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

Form C-144
July 21, 2008

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

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

10435

# Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- [X] Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
- [ ] 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.

1
Operator: **ConocoPhillips Company** OGRID#: **217817**
Address: **PO Box 4289, Farmington, NM 87499**
Facility or well name: **SAN JUAN 28-7 UNIT 154F**
API Number: **30-039-** 31145 OCD Permit Number:
U/L or Qtr/Qtr: **P(SE/SE)** Section: **17** Township: **27N** Range: **7W** County: **Rio Arriba**
Center of Proposed Design: Latitude: **36.567946 °N** Longitude: **107.5935382 °W** NAD: [ ] 1927 [X] 1983
Surface Owner: [X] Federal [ ] State [ ] Private [ ] Tribal Trust or Indian Allotment

2
[X] **Pit:** Subsection F or G of 19.15.17.11 NMAC

RCVD SEP 26 '12
OIL CONS. DIV.
DIST. 3

Temporary: [X] Drilling [ ] Workover
[ ] Permanent [ ] Emergency [ ] Cavitation [ ] P&A
[X] Lined [ ] Unlined Liner type: Thickness **20** mil [X] LLDPE [ ] HDPE [ ] PVC [ ] Other
[X] String-Reinforced
Liner Seams: [X] Welded [X] Factory [ ] Other Volume: **7700** bbl Dimensions L **120'** x W **55'** x D **12'**

3
[ ] **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: [ ] P&A [ ] Drilling a new well [ ] Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
[ ] Drying Pad [ ] Above Ground Steel Tanks [ ] Haul-off Bins [ ] Other
[ ] Lined [ ] Unlined Liner type: Thickness mil [ ] LLDPE [ ] HDPE [ ] PVD [ ] Other
Liner Seams: [ ] Welded [ ] Factory [ ] Other

4
[X] **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 [X] 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 [X] Other **LLDPE**

5
[ ] **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.



38

6

**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, institution or church)*

☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☒ Alternate. Please specify **4' hogwire fence with a single strand of barbed wire on top.**

7

**Netting:** Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☒ Screen ☐ Netting ☐ Other _____

☐ Monthly inspections *(If netting or screening is not physically feasible)*

8

**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 19.15.3.103 NMAC

9

**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:***

☒ Administrative approval(s): Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for consideration of approval. **(Fencing/BGT Liner)**

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10

**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.**<br>- 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).**<br>- 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.**<br>*(Applies to temporary, emergency, or cavitation pits and below-grade tanks)*<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image | ☐ Yes ☒ No<br>☐ NA |
| **Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.**<br>*(Applied to permanent pits)*<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image | ☐ Yes ☐ No<br>☒ NA |
| **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.**<br>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site. | ☐ Yes ☒ No |
| **Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended**<br>- Written confirmation or verification from the municipality; Written approval obtained from the municipality | ☐ Yes ☒ No |
| **Within 500 feet of a wetland.**<br>- 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.**<br>- Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division | ☐ Yes ☒ No |
| **Within an unstable area.**<br>- 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**<br>- FEMA map | ☐ Yes ☒ No |

11

**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.*

- [X] Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- [X] Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9
- [X] Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- [X] Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- [X] Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- [X] 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 _____

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 (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

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: [X] Drilling [ ] Workover [ ] Emergency [ ] Cavitation [ ] P&A [ ] Permanent Pit [X] Below-grade Tank [ ] Closed-loop System [ ] Alternative

Proposed Closure Method: [X] Waste Excavation and Removal **(Below-Grade Tank)**

[ ] Waste Removal (Closed-loop systems only)

[X] On-site Closure Method (only for temporary pits and closed-loop systems)

[X] 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.***

- [X] Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- [X] Confirmation Sampling Plan (if applicable) - 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)
- [X] Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- [X] Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- [X] Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16

**Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:** (19.15.17.13.D NMAC)
*Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.*

Disposal Facility Name: _____ Disposal Facility Permit #: _____

Disposal Facility Name: _____ Disposal Facility Permit #: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future 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 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 appropraite 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 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 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. 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.<br>- NM Office of the State Engineer - iWATERS database search; USGS: Data obtained from nearby wells | ☐ Yes ☒ No<br>☐ N/A |
| Ground water is between 50 and 100 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes ☒ No<br>☐ N/A |
| Ground water is more than 100 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☒ Yes ☐ No<br>☐ N/A |
| 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).<br>- 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.<br>- Visual inspection (certification) of the proposed site; Aerial photo; satellite image | ☐ Yes ☒ No |
| Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal fee of any other fresh water well or spring, in existence at the time of the initial application.<br>- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site | ☐ Yes ☒ No |
| Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.<br>- Written confirmation or verification from the municipality; Written approval obtained from the municipality | ☐ Yes ☒ No |
| Within 500 feet of a wetland<br>- 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.<br>- Written confiramtion or verification or map from the NM EMNRD-Mining and Mineral Division | ☐ Yes ☒ No |
| Within an unstable area.<br>- 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.<br>- FEMA map | ☐ Yes ☒ No |

18

**On-Site Closure Plan Checklist:** (19.15.17.13 NMAC) ***Instructions: Each of the following items must bee 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 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 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 Subsection F of 19.15.17.13 NMAC
☒ Waste Material Sampling Plan - 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 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 I 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): Jamie Goodwin Title: Regulatory Technician

Signature: Jamie Goodwin Date: 9/24/12

e-mail address: jamie.l.goodwin@conocophillips.com Telephone: 505-326-9784

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

**OCD Representative Signature:** Jonathan D. Kelly **Approval Date:** 10/02/2012

**Title:** Compliance Officer **OCD Permit Number:**

21

**Closure Report (required within 60 days of closure completion):** Subsection K of 19.15.17.13 NMAC

*Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.*

☐ **Closure Completion Date:**

22

**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.

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 opeartions?

☐ Yes (If yes, please demonstrate complilane to the items below) ☐ No

*Required for impacted areas which will not be used for future service and operations:*

☐ Site Reclamation (Photo Documentation)

☐ Soil Backfilling and Cover Installation

☐ Re-vegetation Application Rates and Seeding Technique

24

**Closure Report Attachment Checklist:** ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***

☐ Proof of Closure Notice (surface owner and division)

☐ Proof of Deed Notice (required for on-site closure)

☐ Plot Plan (for on-site closures and temporary pits)

☐ Confirmation Sampling Analytical Results (if applicable)

☐ Waste Material Sampling Analytical Results (if applicable)

☐ Disposal Facility Name and Permit Number

☐ Soil Backfilling and Cover Installation

☐ Re-vegetation Application Rates and Seeding Technique

☐ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude: Longitude: NAD ☐ 1927 ☐ 1983

25

**Operator Closure Certification:**

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

Name (Print): Title:

Signature: Date:

e-mail address: Telephone:

# New Mexico Office of the State Engineer
# Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

| POD Number | POD Code | Subbasin | County | Q 64 | Q 16 | Q 4 | Sec | Tws | Rng | X | Y | Depth Well | Depth Water | Water Column |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SJ 02314 | | | RA | 3 | 3 | | 17 | 27N | 07W | 266864 | 4050051* | 355 | 320 | 35 |
| SJ 02408 | | | RA | 3 | 1 | 2 | 21 | 27N | 07W | 269160 | 4049516* | 400 | 300 | 100 |

Average Depth to Water: **310 feet**

Minimum Depth: **300 feet**

Maximum Depth: **320 feet**

**Record Count:** 2

**PLSS Search:**

**Section(s):** 7, 8, 9, 18, 17, 16, 19, 20, 21 **Township:** 27N **Range:** 07W

***UTM location was derived from PLSS - see Help**

# New Mexico Office of the State Engineer
# Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

| POD Number | POD Code | Subbasin | County | Q 64 | Q 16 | Q 4 | Sec | Twn | Rng | X | Y | Depth Well | Depth Water | Water Column |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SJ 02314 | | | RA | 3 | 3 | | 17 | 27N | 07W | 266864 | 4050051* | 355 | 320 | 35 |
| SJ 02408 | | | RA | 3 | 1 | 2 | 21 | 27N | 07W | 269160 | 4049516* | 400 | 300 | 100 |

Average Depth to Water: **310 feet**

Minimum Depth: **300 feet**

Maximum Depth: **320 feet**

**Record Count:** 2

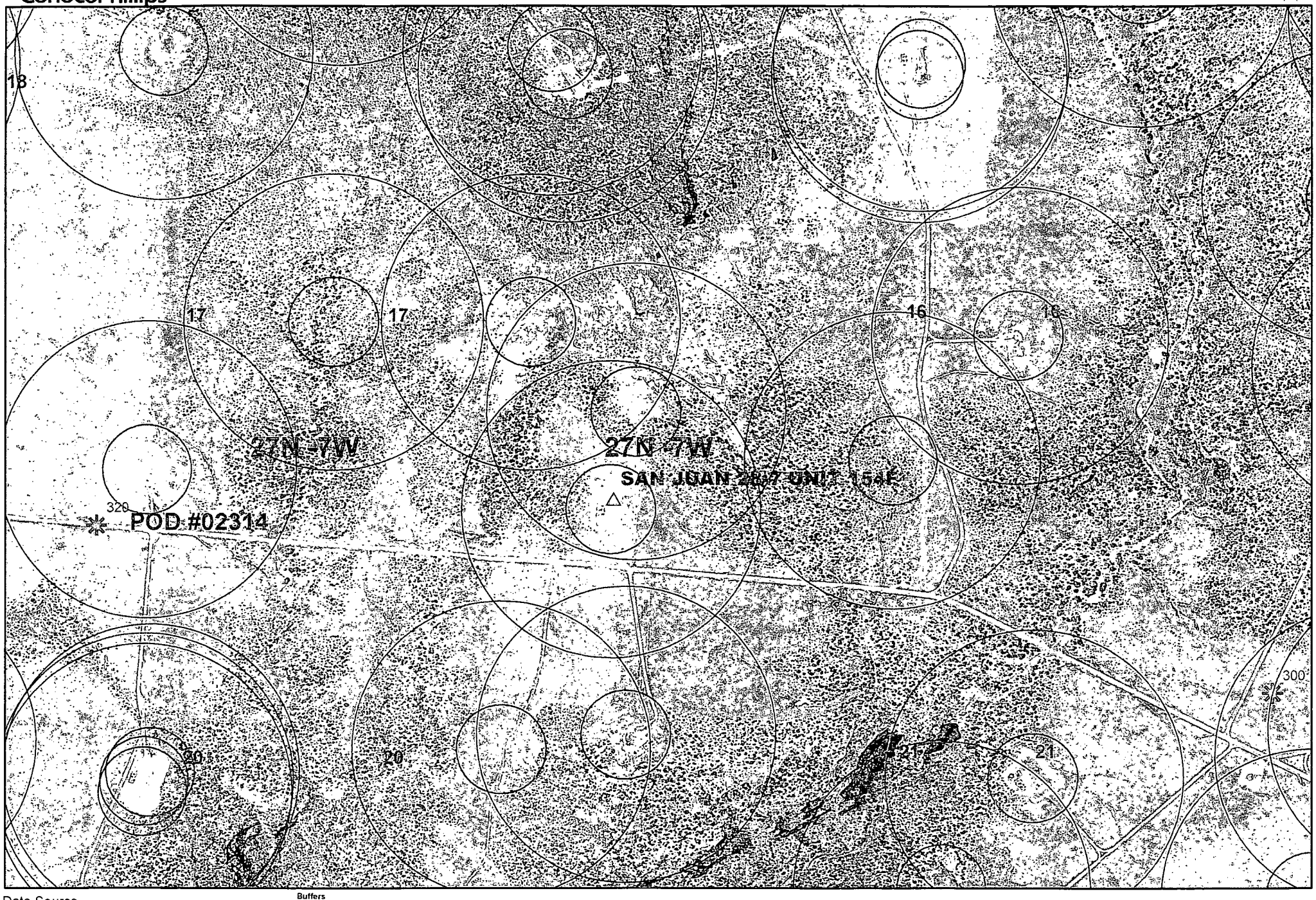
**PLSS Search:**

**Section(s):** 7, 8, 9, 18, 17, 16, 19, 20, 21 **Township:** 27N **Range:** 07W

***UTM location was derived from PLSS - see Help**

# TOPO _ SAN JUAN 28-7 UNIT 154F

ConocoPhillips




Data Source
Aerial flown locally Sedgewick in 2005.
Wetlands Data Aquired from U.S. Fish and Wildlife Http://wetlandswms.er.usgs.gov
USGS Topo

