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	RECEIVED  By kcollins at 8:44 am, Apr 05, 2016
Proposed Alternative Method Permit or Closure Plan Application	
Type of action:  Below grade tank registration 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, belor proposed alternative method	ow-grade tank,
Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative	e request
Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water nvironment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rule	
Address: PO BOX 4289, Farmington, NM 87499  Facility or well name: HOWELL L.5	BGT CLOSED PRIOR TO CLOSURE PLAN APPROVAL
U/L or Qtr/QtrG (SWNE)       Section34Township30NRange8WCounty: San Just         Center of Proposed Design: Latitude36.769809nNLongitude107.660898nWNAD:1927 \text{\tex{\tex	
2.         □ 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         □ Lined       □ Unlined       Liner type:       Thickness      mil       □ LLDPE       □ HDPE       □ PVC       □ Other         □ String-Reinforced       Liner Seams:       □ Welded       □ Factory       □ Other	
3.    Metal   Subsection   Secondary containment with leak detection   Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off   Visible sidewalls and liner   Visible sidewalls only   Other	
4.  Alternative Method: Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for co	onsideration of approval.
5.  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 institution or church)  Four foot height, four strands of barbed wire evenly spaced between one and four feet	e, school, hospital,

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)	
7.	
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.	
<u>Variances and Exceptions:</u> 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 ☐ NA
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.  NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
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	☐ Yes ☑ No
from the ordinary high-water mark).	I res M No
- Topographic map; Visual inspection (certification) of the proposed site	
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	☐ Yes ☐ No
application.  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	
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

Previously Approved Design (attach copy of design) API Number: or Permit Number:	
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:	
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 19.15.17.12 NMAC  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	nments are
Within 500 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ 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 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 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
Permanent Pit or Multi-Well Fluid Management Pit	
Within 300 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ 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 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 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
Temporary Pit Non-low chloride drilling fluid	
Within 100 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

12.  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 H <sub>2</sub> S, 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	
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 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	luid Management Pit
14. Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be	attached to the
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	
15.	
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. I 19.15.17.10 NMAC for guidance.	rce material are Please refer to
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 ☐ NA
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	☐ 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.  - Written confirmation or verification from the municipality; Written approval obtained from the municipality  Within the area countries a subsurface mine.	
Within the area qualities a subsurface mine	☐ 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
<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	
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.  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 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 cann 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	11 NMAC 15.17.11 NMAC
17. 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 beli	ief.
Name (Print): Title:	
Signature: Date:	7975-61-5
e-mail address: Telephone:	
18.  OCD Approval: Permit Application (including closure plan) Closure Plan (only) OCD Conditions (see attachment)	
OCD Representative Signature: Approval Date: 7/12/2	016
Title: Compliance Officer 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.	the closure report. complete this
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	the closure report. complete this
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.	complete this

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: John Walker Date: 4/1/16
e-mail address: <u>crystal.walker@cop.com</u> Telephone: (505) 326-9837

# Burlington Resources Oil & Gas Company San Juan Basin: New Mexico Assets

Below Grade Tank Closure Report

**Lease Name:** Howell L 5 **API No.:** 30-045-28571

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 Requirements:**

1. Prior to initiating any BGT closure, except in the case of an emergency, BR will notify the surface owner of the intent to close the BGT by certified mail no later than 72 hours or one week before closure and a copy of this notification will be included in the closure report. In the case of an emergency, the surface owner will be notified as soon as practical.

#### The surface owner was not found.

- 2. Notice of closure will be given to the District Division office between 72 hours and one week of the scheduled closure via email or phone. The notification of closure will include the following:
  - a. Operators Name
  - b. Well Name and API Number
  - c. Location

#### Notification was not found.

3. All liquids will be removed from the BGT following cessation of operation. Produced water will be disposed of at one of COP's approved Salt Water Disposal facilities or at a District Division approved facility.

All recovered liquids were disposed of at an approved SWD facility or an approved District Division facility within 60 days of cessation of operation.

