,1,2,2-Tetrachloroethane	53.28	1.0	50	0	107	74 - 123				
1,1,2-Trichloroethane	50.08	1.0	50	0	100	80 - 120				
1,1-Dichloroethane	49.35	1.0	50	0	98.7	76 - 120				
1,1-Dichloroethene	49.59	1.0	50	0	99.2	75 - 130				
1,2-Dibromoethane	52.95	1.0	50	0	106	80 - 121				
1,2-Dichloroethane	42.22	1.0	50	0	84.4	76 - 120				
Benzene	48.81	1.0	50	0	97.6	80 - 120				
Carbon tetrachloride	49.19	1.0	50	0	98.4	79 - 120				
Chloroform	48.41	1.0	50	0	96.8	70 - 130				
Ethylbenzene	51.42	1.0	50	0	103	80 - 120				
Methylene chloride	35.56	2.0	50	0	71.1	65 - 133				
Toluene	48.94	1.0	50	0	97.9	75 - 121				
Vinyl chloride	46.79	1.0	50	0	93.6	70 - 135				
Xylenes, Total	153.1	3.0	150	0	102	80 - 124				
Surr: 1,2-Dichloroethane-d4	*45.24*	*1.0*	*50*	*0*	*90.5*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*49.79*	*1.0*	*50*	*0*	*99.6*	*70 - 125*				
Surr: Dibromofluoromethane	*48.07*	*1.0*	*50*	*0*	*96.1*	*74 - 125*				
Surr: Toluene-d8	*49.54*	*1.0*	*50*	*0*	*99.1*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: R254334 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS15050195-02MSD** Units: **ug/L** Analysis Date: **08-May-2015 15:15**
Client ID: Run ID: **VOA2_254334** SeqNo: **3284945** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	48.12	1.0	50	0	96.2	75 - 130	50.11	4.05	20	
1,1,2,2-Tetrachloroethane	52.1	1.0	50	0	104	74 - 123	53.28	2.24	20	
1,1,2-Trichloroethane	48.83	1.0	50	0	97.7	80 - 120	50.08	2.53	20	
1,1-Dichloroethane	47.02	1.0	50	0	94.0	76 - 120	49.35	4.85	20	
1,1-Dichloroethene	48.81	1.0	50	0	97.6	75 - 130	49.59	1.6	20	
1,2-Dibromoethane	51.71	1.0	50	0	103	80 - 121	52.95	2.37	20	
1,2-Dichloroethane	41.51	1.0	50	0	83.0	76 - 120	42.22	1.68	20	
Benzene	47.15	1.0	50	0	94.3	80 - 120	48.81	3.45	20	
Carbon tetrachloride	45.46	1.0	50	0	90.9	75 - 125	49.19	7.88	20	
Chloroform	47.36	1.0	50	0	94.7	70 - 130	48.41	2.2	20	
Ethylbenzene	49.53	1.0	50	0	99.1	80 - 120	51.42	3.75	20	
Methylene chloride	39.1	2.0	50	0	78.2	65 - 133	35.56	9.46	20	
Toluene	47.64	1.0	50	0	95.3	75 - 121	48.94	2.69	20	
Vinyl chloride	45.53	1.0	50	0	91.1	70 - 135	46.79	2.73	20	
Xylenes, Total	146.7	3.0	150	0	97.8	80 - 124	153.1	4.26	20	
Surr: 1,2-Dichloroethane-d4	*44.71*	*1.0*	*50*	*0*	*89.4*	*71 - 125*	*45.24*	*1.18*	*20*	
Surr: 4-Bromofluorobenzene	*49.74*	*1.0*	*50*	*0*	*99.5*	*70 - 125*	*49.79*	*0.103*	*20*	
Surr: Dibromofluoromethane	*48.32*	*1.0*	*50*	*0*	*96.6*	*74 - 125*	*48.07*	*0.51*	*20*	
Surr: Toluene-d8	*49.73*	*1.0*	*50*	*0*	*99.5*	*75 - 125*	*49.54*	*0.396*	*20*	

The following samples were anayzed in this batch: HS15050245-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: R254412 **Instrument: VOA5** **Method: SW8260**

MBLK Sample ID: **VBLKS1-051215** Units: **ug/Kg** Analysis Date: **12-May-2015 09:03**
Client ID: Run ID: **VOA5_254412** SeqNo: **3282524** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
Benzene	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chloroform	ND	5.0								
Ethylbenzene	ND	5.0								
Methylene chloride	ND	10								
Toluene	ND	5.0								
Vinyl chloride	ND	2.0								
Xylenes, Total	ND	10								
Surr: 1,2-Dichloroethane-d4	*44.85*	*5.0*	*50*	*0*	*89.7*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*47.61*	*5.0*	*50*	*0*	*95.2*	*73 - 126*				
Surr: Dibromofluoromethane	*45.57*	*5.0*	*50*	*0*	*91.1*	*71 - 128*				
Surr: Toluene-d8	*50.32*	*5.0*	*50*	*0*	*101*	*73 - 127*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: R254412 **Instrument: VOA5** **Method: SW8260**

