District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

## State of New Mexico Energy Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-144 Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.

For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application  Type of action: Below grade tank registration OlL CONS. DIV DIST. 3  Permit of a pit or proposed alternative method Closure of a pit, below-grade tank, or proposed alternative method Modification to an existing permit/or registration Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method  Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request  Pl e be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.  1. Operator: Burlington Resources Oil & Gas Company, LP OGRID #: 14538  Address: PO BOX 4289, Farmington, NM 87499  Facility or well name: JICARILLA 153 25  API Number: 30-039-22421 OCD Permit Number:  U/L or Qtr/Qtr A Section 36 Township 26N Range 5W County: Rio Arriba
Center of Proposed Design: Latitude 36.44777 •N Longitude -107.30414 •W NAD: 1927 1983
Surface Owner: ☐ Federal ☐ State ☐ Private ☒ Tribal Trust or Indian Allotment
Pit: Subsection F, G or J of 19.15.17.11 NMAC  Temporary: Drilling Workover Permanent Emergency Cavitation P&A Multi-Well Fluid Management Low Chloride Drilling Fluid yes no Lined Unlined Liner type: Thickness mil LLDPE PVC Other String-Reinforced Liner Seams: Welded Factory Other Volume: bbl Dimensions: L x W x D
3.
☑ Below-grade tank:       Subsection I of 19.15.17.11 NMAC         Volume:       120       bbl Type of fluid:       Produced Water         Tank Construction material:       Metal         ☐ Secondary containment with leak detection       Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off         ☐ Visible sidewalls and liner       Visible sidewalls only       Other         Liner type: Thickness       mil       HDPE       PVC       Other       UNSPECIFIED
4.  Alternative Method:  Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.
Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)  Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)  Four foot height, four strands of barbed wire evenly spaced between one and four feet

Alternate. Please specify

Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)	
Screen Netting Other	
Monthly inspections (If netting or screening is not physically feasible)	
5. Signs: Subsection C of 19.15.17.11 NMAC  ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers  ☐ Signed in compliance with 19.15.16.8 NMAC	
8.	
Variances and Exceptions:  Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.  Please check a box if one or more of the following is requested, if not leave blank:  □ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.  □ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	
9. Siting Criteria (regarding permitting): 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of accematerial are provided below. Siting criteria does not apply to drying pads or above-grade tanks.	ptable source
General siting	
Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.  - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes No
<u>Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.</u> NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. ( <b>Does not apply to below grade tanks</b> )  - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within the area overlying a subsurface mine. (Does not apply to below grade tanks) - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
<ul> <li>Within an unstable area. (Does not apply to below grade tanks)</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	☐ Yes ☐ No
Within a 100-year floodplain. (Does not apply to below grade tanks) - FEMA map	Yes No
Below Grade Tanks	
Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ⊠ No
Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;.  - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☑ No
Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)	
Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)  - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application.  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application.  NM Office of the State Engineer - iWATERS database search: Visual inspection (certification) of the proposed site.	☐ Yes ☐ No

Within 100 feet of a wetland.  US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Temporary Pit Non-low chloride drilling fluid	
Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application; - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Permanent Pit or Multi-Well Fluid Management Pit	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.  - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	Yes No
Within 500 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 N  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the doc attached.  Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.1 and 19.15.17.13 NMAC Previously Approved Design (attach copy of design) API Number:  or Permit Number:	NMAC 15.17.9 NMAC
Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the doc attached.  Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  A List of wells with approved application for permit to drill associated with the pit.  Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19. and 19.15.17.13 NMAC  Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC  Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  Previously Approved Design (attach copy of design) API Number: or Permit Number: or Permit Number:	15.17.9 NMAC

Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the	documents are
### Attached.    Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC   Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC   Climatological Factors Assessment   Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC   Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC   Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC   Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC   Quality Control/Quality Assurance Construction and Installation Plan   Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC   Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC   Nuisance or Hazardous Odors, including H₂S, Prevention Plan   Emergency Response Plan   Oil Field Waste Stream Characterization   Monitoring and Inspection Plan   Erosion Control Plan   Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC	
Proposed Closure: 19.15.17.13 NMAC  Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.	
Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Multi-well F	luid Management Pit
☐ Alternative  Proposed Closure Method: Waste Excavation and Removal  ☐ Waste Removal (Closed-loop systems only)  ☐ On-site Closure Method (Only for temporary pits and closed-loop systems)  ☐ In-place Burial ☐ On-site Trench Burial	
Alternative Closure Method	
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be closure plan. Please indicate, by a check mark in the box, that the documents are attached.  ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings) ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC	
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable sour provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. In 19.15.17.10 NMAC for guidance.	
Ground water is less than 25 feet below the bottom of the buried waste.  - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes No
Ground water is more than 100 feet below the bottom of the buried waste.  - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes No
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application.  - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	Yes No

adopted pursuant to NMSA 1978, Section 3-27-3, as amended.  - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within the area overlying a subsurface mine Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological	
Society; Topographic map Within a 100-year floodplain.	Yes No
- FEMA map	☐ Yes ☐ No
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan by a check mark in the box, that the documents are attached.  Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC  Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.  Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.13 NMAC  Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC  Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC  Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC	11 NMAC 15.17.11 NMAC
Operator Application Certification:	
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and believed to the best of my	
Name (Print): Title:	
Signature: Date:	
e-mail address: Telephone:	
OCD Approval: Permit Application (including closure plan) Closure Plan (only) OCD Conditions (see attachment)	
OCD Representative Signature: Approval Date:	
Title: OCD Permit Number:	
19. Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not section of the form until an approved closure plan has been obtained and the closure activities have been completed.	
☐ Closure Completion Date: 12/27/2016	
20.  Closure Method:  Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-lo ☐ If different from approved plan, please explain.	op systems only)

22.
Operator Closure Certification:
I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and
belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.
Name (Print) Crystal Walker Title: Regulatory Coordinator
Signature: Date: 1/24/2017
Signature: Date: 1/24/2017
e-mail address: <u>crystal.walker@cop.com</u> Telephone: (505) 326-9837

# Burlington Resources Oil & Gas Company, LP San Juan Basin Below Grade Tank Closure Report

Lease Name: Jicarilla 153 25 API No.: 30-039-22421

In accordance with Rule 19.15.17.13 NMAC the following information describes the closure of the below-grade tank referenced above. All proper documentation regarding closure activities is being included with the C-144.

#### General Plan:

1. BR shall close a below-grade tank within 60 days of cessation of operations per Subsection G.4 of 19.15.17.13 NMAC. This will include a) below-grade tanks that do not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC within five years, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC; b) an earlier date that the division requires because of imminent danger to fresh water, public health or the environment. For any closure, BR will file the C144 Closure Report as required.

The below-grade tank referenced above was permitted and closed within 60 days of cessation of the below-grade tanks operation.

2. BR shall remove liquids and sludge from a below-grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division-approved facility. The facilities to be used will be Basin Disposal (Permit #NM-01-005), JFJ Landfarm % Industrial Ecosystem Inc. (Permit # NM-01-0010B) and Envirotech Land Farm (Permit #NM-01-011). The liner after being cleaned well (Subsection D, Paragraph 1, Subparagraph (m) of 19.15.9.712 NMAC) will be disposed of at the San Juan County Regional Landfill located on CR 3100.

All recovered liquids were disposed of at Basin Disposal (Permit #NM-01-005) and any sludge or soil required to be removed to facilitate closure was hauled to Envirotech Land Farm (Permit #NM-01-011) and JFJ Landfarm % IEI (Permit #NM-01-0010B). The liner was cleaned per Subsection D, Paragraph 1, Subparagraph (m) of 19.15.9.712 NMAC was disposed of at the San Juan County Regional Landfill located on CR 3100.

3. BR will receive prior approval to remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves.

The below-grade tank was disposed of in a division-approved manner.

4. If there is any on-site equipment associated with a below-grade tank, then BR shall remove the equipment, unless the equipment is required for some other purpose.

All on-site equipment associated with the below-grade tank was removed.

5. BR will test the soils beneath the below-grade tank to determine whether a release has occurred. BR shall collect, at a minimum, a five point, composite sample; collect individual grab samples from any area that is wet, discolored or showing other evidence of a release; and analyzed for the constituents listed in Table I of 19.15.17.13 NMAC. COPC shall notify the division of its results on form C-141.

A five point composite sample was taken of the below-grade tank using sampling tools and all samples tested per Subsection B of 19.15.17.1 3(B)(1)(b). (Sample results attached). Form C-141 is attached.

Components	Tests Method	Limit (mg/kg)
Benzene	EPA SW-846 8021B or 8260B	0.2
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418.1	100
Chlorides	EPA 300.0	250

6. If BR or the division determines that a release has occurred, then BR shall comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC, as appropriate.

#### A release was determined for the above referenced well.

7. If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Table I of 19.15.17.13 NMAC, then BR shall backfill the excavation with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover; recontour and re-vegetate the site.

The below-grade tank area passed all requirements of Paragraph (4) of Subsection E of 19.15.17.13 NMAC and was backfilled with compacted, non-waste containing, earthen material.

- 8. Notice of Closure will be given prior to closure to the Aztec Division office between 72 hours and one week via email or verbally. The notification of closure will include the following:
  - i. Operator's name
  - ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.

#### Notification was not found.

9. The surface owner shall be notified of BR's closing of the below-grade tank 72 hours, but not more than one week, prior to closure as per the approved closure plan via certified mail, return receipt requested.

#### The closure process notification to the landowner was not found.

10. Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be place in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.

The below-grade tank area was re-contoured to match fit, shape, line, form and texture of the surrounding area. Re-shaping including drainage control, to prevent ponding and erosion. Natural drainages were unimpeded and water bars and/or silt traps were placed in areas where needed to prevent erosion on a large scale. Final recontour has a uniform appearance with smooth surface, fitting the natural landscape.

11. BR shall seed the disturbed areas the first favorable growing season following closure of a below-grade tank. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM stipulated seed mixes will be used on federally regulated lands and division-approved seed mixtures (administratively approved if required) will be utilized on all State or private lands. A uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre- disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds. If alternate seed mix is required by the state, private owner or tribe, it will be implemented with administrative approval if needed. COPC will repeat seeding or planting will be continued until successful vegetative growth occurs.

Provision 13 was accomplished through complying with BLM seeding requirements as allowed by the BLM/OCD MOU.

12. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material, with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.

The below-grade tank area was backfilled and more than four feet of cover was achieved and the cover included one foot of suitable material to establish vegetation at the site.

- 13. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on C-144 and incorporate the following:
  - Soil Backfilling and Cover Installation (See Report)
  - Re-vegetation application rates and seeding techniques (See Report)
  - Photo documentation of the site reclamation (Included as an attachment)
  - Confirmation Sampling Results (Included as an attachment)
  - Proof of closure notice (Included as an attachment)

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District II
1301 W. Grand Avenue, Artesia, NM 88210 District III
1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

## State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Submit 1 Copy to appropriate District Office to accordance with 19.15.29 NMAC.