4. Solids and sludge's will be shoveled and/or vacuumed out for disposal at one of the District Division approved facilities, depending on the proximity of the BGT site: Envirotech Land Farm (Permit #NM-01-011), JFJ Land Farm % Industrial Ecosystems Inc. (Permit #NM-01-0010B), and Basin Disposal (Permit #NM-01-005).

Any sludge or soil required to be removed to facilitate closure was transported to Envirotech Land Farm (Permit # NM-01-011) and/or JFJ Landfarm % IEI (Permit# NM-01-0010B).

5. BR will obtain prior approval from District Division to dispose, recycle, reuse, or reclaim the BGT and provide documentation of the disposition of the BGT in the closure report. Steel materials will be recycled or reused as approved by the District Division. Fiberglass tanks will be empty, cut up or shredded, and EPA cleaned for disposal as solid waste. Liner materials will be cleaned without soils or contaminated material for disposal as solid waste. Fiberglass tanks and liner materials will meet the conditions of 19.15.35 NMAC. Disposal

will be at a licensed disposal facility, presently San Juan County Landfill operated by Waste Management under NMED Permit SWM-052426.

The below-grade tank was disposed of in a division-approved manner. The liner was cleaned per 19.15.35.8.C(1)(m) NMAC and disposed of at the San Juan County Regional Landfill located on CR 3100.

6. Any equipment associated with the BGT that is no longer required for some other purpose, following the closure, will be removed.

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

- 7. Following removal of the tank and any liner material, BR will test the soils beneath the BGT as follows:
  - a. At a minimum, a five-point composite sample will be taken to include any obvious stained or wet soils or any other evidence of contamination.
  - b. The laboratory sample shall be analyzed for the constituents listed in Table I of 19.15.17.13.

A five point composite sample was taken of the below-grade tank using sampling tools and all samples tested per Table I of 19.15.17.13 and the results are attached.

8. If the District Division and/or BR determine there is a release, BR will comply with 19.15.17.13.C.3b.

A release was not determined for the above referenced well.

9. Upon completion of the tank removal, pursuant to 19.15.17.13.C.3c, if all contaminant concentrations are less than or equal to the parameters listed in Table I of 19.15.17.13 NMAC, the excavation will be backfilled with non-waste earthen material compacted and covered with a minimum of one foot top soil or background thickness whichever is greater and to existing grade. The surface will be re-contoured to match the native grade and to prevent ponding.

The tank removal area passed all requirements of Table I of 19.15.17.13 NMAC and was backfilled with compacted, non-waste containing, earthen material which included at least one foot of suitable material to establish vegetation at the site.

10. For those portions of the former BGT area no longer required for production activities, BR will seed the disturbed area the first favorable growing season after the BGT is covered. Seeding will be accomplished via drilling on the contour whenever practical, or by other District Division-approved methods. BR will notify the District Division when reclamation and re-vegetation is complete.

Reclamation of the BGT shall be considered complete when:

- Vegetative cover reflects a life form ratio of +/- 50% of pre disturbance levels.
- Total percent plant cover of at least 70% of pre-disturbance levels (Excluding noxious weeds) OR
- Pursuant to 19.15.17.13.H.5d BR will comply with obligations imposed by other applicable federal or tribal agencies in which there re-vegetation and reclamation

requirements provide equal or better protection of fresh water, human health and the environment.

Provision 10 will be accomplished pursuant to 19.15.17.H.5d and notification will be submitted upon completion.

11. For those portions of the former BGT area required for production activities, reseeding will be done at well abandonment, and following the procedure noted above.

The former BGT area is not required for production activities and reseeding was completed on 9/23/14 per the procedure noted above.

