

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

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

Form C 144
Revised June 6 2013

For temporary pits below grade tanks and multi well fluid management pits submit to the appropriate NMOCD District Office
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office

15815
Pit, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application

OIL CONS DIV DIST 3

- Type of action ☒ Below grade tank registration
☐ Permit of a pit or proposed alternative method
☐ Closure of a pit below grade tank or proposed alternative method
☐ Modification to an existing permit/or registration
☐ Closure plan only submitted for an existing permitted or non permitted pit below grade tank or proposed alternative method

JAN 12 2017

Instructions Please submit one application (Form C 144) per individual pit 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

1
Operator ConocoPhillips Company OGRID # 217817
Address P O Box 4289, Farmington, New Mexico 87499
Facility or well name SAN JUAN 29 6 UNIT 94
API Number 30 039 07603 OCD Permit Number _____
U/L or Qtr/Qtr M Section 16 Township 29N Range 6W County Rio Arriba
Center of Proposed Design Latitude 36 721743 N Longitude 107 473354 W NAD 1927 ☐ 1983 ☒
Surface Owner ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

2
☐ **Pit** Subsection F G or J of 19 15 17 11 NMAC
Temporary ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☐ no
☐ 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 _____

3
☒ **Below grade tank** Subsection I of 19 15 17 11 NMAC
Volume Max 120 bbl Type of fluid Produced Water
Tank Construction material Metal
☐ Secondary containment with leak detection ☒ Visible sidewalls liner 6 inch lift and automatic overflow shut off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type Thickness 45 mil ☐ HDPE ☐ PVC ☒ Other LLDPE

4
☐ **Alternative Method**
Submittal of an exception request is required Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval

5
Fencing Subsection D of 19 15 17 11 NMAC (Applies to permanent pits temporary pits and below grade tanks)
☐ Chain link six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence school hospital institution or church)
☐ Four foot height four strands of barbed wire evenly spaced between one and four feet
☒ Alternate Please specify 4 hog wire fence with a single strand of barbed wire on top

6

Netting Subsection E of 19 15 17 11 NMAC (*Applies to permanent pits and permanent open top tanks*)

- ☒ Screen ☐ Netting ☐ Other _____
- ☐ Monthly inspections (If netting or screening is not physically feasible)

7

Signs Subsection C of 19 15 17 11 NMAC

- ☐ 12 x 24 2 lettering providing Operator s name site location and emergency telephone numbers
- ☒ Signed in compliance with 19 15 16 8 NMAC

8

Variances and Exceptions

Justifications and/or demonstrations of equivalency are required Please refer to 19 15 17 NMAC for guidance

Please check a box if one or more of the following is requested if not leave blank

- ☒ Variance(s) Requests must be submitted to the appropriate division district for consideration of approval
- ☐ Exception(s) Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval

9

Siting Criteria (regarding permitting) 19 15 17 10 NMAC

Instructions The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below Siting criteria does not apply to drying pads or above grade tanks

General siting

Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below grade tank.

☐ NM Office of the State Engineer 1WATERS database search ☐ USGS ☐ Data obtained from nearby wells

☐ Yes ☒ No
☐ NA

Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi Well Fluid Management pit

NM Office of the State Engineer 1WATERS database search USGS Data obtained from nearby wells

☐ Yes ☐ No
☐ NA

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978 Section 3 27 3 as amended (**Does not apply to below grade tanks**)

☐ Yes ☐ No

Written confirmation or verification from the municipality Written approval obtained from the municipality

Within the area overlying a subsurface mine (**Does not apply to below grade tanks**)

☐ Yes ☐ No

Written confirmation or verification or map from the NM EMNRD Mining and Mineral Division

Within an unstable area (**Does not apply to below grade tanks**)

☐ Yes ☐ No

Engineering measures incorporated into the design NM Bureau of Geology & Mineral Resources USGS NM Geological Society Topographic map

Within a 100 year floodplain (**Does not apply to below grade tanks**)

☐ Yes ☐ No

FEMA map

Below Grade Tanks

Within 100 feet of a continuously flowing watercourse significant watercourse lake bed sinkhole wetland or playa lake (measured from the ordinary high water mark)

☐ Yes ☒ No

Topographic map Visual inspection (certification) of the proposed site

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption

☐ Yes ☒ No

NM Office of the State Engineer 1WATERS database search Visual inspection (certification) of the proposed site

Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15 000 mg/liter)

Within 100 feet of a continuously flowing watercourse or any other significant watercourse or within 200 feet of any lakebed sinkhole or playa lake (measured from the ordinary high water mark) (Applies to low chloride temporary pits)

☐ Yes ☐ No

Topographic map Visual inspection (certification) of the proposed site

Within 300 feet from a occupied permanent residence school hospital institution or church in existence at the time of initial application

☐ Yes ☐ No

Visual inspection (certification) of the proposed site Aerial photo Satellite image

Within 200 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes or 300feet of any other fresh water well or spring in existence at the time of the initial application

☐ Yes ☐ No

NM Office of the State Engineer 1WATERS database search Visual inspection (certification) of the proposed site

Within 100 feet of a wetland
US Fish and Wildlife Wetland Identification map Topographic map Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Temporary Pit Non-low chloride drilling fluid

Within 300 feet of a continuously flowing watercourse or any other significant watercourse or within 200 feet of any lakebed sinkhole or playa lake (measured from the ordinary high water mark)