			Rele	ease Notific	cation	and Co	rrective A	ction				
						<b>OPERA</b>	ГOR		Initia	al Report	$\bowtie$	Final Repor
				Oil &Gas Co.		Contact Lis	a Hunter			•		
		th St, Farming	gton, NM	[			No. (505) 258-1	607				
Facility Nar	ne Jicarilla	a 153 #25				Facility Typ	e: Gas well					
Surface Ow	ner: Jica	rilla		Mineral C	)wner:	Jicarilla (	Contract 153)		API 300	3922421		
				LOCA	ATIO	N OF REI	LEASE					
Unit Letter A	Section 36	Township 26N	Range 5W	Feet from the 950'		South Line	Feet from the 1100	East/We		County Rio Arrib	a	
						Longitud OF REL	e -107.30425 EASE					
Type of Rele		ocarbon				Volume of				ecovered	1031	yards
Source of Re							lour of Occurrence			Hour of Dis	covery	
Below Grade Was Immedi		Given?				If YES, To	Whom?	N	March 22	, 2016		
was illilledi	ile Nolice C		Yes	No Not Re	equired	11 1123, 10	Wilom					
By Whom?						Date and H	lour					
Was a Water	course Reac		_			PARTIE STATE OF THE PARTIE	lume Impacting t	he Watero	course.			
		□ '	Yes 🛛 1	No		N/A						
Describe Are Historical was 42'x 3 approved J further activities a public health should their corthe environments.	a Affected anydrocarby x 17' an icarilla ficon require fy that the illoperators or the enviroperations homent. In a	and Cleanup A boon impacte d 1031 yds eld source a ed. The so nformation gi are required to ronment. The ave failed to a	Action Taked soil woof soil wand place of soil work and place of report an acceptance dequately of Daccept	l after a soil sa	ng the rid to TN vation stached	esampling IT landfarn site. Analyt I for review the best of my otifications are e NMOCD me e contaminati	of a BGT close n and 1031 yds ical results we knowledge and und perform correct arked as "Final Roon that pose a three	ure for the second of the seco	that purs	ect well. I was transpulatory structure to NM0 cases which eve the open, surface was	The exported tandar	acavation from an rds – no  lles and adanger liability man health
	,						OIL CONS	SERVA	TION	DIVISIO	N	
Signature:	fol	ullt	_			Approved by	Environmental S	pecialist:				
Printed Name	: Lisa Hu	nter										
Title: Field I	Environmen	tal Specialist				Approval Dat	e:	Ex	piration I	Date:		
		nter@cop.cor		2) 250 1/25		Conditions of	Approval:			258Attac	hed [	]
Date: Janua Attach Addi				5) 258-1607								

# Animas Environmental Services, LLC



January 3, 2017

Robert Spearman ConocoPhillips San Juan Business Unit (505) 320-3045

Via electronic mail to: SJBUE-Team@ConocoPhillips.com

RE: Below Grade Tank Closure, Release Assessment, and Final Excavation Report Jicarilla 153 25

Rio Arriba County, New Mexico

Dear Mr. Spearman:

On March 22, May 17, July 7, and December 27, 2016, Animas Environmental Services, LLC (AES) completed below grade tank (BGT) closure sampling, a release assessment, and environmental clearance of the final excavation limits at the ConocoPhillips (COPC) Jicarilla 153 25, located in Rio Arriba County, New Mexico. At the request of the New Mexico Oil Conservation Division (NMOCD), resampling of the location below the former BGT was required to meet strictest closure criteria listed in New Mexico Administrative Code (NMAC) 19.15.17.13E. After obtaining the results of the March 2016 sampling event, a release assessment was completed by AES on May 17 and July 7, 2016. The final excavation was completed by COPC contractors prior to AES' arrival at the location on December 27, 2016.

## 1.0 Site Information

## 1.1 Location

Location – NE¼ NE¼, Section 36, T26N, R5W, Rio Arriba County, New Mexico Latitude/Longitude – N36.44796 and W107.30425, respectively Surface Owner – Jicarilla Apache Nation Figure 1. Topographic Site Location Map Figure 2. Aerial Site Map with BGT Closure Sample Location

604 W. Piñon St. Farmington, NM 87401 505-564-2281

> 1911 Main, Ste 206 Durango, CO 81301 970-403-3084

## 1.2 JANOGA and NMOCD Action Levels

The Jicarilla 153 25 release is located on Jicarilla Apache Nation lands, and soil remediation action levels are determined by the Jicarilla Apache Nation Oil and Gas Administration (JANOGA). JANOGA action levels for soils currently follow the New Mexico Oil Conservation Division (NMOCD) *Guidelines for Remediation of Leaks, Spills, and Releases* (August 1993). Per JANOGA, all locations within Jicarilla Apache Nation lands typically receive a ranking score of 20; however, at the request of NMOCD, the strictest closure criteria from NMAC 19.15.17.13E Table 1 were applied at the site. Action levels are:

- 10 mg/kg benzene and 50 mg/kg total benzene, toluene, ethylbenzene, and xylene (BTEX);
- 100 mg/kg total petroleum hydrocarbons (TPH); and
- 600 mg/kg chloride.

#### 1.3 Assessment

AES was initially contacted by Robert Spearman of COPC on March 1, 2016. At the request of the NMOCD, resampling of the location below the former BGT was required to meet all required closure criteria listed in NMAC 19.15.17.13E. On March 22, 2016, Sam Glasses and John Sandoval of AES traveled to the location. Soil sampling consisted of collection of one discrete soil sample (S-1) from below the former BGT. The sample location is presented on Figure 2.

On May 17 and July 7, 2016, Corwin Lameman, Sam Glasses, and Emilee Skyles of AES completed release assessment field work. The assessment included collection and sampling of 22 soil samples from 8 borings in and around the release area. Soil borings were terminated between 8.5 and 20 feet. Based on field sampling results, AES recommended further excavation of the release area. Sample locations are shown on Figure 3.

On December 27, 2016, AES returned to the location to collect confirmation soil samples of the excavation. The field sampling activities included collection of five confirmation soil samples (SC-1 through SC-5) from the walls and base of the excavation. The area of the final excavation measured approximately 42 feet by 39 feet by 17 feet in depth. Sample locations and final excavation extents are presented on Figure 4.

## 2.0 Soil Sampling

## 2.1 Field Screening

#### 2.1.1 Volatile Organic Compounds

Field screening for VOC vapors was conducted with a photo-ionization detector (PID) organic vapor meter (OVM). Before beginning field screening, the PID-OVM was first calibrated with 100 ppm isobutylene gas.

#### 2.1.2 Total Petroleum Hydrocarbons

Soil samples were also analyzed in the field for TPH per U.S. Environmental Protection Agency (USEPA) Method 418.1 using a Buck Scientific Model HC-404 Total Hydrocarbon Analyzer Infrared Spectrometer (Buck). A 3-point calibration was completed prior to conducting soil analyses. Field analytical protocol followed AES's Standard Operating Procedure: Field Analysis Total Petroleum Hydrocarbons per EPA Method 418.1.

## 2.2 Laboratory Analyses

The samples collected for laboratory analysis were placed into new, clean, laboratory-supplied containers, which were then labeled, placed on ice, and logged onto a sample chain of custody record. The samples were maintained on ice until delivery to the analytical laboratory, Hall Environmental Analysis Laboratory (Hall), in Albuquerque, New Mexico.

#### S-1 was laboratory analyzed for:

- BTEX per USEPA Method 8021B;
- TPH per USEPA Method 418.1;
- TPH as gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015D; and
- Chlorides per USEPA Method 300.0.

#### SC-1 through SC-5 were laboratory analyzed for:

- BTEX per USEPA Method 8021B;
- TPH per USEPA Method 418.1; and
- TPH as GRO, DRO, and Motor Oil Range Organics (MRO) and per USEPA Method 8015.

## 2.3 Field Screening and Laboratory Analytical Results

Field sampling results are summarized in Table 1 and presented on Figures 3 and 4. Laboratory analytical results are summarized in Table 2 and presented on Figures 2 and 4. The AES Field Sampling Reports and the laboratory analytical reports are attached.

Table 1. Soil Field Screening VOC and TPH Results
Jicarilla 153 25 Release Assessments and Final Excavation
May to December 2016

		Depth	VOCs OVM	TPH
	Date	below BGT	Reading	418.1
Sample ID	Sampled	(ft bgs)	(ppm)	(mg/kg)
	nd NMOCD Acti 19.15.17.13E Ta		100	100
		7.75	647	15,600
	5/17/16	8.5	4,142	6,190
SB-1		12	4,255	2,870
	7/7/16	14	818	NA
		16	17.7	20.3
SB-2	5/17/16	8	0.9	59.1
30-2	3/1//10	12	7.1	51.0
	5/17/16	9	2,834	637
	3/1//10	12	4,534	5,540
SB-3		14	1,651	NA
	7/7/16	16	12.9	<20.0
		20	7.1	<20.0
SB-4	5/17/16	8	0.4	60.7
30-4	3/17/10	12	1,266	256
SB-5	SB-5 5/17/16		168	NA
36-3	3/1//10	12	1,273	306
SB-6	5/17/16	12	0.5	21.7
SB-7	5/17/16	12	0.0	<20.0
		8	0.4	<20.0
SB-8	7/7/16	12	0.3	NA
3D-0	////10	14	0.1	NA
	,		0.0	<20.0

Date Sample ID Sampled				TPH 418.1 (mg/kg)
	nd NMOCD Acti 19.15.17.13E Ta		100	100
SC-1	12/27/16	0 to 17	0.2	<20.0
SC-2	12/27/16	0 to 17	25.2	33.2
SC-3	12/27/16	0 to 17	0.1	<20.0
SC-4	12/27/16	0 to 17	0.0	<20.0
SC-5	12/27/16	17	0.8	<20.0

NA – Not Analyzed

Table 2. Soil Laboratory Analytical Results – Benzene, Total BTEX, TPH, and Chloride Jicarilla 153 25 BGT Closure and Final Excavation Clearance March and December 2016

			Benzene	Total BTEX	TPH – GRO	TPH – DRO	TPH – MRO	ТРН	Chlorides
Sample ID	Date Sampled	Depth (ft)	(8021) (mg/kg)	(8021) (mg/kg)	(8015) (mg/kg)	(8015) (mg/kg)	(8015) (mg/kg)	(418.1) mg/kg	(300.0) (mg/kg)
	NMOCD Acti 9.15.17.13E		10	50		100		100	600
S-1	3/22/16	8	<0.24	28.7	280	8,600	NA	30,000	<30
SC-1	12/27/16	0 to 17	<0.023	<0.207	<4.6	<9.4	<47	<19	NA
SC-2	12/27/16	0 to 17	<0.025	<0.222	<4.9	<9.9	<50	<18	NA
SC-3	12/27/16	0 to 17	<0.024	<0.216	<4.8	<9.6	<48	<20	NA
SC-4	12/27/16	0 to 17	<0.023	<0.208	<4.6	<9.5	<47	<19	NA
SC-5	12/27/16	17	<0.024	<0.216	<4.8	<9.4	<47	<18	NA

NA - Not Analyzed

<sup>\*</sup>Action level determined by JANOGA and NMAC 19.15.17.13E Table 1.