#### Closure Report:

All closure activities will include proper documentation and will be submitted to OCD within 60 days of the BGT closure on a Closure Report using District Division Form C-144. The Report will include the following:

- Proof of Closure Notice (surface owner and District Division) (Not Attached)
- Backfilling & cover installation (See Report)
- Confirmation Sampling Analytical Results (Attached)
- Application Rate & Seeding techniques (See Report)
- Photo Documentation of Reclamation (Attached)

District I
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 Notifica	atio	n and Co	orrective A	ction						
						OPERA'	ГOR		☐ Initia	al Report	$\boxtimes$	Final Re	eport	
Name of Co	mpany B	urlington Re	sources (	oil & Gas Compa	any	Contact Cry	ystal Walker			•				
		<sup>th</sup> St, Farmin	gton, NM				No.(505) 326-98	37						
Facility Na	ne: Howel	1 L 5				Facility Typ	e: Gas Well							
Surface Ow	ner Federa	ıl		Mineral O	wner	Federal (SF-	078385-A)		API No	. 30-045-28	8571			
				LOCA	TIO	N OF REI	LEASE							
Unit Letter G	Section 34	Township 30N	Range 8W	Feet from the 2040	North	n/South Line North	Feet from the 2030	131775-RACEOS-11 DA 3	est Line Last	County San Juan				
<u> </u>	34		10000000	36.769809	Lo	ngitude -1	2010/06/00/07		not.	San Guan				
			January ,			OF REL	PER VAN SYSSES							
Type of Rele	ase			NAI		Volume of			Volume R	ecovered			_	
Source of Re							Iour of Occurrenc	е		Hour of Disc	covery			
Was Immedi	ate Notice C		Yes 🗆	No 🛛 Not Rec	quired	If YES, To	Whom?				25			
By Whom?						Date and H	lour							
Was a Water	course Reac						lume Impacting t	he Water	rcourse.					
			Yes 🛛 1	4o										
If a Watercon N/A	ırse was Im <sub>l</sub>	pacted, Descri	ibe Fully.*											
No release w	as encount	em and Remer ered during t	the BGT (	Closure.										
N/A	a Affected a	and Cleanup A	Action Tak	en.*										
regulations a public health should their of or the environment	Il operators or the envir operations h nment. In a	are required to conment. The ave failed to a	o report an acceptance adequately OCD accep	is true and comple d/or file certain re e of a C-141 repor investigate and re tance of a C-141 re	lease : t by tl media	notifications ar ne NMOCD m te contaminati	nd perform correct arked as "Final Roon that pose a throet the operator of the correct of the co	tive action eport" do eat to gro esponsib	ons for rele oes not reli ound water oility for co	eases which eve the oper s, surface wa ompliance w	may en ator of ter, hui ith any	idanger Tliability man health	h	
Signature:	5	Hal C	Val	Ken		OIL CONSERVATION DIVISION								
Printed Name	e: Crystal V	Valker				Approved by	Environmental Sp	pecialist:						
Title: Regul	atory Coor	dinator		was see with the		Approval Dat	e:	E	xpiration I	Date:				
E-mail Addre	ess: ci	ystal.walker@		7		Conditions of Approval:  Attached								
2 000	1.	ets If Necess		***						1				



January 28, 2013

Crystal Tafoya ConocoPhillips San Juan Business Unit Office 214-05 5525 Hwy 64 Farmington, New Mexico 87401 www.animasenvironmental.com

624 E. Comanche Farmington, NM 87401 505-564-2281

> Durango, Colorado 970-403-3084

RE: Below Grade Tank Closure Report

Howell L #5

San Juan County, New Mexico

Dear Ms. Tafoya:

Animas Environmental Services, LLC (AES) is pleased to provide the final report associated with the below grade tank (BGT) closure at ConocoPhillips (CoP) Howell L #5, located in San Juan County, New Mexico. Tank removal had been completed by CoP contractors prior to AES' arrival at the location.