Topographic map Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a permanent residence school hospital institution or church in existence at the time of initial application

Visual inspection (certification) of the proposed site Aerial photo Satellite image

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes or 1000 feet of any other fresh water well or spring in the existence at the time of the initial application

NM Office of the State Engineer iWATERS database search Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet of a wetland

US Fish and Wildlife Wetland Identification map Topographic map Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Permanent Pit or Multi-Well Fluid Management Pit

Within 300 feet of a continuously flowing watercourse or 200 feet of any other significant watercourse or lakebed sinkhole or playa lake (measured from the ordinary high water mark)

Topographic map Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 1000 feet from a permanent residence school hospital institution or church in existence at the time of initial application

Visual inspection (certification) of the proposed site Aerial photo Satellite image

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes in existence at the time of initial application

NM Office of the State Engineer iWATERS database search Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 500 feet of a wetland

US Fish and Wildlife Wetland Identification map Topographic map Visual inspection (certification) of the proposed site

☐ Yes ☐ No

10

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 NMAC
- ☒ 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 Number _____ or Permit Number _____

11

Multi Well Fluid Management Pit Checklist Subsection B of 19 15 17 9 NMAC

Instructions Each of the following items must be attached to the application. Please indicate by a check mark in the box, that the documents are attached.

- ☐ Design Plan based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Operating and Maintenance Plan based upon the appropriate requirements of 19 15 17 12 NMAC
- ☐ A List of wells with approved application for permit to drill associated with the pit
- ☐ Closure Plan (Please complete Boxes 14 through 18 if applicable) based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC
- ☐ Hydrogeologic Data based upon the requirements of Paragraph (4) of Subsection B of 19 15 17 9 NMAC
- ☐ Siting Criteria Compliance Demonstrations based upon the appropriate requirements of 19 15 17 10 NMAC

☐ Previously Approved Design (attach copy of design) API Number _____ or Permit Number _____

12
Permanent Pits Permit Application Checklist Subsection B of 19 15 17 9 NMAC

Instructions Each of the following items must be attached to the application. Please indicate by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report based upon the requirements of Paragraph (1) of Subsection B of 19 15 17 9 NMAC
- ☐ Siting Criteria Compliance Demonstrations based upon the appropriate requirements of 19 15 17 10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Dike Protection and Structural Integrity Design based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Leak Detection Design based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Liner Specifications and Compatibility Assessment based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan based upon the appropriate requirements of 19 15 17 12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Nuisance or Hazardous Odors including 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

13
Proposed Closure 19 15 17 13 NMAC

Instructions Please complete the applicable boxes Boxes 14 through 18 in regards to the proposed closure plan.

- Type ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☒ Below grade Tank ☐ Multi well Fluid Management Pit
☐ Alternative
- Proposed Closure Method ☒ Waste Excavation and Removal
☐ Waste Removal (Closed loop systems only)
☐ On site Closure Method (Only for temporary pits and closed loop systems)
☐ In place Burial ☐ On site Trench Burial
☐ Alternative Closure Method

14
Waste Excavation and Removal Closure Plan Checklist (19 15 17 13 NMAC) **Instructions** Each of the following items must be attached to the closure plan. Please indicate by a check mark in the box, that the documents are attached.

- ☐ Protocols and Procedures based upon the appropriate requirements of 19 15 17 13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) based upon the appropriate requirements of Subsection C of 19 15 17 13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC
- ☐ Re vegetation Plan based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC
- ☐ Site Reclamation Plan based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC

15
Siting Criteria (regarding on site closure methods only) 19 15 17 10 NMAC

Instructions Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency Please refer to 19 15 17 10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste NM Office of the State Engineer 1WATERS database search USGS Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is between 25 50 feet below the bottom of the buried waste NM Office of the State Engineer 1WATERS database search USGS Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is more than 100 feet below the bottom of the buried waste NM Office of the State Engineer 1WATERS database search USGS Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 100 feet of a continuously flowing watercourse or 200 feet of any other significant watercourse lakebed sinkhole or playa lake (measured from the ordinary high water mark) Topographic map Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet from a permanent residence school hospital institution or church in existence at the time of initial application Visual inspection (certification) of the proposed site Aerial photo Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 horizontal feet of a private domestic fresh water well or spring used for domestic or stock watering purposes in existence at the time of initial application NM Office of the State Engineer 1WATERS database Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Written confirmation or verification from the municipality Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet of a wetland US Fish and Wildlife Wetland Identification map Topographic map Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	

adopted pursuant to NMSA 1978 Section 3 27 3 as amended Written confirmation or verification from the municipality Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within the area overlying a subsurface mine Written confirmation or verification or map from the NM EMNRD Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area Engineering measures incorporated into the design NM Bureau of Geology & Mineral Resources USGS NM Geological Society Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100 year floodplain FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

16 On Site 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.*

- ☐ Siting Criteria Compliance Demonstrations based upon the appropriate requirements of 19 15 17 10 NMAC
- ☐ Proof of Surface Owner Notice based upon the appropriate requirements of Subsection E of 19 15 17 13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19 15 17 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
- ☐ Protocols and Procedures based upon the appropriate requirements of 19 15 17 13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) based upon the appropriate requirements of 19 15 17 13 NMAC
- ☐ Waste Material Sampling Plan based upon the appropriate requirements of 19 15 17 13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids drilling fluids and drill cuttings or in case on site closure standards 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 H of 19 15 17 13 NMAC
- ☐ Site Reclamation Plan based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC

17 Operator Application Certification

I hereby certify that the information submitted with this application is true accurate and complete to the best of my knowledge and belief

Name (Print) Crystal Walker Title Regulatory Coordinator
 Signature *Crystal Walker* Date 1/10/2017
 e mail address crystal.walker@conocophillip.com Telephone 505 326 9837

18 OCD Approval ☒ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature *Angela Rios* Approval Date 3/29/17
 Title Environmental Spec OCD Permit Number _____

19 Closure Report (required within 60 days of closure completion) 19 15 17 13 NMAC

Instructions Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report 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 _____

20 Closure Method

- ☐ Waste Excavation and Removal ☐ On Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed loop systems only)
- ☐ If different from approved plan please explain

21 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 for private land only)
- ☐ Plot Plan (for on site closures and temporary pits)
- ☐ Confirmation Sampling Analytical Results (if applicable)
- ☐ Waste Material Sampling Analytical Results (required for on site closure)
- ☐ 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

Operator Closure Certification

I hereby certify that the information and attachments submitted with this closure report is true accurate and complete to the best of my knowledge and belief I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan

Name (Print) _____ Title _____

Signature _____ Date _____

e mail address _____ Telephone _____

ConocoPhillips Company requests a variance for the items listed below. The requested variance per 19 15 17 15 A provides equal or better protection of fresh water, public health & the environment.

1 Fencing

- Fencing as described in Section 5 under Alternate. COPC will construct all new fences around the below grade tank utilizing 48" steel mesh field fence (hog wire) on the bottom with a single strand of barbed wire on top. T posts shall be installed every 12 feet and corners shall be anchored utilizing a secondary T post. Below grade tanks will be fenced regardless of location.

2 Geo membrane Liner

- The geo membrane liner consists of a 45 mil flexible LLDPE material manufactured by Brawler Industries LLC as SuperScrim H45. SuperScrim H45 is manufactured with LLDPE and is 45 mil inch thickness and is reinforced with polyester scrim. The geomembrane liner has a hydraulic conductivity of less than 5×10^{-14} cm/s and is resistant to ultraviolet light, petroleum hydrocarbons, salts and acidic and alkaline solutions. The manufacturer specific sheet is attached.

3 COPC will notify Public Entity Surface Owners by email in lieu of certified mail. Private Entity Surface Owners will still be notified via certified mail.

TIERRA CORROSION CONTROL, INC
DRILLING LOG

COMPANY ConocoPhillips
LOCATION San Juan 29-6 11C
STATE NM
BIT SIZE 7 7/8
LBS COKE BACKFILL 2 600#
ANODE TYPE 2 X 60 Duriron

DATE April 7 2008
LEGALS S1 T29N R9W
DRILLER Eugene Silago
CASING SIZE/TYPE 8 X 20 PVC
VENT PIPE 300
ANODE AMOUNT 10

COUNTY Rio Arriba
DEPTH 300
COKE TYPE Asbury
PERF PIPE 180 - 300
BOULDER DRILLING None


DEPTH	DRILLER S LOG	AMPS	DEPTH	DRILLER S LOG	AMPS
20	Sand Stone		310		
25			315		
30			320		
35			325		
40			330		
45			335		
50		5	340		
55		5	345		
60		13	350		
65		11	355		
70		10	360		
75		10	365		
80		11	370		
85		12	375		
90		13	380		
95		17	385		
100	↓	19	390		
105	Shale	25	395		
110		25	400		
115		25	405		
120		20	410		
125		14	415		
130		22	420		
135		20	425		
140		21	430		
145		21	435		
150		21	440		
155		25	445		
160		14	450		
165		26	455		
170		26	460		
175		24	465		
180		18	470		
185		18	475		
190		20	480		
195		20	485		
200		24	490		
205		23	495		
210		22	500		
215		24			
220		26			
225		23			
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250		20			
255		21			
260		22			
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285		26			
290		25			
295		23			
300	↓				
305					

