#### State of New Mexico Energy Minerals and Natural Resources

Form C-144 July 21, 2008

District II 1301 W. Grand Ave., Artesia, NM 88210

1000 Rio Brazos Rd., Aztec, NM 87410

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

For temporary pits, closed-loop sytems, and below-grade tanks, submit to the appropriate NMOCD District Office.

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

District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

District III

<u>P11,</u>	Closea-Loc	op Syster	n, Belov	<i>N</i> -Grade 1	ank, o	<u>r</u>	
Proposed	Alternative	Method	Permit e	or Closure	e Plan	Applicati	<u>ion</u>

Type of action:	Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
2) pr 01 azum	X Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
	Modification to an existing permit
	Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system,
	below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please 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.

Operator: Burlington Resources Oil & Gas Company, LP OGRID#: 14538
Address: PO Box 4289, Farmington, NM 87499
Facility or well name: Atlantic A 8B
API Number:         30-045-35086         OCD Permit Number:
U/L or Qtr/Qtr: E(SW/NW) Section: 29 Township 31N Range: 10W County: SAN JUAN
Center of Proposed Design: Latitude: 36.87146 °N Longitude: 107.91064 °W NAD: X 1983
Surface Owner: X Federal State Private Tribal Trust or Indian Allotment
2         X         Pit:         Subsection F or G of 19.15.17.11 NMAC         RCVD JAN 30 '14           Temporary:         Drilling         Workover         OIL CONS. DIV.           Permanent         Emergency         X Cavitation         P&A (Pre-set)         DIST. 3
Lined Unlined Liner type: Thickness mil LLDPE HDPE PVC Other
String-Reinforced
Liner Seams: Welded Factory Other Volume: bbl Dimensions L x W x D
Closed-loop System: Subsection H of 19.15.17.11 NMAC   Type of Operation: P&A Drilling a new well Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)   Drying Pad Above Ground Steel Tanks Haul-off Bins Other Lined Unlined Liner type: Thickness mil LLDPE HDPE PVD Other Liner Seams: Welded Factory Other
Below-grade tank: Subsection I of 19.15.17.11 NMAC  Volume: bbl Type of fluid:  Tank Construction material:  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
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 pit, 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, instance of barbed wire evenly spaced between one and four feet  Alternate. Please specify	titution or chu	rch)
7		
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)		
Signs: Subsection C of 19.15.17.11 NMAC  12" X 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers  X Signed in compliance with 19.15.3.103 NMAC		
Administrative Approvals 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:		
X Administrative approval(s): Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for cons (Cavitation pit for Pre-set)	ideration of ap	proval.
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.		
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 acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau Office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above grade-tanks associated with a closed-loop system.		
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.  - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes	□No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other 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.	Yes	No
(Applies to temporary, emergency, or cavitation pits and below-grade tanks)	□NA	
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image		
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  (Applied to permanent pits)	Yes NA	No
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image		
Within 500 horizonal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.	Yes	No
- NM Office of the State Engineer - iWATERS database search; 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 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 500 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	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	Yes	No
Within a 100-year floodplain - FEMA map	Yes	No

Temporary Pits, Emergency Pits and Below-grade Tanks Permit Application Attachment 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 (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 19.15.17.9 NMAC and 19.15.17.13 NMAC
Previously Approved Design (attach copy of design)  API  or Permit
12
Closed-loop Systems Permit Application Attachment 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.  Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
Siting Criteria Compliance Demonstrations (only for on-site closure) - 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 19.15.17.9  NMAC and 19.15.17.13 NMAC
Previously Approved Design (attach copy of design)  API
Previously Approved Operating and Maintenance Plan API
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 (I) 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 hased were the appropriate requirements of Subsection C of 10.15.17.0 NIMAC and 10.15.17.13 NIMAC
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 X Cavitation P&A Permanent Pit Below-grade Tank Closed-loop System 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
Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
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.    Drotocols and Procedures   based appropriate requirements of 19.15.17.13 NIMAC
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 F of 19.15.17.13 NMAC
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F 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 I of 19.15.17.13 NMAC
Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

