District I

1625 N French Dr., Hobbs, NM 88240

District II

1301 W Grand Ave Artesia, NM 88210

District III

1000 Rio Brazos Rd , 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

For temporary pits, closed-loop sytems, and below-grade

tanks submit to the appropriate NMOCD District Office

Form C-144

July 21, 2008

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

Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application Type of action: Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method 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 ConocoPhillips Company	OGRID#: 217817
Address PO Box 4289, Farmington, NM 87499	
Facility or well name. BRUINGTON 15G	
API Number 30-045-35115 OCD Permit Num	ber
U/L or Qtr/Qtr L(NW/SW) Section 15 Township 30N Range.	11W County SAN JUAN
Center of Proposed Design Latitude.	<u>°W</u> NAD □1927□1983
Surface Owner Federal State X Private Tribal Trust or Ind	ıan Allotment
String-Reinforced	RCVD FEB 23 '12 OIL CONS. DIV. DIST. 3 bbl Dimensions L x W x D '
Type of Operation P&A Drilling a new well Workover or Drilling (Applies notice of intent) Drying Pad Above Ground Steel Tanks Haul-off Bins Other	to activities which require prior approval of a permit or HDPE
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 au Visible sidewalls and liner Visible sidewalls only Other Liner Type Thickness mil HDPE PVC Other	itomatic overflow shut-off
Submittal of an exception request is required Exceptions must be submitted to the Santa Fe Environment of the Sant	onmental Bureau office for consideration of approval

Form C-144

Oil Conservation Division

Page 1 of 5

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 baibed 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)			
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 consi (Cavitation pit for Pre-set) Exception(s) Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval	deration of app	roval	
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	Yes	□No	

Form C-144 Oil Conservation Division Page 2 of 5

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 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
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
13
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
Line: 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
14 Proceed Classes, 10 15 17 12 NA 40
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)
15
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. Protocole and Procedures based upon the appropriate requirements of 19.15.17.13 NMAC
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 1 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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16			
Waste Removal Closure For Closed-loop Systems That Utilize Above Ground St. Instructions Please identify the facility or facilities for the disposal of liquids, drilling facilities are reguired	eel Tanks or Haul-off Bins Only:(19 15 17 13 D NMAC) g fluids and drill cuttings Use attachment if more than two		
Disposal Facility Name Envirotech / JFJ Landfarm % IEI	Disposal Facility Permit # NM-01-0011 / NM-01-0	010B	
Disposal Facility Name Basin Disposal Facility	Disposal Facility Permit # NM-01-005	<u> </u>	
Will any of the proposed closed-loop system operations and associated activ		service and	
Yes (If yes, please provide the information No Required for impacted areas which will not be used for future service and operations Soil Backfill and Cover Design Specification - based upon the appropriate requirements of Subset Site Reclamation Plan - based upon the appropriate requirements of Su	ornate requirements of Subsection H of 19 15 17 13 N oction I of 19 15 17 13 NMAC	MAC	
17			
Siting Criteria (Regarding on-site closure methods only: 19 15 17 10 NMA Instructions Each stung criteria requires a demonstration of compliance in the closure plan Recertain siting criteria may require administrative approval from the appropriate district office of office for consideration of approval Justifications and/or demonstrations of equivalency are received.	ecommendations of acceptable source material are provided below may be considered an exception which must be submitted to the So	Requests regarding changes to unta Fe Environmental Bureau	
Ground water is less than 50 feet below the bottom of the builed waste - NM Office of the State Engineer - iWATERS database search, USGS Data ob	tained from nearby wells	Yes No	
Ground water is between 50 and 100 feet below the bottom of the burned wa	ata		
- NM Office of the State Engineer - 1WATERS database search, USGS, Data obt	***	∐Yes ∐No ∏N/A	
Ground water is more than 100 feet below the bottom of the buried waste		Yes No	
- NM Office of the State Engineer - (WATERS database search, USGS, Data obt	ained from nearby wells	□N/A	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other signifuncation (measured from the ordinary high-water mark)	icant watercourse or lakebed, sınkhole, or playa lake	Yes No	
- Topographic map, Visual inspection (certification) of the proposed site			
Within 300 feet from a permanent residence, school, hospital, institution, or church in - Visual inspection (certification) of the proposed site, Aerial photo, satellite image	• • • • • • • • • • • • • • • • • • • •	Yes No	
		Yes No	
Within 500 horizontal feet of a private, domestic fresh water well or spring that less the 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 (certification)	stence at the time of the initial application		
Within incorporated municipal boundaries or within a defined municipal fresh water we pursuant to NMSA 1978, Section 3-27-3, as amended	·	Yes No	
 Written confirmation or verification from the municipality, Written approval ob Within 500 feet of a wetland 	tained from the municipality	∏Yes ∏No	
- US Fish and Wildlife Wetland Identification map, Topographic map, Visual ins	pection (certification) of the proposed site		
Within the area overlying a subsurface mine - Written confirantion or verification or map from the NM EMNRD-Mining and	Mineral Division	∐Yes ∐No	
Within an unstable area	∏Yes ∏No		
- Engineering measures incorporated into the design, NM Bureau of Geology & N Topographic map	Ameral Resources, USGS, NM Geological Society,		
Within a 100-year floodplain - FEMA map		Yes No	
On-Site Closure Plan Checklist: (19 15 17 13 NMAC) Instructions: Each	h of the following items must bee attached to the clos	sure plan. Please indicate,	
by a check mark in the box, that the documents are attached.	ata raquiramente of 10 15 17 10 NMAC		
Siting Criteria Compliance Demonstrations - based upon the appropriate requirem			
Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15 17 13 NMAC Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19 15 17 11 NMAC			
Construction/Design Plan of Buriar French (if applicable) based upon the appropriate requirements of 19 15 17 11 NMAC Construction/Design Plan of Temporary Pit (for in place burial of a drying pad) - based upon the appropriate requirements of 19 15 17 11 NMAC			
X 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			
X Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC			
X Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved) Soil Cover Design - based upon the appropriate requirements of Subsection II of 19 15 17.13 NMAC			
Re-vegetation Plan - based upon the appropriate requirements of Subsection 1 of 19 15 17 13 NMAC			
Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC			

