

8/21/2014 DATE IN	SUSPENSE	MAM ENGINEER	8/21/2014 LOGGED IN	SWD TYPE	PMAM/1423345519 APP NO
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



PLU Pierce Canyon 17
Federal SWD #1

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]

[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]

[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]

[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]

[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]

[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

- SWD
- BOPCO, L.P.
260737

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication

☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement

☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

- PLU Pierce Canyon
17 Federal SWD #1
30-015 - Pending

(N-17-255-30E)

RECEIVED OGD
2014 AUG 20 P 2:37

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☐ Offset Operators, Leaseholders or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

Pool
- SWD; Devonian
96101

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Emma Galindo
Print or Type Name

Emma Galindo
Signature

Engineering Assistant
Title

8/19/14
Date

ezgalindo@basspet.com
e-mail Address

BOPCO, L. P.
6 DESTA DRIVE, SUITE 3700 (79705)
P. O. BOX 2760
MIDLAND, TEXAS 79702

(432) 683-2277

FAX (432) 687-0329

August 19, 2014

**Re: Notice of Application for Authorization
to Complete this well as a SWD Well
PLU Pierce Canyon 17 Federal SWD #1
Eddy County, New Mexico
File: 100-WF: PLUPC17FedSWD1.C108**

Oil Conservation Division
Attention: Phillip Goetze
1220 S. St. Francis
Santa Fe, New Mexico 87505

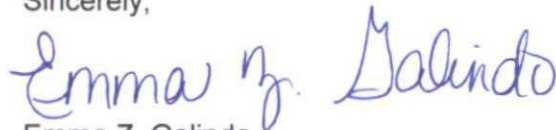
Mr. Goetze:

Enclosed please find BOPCO, L.P.'s **Application for Authorization to Drill and Complete** this well for disposal purposes only into the PLU Pierce Canyon 17 Federal SWD #1 located in Section 17, T25S, R30E, Eddy County, New Mexico.

The subject well is on Federal land and a complete copy of the application has been sent to the BLM's Carlsbad office via Certified Mail, Cert #7160-3901-9846-4644-8055. Please find a copy of the notice attached. I will provide a copy of the signed receipt card when it returns.

The Working Interest owners within 2 mile radius have been notified, attached you will find copies of the Certified Mail Receipts. If additional information is required, please contact Emma Z. Galindo at the letterhead address, phone number or via email at ezgalindo@basspet.com.

Sincerely,



Emma Z. Galindo
Engineering Assistant

ezg
Attachments

CC: BLM

III. Well Data

A. 1) Lease name: PLU Pierce Canyon17 Federal SWD
Well #: 1
Section: 17
Township: T25S
Range: 30E
Footage: 1200' FSL & 2450' FWL

2) Casing Info:

Casing size	Set depth	Sacks cmt	Hole size	TOC	Method
20", 157.68#, X52, PE	120		26"	Surface	Circulated
16", 84#, J-55, BTC	825'	480	18-1/8"	Surface	Circulated
13-3/8", 68#, HCL-80, Ultra FJ	3741'	730	14-3/4"	Surface	Circulated
9-5/8", 53.50#, P-80, LT&C	11407'	2,060	12-1/4"	Surface	Circulated
7", 29#, HCP-110 LTC	11,207'-16,470'	580	8-1/2"	TO T.O.L.	Circulated
	16,470-17,960'		6-1/2"	OH	

**DV Tool @ 5,500'

3) Tubing to be used (size, lining material, setting depth):
4-1/2" 12.75# L-80 RTS-6 & 15.5# L-80 RTS-8 IPC tbg set @16,420'.

4) Name, model, and depth of packer to be used:
4-1/2" ULTRA PAK HU Nickel Plated EXT/INT PC Pkr set @ 16,420'.

B. 1) Name of the injection formation and, if applicable, the field or pool name:
Devonian

2) The injection interval and whether it is perforated or open hole:
Open hole from 16,470 - 17,960 O.H.
BOPCO will evaluate the open hole interval by mudlogging the well as well as running open hole logs as in the ND 19 SWD.

3) State if the well was drilled for injection or, if not, the original purpose of the well:
Newly drilled well for injection.

4) Give the depths of any other perforated intervals and detail on the sacks of cement or BPs used to seal off such perforations:
NA

5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any:
Higher: Bone Spring - 7,556' Lower: None

C-108 DATA

- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each wells type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

There are no wells that penetrate the proposed injection zone.

- VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected: 30,000 average, 35,000 maximum BWPD
2. Whether the system is open or closed: closed
3. Proposed average and maximum injection pressure: 3,292 psi maximum, 2,500 psi average
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water: Produced water will come from the Delaware formation.
5. If injection is for disposal purposes into a zone not productive of oil & gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water: N/A

- VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with TDS of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval:

Lithologic Detail: Carbonate
Geological Name: Devonian
Thickness: 1500'
Depth: 16,470' - 17,960'

The Rustler Formation is a known source of fresh water throughout this geographic area. Average depth of Rustler is 148-540'.
No sources of fresh water are known to exist below the proposed disposal zone.

- IX. Describe the proposed stimulation program, if any:

The open hole section from 16,470-17,960' will be acidized with approximately 13.4 gallons 20% NEFE HCl per foot for a total of 20,000 gallons.

- X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted.)


Logs will be submitted. This will be a newly drilled well.

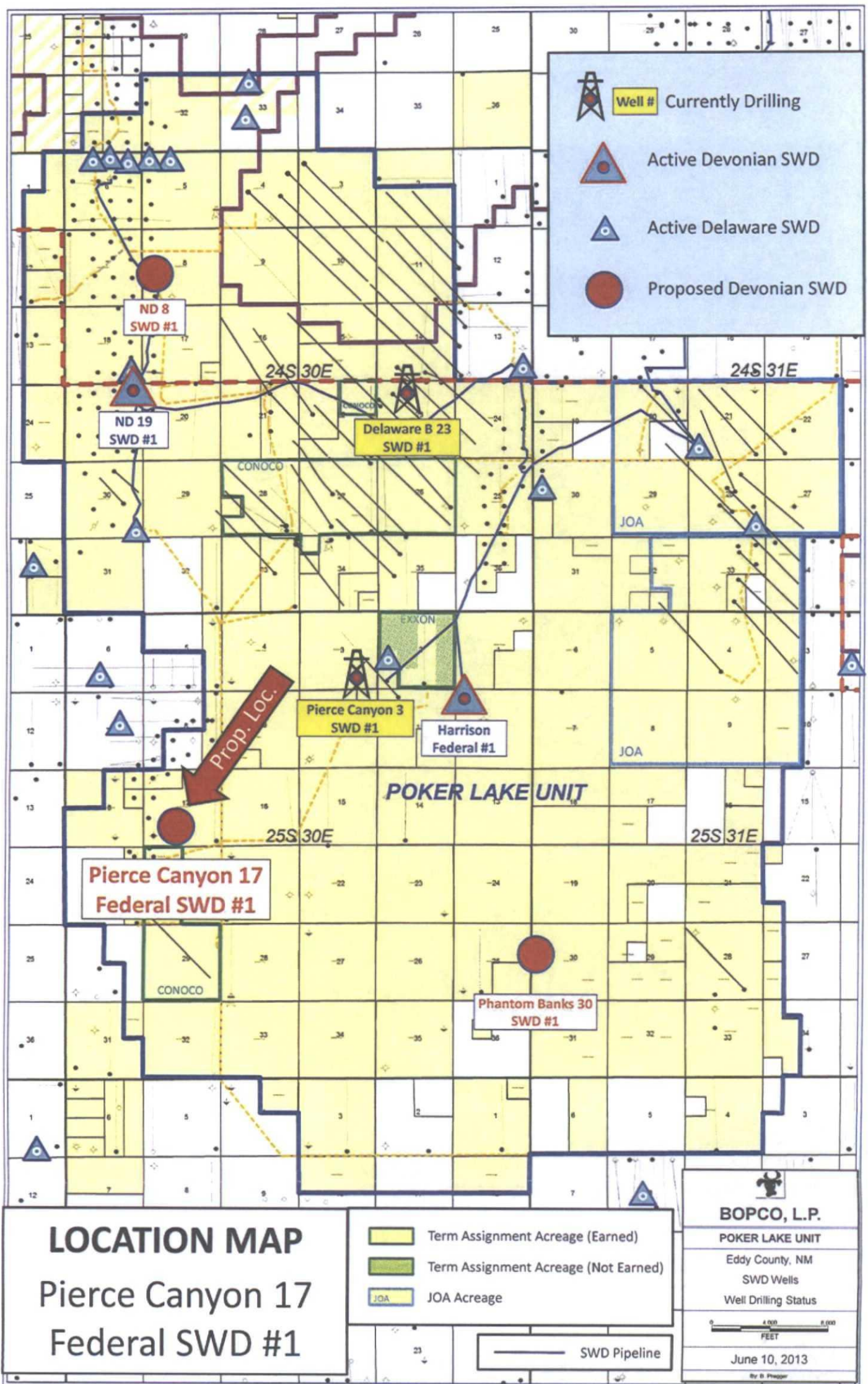
- XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

No known fresh water wells within one mile of proposed well.

- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrology connection between the disposal zone and any underground sources of drinking water.

Applicant hereby affirms that he has examined the available geologic and engineering data and finds no evidence of open faults, or other hydrologic connection between the disposal zone and any underground source of drinking water.