 $<sup>^{*}</sup>$  Action level determined by JANOGA and NMAC 19.15.17.13E Table 1.

## 3.0 Conclusions and Recommendations

#### 3.1 BGT Closure

On March 22, 2016, AES conducted a BGT closure and assessment of petroleum contaminated soils associated at the Jicarilla 153 25 location. NMOCD action levels for BGT closures are specified in NMAC 19.15.17.13E Table 1. BGT closure sampling results for TPH in March 2016 were above the NMOCD action levels, with S-1 at 30,000 mg/kg TPH (via USEPA Method 418.1). Laboratory results for chloride in S-1 were reported below the NMOCD action level of 600 mg/kg, with a concentration below the laboratory detection limit of 30 mg/kg. Based on laboratory results for TPH, a release was confirmed at the Jicarilla 153 25 location.

#### 3.2 Release Assessment and Excavation

On May 17 and July 7, 2016, AES completed release assessments at the Jicarilla 153 25 release location. Action levels for releases are determined by JANOGA but at the request of NMOCD, the strictest closure requirements in NMAC 19.15.17.13E Table 1 were utilized. Initial release assessment field sampling results above the NMOCD action level of 100 mg/kg TPH were reported in SB-1 and SB-3 through SB-5, with the highest TPH concentration reported in SB-1 with 15,600 mg/kg. Based on the field sampling results, excavation of contaminated soils was recommended.

On December 27, 2016, final clearance of the excavation area was completed. Field sampling results of the excavation extents showed that field TPH concentrations were below the applicable NMOCD action level of 100 mg/kg for the final walls and base of the excavation. Laboratory analytical results reported benzene, total BTEX, and TPH concentrations (via USEPA Methods 418.1 and 8015) as below the applicable NMOCD action levels.

Based on final field sampling and laboratory analytical results of the excavation of petroleum contaminated soils at the Jicarilla 153 25, VOC, benzene, total BTEX, and TPH concentrations were below applicable NMOCD action levels for each of the sidewalls and base of the excavation. No further work is recommended.

If you have any questions about this report or site conditions, please do not hesitate to contact Elizabeth McNally at (505) 564-2281.

Robert Spearman Jicarilla 153 25 BGT Closure, Release Assessment, and Final Excavation Report January 3, 2017; Page 7 of 7

Sincerely,

David J. Reese

**Environmental Scientist** 

David of Reme

Elizabeth McNally, P.E.

Elizabeth V MiNdly

#### Attachments:

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map with BGT Closure Sample Location, March 2016

Figure 3. Release Assessment Sample Locations and Results, May and July 2016

Figure 4. Final Excavation Sample Locations and Results, December 2016

**AES Field Sampling Report 051716** 

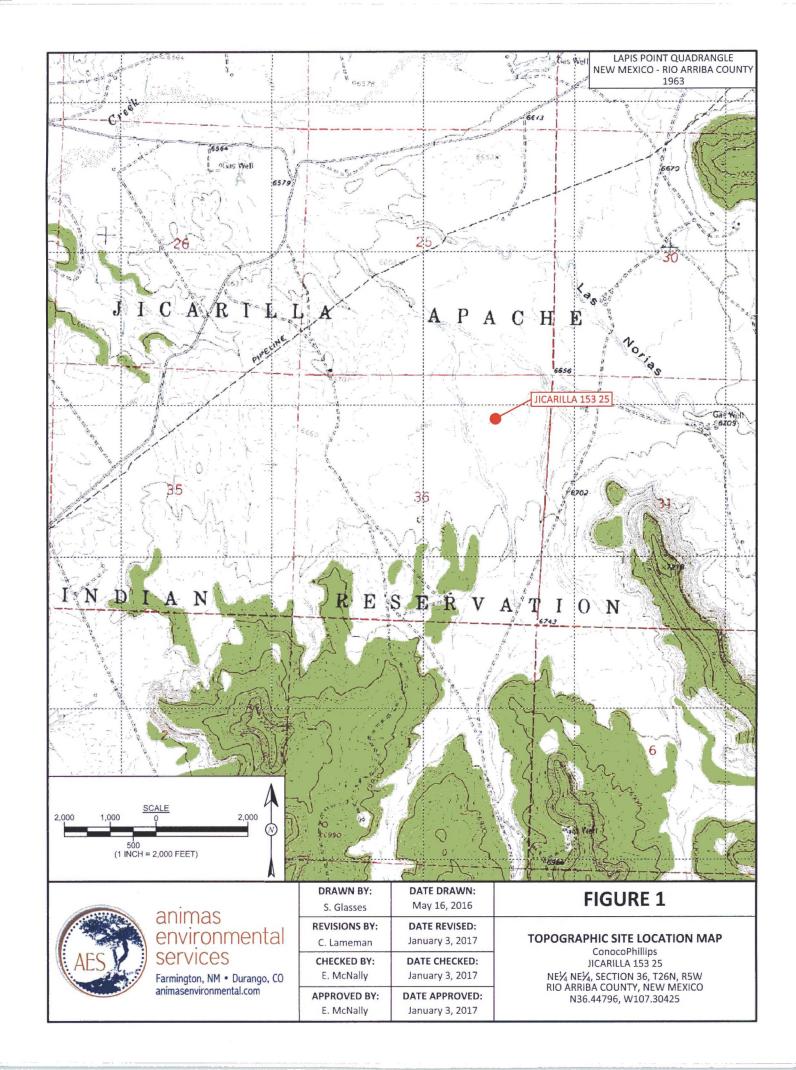
**AES Field Sampling Report 070716** 

AES Field Sampling Report 122716

Hall Laboratory Analytical Report 1603B39

Hall Laboratory Analytical Report 1612D34

C:\Users\emcnally\Dropbox (Animas Environmental)\2017 Client Projects\ConocoPhillips\Jicarilla 153 25\Jicarilla 153 25 Release and Final Excavation Report 010317.docx







FORMER SECONDARY CONTAINMENT BERM FORMER FENCE

			Laborato	ry Analytic	al Results			
Sample ID	Date	Depth (ft)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH - GRO (mg/kg)	TPH - DRO (mg/kg)	TPH 418.1 (mg/kg)	Chlorides (mg/kg)
JANOGA ACTION LEVEL		10	50	10	00	100	600	
S-1	3/22/16	8	< 0.24	28.7	280	8,600	30,000	<30

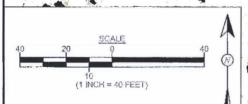
ALL SAMPLES WERE ANALYZED PER USEPA METHOD 8021B, 8015D, 418.1 AND 300.0.

JICARILLA 153 25 WELL MONUMENT

FORMER SEPARATOR

S-1

FORMER BELOW GRADE TANK
S-1 SAMPLE LOCATION
N36.44777, W107.30414



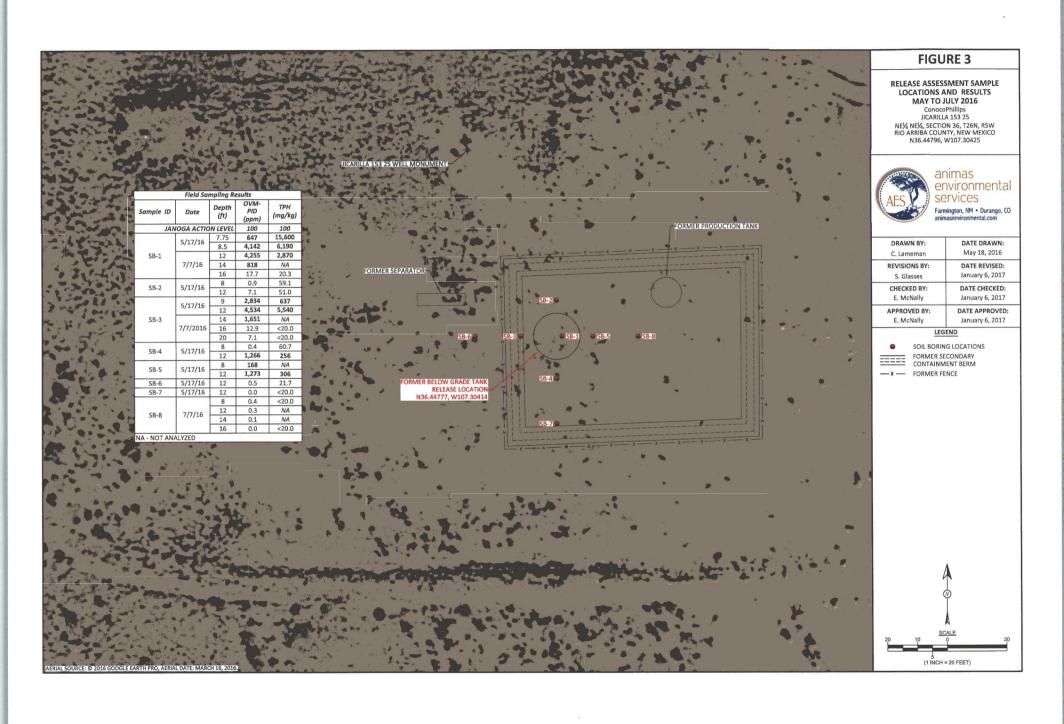
AERIAL SOURCE: © 2016 GOOGLE EARTH PRO, AERIAL DATE: MARCH 16, 2016.