Buffers
Waters
COPCathodic
500
300

0 600 1,200 Feet

1:10,000

NAD_1983_SP_ NM West_FIPS_ 3003

SEPTEMBER 24, 2012

# New Mexico Office of the State Engineer
# Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

| POD Number | POD Code | Subbasin | County | Q 64 | Q 16 | Q 4 | Sec | Tws | Rng | X | Y | Depth Well | Depth Water | Water Column |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SJ 02314 | | | RA | 3 | 3 | 17 | 27N | 07W | | 266864 | 4050051* | 355 | 320 | 35 |

Average Depth to Water: **320 feet**

Minimum Depth: **320 feet**

Maximum Depth: **320 feet**

**Record Count:** 1

**PLSS Search:**

**Section(s):** 17 **Township:** 27N **Range:** 07W

***UTM location was derived from PLSS - see Help**

# New Mexico Office of the State Engineer
# Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

| POD Number | Q64 | Q16 | Q4 | Sec | Tws | Rng | X | Y |
|---|---|---|---|---|---|---|---|---|
| SJ 02314 | | 3 | 3 | 17 | 27N | 07W | 266864 | 4050051* |

**Driller License:** CHIVERS BRYCE J.
**Driller Name:** CHIVERS, BONNIE

| | | | | | |
|---|---|---|---|---|---|
| **Drill Start Date:** | 07/20/1991 | **Drill Finish Date:** | 08/29/1991 | **Plug Date:** | |
| **Log File Date:** | 03/20/1992 | **PCW Rcv Date:** | | **Source:** | Shallow |
| **Pump Type:** | | **Pipe Discharge Size:** | | **Estimated Yield:** | 5 |
| **Casing Size:** | 5.00 | **Depth Well:** | 355 feet | **Depth Water:** | 320 feet |

| Water Bearing Stratifications: | Top | Bottom | Description |
|---|---|---|---|
| | 316 | 355 | Other/Unknown |

| Casing Perforations: | Top | Bottom |
|---|---|---|
| | 315 | 355 |

*UTM location was derived from PLSS - see Help

22852

Revised June 1972

STATE ENGINEER OFFICE

# WELL RECORD

'92 MAR 24 AM 10 29
STATE ENGINEER OFFICE
SANTA FE, NEW MEXICO

## Section 1. GENERAL INFORMATION

(A) Owner of well First Interstate Bank Owner's Well No. 1
Street or Post Office Address Conservator for Adeline Pacheco
City and State O.P. Box 4140 Farmington, N.M.

Well was drilled under Permit No. SJ-2314 and is located in the:

a. SW ¼ SW ¼ ¼ ¼ of Section 17 Township 27N Range 7W N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in Rio Rio Arriba County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Univers Drilling Co License No. WD-809

Address P.O. Box 663 Bloomfield, N.M. 87413

Drilling Began 7-20-91 Completed 8-29-91 Type tools Cabletool Size of hole 9 5/8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 355 ft.

Completed well is [X] shallow [ ] artesian. Depth to water upon completion of well 320 ft.

## Section 2. PRINCIPAL WATER-BEARING STRATA

| Depth in Feet From | Depth in Feet To | Thickness in Feet | Description of Water-Bearing Formation | Estimated Yield (gallons per minute) |
|---|---|---|---|---|
| 316 | 355 | 39 | Light brown sand stringers | 3-5 gpm |
| | | | | |
| | | | | |
| | | | | |

## Section 3. RECORD OF CASING

| Diameter (inches) | Pounds per foot | Threads per in. | Depth in Feet Top | Depth in Feet Bottom | Length (feet) | Type of Shoe | Perforations From | Perforations To |
|---|---|---|---|---|---|---|---|---|
| 5" | PVC | glued | 0 | 355 | 355 | | 315 | 355 |
| | | | | | | | | |
| | | | | | | | | |

## Section 4. RECORD OF MUDDING AND CEMENTING

| Depth in Feet From | Depth in Feet To | Hole Diameter | Sacks of Mud | Cubic Feet of Cement | Method of Placement |
|---|---|---|---|---|---|
| 0 | 30 | 9 5/8 | | 30 | pumped |
| | | | | | |
| | | | | | |

92 MAR 30 AM 11 45
STATE ENGINEER OFFICE
SANTA FE, NEW MEXICO

## Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:

_____
State Engineer Representative

| No. | Depth in Feet Top | Depth in Feet Bottom | Cubic Feet of Cement |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |

## FOR USE OF STATE ENGINEER ONLY

Date Received 3-20-92

Quad _____ FWL _____ FSL _____

File No. SJ-2314 Use Dom Location No. 27N.07W.17.33

Section 6. LOG OF HOLE

| Depth in Feet From | Depth in Feet To | Thickness in Feet | Color and Type of Material Encountered |
|---|---|---|---|
| 0 | 30 | 30 | Top Soil ( cemented surface pipe ) |
| 30 | 60 | 30 | Purple Shale |
| 60 | 80 | 20 | Green Clay |
| 80 | 115 | 35 | Purple Clay |
| 115 | 155 | 40 | Brown Clay |
| 155 | 316 | 161 | Sandstone |
| 316 | 355 | 39 | Light Brown Sans Stringers and Green Clay |

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Bonnie Chilton
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

HC-158391 - $5.00

228852

READ INSTRUCTIONS ON BACK **Revised March 1979**

# APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

1. Name and Address of Applicant: 91 JAN 30 AM 9 50 File No. SJ-2314

First Interstate Bank, STATE ENGINEER OFFICE
Conservator for Adelina Pacheco SANTA FE NEW MEXICO
P.O. Box 4140

Farmington, New Mexico 87499

2. Describe well location under one of the following subheadings:

a. ____ ¼ SW ¼ SW ¼ of Sec. 17 Twp. 27N Rge. 7W N.M.P.M., in Rio Arriba County.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. ____ of Block No. ____ of the ____ Subdivision, recorded in ____ County.

d. X = ____ feet, Y = ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

e. Give street address or route and box No. of property upon which well is to be located, or location by direction and distance from known landmarks ____

3. Approximate depth (if known) 500' (est) feet; outside diameter of casing ____ inches.

Name of driller (if known) Chivers Drilling, Bloomfield, NM

4. Use of water (check appropriate box or boxes):

- ☐ One household, non-commercial trees, lawn and garden not to exceed 1 acre.
- ☒ Livestock watering.
- ☐ More than one household, non-commercial trees, lawns and gardens not to exceed a total of 1 acre.
- ☐ Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.
- ☐ Prospecting, mining or drilling operations to discover or develop natural resources.
- ☐ Construction of public works, highways and roads.

→ If any of the last four were marked, give name and nature of business under Remarks. (Item 5)

91 JAN 25 P 1 31 STATE ENGINEER OFFICE ALBUQUERQUE, N. MEX.

5. Remarks: ____

I, the undersigned ____, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

First Interstate Bank,
Conservator for Adelina Pacheco, Applicant

By: John A Booth
Vice President & Trust Officer

Date: January 24, 1991

## ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to the specific conditions numbered 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before January 15, 1992.

Fluid I. Martinez, State Engineer

By: C. A. Wohlenberg
C. A. Wohlenberg

Date: January 29, 1991

Please refer to condition D on the reverse side of this permit.

File No. SJ 2314

## GENERAL CONDITIONS OF APPROVAL

A. The maximum amount of water that may be appropriated under this permit is 3 acre feet in any year.

B. The well shall be drilled only by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated. A licensed driller shall not be required for the construction of a driven well; provided, that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter (Section 72-12-12).

C. Driller's log must be filed with the State Engineer within 10 days after the well is completed. Failure to file the log within that time shall result in automatic cancellation of the permit. Log forms will be provided by the State Engineer upon request.

D. The casing shall not exceed 7 inches outside diameter except under specific conditions in which reasons satisfactory to the State Engineer are shown.

E. If the well under this permit is used at any time to serve more than one household, livestock in a commercial feed lot operation, the permittee shall comply with Specific Condition of Approval number 5(b).

F. In the event this well is combined with other wells permitted under Section 72-12-1 New Mexico Statutes Annotated, the total outdoor use shall not exceed the irrigation of one acre of non-commercial trees, lawn, and garden, or the equivalent outside consumptive use, and the total appropriation for household and outdoor use from the entire water distribution system shall not exceed 3 acre feet per annum.

## SPECIFIC CONDITIONS OF APPROVAL

(Applicable only when so indicated on the other side of this form.)

1. Depth of the well shall not exceed the thickness of the (a) the valley fill or (b) Ogallala formation.
2. The well shall be constructed to artesian well specifications and the State Engineer shall be notified before casing is landed or cemented.
3. Appropriation and use of water under this permit shall not exceed a period of one year from the date of approval.
4. Use shall be limited to household, non-commercial trees, lawn and garden not to exceed one acre and/or stock use.
5. A totalizing meter shall be installed before the first branch of the discharge line from the well and the installation shall be acceptable to the State Engineer; the Engineer shall be advised of the make, model, serial number, date of installation, and initial reading of the meter prior to appropriation of water and pumping records shall be submitted to the District Supervisor; (a) for each calendar month, on or before the 30th day of the following month (b) on or before the 10th of January, April, July and October of each year for the three preceding calendar months (c) for each calendar year on or before the 30th day of January of the following year.
6. The well shall be plugged upon completion of the permitted use and a plugging report shall be filed with the State Engineer within 10 days.
7. Final approval for the use of the well shall be dependent upon a leakage test made by the State Engineer.
8. Use shall be limited strictly to household and/or drinking and sanitary purposes; water shall be conveyed from the well to the place of use in closed conduit and the effluent returned to the underground so that it will not appear on the surface. No irrigation of lawns, gardens, trees or use in any type of pool or pond is authorized under this permit.

## INSTRUCTIONS

The application shall be made in the name of the actual user of the well for the purpose specified in the application.

The application shall be executed in triplicate and forwarded with a $5.00 filing fee to the State Engineer.

A separate application must be filed for each well to be drilled or used.

If well to be used is an existing well, an explanation (and file number, if possible) should be given under Remarks. (Item 5.)