#### 1.0 Site Information

#### 1.1 Location

Site Name - Howell L #5

Legal Description – SW¼ NE¾, Section 34, T30N, R8W, San Juan County, New Mexico Well Latitude/Longitude – N36.76995 and W107.66075, respectively BGT Latitude/Longitude – N36.76978 and W107.66086, respectively Land Jurisdiction – Bureau of Land Management (BLM)

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map, December 2012

#### 1.2 NMOCD Ranking

Prior to site work, the New Mexico Oil Conservation Division (NMOCD) database was reviewed, and a cathodic report dated January 1994 for the Howell L #5 reported the depth to groundwater as 160 feet below ground surface (bgs). The New Mexico Office of the State Engineer (NMOSE) database was reviewed for nearby water wells, and no registered water wells were reported to be located within 1,000 feet of the location. Additionally, Google Earth and the New Mexico Tech Petroleum Recovery Research

Crystal Tafoya Howell L #5 BGT Closure Report January 28, 2013 Page 2 of 5

Center online mapping tool (<a href="http://ford.nmt.edu/react/project.html">http://ford.nmt.edu/react/project.html</a>) were accessed to aid in the identification of downgradient surface water.

Once on site, AES personnel further assessed the ranking using topographical interpretation, Global Positioning System (GPS) elevation readings, and visual reconnaissance. AES personnel concluded that depth to groundwater at the site was greater than 100 feet bgs. An unnamed wash which drains to Escarbada Canyon is located approximately 115 feet south of the location. Based on this information, the location was assessed a ranking score of 20.

#### 1.3 BGT Closure Assessment

AES was initially contacted by Bruce Yazzie, CoP representative, on December 19, 2012, and on December 20, 2012, Deborah Watson and Heather Woods of AES mobilized to the location. AES personnel collected six soil samples from below the BGT liner. Four samples were collected from the perimeter of the BGT footprint, one sample was collected from the center of the BGT footprint, and one sample was composited from the four perimeter samples and one center sample.

# 2.0 Soil Sampling

On December 20, 2012, AES personnel conducted field screening and collected five soil samples (S-1 through S-5) and one 5-point composite (SC-1) from below the BGT. Soil samples were collected from approximately 0.5 feet below the former BGT for field screening of volatile organic compounds (VOCs) and total petroleum hydrocarbon (TPH). Soil sample SC-1 was field screened for chloride and was submitted for confirmation laboratory analysis. Soil sample locations are included on Figure 2.

## 2.1 Field Screening

#### 2.1.1 Volatile Organic Compounds

A portion of each sample was utilized for field screening of VOC vapors with a photo-ionization detector (PID) organic vapor meter (OVM). Before beginning field screening, the PID-OVM was first calibrated with 100 parts per million (ppm) isobutylene gas.

#### 2.1.2 Total Petroleum Hydrocarbons

Soil samples were also analyzed in the field for TPH per 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.

#### 2.1.3 Chlorides

Soil sample SC-1 was field screened for chlorides using Chloride Drop Count Titration with silver nitrate. Sampling and analysis methods followed procedures provided by Hach Company.

## 2.2 Laboratory Analyses

The composite soil sample SC-1 collected for laboratory analysis was placed into a new, clean, laboratory-supplied container, which was then labeled, placed on ice, and logged onto a sample chain of custody record. The sample was maintained on ice until delivery to the analytical laboratory, Hall Environmental Analysis Laboratory (Hall), in Albuquerque, New Mexico. Soil sample SC-1 was laboratory analyzed for:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) per U.S. Environmental Protection Agency (USEPA) Method 8021B; and
- Chloride per USEPA Method 300.0.

#### 2.3 Field and Laboratory Analytical Results

Field screening readings for VOCs via OVM ranged from 0.2 ppm in S-2 up to 1.3 ppm in S-3 and S-5. Field TPH concentrations ranged from less than 20.0 mg/kg in S-2 through S-5 up to 21.6 mg/kg in S-1. The field chloride concentration in SC-1 was 60 mg/kg. Field screening results are summarized in Table 1 and presented on Figure 2. The AES Field Screening Report is attached.