LCS Sample ID: **VLCSS1-051215** Units: **ug/Kg** Analysis Date: **12-May-2015 08:16**
Client ID: Run ID: **VOA5_254412** SeqNo: **3282523** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	51.76	5.0	50	0	104	79 - 128				
1,1,2,2-Tetrachloroethane	50.63	5.0	50	0	101	75 - 123				
1,1,2-Trichloroethane	50.43	5.0	50	0	101	77 - 120				
1,1-Dichloroethane	49.88	5.0	50	0	99.8	75 - 124				
1,1-Dichloroethene	51.72	5.0	50	0	103	76 - 128				
1,2-Dibromoethane	49.88	5.0	50	0	99.8	70 - 120				
1,2-Dichloroethane	48.48	5.0	50	0	97.0	73 - 121				
Benzene	50.5	5.0	50	0	101	79 - 122				
Carbon tetrachloride	51.05	5.0	50	0	102	74 - 126				
Chloroform	49.47	5.0	50	0	98.9	78 - 122				
Ethylbenzene	52.15	5.0	50	0	104	80 - 122				
Methylene chloride	49.98	10	50	0	100.0	65 - 130				
Toluene	50.69	5.0	50	0	101	79 - 120				
Vinyl chloride	52.29	2.0	50	0	105	76 - 126				
Xylenes, Total	155.8	10	150	0	104	80 - 120				
Surr: 1,2-Dichloroethane-d4	*49.21*	*5.0*	*50*	*0*	*98.4*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*49.31*	*5.0*	*50*	*0*	*98.6*	*73 - 126*				
Surr: Dibromofluoromethane	*49.1*	*5.0*	*50*	*0*	*98.2*	*71 - 128*				
Surr: Toluene-d8	*50.8*	*5.0*	*50*	*0*	*102*	*73 - 127*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: R254412 **Instrument: VOA5** **Method: SW8260**

MS Sample ID: **HS15050140-16MS** Units: **ug/Kg** Analysis Date: **12-May-2015 11:49**
Client ID: Run ID: **VOA5_254412** SeqNo: **3282978** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	43.82	5.0	50	0	87.6	79 - 128				
1,1,2,2-Tetrachloroethane	44.61	5.0	50	0	89.2	75 - 123				
1,1,2-Trichloroethane	45.89	5.0	50	0	91.8	77 - 120				
1,1-Dichloroethane	46.12	5.0	50	0	92.2	75 - 124				
1,1-Dichloroethene	46.36	5.0	50	0	92.7	76 - 128				
1,2-Dibromoethane	44.66	5.0	50	0	89.3	70 - 120				
1,2-Dichloroethane	45.46	5.0	50	0	90.9	73 - 121				
Benzene	45.79	5.0	50	0	91.6	79 - 122				
Carbon tetrachloride	41.47	5.0	50	0	82.9	74 - 126				
Chloroform	45.44	5.0	50	0	90.9	78 - 122				
Ethylbenzene	37.85	5.0	50	0	75.7	80 - 122				S
Methylene chloride	47.59	10	50	0	95.2	65 - 130				
Toluene	43.14	5.0	50	0	86.3	79 - 120				
Vinyl chloride	49.13	2.0	50	0	98.3	76 - 126				
Xylenes, Total	110.4	10	150	0	73.6	80 - 120				S
Surr: 1,2-Dichloroethane-d4	*47.67*	*5.0*	*50*	*0*	*95.3*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*46.85*	*5.0*	*50*	*0*	*93.7*	*73 - 126*				
Surr: Dibromofluoromethane	*47.75*	*5.0*	*50*	*0*	*95.5*	*71 - 128*				
Surr: Toluene-d8	*50.21*	*5.0*	*50*	*0*	*100*	*73 - 127*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: R254412 **Instrument: VOA5** **Method: SW8260**

MSD Sample ID: **HS15050140-16MSD** Units: **ug/Kg** Analysis Date: **12-May-2015 12:13**
Client ID: Run ID: **VOA5_254412** SeqNo: **3282979** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	35.99	5.0	50	0	72.0	79 - 128	43.82	19.6	30	S
1,1,2,2-Tetrachloroethane	33.15	5.0	50	0	66.3	75 - 123	44.61	29.5	30	S
1,1,2-Trichloroethane	35.75	5.0	50	0	71.5	77 - 120	45.89	24.8	30	S
1,1-Dichloroethane	38.05	5.0	50	0	76.1	75 - 124	46.12	19.2	30	
1,1-Dichloroethene	38.81	5.0	50	0	77.6	76 - 128	46.36	17.7	30	
1,2-Dibromoethane	34.23	5.0	50	0	68.5	70 - 120	44.66	26.4	30	S
1,2-Dichloroethane	36.1	5.0	50	0	72.2	73 - 121	45.46	23	30	S
Benzene	36.21	5.0	50	0	72.4	79 - 122	45.79	23.4	30	S
Carbon tetrachloride	33.28	5.0	50	0	66.6	74 - 126	41.47	21.9	30	S
Chloroform	36.61	5.0	50	0	73.2	78 - 122	45.44	21.5	30	S
Ethylbenzene	30.08	5.0	50	0	60.2	80 - 122	37.85	22.9	30	S
Methylene chloride	38.42	10	50	0	76.8	65 - 130	47.59	21.3	30	
Toluene	34.04	5.0	50	0	68.1	79 - 120	43.14	23.6	30	S
Vinyl chloride	40.68	2.0	50	0	81.4	76 - 126	49.13	18.8	30	
Xylenes, Total	87.39	10	150	0	58.3	80 - 120	110.4	23.2	30	S
Surr: 1,2-Dichloroethane-d4	*49.54*	*5.0*	*50*	*0*	*99.1*	*70 - 128*	*47.67*	*3.86*	*30*	
Surr: 4-Bromofluorobenzene	*48.7*	*5.0*	*50*	*0*	*97.4*	*73 - 126*	*46.85*	*3.88*	*30*	
Surr: Dibromofluoromethane	*49.19*	*5.0*	*50*	*0*	*98.4*	*71 - 128*	*47.75*	*2.98*	*30*	
Surr: Toluene-d8	*50.14*	*5.0*	*50*	*0*	*100*	*73 - 127*	*50.21*	*0.152*	*30*	