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Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Ste Instructions: Please identify the facility or facilities for the disposal of liquids, drilling	el Tanks or Haul-oft Bins Only: (19.15.17.13.D NMAC) if fluids and drill cuttings. Use attachment if more than two	
facilities are required.		
Disposal Facility Name: Envirotech / JFJ Landfarm % IEI	Disposal Facility Permit #: NM-01-0011 / NM-01-00	)10B
Disposal Facility Name: Basin Disposal Facility	Disposal Facility Permit #: NM-01-005	
Will any of the proposed closed-loop system operations and associated activities  Yes (If yes, please provide the information No	es occur on or in areas that will not be used for future	service and
Required for impacted areas which will not be used for future service and operations:		
Soil Backfill and Cover Design Specification - based upon the appropri  Re-vegetation Plan - based upon the appropriate requirements of Subse	•	
Site Reclamation Plan - based upon the appropriate requirements of Sul		
17 Siting Criteria (Regarding on-site closure methods only: 19.15.17.10 NMA)		
Instructions: Each siting criteria requires a demonstration of compliance in the closure plan.	Recommendations of acceptable source material are provided	
certain siting criteria may require administrative approval from the appropriate district offic office for consideration of approval. Justifications and/or demonstrations of equivalency are	· ·	the Santa Fe Environmental Bureau
Ground water is less than 50 feet below the bottom of the buried waste.  - NM Office of the State Engineer - iWATERS database search; USGS: Data obt	ninad from nearby wells	∐Yes ∐No □N/A
- Not Office of the State Englished - TWATERS database scalen, 0303. Data dol	amed non-nearby wens	
Ground water is between 50 and 100 feet below the bottom of the buried waste		Yes No
- NM Office of the State Engineer - iWATERS database search; USGS; Data obta	ined from nearby wells	∐N/A
Ground water is more than 100 feet below the bottom of the buried waste.		Yes No
- NM Office of the State Engineer - iWATERS database search; USGS; Data obta	ined from nearby wells	N/A
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other signific	eant watercourse or lakebed, sinkhole, or playa lake	☐Yes ☐No
(measured from the ordinary high-water mark).	, and the second of the second	
- Topographic map; Visual inspection (certification) of the proposed site		
Within 300 feet from a permanent residence, school, hospital, institution, or church in o	existence at the time of initial application.	Yes No
- Visual inspection (certification) of the proposed site; Aerial photo; satellite image	·	
		∐Yes ∐No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less that purposes, or within 1000 horizontal fee of any other fresh water well or spring, in exist		
- NM Office of the State Engineer - iWATERS database; Visual inspection (certific		
Within incorporated municipal boundaries or within a defined municipal fresh water wa	ell field covered under a municipal ordinance adopted	Yes No
pursuant to NMSA 1978, Section 3-27-3, as amended.  - Written confirmation or verification from the municipality; Written approval obta	ined from the municipality	
Within 500 feet of a wetland	aned from the mannerpainty	∏Yes ∏No
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual insp	ection (certification) of the proposed site	
Within the area overlying a subsurface mine.	•	Yes No
- Written confirantion or verification or map from the NM EMNRD-Mining and N	lineral Division	
Within an unstable area.		Yes No
<ul> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; M Topographic map</li> </ul>	ineral Resources; USGS; NM Geological Society;	
Within a 100-year floodplain.	1	∏Yes ∏No
- FEMA map		
18		
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each	of the following items must bee attached to the closi	ıre plan. Please indicate,
by a check mark in the box, that the documents are attached.		
Siting Criteria Compliance Demonstrations - based upon the appropriat		
Proof of Surface Owner Notice - based upon the appropriate requireme		
Construction/Design Plan of Burial Trench (if applicable) based upon t		10.15.17.11.NMA.C
Construction/Design Plan of Temporary Pit (for in place burial of a dry  Protocols and Procedures - based upon the appropriate requirements of		17.13.17.11 NWIAC
Confirmation Sampling Plan (if applicable) - based upon the appropriate		1
X   Waste Material Sampling Plan - based upon the appropriate requirement	·	
Waste Material Samping Fian - based upon the appropriate requirement     Disposal Facility Name and Permit Number (for liquids, drilling fluids)		annot be achieved)
Soil Cover Design - based upon the appropriate requirements of Subsec		
Re-vegetation Plan - based upon the appropriate requirements of Subse		
Site Reclamation Plan - based upon the appropriate requirements of Su		