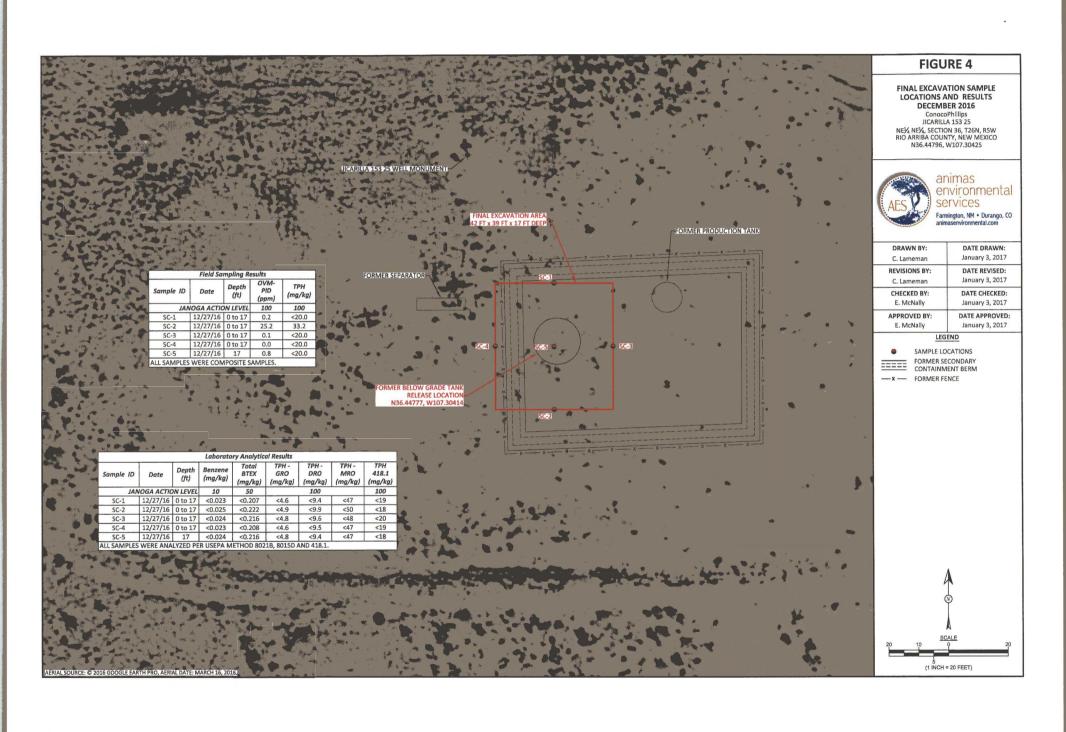


-	DRAWN BY: S. Glasses	DATE DRAWN: May 16, 2016
	REVISIONS BY: S. Glasses	DATE REVISED: January 6, 2017
	CHECKED BY: E. McNally	DATE CHECKED: January 6, 2017
	APPROVED BY: E. McNally	DATE APPROVED: January 6, 2017

AERIAL SITE MAP	
MARCH 2016	
ConocoPhillips	
JICARILLA 153 25	
NE% NE%, SECTION 36, T26N, R5W	
RIO ARRIBA COUNTY, NEW MEXICO	
N36.44796, W107.30425	

FIGURE 2





Field Screening Relea	ase Assessment Field	Report			Date	5-17-16
Client:	COPC	AES Personnel:	C. Lameman	Billi	ng Info:	
Well or Lease Name:	Jicarde 135 25		S. Calasses		WO #:	
CoP Onsite Supervisor:		Beginning mileage:			Supervisor:	
Site Arrival Time:	1000	Ending Mileage:	48312		USER:	
Site Departure Time:	330	Release Source:	Historic BUT		Area:	
		Well Head (GPS):	36.44796, -107.30425		Activity Code	:
Land Jurisdiction:	Sicarilla Re	lease Location (GPS):	36.44777, -157.30414		Ordered by:	
County/State:	RA / NM					
Site Rank:	JAN0614	!			1	
Equipment in place.	The Late of Manager		Buck Machine #	FO //	100 //	F00 //
Equipment in place:	Wellhead Monument		Concentration Calibration ABS Values	50 mg/kg	100 mg/kg	500 mg/kg
Photos taken:	Yar			1	I	1
Project Detaile:		0.1	Site Sketch (DOES NOT REPLA	CE SITE MA	P) and Curren	t Excavation Dimensions:
DOI TO TELL	are on regulatory true	. Kelease		02 0112 1111	in justice Current	CEXCUTE DIFFICUSIONS.
Assessment	t.		Horizontal (Cross-Section View	۸٬)٠		
			(0.030 000.011 770			
Initial Recommendations:		,		Su AH	rehmen t	
Initial Recommendations:	re rut with a push is	or supprobe.		,		
	,	, 950 2				
			Vertical (Plan View):			
Limitiations:			vertical (Flatt view).			
Rain of Li	ghtning. Auger extension	limitation				
Animas Environmental Services	, LLC					
604 WPinon St. Farmington, NN	VI 87401 office # 505-564-2281	L				

1 of \_\_\_\_\_

Release Assessment Field Form 060215.xlsx

1911 N Main, Ste 280, Durango, CO 81301

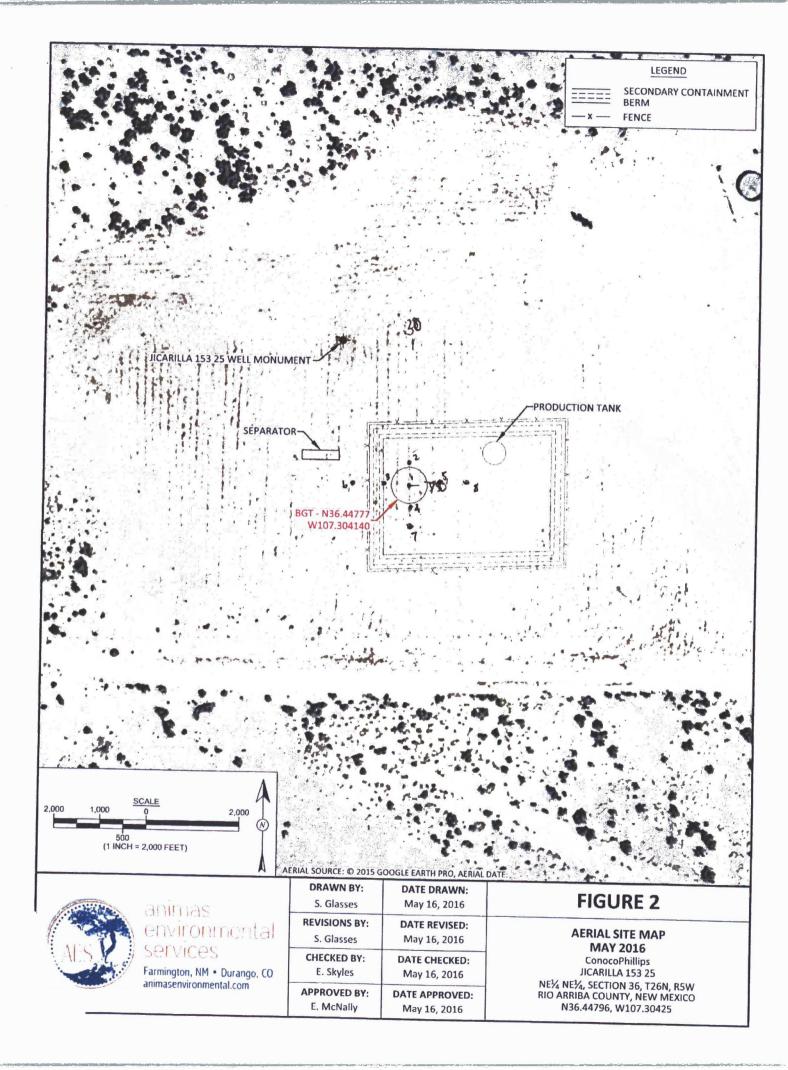
Date: 5-17-16

AES personnel: C. Lameman, S. Glasses

Sample ID	Collection Date	Time of Sample Collection	Sample Location	OVM (ppm)	OVM Time	Field TPH (mg/kg)	Field TPH Analysis Time	ABS	NOTES
SB-10-8:15'	5-17-16	1037	Center	647	1050	15600	1053	0.958 × 10	P65, Md-C6, Brown, Strong oder, Gray V. Moist
08.5'	\	1039		9142	1051	4,1907	1057	9.385 × 10	PGS, Cb, Bray, V. St. Oder, V Noist
SB-2e8'		1053	Ng 58-1	0.9	1117	59.1	1120	0.031	PGS, Ud Red-Brawn, N. Odder, No String, Majst
e12'		1113		7.1	1126	57.0	1129	0.026	CLU/Sd, Ok. Brun, No Odor, No Stewning, Moist
5B-3e9'		1134	WZ 58-1	2834	1150	437	1155		Sunty a/CL, Ok. Bonn, oder, Grystnining, Hoist
e 12'		1143		4534	1203	5,540	1208	6.335 x 10	CLW St Ok. Born, St. Oder, Gray String, Most Snot
SB-4 @ 8'		/227	S of SB-1	0,4	/233	60.7	1237	1	PGS For-Hd, Red Amer, No Odor, No Steining, Marst
e121		1242		1266	1304	256	1309		12 m/Sd, Dk Borno, Oder, Some Struming, Mar st
56-508'		/3/3	EZ 58-1	168	1337	-			auss, OkBrown St. Odor, Blk Staining, Moist
· e /2'		1329		1273	1349	306	1352	0.183	,
58-6e12°		1469	W of SB-3	0.5	1426	21.65	1428	0.008	
- SB-70121	4	1492	EOS	0.0	1503	220.0	1505	0.006	
			_						

<sup>\*</sup>Include Benzene readings in the notes section initially and transfer to Limitations if Benzene is a problem on the location.

Well or Lease Name: Apimas Environmental Services, LLC 604 W Pinon St. Farmington, NM 87401 office # 505-564-2281 1911 N Main, Ste 280, Durango, CO 81301



Field Screening Relea	ase Assessment Field I	Report			Date:	7-7-16
Client:	COPC	AES Personnel:	E-Skyles	Billi	ng Info:	
Well or Lease Name:	JICARILLA 153 25		E-Skyles S. Glasses		WO #:	
CoP Onsite Supervisor:	E. Skyles	Beginning mileage:		-	Supervisor:	
Site Arrival Time:	9:35 am	Ending Mileage:		-	USER:	, 440 - VI - V
Site Departure Time:		Release Source:	BGT- Historic	-	Area:	
				_	Activity Code:	
Land Jurisdiction:	JICARILLA Rel				Ordered by:	
County/State:	Pio APRIBA /NM					
Site Rank: _	20			1	7	
	. /		Buck Machine #			
Equipment in place:	PEA SIE / Well Mo	1 ument Only	Concentration Calibration ABS Values	50 mg/kg	100 mg/kg	500 mg/kg
-		,	Calibration Ab3 values			
Project Details:			Site Sketch (DOES NOT REPLA	CE SITE MA	D) and Current	Everyation Dimensions:
Froject Details.			Site Sketch (DOES NOT KEPLA	ICE SITE IVIA	ar) and Current	Excavation Dimensions.
		Ψ.		w):	F	
			Horizontal (Cross-Section View	w): ⊌		
			SB-1 SB-3 SB-3 SB-5	3		
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<u>Limitiations</u> :			k.		11	
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Animas Environmental Services,	, LLC	1				tue*

604 W Pinon St. Farmington, NM 87401 office # 505-564-2281 1911 N Main, Ste 280, Durango, CO 81301

1 of \_\_\_\_\_

Release Assessment Field Form 112114

Well or Lease Name: Jicarilla 153 25

Date: 7/7/16
AES personnel: E. Skyles / S. glasses

	Collection	Time of Sample	Sample	OVM	OVM	Field TPH	Field TPH		
Sample ID	Date	Collection	Location	(ppm)	Time	(mg/kg)	Analysis Time	ABS	NOTES
SB-3€ €16'	717/16	10:10		12.9	10:20	> 20.0	1026	0.017	Slightodor sandy willay
5B-3e 20'	7/7/16	10:15		7.1	10:22	>20.0	1032	0.018	no odok
\$-30141	7/7/16	10:12		1651	10:21	NA	NA	AM	slight odar - clay
SB-1 C12'	7/7/16	10:54		4,255	11:05	2,871	11:22		¥ ID
SB-1014'	7/7/16	10:55		818	11:05	NA	Au	NA	
SB-1016'	7/7/16	10:56		17.7	11:06	20.3			
SB-868'	717/16	11:22		0.4	1137				Sand,
SB-8 12'	7/7/16	11:31		0.3	(137				day
88-8@141	7/7/14	11:32		0.1	1137				clay
SB-8016	7/7/16	11:33		0.0	1137				clay
									1

<sup>\*</sup>Include Benzene readings in the notes section initially and transfer to Limitations if Benzene is a problem on the location.