Applications for appropriation, well logs and request for information in the following basins should be addressed to the State Engineer at the location indicated:

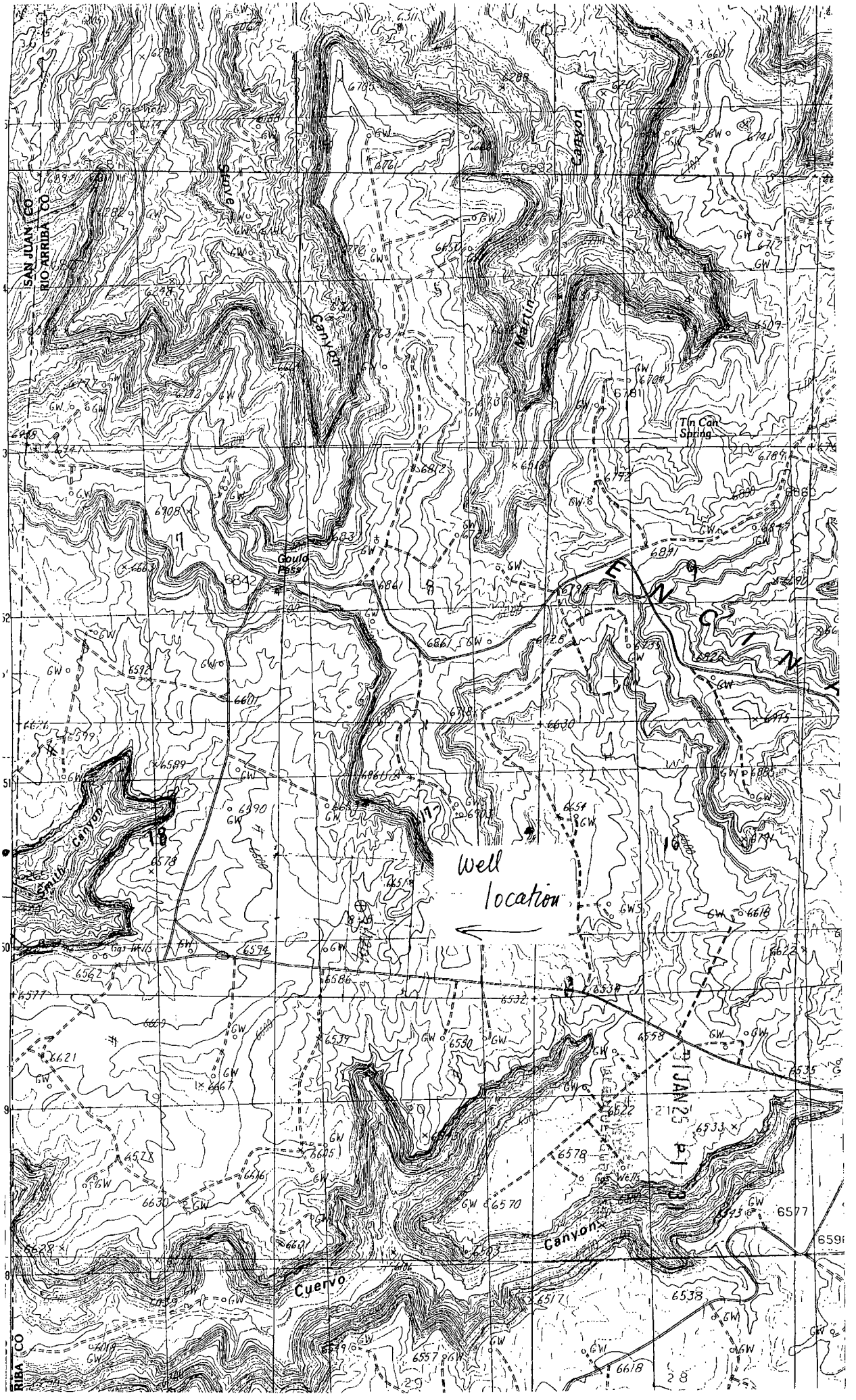
State Engineer Office, District 1
3311 Candelaria, NE Suite A
Albuquerque, New Mexico 87107

Bluewater, Estancia, Rio Grande, Sandia and San Juan Basins
District No. 1, ~~3340 Menaul NE, Room 200~~, Albuquerque, New Mexico 87107

Capitan, Carlsbad, Fort Sumner, Hondo, Jal, Lea, Penasco, Portales, Roswell, and Upper Pecos Basins
District No. 2, Box 1717, Roswell, New Mexico 88201

Animas, Gila-San Francisco, Hot Springs, Las Animas Creek, Lordsburg, Mimbres, Nutt-Hockett, Playas, San Simon, and Virden Valley Basins
District No. 3, Box 844, Deming, New Mexico 88030

Canadian River Basin
State Engineer, State Capitol, Bataan Memorial Bldg., Santa Fe, New Mexico 87503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RIO ARRIBA CO.
Canyon
Canyon
Canyon
Tin Can Spring
Gould Mesa
Well location
Canyon
Cuervo
Canyon
Gas Wells
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T 1000 S

Nelson Consulting, Inc.

Environmental, Compliance, and GIS Services

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

May 21, 2012

Subject: San Juan 28-7 Unit No. 154E

Dear Sir or Ma'am;

Based on our research, a temporary reserve pit is recommended for ConocoPhillips Company's proposed San Juan 28-7 Unit No. 154F well. As proposed (842' FSL & 1205' FEL, Section 17, T27N, R7W), the proposed site would comply with applicable OCD siting criteria for such a system, as discussed below:

1. **Is ground water less than 50 feet below the bottom of the proposed pit/system?**
   No. Within 1.0 mile of the proposed well, there are two water wells with depth-to-water data. These water wells are both located on top of Encinada Mesa, like the proposed well. Water well 02314, approximately 0.7 mile west of the proposed well, is at an elevation of approximately 6600 feet and has a depth-to-water of 320 feet. Water well 02408, approximately 0.8 mile east-northeast of the proposed well, is at an elevation of approximately 6560 feet and has a depth-to-water of 300 feet. The proposed well is at an elevation of approximately 6595 feet; therefore, the depth-to-water below the proposed pit/system is expected to be over 250 feet.

   Source: http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html,
   http://ocdimage.emnrd.state.nm.us/imaging/WellFileCriteria.aspx

2. **Is the proposed pit/system within 300 feet of a continuously flowing watercourse, or within 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake?**
   No. The nearest significant watercourse, an ephemeral wash, is over 500 feet from the proposed well pad. There are no known lakebeds, sinkholes, or playa lakes within 500 feet of the proposed well pad.

   Source: Gould Pass USGS 7.5-minute Quad Map
   Rio Arriba County 2011 NAIP (Aerial Photo)

3. **Is the proposed pit/system within 300 feet of a permanent residence, school, hospital, institution, or church?**
   No. All land within 500 feet of the proposed well pad is managed by the BLM. In addition, aerial photos indicate that there are no buildings within 500 feet of the proposed well pad.

   Source: Rio Arriba County 2011 NAIP (Aerial Photo)
   BLM-FFO Landownership shapefile

4. **Is the proposed pit/system within 1000 feet of any freshwater well or spring?**
   No. There are no water wells or springs within 2000 feet of the proposed well pad.

   Source: http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html
   BLM-FFO Surface Waters shapefile

600 Reilly Ave.
Farmington, NM 87401
Phone (505) 327-6331
Fax (505) 327-6332

835 E. 2nd Ave. Suite 250
Durango, CO 81301
Phone (970) 375-9703
Fax (970) 247-0941

5. **Is the proposed pit/system within an incorporated municipal boundary or defined municipal freshwater well field?**
   No. The proposed well pad is on BLM surface in a rural area. There are no water wells within 2000 feet of the proposed well pad.

   Source: http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html
   Rio Arriba County 2011 NAIP (Aerial Photo)
   Gould Pass USGS 7.5-minute Quad Map
   BLM-FFO Landownership shapefile

6. **Is the proposed pit/system within 500 feet of a wetland?**
   No. USFWS wetland digital survey information is available for the area in which the proposed well pad is located. According to this data, there are no wetlands within 600 feet of the proposed well pad.

   Source: http://www.fws.gov/wetlands/Data/Mapper.html

7. **Does the proposed pit/system overlie a subsurface mine?**
   No. According to a NMEMNRD map of mines, mills, and quarries of New Mexico, there are no subsurface mines in the vicinity of the proposed well pad.

   Source: http://www.emnrd.state.nm.us/MMD/MRRS/MinesMillsQuarriesWebMap.htm

8. **Is the proposed pit/system within an unstable area?**
   No. The proposed well would be twinned with an existing well on relatively flat uplands. Construction measures would ensure that the integrity of the proposed well pad and pit/closed-loop system would not be compromised.

   *Source: Gould Pass USGS 7.5-minute Quad Map*

9. **Is the proposed pit/system within a 100-year floodplain?**
   No. There are no FEMA-designated floodplains within one mile of the proposed project area.

   Source: FEMA floodplains shapefile (obtained from BLM-FFO)

Please feel free to contact me with any questions or concerns.

Sincerely,

Jenny Holmen

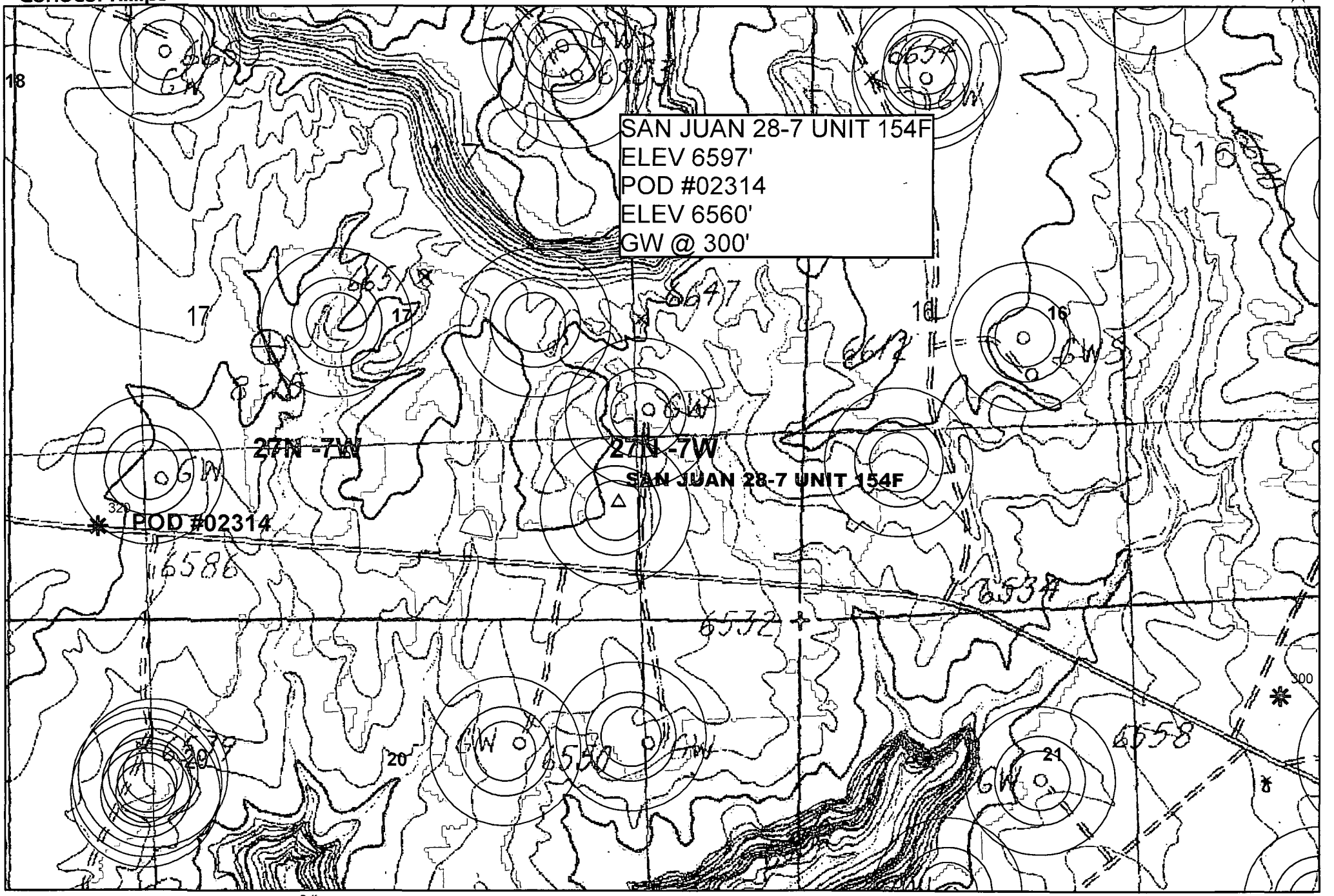
Jenny Holmen
Senior Environmental Scientist
Durango, Colorado Office