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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 belief.
Name (Drive)
e-mail address: Telephone:
# OCD Approval: Permit Application (including closure plan)   Closure Plan (only)   OCD Conditions (see attachment)  OCD Representative Signature: Approval Date: 2/21/2014  Title: OCD Permit Number:
21
Closure Report (required within 60 days of closure completion): Subsection K of 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. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.
A Grount Completion Part.
Closure Method:  Waste Excavation and Removal On-site Closure Method X Alternative Closure Method Waste Removal (Closed-loop systems only)  If different from approved plan, please explain.
# <u>Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:</u> Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.
Disposal Facility Name:  Disposal Facility Permit Number:
Disposal Facility Name: Disposal Facility Permit Number: Were the closed-loop system operations and associated activities performed on or in areas that will not be used for future service and operations?
Yes (If yes, please demonstrate compliance to the items below)
Required for impacted areas which will not be used for future service and operations:  Site Reclamation (Photo Documentation)  Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seeding Technique
24
Closure Report Attachment Checklist: Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.  Proof of Closure Notice (surface owner and division)  Proof of Deed Notice (required for on-site closure)  Plot Plan (for on-site closures and temporary pits)  Confirmation Sampling Analytical Results (if applicable)  Waste Material Sampling Analytical Results (if applicable)  Disposal Facility Name and Permit Number  Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seeding Technique  Site Reclamation (Photo Documentation)  On-site Closure Location: Latitude: 36.87146 Longitude: 107.91064 NAD 1927 X 1983
Operator Closure Certification:  I hereby certify that the information and attachments submitted with this closure report is ture, 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): Kenny Davis Title: Staff Regulatory Technician
Signature: Date: 1/29/2014
e-mail address: kency.r.davis@conocophillips.com Telephone: 505-599-4045

# Burlington Resources Oil & Gas Company, LP Cavitation Pit for Closed-Loop Locations

Design: Atlantic A 8B

Burlington Resources Oil & Gas Company, LP will use a cavitation pit plan when the surface casing will be pre-set on closed-loop locations. The drill cuttings will be stockpiled on the surface.

#### **Operations and Maintenance:**

The cavitation pit will be operated and maintained as follows:

- 1. Only Fresh water and air will be used in the drilling of the surface casing.
- 2. The Cement used will be: Neat Cement with no additives.
- 3. All of the fluids will be removed within 48hrs after drilling.
- 4. A representative five point composite sample will be taken of the drill cuttings, after the setting of the surface casing is complete, using sampling tools and all samples will be tested per Subsection B of 19.15.17.13(B)(1)(b). In the event that the testing criteria is not met, all contents will be dug and hauled per Subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13 i.e.

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	2500 .
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	500

5. The NMOCD will be notified via email of the test results of the cavitation surface as follows:

Components	Tests Method	Limit (mg/Kg)	Results
Benzene	EPA SW-846 8021B or 8260B	0.2	ND
BTEX	EPA SW-846 8021B or 8260B	50	.86
TPH	EPA SW-846 418.1	2500	120
GRO/DRO	EPA SW-846 8015M	500	13
Chlorides	EPA 300.1	500	ND

#### Closure Plan:

- 1. The NMOCD will be notified of the sample results and the intent to start the closure process 3-7 days prior to the drill cuttings being transported, moved, or distributed on location.
- 2. In the event the criteria are not met, all solids and liquids will be removed and disposed of at Envirotech (Permit #NM-01-0011) and/or Basin Disposal Facility (Permit #NM-01-005) and/or JFJ Landfarm % Industrial Ecosystem Inc. (Permit # NM-01-0010B).
- 3. Testing results will be submitted with the Closure Report of the well locations Closed-Loop Permit on Form C-144.

Burlington Resources is aware that approval of this plan does not relieve Burlington Resources of liability should operations result in pollution of surface water, ground water, or the environment. Nor does approval relieve ConocoPhillips of its responsibility to comply with any other applicable governmental authority's rules and regulations.