GEOLOGICAL PROGNOSIS									
BOPCO, L. P.		WEST TEXAS DIVISION			Issue Date: 6/11/2013				
FIELD OR PROSPECT		WELL NAME		WELL NO.	API CLASS	EXP/DEV	EST. W.I	EST. N.R.I.	
Poker Lake		Pierce Canyon 17 Federal SWD		1	1	SWD	1.00	n/a	
LOCATION				COUNTY	STATE	PRIMARY OBJECTIVE			
Surface:		1,200' FSL & 2,450' FWL, Sec. 17, T25S-R30E		Eddy	NM	Devonian			
Bottom Hole:		n/a		Lateral Length:		n/a			
TOTAL DEPTH		DRILLING TARGETS							
MD: 17,960'		Target 1:		n/a		TVD:		n/a	
		Target 2:		n/a		TVD:		n/a	
TVD: 17,960'		TD:		n/a		TVD:		n/a	
Pilot Hole Y/N	n/a	Pilot Hole Depth:		n/a		Lateral Drilling Direction			
FORMATION TOPS				BEST GEOLOGICAL CORRELATION WELL					
FORMATION / MARKER		ELEVATIONS	GL:	3,220'	KB:	3,245'	Operator		
						Chesapeake			
		ESTIMATED DEPTHS				Well	PLU Pierce Canyon 17 Fed. 1H		
						KB:	3,250'		
		MD	TVD	SUBSEA	SUBSEA		Actual from Log		
Rustler		835'		2,410'	2,389'		861'		
Salado		1,125'		2,120'	2,059'		1,191'		
Lamar		3,731'		-486'	-496'		3,746'		
Delaware Sands		3,763'		-518'	-528'		3,778'		
Bone Spring		7,555'		-4,310'	-4,320'		7,570'		
Wolfcamp		10,807'		-7,562'	-7,672'		10,983' *		
Middle Wolfcamp		12,224'		-8,979'	-8,989'		12,300' *		
Strawn		13,296'		-10,051'	-10,199'		13,510' *		
Atoka		13,346'		-10,101'	-10,259'		13,570' *		
Morrow		14,024'		-10,779'	-10,836'		14,147' *		
Middle Morrow		14,587'		-11,342'	-11,399'		14,710' *		
Lower Morrow		15,247'		-12,002'	-11,990'		15,369' **		
Mississippian Lime		15,902'		-12,657'	-12,801'		16,180' **		
Woodford		16,322'		-13,077'	-13,116'		16,495' **		
Devonian		16,460'		-13,215'	-13,244'		16,623' **		
TD		17,960'		-14,715'					
RESERVOIR OBJECTIVES				PRIMARY	SECONDARY	DEPTH			
Devonian				X					
SIGNIFICANT OFFSET WELLS									
OPERATOR	WELL NAME	WELL NO.	LOCATION			COUNTY	STATE		
BOPCO	PLU Pierce Canyon 17 Fed	1H	350' FSL & 350' FEL, Sec. 17, T25S-R30E			Eddy	NM		
BOPCO	Poker Lake Unit	42	1,980' FNL & 1,980' FEL, Sec. 10, T25S-R30E			Eddy	NM		
El Paso	Poker Lake Unit	3	1,980' FSL & 660' FWL, Sec. 22, T25S-R30E			Eddy	NM		
BOPCO	Harrison Federal	1	660' FNL & 660' FWL, Sec 12, T25S-R30E			Eddy	NM		
TARGET SAND TOP DEPTHS				MUD LOGGER					
Top target sand @ SL				VENDOR: MORCO					
Top target sand @ EOC=				UNIT ON BY: Surface to pick surface casing					
Top target sand @ Target 1=				SAMPLES FROM: Surface TO: TD					
				SAMPLE INTERVAL (FT.): 10'					
WIRELINE LOGGING PROGRAM									
GR, Neutron-Density, Resistivity, Dipole Sonic from top of Delaware to TD. Cased hole GR-Neutron to surface.									
Cost estimate for logging program: \$188,500									
MUST COMMENCE BY									
REMARKS									
* These offset formation tops are from the El Paso Poker Lake Unit No. 3.									
** These offset formation tops are from the Richardson and Bass Harrison Federal No. 1.									
A liner was set @ 14,515' (Upper Morrow) in the PLU #42, 2.4 miles to the northeast, due to pressure in the Atoka.									
TD depth is based on the thickness of Devonian porosity encountered in the ND 19 Federal SWD #1 well.									
Recommended by: (GEO)		Brian Pregger		Approved by (signature)			Date		
XC: S. Neuse, J. Strom, R. Sutton, M. Strickland, Well File		EX: M. Roper, F. McCreight, K. Adams, E. Easley, J. Smitherman, B. Brigham, A. Shields, A. Stevens, P. Jones, T. McCarthy, B. Bezant, S. Johnson, S. Martinez, C. Warne, D. Cassetta, K. Holster, W. McKee					6/11/2013		



PROPOSED WELLBORE DIAGRAM

Lease: PLU Pierce Canyon 17 Federal SWD Well No.: 1
 Injection
 Reservoir: Devonian
 Location: 1200' FSL & 2450' FWL S17-T25S-R30E
 County: EDDY St: NM API: 30-015-

Surface Csg.

Size: 16"
 Wt: 84#
 Grd: J-55, BTC
 Set @: 825'
 Sxs cmt: 480
 TOC: Surface
 Hole Size: 18-1/8"

Intermediate Csg.

Size: 13-3/8"
 Wt: 68#
 Grd: HCL-80, Ultra Flush Jt
 Set @: 3741'
 Sxs Cmt: 730
 TOC: Surface
 Hole Size: 14-3/4"

Production Csg.

Size: 9-5/8"
 Wt: 53.5#
 Grd: P-110, LT&C
 Set @: 11407'
 Sxs Cmt: 2060
 TOC: Surface
 Hole Size: 12-1/4"

Liner

Size: 7"
 Wt: 29#
 Grd: HCP-110 LTC
 Set @: 11207 - 16470'
 Sxs Cmt: 580
 TOC: 11207'
 Hole Size: 8-1/2"

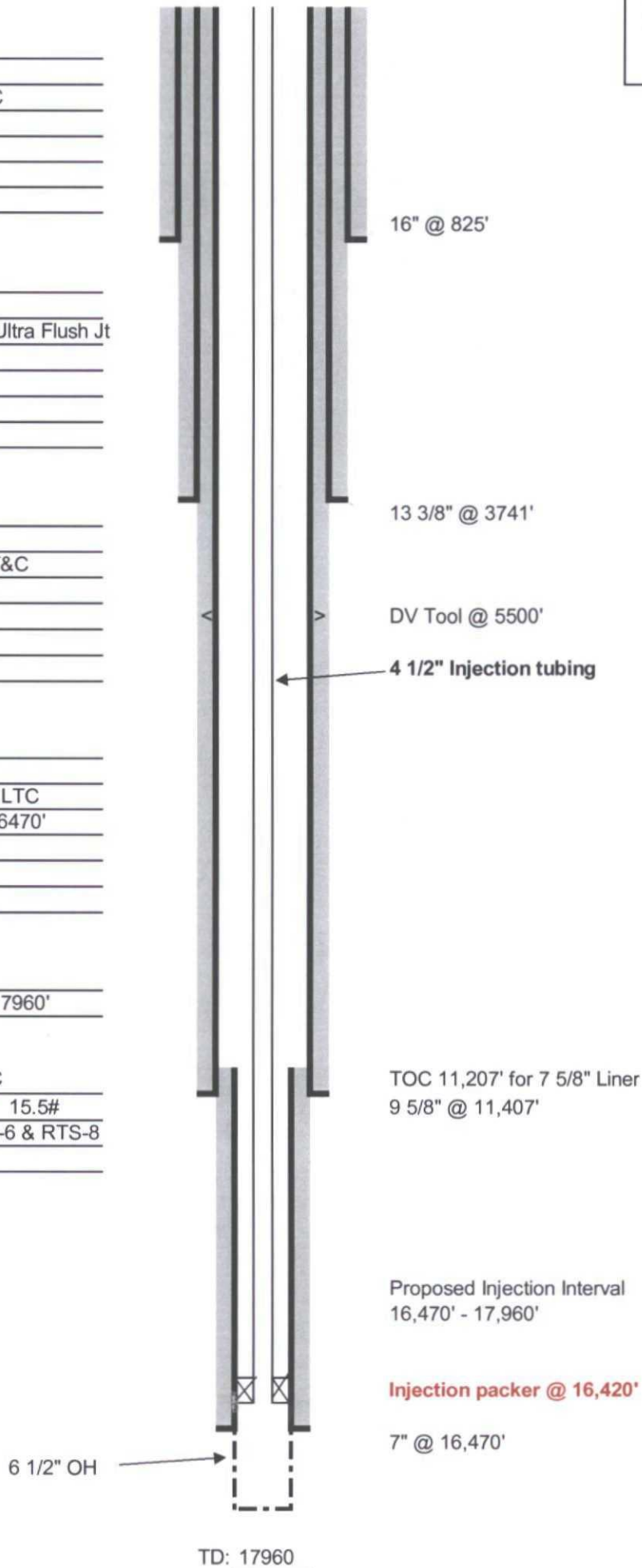
Open Hole

Size: 6 1/2"
 Depth: 16470' - 17960'