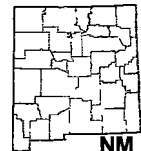
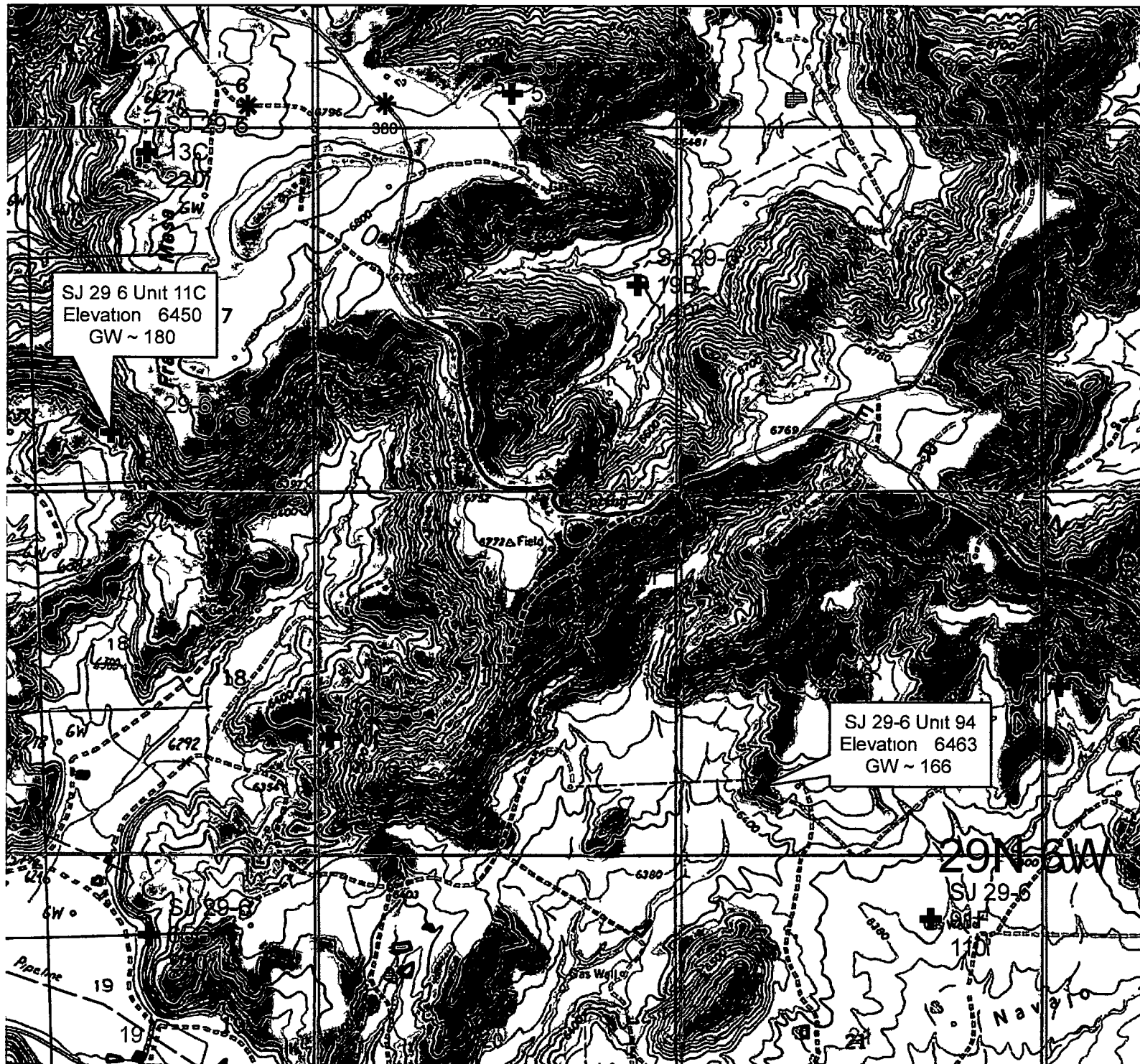
ANODE #	DEPTH	NO COKE	COKE
1	290	2 5	4 9
2	280	3 0	6 1
3	270	3 0	5 9
4	260	2 2	5 3
5	250	2 0	4 7
6	240	2 0	4 4
7	230	2 6	5 0
8	220	2 6	5 0
9	210	2 2	4 8
10	200	2 4	4 9
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WATER DEPTH 180
ISOLATION PLUGS None
LOGGING VOLTS 12 7
VOLT SOURCE AUTO BATTERY
TOTAL AMPS 15 6
TOTAL GB RESISTANCE 81
REMARKS

San Juan 29-6 Jni 94

Legend


- ▲ DSM
- ★ CO Water Wells
- * iWater
- ⊕ COP Cathodic
-  Wetlands



ConocoPhillips	
San Juan 29 6 Unit 94	
30 039 07603	
M 16 29N 6W	
GW ~ 166	
	
Sheet	Date: 1/10/2017

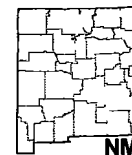
San Juan 29-6 Unit 94

Legend

- ▲ DSM
- ★ CO Water Wells
- * iWater
- + COP Cathodic
-  Wetlands

SJ 29 6 Unit 11C
Elevation 6450
GW ~ 180

SJ 29-6 Unit 94
Elevation 6463
GW ~ 166



NM

ConocoPhillips

San Juan 29 6 Unit 94
30 039 07603
M 16 29N 6W
GW ~ 166

Below Grade Tank (BGT) Siting Criteria and Compliance Demonstrations

Well Name San Juan 29-6 Unit 94

- 1 Depth to groundwater (should not be less than 25 feet)

The nearest recorded well with available water depth information is the **San Juan 29-6 Unit 11C** with groundwater @ 180 as indicated in the **Cathodic Data Sheet** attached
The subject well is 13 less in elevation making depth to groundwater at 166'

- 2 Distance to watercourse (should not be within 100 feet of a continuously flowing watercourse, other significant watercourse, lakebed, sinkhole, wetland or playa lake [measured from the ordinary high water mark])

Aerial map attached indicates that there are **no** lakebeds sinkholes playa lakes or watercourses within 100 feet of the proposed Below Grade Tank

- 3 Distance to springs or wells (should not be within 200 feet of a spring or a fresh water well used for public or livestock consumption)

Aerial map attached indicates that the Below Grade Tank will **not** be within 200 feet of any recorded well or spring

Hydrogeological report for San Juan 29-6 Unit 94

Regional Hydrogeological context

The San Jose Formation of Eocene age occurs in New Mexico and Colorado, and its outcrop forms the land surface over much of the eastern half of the central basin. It overlies the Nacimiento Formation in the area generally south of the Colorado-New Mexico State line and overlies the Animas Formation in the area generally north of the State line.