19 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 (Print) Title
Signature Date
e-mail address Telephone
20 OCD Approval: Permit Application (including closure plan)
OCD Representative Signature: Approval Date: 2/24/2012
Title: (6M) auce Office VOCD 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
Closure Completion Date: 1/24/12 80
22
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
23
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:
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 compliane 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
Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique
Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation)
Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique
Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation)
Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation) On-site Closure Location Latitude Longitude NAD 1927 1983
Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation) On-site Closure Location Latitude Longitude NAD 1927 1983 25 Operator Closure Certification: I hereby certify that the information and attachments submitted with this closure report is tine, accurate and complete to the best of my knowledge and belief I also certify that
Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation) On-site Closure Location Latitude Longitude NAD 1927 1983 Some parator 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
Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation) On-site Closure Location Latitude Longitude NAD 1927 1983 25 Operator Closure Certification: I hereby certify that the information and attachments submitted with this closure report is time, 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) Jamie Goodwin Title Regulatory Technician
Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation) On-site Closure Location Latitude Longitude NAD 1927 1983 Some parator 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

ConocoPhillips Company Cavitation Pit for Closed-Loop Locations

Design:

ConocoPhillips Company 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
- 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	02
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	02	ND
BTEX	EPA SW-846 8021B or 8260B	50	ND
TPH	EPA SW-846 418 1	2500	16 0
GRO/DRO	EPA SW-846 8015M	500	32 7
Chlorides	EPA 300 1	500	60

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

ConocoPhillips is aware that approval of this plan does not relieve ConocoPhillips 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.