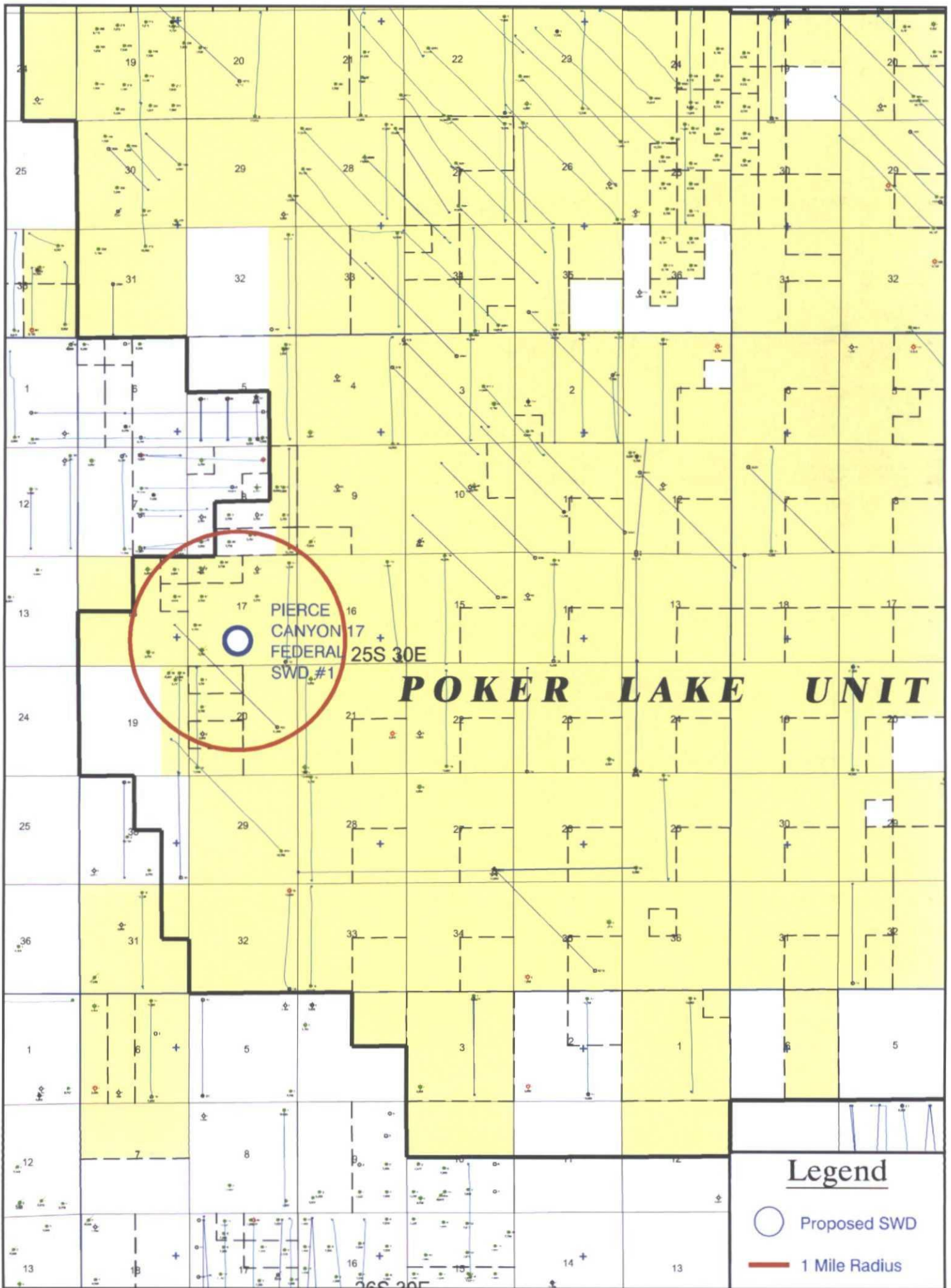
Tubing

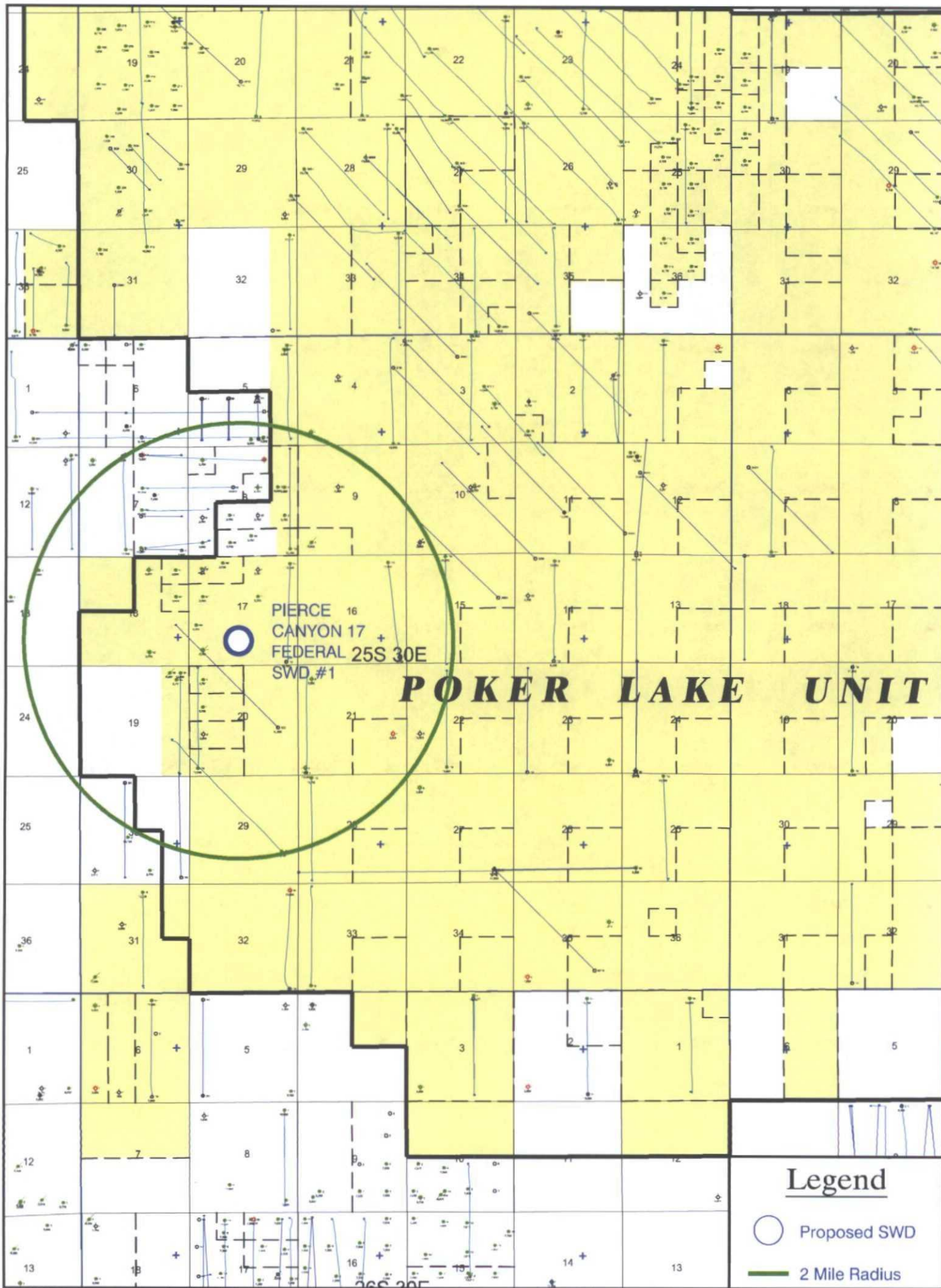
Size: 4 1/2" IPC
 Wt: 12.75# 15.5#
 Grd: L-80 RTS-6 & RTS-8
 Set @: 16420'

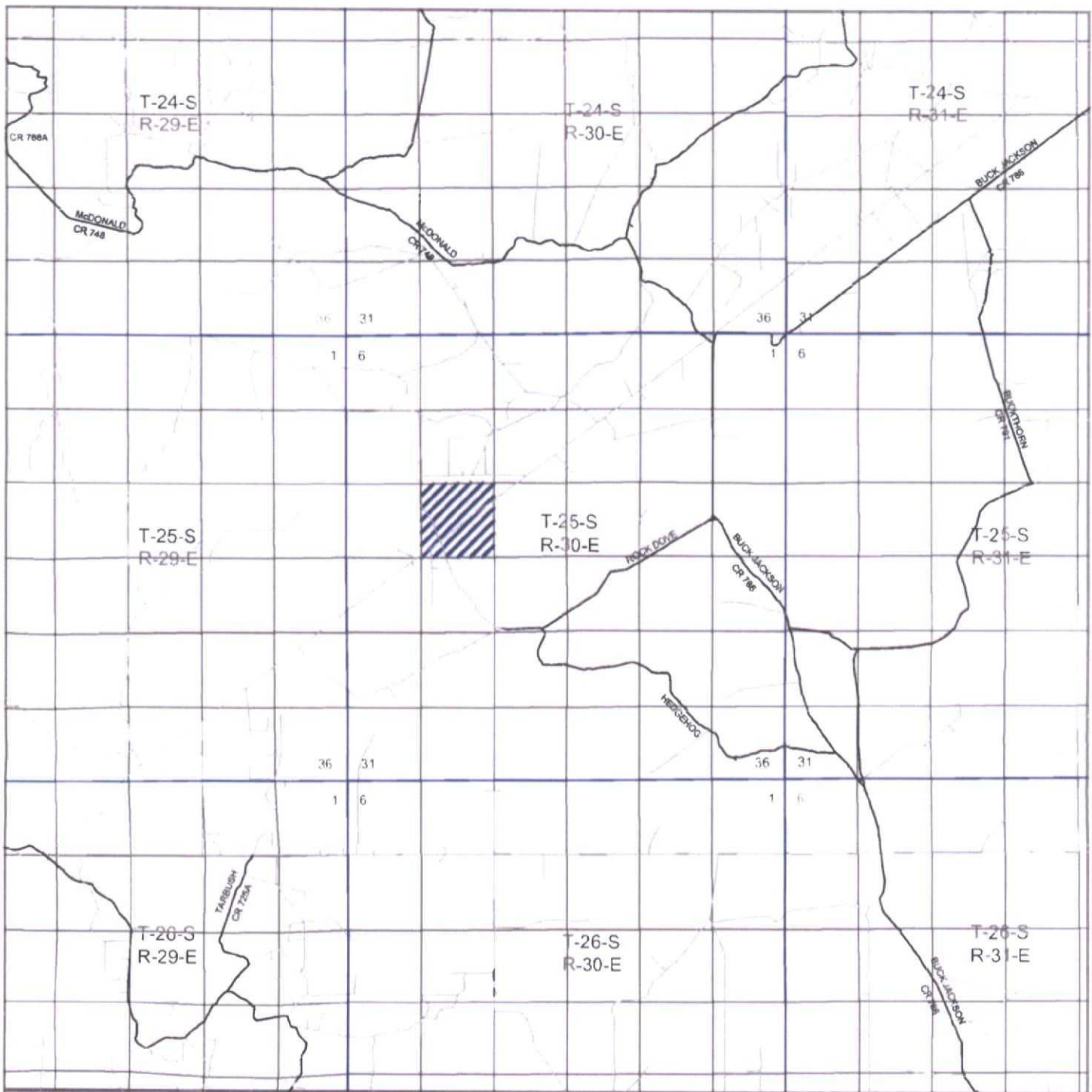
Elevation GL:	3221
Elevation KB:	3246
Spud:	
Completed	