600 Reilly Ave.
Farmington, NM 87401
Phone (505) 327-6331
Fax (505) 327-6332

835 E. 2nd Ave. Suite 250
Durango, CO 81301
Phone (970) 375-9703
Fax (970) 247-0941

# TOPO _ SAN JUAN 28-7 UNIT 154F

ConocoPhillips




Data Source
Aerial flown locally Sedgewick in 2005.
Wetlands Data Aquired from U.S. Fish and Wildlife Http://wetlandswms.er.usgs.gov
USGS Topo

Buffers
IWaters
COPCathodic
500
300

0 600 1,200 Feet

1:10,000

NAD_1983_SP_ NM West_FIPS_ 3003

SEPTEMBER 24. 2012

# Mines, Mills and Quarries

**Mines, Mills & Quarries Commodity Groups**

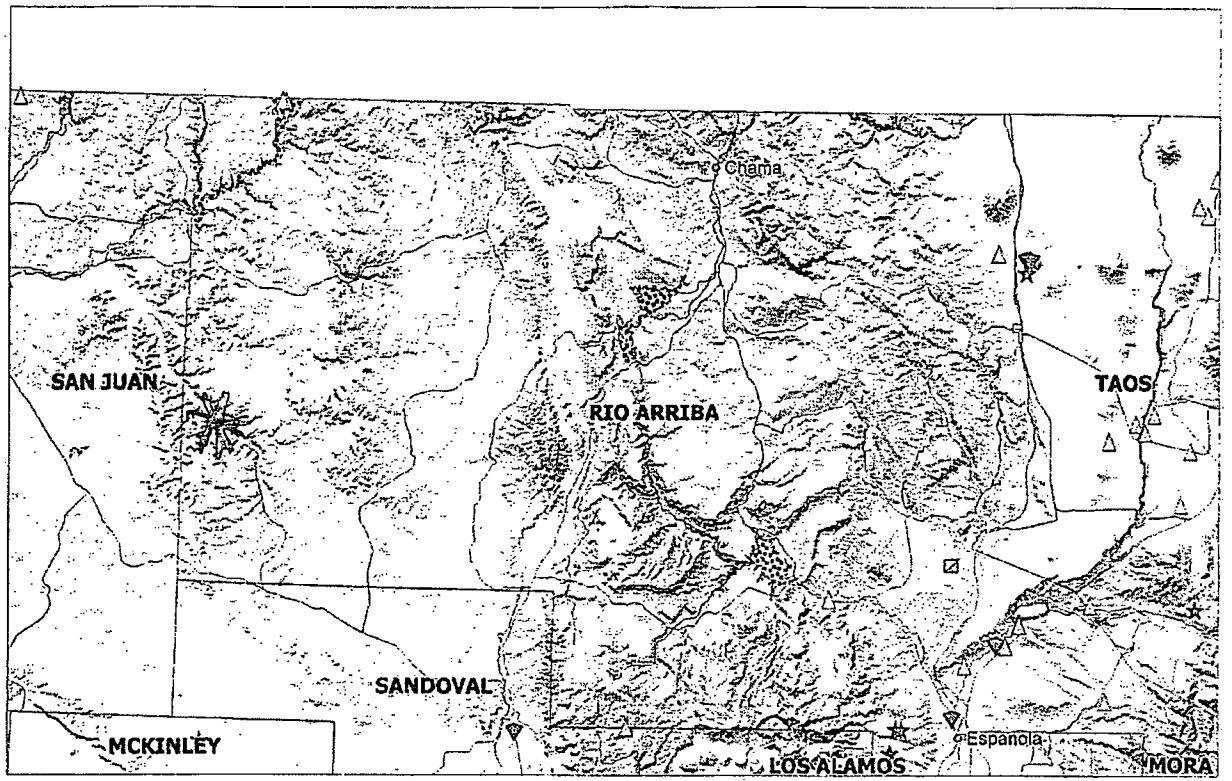
- Aggregate & Stone Mines
- Coal Mines
- Industrial Minerals Mines
- Industrial Minerals Mills
- Metal Mines and Mill Concentrate
- Potash Mines & Refineries
- Smelters & Refinery Ops.
- Uranium Mines
- Uranium Mills

**Population**

- Cities - major

**Transportation**

- Railways
- Interstate Highways
- Major Roads




SCALE 1 : 1,296,093

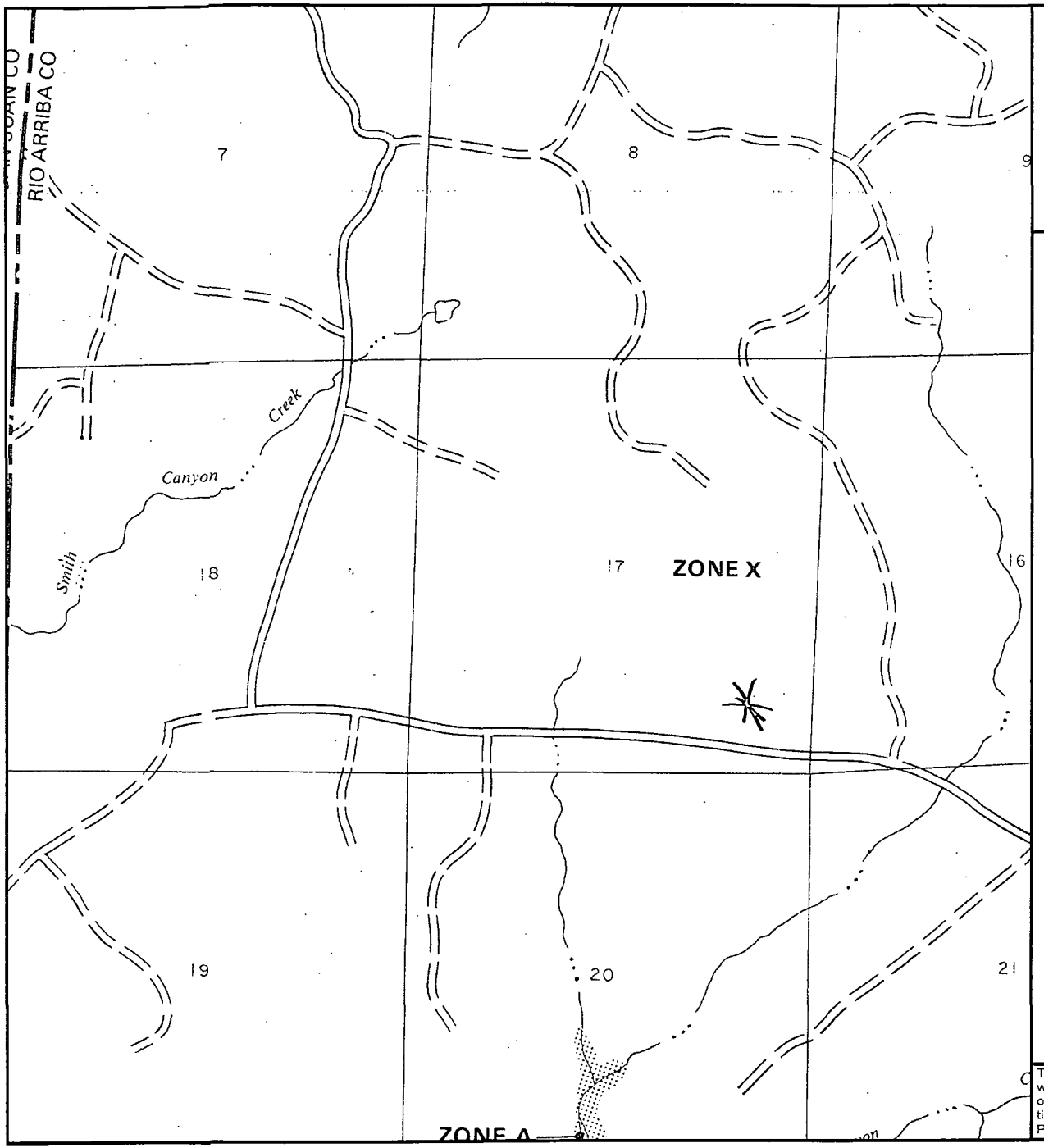
20 0 20 40 60

MILES

N

http://www.emnrd.state.nm.us/MMD/MMQonline/MMQonline-PUBLIC-PROD.mwf

Tuesday, March 16, 2010 6:40 AM




N

APPROXIMATE SCALE

2000 0 2000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

# FIRM

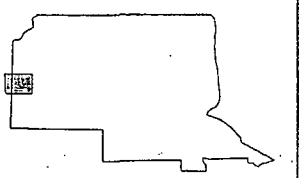
## FLOOD INSURANCE RATE MAP

## RIO ARRIBA COUNTY, NEW MEXICO

UNINCORPORATED AREAS

PANEL 525 OF 1325

(SEE MAP INDEX FOR PANELS NOT PRINTED)



PANEL LOCATION

**COMMUNITY-PANEL NUMBER**

350049 0525 B

**EFFECTIVE DATE:**

JANUARY 5, 1989

Federal Emergency Management Agency

**Siting Criteria Compliance Demonstration & Hydro Geologic Analysis**

The SAN JUAN 28-7 UNIT 154F is not located in an unstable area. The location is not over a mine and is not on the side of a hill as indicated on the Mines, Mills and Quarries Map and Topographic Map. The location of the excavated pit material will not be located within 300' of any continuously flowing watercourse or 200' from any other watercourse as indicated on the Topographic Map. The location is not within a 100-year floodplain area as indicated on the FEMA Map. Environmental, Compliance, and GIS Department Nelson Consulting, INC has researched GW information and findings are the following: Within 1.0 miles of the proposed well, there are two water wells with the depth to water date. These wells are both located on top of Ensenada Mesa, like the proposed well. Water well 02314, approximately 0.7 miles west of the proposed well, is at an elevation of approximately 6600 feet and has a depth to water of 320 feet. The proposed well is at an elevation of approximantly 6595' therefore, the depth to water below the proposed pit/system is expected to be over 250'. There are 2 iWATERS data points located in the area as indicated on the TOPO Map. The hydro geologic analysis indicates the groundwater depth and the San Jose formation will create a stable area for this new location.

# *Hydrogeological report for SAN JUAN 28-7 UNIT 154F*

**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.

## Goodwin, Jamie L

**To:** 'Mark_Kelly@blm.gov'
**Subject:** SURFACE OWNER NOTIFICATION _ SAN JUAN 28-7 UNIT 154F

The subject well (SAN JUAN 28-7UNIT 154F) will have a temporary pit that will be closed on-site. Please let me know if you have any questions.

