1625 N. French Dr , Hobbs, NM 88240

State of New Mexico Energy Minerals and Natural Resources

Department

Form C-144 July 21, 2008

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

1301 W. Grand Ave., Artesia, NM 88210 District III 1000 Rio Brazos Rd., Aztec, NM 87410	1220 South S	ation Division St. Francis Dr. NM 87505	For permanent pits and exce Environmental Bureau office a	ptions submit to the Santa Fe
<u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505	1		appropriate NMOCD District (
Propos	it, Closed-Loop Systed Alternative Metho			o <u>n</u>
Ī I	Permit of a pit, closed-loop Closure of a pit, closed-loo Modification to an existing Closure plan only submitte below-grade tank, or propo	op system, below-grade g permit od for an existing permit osed alternative method	tank, or proposed alternati	ve method losed-loop system,
Instructions: Please submit one appl Please be advised that approval of thi environment. Nor does approval relieve	s request does not relieve the operator	of liability should operations re-	sult in pollution of surface water, gr	ound water or the
Operator: ConocoPhillips Company		,	OGRID#: 217817	
Address: PO Box 4289, Farmington,	NM 87499			
Facility or well name: SAN JUAN 28-	7 UNIT 251M			
API Number: 30-0	39-30671	OCD Permit Number	er:	
U/L or Qtr/Qtr: <u>D(NW/NW)</u> Section: Center of Proposed Design: Latitude: Surface Owner: X Federal	31 Township: 28 36.623014 °N State Private			riba NAD: 1927 X 1983
X Pit: Subsection F or G of 19.15.17.1 Temporary: Drilling Workov Permanent Emergency X Cav Lined Unlined Lines String-Reinforced Liner Seams: Welded Factor	retritation P&A (Pre-set) type: Thickness	mil LLDPE Volume:	HDPE PVC Other	
	· "	ver or Drilling (Applies to	activities which require prior	
Drying Pad Above Ground Lined Unlined Liner ty Liner Seams Welded Factor	rpe: Thickness	ns Other mil LLDPE 1	HDPE PVD Other	20212232425383 RECEIVED
Below-grade tank: Subsection I of Volume: bbl Tank Construction material. Secondary containment with leak detection.	Type of fluid:	s, liner, 6-inch lift and auto	omatic overflow shut-off	AUG 2010 OIL CONS. DIV. DIST 3
Liner Type: Thickness	_ `	PVC Other		
Submittal of an exception request is required.	red. Excentions must be submitted	ed to the Santa Fe Environ		

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Oil Conservation Division

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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, instituted in the school of the light, four strands of barbed wire evenly spaced between one and four feet Alternate. Please specify	ution or church)
Titteriate. Titalse 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 consideration pit for Pre-set) Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	leration 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 - FEMA map	Yes	No