Updated: 8/14/2014
 Author: ezg
 Engr: KB







PLU PIERCE CANYON 17 FEDERAL SWD 1

Located 1200' FSL and 2450' FWL
 Section 17, Township 25 South, Range 30 East,
 N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (575) 393-7316 - Office
 (575) 392-2206 - Fax
 basinsurveys.com

0 1 MI 2 MI 3 MI 4 MI

SCALE: 1" = 2 MILES

W.O. Number: JMS 29640

Survey Date: 10-25-2013

YELLOW TINT - USA LAND
 BLUE TINT - STATE LAND
 NATURAL COLOR - FEE LAND



BOPCO, L.P.



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

No records found.

Basin/County Search:

County: Eddy

PLSS Search:

Section(s): 17

Township: 25S

Range: 30E



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

Basin/County Search:

County: Eddy

PLSS Search:

Section(s): 17

Township: 25S

Range: 30E

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

5 Lease Serial No.
NMLC 0064894A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.
Poker Lake Unit NMNM 71016X

8. Lease Name and Well No.
PLU Pierce Canyon 17 Federal SWD #1

9. API Well No.

1a. Type of work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☒ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator BOPCO, L.P.

3a. Address P.O. Box 2760
Midland, TX 79702

3b. Phone No. (include area code)
432-683-2277

10. Field and Pool, or Exploratory
SWD; Devonian

4. Location of Well (Report location clearly and in accordance with any State requirements.)
At surface SESW, ULN, 1200' FSL & 2450' FWL, Lat:N32.32.126078,Long:W103.903686
At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 17, T25S-R30E

14. Distance in miles and direction from nearest town or post office*
12 miles southeast of Malaga, NM

12. County or Parish
Eddy County

13. State
NM

15. Distance from proposed* 1200'
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any)

16. No. of acres in lease
960

17. Spacing Unit dedicated to this well
40

18. Distance from proposed location* 2,370"
to nearest well, drilling, completed,
applied for, on this lease, ft.

19. Proposed Depth
17,961 MD

20. BLM/BIA Bond No. on file
COB 000050

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3,221 GL

22. Approximate date work will start*
08/01/2014

23. Estimated duration
90 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature

Courtney Lockhart

Name (Printed/Typed)
Courtney Lockhart

Date

4-22-14

Title

Regulatory Analyst

Approved by (Signature)

Name (Printed/Typed)

Date

Title

Office

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Address Stub - Discard Before Deposit

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE
620 E GREEN STREET
CARLSBAD, NM 88220-6292

BOPCO, L.P.

201 MAIN ST. SUITE 2700
FORT WORTH, TX 76102

JPMORGAN CHASE BANK

CHECK NO 804626
DATE 04/09/2014

WELL NAME: PLU PIERCE CANYON 17 FEDERAL SWD #1
APD FEE: \$6500.00

THE FACE OF THIS DOCUMENT CONTAINS A VOID PANTOGRAPH AND MICROPRINTING IN THE BORDER.

BOPCO, L.P.

201 MAIN ST. SUITE 2700
FORT WORTH, TX 76102

JPMORGAN CHASE BANK
SAN ANGELO, TEXAS

88-88
1113
CHECK NO 804626
DATE 04/09/2014

PAY EXACTLY Six Thousand, Five Hundred and NO/100 Dollars

PAY TO... BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE
620 E GREEN STREET
CARLSBAD, NM 88220-6292

AMOUNT \$*****6,500.00



⑈804626⑈ ⑆111300880⑆ 06300066878⑈

DISTRICT I
1626 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-9720

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (505) 748-1283 Fax: (505) 748-9728

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6178 Fax: (505) 334-8170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 478-3480 Fax: (505) 478-3482

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 96101	Pool Name SWD; DEVONIAN
Property Code 40065	Property Name PLU PIERCE CANYON 17 FEDERAL SWD	Well Number 1
OGRID No. 260737	Operator Name BOPCO, L.P.	Elevation 3221'

Surface Location

UL or lot No. N	Section 17	Township 25 S	Range 30 E	Lot Idn	Feet from the 1200	North/South line SOUTH	Feet from the 2450	East/West line WEST	County EDDY
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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
Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.						

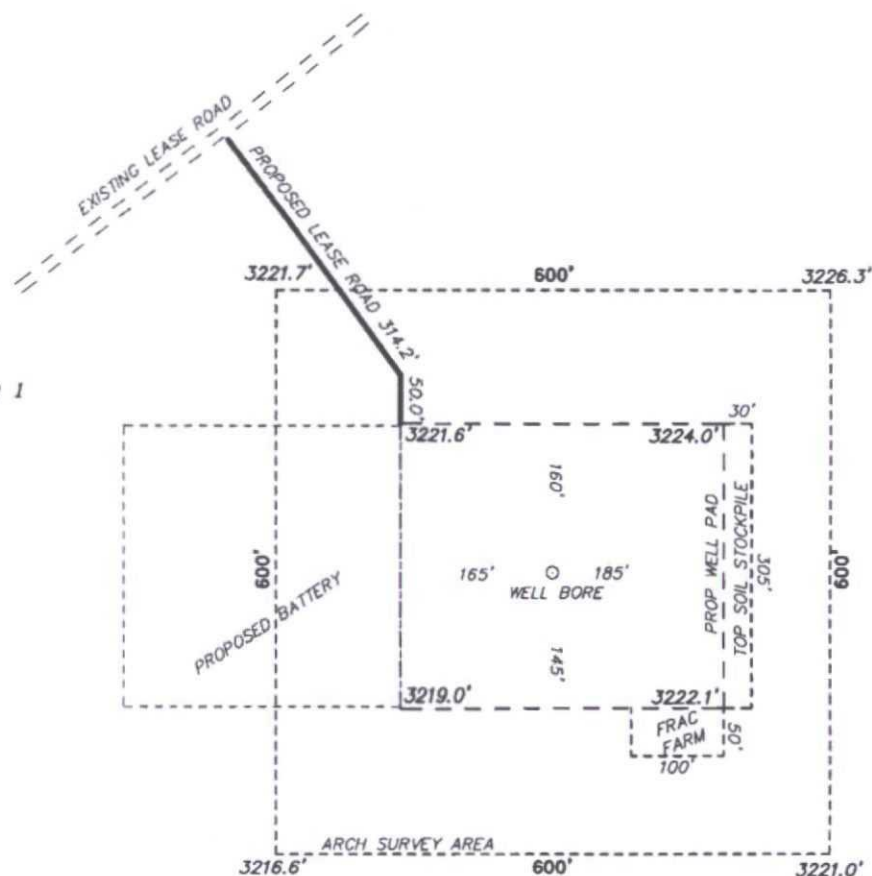
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

N: 413834.9 E: 630535.4 NAD 27				N: 414017.9 E: 635873.3 NAD 27	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. <i>Courtney Lockhart</i> Signature Date Courtney Lockhart Printed Name cjlockhart@basspet.com Email Address
N: 411779.0 E: 630549.7 NAD 27					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. OCTOBER 25, 2013 Date Surveyed Signature & Seal of Professional Surveyor
N: 408622.8 E: 630563.7 NAD 27				N: 408693.4 E: 635918.3 NAD 27	Certificate No. Gary L. Jones 7977 BASIN SURVEYS 0' 500' 1000' 1500' 2000' SCALE: 1" = 1000' WG Num.: 29640

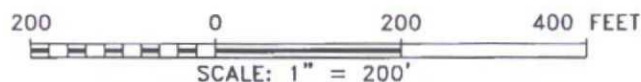
SECTION 17, TOWNSHIP 25 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

BOPCO, L.P.
PLU PIERCE CANYON 17 FEDERAL SWD 1
ELEV. - 3221'

Lat - N 32°07'33.88"
Long - W 103°54'13.27"
NMSPCE - N 409854.8
E 633006.6
(NAD-27)



MALAGA, NM IS ±12 MILES TO THE NORTHWEST OF LOCATION.



Directions to Location:

FROM THE JUNCTION OF BUCK JACKSON AND TWIN WELLS, GO WEST ON TWIN WELLS TO PIPELINE ROAD, GO SOUTHWEST 4.5 MILES TO PROPOSED LEASE ROAD.

basin
surveys
focused on excellence
in the oilfield

P.O. Box 1786 (575) 393-7316 - Office
1120 N. West County Rd. (575) 392-2206 - Fax
Hobbs, New Mexico 88241 basin-surveys.com

BOPCO, L.P.