The San Jose Formation was deposited in various fluvial-type environments. In general, the unit consists of an interbedded sequence of sandstone, siltstone, and variegated shale. Thickness of the San Jose Formation generally increases from west to east (200 feet in the west and south to almost 2,700 feet in the center of the structural basin).

Ground water is associated with alluvial and fluvial sandstone aquifers. Thus, the occurrence of ground water is mainly controlled by the distribution of sandstone in the formation. The distribution of such sandstone is the result of original depositional extent plus any post-depositional modifications, namely erosion and structural deformation. Transmissivity data for San Jose Formation are minimal. Values of 40 and 120 feet squared per day were determined from two aquifer tests (Stone et al. 1983, table 5). The reported or measured discharge from 46 water wells completed in San Jose Formation ranges from 0.15 to 61 gallons per minute and the median is 5 gallons per minute. Most of the wells provide water for livestock and domestic use.

The San Jose Formation is a very suitable unit for recharge from precipitation because soils that form on the unit are sandy and highly permeable and therefore readily adsorb precipitation. However, low annual precipitation, relatively high transpiration and evaporation rates, and deep dissection of the San Jose Formation by the San Juan River and its tributaries all tend to reduce the effective recharge to the unit.

Stone et al. 1983. Hydrogeology and Water Resources of the San Juan Basin, New Mexico. Socorro, New Mexico: Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p.

Below Grade Tank Design and Construction

In accordance with NMAC 19 15 17 the following information describes the design and construction of below grade tanks on ConocoPhillips Company hereinafter known as COPC locations This is COPC's standard procedure for all below grade tanks (BGT) A separate plan will be submitted for any BGT which does not conform to this plan

General Plan

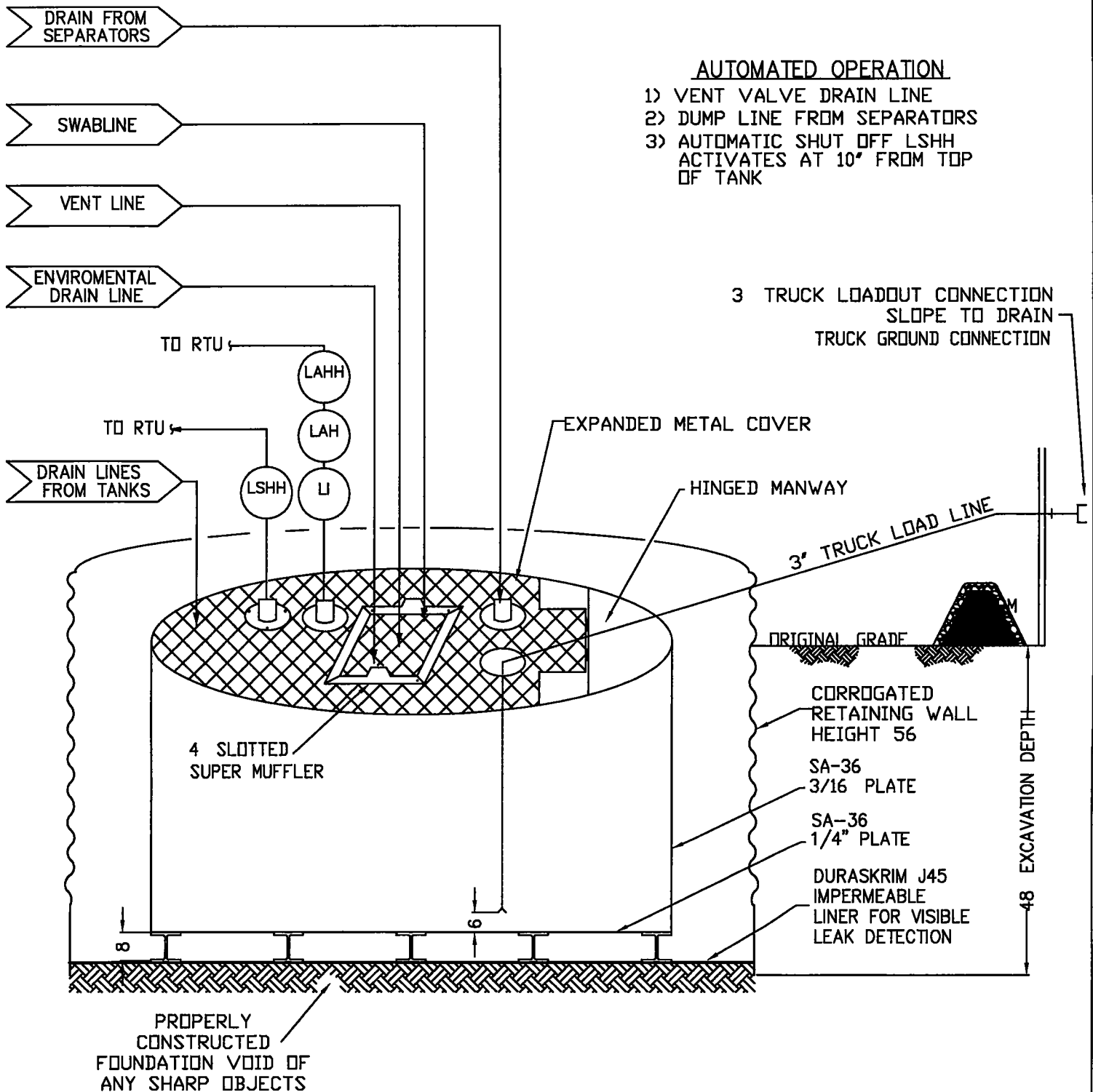
- 1 COPC will design and construct a properly sized and approved BGT which will contain liquids and should prevent contamination of fresh water to protect the public health and environment
- 2 COPC signage will comply with 19 15 17 11 C NMAC
- 3 COPC is requesting approval of an alternative fencing to be used on BGT tank locations COPC requests to utilize 48 steel mesh field fence (hog wire) on the bottom with a single strand of barbed wire on top T posts shall be installed every 12 feet and corners shall be anchored utilizing a secondary T-post BGTs will be fenced regardless of location
 - a If the BGT is located within 1000 of an occupied permanent residence school hospital institution or church COPC will construct A 6 chain link fence with two strands of barbed wire on top The operator shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not onsite
- 4 COPC will construct a screened expanded metal covering on the top of the BGT
- 5 COPC will ensure that a BGT is constructed of materials resistant to the BGT's particular contents and resistant to damage from sunlight as shown on design drawing and specification sheet
- 6 The COPC BGT system will have a properly constructed foundation consisting of a level base free of rocks debris sharp edges or irregularities to prevent punctures cracks or indentations of the liner or tank bottom as shown on design drawing
- 7 COPC shall operate and install the BGT to prevent the collection of surface water run on COPC has built in shut off devices that do not allow a BGT to overflow COPC constructs berms and corrugated retaining walls at least 6 above ground to keep from surface water run on entering the BGT as shown on the design plan
- 8 If COPC needs to modify/retrofit the existing BGT it will meet the below specifications
- 9 COPC will construct and use a BGT that does not have double walls The BGT's side walls will be open for visual inspection for leaks the BGT's bottom is elevated a minimum of six inches above the underlying ground surface and the BGT is underlain with a geomembrane liner to divert leaked liquid to a location that can be visually inspected
- 10 COPC will equip below grade tanks with a properly functioning automatic high level shut off control device as well as manual controls to prevent overflows
- 11 COPC will utilize a geomembrane liner manufactured by Brawler Industries LLC as SuperScrim H45 SuperScrim H45 is manufactured with LLDPE and is 45 mil inch thickness and is reinforced with polyester scrim The geomembrane liner has a hydraulic conductivity of less than 5×10^{-14} cm/s and is resistant to ultraviolet light petroleum hydrocarbons salts and acidic and alkaline solutions The manufacturer specific sheet is attached
- 12 The general specification for design and construction are attached