The following samples were anayzed in this batch: HS15050245-01 HS15050245-02 HS15050245-03 HS15050245-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93206 **Instrument: ICS3K2** **Method: SW9056**

MBLK Sample ID: **MBLK-93206** Units: **mg/Kg** Analysis Date: **07-May-2015 16:01**
Client ID: Run ID: **ICS3K2_254266** SeqNo: **3278624** PrepDate: **07-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	5.00								
Fluoride	ND	1.00								
Nitrogen, Nitrate (As N)	ND	1.00								
Sulfate	ND	5.00								

LCS Sample ID: **LCS-93206** Units: **mg/Kg** Analysis Date: **07-May-2015 16:22**
Client ID: Run ID: **ICS3K2_254266** SeqNo: **3278625** PrepDate: **07-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	202.1	5.00	200	0	101	80 - 120				
Fluoride	40.86	1.00	40	0	102	80 - 120				
Nitrogen, Nitrate (As N)	40.43	1.00	40	0	101	80 - 120				
Sulfate	191.8	5.00	200	0	95.9	80 - 120				

LCSD Sample ID: **LCSD-93206** Units: **mg/Kg** Analysis Date: **07-May-2015 16:44**
Client ID: Run ID: **ICS3K2_254266** SeqNo: **3278626** PrepDate: **07-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	201.6	5.00	200	0	101	80 - 120	202.1	0.268	20	
Fluoride	40.86	1.00	40	0	102	80 - 120	40.86	0	20	
Nitrogen, Nitrate (As N)	40.36	1.00	40	0	101	80 - 120	40.43	0.173	20	
Sulfate	191.7	5.00	200	0	95.8	80 - 120	191.8	0.073	20	

MS Sample ID: **HS15050196-04MS** Units: **mg/Kg** Analysis Date: **07-May-2015 18:33**
Client ID: Run ID: **ICS3K2_254266** SeqNo: **3278631** PrepDate: **07-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	2233	4.93	98.57	2196	37.8	80 - 120				SEO
Fluoride	25.19	0.986	19.71	2.822	113	80 - 120				
Nitrogen, Nitrate (As N)	20.97	0.986	19.71	1.455	99.0	80 - 120				
Sulfate	124	4.93	98.57	20.64	105	80 - 120				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93206 **Instrument: ICS3K2** **Method: SW9056**

MSD Sample ID: **HS15050196-04MSD** Units: **mg/Kg** Analysis Date: **07-May-2015 18:54**
Client ID: Run ID: **ICS3K2_254266** SeqNo: **3278632** PrepDate: **07-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	2383	4.99	99.74	2196	188	80 - 120	2233	6.51	20	SEO
Fluoride	26.68	0.997	19.95	2.822	120	80 - 120	25.19	5.73	20	
Nitrogen, Nitrate (As N)	21.42	0.997	19.95	1.455	100	80 - 120	20.97	2.17	20	
Sulfate	130.1	4.99	99.74	20.64	110	80 - 120	124	4.78	20	

The following samples were anayzed in this batch: HS15050245-01 HS15050245-02 HS15050245-03 HS15050245-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93238 **Instrument: UV-2450** **Method: SW9065**

MBLK Sample ID: **MBLK-93238** Units: **mg/kg** Analysis Date: **08-May-2015 16:43**
Client ID: Run ID: **UV-2450_254318** SeqNo: **3279987** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total Recoverable	ND	2.50								

LCS Sample ID: **LCS-93238** Units: **mg/kg** Analysis Date: **08-May-2015 16:43**
Client ID: Run ID: **UV-2450_254318** SeqNo: **3279988** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total Recoverable	27.8	2.50	25	0	111	80 - 120				

MS Sample ID: **HS15050245-04MS** Units: **mg/kg** Analysis Date: **08-May-2015 16:43**
Client ID: **VZRS-4** Run ID: **UV-2450_254318** SeqNo: **3279990** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total Recoverable	29.31	2.49	24.88	1.244	113	80 - 120				