Table 1. Soil Field Screening VOCs, TPH, and Chloride Results
Howell I #5 BGT Closure, December 2012

Sample ID	Date Sampled	Depth below BGT (ft)	VOCs OVM Reading (ppm)	Field TPH (mg/kg)	Field Chlorides (mg/kg)
NMOCD Action I	evel (NMAC 19.	15.17.13E)	3 <b>5.5</b>	100	250
S-1	12/20/12	0.5	0.4	21.6	NA
S-2	12/20/12	0.5	0.2	<20.0	NA
S-3	12/20/12	0.5	1.3	<20.0	NA
S-4	12/20/12	0.5	1.1	<20.0	NA
S-5	12/20/12	0.5	1.3	<20.0	NA
SC-1	12/20/12	0.5	NA	NA	60

NA - not analyzed

Laboratory analytical results reported benzene and total BTEX concentrations in SC-1 as less than 0.050 mg/kg and 0.25 mg/kg, respectively. The laboratory chloride concentration was reported below the laboratory detection limit of 30 mg/kg. Laboratory analytical results are summarized in Table 2 and included on Figure 2. Laboratory analytical reports are attached.

Table 2. Soil Laboratory Analytical Results Howell L #5 BGT Closure, December 2012

Sample ID	Date Sampled	Depth (ft)	Benzene (mg/kg)	BTEX (mg/kg)	TPH- GRO (mg/kg)	TPH- DRO (mg/kg)	Chlorides (mg/kg)	
NMOCD Action	Level (NMAC 19.15	.17.13E)	0.2	50	00	250		
SC-1	12/20/12	0.5	<0.050	<0.25	NA	NA	<30	

NA - not analyzed

#### 3.0 Conclusions and Recommendations

NMOCD action levels for BGT closures are specified in New Mexico Administrative Code (NMAC) 19.15.17.13E. Field TPH concentrations were below the NMOCD action level of 100 mg/kg, with the highest concentration reported in S-1 with 21.6 mg/kg. Benzene and total BTEX concentrations in SC-1 were below the NMOCD action levels of 0.2 mg/kg and 50 mg/kg, respectively. Chloride concentrations in SC-1 were below the NMOCD action level of 250 mg/kg. Based on field screening and laboratory analytical results for benzene, total BTEX, TPH, and chlorides, no further work is recommended at the Howell L #5.

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

Sincerely,

Landrea Cupps

**Environmental Scientist** 

Landre R. Cupps

Elizabeth McNally, P.E.