### **Analytical Report**

#### **Report Summary**

Client: ConocoPhillips

Chain Of Custody Number: 16548

Samples Received: 1/23/2014 7:35:00AM

Job Number: 96052-1706

Work Order: P401064

Project Name/Location: Atlantic A 8B

Entire Report Reviewed By:

Date: 1/28/14

Tim Cain, Laboratory Manager

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.





Project Name:

Atlantic A 8B

PO Box 2200 Bartlesville OK, 74005 Project Number: Project Manager: 96052-1706 Kenny R Davis Reported:

28-Jan-14 13:50

## **Analyical Report for Samples**

Client Sample 1D	Lab Sample ID	Matrix	Sampled	Received	Container
Preset Closure	P401064-01A	Soil	01/20/14	01/23/14	Glass Jar, 4 oz.





Project Name:

Atlantic A 8B

PO Box 2200 Bartlesville OK, 74005 Project Number:

96052-1706

Project Manager:

Kenny R Davis

**Reported:** 28-Jan-14 13:50

#### Preset Closure P401064-01 (Solid)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1404018	01/23/14	01/27/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1404018	01/23/14	01/27/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1404018	01/23/14	01/27/14	EPA 8021B	
p,m-Xylene	0.77	0.05	mg/kg	1	1404018	01/23/14	01/27/14	EPA 8021B	
o-Xylene	0.09	0.05	mg/kg	1	1404018	01/23/14	01/27/14	EPA 8021B	
Total Xylenes	0.86	0.05	mg/kg	1	1404018	01/23/14	01/27/14	EPA 8021B	
Total BTEX	0.86	0.05	mg/kg	1	1404018	01/23/14	01/27/14	EPA 8021B	
Surrogate: Bromochlorobenzene		88.8 %	80	-120	1404018	01/23/14	01/27/14	EPA 8021B	
Surrogate: 1,3-Dichlorobenzene		94.2 %	80	-120	1404018	01/23/14	01/27/14	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	13.0	4.99	mg/kg	1	1404018	01/23/14	01/27/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	<b>2</b> 9.9	mg/kg	1	1404019	01/23/14	01/27/14	EPA 8015D	
Total Petroleum Hydrocarbons by 418.1									
Total Petroleum Hydrocarbons	120	20.0	mg/kg	1	1404023	01/23/14	01/23/14	EPA 418.1	
Cation/Anion Analysis									
Chloride	ND	9.96	mg/kg	ı	1404021	01/23/14	01/23/14	EPA 300.0	





Project Name:

Atlantic A 8B

PO Box 2200

Project Number: Project Manager:

Reporting

96052-1706

Spike

Source

**Reported:** 28-Jan-14 13:50

RPD

%REC

Bartlesville OK, 74005

Kenny R Davis

### Volatile Organics by EPA 8021 - Quality Control

#### **Envirotech Analytical Laboratory**

Matrix Spike (1404018-MS1)         Source: P401062-01         Prepared: 22-Jan-14 Analyzed: 27-Jan-14           Benzene         45.6         ug/L         50.0         ND         91.2         39-150           Toluene         87.2         "         50.0         35.6         103         46-148           Ethylbenzene         74.4         "         50.0         20.9         107         32-160           p,m-Xylene         428         "         100         303         126         46-148           o-Xylene         120         "         50.0         66.0         109         46-148	Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Benzene         ND         0.05         mg/kg           Toltene         ND         0.05         "           Eltylbenzene         ND         0.05         "           on-Xylene         ND         0.05         "           o-Xylene         ND         0.05         "           Total Xylenes         ND         0.05         "           Total BTEX         ND         0.05         "           Surrogate: 1,3-Dichlorobenzene         45.7         ug/L         50.0         91.4         80-120           Surrogate: Bromochlorobenzene         46.0         "g/L         50.0         91.4         80-120           Duplicate (1404018-DUP1)         Source: P401062-1*         Prepared: 22-Jan-14         Analyzed: 27-Jan-14         30           Toluene         1.81         0.05         "g/L         1.78         1.64         30           Toluene         1.81         0.05         "g/L         1.64         3.50         30           Elhylbenzene         1.08         0.05         "g/L         1.51         3.50         30           Surrogate: 1,3-Dicklorobenzene         66.5         ug/L         5.0         1.33         80-120           Surrogate: Br	Batch 1404018 - Purge and Trap EPA	5030A									
Toluene	Blank (1404018-BLK1)										
Ethylbenzene   ND   0.05   "	Benzene	ND	0.05	mg/kg							
p,m-Xylene         ND         0.05         "           o-Xylene         ND         0.05         "           Total Xylenes         ND         0.05         "           Total BTEX         ND         0.05         "           Surrogate: Bromochlorobenzene         45.7         "         50.0         91.4         80-120           Duplicate (1404018-DUP1)         Source: P401062-V         Prepared: 22-Jan-14         Analyzed: 27-Jan-14         30           Benzene         ND         0.05         mg/Rg         ND         30         30           Totuene         1.81         0.05         "         1.78         1.64         30           Einlythenzene         1.08         0.05         "         1.178         1.64         30           Einlythenzene         1.08         0.05         "         1.178         1.64         30           Einlythenzene         1.08         0.05         "         1.178         1.64         30           Surrogate: 1,3-Dichlorobenzene         66.5         ug/L         50.0         133         80-120           Matrix Spike (1404018-MS1)         Source: P401062-V         Prepared: 22-Jan-14         Analyzed: 27-Jan-14	Toluene	ND	0.05	er							
ND	Ethylbenzene	ND	0.05	u							
Total Nylenes	p,m-Xylene	ND	0.05	er							
Total BTEX   ND   0.05   "	o-Xylene	ND	0.05	w							
Surrogate: 1,3-Dichlorobenzene   45,7   ug/L   50,0   91,4   80-120	Total Xylenes	ND	0.05	u							
Surrogate: Bromochlorobenzene         46.0         " 50.0         92.1         80-120           Duplicate (1404018-DUP1)         Source: P401062-01         Prepared: 22-Jan-14         Analyzed: 27-Jan-14           Benzene         ND         0.05 mg/kg         ND         30           Toluene         1.81         0.05 "         1.78         1.64         30           Ethylbenzene         1.08         0.05 "         15.1         2.58         30           p,m-Xylene         15.5         0.05 "         15.1         2.58         30           o-Xylene         3.42         0.05 "         3.30         30         30           Surrogate: 1,3-Dichlorobenzene         66.5         ug/L         50.0         133         80-120           Surrogate: Bromochlorobenzene         56.1         "         50.0         133         80-120           Matrix Spike (1404018-MS1)         Source: P401062-01         Prepared: 22-Jan-14         Analyzed: 27-Jan-14         80-120           Benzene         45.6         ug/L         50.0         ND         91.2         39-150           Toluene         87.2         "         50.0         20.9         107         32-160           p,m-Xylene <td< td=""><td>Total BTEX</td><td>ND</td><td>0.05</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Total BTEX	ND	0.05								
Duplicate (1404018-DUP1)   Source: P401062-01   Prepared: 22-Jan-14   Analyzed: 27-Jan-14	Surrogate: 1,3-Dichlorobenzene	45.7		ug/L	50.0		91.4	80-120			
Benzene   ND   0.05   mg/kg   ND   30	Surrogate: Bromochlorobenzene	46.0		"	50.0		92.1	80-120			