REF: PLU PIERCE CANYON 17 FEDERAL SWD 1 / WELL PAD TOPO

THE PLU PIERCE CANYON 17 FEDERAL SWD 1 LOCATED 1200' FRO

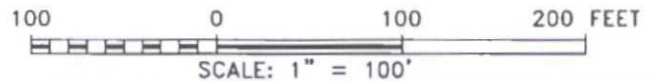
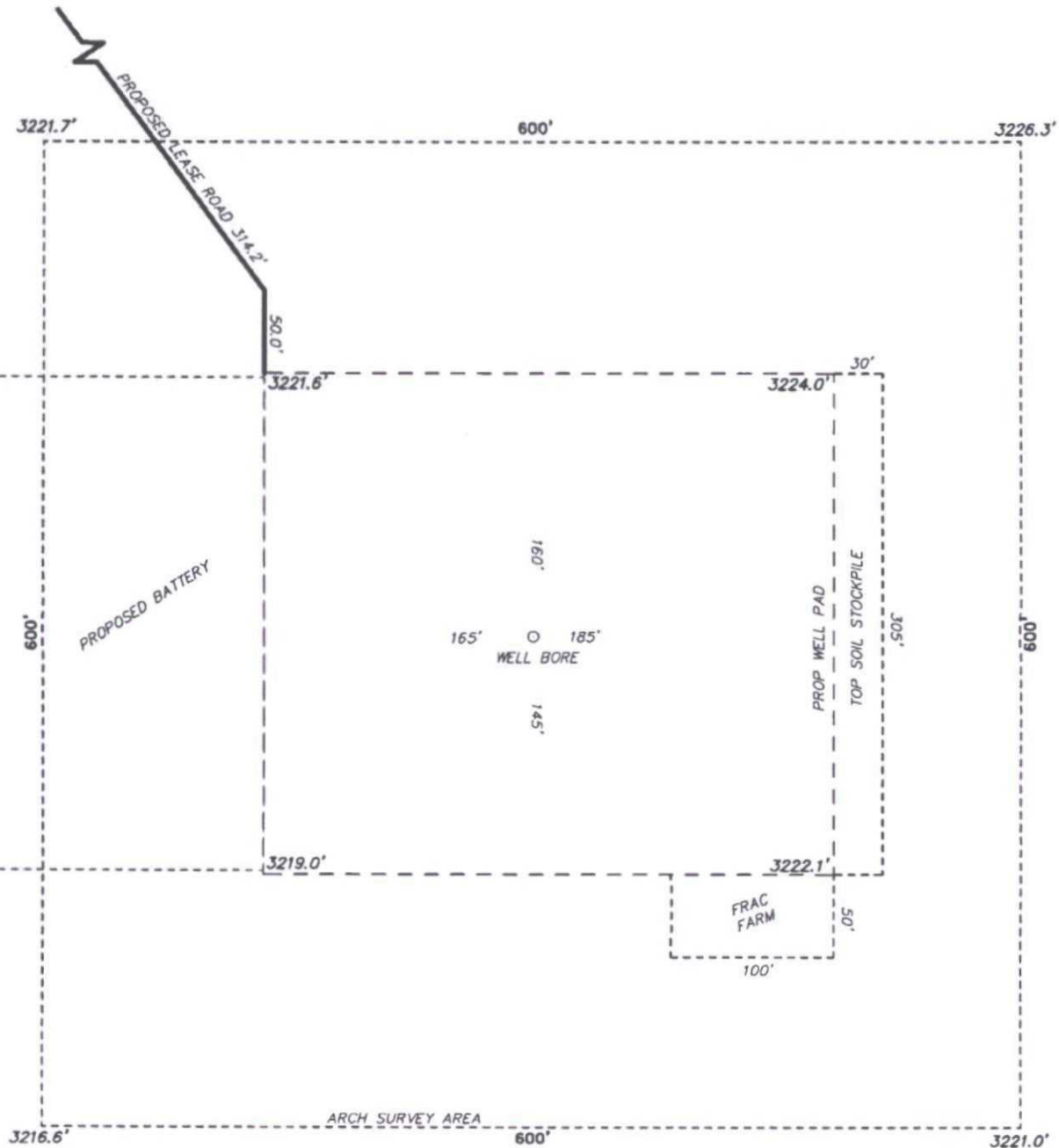
THE SOUTH LINE AND 2450' FROM THE WEST LINE OF

SECTION 17, TOWNSHIP 25 SOUTH, RANGE 30 EAST,

N.M.P.M., EDDY COUNTY, NEW MEXICO.

W.O. Number: 29640 Drawn By: J. SMALL Date: 11-07-2013 Survey Date: 10-25-2013 Sheet 1 of 1 Sheets

SECTION 17, TOWNSHIP 25 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



BOPCO, L.P.

REF: PLU PIERCE CANYON 17 FEDERAL SWD 1 / WELL PAD TOPO

THE PLU PIERCE CANYON 17 FEDERAL SWD 1 LOCATED 1200' FROM

THE SOUTH LINE AND 2450' FROM THE WEST LINE OF

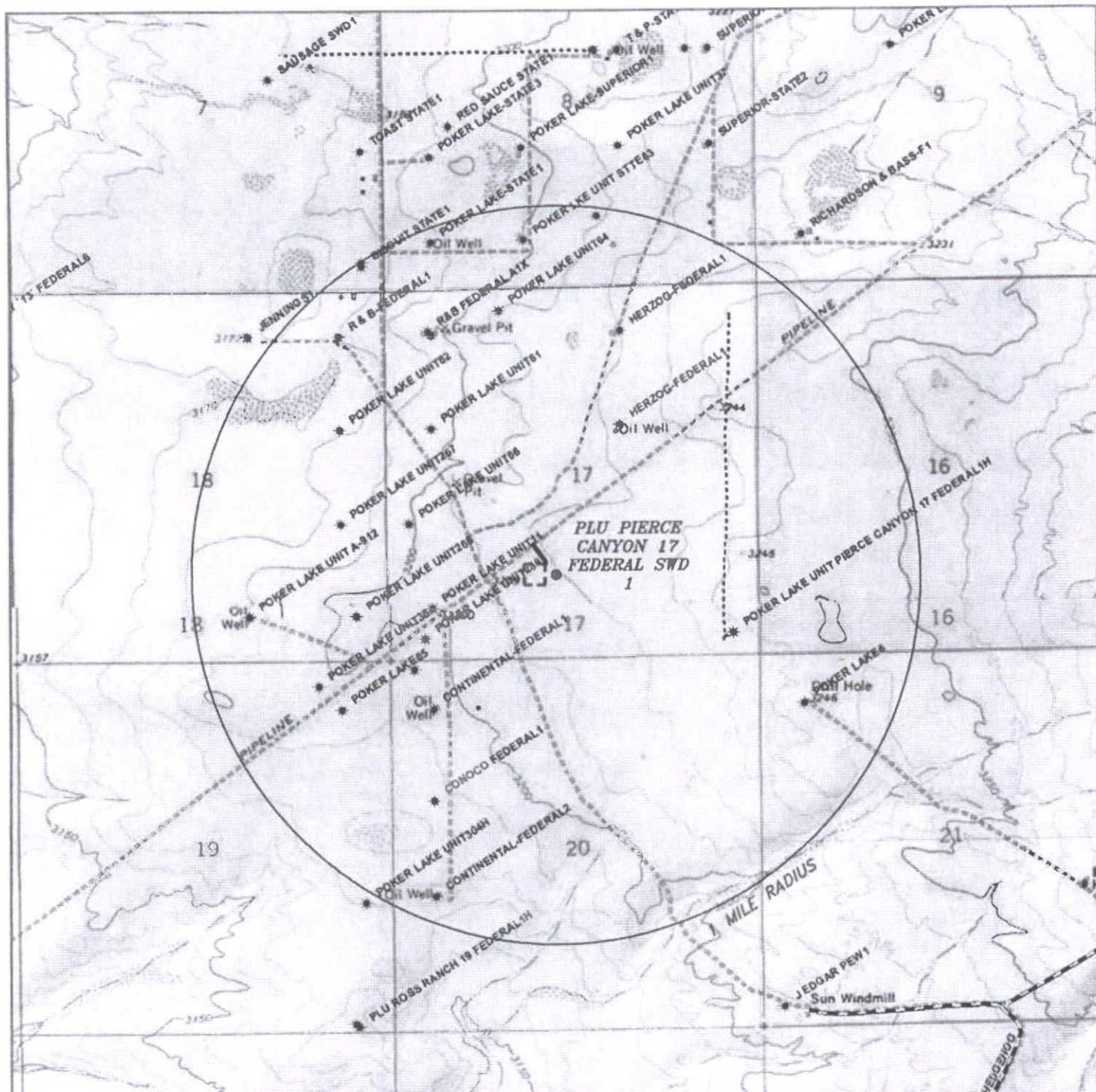
SECTION 17, TOWNSHIP 25 SOUTH, RANGE 30 EAST,

N.M.P.M., EDDY COUNTY, NEW MEXICO.

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P.O. Box 1786
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Hobbs, New Mexico 88241
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(575) 392-2206 - Fax
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W.O. Number: 29640 | Drawn By: J. SMALL | Date: 11-07-2013 | Survey Date: 10-25-2013 | Sheet 1 of 1 Sheets



PLU PIERCE CANYON 17 FEDERAL SWD 1

Located 1200' FSL and 2450' FWL

Section 17, Township 25 South, Range 30 East,
N.M.P.M., Eddy County, New Mexico.