Thank you,

**Jamie Goodwin**
**Regulatory Tech.**
**ConocoPhillips**
**505-326-9784**
**Jamie.L.Goodwin@conocophillips.com**

**Judge each day not by the harvest you reap but by the seeds you sow. Unknown**

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, N.M. 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

| [1] API Number | [2] Pool Code | [3] Pool Name |
|---|---|---|
| | | DAKOTA |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| | SAN JUAN 28-7 UNIT | 154F |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| | CONOCOPHILLIPS COMPANY | 6597 |

## [10] Surface Location

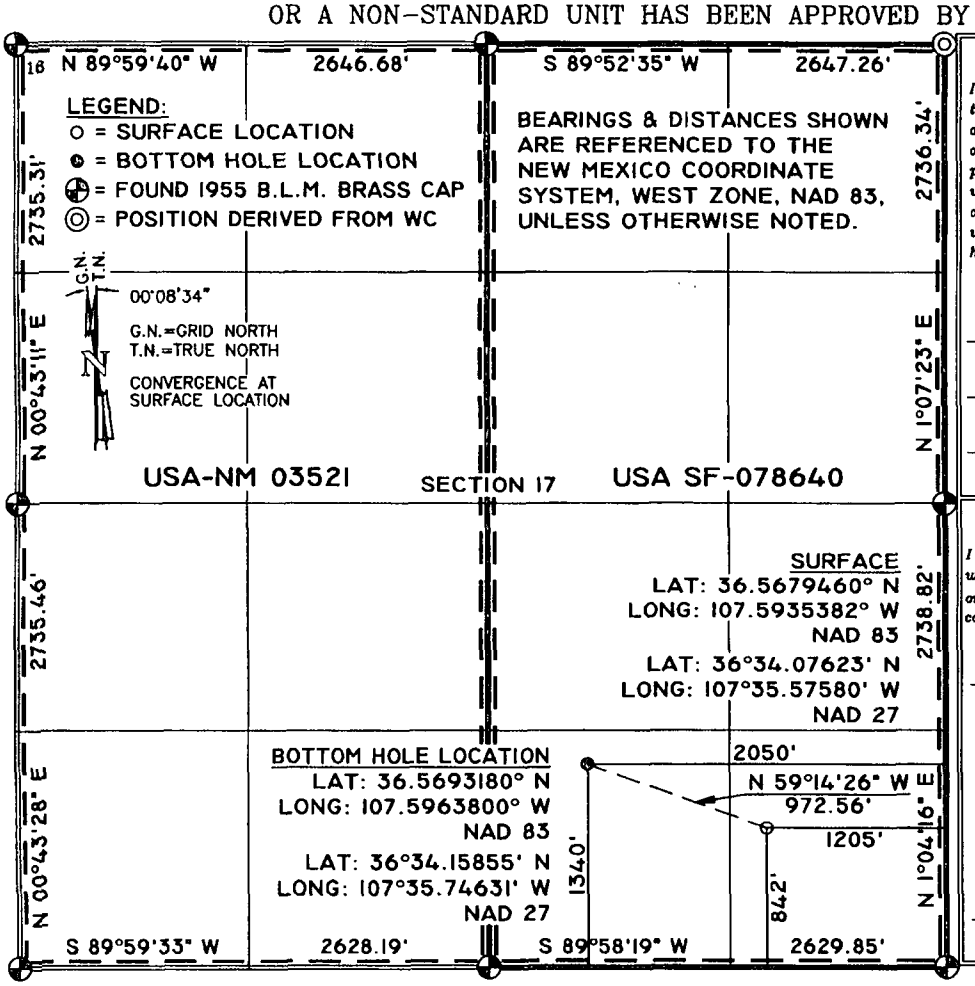
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| P | 17 | 27 N | 7 W | | 842 | SOUTH | 1205 | EAST | RIO ARRIBA |

## [11] Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| O | 17 | 27 N | 7 W | | 1340 | SOUTH | 2050 | EAST | RIO ARRIBA |

| [12] Dedicated Acres | [13] Joint or Infill | [14] Consolidation Code | [15] Order No. |
|---|---|---|---|
| 320.0 (E/2) | | | |

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION




## [17] OPERATOR CERTIFICATION

*I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.*

Signature Date

Printed Name

E-mail Address

## [18] SURVEYOR CERTIFICATION

*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.*

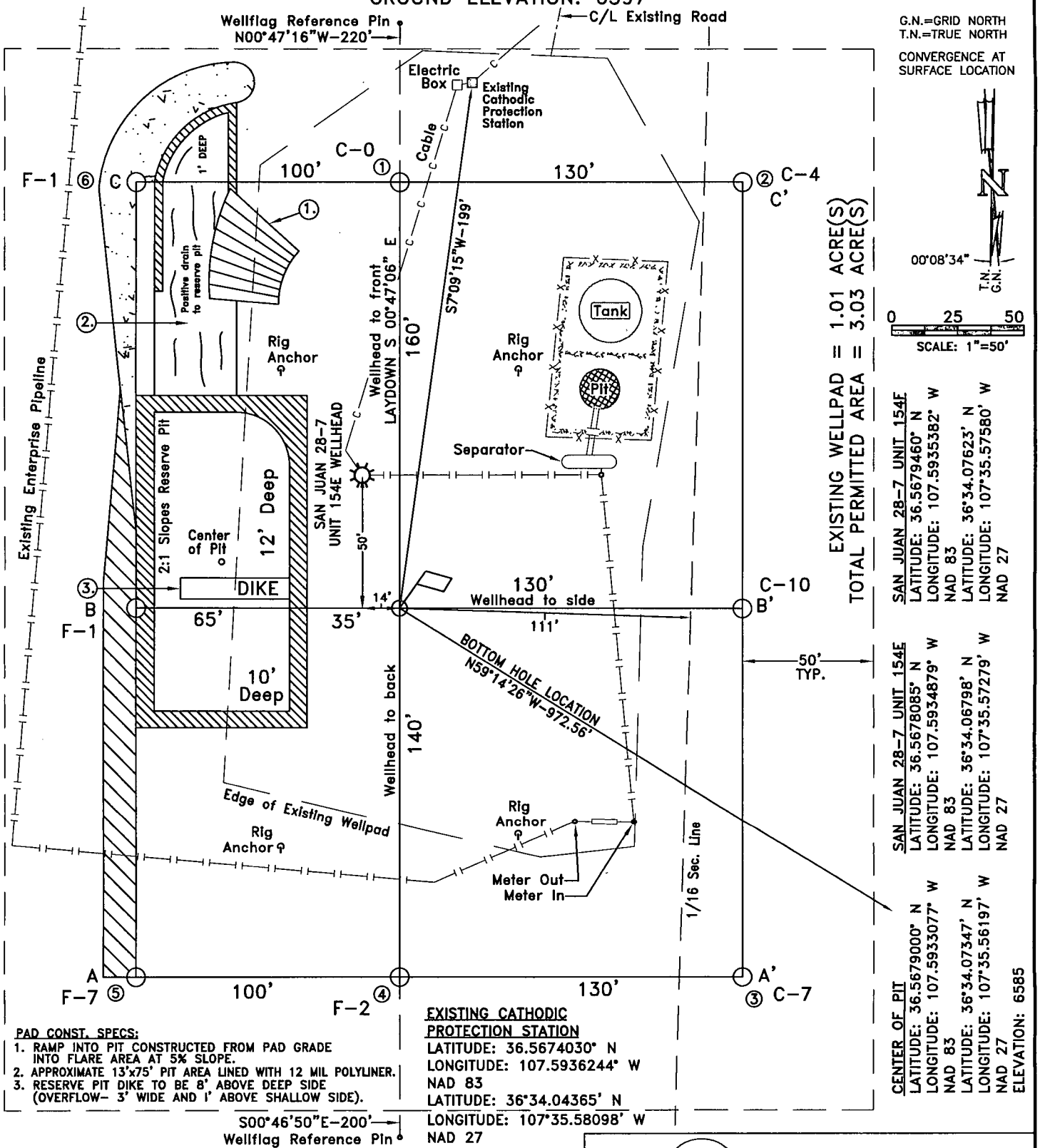
05/09/12
Date of Survey

Signature and Seal of Professional Surveyor

MARSHALL W. LINDEEN
NEW MEXICO
17078
PROFESSIONAL SURVEYOR

17078
Certificate Number

# CONOCOPHILLIPS COMPANY
## SAN JUAN 28-7 UNIT 154F - 842' FSL & 1205' FEL (SURFACE)
## 1340' FSL & 2050' FEL (BOTTOM HOLE LOCATION)
## SECTION 17, T-27-N, R-7-W, N.M.P.M., RIO ARRIBA COUNTY, N.M.
## GROUND ELEVATION: 6597




G.N.=GRID NORTH
T.N.=TRUE NORTH

CONVERGENCE AT SURFACE LOCATION

00°08'34"

T.N.
G.N.

0 25 50

SCALE: 1"=50'

EXISTING WELLPAD = 1.01 ACRE(S)
TOTAL PERMITTED AREA = 3.03 ACRE(S)

SAN JUAN 28-7 UNIT 154F
LATITUDE: 36.5679460° N
LONGITUDE: 107.5935382° W
NAD 83
LATITUDE: 36°34.07623' N
LONGITUDE: 107°35.57580' W
NAD 27

SAN JUAN 28-7 UNIT 154E
LATITUDE: 36.5678085° N
LONGITUDE: 107.5934879° W
NAD 83
LATITUDE: 36°34.06798' N
LONGITUDE: 107°35.57279' W
NAD 27

CENTER OF PIT
LATITUDE: 36.5679000° N
LONGITUDE: 107.5933077° W
NAD 83
LATITUDE: 36°34.07347' N
LONGITUDE: 107°35.56197' W
NAD 27
ELEVATION: 6585

**PAD CONST. SPECS:**
1. RAMP INTO PIT CONSTRUCTED FROM PAD GRADE INTO FLARE AREA AT 5% SLOPE.
2. APPROXIMATE 13'x75' PIT AREA LINED WITH 12 MIL POLYLINER.
3. RESERVE PIT DIKE TO BE 8' ABOVE DEEP SIDE (OVERFLOW- 3' WIDE AND 1' ABOVE SHALLOW SIDE).

S00°46'50"E-200'
Wellflag Reference Pin

**EXISTING CATHODIC PROTECTION STATION**
LATITUDE: 36.5674030° N
LONGITUDE: 107.5936244° W
NAD 83
LATITUDE: 36°34.04365' N
LONGITUDE: 107°35.58098' W
NAD 27

**NOTES:**
1.) BEARINGS & DISTANCES SHOWN ARE REFERENCED TO THE NEW MEXICO COORDINATE SYSTEM, WEST ZONE, NAD 83.
2.) CONTRACTOR SHOULD CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
3.) UNITED FIELD SERVICES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.


UNITED FIELD SERVICES INC.
P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

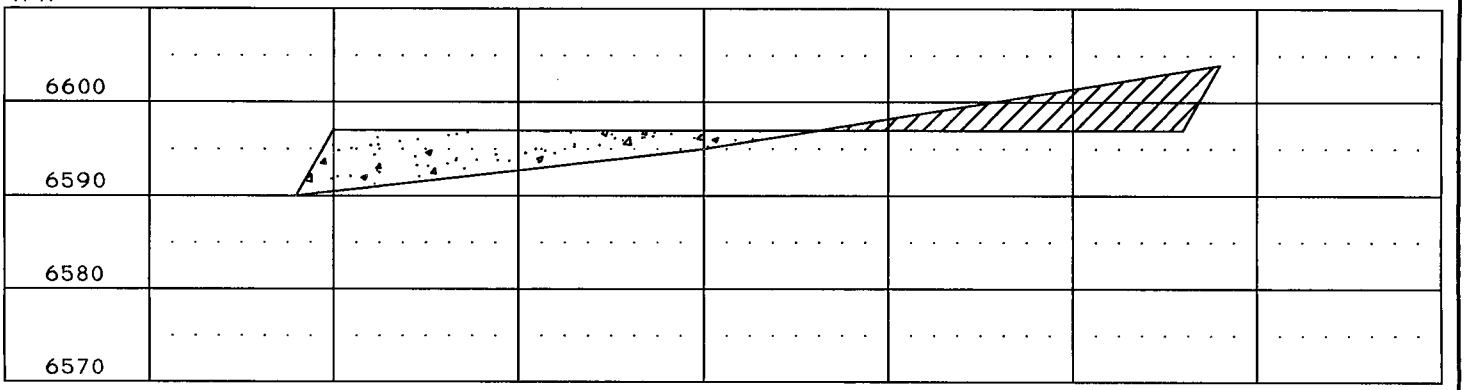

| | | |
|---|---|---|
| DWG. NO. : 10301L01 | | REVISION: 1 |
| DRAWN BY: H.S. | DATE DRAWN: 05/21/12 | REV. DATE: |
| SURVEYED: 05/09/12 | APP. BY: M.W.L. | SHEET: 1 |