MANUAL OPERATION

- 1) PRODUCTION TANKS DRAIN LINE
- 2) SWABLINE DRAIN LINE
- 3) ENVIRONMENTAL DRAIN LINE FROM COMPRESSOR SKID

AUTOMATED OPERATION

- 1) VENT VALVE DRAIN LINE
- 2) DUMP LINE FROM SEPARATORS
- 3) AUTOMATIC SHUT OFF LSHH ACTIVATES AT 10" FROM TOP OF TANK



ConocoPhillips

San Juan Business Unit

PRODUCED WATER PIT TANK
 OPEN TOP GRAVITY FLOW TANK
 INTERNALLY COATED WITH
 12-14 MILS AMERON AMERCOAT 385

SuperScrim™ H Product Specifications

This product meets GRI GM 25 Specifications

Properties	Test Method	Frequency	Minimum Average Values		
			H30	H36	H45
Thickness					
Nominal (mils)	ASTM D5199	Per roll	30	36	45
Min Ave (mils)			27	32	40
Weight					
Nominal (lb/1000 ft²)	ASTM D5261	Per roll	140	168	210
Min Ave (lb/1000 ft²)			125	151	189
Grab Tensile	ASTM D7004	30 000 lb	300	310	320
Strength (lb) min ave					
Elongation (%) min ave	(each direction)	(each direction)	25	25	25
Tongue Tear (lb) min ave	ASTM D5884	30 000 lb	130	130	130
	(each direction)				
Index Puncture (lb) min ave	ASTM D4833	30 000 lb	85	103	105
Ply Adhesion (lb) min ave ⁽¹⁾	ASTM D6636	30 000 lb	20	25	25
Oxidative Induction Time (OIT) ⁽²⁾					
(a) Standard OIT	ASTM D3895	Formulation	>100	>100	>100
Or					
(b) High Pressure OIT	ASTM D5885		>1000	>1000	>1000
Standard Roll Dimensions					
Roll Width ⁽³⁾ ft			11 83	11 83	11 83
Roll Length ⁽³⁾ ft			1500	1230	1000
Roll Area ft²			17 745	14 551	11 830

⁽¹⁾ Alternatively, an acceptable ply adhesion is to have a film tearing bond occur within the sheet material

⁽²⁾ The Manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant effectiveness in the geomembrane.

⁽³⁾ Roll widths and lengths have a tolerance of ± 1%

*Custom material thicknesses also available

The data provided for informational purposes only. Brawler Industries LLC makes no warranties as to the suitability of the fitness for a specific use or merchantability of products referred to. No guarantee of satisfactory results upon contained information or recommendations and disclaims all liability from resulting loss or damage. This information is subject to change without notice. Please check with Brawler Industries LLC for current updates.