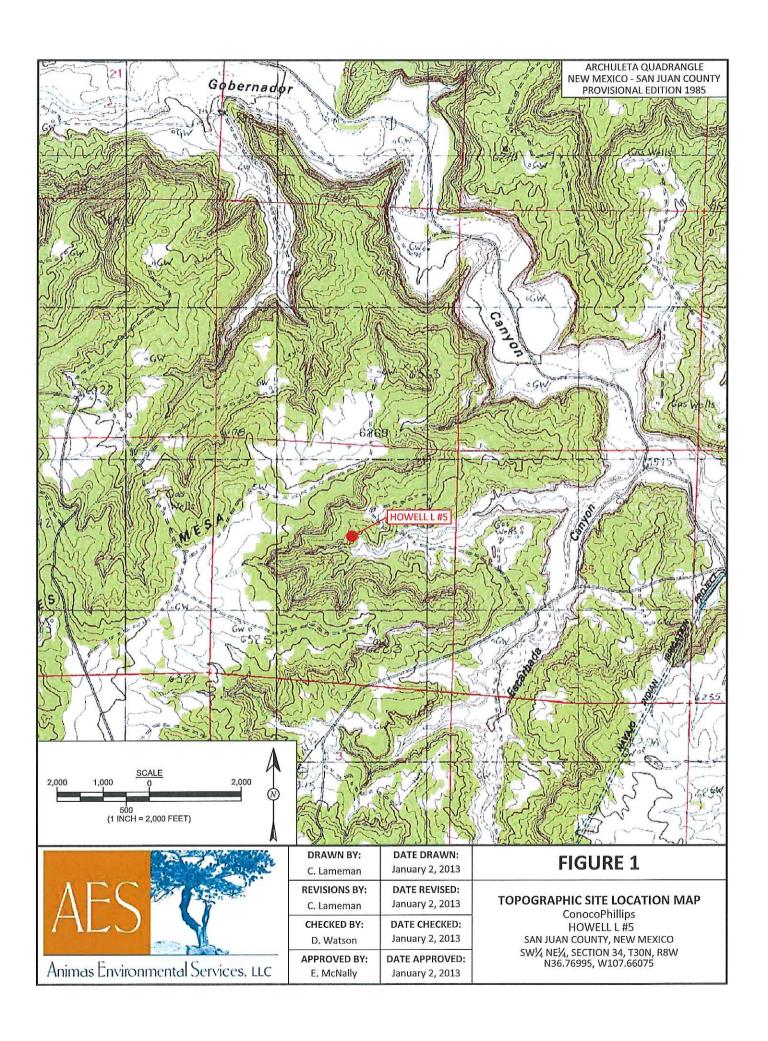
Elizabeth V McNelly

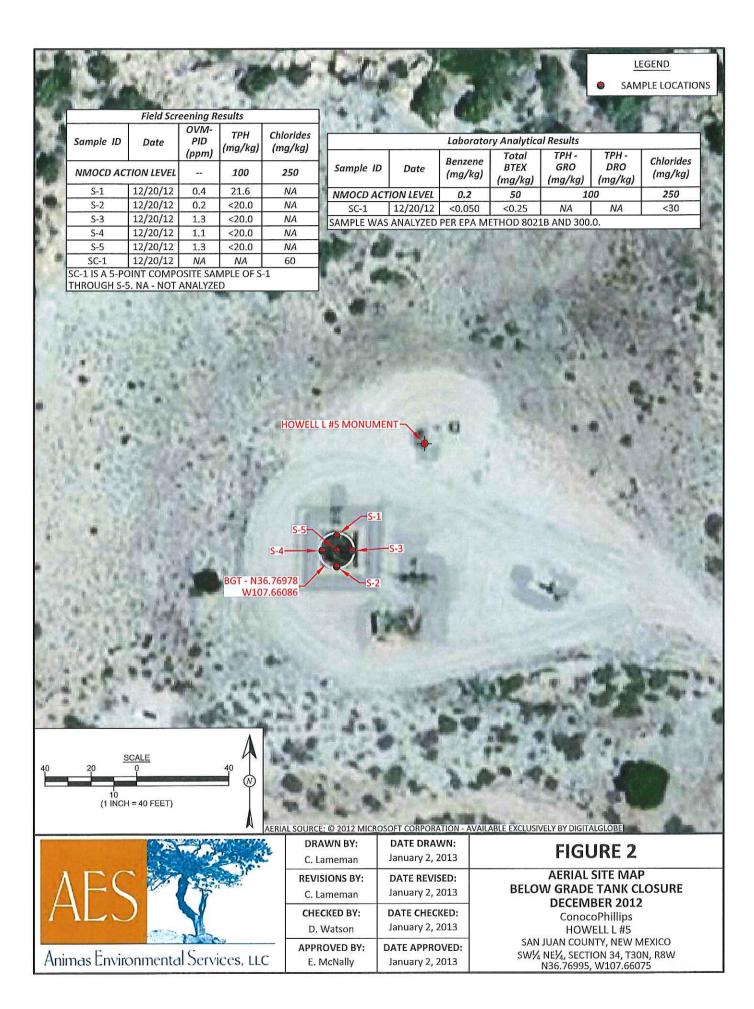
Crystal Tafoya Howell L #5 BGT Closure Report January 28, 2013 Page 5 of 5

#### Attachments:

Figure 1. Topographic Site Location Map Figure 2. Aerial Site Map, December 2012 AES Field Screening Report 122012 Hall Analytical Report 1212974

R:\Animas 2000\Dropbox\2013 Projects\ConocoPhillips\Howell L #5\Howell L #5 BGT Closure Report 012813.docx