Animas Environmental Services, LLC 604 W Pinon St. Farmington, NM 87401 office # 505-564-2281 1911 N Main, Ste 280, Durango, CO 81301

#### SOIL BORING LOG

## **Animas Environmental Services**

Soil Boring No: SB - 1 (cont.)

604 W. Piñon St., Farmington, NM 87401

Monitor Well No:	Tel. (505) 564-2281 Fax (505) 324-2022
Project: Geoprobe Delineation	Date: 7(7/16
Client: Copc	Latitude/Longitude:
Location: Jicarilla 153 25	Datum:
Driller: Kyvek	Elevation:
Drilling Method: Hollow Stem- Geoprobe-Confinuous	Logged by: 🕏
Depth to Water (ft): Time Recorded: /p:50	Total Depth (ft): //

Dep	th to	Water (	ft):	Hem Je	Time Recorded: /o:59 Total Depth (ft): 11	, ,				
Depth (ft)			Sample Time	w Count r 3x6" intervals)	Soil Description  TYPE, density/consistency, color, grain size, moisture, other (i.e. odor, staining)	USCS Symbol	OVM (ppm)	OVM Time	MW Schematic	and Description
R	8,5	a productive to the section, by the	22.2300.2.4.7000.24.25.22.20.3.0071	a yakatuba a turun dan maka	Clare Comment	a service of the following two	************	18 8 6 6 8 8 7 6 1 6 1 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Since continue on	rain marines
0	0,0	*****************		A paragraph of the Propher and the No. 1 construction	Stroma volor		**L**** ***** **** * **** * * * * * * *	and draw decides the best of t		11 F CL.M
8.5	件				Clay or gravel, black, not - sat.  Strong order  Clay w/some sand, gray to brown, Inw-non plantic  emoist, strong adar  Clay, brown, soft, low plasticity, dry to moist  w/sand					
14	14	. * ***********************************	againt agus dhe a dheann ann air ne an an 18 an		Clay, brown, soft, low plasticity, dry to moist		and the state of t	galler og sammer og en		
	*** ***	e og de totalen e en, en e e e e e e e e e e e e e e	And Bushiness property and come				The Mark Parks of the Control of the	and the same of the state of th		- 10 a.s. 700
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Soil Boring No: Monitor Well No:	604 W. Piñon St., Farmington, NM 87401 Tel. (505) 564-2281 Fax (505) 324-2022
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W. W	
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A CONTRACTOR OF THE CONTRACTOR	
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#### **SOIL BORING LOG**

Soil Boring No:

5B-3

**Animas Environmental Services** 

604 W. Piñon St., Farmington, NM 87401

Monitor Well No:	Tel. (505) 564-2281 Fax (505) 324-2022
Project: Geographe Delination	Date: 7/7/16
Client: COPC'	Latitude/Longitude:
Location: Ji carilla 153 25	Datum:
Driller: KYVEK	Elevation:
Drilling Method: Hole Stem - Geoprobe - Continuous	Logged by: ES
Depth to Water (ft): 23'??? Time Recorded:	Total Depth (ft): 24'

			ch. Lo		Time necorded.					-
Depth (ft)	Sample Interval	Sample Type (SPT, Grab, etc)	Sample Time	w C	Soil Description  TYPE, density/consistency, color, grain size, moisture, other (i.e. odor, staining)	USCS Symbol	OVM (ppm)	OVM Time	MW Schematic and Description	
12	15	grab	10:12	1 d to d to d to to to d to d to d to d	Clay, soft, brown, low-plasticity, moist, odor	N. Afrika, and a king of the state of the st	1651	10:21		
15	16	grab	10:10	NA	Sand w/some clay, loose, lt. brown, hore grained, dry slt.odor	SP-SC	12.9	(0:20		
16	17				Clay w/sand, very soft, low plasticity, brown, dry no odve					
17	21	gnab	10:15	NÞ	Sand bose it brown poorly graded fg sand dy misst	sP	7./	10:22		*****
21	24		A14 15 - A14		FAT clay med-stiff, med plasticity, dark brown moist - damp					100mm
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Soil Boring No:	604 W. Piñon St., Farmington, NM 87401
Monitor Well No:	Tel. (505) 564-2281 Fax (505) 324-2022
NOTES	<u></u>
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## SOIL BORING LOG

**Animas Environmental Services** 

. Soil Boring No: 58-8 604 W. Piñon St., Farmington, NM 87401 Tel. (505) 564-2281 Fax (505) 324-2022

Monitor Well No:	Tel. (505) 564-2281 Fax (505) 324-2022
Project: Geoprobe Delineation	Date: 7/7/16
Client: COPC	Latitude/Longitude:
Location: Jicavilla 153 25	Datum:
Driller: Kywek	Elevation:
Drilling Method: Holland chem - Gregorahe - Continuos	Logged by: PS

Den	th to	Mater (f	HOLLOW S	tem - Ge	Time Recorded: Logged by: ES  Total Depth (ft):				
Deb	tii to	vvater (1	ι,.		Time Recorded. Total Depth (it).				
Depth (ft)	Sample Interval	Sample Type (SPT, Grab, etc)	Sample Time	3 X	Soil Description  TYPE, density/consistency, color, grain size, moisture, other (i.e. odor, staining)	USCS Symbol	OVM (ppm)	OVM Time	MW Schematic and Description
31.80×7.01.000,		neg njihiji sana sinana interasjiga, beng b	and always for the second	41.477,00,000,000,000,000		*****************************		************	
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Soil Boring No:	604 W. Piñon St., Farmington, NM 87401
Monitor Well No:	Tel. (505) 564-2281 Fax (505) 324-2022
	NOTES
	SKETCH
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Field Screening Relea	ase Assessment Fiel	d Report			Date	12-27-16
Client:	Jonaco Phillips	AES Personnel:	C. Lamernaa	Billi	ing Info:	
	Jicarilla 153 25				WO #:	21340535
	Evic Smith		53214		Supervisor:	Torry Nelson
Site Arrival Time:	40 740	Ending Mileage:	53444	-	USER:	MCINNSR
Site Departure Time:	1630	Release Source:	Historia BGT	_	Area:	9
		Well Head (GPS):	36.44796, -107.30425		Activity Code	:
Land Jurisdiction:	Jianila	Release Location (GPS):	36.44777, -107.36414	_	Ordered by:	Bobby Spearman
	Pri Avriba / New Mixico		•	-		-contact lisa Humber
Site Rank: _	JAN106A-100			1	٦	
	A to U.S.		Buck Machine #	1	"	I // ]
Equipment in place: _	Stripped - PEAN Location		Concentration	50 mg/kg	100 mg/kg	500 mg/kg
Photos taken	Yes		Calibration ABS Values	0.075	0-131	0.659
						····.
Project Details: Excuration	Clearance.		Site Sketch (DOES NOT REPLA	CE SITE MA	AP) and Curren	t Excavation Dimensions:
						•
			Horizontal (Cross-Section View	w):		
			42' 25			
			42' x 39 x 17' Dec	p		
Initial Recommendations: 1						
NA						
*						
			Martine Mary Mary			
12-21-11-11-11-11-11-11-11-11-11-11-11-1			Vertical (Plan View):			
Limitiations: NW.						
nimas Environmental Consissa	U.C.					
Inimas Environmental Services, 104 W Pinon St. Farmington, NN		281				

1 of \_\_\_\_\_

Release Assessment Field Form 060215.xlsx

1911 N Main, Ste 280, Durango, CO 81301

Well or Lease Name: Jicurilla 153 25

Date: 12 - 27-16

AES personnel: Claminan

Sample ID	Collection Date	Time of Sample Collection	Sample Location	OVM (ppm)	OVM Time	Field TPH (mg/kg)	Field TPH Analysis Time	ABS	NOTES
86-1	12-27-16	835	N. Wall	0.2	935	<20.0	942	0.008	SOND, CG, TAN, N. Odor or Staining
Sc-2	)	915	S. Wall	25.2	940	33.2	947	0.027	SAND and some CL, CG, Tan-Brown, St. Oder, No Stain
SC-3		840	E. Wall	6.1	934	420.0	951	0.011	SAND, GG, Tan, No odor or Staining
56-4		845	W- Wall	0.0	937	<20.0	953	0.004	S.A.A.
56-5		828	Busc	0.8	938	<20.0	957	0.005	SA.A.
Over burden	3	854	stretepile Comp.	1.0	939	220.0	959	0.000	Dirty Strikpile - Sand and U. Some odor
									Dirty Strikpile - Sandand U. Sme odor 8 mustaining
			*****						/
				4.					
							***************************************		

<sup>\*</sup>Include Benzene readings in the notes section initially and transfer to Limitations if Benzene is a problem on the location.