# CONOCOPHILLIPS COMPANY

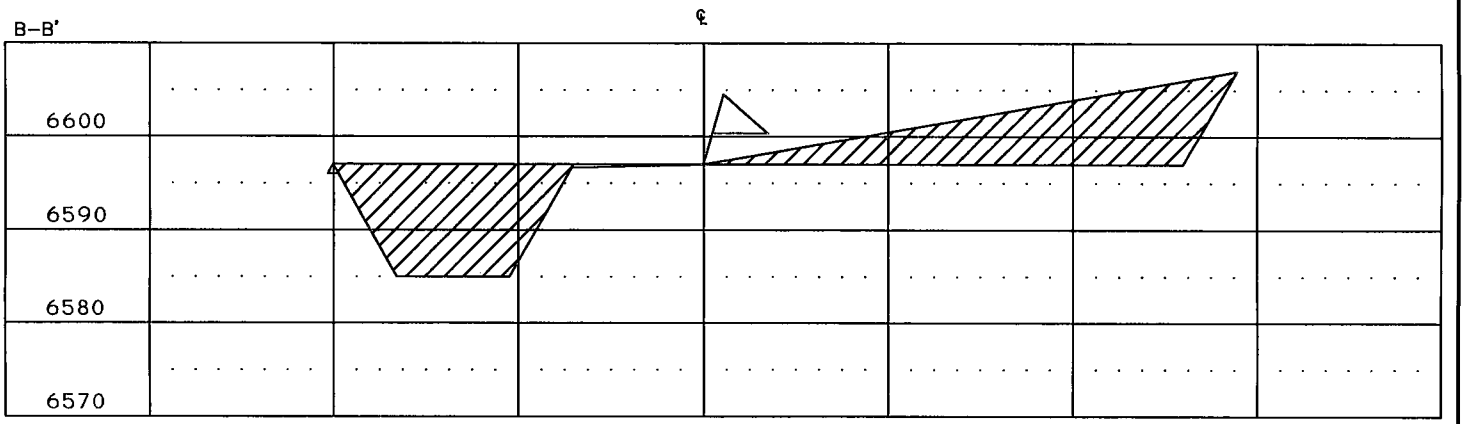
## SAN JUAN 28-7 UNIT 154F - 842' FSL & 1205' FEL (SURFACE)
## 1340' FSL & 2050' FEL (BOTTOM HOLE LOCATION)
## SECTION 17, T-27-N, R-7-W, N.M.P.M., RIO ARRIBA COUNTY, N.M.
## GROUND ELEVATION: 6597 - DATE: MAY 9, 2012

ELEVATION

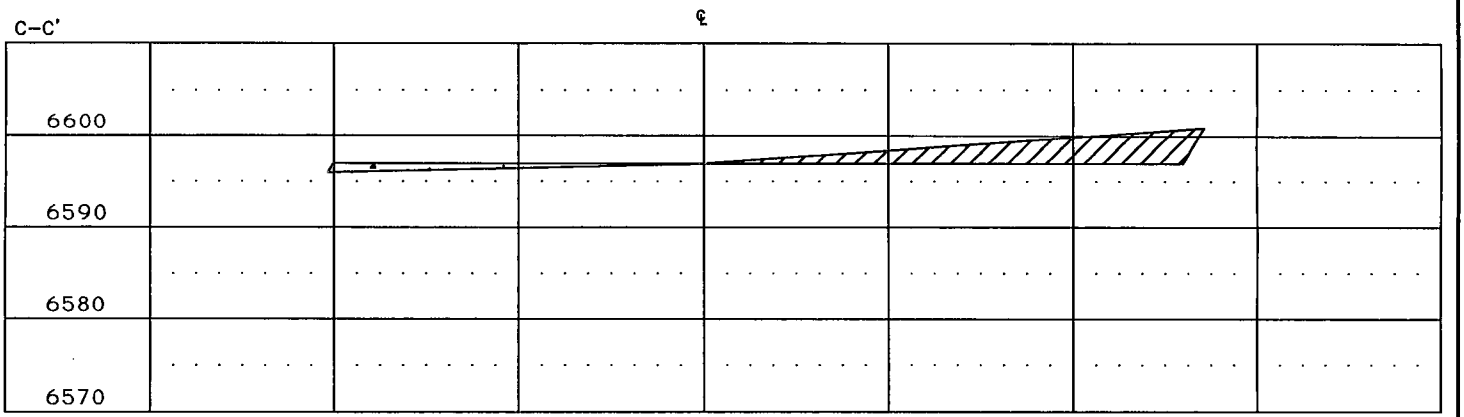
A-A'




B-B'




C-C'




1" = 50' - HORIZONTAL
1" = 20' - VERTICAL

**NOTES:**

1.) CONTRACTOR SHOULD CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

2.) UNITED FIELD SERVICES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.


UNITED FIELD SERVICES INC.

P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408


| | | |
|---|---|---|
| DWG. NO. : 10301C01 | | REVISION: 1 |
| DRAWN BY: H.S. | DATE DRAWN: 05/21/12 | REV. DATE: |
| SURVEYED: 05/09/12 | APP. BY: M.W.L. | SHEET: 1 |

# ConocoPhillips Company
## San Juan Basin
## Pit Design and Construction Plan

In accordance with Rule 19.15.17 the following information describes the design and construction of temporary pits on ConocoPhillips Company (COPC) locations. This is COPC's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

**General Plan:**

1. COPC will design and construct a properly sized and approved temporary pit which will contain liquids and solids and should prevent contamination of fresh water and protect public health and environment.
2. Prior to constructing the pit, topsoil will be stockpiled in the construction zone for later use in restoration.
3. COPC will sign the well location in compliance with 19.15.3.103 NMAC.
4. COPC shall construct all new fences around the temporary pit utilizing 48" steel mesh field-fence (hogwire) 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. Temporary pits will be fenced at all times excluding drilling or workover operations, when the front side of the fence will be temporarily removed for operational purposes.
5. COPC shall construct the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to prevent liner failure.
6. COPC shall construct the pit so that the slopes are no steeper than two horizontal feet to one vertical foot.
7. Pit walls will be walked down by a crawler type tractor following construction.
8. All temporary pits will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements.
9. Geotextile will be installed beneath the liner when rocks, debris, sharp edges or irregularities cannot be avoided.
10. All liners will be anchored in the bottom of a compacted earth-filled trench at least 18 inches deep.
11. COPC will minimize liner seams and orient them up and down, not across a slope. Factory seams will be used whenever possible. COPC will ensure all field seams are welded by qualified personnel. Field seams will be overlapped four to six inches and will be oriented parallel to the line of maximum slope. COPC will minimize the number of field seams in corners and irregularly shaped areas.
12. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or a manifold system.
13. The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases.
14. The volume of the pit shall not exceed 10 acre-feet, including freeboard.
15. Temporary blow pits will be constructed to allow gravity flow to discharge into lined drill pit.
16. The lower half of the blow pit (nearest lined pit) will be lined with a 20-mil, string reinforced, LLDPE liner. The upper half of the blow pit will remain unlined as allowed in Rule 19.15.17.11 F.11.
17. COPC will not allow freestanding liquids to remain on the unlined portion of a temporary blow pit.

# ConocoPhillips Company
## San Juan Basin
## Maintenance and Operating Plan

In accordance with Rule 19.15.17 the following information describes the operation and maintenance of temporary pits on ConocoPhillips Company (COPC) locations. This is COPC's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

**General Plan:**

1. COPC will operate and maintain a temporary pit to contain liquids and solids and maintain the integrity of the liner and liner system to prevent contamination of fresh water and protect public health and environment.
2. COPC will conserve drilling fluids by transferring liquids to pits ahead of the rigs whenever possible. All other drilling fluids will be disposed at Basin Disposal Inc., permit # NM-01-005.
3. COPC will not discharge or store any hazardous waste in any temporary pit.
4. If any pit liner's integrity is compromised, or if any penetration of the liner occurs above the liquid's surface, then COPC shall notify the Aztec Division office by phone or email within 48 hours of the discovery and repair the damage or replace the liner.
5. If a leak develops below the liquid's level, COPC shall remove all liquids above the damaged liner within 48 hours and repair the damage or replace the liner. COPC shall notify the Aztec Division office by phone or email within 48 hours of the discovery for leaks less than 25 barrels. COPC shall notify the Aztec Division office as required pursuant to Subsection B of 19.15.3.116 NMAC shall be reported within twenty-four (24) hours of discovery of leaks greater than 25 barrels. In addition, immediate verbal notification pursuant to Subsection B, Paragraph (1), and Subparagraph (d) of 19.15.3.116 NMAC shall be reported to the division's Environmental Bureau Chief.
6. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or a manifold system.
7. The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases.
8. COPC shall immediately remove any visible layer of oil from the surface of the temporary pit after cessation of a drilling or workover operation. Oil absorbent booms will be utilized to contain and remove oil from the pit's surface. An oil absorbent boom will stored on-site until closure of pit.
9. Only fluids generated during the drilling or workover process may be discharged into a temporary pit.
10. COPC will maintain the temporary pit free of miscellaneous solid waste or debris.
11. During drilling operations, COPC will inspect the temporary pit at least once daily to ensure compliance with this plan. Inspections will be logged in the IADC reports. COPC will file this log with the Aztec Division office upon closure of the pit.
12. After drilling operations, COPC will inspect the temporary pit weekly so long as liquids remain in the temporary pit. A log of the inspections will be stored at COPC's office electronically and will be filed with the Aztec Division office upon closure of the pit.
13. COPC shall maintain at least two feet of freeboard for a temporary pit.
14. COPC shall remove all free liquids from a temporary pit within 30 days from the date the operator releases the drilling rig.
15. COPC shall remove all free liquids from a cavitation pit within 48 hours after completing cavitation. COPC may request additional time to remove liquids from the Aztec Division office if it is not feasible to remove liquids within 48 hours.

# ConocoPhillips Company
## San Juan Basin
## Closure Plan

In accordance with Rule 19.15.17.12 NMAC the following information describes the closure requirements of temporary pits on ConocoPhillips Company (COPC) locations. This is COPC's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of pit closure. Closure report will be filed on C-144 and incorporate the following:

- Details on Capping and Covering, where applicable.
- Plot Plan (Pit Diagram)
- Inspection Reports
- Sampling Results
- C-105
- Copy of Deed Notice will be filed with County Clerk

**General Plan:**

1. All free standing liquids will be removed at the start of the pit closure process from the pit and disposed of in a division–approved facility or recycle, reuse or reclaim the liquids in a manner that the appropriate division district office approves. The facilities to be used will be Basin Disposal (Permit #NM-01-005) and Envirotech Land Farm (Permit #NM-01-011).
2. The preferred method of closure for all temporary pits will be on-site burial, assuming that all the criteria listed in sub-section (B) of 19.15.17.13 are met.
3. The surface owner shall be notified of COPC's closing of the temporary pit prior to closure as per the approved closure plan via certified mail, return receipt requested.
4. Within 6 months of the Rig Off status occurring COPC will ensure that temporary pits are closed, re-contoured, and reseeded.
5. Notice of Closure will be given prior to closure to the Aztec Division office between 72 hours and one week via email, or verbally. The notification of closure will include the following:
    i. Operator's name
    ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.
6. Liner of temporary pit shall be removed above "mud level" after stabilization. Removal of liner will consist of manually or mechanically cutting liner at mud level and removing all remaining liner. Care will be taken to remove "All" of the liner i.e., edges of liner entrenched or buried. All excessive liner will be disposed of at the San Juan County Landfill located on CR 3100.
7. Pit contents shall be mixed with non-waste containing, earthen material in order to achieve the solidification process. The solidification process will be accomplished using a combination of natural drying and mechanically mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed a safe and stable. The mixing ratio shall not exceed 3 parts clean soil to 1 part pit contents.
8. A five point composite sample will be taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.13(B)(1)(b). In the event that the criteria are not met, all contents will be handled per Subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13 i.e., Dig and haul.