Toluene         1.81         0.05         "         1.78         1.64         30           Ethylbenzene         1.08         0.05         "         1.04         3.50         30           p,m-Xylene         15.5         0.05         "         15.1         2.58         30           o-Xylene         3.42         0.05         "         3.30         3.79         30           Surrogate: 1,3-Dichlorobenzene         66.5         ug/L         50.0         133         80-120           Matrix Spike (1404018-MS1)         Source: P401062-01         Prepared: 22-Jan-14         Analyzed: 27-Jan-14           Benzene         45.6         ug/L         50.0         ND         91.2         39-150           Toluene         87.2         "         50.0         35.6         103         46-148           Ethylbenzene         74.4         "         50.0         20.9         107         32-160           p,m-Xylene         428         "         100         303         126         46-148           o-Xylene         120         "         50.0         66.0         109         46-148           Surrogate: 1,3-Dichlorobenzene         69.0         "         50.0	Duplicate (1404018-DUP1)	Sour	ce: P401062-	01	Prepared: 2	22-Jan-14 A	Analyzed: 2	27-Jan-14			
Ethylbenzene 1.08 0.05 " 1.04 3.50 30 p,m-Xylene 15.5 0.05 " 15.1 2.58 30 o-Xylene 3.42 0.05 " 3.30 " 3.79 30 Surrogate: 1,3-Dichlorobenzene 56.1 " 50.0 " 133 80-120 Surrogate: Bromochlorobenzene 56.1 " 50.0 ND 91.2 80-120 Senzene 45.6 ug/L 50.0 ND 91.2 39-150 Toluene 87.2 " 50.0 35.6 103 46-148 Ethylbenzene 74.4 " 50.0 20.9 107 32-160 p,m-Xylene 428 " 100 303 126 46-148 o-Xylene 120 " 50.0 66.0 109 46-148 Surrogate: 1,3-Dichlorobenzene 69.0 " 50.0 " 50.0 138 80-120	Benzene	ND	0.05	mg/kg		ND				30	
p,m-Xylene 15.5 0.05 " 15.1 2.58 30 o-Xylene 3.42 0.05 " 3.30 3.79 30 30 3.79 30 30 3.79 30 3.79 30 3.79 30 30 30 30 30 30 30 30 30 30 30 30 30	Toluene	1.81	0.05	u		1.78			1,64	30	
o-Xylene 3.42 0.05 " 3.30 3.79 30  Surrogate: 1,3-Dichlorobenzene 66.5 ug/L 50.0 133 80-120  Surrogate: Bromochlorobenzene 56.1 " 50.0 112 80-120  Matrix Spike (1404018-MS1) Source: P401062-01 Prepared: 22-Jan-14 Analyzed: 27-Jan-14  Benzene 45.6 ug/L 50.0 ND 91.2 39-150  Toluene 87.2 " 50.0 35.6 103 46-148  Ethylbenzene 74.4 " 50.0 20.9 107 32-160  p,m-Xylene 428 " 100 303 126 46-148  o-Xylene 120 " 50.0 66.0 109 46-148  Surrogate: 1,3-Dichlorobenzene 69.0 " 50.0 138 80-120	Ethylbenzene	1.08	0.05	u		1.04			3,50	30	
Surrogate: 1,3-Dichlorobenzene   66.5   ug/L   50.0   133   80-120	p,m-Xylene	15.5	0.05	ti		15.1			2.58	30	
Matrix Spike (1404018-MS1)         Source: P401062-01         Prepared: 22-Jan-14 Analyzed: 27-Jan-14           Benzene         45.6         ug/L         50.0         ND         91.2         39-150           Toluene         87.2         "         50.0         35.6         103         46-148           Ethylbenzene         74.4         "         50.0         20.9         107         32-160           p,m-Xylene         428         "         100         303         126         46-148           o-Xylene         120         "         50.0         66.0         109         46-148           Surrogate: 1,3-Dichlorobenzene         69.0         "         50.0         138         80-120	o-Xylene	3,42	0.05	u		3.30			3.79	30	
Matrix Spike (1404018-MS1)         Source: P401062-01         Prepared: 22-Jan-14         Analyzed: 27-Jan-14           Benzene         45.6         ug/L         50.0         ND         91.2         39-150           Toluene         87.2         "         50.0         35.6         103         46-148           Ethylbenzene         74.4         "         50.0         20.9         107         32-160           p,m-Xylene         428         "         100         303         126         46-148           o-Xylene         120         "         50.0         66.0         109         46-148           Surrogate: 1,3-Dichlorobenzene         69.0         "         50.0         138         80-120	Surrogate: 1,3-Dichlorobenzene	66.5		ug/L	50.0		133	80-120			S-02
Benzene     45.6     ug/L     50.0     ND     91.2     39-150       Toluene     87.2     "     50.0     35.6     103     46-148       Ethylbenzene     74.4     "     50.0     20.9     107     32-160       p,m-Xylene     428     "     100     303     126     46-148       o-Xylene     120     "     50.0     66.0     109     46-148       Surrogate: 1,3-Dichlorobenzene     69.0     "     50.0     138     80-120	Surrogate: Bromochlorobenzene	56.1		"	50.0		112	80-120			
Toluene         87.2         " 50.0 35.6 103 46-148           Ethylbenzene         74.4         " 50.0 20.9 107 32-160           p,m-Xylene         428         " 100 303 126 46-148           o-Xylene         120         " 50.0 66.0 109 46-148           Surrogate: 1,3-Dichlorobenzene         69.0         " 50.0 138 80-120	Matrix Spike (1404018-MS1)	Sour	ce: P401062-	01	Prepared: 2	22-Jan-14 A	Analyzed: 2	27-Jan-14			
Toluene         87.2         " 50.0 35.6 103 46-148           Ethylbenzene         74.4         " 50.0 20.9 107 32-160           p,m-Xylene         428         " 100 303 126 46-148           o-Xylene         120         " 50.0 66.0 109 46-148           Surrogate: 1,3-Dichlorobenzene         69.0         " 50.0 138 80-120		45.6		ug/L	50.0	ND	91.2	39-150			
p,m-Xylene 428 " 100 303 126 46-148 o-Xylene 120 " 50.0 66.0 109 46-148 Surrogate: 1,3-Dichlorobenzene 69.0 " 50.0 138 80-120	Toluene	87.2			50.0	35.6	103	46-148			
o-Xylene 120 " 50.0 66.0 109 46-148 Surrogate: 1,3-Dichlorobenzene 69.0 " 50.0 138 80-120	Ethylbenzene	74.4		u	50.0	20.9	107	32-160			
Surrogate: 1,3-Dichlorobenzene 69.0 " 50.0 138 80-120	p,m-Xylene	428			100	303	126	46-148			
	o-Xylene	120			50.0	66.0	109	46-148			
Surrogate: Bromochlorobenzene 59.8 " 50.0 120 80-120	Surrogate: 1,3-Dichlorobenzene	69.0		"	50.0		138	80-120			S-02
	Surrogate: Bromochlorobenzene	59.8		"	50.0		120	80-120			