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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 - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
14
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.
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
Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings) Sail Bookfill and Cover Design Specifications, based upon the appropriate requirements of Subsection H of 19 15 17 13 NIMAC
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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16	_			
Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19 Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attach	.15.17 13.D NMAC) ment if more than two			
facilities are required.				
Disposal Facility Name: Envirotech / JFJ Landfarm % IEI Disposal Facility Permit # NM-				
Disposal Facility Name: Basin Disposal Facility Disposal Facility Permit #: NM-	01-005			
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will Yes (If yes, please provide the information No	nbe 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 appropriate requirements of Subsection Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17.13 NMAC	H of 19.15.17.13 NMAC			
Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15.17.13 NMAC				
17 Siting Criteria (Regarding on-site closure methods only: 19.15.17.10 NMAC Instructions Each siting crueria requires a demonstration of compliance in the closure plan Recommendations of acceptable source mat certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which m	ust be submitted to the Santa Fe Environmental Bureau			
office for consideration of approval Justifications and/or demonstrations of equivalency are required Please refer to 19 15.17 10 NMAC	for guidance.			
Ground water is less than 50 feet below the bottom of the buried waste.	Yes No			
- NM Office of the State Engineer - (WATERS database search; USGS: Data obtained from nearby wells				
Ground water is between 50 and 100 feet below the bottom of the buried waste	Yes No			
- NM Office of the State Engineer - tWATERS database search; USGS; Data obtained 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 obtained from nearby wells	│			
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhol (measured from the ordinary high-water mark)	e, 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 existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo, satellite image	ation Yes No			
,	∏Yes ∏No			
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or purposes, or within 1000 horizontal fee of any other fresh water well or spring, in existence at the time of the initial applica - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	stock watering			
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ord pursuant to NMSA 1978, Section 3-27-3, as amended	linance adopted Yes No			
- Written confirmation or verification from the municipality, Written approval obtained from the municipality				
Within 500 feet of a wetland - US Fish and Wildlife Wetland Identification map, Topographic map; Visual inspection (certification) of the proposed	Yes No			
Within the area overlying a subsurface mine.	Ves No			
- Written confirantion or verification or map from the NM EMNRD-Mining and Mineral Division				
Within an unstable area.	Yes No			
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources, USGS; NM Geolo	gical Society;			
Тородгарніс map Within a 100-year floodplam.	∏Yes ∏No			
- FEMA map				
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must bee by a check mark in the box, that the documents are attached.	attached to the closure plan. Please indicate,			
Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17 10 N	NMAC			
Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.				
Construction/Design Plan of Burial Trench (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 appro				
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.				
X Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-s	site closure standards cannot be achieved)			
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 I of 19.15.17.13 NMAC				
Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15.17.13 NMA	iC I			

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19 Operator Application Certification:	
I hereby certify that the information submitted with this application is true, accurate a	nd complete to the best of my knowledge and belief.
Name (Print):	Title
Signature:	Date:
e-mail address:	Telephone.
OCD Approval: Permit Application (including closure plan)	Closure Plan (only) OCD Conditions (see attachment)
OCD Representative Signature:	Approval Date: 2/06/2012
Title: Compliance Officer	OCD Permit Number:
21 <u>Closure Report (required within 60 days of closure completion):</u> Subsection Instructions: Operators are required to obtain an approved closure plan prior to impreport is required to be submitted to the division within 60 days of the completion of approved closure plan has been obtained and the closure activities have been completed.	lementing any closure activities and submitting the closure report. The closure the closure activities. Please do not complete this section of the form until an
22	
Closure Method:	Alternative Closure Method Waste Removal (Closed-loop systems only)
23	
Closure Report Regarding Waste Removal Closure For Closed-loop Systems Th	
Instructions: Please identify the facility or facilities for where the liquids, drilling for where utilized.	unus una urui cuttings were atsposea. Ose attachment ij more than two jactities
Disposal Facility Name	Disposal Faculity 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 opeartions?
Yes (If yes, please demonstrate compliane to the items below)	0
Required for impacted areas which will not be used for future service and operati	ons:
Site Reclamation (Photo Documentation)	
Soil Backfilling and Cover Installation	
Re-vegetation Application Rates and Seeding Technique	
Closure Report Attachment Checklist: Instructions: Each of the followin 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)	ig items must be attached to the closure report. Please indicate, by a check mark in
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:	Longitude: NAD 1927 1983
25	
Operator Closure Certification:	
	ort 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 specifie	ad in the approved closure plan
Name (Print): Marie E. Jaramillo Marie E. Jaramillo	Title: Staff Regulatory Technician
Signature:	Date:
e-mail address: marie e jaramillo@conocophillips.com	Telephone: 505-326-9865

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.
- 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

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	11.8
BTEX	EPA SW-846 8021B or 8260B	50	313
TPH	EPA SW-846 418.1	2500	42.4
GRO/DRO	EPA SW-846 8015M	500	34.2
Chlorides	EPA 300.1	500	10

Closure Plan:

- 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.