EPA METHOD 8015 Modified Nonhalogenated Volatile Total Petroleum Hydrocarbons

Client:	ConocoPhillips	Project #:	96052-1706
Sample ID:	Pre-set_Cuttings	Date Reported:	01-26-12
Laboratory Number:	60930	Date Sampled:	01-24-12
Chain of Custody No:	09546	Date Received:	01-24-12
Sample Matrix:	Soil	Date Extracted:	01-24-12
Preservative:		Date Analyzed:	01-25-12
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	
Gasoline Range (C5 - C10)	ND	0.2	
Diesel Range (C10 - C28)	32.7	0.1	
Total Petroleum Hydrocarbons	32:7		

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid

Waste, SW-846, USEPA, December 1996.

Comments:

Bruington 15G/ MOTE 212

Revi





Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	01-25-12 QA/QC	Date Reported:	01-26-12
Laboratory Number:	60924	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01 <i>-</i> 25-12
Condition:	N/A	Analysis Requested:	TPH

	انداز I-Cal کامیاز Date	I-Cal RF:	C-Call RF	% Difference	Accept Range
Gasoline Range C5 - C10	40933	9.996E+02	1.000E+03	0.04%	0 - 15%
Diesel Range C10 - C28	40933	8.716E+02	8.719E+02	0.04%	0 - 15%

Blank Conc. (mg/L= mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	1.0	0.2
Diesel Range C10 - C28	2.4	0.1

Duplicate Conc. (mg/Kg)	Sample -	Duplicates.	% Différence	Range
Gasoline Range C5 - C10	172	172	0.00%	0 - 30%
Diesel Range C10 - C28	186	188	1.33%	0 - 30%

Spike Conc. (mg/Kg)	Sample!:	Spike Added	Spike,Result	% Recovery	Accept Range
Gasoline Range C5 - C10	172	250	356	84.3%	75 - 125%
Diesel Range C10 - C28	186	250	364	83.5%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid

Waste,

SW-846, USEPA, December 1996.

Comments:

QA/QC for Samples 60924-60928 and 60930



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	ConocoPhillips	Project #:	96052-1706
Sample ID:	Pre-set Cuttings	Date Reported:	01-26-12
Laboratory Number.	60930	Date Sampled:	01-24-12
Chain of Custody.	09546	Date Received:	01-24-12
Sample Matrix:	Soil	Date Analyzed:	01-25-12
Preservative:	No	Date Extracted:	01-24-12
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

		Det.	
	Concentration	Limit	
Parameter	(ug/Kg)	(ug/Kg)	
Benzene	ND	10.0	
Toluene	ND	10.0	
Ethylbenzene	ND	10.0	
p,m-Xylene	ND	10.0	
o-Xylene	ND	10.0	
Total BTFX	ĊΝD		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	88.9 %
	1,4-difluorobenzene	96.3 %
	Bromochlorobenzene	106 %

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846,

USEPA, December 1996.

Comments:

Bruington 15G/ MOTE 212

Arrallyst

Klenzegn Review



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client.	N/A	F	⊃roject#.		N/A	
Sample ID	0125BBLK QA/QC	; [Date Reported:		01-26-12	
Laboratory Number:	60927		Date Sampled:		N/A	
Sample Matrix:	Soil	Date Received:			N/A	
Preservative·	N/A	ı	Date Analyzed:		01-25-12	
Condition:	N/A	,	Analysis:		BTEX	
			Dilution		10	
Calibration and	(I-Cal RE	C-Cal RE	%Diff. 3%	(Blank	Detect	
Detection Limits (ug/L)		Accept Rang	e 0 - 15%	Conc	Limit	
Manufacture of the second way 1 - 2 and 14.	J.A.T. A. SELLA ALMANASA MALA	and the same of the same of	as made a large and a large a	A Table of the control of the control	C. C	
Benzene	1.5898E+007	1.5930E+007	0.2%	ND	1.0	
Toluene	1 7079E+007	1.7114E+007	0.2%	ND	1.0	
Ethylbenzene	1 5582E+007	1.5613E+007	0.2%	ND	1.0	
p,m-Xylene	4 0019E+007	4.0099E+007	0.2%	ND	1.0	
o-Xylene	1.4502E+007	1 4531E+007	0.2%	ND	1.0	
Duplicate,Conc. (ug/Kg)	Sample 4.5.	Duplicate	%Diff	- Accept Range?	Detect: Limit	
Man Service Control of the Man Man Market of the Control of the Co	بالمسائل مساومات والمحاجة والمسائل والماسي المسائلات المسائلة المس	Contract of the state of the st	MI to be properties.	And the second second second second second	di il il desertation de la company	
Benzene	184	192	4 2%	0 - 30%	10.0	