# **AES Field Screening Report**

Client: ConocoPhillips

Project Location: Howell L #5

Date: 12/20/2012

Matrix: Soil

Animas Environmental Services. LLC www.animasenvironmental.com

Durango, Colorado 970-403-3274

624 E. Comanche Farmington, NM 87401 505-564-2281

		Time of			Field	Field TPH				TPH
_	Collection	Sample	Sample	OVM	Chloride	Analysis	Field TPH*	TPH PQL		Analysts
	Date	Collection	Location	(mdd)	(mg/kg)	Time	(mg/kg)	(mg/kg)	DF	Initials
` '	12/20/2012	9:31	North	0.4	NA	15:54	21.6	20.0	1	DAW
	12/20/2012	9:32	South	0.2	NA	15:56	<20.0	20.0	1	DAW
	12/20/2012	9:34	East	1.3	NA	15:58	<20.0	20.0	1	DAW
	12/20/2012	9:36	West	1.1	NA	16:00	<20.0	20.0	Ц	DAW
	12/20/2012	9:38	Center	1.3	NA	16:02	<20.0	20.0	1	DAW
	12/20/2012	9:40	Composite	NA	09		Not And	Not Analyzed for Field TPH	ТРН	

PQL Practical Quantitation Limit

ND Not Detected at the Reporting Limit

DF Dilution Factor

VA Not Analyzed

\*Field TPH concentrations recorded may be below PQL.

Silver Nitrate
Total Petroleum Hydrocarbons - USEPA 418.1
Analyst:

Field Chloride - Quantab Chloride Titrators or Drop Count Titration with



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

OrderNo.: 1212974

December 28, 2012

Debbie Watson Animas Environmental Services 624 East Comanche Farmington, NM 87401 TEL: (505) 486-4071

FAX

RE: COP Howell L #5

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/21/2012 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 <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. 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.

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

#### **Analytical Report**

Lab Order 1212974

Date Reported: 12/28/2012

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental Services

Project: COP Howell L #5

Lab ID: 1212974-001

Client Sample ID: SC-1

Collection Date: 12/20/2012 9:40:00 AM

Received Date: 12/21/2012 9:55:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed					
EPA METHOD 8021B: VOLATILES					Analyst: NSB					
Benzene	ND	0.050	mg/Kg	1	12/21/2012 12:23:18 PM					
Toluene	ND	0.050	mg/Kg	1	12/21/2012 12:23:18 PM					
Ethylbenzene	ND	0.050	mg/Kg	1	12/21/2012 12:23:18 PM					
Xylenes, Total	ND	0.10	mg/Kg	1	12/21/2012 12:23:18 PM					
Surr: 4-Bromofluorobenzene	106	80-120	%REC	1	12/21/2012 12:23:18 PM					
EPA METHOD 300.0: ANIONS					Analyst: SRM					
Chloride	ND	30	mg/Kg	20	12/21/2012 2:31:46 PM					

Matrix: SOIL

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits Page 1 of 2

# QC SUMMARY REPORT

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1212974

28-Dec-12

Client:

Animas Environmental Services

Project:

COP Howell L #5

Sample ID MB-5409

SampType: MBLK

TestCode: EPA Method 300.0: Anions

Client ID: PBS

Prep Date:

12/21/2012

Batch ID: 5409 Analysis Date: 12/21/2012 RunNo: 7711

SeqNo: 224045

Units: mg/Kg

HighLimit

%RPD

%RPD

**RPDLimit** 

Qual

Analyte Chloride

PQL ND 1.5

SampType: LCS Batch ID: 5409 TestCode: EPA Method 300.0: Anions

RunNo: 7711

Units: mg/Kg

Analyte

Prep Date: 12/21/2012

Sample ID LCS-5409

Client ID: LCSS

Analysis Date: 12/21/2012

SeqNo: 224046

SPK value SPK Ref Val %REC LowLimit

Chloride

Result 14

Result

SPK value SPK Ref Val PQL

1.5

15.00

%REC 92.4

LowLimit

HighLimit 110 **RPDLimit** 

Qual

Sample ID 1212976-001BMS

Client ID: BatchQC

Prep Date: 12/21/2012

SampType: MS

Batch ID: 5409

TestCode: EPA Method 300.0: Anions

RunNo: 7711 SeqNo: 224049

90

Units: mg/Kg

Analyte Chloride

Analysis Date: 12/21/2012 Result PQL

SPK value SPK Ref Val

%REC

LowLimit 64.4 72.1

HighLimit %RPD 117

**RPDLimit** 

Qual

Sample ID 1212976-001BMSD

SampType: MSD Batch ID: 5409 TestCode: EPA Method 300.0: Anions

RunNo: 7711

Prep Date: Analyte

Chloride

Client ID:

**BatchQC** 12/21/2012

Analysis Date: 12/21/2012

SegNo: 224051

Units: mg/Kg

Qual

Result

300

PQL

30

15.00

SPK value SPK Ref Val

285.3

%REC

LowLimit 64.4 HighLimit

%RPD

**RPDLimit** 

S

290

30

15.00 285.3

41.3

117

1.57

20

# Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH greater than 2

- Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit RPD outside accepted recovery limits

Page 2 of 2



11au Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: Animas Environmental Work Order Number: 1212974 Received by/date: Logged By: 12/21/2012 9:55:00 AM **Anne Thorne** Completed By: **Anne Thorne** 12/21/2012 Reviewed By: 12/21//2 Chain of Custody Yes 🗌 No 🗌 Not Present 1 Were seals intact? Yes V No Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In Yes V No 🗆 NA 🗆 4. Coolers are present? (see 19. for cooler specific information) Yes V No 🗌 NA 🗆 5. Was an attempt made to cool the samples? Yes V No NA 🔲 Were all samples received at a temperature of >0° C to 6.0°C Yes 🗹 No 🗌 7. Sample(s) in proper container(s)? Yes 🗸 No 🗌 8 Sufficient sample volume for indicated test(s)? Yes 🗸 No 🗌 9. Are samples (except VOA and ONG) properly preserved? Yes 🗌 No 🗹 NA 🗌 10: Was preservative added to bottles? Yes ☐ No ☐ No VOA Vials ☑ 11, VOA vials have zero headspace? Yes No V 12. Were any sample containers received broken? # of preserved Yes V No 13. Does paperwork match bottle labels? bottles checked (Note discrepancies on chain of custody) for pH: 14. Are matrices correctly identified on Chain of Custody? Yes V No (<2 or >12 unless noted) Adjusted? Yes V No 15. Is it clear what analyses were requested? Yes 🗸 No 🗌 16. Were all holding times able to be met? (If no, notify customer for authorization.) Checked by: Special Handling (if applicable) 17. Was client notified of all discrepancies with this order? Yes No No NA V Person Notified: Date By Whom: eMail Phone Fax In Person Regarding: **Client Instructions:** 18. Additional remarks: 19. Cooler Information Condition | Seal Intact | Seal No | Seal Date Cooler No Temp °C 1.0 Good Yes

	# Rush Same Day ANALYSIS LABORATORY	www.hallenvironmental.com	≠ S 4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	(les)	o ese) eld\es	15B (G 181) 141) 141) 141) 141) 141)	\(\Lambda\)\(\daggerapprox\)\(\daggerapp	Preservative Type Type BTEX + MTI	**						Date Time Remarks: Bill to Conoco Phillips	12 1531 WO: 10342215	Time Activity: C200	This serves as matrice of this
Chain-of-Custody Record Turn-Around Time:	Client: Animas Environmentel Struces	Project Name:	Mailing Address: Lo24 E. Cornanda		564-2281	email or Fax#: Project Manager:	QA/QC Package:	n Other	□ EDD (Type)	Date Time Matrix Sample Request ID Container Type and #	12/29/12 940 Soil SC-1 MEDHULT						Time: Relinquished by:	c 1531 Heath M. Woods	Safe: Time: Relinquished by:	