MSD Sample ID: **HS15050245-04MSD** Units: **mg/kg** Analysis Date: **08-May-2015 16:43**
Client ID: **VZRS-4** Run ID: **UV-2450_254318** SeqNo: **3279989** PrepDate: **08-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total Recoverable	28.97	2.49	24.94	1.244	111	80 - 120	29.31	1.15	20	

The following samples were anayzed in this batch: HS15050245-01 HS15050245-02 HS15050245-03 HS15050245-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: 93524 **Instrument: UV-2450** **Method: SW9014**

MBLK Sample ID: **MBLK-93524** Units: **mg/Kg** Analysis Date: **16-May-2015 15:17**
Client ID: Run ID: **UV-2450_254748** SeqNo: **3289575** PrepDate: **16-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide	ND	2.00								

LCS Sample ID: **LCS-93524** Units: **mg/Kg** Analysis Date: **16-May-2015 15:17**
Client ID: Run ID: **UV-2450_254748** SeqNo: **3289574** PrepDate: **16-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide	10.6	2.00	10	0	106	80 - 120				

MS Sample ID: **HS15050245-01MS** Units: **mg/Kg** Analysis Date: **16-May-2015 15:17**
Client ID: **VZRS-1** Run ID: **UV-2450_254748** SeqNo: **3289573** PrepDate: **16-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide	9.093	1.94	9.725	0.09839	92.5	75 - 125				

MSD Sample ID: **HS15050245-01MSD** Units: **mg/Kg** Analysis Date: **16-May-2015 15:17**
Client ID: **VZRS-1** Run ID: **UV-2450_254748** SeqNo: **3289572** PrepDate: **16-May-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide	10.93	1.99	9.937	0.09839	109	75 - 125	9.093	18.4	30	

The following samples were anayzed in this batch: HS15050245-01 HS15050245-02 HS15050245-03 HS15050245-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: HS15050245

QC BATCH REPORT

Batch ID: R254358 **Instrument:** Balance1 **Method:** SW3550

DUP Sample ID: **HS15050245-04DUP** Units: **wt%** Analysis Date: **11-May-2015 12:15**
Client ID: **VZRS-4** Run ID: **Balance1_254358** SeqNo: **3280822** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	14.8	0.0100					15.1	2.01	20	

The following samples were anayzed in this batch: HS15050245-01 HS15050245-02 HS15050245-03 HS15050245-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
WorkOrder: **HS15050245**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	16-022-0	27-Mar-2017
California	2919	31-Jul-2016
Illinois	003622	09-May-2016
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Work Order: HS15050245

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS15050245-01	VZRS-1	Login	5/7/2015 10:58:04 AM	RPG	VW-3
HS15050245-01	VZRS-1	Login	5/7/2015 10:58:04 AM	RPG	BTEX B1
HS15050245-01	VZRS-1	Login	5/7/2015 10:58:04 AM	RPG	27E
HS15050245-01	VZRS-1	Login	5/7/2015 10:58:04 AM	RPG	27E
HS15050245-01	VZRS-1	Login	5/7/2015 10:58:04 AM	RPG	Sub
HS15050245-01	VZRS-1	Login	5/7/2015 10:58:04 AM	RPG	27E
HS15050245-02	VZRS-2	Login	5/7/2015 11:09:51 AM	RPG	VW-3
HS15050245-02	VZRS-2	Login	5/7/2015 11:09:51 AM	RPG	BTEX B1
HS15050245-02	VZRS-2	Login	5/7/2015 11:09:51 AM	RPG	27E
HS15050245-02	VZRS-2	Login	5/7/2015 11:09:51 AM	RPG	27E
HS15050245-02	VZRS-2	Login	5/7/2015 11:09:51 AM	RPG	Sub
HS15050245-02	VZRS-2	Login	5/7/2015 11:09:51 AM	RPG	27E
HS15050245-03	VZRS-3	Login	5/7/2015 11:09:51 AM	RPG	VW-3
HS15050245-03	VZRS-3	Login	5/7/2015 11:09:51 AM	RPG	BTEX B1
HS15050245-03	VZRS-3	Login	5/7/2015 11:09:51 AM	RPG	27E
HS15050245-03	VZRS-3	Login	5/7/2015 11:09:51 AM	RPG	27E
HS15050245-03	VZRS-3	Login	5/7/2015 11:09:51 AM	RPG	Sub
HS15050245-03	VZRS-3	Login	5/7/2015 11:09:51 AM	RPG	27E
HS15050245-04	VZRS-4	Login	5/7/2015 11:09:51 AM	RPG	VW-3
HS15050245-04	VZRS-4	Login	5/7/2015 11:09:51 AM	RPG	BTEX B1
HS15050245-04	VZRS-4	Login	5/7/2015 11:09:51 AM	RPG	27E
HS15050245-04	VZRS-4	Login	5/7/2015 11:09:51 AM	RPG	27E
HS15050245-04	VZRS-4	Login	5/7/2015 11:09:51 AM	RPG	Sub
HS15050245-04	VZRS-4	Login	5/7/2015 11:09:51 AM	RPG	27E
HS15050245-05	TB 042815-41	Login	5/7/2015 11:10:32 AM	RPG	VW-3
HS15050245-01	VZRS-1	Out	5/8/2015 9:37:02 AM	AAP	METPREP
HS15050245-02	VZRS-2	Out	5/8/2015 9:37:02 AM	AAP	METPREP
HS15050245-03	VZRS-3	Out	5/8/2015 9:37:02 AM	AAP	METPREP
HS15050245-04	VZRS-4	Out	5/8/2015 9:37:02 AM	AAP	METPREP
HS15050245-01	VZRS-1	Return	5/8/2015 4:42:20 PM	AAP	27E
HS15050245-02	VZRS-2	Return	5/8/2015 4:42:20 PM	AAP	27E
HS15050245-03	VZRS-3	Return	5/8/2015 4:42:20 PM	AAP	27E
HS15050245-04	VZRS-4	Return	5/8/2015 4:42:20 PM	AAP	27E
HS15050245-01	VZRS-1	Return	5/11/2015 10:13:56 AM	AAP	27E
HS15050245-02	VZRS-2	Return	5/11/2015 10:13:56 AM	AAP	27E
HS15050245-03	VZRS-3	Return	5/11/2015 10:13:56 AM	AAP	27E
HS15050245-04	VZRS-4	Return	5/11/2015 10:13:56 AM	AAP	27E
HS15050245-01	VZRS-1	Out	5/11/2015 10:23:58 AM	AAP	METPREP
HS15050245-02	VZRS-2	Out	5/11/2015 10:23:58 AM	AAP	METPREP
HS15050245-03	VZRS-3	Out	5/11/2015 10:23:58 AM	AAP	METPREP