WELL NAME: SAN JUAN 28-7 UNIT 251

API# 30-039-30671 PERMIT #: 6820

DATE: 2/01/12

MISSING DATA: ANALYTICAL RESULTS W/DETAILED REPORT

COPY OF CLOSURE NOTIFICATION – NOT NEEDED CL

ATTACHED: ANALYTICAL RESULTS W/DETAILED REPORT

DIST. 3

OIL CONS. DIV.

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.
- 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

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	11.8
BTEX	EPA SW-846 8021B or 8260B	50	313
TPḤ	EPA SW-846 418.1	2500	42.4
GRO/DRO	EPA SW-846 8015M	500	34.2
Chlorides	EPA 300.1	. 500	10

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 Organics **Total Petroleum Hydrocarbons**

Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Mud Preset Cuttings	Date Reported:	12-29-09
Laboratory Number:	52780	Date Sampled:	12-22-09
Chain of Custody No:	6746	Date Received:	12-22-09
Sample Matrix:	Solid	Date Extracted:	12-24-09
Preservative:		Date Analyzed:	12-28-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	13.4	0.2
Diesel Range (C10 - C28)	20.8	0.1
Total Petroleum Hydrocarbons	34.2	0.2

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:

San Juan 28-7 #251 M.



EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petròleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC		Project #:		N/A
Sample ID:	12-28-09 QA/	QC	Date Reported:		12-29-09
Laboratory Number:	52780		Date Sampled:		N/A
Sample Matrix:	Methylene Chic	ride	Date Received:		N/A
Preservative:	N/A		Date Analyzed:		12-28-09
Condition:	N/A		Analysis Request	ted:	TPH
	I.Cal.Date	JECAN RF	CASALES	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	9.6770E+002	9.6809E+002	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	1.1721E+003	1.1725E+003 `	0.04%	0 - 15%
Blank Conc. (ne/Lame/Ko		Concentration		Detection Lip	ĬŔ
Gasoline Range C5 - C10		ND		0.2	
Diesel Range C10 - C28		ND		0.1	
Total Petroleum Hydrocarbons		ND		0.2	

Duplieste Conc. (mg/kg)	Sample:	ะ โดเกิดได้สาย	% (D) fference	Agraph Renge
Gasoline Range C5 - C10	13.4	13.3	0.7%	0 - 30%
Diesel Range C10 - C28	20.8	20.6	1.0%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spilke/Adderd	Spilke Reguli	76 Recovery	Arcept Renge
Gasoline Range C5 - C10	13.4	250	261	99.2%	75 - 125%
Diesel Range C10 - C28	20.8	250	267	98.5%	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 52780, 52785 - 52791 and 52795.



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Mud Preset Cuttings	Date Reported:	12-29-09
Laboratory Number:	52780	Date Sampled:	12-22-09
Chain of Custody:	6746	Date Received:	12-22-09
Sample Matrix:	Solid	Date Analyzed:	12-28-09
Preservative:		Date Extracted:	12-24-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)	
Panzana	11.8	0.9	
Benzene Toluene	71.3	1.0	
Ethylbenzene	29.7	1.0	
p,m-Xylene	137	1.2	
o-Xylene	62.9	0.9	
Total BTEX	313		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

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:

San Juan 28-7 #251 M.



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	12-28-BTEX QA/QC	Date Reported:	12-29-09
Laboratory Number:	52780	Date Sampled:	N/A
Sample Matrix.	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	12-28-09
Condition [.]	N/A	Analysis:	BTEX

Calibration and	ICALRE.	CCAIRE		Blank	Detect
Detection Similes (ug/L)	, and a second	/Alexable sately	ja (i 1 5 %	Ciente	(1)(11)(1)
Benzene	1.0584E+006	1.0606E+006	0.2%	ND	0.1
Toluene	9.9214E+005	9.9413E+005	0.2%	ND	0.1
Ethylbenzene	9.0318E+005	9.0499E+005	0.2%	ND	0.1
p,m-Xylene	2.2469E+006	2.2514E+006	0.2%	ND	0.1
o-Xylene	8.5049E+005	8.5219E+005	0.2%	, ND	0.1