| 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 | 1000/500 |

9. Upon completion of solidification and testing standards being passed, the pit area will be backfilled with compacted, non-waste containing, earthen material. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater. If standard testing fails COPC will dig and haul all contents pursuant to 19.15.17.13.i.a. After doing such, confirmation sampling will be conducted to ensure a release has not occurred.
10. During the stabilization process if the liner is ripped by equipment the Aztec OCD office will be notified within 48 hours and the liner will be repaired if possible. If the liner can not be repaired then all contents will be excavated and removed.
11. Dig and Haul Material will be transported to the Envirotech Land Farm located 16 miles south of Bloomfield on Angel Peak Road, CR 7175. Permit # NM010011
12. Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be place in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.
13. Notification will be sent to OCD when the reclaimed area is seeded.
14. COPC shall seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs.

| Type | Variety or Cultivator | PLS/A |
|---|---|---|
| Western wheatgrass | Arriba | 3.0 |
| Indian ricegrass | Paloma or Rimrock | 3.0 |
| Slender wheatgrass | San Luis | 2.0 |
| Crested wheatgrass | Hy-crest | 3.0 |
| Bottlebrush Squirreltail | Unknown | 2.0 |
| Four-wing Saltbrush | Delar | .25 |

**Species shall be planted in pounds of pure live seed per acre:**
**Present Pure Live Seed (PLS) = Purity X Germination/100**
**Two lots of seed can be compared on the basis of PLS as follows:**

| Source No. One (poor quality) | | Source No. two (better quality) | |
|---|---|---|---|
| Purity | 50 percent | Purity | 80 percent |
| Germination | 40 percent | Germination | 63 percent |
| Percent PLS | 20 percent | Percent PLS | 50 percent |
| **5 lb. bulk seed required to make 1 lb. PLS** | | **2 lb. bulk seed required to make 1 lb. PLS** | |

15. The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial upon the abandonment of all the wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the onsite burial of the temporary pit. The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the operator's information at the time of all wells on the pad are abandoned. The operator's information will include the following: Operator Name, Lease Name, Well Name and number, Unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location.

**ConocoPhillips Company**
**San Juan Basin**
**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 (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 19.15.17.11NMAC. COPC includes Emergency Contact information on all signage.

3. COPC has approval to use alternative fencing that provides better protection. COPC constructs fencing around the BGT using 4 foot hog wire fencing topped with two strands of barbed wire, or with a pipe top rail. A six foot chain link fence topped with three strands of barbed wire will be use if the well location is within 1000 feet of permanent residence, school, hospital, institution or church. COPC ensures 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 shall ensure that a below-grade tank is constructed of materials resistant to the below-grade tank's particular contents and resistant to damage from sunlight as shown on design drawing and specification sheet.

6. The COPC below-grade tank system shall 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 below-grade tank to prevent the collection of surface water run-on. COPC has built in shut off devices that do not allow a below-grade tank to overflow. COPC constructs berms and corrugated retaining walls at least 6" above ground to keep from surface water run-on entering the below grade tank as shown on the design plan.

8. COPC will construct and use a below-grade tank that does not have double walls. The below-grade tank's side walls will be open for visual inspection for leaks, the below-grade tank's bottom is elevated a minimum of six inches above the underlying ground surface and the below-grade tank is underlain with a geomembrane liner to divert leaked liquid to a location that can be visually inspected.

9. COPC has equipped the below-grade tanks with the ability to detect high level in the tank and provide alarm notification and shutdown process streams into the tank. Once high level is detected RTU logic closes the inlet separator sales valve and does not permit vent valve to open. This shutdown of the sales valve and gagging of the vent valves prevents any hydrocarbon process streams from entering the pit tank once a high level is detected. Furthermore, an electronic page is sent to the COPC MSO for that well site and to the designated contract "Water-Hauling" Company indicating a high level and that action must be taken to address this alarm. The environmental drain line from COPC's compressor skid under normal operating conditions is in the open position. The environmental drain line is in place to capture any collected rain water or spilled lubricants from our compressor skids. The swab drain line is a manually operated drain and by normal operating procedures is in the closed position. The tank drain line is also a manually operated drain and during normal operations it is in the closed position.

10. The geomembrane liner consists of a 45-mil flexible LLDPE material manufactured by Raven Industries as J45BB. This product is a four layer reinforced laminated containing no adhesives. The outer layers consist of a high strength polyethylene film manufactured using virgin grade resins and stabilizers for UV resistance in exposed applications. The J45BB is reinforced with 1300 denier (minimum) tri-directional scrim reinforcement. It exceeds ASTMD3083 standard by 10%. J45BB has a warranty for 20 years from Raven Industries and is attached. It is typically used in Brine Pond, Oilfield Pit liner and other industrial applications. The manufacture specific sheet is attached and the design attached displays the proper installation of the liner.

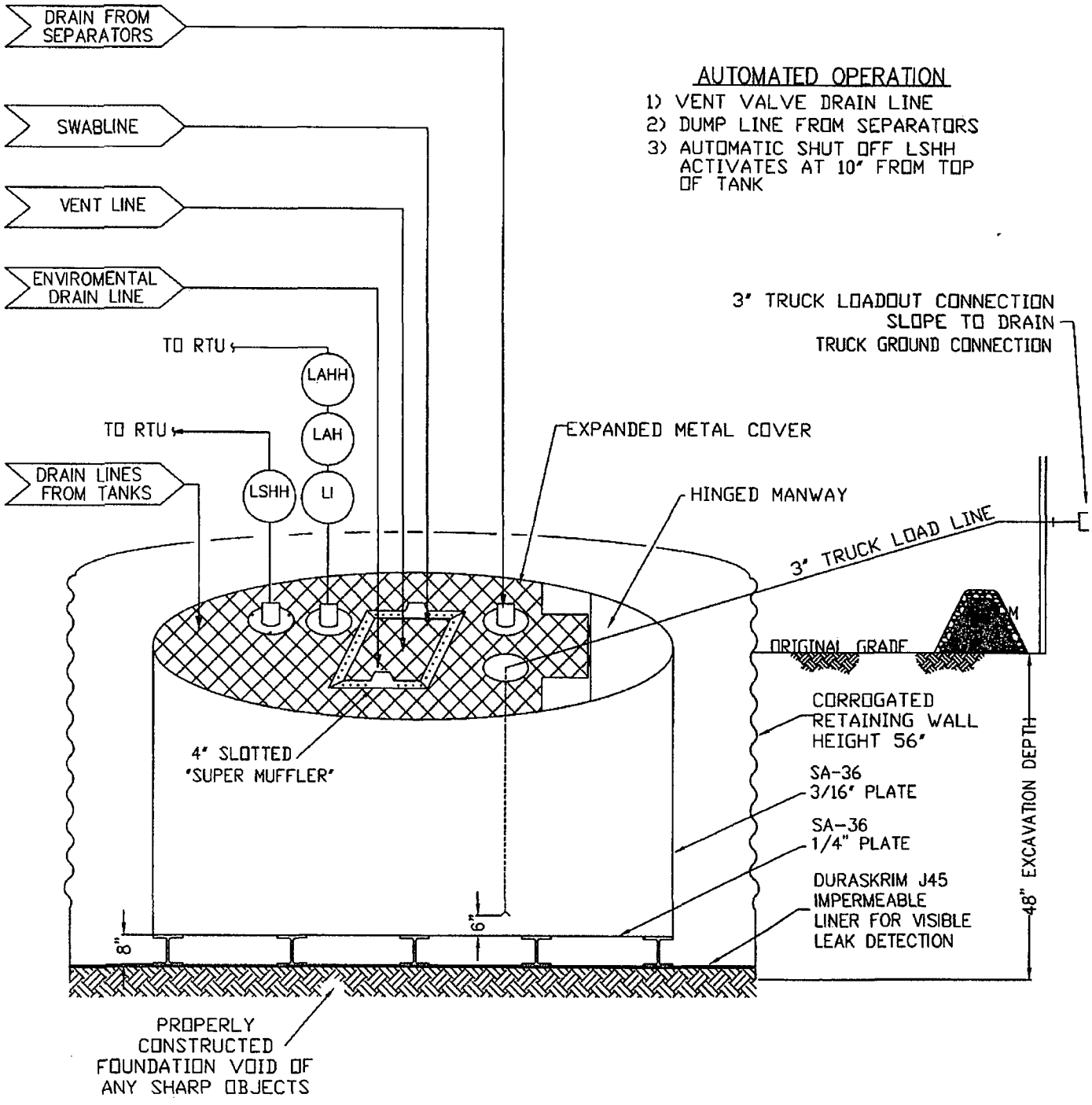
11. The general specification for design and construction are attached in the COPC document.

## MANUAL OPERATION

1) PRODUCTION TANKS DRAINLINE
2) SWABLINE DRAIN LINE
3) ENVIROMENTAL 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

# DURA-SKRIM® J30, J36 & J45

| PROPERTIES | TEST METHOD | J30BB | | J36BB | | J45BB | |
|---|---|---|---|---|---|---|---|
| | | Min. Roll Averages | Typical Roll Averages | Min. Roll Averages | Typical Roll Averages | Min. Roll Averages | Typical Roll Averages |
| Appearance | | Black/Black | | Black/Black | | Black/Black | |
| Thickness | ASTM D 5199 | 27 mil | 30 mil | 32 mil | 36 mil | 40 mil | 45 mil |
| Weight Lbs Per MSF (oz/yd²) | ASTM D 5261 | 126 lbs (18.14) | 140 lbs (20.16) | 151 lbs (21.74) | 168 lbs (24.19) | 189 lbs (27.21) | 210 lbs (30.24) |
| Construction | | **Extrusion laminated with encapsulated tri-directional scrim reinforcement | | | | | |
| Ply Adhesion | ASTM D 413 | 16 lbs | 20 lbs | 19 lbs | 24 lbs | 25 lbs | 31 lbs |
| 1" Tensile Strength | ASTM D 7003 | 88 lbf MD 63 lbf DD | 110 lbf MD 79 lbf DD | 90 lbf MD 70 lbf DD | 113 lbf MD 87 lbf DD | 110 lbf MD 84 lbf DD | 138 lbf MD 105 lbf DD |
| 1" Tensile Elongation @ Break % (Film Break) | ASTM D 7003 | 550 MD 550 DD | 750 MD 750 DD | 550 MD 550 DD | 750 MD 750 DD | 550 MD 550 DD | 750 MD 750 DD |
| 1" Tensile Elongation @ Peak % (Scrim Break) | ASTM D 7003 | 20 MD 20 DD | 33 MD 33 DD | 20 MD 20 DD | 30 MD 31DD | 20 MD 20 DD | 36 MD 36 DD |
| Tongue Tear Strength | ASTM D 5884 | 75 lbf MD 75 lbf DD | 97 lbf MD 90 lbf DD | 75 lbf MD 75 lbf DD | 104 lbf MD 92 lbf DD | 100 lbf MD 100 lbf DD | 117 lbf MD 118 lbf DD |
| Grab Tensile | ASTM D 7004 | 180 lbf MD 180 lbf DD | 218 lbf MD 210 lbf DD | 180 lbf MD 180 lbf DD | 222 lbf MD 223 lbf DD | 220 lbf MD 220 lbf DD | 257 lbf MD 258 lbf DD |
| Trapezoid Tear | ASTM D 4533 | 120 lbf MD 120 lbf DD | 146 lbf MD 141 lbf DD | 130 lbf MD 130 lbf DD | 189 lbf MD 172 lbf DD | 160 lbf MD 160 lbf DD | 193 lbf MD 191 lbf DD |
| * Dimensional Stability | ASTM D 1204 | <1 | <0.5 | <1 | <0.5 | <1 | <0.5 |
| Puncture Resistance | ASTM D 4833 | 50 lbf | 64 lbf | 65 lbf | 83 lbf | 80 lbf | 99 lbf |
| Maximum Use Temperature | | 180° F | 180° F | 180° F | 180° F | 180° F | 180° F |
| Minimum Use Temperature | | -70° F | -70° F | -70° F | -70° F | -70° F | -70° F |

MD = Machine Direction
DD = Diagonal Directions

Note: Minimum Roll Averages are set to take into account product variability in addition to testing variability between laboratories.