Client: Enviro Clean Services, LLC
Project: Pitchforkland Farm, LLC
Work Order: HS15050245

SAMPLE TRACKING

HS15050245-04	VZRS-4	Out	5/11/2015 10:23:58 AM	AAP	METPREP
HS15050245-01	VZRS-1	Return	5/11/2015 10:26:01 AM	AAP	27E
HS15050245-02	VZRS-2	Return	5/11/2015 10:26:01 AM	AAP	27E
HS15050245-03	VZRS-3	Return	5/11/2015 10:26:01 AM	AAP	27E
HS15050245-04	VZRS-4	Return	5/11/2015 10:26:01 AM	AAP	27E
HS15050245-01	VZRS-1	Out	5/11/2015 12:36:35 PM	OFO	METPREP
HS15050245-02	VZRS-2	Out	5/11/2015 12:36:35 PM	OFO	METPREP
HS15050245-03	VZRS-3	Out	5/11/2015 12:36:35 PM	OFO	METPREP
HS15050245-04	VZRS-4	Out	5/11/2015 12:36:35 PM	OFO	METPREP
HS15050245-01	VZRS-1	Return	5/11/2015 3:27:30 PM	OFO	27E
HS15050245-02	VZRS-2	Return	5/11/2015 3:27:30 PM	OFO	27E
HS15050245-03	VZRS-3	Return	5/11/2015 3:27:30 PM	OFO	27E
HS15050245-04	VZRS-4	Return	5/11/2015 3:27:30 PM	OFO	27E

ALS Group USA, Corp Date: 28-Mar-16

Sample Receipt Checklist

Client Name: Enviro Clean Services-Tulsa Date/Time Received: **06-May-2015 09:25**

Work Order: HS15050245 Received by: **PMG**

Checklist completed by: *Raegen Giga* 7-May-2015 Reviewed by: *Ana L. Spencer* 8-May-2015

eSignature Date eSignature Date

Matrices: **soil** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☐	No ☑	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☐
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.1c/0.1c c/u	IR 1	
Cooler(s)/Kit(s):	24205		
Date/Time sample(s) sent to storage:	05/07/2015 11:25		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: TX1005 in Bulk Jar

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 123148

HS15050245

Enviro Clean Services, LLC
Pitchforkland Farm, LLC

ALS Project Manager:

Customer Information		Project Information			
Purchase Order		Project Name	Pitchforkland Farm, LLC	A	VOC (8260) Select List
Work Order		Project Number		B	PAH (8270) Select List
Company Name	Enviro Clean Services, LLC	Bill To Company	Enviro Clean Services, LLC	C	GRO, DRO, ORO (8015)
Send Report To	Julie Czech	Invoice Attn	Julie Czech	D	PCB(8082)
Address	7060 S. Yale Avenue, Suite 603	Address	7060 S. Yale Avenue, Suite 603	E	Total Metals (6020/7471) 12 Metals+Uranium
				F	Chloride, Fluoride, Nitrate, Sulfate (9056) %o Moisture
City/State/Zip	Tulsa	City/State/Zip	Tulsa	G	Phenolics
Phone	(918) 794-7828	Phone	(918) 794-7828	H	Radium 226 & Radium 228
Fax		Fax		I	
e-Mail Address	jczech@envirocleanps.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	VZRS-1	5/4/15	17:49	Soil	NP	6	X	X	X	X	X	X	X	X			
2	VZRS-2	5/4/15	18:00	Soil	NP	6	X	X	X	X	X	X	X	X			
3	VZRS-3	5/4/15	18:12	Soil	NP	6	X	X	X	X	X	X	X	X			
4	VZRS-4	5/4/15	18:26	Soil	NP	6	X	X	X	X	X	X	X	X			
5	Trip Blank	—	—	WT	NP	2	X										
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Austin Cook / Austin Cook