This is a preliminary data sheet based upon laboratory testing of initial manufacturing lots and may be changed without notice as additional product testing data becomes available.



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HOUSTON TX
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SuperScrim™ WC Product Specifications

Properties	Test Method	Minimum Average Values					
		9 mil	12 mil	16 mil	20 mil	24 mil	30 mil
Weight	D5261	5.4 oz/yd ²	5.7 oz/yd ²	7.2 oz/yd ²	9.6 oz/yd ²	11.5 oz/yd ²	13.4 oz/yd ²
Thickness		9 mil	12 mil	16 mil	20 mil	24 mil	30 mil
Grab Tensile (lbs)	D751	MD 200 CD 135	MD 210 CD 176	MD 230 CD 210	MD 330 CD 286	MD 352 CD 300	MD 352 CD 300
Mullen Burst	D6241	300 psi	350 psi	400 psi	600 psi	680 psi	780 psi
Accelerated UV Weathering	D4355	>80 % after 2000 hrs exposure	>90 % after 2000 hrs exposure	>90 % after 2000 hrs exposure	>90 % after 2000 hrs exposure	>90 % after 2000 hrs exposure	>90 % after 2000 hrs exposure
Standard Roll Dimensions							
Roll Length ⁽²⁾ Ft		3 000	3 000	4 000	3 000	2 250	2 250
Roll Width ⁽²⁾ Ft		12	12	12	12	12	12
Roll Area Ft ²		36 000	36 000	48 000	36 000	27 000	27 000

⁽¹⁾9 of 10 views shall be Category 1 or 2. No more than 1 view from Category 3.

⁽²⁾Roll widths and lengths have a tolerance of $\pm 1\%$.

Custom material thicknesses also available.

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**ConocoPhillips Company
San Juan Asset
Below Grade Tank Maintenance and Operating Plan**

In accordance with Rule 19 15 17 the following information describes the operation and maintenance of a below grade tank (BGT) on a Burlington Resources Oil & Gas Company LP (COP) location This is COP s standard procedure for all BGT s A separate plan will be submitted for any BGT which does not conform to this plan

General Plan

- 1 COP will operator and maintain a BGT to contain liquids and solids and maintain the integrity of the liner liner system and secondary containment system to prevent contamination of fresh water and protect public health and the environmental COP will perform an inspection on a monthly basis, install cathodic protection and automatic overflow shutoff devices as seen on the design plan
- 2 COP will not discharge into or store any hazardous waste in the BGT
- 3 COP shall operator and install the BGT to prevent the collection of surface water run on COP has built in shut off devices that do not all ow a BGT to overflow COP constructs berms and corrugated retained walls at least 6 above grade to keep surface water run on from entering the BGT as shown on the design plan
- 4 As per 19 15 17 12 D(3) COP will inspect the BGT for leakage and damage at least monthly The operator will document the integrity of each tank at least annually and maintain a written record for 5 years Inspections may include 1) containment berms adequate and no oil present 2) tanks had no visible leaks or sign of corrosion 3) tank valves flanges and hatches had no visible leaks and 4) no evidence of significant spillage of produced liquids COP shall remove any visible or measurable layer of oil from the fluid surface of the BGT in an effort to prevent significant accumulation of oil overtime
- 5 COP shall maintain adequate freeboard to prevent overtopping of the BGT
- 6 If a BGT develops a leak then COP shall removal all liquid above the damage or leak within 48 hours of discovery notify the appropriate division office pursuant to 19 15 29 NMAC and repair the damage or replace BGT as applicable
- 7 If COP discovers a BGT designed in accordance with 19 15 17 11 I(5) has lost integrity the BGT will promptly be drained and removed from service and COP will follow the approved closure plan If COP discovers a retrofitted BGT designed in accordance with 19 15 17 11 I(4)(a c) does not demonstrate integrity or that the BGT develops any of the conditions identified in Paragraph (5) of Subsection A of 19 15 17 12 NMAC shall repair the damage or close the existing BGT pursuant to the closure requirements of 19 15 17 13 NMAC
- 8 If COP equips or retrofits the existing BGT to comply with Paragraphs (1) through (4) of Subsection I of 19 15 17 11 NMAC COP shall visually inspect the area beneath the BGT during the retrofit and document any areas that are wet discolored or showing other evidence of a release on form C 141 COP shall measure and report to the division the concentration of contaminants in the wet or discolored soil with respect to the standards set forth in Table I of 19 15 17 13 NMAC If there is no wet or discolored soil or if the concentration of contaminants in the wet or discolored soil is less than the standard set forth in Table I of 19 15 17 13 NMAC then COP will proceed with the closure requirements of 19 15 17 13 NMAC prior to initiating the retrofit or replacement

**ConocoPhillips Company
San Juan Asset
Production BGT Closure Plan**

In accordance with Rule 19 15 17 13 NMAC the following plan describes the general closure requirements of a below grade tank (BGT) on any ConocoPhillips Company (COP) location in the San Juan Asset. This is COP's standard closure procedure for all BGT's regulated under Rule 19 15 17 NMAC and operated by COP. For those closures which do not conform to this standard closure plan, a separate BGT specific closure plan will be developed and utilized.