*Dimensional Stability Maximum Value

**DURA-SKRIM J30BB, J36BB & J45BB are a four layer reinforced laminate containing no adhesives. The outer layers consist of a high strength polyethylene film manufactured using virgin grade resins and stabilizers for UV resistance in exposed applications. DURA-SKRIM J30BB, J36BB & J45BB are reinforced with a 1300 denier (minimum) tri-directional scrim reinforcement.

Note: RAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, *no guarantee of satisfactory results from reliance upon contained information or recommendations and* disclaims all liability for resulting loss or damage.


**PLANT LOCATION**

Sioux Falls, South Dakota

**SALES OFFICE**

P.O. Box 5107
Sioux Falls, SD 57117-5107
(605) 335-0174
(605) 331-0333 FAX
**800-635-3456**

RAVEN INDUSTRIES


08/06

# RAVEN INDUSTRIES INC.
# EXPOSED GEOMEMBRANE LIMITED WARRANTY

Raven Industries Inc. warrants Dura-Skrim J30BB, J36BB, and J45BB to be free from manufacturing defects and to be able to withstand normal exposure to sunlight for a period of 20 years from the date of sale for normal use in approved applications in the U.S and Canada, excluding Hawaii. This warranty is effective for products sold and shipped from January 1, 2008 to December 31, 2008. These dates will be updated prior to December 31, 2008.

This Limited Warranty does not include damages or defects in the Raven geomembrane resulting from acts of God, casualty or catastrophe including but not limited to: earthquakes, floods, piercing hail, or tornadoes. The term "normal use" as used herein does not include, among other things improper handling during transportation, unloading, storage or installation, the exposure of Raven geomembranes to harmful chemicals, atypical atmospheric conditions, abuse of Raven geomembranes by machinery, equipment or people; improper site preparation or covering materials, excessive pressures or stresses from any source or improper application or installation. Raven geomembrane material warranty is intended for commercial use only and is not in effect for the consumer as defined in the Magnuson Moss Warranty or any similar federal, state, or local statues. The parties expressly agree that the sale hereunder is for commercial or industrial use only.

Should defects or premature loss of use within the scope of the above Limited Warranty occur, Raven Industries Inc. will, at its option, repair or replace the Raven geomembrane on a pro-rata basis at the then current price in such manner as to charge the Purchaser/User only for that portion of the warranted life which has elapsed since purchase of the material. Raven Industries Inc. will have the right to inspect and determine the cause of any alleged defect in the Raven geomembrane and to take appropriate steps to repair or replace the Raven geomembrane if a defect exists which is covered under this warranty. This Limited Warranty extends only to Raven's geomembrane, and does not extend to the installation service of third parties nor does it extend to materials furnished or installed by others in connection with the intended use of the Raven geomembranes.

Any claim for any alleged breach of this warranty must be made in writing, by certified mail, to the General Manager of Engineered Films Division of Raven Industries Inc. within ten (10) days of becoming aware of the alleged defect. Should the required notice not be given, the defect and all warranties are waived by the Purchaser, and Purchaser shall not have any rights under this warranty. Raven Industries Inc. shall not be obligated to perform repairs or replacements under this warranty unless and until the area to be repaired or replaced is clean, dry, and unencumbered. This includes, but is not limited to, the area made available for repair and/or replacement of Raven geomembrane to be free from all water, dirt, sludge, residuals and liquids of any kind. If after inspection it is determined that there is no claim under this Limited Warranty, Purchaser shall reimburse Raven Industries Inc. for its costs associated with the site inspection.

In the event the exclusive remedy provided herein fails in its essential purpose, and in that event only, the Purchaser shall be entitled to a return of the purchase price for so much of the material as Raven Industries Inc. determines to have violated the warranty provided herein. Raven Industries Inc. shall not be liable for direct, indirect, special, consequential or incidental damages resulting from a breach of this warranty including, but not limited to, damages for loss of production, lost profits, personal injury or property damage. Raven Industries Inc. shall not be obligated to reimburse Purchaser for any repairs, replacement, modifications or alterations made by Purchaser unless Raven Industries Inc. specifically authorized, in writing, said repairs, replacements, modifications or alteration in advance of them having been made. Raven Industry's liability under this warranty shall in no event exceed the replacement cost of the material sold to the Purchaser for the particular installation in which it failed.

Raven Industries Inc. neither assumes nor authorizes any person other than the undersigned of Raven Industries Inc. to assume for it any other or additional liability in connection with the Raven geomembrane made on the basis of the Limited Warranty. The Limited Warranty on the Raven geomembrane herein is given in lieu of all other possible material warranties, either expressed or implied, and by accepting delivery of the material; Purchaser waives all other possible warranties, except those specifically given. This Limited Warranty may only be modified by written document mutually executed by Owner and Raven Industries Inc.

Limited Warranty is extended to the purchaser/owner and is non-transferable and non-assignable; i.e., there are no third-party beneficiaries to this warranty.

Purchaser acknowledges by acceptance that the Limited Warranty given herein is accepted in preference to any and other possible materials warranties.

THIS LIMITED WARRANTY SHALL BE GOVERNED BY SOUTH DAKOTA LAW AND VENUE FOR ALL LEGAL PROCEEDINGS IN CONNECTION WITH THIS LIMITED WARRANTY SHALL BE IN MINNEHAHA COUNTY, SOUTH DAKOTA. RAVEN INDUSTRIES INC. MAKES NO WARRANTY OF ANY KIND OTHER THAN THAT GIVEN ABOVE AND HEREBY DISCLAIMS ALL WARRANTIES, BOTH EXPRESSED OR IMPLIED, OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS IS THE ONLY WARRANTY THAT APPLIES TO THE MATERIALS REFERRED TO HEREIN AND RAVEN INDUSTRIES INC. DISCLAIMS ANY LIABILITY FOR ANY WARRANTIES GIVEN BY ANY OTHER PERSON OR ENTITY, EITHER WRITTEN OR ORAL.

**RAVEN INDUSTRIES' WARRANTY BECOMES AN OBLIGATION OF RAVEN INDUSTRIES INC. TO PERFORM UNDER THE WARRANTY ONLY UPON RECEIPT OF FINAL PAYMENT AND EXECUTION BY A DULY AUTHORIZED OFFICER OF RAVEN INDUSTRIES INC.**

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

In accordance with Rule 19.15.17 the following information describes the operation and maintenance of Below Grade Tank (BGT) on ConocoPhillips Company (COPC) locations. This is COPC's standard procedure for all BGT. A separate plan will be submitted for any BGT which does not conform to this plan.

General Plan:

1. COPC will operate 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 environment. COPC will accomplish this by performing an inspection on a monthly basis, installing cathodic protection, and automatic overflow shutoff devices as seen on the design plan.

2. COPC will not discharge into or store any hazardous waste in the BGT.

3. COPC shall operate and install the below-grade tank to prevent the collection of surface water run-on. COPC has built in shut off devices that do not allow a below-grade tank to overflow. COPC constructs berms and corrugated retaining walls at least 6" above ground to keep from surface water run-on entering the below grade tank as shown on the design plan.

4. As per 19.17.15.12 Subsection D, Paragraph 3, COPC will inspect the below-grade tank at least monthly reviewing several items which 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. In addition, COPC's multi-skilled operators (MSOs) are required to visit each well location once per week. If detected on either inspection, COPC shall remove any visible or measurable layer of oil from the fluid surface of a below-grade tank in an effort to prevent significant accumulation of oil overtime. The written record of the monthly inspections will include the items listed above and will be maintained for five years.

5. COPC shall require and maintain a 10" adequate freeboard to prevent overtopping of the below-grade tank.

6. If the below grade tank develops a leak, or if any penetration of the pit liner or below grade tank, occurs below the liquid's surface, then COPC shall remove all liquid above the damage or leak line within 48 hours. COPC shall notify the appropriate district office. COPC shall repair or replace the pit liner or below grade tank, within 48 hours of discovery. If the below grade tank or pit liner does not demonstrate integrity, COPC shall promptly remove and install a below grade tank or pit liner that complies with Subsection I of 19.15.17.11 NMAC. COPC shall notify the appropriate district office of a discovery of leaks less than 25 barrels as required pursuant to Subsection B of 19.15.3.116 NMAC shall be reported within twenty-four (24) hours of discovery of leaks greater than 25 barrels. In addition, immediate verbal notification pursuant to Subsection B, Paragraph (1), and Subparagraph (d) of 19.15.3.116 NMAC shall be reported to the division's Environmental Bureau Chief.

**ConocoPhillips Company**
**San Juan Basin**
**Below Grade Tank Closure Plan**

In accordance with Rule 19.15.17.13 NMAC the following information describes the closure requirements of Below Grade Tanks (BGTs) on ConocoPhillips Company locations hereinafter known as COPC locations. This is COPC's standard procedure for all BGTs. A separate plan will be submitted for any BGT which does not conform to this plan.

General Requirements:

1. COPC shall close a below-grade tank within the time periods provided in Subsection A of 19.15.17.13 NMAC. This will include a) below-grade tanks that do not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I o f19.15.17.11 NMAC within five years, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC; b) permitted below-grade tanks within 60 days of cessation of the below-grade tank's operation., or c) an earlier date that the division requires because of imminent danger to fresh water, public health or the environment. For any closure, COPC will file the C144 Closure Report as required.

2. COPC shall remove liquids and sludge from a below-grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division-approved facility. The facilities to be used will be Basin Disposal (Permit #NM-01-005) and Envirotech Land Farm (Permit #NM-01-011). The liner after being cleaned well (Subsection D, Paragraph 1, Subparagraph (m) of 19.15.9.712 NMAC) will be disposed of at the San Juan County Regional Landfill located on CR 3100.

3. COPC will receive prior approval to remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves. Documentation of how the below-grade tank was disposed of or recycled will be provided in the closure report.

4. If there is any on-site equipment associated with a below-grade tank, then COPC shall remove the equipment, unless the equipment is required for some other purpose.

5. COPC shall test the soils beneath the below-grade tank to determine whether a release has occurred. COPC shall collect, at a minimum, a five point, composite sample; collect individual grab samples from any area that is wet, discolored or showing other evidence of a release; and analyze for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 0.2 mg/kg; total BTEX concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 50 mg/kg; the TPH concentration, as determined by EPA method 418.1 or other EPA method that the division approves, does not exceed 100 mg/kg; and the chloride concentration, as determined by EPA method 300.1 or other EPA method that the division approves, does not exceed 250 mg/kg, or the background concentration, whichever is greater. COPC shall notify the division of its results on form C-141.

6. If COPC or the division determines that a release has occurred, then COPC shall comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC, as appropriate.

7. If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Paragraph (4) of Subsection E of 19.15.17.13 NMAC, then COPC shall backfill the excavation with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover; recontour and re-vegetate the site.

8. Notice of Closure will be given prior to closure to the Aztec Division office between 72 hours and one week via email or verbally. The notification of closure will include the following:
    i. Operator's name
    ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.

9. The surface owner shall be notified of COPC's closing of the below-grade tank prior to closure as per the approved closure plan via certified mail, return receipt requested.

10. Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be place in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.

11. COPC shall seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM stipulated seed mixes will used on federally jurisdicted lands and division-approved seed mixtures (administratively approved if required) will be utilized on all State or private lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. If alternate seed mix is required by the state, private owner or tribe, it will be implemented with administrative approval if needed. COPC will repeat seeding or planting will be continued until successful vegetative growth occurs.

12. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.

13. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on C-144 and incorporate the following:
    - Soil Backfilling and Cover Installation
    - Re-vegetation application rates and seeding techniques
    - Photo documentation of the site reclamation
    - Confirmation Sampling Results
    - Proof of closure notice