Shipment Method: Fed-Ex

Required Turnaround Time: (Check Box) ☐ Std 10 WK days ☒ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Austin Cook / Austin Cook — Date: 5-5-15 — Time: 13:15 — Received by: —

Relinquished by: — Date: — Time: — Received by (Laboratory): 5-6-15 09:25

Logged by (Laboratory): — Date: — Time: — Checked by (Laboratory): —

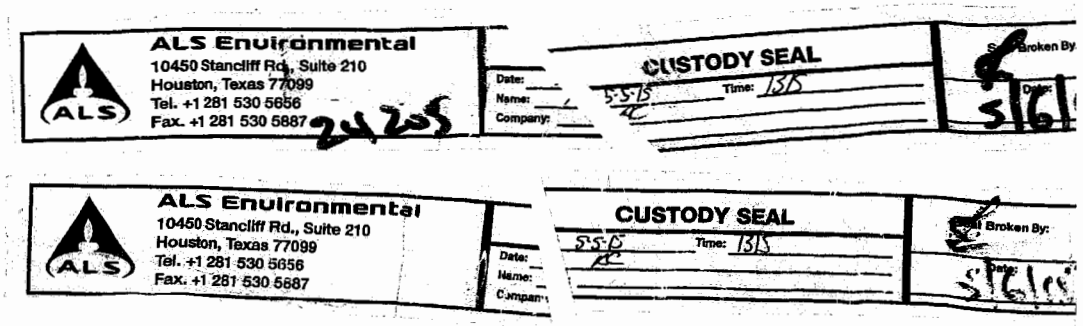
Notes: Sample Times CDT

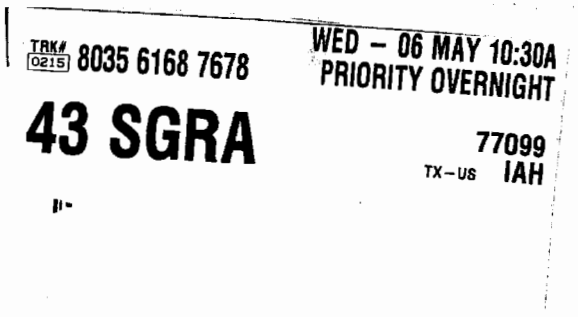
Cooler ID	Cooler Temp.
24205	0.1°
	#1

QC Package: (Check One Box Below)
☒ Level 2 Std QC ☐ TRRP ChkList
☐ Level 3 Std QC/Raw da ☐ TRRP Level 4
☐ Level 4 SW846/CLP
☐ Other/EDD

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.





Wednesday, May 27, 2015

Sonia West
ALS Environmental
10450 Stancliff Rd, Suite 210
Houston, TX 77099

Re: ALS Workorder: 1505147
Project Name:
Project Number: 15050245

Dear Ms. West:

Four soil samples were received from ALS Environmental, on 5/8/2015. The samples were scheduled for the following analyses:

Radium-226
Radium-228

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Jeff R. Kujawa
Project Manager

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Connecticut (CT)	PH-0232
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
L-A-B (DoD ELAP/ISO 170250)	L2257
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New Jersey (NJ)	CO003
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280

ALS Environmental

1505147

Radium-228:
The samples were analyzed for the presence of ^{228}Ra by low background gas flow proportional counting of ^{228}Ac, which is the ingrown progeny of ^{228}Ra, according to EPA 904.0.

All acceptance criteria were met.

Radium-226:
The samples were prepared and analyzed according to EPA 903.1.

All acceptance criteria were met.

ADDRESS 225 Commerce Drive, Fort Collins Colorado 80524 USA | PHONE +1 970 490 1511 | FAX +1 970 490 1522

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1505147
Client Name: ALS Environmental
Client Project Name:
Client Project Number: 15050245
Client PO Number: 10-15050245

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
VZRS-1	1505147-1		SOIL	04-May-15	17:49
VZRS-2	1505147-2		SOIL	04-May-15	18:00
VZRS-3	1505147-3		SOIL	04-May-15	18:12
VZRS-4	1505147-4		SOIL	04-May-15	18:26

1505147

CHAIN OF CUSTODY RECORD

ALS Environmental

Page 1 of 1

Date 7 May 2015

COC ID **2708**

Due date 13 MAY 15

Subcontractor

ALS Environmental, Fort Collins
225 Commerce Drive
Fort Collins, CO 80524

Phone 9704901511

Fax

Customer Information		Project Information	
PO	HS15050245	**Project Name**	HS15050245