Benzene	184	192	4.2%	0 - 30%	10.0
Toluene	518	506	2.4%	0 - 30%	10.0
[•] Ethylbenzene	1,360	1,380	1.5%	0 - 30%	10.0
p,m-Xylene	6,640	6,700	0.9%	0 - 30%	10.0
o-Xylene	2,050	2,040	0.5%	0 - 30%	10.0

Spike Conc. (ug/Kg)	Sample Amo	ount Spiked), i Spi	ked Sample	Recovery	Accept Range
Benzene	184	500	688	101%	39 - 150
Toluene	518	500	1,170	115%	46 - 148
Ethylbenzene	1,360	500	1,990	107%	32 - 160
p,m-Xylene	6,640	1000	7,630	99.9%	46 - 148
o-Xylene	2,050	500	2,640	104%	46 - 148

ND - Parameter not detected at the stated detection limit

Dilution: Spike and spiked sample concentration represent a dilution proportional to sample dilution.

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

December 1996

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments:

QA/QC for Samples 60927-60928 and 60930

Review

5796 US Highway 64, Farmington, NM 87401

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

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





EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	96052-1706
Sample ID:	<pre≥set:cuttings></pre≥set:cuttings>	Date Reported:	01-25-12
Laboratory Number:	60930	Date Sampled:	01-24-12
Chain of Custody No:	09546	Date Received:	01-24-12
Sample Matrix:	Soil	Date Extracted:	01-25-12
Preservative:		Date Analyzed:	01-25-12
Condition:	Intact	Analysis Needed:	TPH-418.1

		Det.
	Concentration	Limit
Parameter	(mg/kg)	(mg/kg)

Total Petroleum Hydrocarbons

16:05

6.4

ND = Parameter not detected at the stated detection limit.

References:

Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water

and Waste, USEPA Storet No. 4551, 1978.

Comments:

Bruington 15G/ MOTE 212

Review

5796 US Highway 64, Farmington, NM 87401

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

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

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





EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS QUALITY ASSURANCE REPORT

Client:

QA/QC

Project #:

N/A

Sample ID.

QA/QC

Date Reported:

01-25-12

Laboratory Number.

01-25-TPH.QA/QC 60930

Date Sampled:

N/A

Sample Matrix:

Freon-113

01-25-12

Date Analyzed:

'01-25-12

Preservative:

N/A

Date Extracted:

'01-25-12

Condition:

N/A

Analysis Needed:

TPH

Difference Accept: Range

Calibration : Gil-Cal Date

11-16-11

1,600

1,720

7.5%

+/- 10%

Blank Conc. (mg/Kg)

Concentration

Detection Limit

TPH

ND

6.4

Duplicate Conc. (mg/Kg)

TPH

Sample 12.8

Duplicate 10.9

% Difference 14.8%

Accept Range +/- 30%

Spike Conc. (mg/Kg)

TPH

12.8

2,000

1,670

Spike Added Spike Result. % Recovery. 83.0%

Accept Range 80 - 120%

ND = Parameter not detected at the stated detection limit.

References:

Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water

and Waste, USEPA Storet No. 4551, 1978.

Comments:

QA/QC for Samples 60930





Chloride

Client:

ConocoPhillips

Project #:

96052-1706

Sample ID:

Pre-Set-Cuttings-

Date Reported:

01-25-12

Lab ID#:

60930

Date Sampled:

01-24-12

Sample Matrix:

Soil

Date Received:

01-24-12

Preservative:

Cool

Date Analyzed:

01-25-12

Condition:

Intact

Chain of Custody:

09546

Parameter

Concentration (mg/Kg)

Total Chloride

60

Reference:

U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.

Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments:

Bruington 15G/ MOTE 212