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

April 06, 2016

Emilee Skyles Animas Environmental 604 Pinon Street Farmington, NM 87401 TEL: (505) 564-2281

FAX

RE: COPC JICARILLA 153 25

OrderNo.: 1603B39

Dear Emilee Skyles:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/23/2016 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued March 31, 2016.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

#### **Analytical Report**

Lab Order 1603B39

Date Reported: 4/6/2016

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental

Client Sample ID: S-1

COPC JICARILLA 153 25 Project:

Collection Date: 3/22/2016 12:18:00 PM

Lab ID: 1603B39-001 Matrix: SOIL

Received Date: 3/23/2016 7:15:00 AM

Analyses	Result	PQL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH						Analyst	: TOM
Petroleum Hydrocarbons, TR	30000	1900		mg/Kg	100	3/30/2016 12:00:00 PM	24419
EPA METHOD 300.0: ANIONS						Analyst	LGT
Chloride	ND	30		mg/Kg	20	3/29/2016 12:18:25 PM	24484
EPA METHOD 8015M/D: DIESEL RANGI	ORGANIC	S				Analyst	KJH
Diesel Range Organics (DRO)	8600	950		mg/Kg	100	4/6/2016 9:33:47 AM	24573
Surr: DNOP	0	70-130	S	%Rec	100	4/6/2016 9:33:47 AM	24573
EPA METHOD 8015D: GASOLINE RANG	iΕ					Analyst	NSB
Gasoline Range Organics (GRO)	280	48		mg/Kg	10	3/24/2016 7:17:29 PM	24391
Surr: BFB	171	66.2-112	S	%Rec	10	3/24/2016 7:17:29 PM	24391
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	ND	0.24	D	mg/Kg	10	3/24/2016 7:17:29 PM	24391
Toluene	ND	0.48	D	mg/Kg	10	3/24/2016 7:17:29 PM	24391
Ethylbenzene	1.7	0.48	D	mg/Kg	10	3/24/2016 7:17:29 PM	24391
Xylenes, Total	27	0.96	D	mg/Kg	10	3/24/2016 7:17:29 PM	24391
Surr: 4-Bromofluorobenzene	122	80-120	SD	%Rec	10	3/24/2016 7:17:29 PM	24391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 6 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1603B39

06-Apr-16

Client:

Animas Environmental

Project:

**COPC JICARILLA 153 25** 

Sample ID MB-24484

SampType: MBLK

TestCode: EPA Method 300.0: Anions

Client ID:

Batch ID: 24484

RunNo: 33158

Prep Date:

3/29/2016

Analysis Date: 3/29/2016

SeqNo: 1018203

Units: mg/Kg

Analyte

%REC LowLimit

HighLimit

**RPDLimit** Qual

Chloride

Result PQL

ND 1.5

SampType: LCS

TestCode: EPA Method 300.0: Anions

Client ID:

Sample ID LCS-24484

LCSS

Batch ID: 24484

RunNo: 33158

Prep Date: 3/29/2016

Analysis Date: 3/29/2016

SeqNo: 1018204

Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC HighLimit LowLimit 1.5

Chloride

14

15.00

SPK value SPK Ref Val

93.2

0

90

110

%RPD

%RPD **RPDLimit** Qual

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 2 of 6

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1603B39

06-Apr-16

Client:

Animas Environmental

Project:

COPC JICARILLA 153 25

Result

Result

110

100

Sample ID MB-24419

SampType: MBLK

TestCode: EPA Method 418.1: TPH

Client ID:

**PBS** 

Batch ID: 24419

RunNo: 33169

Units: mg/Kg

Prep Date: Analyte

3/24/2016

Analysis Date: 3/30/2016 PQL

SeqNo: 1018640

HighLimit

**RPDLimit** Qual

Petroleum Hydrocarbons, TR

Sample ID LCS-24419

ND

TestCode: EPA Method 418.1: TPH

SPK value SPK Ref Val %REC LowLimit

Client ID: LCSS

SampType: LCS Batch ID: 24419

20

RunNo: 33169

Units: mg/Kg

3/24/2016

Analysis Date: 3/30/2016

SeqNo: 1018641

**RPDLimit** 

Prep Date:

PQL

SPK value SPK Ref Val 100.0

%REC 109

83.4

LowLimit

%RPD HighLimit 127

%RPD

Qual

Petroleum Hydrocarbons, TR

Client ID:

Sample ID LCSD-24419

SampType: LCSD

20

20

TestCode: EPA Method 418.1: TPH

RunNo: 33169

Prep Date: 3/24/2016

LCSS02

Batch ID: 24419

Analysis Date: 3/30/2016

SeqNo: 1018642

Units: mg/Kg

**RPDLimit** Qual

Analyte

Result PQL

SPK value SPK Ref Val %REC LowLimit

0

HighLimit 127

%RPD

20

Petroleum Hydrocarbons, TR

100.0

102

83.4

6.58

### Qualifiers:

ND

S

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- R RPD outside accepted recovery limits

Not Detected at the Reporting Limit

- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 3 of 6

- P Sample pH Not In Range
- RL Reporting Detection Limit
- % Recovery outside of range due to dilution or matrix
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1603B39

06-Apr-16

Client:

Animas Environmental

**Project:** 

COPC JICARILLA 153 25

Sample ID MB-24573	SampT	уре: МЕ	BLK	Test	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batch	ID: 24	573	R	RunNo: 3	3293				
Prep Date: 4/1/2016	Analysis D	ate: 4/	5/2016	S	SeqNo: 1	022944	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.6		10.00		95.9	70	130			

Sample ID LCS-24573	SampType:	LCS	Tes	tCode: E	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: LCSS	Batch ID:	24573	R	RunNo: 3	3293				
Prep Date: 4/1/2016	Analysis Date:	4/6/2016	S	SeqNo: 1	024363	Units: mg/k	(g		
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10 50.00	0	99.7	65.8	136			
Surr: DNOP	4.8	5.000		96.7	70	130			

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 4 of 6

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1603B39

06-Apr-16

Client:

Animas Environmental

Project:

COPC JICARILLA 153 25

Sample ID MB-24391

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

PBS

Batch ID: 24391

RunNo: 33039

Prep Date: 3/23/2016

%REC

Analyte

Surr: BFB

Prep Date:

Analysis Date: 3/24/2016 PQL

5.0

SeqNo: 1014105

Units: mg/Kg HighLimit

**RPDLimit** Qual

Gasoline Range Organics (GRO)

Result ND 1000

1000

SPK value SPK Ref Val

103

112

Sample ID LCS-24391

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

66.2

Client ID: LCSS

3/23/2016

Batch ID: 24391

PQL

5.0

RunNo: 33039

SeqNo: 1014106

Units: mg/Kg

%RPD

Analyte Gasoline Range Organics (GRO) Analysis Date: 3/24/2016

SPK value SPK Ref Val %REC LowLimit

0

HighLimit %RPD

**RPDLimit** Qual

Surr: BFB

25 1100

Result

25.00 1000

98.5 111

80 66.2 120 112

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- Not Detected at the Reporting Limit ND
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix S
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Page 5 of 6

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1603B39

06-Apr-16

Client:

Animas Environmental

Project:

COPC JICARILLA 153 25

Sample ID MB-24391	SampT	ype: ME	BLK	Tes	tCode: El	tiles				
Client ID: PBS	Batch	ID: 24	391	R	RunNo: 3	3039				
Prep Date: 3/23/2016	Analysis D	ate: 3/	24/2016	S	SeqNo: 1	014146	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID LCS-24391	Samp	ype: LC	s	Tes						
Client ID: LCSS	Batcl	n ID: 24	391	F	RunNo: 3	3039				
Prep Date: 3/23/2016	Analysis D	Date: 3/	24/2016	8	SeqNo: 1	014147	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	75.3	123			
Toluene	0.99	0.050	1.000	0	99.3	80	124			
Ethylbenzene	1.0	0.050	1.000	0	99.9	82.8	121			
Xylenes, Total	3.0	0.10	3.000	0	99.4	83.9	122			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
  - Sample pH Not In Range
- RL Reporting Detection Limit

P

Sample container temperature is out of limit as specified

Page 6 of 6



#### Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: Animas Envi	ironmental	Work Order Number:	1603839		RcptNo:	1
Received by/date:	*	03 23 16				
Logged By: Lindsay Ma	ngin	3/23/2016 7:15:00 AM		July Hogo		
Completed By: Lindsay Ma	angin	3/23/2016 9:38:00 AM		Simby Happy		
Reviewed By:		03/23/16		000		
Chain of Custody		05/05/10				
1. Custody seals intact on sa	mple bottles?		Yes	No 🗌	Not Present	
2. Is Chain of Custody compl	ete?		Yes 🗸	No 🗌	Not Present	
3. How was the sample delive	ered?		Courier			
Log In						
4. Was an attempt made to d	cool the samples	?	Yes 🗹	No 🗆	NA $\square$	
5. Were all samples received	l at a temperature	e of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗆	
6. Sample(s) in proper conta	iner(s)?		Yes 🗹	No 🗆		
7. Sufficient sample volume f	or indicated test(	s)?	Yes 🗸	No 🗌		
8. Are samples (except VOA	and ONG) prope	rly preserved?	Yes 🗹	No 🗌		
9. Was preservative added to	bottles?		Yes 🗌	No 🗹	NA $\square$	
10.VOA vials have zero heads	space?		Yes	No 🗆	No VOA Vials	
11. Were any sample contained	ers received brok	en?	Yes	No 🗹	# of preserved	
10 -					bottles checked	
12. Does paperwork match bo (Note discrepancies on chi			Yes 🗸	No 🗆	for pH: (<2 (	or >12 unless noted)
13. Are matrices correctly iden		f Custody?	Yes 🗸	No 🗌	Adjusted?	
14. Is it clear what analyses w	ere requested?		Yes 🗹	No 🗌		
15. Were all holding times able (If no, notify customer for a			Yes 🗹	No 🗆	Checked by:	
Special Handling (if app						
16. Was client notified of all di	screpancies with	this order?	Yes	No 🗀	NA 🗹	
Person Notified:	44 111 - 484 - 11 1 - 584 - 11	Date				
By Whom:		Via: [	eMail	Phone Fax	In Person	
Regarding:						
Client Instructions:						-
17. Additional remarks:						
18. Cooler Information	1					
Cooler No Temp °C			Seal Date	Signed By		
1 1.6	Good Ye					