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5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879





Project Name:

Atlantic A 8B

PO Box 2200

Bartlesville OK, 74005

Project Number:

96052-1706

Project Manager:

Kenny R Davis

Reported:

28-Jan-14 13:50

#### Nonhalogenated Organics by 8015 - Quality Control

#### **Envirotech Analytical Laboratory**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1404018 - Purge and Trap EPA 5030A								<u> </u>		
Blank (1404018-BLK1)	P				22-Jan-14 A	Analyzed: 2	7-Jan-14			•
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg							
Duplicate (1404018-DUP1)	Sour	ce: P401062-0	01	Prepared: 2	22-Jan-14 A	Analyzed: 2	7-Jan-14			
Gasoline Range Organics (C6-C10)	139	4.99	mg/kg		137			1.35	30	-
Matrix Spike (1404018-MS1)	<b>Source: P401062-01</b> Pre			Prepared: 2	22-Jan-14 A	Analyzed: 2	7-Jan-14			
Gasoline Range Organics (C6-C10)	3.51		mg/L	0.450	2.75	169	75-125			SPK1





Project Name:

Atlantic A 8B

PO Box 2200

Project Number:

96052-1706

Bartlesville OK, 74005 Project Manager:

Kenny R Davis

**Reported:** 28-Jan-14 13:50

#### Nonhalogenated Organics by 8015 - Quality Control

#### **Envirotech Analytical Laboratory**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1404019 - DRO Extraction EPA 3550C					<b>-</b> 1,					
Blank (1404019-BLK1)				Prepared: 2	22-Jan-14 A	Analyzed: 2	7-Jan-14			
Diesel Range Organics (C10-C28)	ND	29.9	mg/kg							
<b>Duplicate</b> (1404019-DUP1)	Sour	e: P401062-	01	Prepared: 2	22-Jan-14 A	Analyzed: 2	7-Jan-14			
Diesel Range Organics (C10-C28)	236	30.0	mg/kg		380			46.7	30	DI
Matrix Spike (1404019-MS1)					22-Jan-14 A	Analyzed: 2	7-Jan-14			
Diesel Range Organics (C10-C28)	453	30.0	mg/kg	49.9	380	147	75-125			SPK1