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0' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'

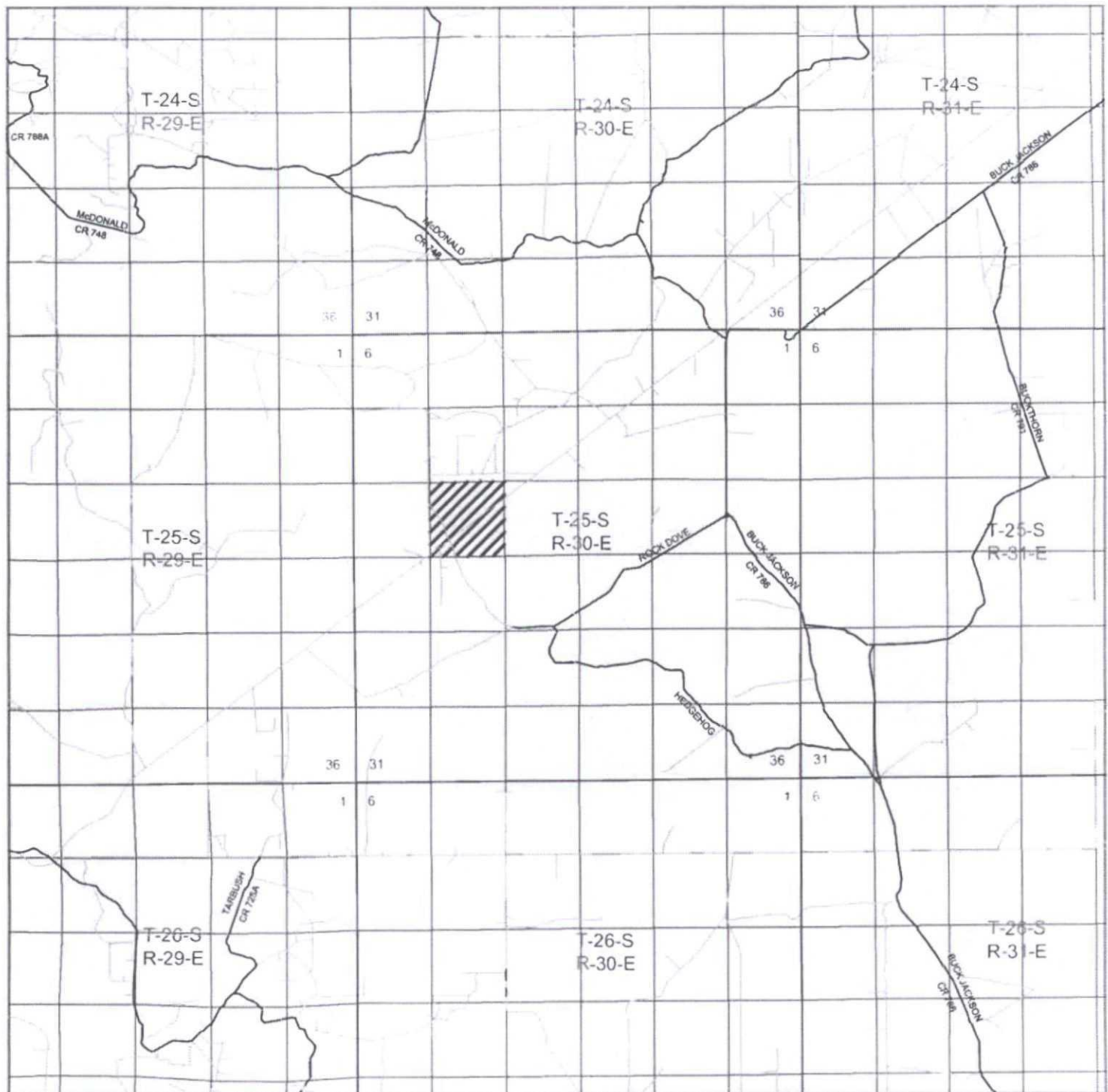
W.O Number: JMS 29640

Survey Date: 10-25-2013

YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND



BOPCO, L.P.



PLU PIERCE CANYON 17 FEDERAL SWD 1

Located 1200' FSL and 2450' FWL

Section 17, Township 25 South, Range 30 East,
N.M.P.M., Eddy County, New Mexico.

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0 1 MI 2 MI 3 MI 4 MI

SCALE: 1" = 2 MILES

W.O. Number: JMS 29640

Survey Date: 10-25-2013

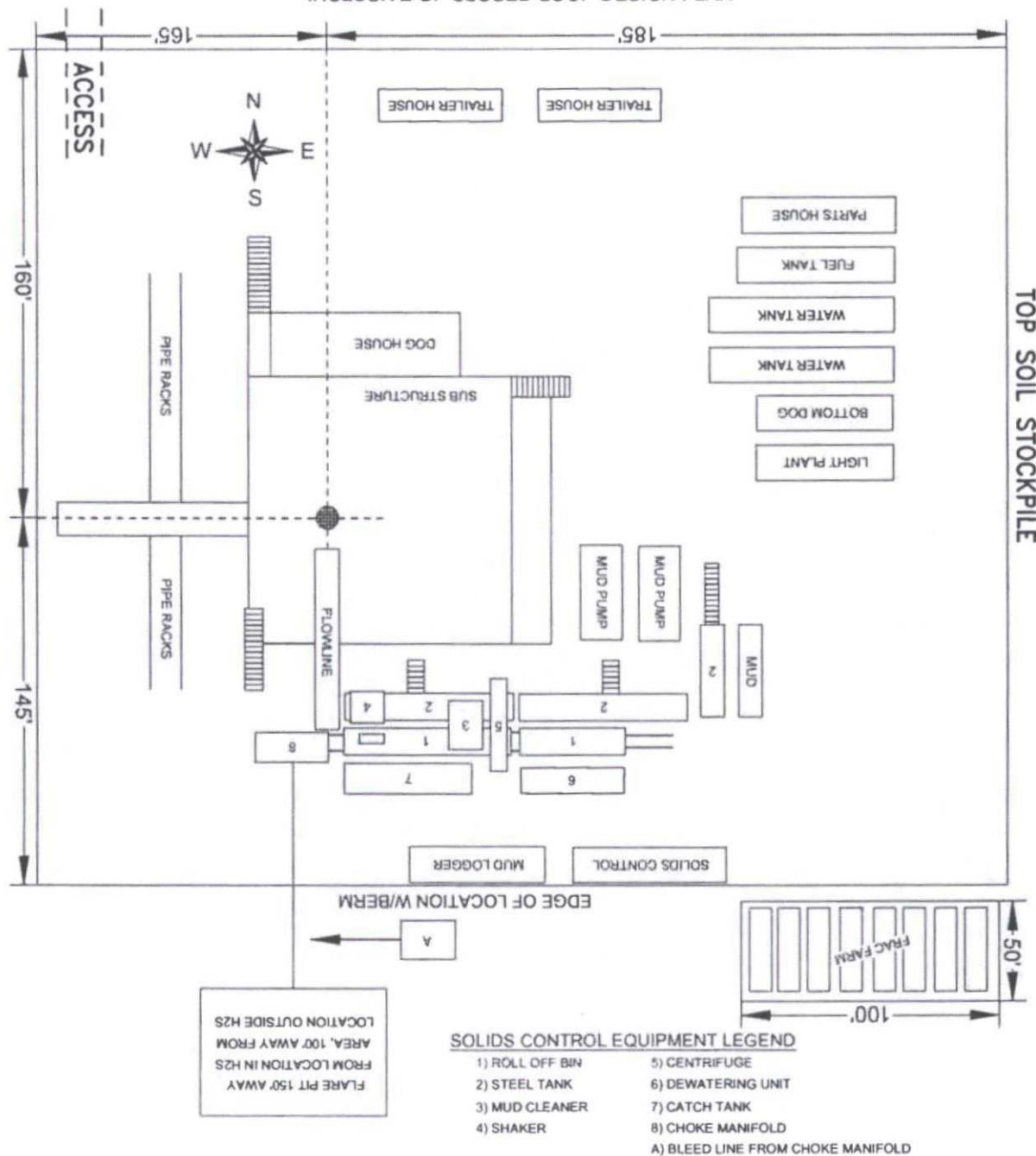
YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND



BOPCO, L.P.

EXHIBIT "D"

RIG LAYOUT SCHEMATIC
INCLUSIVE OF CLOSED-LOOP DESIGN PLAN



PLU PIERCE CANYON 17 FEDERAL SWD 1

Located 1200' FSL and 2450' FWL

Section 17, Township 25 South, Range 30 East,
N.M.P.M., Eddy County, New Mexico.