Duplicate Conc. (19/Kg)	Sample 5	uplicate	%(D)(i)	Accept Kange	DENGO DINIC
Benzene	11.8	11.5	2.5%	0 - 30%	0.9
Toluene	71.3	70.6	1.0%	0 - 30%	1.0
Ethylbenzene	29.7	29.4	1.0%	0 - 30%	1.0
p,m-Xylene	137	133	2.3%	0 - 30%	1.2
o-Xylene	62.9	58.8	6.5%	0 - 30%	0.9

Splke(Conc. (ug/Kg)	* Sample - Amo	im Sidical (Sal	(ng Statutolle	% Recovery	Accept Range
Benzene	11.8	50.0	59.8	96.8%	39 - 150
Toluene	71.3	50.0	118	97.4%	46 - 148
Ethylbenzene	29.7	50.0	74.6	93.6%	32 - 160
p,m-Xylene	137	100	228	96.5%	46 - 148
o-Xylene	62.9	50.0	109	96.4%	46 - 148

ND - Parameter not detected at the stated detection limit.

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 52780, 52785 - 52791 and 52795.

Analyst

Review

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Mud Preset Cuttings	Date Reported:	12-28-09
Laboratory Number:	52780	Date Sampled:	12-22-09
Chain of Custody No:	6746	Date Received:	12-22-09
Sample Matrix:	Solid	Date Extracted:	12-28-09
Preservative:		Date Analyzed:	12-28-09
Condition:	Intact	Analysis Needed:	TPH-418.1

1	The state of the s	Det.
1	Concentration	Limit
Parameter	(mg/kg)	(mg/kg)

Total Petroleum Hydrocarbons

42.4

9.9

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:

San Juan 28-7 #251 M.

. Analyst

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EPA METHOD 418.1 TOTAL PETROLEUM HYROCARBONS QUALITY ASSURANCE REPORT

C-Cal RF: % Difference Accept. Range

Client:	QA/QC	Project #:	N/A
Sample ID:	QA/QC	Date Reported:	12-28-09
Laboratory Number:	12-28-TPH.QA/QC 52820	Date Sampled:	N/A
Sample Matrix:	Freon-113	Date Analyzed:	12-28-09
Preservative:	N/A	Date Extracted:	12-28-09
Condition:	N/A	Analysis Needed:	TPH

C-Cal Date

12-16-09	12-28-09	1,770	1,770	0.0%	+/- 10%

I-Cal RF:

Blank Conc. (mg/kg) TPH	oncentration ND	D	etection Limit 9.9	
Duplicate Conc. (mg/Kg)	Sample D	uplicate % 25.4	Difference 5.2%	Accept. Range +/- 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
TPH	26.8	2,000	1,840	90.8%	80 - 120%

ND = Parameter not detected at the stated detection limit.

I-Cal Date

References:

Calibration

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

and Waste, USEPA Storet No. 4551, 1978.

Comments:

QA/QC for Samples 52780 and 52820 - 52822.

Analyst

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Chloride

Client ⁻	ConocoPhillips	Project #:	96052-0026
Sample ID:	Mud Preset Cuttings	Date Reported:	12-28-09
Lab ID#:	52780	Date Sampled:	12-22-09
Sample Matrix:	Solid	Date Received:	12-22-09
Preservaţive:	Cool	Date Analyzed:	12-24-09
Condition:	Intact	Chain of Custody:	6746

Parameter Concentration (mg/Kg)

Total Chloride

10

Reference: U.S.E.P.A., 4500B, "Methods for Che

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:

San Juan 28-7 #251 M.

Analyst

<u>hristum Well</u> Review