Project Name:

Atlantic A 8B

PO Box 2200

Bartlesville OK, 74005

Project Number: Project Manager: 96052-1706

Kenny R Davis

**Reported:** 28-Jan-14 13:50

#### **Total Petroleum Hydrocarbons by 418.1 - Quality Control**

#### **Envirotech Analytical Laboratory**

	Reporting			Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1404023 - 418 Freon Extraction										
Blank (1404023-BLK1)				Prepared &	: Analyzed:	23-Jan-14				
Total Petroleum Hydrocarbons	ND	20.0	mg/kg							
Duplicate (1404023-DUP1)	Sour	ce: P401051-	01	Prepared & Analyzed: 23-Jan-14						
Total Petroleum Hydrocarbons	74600	200	mg/kg		72800			2.48	30	
Matrix Spike (1404023-MS1)	Sour	ce: P401051-0	01	Prepared &	Analyzed:	23-Jan-14				
Total Petroleum Hydrocarbons	21000		mg/L	500	18200	553	80-120			SPKI





Project Name:

Atlantic A 8B

PO Box 2200

Project Number:

96052-1706

Bartlesville OK, 74005

Project Manager: Kenny R Davis

**Reported:** 28-Jan-14 13:50

#### Cation/Anion Analysis - Quality Control

#### **Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes							
Batch 1404021 - Anion Extraction EPA 300.0						· <u>-</u> ·			· <del></del>								
Blank (1404021-BLK1)				Prepared &	Analyzed:	23-Jan-14											
Chloride	ND	9,94	mg/kg														
LCS (1404021-BS1)			_	Prepared &	Analyzed:	23-Jan-14											
Chloride	489	9.87	mg/kg	494		99.1	90-110										
Matrix Spike (1404021-MS1)	Sou	rce: P401059-	01	Prepared &	Analyzed:	23-Jan-14											
Chloride	646	9.88	mg/kg	494	167	97.0	80-120										
Matrix Spike Dup (1404021-MSD1)	Sou	Prepared &	Analyzed:	23-Jan-14													
Chloride	640	9.92	mg/kg	496	167	95.4	80-120	0.879	20								





Project Name:

Atlantic A 8B

PO Box 2200

Project Number:

96052-1706

Reported:

Bartlesville OK, 74005

Project Manager:

Kenny R Davis

28-Jan-14 13:50

#### **Notes and Definitions**

SPK1 The spike recovery for this QC sample is outside of control limits.

S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present

in the sample extract.

D1 Duplicates or Matrix Spike Duplicates Relative Percent Difference exceeds 30%.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference



# 16548

# CHAIN OF CUSTODY RECORD

Client:			Project Name / Location:  ATLANTIC A #8   S					ANALYSIS / PARAMETERS														
CONDES PHILIPPS				813				<del>-                                     </del>							<del></del>	,						
Email results to: KENNY. R. DAVISQ CONOC	COPHILLEP:	s.com	ampler Name:					15)	021	(097												
			JARED CHAVEZ						8 20	d 82	als	L L		و_	5.				ł	_		
Client Phone No.:		l c	Client No.: 96052 - 1706						eth	stho	Met	Met	Anio		드	91	3.1	DE		ŀ	8	ntar
(505) 599-4045	1		-1000	α > 1 10 Φ	T =		•	ß.	≥	M)	A 8	/ u		×.	aple	4	IHC			l e	용	
Sample No./ Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	HNO <sub>3</sub>	eservat HCI	ive	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE			Sample Cool	Sample Intact	
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Sample Matrix				1 - 1 1																1		
Soil Solid Sludge	Aqueous [	] Other[	]																			
☐ Sample(s) dropped off after	r hours to se	cure drop	off area.	<u>`</u>				1										<del></del> -				
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5795 US Highway 6	64 • Farminat	on, NM 87	401 • 505-632-0615 • 1					-								v@en	virote	ch-inc		40	-640	