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SCALE: NONE

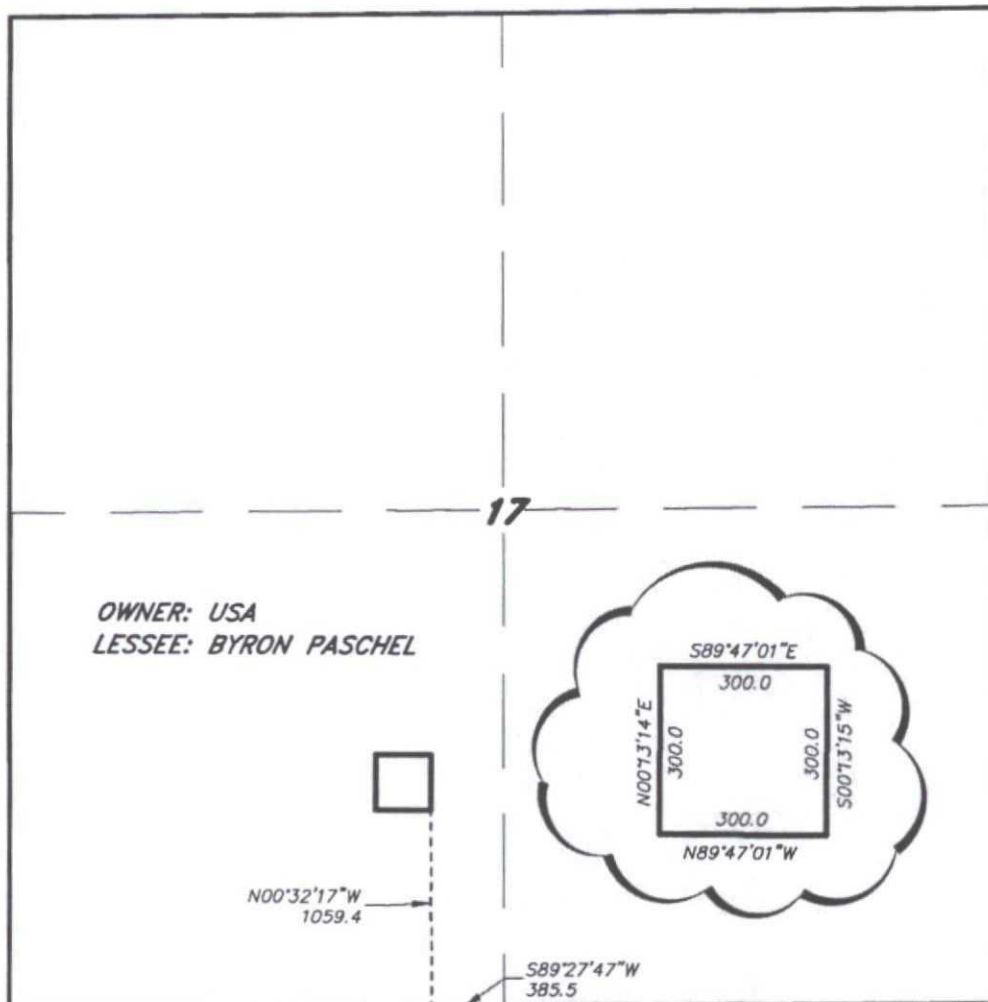
W.O. Number: JMS 29640

Survey Date: 10-25-2013



BOPCO, L.P.

SECTION 17, TOWNSHIP 25 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A TRACT OF LAND LOCATED IN SECTION 17 TOWNSHIP 25 SOUTH, RANGE 30 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT WHICH S.89°27'47\"W., 385.5 FEET AND N.00°32'17\"W., 1059.4 FEET FROM THE SOUTH QUARTER CORNER OF SAID SECTION 17; THENCE N.89°47'01\"W., 300.0 FEET; THENCE N.00°13'14\"E., 300.0 FEET; THENCE S.89°47'01\"E., 300.0 FEET; THENCE S.00°13'15\"W., 300.0 FEET TO THE POINT OF BEGINNING. SAID TRACT OF LAND CONTAINING 2.07 ACRES, MORE OR LESS.

I HEREBY CERTIFY THAT THIS MAP WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS PRECIBED BY THIS STATE.



GARY L. JONES, P.L.S. No. 7977
P.L.S. No. 5074

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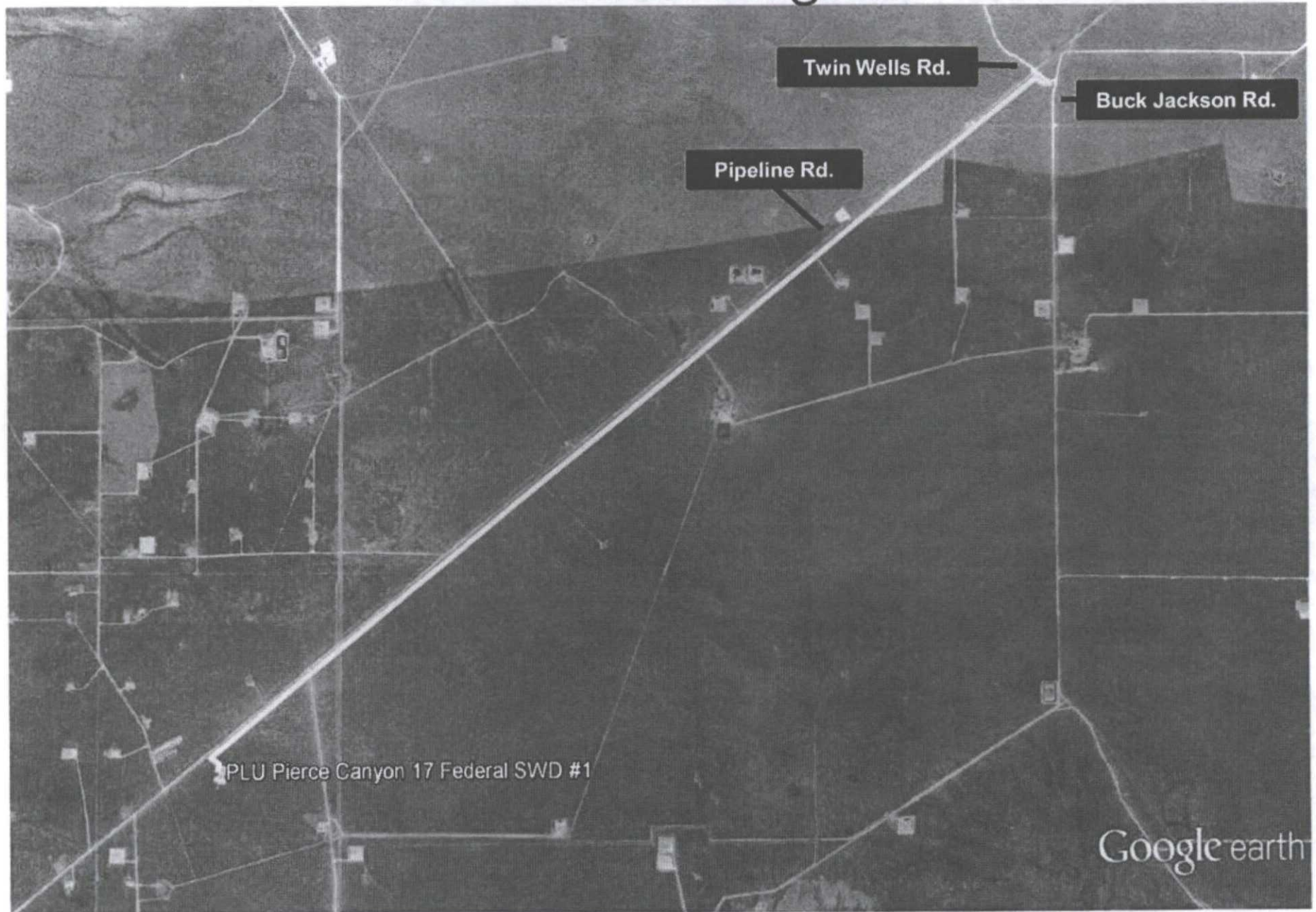
1000 0 1000 2000 FEET

BOPCO, L.P.

REF: PROPOSED BATTERY

A TRACT OF LAND LOCATED ON USA LAND IN
SECTION 17, TOWNSHIP 25 SOUTH, RANGE 30 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Access Road Diagram



**EIGHT POINT DRILLING PROGRAM
BOPCO, L.P.**

NAME OF WELL: PLU Pierce Canyon 17 Federal SWD #1

LEGAL DESCRIPTION - SURFACE: 1,200' FSL, 2,450' FWL, Section 17, T25S, R30E, Eddy County, NM.

POINT 1: ESTIMATED FORMATION TOPS (See No. 2 Below)

POINT 2: WATER, OIL, GAS AND/OR MINERAL BEARING FORMATIONS

Anticipated Formation Tops: KB 3,246' (estimated)
GL 3,221'

Formation Description	Est from KB (TVD)	Est (MD)	SUB-SEA TOP	BEARING
T/Fresh Water	400'	400'	+ 2,846'	Fresh Water
T/Rustler	836'	836'	+ 2,410'	Barren
T/Salado	1,126'	1,126'	+ 2,120'	Barren
T/Lamar	3,732'	3,732'	- 486'	Oil/Gas
Delaware Sands	3,764'	3,764'	- 518'	Oil/Gas
Bone Spring	7,556'	7,556'	- 4,310'	Oil/Gas
Wolfcamp	10,808'	10,808'	- 7,562'	Oil/Gas
Middle Wolfcamp	12,225'	12,225'	- 8,979'	Oil/Gas
Strawn	13,297'	13,297'	- 10,051'	Oil/Gas
Atoka	13,347'	13,347'	- 10,101'	Oil/Gas
Morrow	14,025'	14,025'	- 10,779'	Oil/Gas
Middle Morrow	14,588'	14,588'	- 11,342'	Oil/Gas
Lower Morrow	15,248'	15,248'	- 12,002'	Oil/Gas
Mississippian Lime	15,903'	15,903'	- 12,657'	Oil/Gas
Woodford	16,323'	16,323'	- 13,007'	Oil/Gas
Devonian	16,461'	16,461'	- 13,215'	Disposal
TD	17,961'	17,961'	- 14,175'	Disposal

POINT 3: CASING PROGRAM

TYPE	INTERVAL MD	HOLE SIZE	PURPOSE	INSTALLATION TYPE
20"	0' - 120'	26"	Conductor	Contractor Design
16", 84 ppf, J-55, BTC	0' - 825'	18-1/8"	Surface	New
13-3/8", 68 ppf, HCL-80, Ultra Flush Joint	0' - 3,741'	14-3/4"	1 st Intermediate	New
9-5/8", 53.50 ppf, P-110, LTC*	0' - 11,407'	12-1/4"	2 nd Intermediate	New
7", 29 ppf, HCP-110 LTC	11,207' - 16,470'	8-1/2"	Production Liner	New

*9-5/8", 53.50, P-110, LTC will be special drift to 8.5"

CASING DESIGN SAFETY FACTORS:

TYPE	Tension	Burst	Collapse
16", 84 ppf, J-55, BTC	22.26	3.52	1.94
13-3/8", 68 ppf, HCL-80, Ultra Flush	3.36	1.29	2.40
9-5/8", 53.50 ppf, P-110, LTC	2.74	1.18	1.73
7", 29 ppf, P-110, LTC	7.93	1.14	1.60

"9-5/8", 53.50, P-110, LTC will be special drift to 8.5"

DESIGN CRITERIA AND CASING LOADING ASSUMPTIONS:**SURFACE CASING - (16")**

Tension	A 1.6 design factor utilizing the effects of buoyancy (9.2 ppg).
Collapse	A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.
Burst	A 1.3 design factor with a surface pressure equal to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure at that depth. Backup pressure will be formation pore pressure. In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient. The effects of tension on burst will not be utilized.