Company Name	ALS Houston	Company Name	ALS Houston
		Inv Attn	Accounts Payable
Address	10450 Stancliff Rd, Ste 210	**Address**	10450 Stancliff Rd, Ste 210
	Houston, TX 77099		Houston, TX 77099
Phone	281-530-5656	**Phone**	281-530-5656
Email1	Sonia.West@alsglobal.com	**Email2**	jumoke.lawal@alsglobal.com

	Lab ID	Client Samp ID	Collection Date	Matrix	Analysis Requested
1	HS15050245-01	VZRS-1	04-May-15 05:49 pm	Soil	XXX SUB Radium 226 & 228
2	HS15050245-02	VZRS-2	04-May-15 06:00 pm	Soil	XXX SUB Radium 226 & 228
3	HS15050245-03	VZRS-3	04-May-15 06:12 pm	Soil	XXX SUB Radium 226 & 228
4	HS15050245-04	VZRS-4	04-May-15 06:26 pm	Soil	XXX SUB Radium 226 & 228

Comments Please analyze for the analysis listed above. Send report to the emails shown above.

Relinquished by:	Date/Time:	Received by:	Date/Time:	Cooler IDs:	Report/QC Level
R Ciga	05/07/15 18:00		05/08/15 0955		STD

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS-TX Workorder No: 1505147

Project Manager: JRK Initials: SDM Date: 05-08-15

1. Does this project require any special handling in addition to standard ALS procedures?		YES	(NO)
2. Are custody seals on shipping containers intact?	NONE	(YES)	NO
3. Are Custody seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		(YES)	NO
5. Are the COC and bottle labels complete and legible?		(YES)	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	(YES)	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	(N/A)	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	(N/A)	YES	NO
10. Is there sufficient sample for the requested analyses?		(YES)	NO
11. Were all samples placed in the proper containers for the requested analyses?		(YES)	NO
12. Are all samples within holding times for the requested analyses?		(YES)	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea	(N/A)	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	(N/A)	YES	NO
16. Were the samples shipped on ice?		YES	(NO)
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4	(RAD ONLY)	YES	NO

Cooler #:	1							
Temperature (°C):	Amb							
No. of custody seals on cooler:	2							
DOT Survey/ Acceptance Information — External µR/hr reading:	11							
Background µR/hr reading:	11							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES / NO / NA** (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

If applicable, was the client contacted? **YES / NO / (NA)** Contact: _____ Date/Time: _____

Project Manager Signature / Date: 5-8-15

*IR Gun #2: Oakton, SN 29922500201-0066

1505147

ORIGIN ID:SGRA (281) 530-5656
SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 07MAY15
ACTWGT: 6.4 LB
CAD: 300130/CAFE2807
DIMS: 14x11x10 IN

BILL SENDER

TO JEFF KUJAWA
ALS ENVIRONMENTAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511
REF: HS15050245-SW

11
-2

FedEx Express

FRI - 08 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 0201 6355 5182 5170

XH FTCA

80524
CO-US DEN

Part # 155148-434 RIT2 03/14

Client: ALS Environmental
Project: 15050245
Sample ID: VZRS-2
Legal Location:
Collection Date: 5/4/2015 18:00

Date: *27-May-15*
Work Order: 1505147
Lab ID: 1505147-2
Matrix: SOIL
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1			**PAI 783**		Prep Date: **5/18/2015**	PrepBy: **PJW**
Ra-226	0.46 (+/- 0.24)	LT	0.25	pCi/g	NA	5/25/2015 14:18
Carr: BARIUM	*93.4*		*40-110*	*%REC*	DL = NA	5/25/2015 14:18
Radium-228 Analysis by GFPC			**PAI 724**		Prep Date: **5/14/2015**	PrepBy: **DKL**
Ra-228	ND (+/- 0.31)	U	0.66	pCi/g	NA	5/18/2015 10:16
Carr: BARIUM	*93.4*		*40-110*	*%REC*	DL = NA	5/18/2015 10:16

Client: ALS Environmental
Project: 15050245
Sample ID: VZRS-3
Legal Location:
Collection Date: 5/4/2015 18:12

Date: *27-May-15*
Work Order: 1505147
Lab ID: 1505147-3
Matrix: SOIL
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1			**PAI 783**		Prep Date: **5/18/2015**	PrepBy: **PJW**
Ra-226	0.59 (+/- 0.26)	LT	0.22	pCi/g	NA	5/25/2015 14:18
Carr: BARIUM	*89.5*		*40-110*	*%REC*	DL = NA	5/25/2015 14:18
Radium-228 Analysis by GFPC			**PAI 724**		Prep Date: **5/14/2015**	PrepBy: **DKL**
Ra-228	ND (+/- 0.31)	U	0.67	pCi/g	NA	5/18/2015 10:16
Carr: BARIUM	*89.5*		*40-110*	*%REC*	DL = NA	5/18/2015 10:16

Client: ALS Environmental
Project: 15050245
Sample ID: VZRS-4
Legal Location:
Collection Date: 5/4/2015 18:26