Closure Conditions and Timing for BGT


- Within 60 days of cessation of operation COP will
 - Remove all liquids and sludge and dispose in a division approved manner
- Within 72 hours or 1 week prior to closure COP will
 - Give notice to surface owners by certified mail. For public entities by email as specified on the variance page
 - Give notice to Division District Office verbal or in writing/email
- Within 6 months of cessation of operation COP will
 - Remove BGT and dispose, recycle, reuse, or reclaim in a division approved manner
 - Remove unused onsite equipment associated with the BGT
- Within 60 days of closure COP will
 - Send the Division District Office a Closure Report per 19 15 17 13 F (1)

General Plan Requirements

1. Prior to initiating any BGT closure, except in the case of an emergency, COP will notify the surface owner of the intent to close the BGT by certified mail no later than 72 hours or 1 week before closure and a copy of this notification will be included in the closure report. In the case of an emergency, the surface owner will be notified as soon as practical.
2. Notice of closure will be given to the Division District office between 72 hours and 1 week of the scheduled closure via email or phone. The notification of closure will include the following:
 - a. Operators Name
 - b. Well Name and API Number
 - c. Location
3. All liquids will be removed from the BGT following cessation of operation. Produced water will be disposed of at one of COP's approved Salt Water Disposal facilities or at a Division District Office approved facility.
4. Solids and sludge's will be shoveled and/or vacuumed out for disposal at one of the Division District Office approved facilities, depending on the proximity of the BGT site: Envirotech Land Farm (Permit #NM 01 011), Industrial Ecosystems Inc. JFJ Land Farm (Permit #NM 01 0010B), and Basin Disposal (Permit #NM 01 005).
5. COP will obtain prior approval from the Division District Office to dispose, recycle, reuse, or reclaim the BGT and provide documentation of the disposition of the BGT in the closure report. Steel materials will be recycled or reused as approved by the Division District Office. Fiberglass tanks will be empty, cut up or shredded, and EPA cleaned for disposal as solid waste. Liner materials will be cleaned without soils or contaminated material for disposal as solid waste. Fiberglass tanks and liner materials will meet the conditions of 19 15 35 NMAC. Disposal will be at a licensed disposal facility, presently San Juan County Landfill operated by Waste Management under NMED Permit SWM 052426.
6. Any equipment associated with the BGT that is no longer required for some other purpose following the closure will be removed.

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- 7 Following removal of the tank and any liner material COP will test the soils beneath the BGT as follows
 - a At a minimum a five point composite sample will be taken to include any obvious stained or wet soils or any other evidence of contamination
 - b The laboratory sample shall be analyzed for the constituents listed in Table I of 19 15 17 13

Table I Closure Criteria for Soils Beneath Below Grade Tanks Drying Pads Associated with Closed Loop Systems and Pits where Contents are Removed			
Depth below bottom of pit to groundwater less than 10 000 mg/l TDS	Constituent	Method*	Limit**
≤50 feet	Chloride	EPA 300 0	600 mg/kg
	TPH	EPA SW 846 Method 418 1	100 mg/kg
	BTEX	EPA SW 846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW 846 Method 8021B or 8015M	10 mg/kg
51 feet 100 feet	Chloride	EPA 300 0	10 000 mg/kg
	TPH	EPA SW 846 Method 418 1	2 500 mg/kg
	GRO+DRO	EPA SW 846 Method 8015M	1 000 mg/kg
	BTEX	EPA SW 846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW 846 Method 8021B or 8015M	10 mg/kg
 > 100 feet	Chloride	EPA 300 0	20 000 mg/kg
	TPH	EPA SW 846 Method 418 1	2 500 mg/kg
	GRO+DRO	EPA SW 846 Method 8015M	1 000 mg/kg
	BTEX	EPA SW 846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW 846 Method 8021B or 8015M	10 mg/kg

*Or other test methods approved by the division

**Numerical limits or natural background level whichever is greater

(19 15 17 13 NMAC Ro 19 15 17 13 NMAC 3/28/2013)

- 8 If the Division District Office and/or COP determine there is a release COP will comply with 19 15 17 13 C 3b
- 9 Upon completion of the tank removal pursuant to 19 15 17 13 C 3c if all contaminant concentrations are less than or equal to the parameters listed in Table I of 19 15 17 13 NMAC the excavation will be backfilled with non waste containing earthen material compacted and covered with a minimum of one foot top soil or background thickness of top soil whichever is greater The surface will then be re contoured to match the native grade prevent ponding of water and prevent erosion of cover material
- 10 For those portions of the former BGT area no longer required for production activities COP will seed the disturbed area in the first favorable growing season following the closure of the BGT Seeding will be accomplished via drilling on the contour whenever practical or by other Division District Office approved methods COP will notify the Division District Office when reclamation and re vegetation is complete

Reclamation of the BGT shall be considered complete when

- Established vegetative cover reflects a life form ratio of +/- 50% of pre disturbance levels
- Total plant cover is at least 70% of pre disturbance levels (Excluding noxious weeds) OR
- Pursuant to 19 15 17 13 H 5d COP will comply with obligations imposed by other applicable federal or tribal agencies in which there re vegetation and reclamation requirements provide equal or better protection of fresh water human health and the environment

Revised 3/15/2016

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

Closure Report

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

- Proof of Closure Notice (surface owner and Division District Office)
- Backfilling & cover installation
- Confirmation Sampling Analytical Results
- Application Rate & Seeding techniques
- Photo Documentation of Reclamation