Ch	ain-o	t-Cus	tody Record	Turn-Around r	IIIIE.					н	ALI		:NIX	/TI	20	NI	ME	MT	FAI	ı
Client:	Animas	Enviro	nmental Services, LLC	X Standard	□ Rush	1			_		NA									
4-1-		•	14-2-10-	Project Name:															JN	
Mailing Ad	droce:									,	www.	halle	envir	onm	nenta	il.coi	n			
	uiess.	604 W	Pinon St.					49	01 H	awki	ns N	Ξ-	Albu	que	rque	, NIV	1 871	09		
		Farmin	gton, NM 87401	Project #:				Te	el. 50	5-34	5-397		-	-	05-3		107			
Phone #:	505-564	-2281						-				Ana	lysis	Re	ques	st				
Email or F	ax#:	eskyles@	Danimasenvironmental.com	Project Manag	jer:															
QA/QC Pad	kage:				E. Skyles										-					
X Standar	rd		☐ Level 4 (Full Validation)																	
Accreditati	ion:			Sampler: S. G																
□ NELAP		□ Other																		9
□ EDD (T	ype)			Sample Temp	erature- 🚈 /			τ.	0.0											or N
				O-mt-i			-8021B	- EPA 418.1	- 300.0											Air Bubbles (Y or N)
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	* <b>-</b>		EP,	ides											qqr
				//		Travaraca	BTEX	TPH.	Chlorides											i-B
3/22/16	12:18	SOIL	S-1	1 - 4 oz.	cool	-001	X	Х	Х				_	+	+	1	+	$\top$	$\top$	
· · · · ·		-				90/1	_				$\top$	+	$\top$	$\dashv$	$\top$	1	$\top$	$\top$	+	
											$\dashv$	+	$\top$	$\dashv$	$\dashv$	$\dashv$	$\top$	+	+	+
		-					-			$\vdash$	-	+	+	$\dashv$	$\dashv$	+	+	+	+	+
											+	+	-	$\dashv$	-	-	$\dashv$	-	$\dashv$	_
	<b></b>						-				-	$\dashv$	-	$\dashv$	$\dashv$	$\dashv$	+	+	+	+
							$\vdash$	_			+	+	+	-	$\dashv$	$\dashv$	+	$\dashv$	$\dashv$	+
											+	+	-	-		-	_	$\dashv$	-	+
							-			$\vdash$	+	$\dashv$	+	$\dashv$	$\dashv$	$\dashv$	$\dashv$	+	$\dashv$	_
		<del> </del>					-				-	+	+	$\dashv$	-	-	-	-	$\dashv$	-
		-									$\dashv$	+	+	$\dashv$	$\dashv$	$\dashv$	$\dashv$		$\dashv$	
Date:	Time:	Relinquish	ed by:	Received by:		Date Time	Ren	narke	Pill	to C	onoco	Dhi	illine					$\perp$	$\perp$	
31		1-	2010 1	1	. , ,		wo	# 2	1340	555		7 F (II	mpa	Po	V F	n:lo	e.dd	4	1/1	17.5
122/16	1701	Hem	- Halle	Must	- Walte	3/22/14 1701				Velso				,	of E	"	1	,	10	LU
Date:	Time:	Relinquish	ed by:	Received by:	1	Date Time	Are		. IVIC	INNS	)r\						of	4/	1	
1/22/14	1747	1/W	list Walle	#	031	23/16/07/15	,		by: E	Bobby	y Spe	ama	an					1		



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

December 30, 2016

Corwin Lameman Animas Environmental 604 Pinon Street Farmington, NM 87401 TEL: (505) 564-2281

FAX

RE: CoPC Jicarilla 153 25

OrderNo.: 1612D34

#### Dear Corwin Lameman:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/28/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

### Lab Order 1612D34

Date Reported: 12/30/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental

Client Sample ID: SC-1

Project: CoPC Jicarilla 153 25

Collection Date: 12/27/2016 8:35:00 AM

Lab ID: 1612D34-001

Matrix: SOIL

Received Date: 12/28/2016 8:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH					Analyst	MAB
Petroleum Hydrocarbons, TR	ND	19	mg/Kg	1	12/29/2016 12:00:00 PM	M 29437
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	12/29/2016 11:59:13 Al	M 29438
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/29/2016 11:59:13 Al	M 29438
Surr: DNOP	99.9	70-130	%Rec	1	12/29/2016 11:59:13 Al	M 29438
EPA METHOD 8015D: GASOLINE RANG	SE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	12/29/2016 2:40:11 PM	29431
Surr: BFB	84.3	68.3-144	%Rec	1	12/29/2016 2:40:11 PM	29431
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.023	mg/Kg	1	12/29/2016 2:40:11 PM	29431
Toluene	ND	0.046	mg/Kg	1	12/29/2016 2:40:11 PM	29431
Ethylbenzene	ND	0.046	mg/Kg	1	12/29/2016 2:40:11 PM	29431
Xylenes, Total	ND	0.092	mg/Kg	1	12/29/2016 2:40:11 PM	29431
Surr: 4-Bromofluorobenzene	93.4	80-120	%Rec	1	12/29/2016 2:40:11 PM	29431

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 9 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/30/2016

**CLIENT:** Animas Environmental

Client Sample ID: SC-2

Project: CoPC Jicarilla 153 25

Collection Date: 12/27/2016 9:15:00 AM

Lab ID: 1612D34-002

Matrix: SOIL

Received Date: 12/28/2016 8:00:00 AM

Analyses	Result	PQL Qua	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH					Analys	st: MAB
Petroleum Hydrocarbons, TR	ND	18	mg/Kg	1	12/29/2016 12:00:00 F	PM 29437
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	S			Analys	st: TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	12/29/2016 12:20:46 F	PM 29438
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/29/2016 12:20:46 F	PM 29438
Surr: DNOP	99.0	70-130	%Rec	1	12/29/2016 12:20:46 F	PM 29438
EPA METHOD 8015D: GASOLINE RANGE					Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/29/2016 3:50:50 PI	M 29431
Surr: BFB	87.8	68.3-144	%Rec	1	12/29/2016 3:50:50 PM	M 29431
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.025	mg/Kg	1	12/29/2016 3:50:50 PM	M 29431
Toluene	ND	0.049	mg/Kg	1	12/29/2016 3:50:50 PM	M 29431
Ethylbenzene	ND	0.049	mg/Kg	1	12/29/2016 3:50:50 PM	M 29431
Xylenes, Total	ND	0.099	mg/Kg	1	12/29/2016 3:50:50 PM	M 29431
Surr: 4-Bromofluorobenzene	93.6	80-120	%Rec	1	12/29/2016 3:50:50 PM	M 29431

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 9 J
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1612D34

Date Reported: 12/30/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental

Project: CoPC Jicarilla 153 25

Lab ID: 1612D34-003

Client Sample ID: SC-3

Collection Date: 12/27/2016 8:40:00 AM

Received Date: 12/28/2016 8:00:00 AM

Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 418.1: TPH				Ana	lyst: MAB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1 12/29/2016 12:00:0	0 PM 29437
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S		Ana	lyst: TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1 12/29/2016 12:42:2	3 PM 29438
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1 12/29/2016 12:42:2	3 PM 29438
Surr: DNOP	99.5	70-130	%Rec	1 12/29/2016 12:42:2	3 PM 29438
EPA METHOD 8015D: GASOLINE RAN	IGE			Ana	lyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1 12/29/2016 4:14:27	PM 29431
Surr: BFB	83.3	68.3-144	%Rec	1 12/29/2016 4:14:27	PM 29431
EPA METHOD 8021B: VOLATILES				Ana	lyst: NSB
Benzene	ND	0.024	mg/Kg	1 12/29/2016 4:14:27	PM 29431
Toluene	ND	0.048	mg/Kg	1 12/29/2016 4:14:27	PM 29431
Ethylbenzene	ND	0.048	mg/Kg	1 12/29/2016 4:14:27	PM 29431
Xylenes, Total	ND	0.096	mg/Kg	1 12/29/2016 4:14:27	PM 29431
Surr: 4-Bromofluorobenzene	91.9	80-120	%Rec	1 12/29/2016 4:14:27	PM 29431

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1612D34

Date Reported: 12/30/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental

Client Sample ID: SC-4

Project: CoPC Jicarilla 153 25

Collection Date: 12/27/2016 8:45:00 AM

Lab ID: 1612D34-004 Matrix: SOIL

Received Date: 12/28/2016 8:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH					Analys	t: MAB
Petroleum Hydrocarbons, TR	ND	19	mg/Kg	1	12/29/2016 12:00:00 F	PM 29437
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	12/29/2016 1:03:47 PM	M 29438
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/29/2016 1:03:47 PM	M 29438
Surr: DNOP	100	70-130	%Rec	1	12/29/2016 1:03:47 PM	A 29438
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	12/29/2016 4:37:58 PM	A 29431
Surr: BFB	82.8	68.3-144	%Rec	1	12/29/2016 4:37:58 PM	A 29431
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: NSB
Benzene	ND	0.023	mg/Kg	1	12/29/2016 4:37:58 PM	A 29431
Toluene	ND	0.046	mg/Kg	1	12/29/2016 4:37:58 PM	A 29431
Ethylbenzene	ND	0.046	mg/Kg	1	12/29/2016 4:37:58 PM	A 29431
Xylenes, Total	ND	0.093	mg/Kg	1	12/29/2016 4:37:58 PM	A 29431
Surr: 4-Bromofluorobenzene	89.9	80-120	%Rec	1	12/29/2016 4:37:58 PM	A 29431

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 9 J
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1612D34

Date Reported: 12/30/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental

Client Sample ID: SC-5

Project: CoPC Jicarilla 153 25

**Collection Date:** 12/27/2016 8:54:00 AM

Lab ID: 1612D34-005

Matrix: SOIL

Received Date: 12/28/2016 8:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH					Analys	t: MAB
Petroleum Hydrocarbons, TR	ND	18	mg/Kg	1	12/29/2016 12:00:00 F	PM 29437
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	12/29/2016 1:25:06 PM	M 29438
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/29/2016 1:25:06 PM	M 29438
Surr: DNOP	99.9	70-130	%Rec	1	12/29/2016 1:25:06 PM	M 29438
EPA METHOD 8015D: GASOLINE RAM	IGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/29/2016 5:01:26 PM	M 29431
Surr: BFB	82.9	68.3-144	%Rec	1	12/29/2016 5:01:26 PM	M 29431
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.024	mg/Kg	1	12/29/2016 5:01:26 PM	A 29431
Toluene	ND	0.048	mg/Kg	1	12/29/2016 5:01:26 PM	A 29431
Ethylbenzene	ND	0.048	mg/Kg	1	12/29/2016 5:01:26 PM	A 29431
Xylenes, Total	ND	0.096	mg/Kg	1	12/29/2016 5:01:26 PM	A 29431
Surr: 4-Bromofluorobenzene	90.0	80-120	%Rec	1	12/29/2016 5:01:26 PM	A 29431

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1612D34

30-Dec-16

Client:

Animas Environmental

Project:

CoPC Jicarilla 153 25

Sample ID MB-29437

SampType: MBLK

TestCode: EPA Method 418.1: TPH

Client ID: Prep Date:

PBS

Batch ID: 29437

RunNo: 39725

Analysis Date: 12/29/2016

SeqNo: 1244707

Units: mg/Kg

Analyte

PQL Result ND

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit** 

Qual

Petroleum Hydrocarbons, TR

Client ID:

20

TestCode: EPA Method 418.1: TPH

%RPD

Sample ID LCS-29437

SampType: LCS

RunNo: 39725

LCSS

12/28/2016

Batch ID: 29437

Prep Date: 12/28/2016

Sample ID LCSD-29437

LCSS02

Analysis Date: 12/29/2016

SeqNo: 1244708

Units: mg/Kg

**RPDLimit** 

Analyte

Result PQL

SPK value SPK Ref Val

100.0

%REC LowLimit HighLimit

121

Qual

Petroleum Hydrocarbons, TR

20 SampType: LCSD

TestCode: EPA Method 418.1: TPH

Batch ID: 29437

RunNo: 39725

121

Prep Date: 12/28/2016 Analysis Date: 12/29/2016

SeqNo: 1244709

Units: mg/Kg

Qual

Analyte

Client ID:

Result

SPK value SPK Ref Val %REC

HighLimit

%RPD

**RPDLimit** 

Petroleum Hydrocarbons, TR

20

100.0

93.3

80.7

7.12

#### Qualifiers:

R

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Detection Limit Sample container temperature is out of limit as specified

Page 6 of 9

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1612D34

30-Dec-16

Client:

Animas Environmental

Project:

CoPC Jicarilla 153 25

Sample ID LCS-29423

SampType: LCS

TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID:

LCSS

Batch ID: 29423

RunNo: 39712

Prep Date: 12/28/2016 Analysis Date: 12/29/2016

SeqNo: 1244401

Units: %Rec

Analyte

PQL

Result

HighLimit

4.6

SPK value SPK Ref Val

10.00

50.00

5.000

%REC LowLimit

130

**RPDLimit** 

Qual

Surr: DNOP

Sample ID MB-29423

SampType: MBLK

TestCode: EPA Method 8015M/D: Diesel Range Organics

RunNo: 39712

%RPD

%RPD

Client ID: **PBS** Prep Date:

12/28/2016 Analysis Date: 12/29/2016

SeqNo: 1244402

Units: %Rec

Surr: DNOP

Result PQL

Batch ID: 29423

SPK value SPK Ref Val

%REC LowLimit HighLimit

**RPDLimit** 

Qual

Analyte

Sample ID LCS-29438

9.5

50

5.1

SampType: LCS

TestCode: EPA Method 8015M/D: Diesel Range Organics

130

Client ID: Prep Date:

LCSS

12/28/2016

Batch ID: 29438

RunNo: 39713

SeqNo: 1244632

100

102

95.1

Units: mg/Kg

116

130

Analyte

Analysis Date: 12/29/2016 Result PQL

10

SPK value SPK Ref Val %REC

LowLimit

63.8

70

70

%RPD **HighLimit** 

**RPDLimit** Qual

Diesel Range Organics (DRO)

Surr: DNOP Sample ID MB-29438

Prep Date: 12/28/2016

Analysis Date: 12/29/2016

TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS

SampType: MBLK Batch ID: 29438

RunNo: 39713

Page 7 of 9

Analyte

10 50 SPK value SPK Ref Val %REC LowLimit

SeqNo: 1244633

Units: mg/Kg HighLimit

%RPD

**RPDLimit** 

Qual

Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)

Surr: DNOP

ND ND 10

10.00

102

70

130

#### Qualifiers:

S

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- RPD outside accepted recovery limits R

% Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- E Value above quantitation range

Reporting Detection Limit

- Analyte detected below quantitation limits
- P Sample pH Not In Range
- Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1612D34

30-Dec-16

Client:

Animas Environmental

Project:

CoPC Jicarilla 153 25

Sample ID MB-29431

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

PBS

Batch ID: 29431

RunNo: 39723

%REC

Prep Date: 12/28/2016

Result

ND

810

SeaNo: 1245219

Units: mg/Kg

Analyte

Analysis Date: 12/29/2016

5.0

5.0

Gasoline Range Organics (GRO) Surr: BFB

PQL SPK value SPK Ref Val

1000

HighLimit

**RPDLimit** 

Qual

TestCode: EPA Method 8015D: Gasoline Range

813

Sample ID LCS-29431

SampType: LCS

Client ID:

LCSS

Batch ID: 29431

RunNo: 39723

123

144

144

Prep Date: 12/28/2016

Analysis Date: 12/29/2016

SeqNo: 1245220

Units: mg/Kg

Analyte Gasoline Range Organics (GRO)

Result

SPK value SPK Ref Val

%REC LowLimit 103

HighLimit

%RPD

%RPD

Surr: BFB

910

26

28

860

25.00 1000

SPK value SPK Ref Val

23.52

940.7

74.6 90.6 68.3

LowLimit

68.3

%RPD **RPDLimit** 

Qual

Sample ID 1612D34-001AMS

SampType: MS

TestCode: EPA Method 8015D: Gasoline Range

Client ID: Prep Date:

SC-1

Batch ID: 29431

0

RunNo: 39723

Units: mg/Kg

150

144

Analyte Gasoline Range Organics (GRO)

12/28/2016 Result PQL

Analysis Date: 12/29/2016

SeaNo: 1245225 %REC

118

91.6

LowLimit HighLimit **RPDLimit** 

Qual

Qual

Surr: BFB

Sample ID 1612D34-001AMSD

SampType: MSD

Analysis Date: 12/29/2016

PQL

4.8

4.7

111

93.7

TestCode: EPA Method 8015D: Gasoline Range

Client ID: Prep Date:

12/28/2016

Batch ID: 29431

RunNo: 39723

61.3

68.3

61.3

68.3

Units: mg/Kg

144

**RPDLimit** 

0

Analyte Gasoline Range Organics (GRO) Surr: BFB

Result 27 900

24.08 963.4

SPK value SPK Ref Val %REC

SeqNo: 1245226

LowLimit HighLimit

%RPD 150

3.18

20 0

# Qualifiers:

ND

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit R RPD outside accepted recovery limits % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- Reporting Detection Limit Sample container temperature is out of limit as specified

Page 8 of 9

## Hall Environmental Analysis Laboratory, Inc.

2.9

0.95

0.10

3.000

1.000

WO#: **1612D34** 

30-Dec-16

Client:

Animas Environmental

**Project:** 

Xylenes, Total

Surr: 4-Bromofluorobenzene

CoPC Jicarilla 153 25

Sample ID MB-29431	Samp	Туре: МЕ	BLK	Tes	tCode: E	PA Method	8021B: Volat	tiles		
Client ID: PBS	Batc	h ID: 29	431	F	RunNo: 3	9723				
Prep Date: 12/28/2016	Analysis [	Date: 12	2/29/2016	8	SeqNo: 1	245244	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		89.6	80	120			
Sample ID LCS-29431	Samp	Type: LC	S	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: LCSS	Batc	h ID: 294	431	F	RunNo: 3	9723				
Prep Date: 12/28/2016	Analysis D	Date: 12	2/29/2016	S	SeqNo: 1	245245	Units: mg/K	g		
Prep Date: <b>12/28/2016</b> Analyte	Analysis D	Date: 12		SPK Ref Val	SeqNo: 1 %REC	245245 LowLimit	Units: mg/K	%RPD	RPDLimit	Qual
·	,								RPDLimit	Qual
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit		RPDLimit	Qual

0

98.1

95.4

79.2

80

115

120

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

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P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: Animas Environmental Work Order Number	er: 1612D34		RcptNo:	1
Received by/date: A) /2/28//6				
Logged By: Anne Thorne 12/28/2016 8:00:00 A	M	am Ilm	_	
Completed By: Anne Thorne 12/28/2016 9:21:06 A	M	Am S-		
Reviewed By: 013 12/28/16		Cana Ji		
Chain of Custody				
1. Custody seals intact on sample bottles?	Yes 🗌	No 🗌	Not Present	
2. Is Chain of Custody complete?	Yes 🗹	No 🗆	Not Present	
3. How was the sample delivered?	Courier			
Log In				
4. Was an attempt made to cool the samples?	Yes 🗹	No 🗆	NA 🗆	
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆	THE RESERVE AND ASSAULT
6. Sample(s) in proper container(s)?	Yes 🗹	No 🗆		
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗆	,	
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗆		
9. Was preservative added to bottles?	Yes	No 🗹	NA 🗆	
10.VOA vials have zero headspace?	Yes	No 🗆	No VOA Vials	
11. Were any sample containers received broken?	Yes	No 🗹	# of preserved	
40.5		No 🗆	bottles checked for pH:	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	NO L		>12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes 🗹	No 🗆	Adjusted?	
14. Is it clear what analyses were requested?	Yes 🗹	No 🗌		
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No 🗌	Checked by:	
Special Handling (if applicable)			_	
16. Was client notified of all discrepancies with this order?	Yes 🗆	No 🗸	NA 🗆	
Person Notified: Date				
By Whom: Via:	eMail	Phone  Fax	☐ In Person	
Regarding:				
Client Instructions:				
17. Additional remarks:				
18. Cooler Information				
Cooler No Temp °C Condition Seal Intact Seal No 1 1.0 Good Yes	Seal Date	Signed By		,

Client: Animas Environmental Services   Turn-Around Time:  Turn-Around Time:  Turn-Around Time:		Turn-Around Time:						н	IA		FI	υv	TE	20	NI	4E	NT	ΑĹ			
		HALL ENVIRONMENTAL ANALYSIS LABORATORY													1						
,				Project Name:		www.hallenvironmental.com															
Mailing	Mailing Address: 604 W. Pinon St CORC Jianilla 153 25		4901 Hawkins NE - Albuquerque, NM 87109																		
Farmington NM 87401 Project #:		Tel. 505-345-3975 Fax 505-345-4107																			
Phone #: 505-564-7281							Analysis Request														
email or Fax#: clameman Canimasenvironmental.com			Project Mana	ger:		1	(Ślu	/ MRO)					(40	S							
QA/QC Package:					TWB'S (8021)	as				SIMS)		04,8	PCB's								
Ճ Stan			□ Level 4 (Full Validation)		CL /EM		B	(G)	DRO			SIN		)2,P	82 F						
Accreditation  NELAP Other		Sampler:			Ā	+ TPH (Gas only)	-	18.1)	94.1)	8270		3,NC	/ 80		<b>&amp;</b>				S		
	(Type)			Sample-Tem	perature	1.696			(GF	4 bc	0d 5	0 or	stals	N,	ides	8	9				ح
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX+1474	BTEX + MTBE	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310	RCRA 8 Metals	Anions (F, CI, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
27-16	835	Sail	Sc-1	# 12/28/16 MOOH KAT 2-402 jars	MeOH Cool	-col	×	-	×	X				_			ω			T	
2-27-16	915	Soil	SC-2			702	- X		X	X											$\Box$
2-27-16	840	Suil	SC-3			703	<b>x</b>		×	٨											
2-27-16	945	Soil	SC-4			704	X		X	X											
12-27-16		Soil	SC-5	· 7	1	70	10		X	X											
							1	L													
							Ш	<u> </u>											$\perp$	_	
								_										$\sqcup$	$\perp$	$\perp$	$\perp$
							+	-							_			$\vdash$	$\dashv$	_	+
							+									_			-	-	+
Date:	Time:	Relinquishe	ed by:	Received by:	ilbut	Date Time [26]		Remarks: Bill to ConocoPhilips Wolt: 21340555  Cordered By: Bol							bby?	Spear	man				
Date:	Time: \8t2	Relinquishe	1stre/ loeb	Received by:	Pow	12/26/16 080	Sperusor: Nelson, Terry  OF threa 9:  Cau w/ Questions														
	f necessary,	samples subr	mitted to Hall Errvironmental may be subc	ontracted to other a	ccredited laboratori	es. This serves as notice of th	is poss	ibility.	Any su	ub-cont	tracted	i data	will be	clear	ty nota	ated or	the ar	nalytica	il report	L	