Date: *27-May-15*
Work Order: 1505147
Lab ID: 1505147-4
Matrix: SOIL
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**PAI 783**			Prep Date: **5/18/2015**	PrepBy: **PJW**
Ra-226	0.42 (+/- 0.2)	LT	0.06	pCi/g	NA	5/25/2015 14:18
Carr: BARIUM	*89.4*		*40-110*	*%REC*	DL = NA	5/25/2015 14:18
Radium-228 Analysis by GFPC		**PAI 724**			Prep Date: **5/14/2015**	PrepBy: **DKL**
Ra-228	ND (+/- 0.33)	U	0.64	pCi/g	NA	5/18/2015 10:16
Carr: BARIUM	*89.4*		*40-110*	*%REC*	DL = NA	5/18/2015 10:16

Client:	ALS Environmental	**Date:**	*27-May-15*
Project:	15050245	**Work Order:**	1505147
Sample ID:	VZRS-4	**Lab ID:**	1505147-4
Legal Location:		**Matrix:**	SOIL
Collection Date:	5/4/2015 18:26	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

U or ND - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

W - DER is greater than Warning Limit of 1.42

* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.

- Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.

G - Sample density differs by more than 15% of LCS density.

D - DER is greater than Control Limit

M - Requested MDC not met.

LT - Result is less than requested MDC but greater than achieved MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS, Matrix Spike Recovery within control limits.

N - Matrix Spike Recovery outside control limits

NC - Not Calculated for duplicate results less than 5 times MDC

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).

U or ND - Indicates that the compound was analyzed for but not detected.

E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

M - Duplicate injection precision was not met.

N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

* - Duplicate analysis (relative percent difference) not within control limits.

S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.

B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.

E - Analyte concentration exceeds the upper level of the calibration range.

J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).

A - A tentatively identified compound is a suspected aldol-condensation product.

X - The analyte was diluted below an accurate quantitation level.

* - The spike recovery is equal to or outside the control criteria used.

+ - The relative percent difference (RPD) equals or exceeds the control criteria.

G - A pattern resembling gasoline was detected in this sample.

D - A pattern resembling diesel was detected in this sample.

M - A pattern resembling motor oil was detected in this sample.

C - A pattern resembling crude oil was detected in this sample.

4 - A pattern resembling JP-4 was detected in this sample.

5 - A pattern resembling JP-5 was detected in this sample.

H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.

L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.

Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C

ALS Environmental -- FC

Client: ALS Environmental
Work Order: 1505147
Project: 15050245

Date: *5/27/2015 11:58*

QC BATCH REPORT

Batch ID: **RE150518-3-1** Instrument ID: **Alpha Scin** Method: **Radium-226 by Radon Emanation**

DUP Sample ID: **1505147-2** Units: **pCi/g** Analysis Date: **5/25/2015 14:18**
Client ID: **VZRS-2** Run ID: **RE150518-3A** Prep Date: **5/18/2015** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Ra-226	0.42 (+/- 0.21)	0.15						0.46	0.11	2.13	LT
Carr: BARIUM	32290		34370		94	40-110		32080			

LCS Sample ID: **RE150518-3** Units: **pCi/g** Analysis Date: **5/25/2015 14:50**
Client ID: Run ID: **RE150518-3A** Prep Date: **5/18/2015** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Ra-226	40.6 (+/- 7.7)	0.4	46.07		88.1	57-126					P
Carr: BARIUM	32320		34370		94	40-110					

MB Sample ID: **RE150518-3** Units: **pCi/g** Analysis Date: **5/25/2015 14:18**
Client ID: Run ID: **RE150518-3A** Prep Date: **5/18/2015** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Ra-226	ND	0.2									U
Carr: BARIUM	32320		34370		94	40-110					

The following samples were analyzed in this batch: 1505147-1 1505147-2 1505147-3 1505147-4

Client: ALS Environmental
Work Order: 1505147
Project: 15050245

QC BATCH REPORT

Batch ID: **RA150514-2-1** Instrument ID: **LB4100-C** Method: **Radium-228 Analysis by GFPC**

DUP Sample ID: **1505147-2** Units: **pCi/g** Analysis Date: **5/18/2015 10:16**
Client ID: **VZRS-2** Run ID: **RA150514-2A** Prep Date: **5/14/2015** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Ra-228	ND	0.59						0.28	0.51	2.13	U
Carr: BARIUM	32290		34370		94	40-110		32080			

LCS Sample ID: **RA150514-2** Units: **pCi/g** Analysis Date: **5/18/2015 10:16**
Client ID: Run ID: **RA150514-2A** Prep Date: **5/14/2015** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Ra-228	11 (+/- 2.6)	0.7	11.67		94.7	70-130					P
Carr: BARIUM	32320		34370		94	40-110					

MB Sample ID: **RA150514-2** Units: **pCi/g** Analysis Date: **5/18/2015 10:16**
Client ID: Run ID: **RA150514-2A** Prep Date: **5/14/2015** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Ra-228	ND	0.65									U
Carr: BARIUM	32320		34370		94	40-110					

The following samples were analyzed in this batch: 1505147-1 1505147-2 1505147-3 1505147-4