1st Intermediate - (13-3/8")

Tension	A 1.6 design factor utilizing the effects of buoyancy (10.2 ppg).
Collapse	A 1.125 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered. In the case of development drilling, collapse design should be analyzed using internal evacuation equal to 1/3 the proposed total depth of the well. This criterion will be used when there is absolutely no potential of the protective string being used as a production casing string.
Burst	A 1.0 surface design factor and a 1.3 downhole design factor with a surface pressure equivalent to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure at that depth. Backup pressure will be formation pore pressure. In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient.

2nd Intermediate CASING - (9-5/8")

Tension	A 1.6 design factor utilizing the effects of buoyancy (9.5 ppg).
Collapse	A 1.125 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.
Burst	A 1.25 design factor with anticipated maximum tubing pressure (5000 psig) on top of the maximum anticipated packer fluid gradient. (0.433 psi/ft) Backup on production strings will be formation pore pressure. (0.433 psi/ft) The effects of tension on burst will not be utilized.

Production Liner - (7")

Tension	A 1.6 design factor utilizing the effects of buoyancy (12.5 ppg).
Collapse	A 1.125 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.
Burst	A 1.25 design factor with anticipated maximum tubing pressure (5000 psig) on top of the maximum anticipated packer fluid gradient. (0.433 psi/ft) Backup on production strings will be formation pore pressure. (0.433 psi/ft) The effects of tension on burst will not be utilized.

POINT 4: PRESSURE CONTROL EQUIPMENT (SEE ATTACHED DIAGRAMS A, B, C or D)

The BOPE when rigged up on the 16" surface casing head (18-1/8" hole) will consist of 21-3/4" annular and diverter system per diagram Z (2,000 psi WP). The annular when installed on surface casing will be tested to 1,000 psi. There will be a 6", 3000 psi gate valve installed on the drilling spool for fill up. The choke manifold (diagram A) system will be rigged up to the hydraulic gate valve on the drilling spool.

After running the 13-3/8" intermediate casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M will be installed on the 13-3/8" intermediate casing spool (12-1/4" open hole), used, maintained and tested as per Onshore Order 2. In addition to the high pressure test, a low pressure (250-300 psig) test will be performed.

After running the 9-5/8" intermediate casing, a 13-5/8" system with a minimum rating of 10M will be installed on the 9-5/8" intermediate casing spool (8-1/2" open hole), used, maintained and tested as per Onshore Order 2. In addition to the high pressure test, a low pressure (250-300 psig) test will be performed.

After running the 7" intermediate casing, a 13-5/8" system with a minimum rating of 10M will be installed on the 9-5/8" intermediate casing spool (6-1/8" open hole), used, maintained and tested as per Onshore Order 2. In addition to the high pressure test, a low pressure (250-300 psig) test will be performed.

H2S contingency

H2S monitors shall be installed prior to drilling out the surface shoe. If H2S is encountered in quantities greater than 10 PPM, the well will be shut in and H2S equipment will be installed, including a flare line that will be extended pursuant to onshore oil and gas order #6.

These tests will be performed:

- a) Upon installation
- b) After any component changes
- c) Thirty days after a previous test
- d) As required by well conditions
- e) Any time a seal is broken within a system

A function test to insure that the preventers are operating correctly will be performed on each trip.

BOPCO, LP would like to request a variance to utilize a 3-1/2", 10,000 psi WP, armored flex hose to be installed between the BOP stack and choke manifold in the drilling of this well. This well will be drilled to a

maximum TVD of 15,750' and a maximum surface pressure should be +/- 3414 psi, which is max BHP minus 0.22 psi/ft.

Please refer to diagrams A for the 5M system and diagram B for the 10M system. Both diagrams show the choke manifold and closed loop system layout. If an armored flex hose is utilized, the company man will have all of the proper certified paper work for that hose available on location.

POINT 5: MUD PROGRAM

DEPTH	MUD TYPE	WEIGHT	FV	PB	YP	FL	PH
0 -825'	FW Spud Mud	8.5 – 9.2	38-70	70-40	20	12	NC
825' – 3,741'	Brine Water	9.8 – 10.2	28-30	NC	NC	NC	NC
3,741' – 10,807'	FW/Gel	8.7 – 9.0	28-32	NC	NC	NC	NC
10,807' – 11,407'	Cut Brine\Brine Mud	9.0 – 9.5	34-42	10	8	< 25	9.5 – 10.5
11,407' – 16,470'	XCD Brine Mud	11.0 – 12.5	45-48	20	10	< 5	9.5 – 10.5
16,470' – 17,960'	Fresh Water Mud	8.4 – 8.6	28-30	NC	NC	NC	9.5 – 10.5

NOTE: May increase vis for logging purposes only.

MUD MONITORING SYSTEM

1. BOPCO L.P. plans to drill the proposed well with water and does not expect to mud up. In the event of abnormal pressures that require mudding up, BOPCO L.P will record slow pump rates on the daily drilling report on a daily basis.
2. Visual mud monitoring equipment will be installed to detect volume changes.
3. Pit volume totalizers are installed on rig before spud.
4. BOPCO L.P. has the drilling mud checked every 24 hrs., and the daily mud check will be posted in the company man's trailer.
5. BOPCO L.P will be using a 2M, 5M and 10M system. Trip tanks will not be required per On-shore order #2 for the 2M or 5M system, but will be rigged up for the 10M system.
6. Gas detections systems will be installed on exploratory wells per On-shore order #2. Please refer to section G under point 6 in the 8pt drilling program for H2S safety information.

Sufficient mud materials will be kept at the well site to maintain mud properties and meet minimum lost circulation and weight increase requirements at all times (sack or bulk barite will not be on location until 500' above the top of the Wolfcamp.)

POINT 6: TECHNICAL STAGES OF OPERATION

- A) TESTING
None anticipated.

B) LOGGING

Run #1: Spectral GR, Neutron-Density, Resistivity, Sonic from top of the Delaware to TD.
Cased hole GR Neutron to surface.

Run #2: Elemental Capture Spectroscopy Log from Bone Spring to Devonian.

POINT 6: TECHNICAL STAGES OF OPERATION CONT...

Mud Logger: Rigged up at 100'

C) CONVENTIONAL CORING - Rotary sidewall cores in Bone Spring and Wolfcamp.

None anticipated

D) CEMENT

INTERVAL	AMOUNT SXS	FT OF FILL	TYPE	GALS/SX	PPG	FT ³ /SX
SURFACE:						
Lead: 0' – 325'	140	325	EconoCem- HLC+0.9%Econolite+5.0Lbm/sk salt	9.99	12.90	1.88
Tail: 325' – 825'	340	500	Cemex Premium Plus C + 1%CaCl ₂	6.36	14.80	1.34
1st INTERMEDIATE:						
Lead: 0' – 3,241'	550	3241	EconoCem Cement; HLC + 3.0% Salt + 0.1% HR-601	9.66	12.90	1.82
Tail: 3,241' – 3,741'	180	500	HalCem C	6.34	14.80	1.33
2 ND INTERMEDIATE						
Stage 1:						
Lead: 5,500' – 7,555'	320	2055	Tuned Light + 0.75% + CFR-3 + 1.5#/sk CaCl	12.41	10.20	2.76
Tail: 7,555' – 11,407'	1160	3852	VersaCem-PBSH2 + 0.4% Halad- 9	8.76	13.0	1.67
DV Tool @ 5,500'						
Stage 2:						
Lead: 3,241' – 5,000'	480	1759	EconCem HLC + 1% Econolite + 5% CaCl + 5#/sk Gilsonite	10.71	12.60	2.04
Tail: 5,000' – 5,500'	100	500	HalCem C	6.34	14.80	1.33
Liner						
Tail: 11,207' – 16,470'	580	5263	VersaCem H + 0.5% Halad – 344 + 0.30% HR-601	5.05	14.40	1.24

Cement excesses will be as follows:

Surface – 100% excess with cement circulated to surface.

1st Intermediate – 50% excess above fluid caliper with cement circulated to surface.

2nd Intermediate – 50% excess above fluid caliper with cement circulated 500' into the 1st intermediate casing string.

Liner – 50% above gauge hole or 35% above electric log caliper with cement circulated to the top of the liner @ 11,100'.

Cement volumes will be adjusted proportionately for depth changes of the multi stage tool.

E) H₂S SAFETY EQUIPMENT

As stated in the BLM Onshore Order 6, for wells located inside the H₂S area, H₂S equipment will be rigged up after setting surface casing. For the wells located inside the H₂S area the flare pit will be located 150' from the location. For wells located outside the H₂S area flare pit will be located 100' away from the location. **(See page 6 of Survey plat package for flare line reference)** There is not any H₂S anticipated in the area, although in the event that H₂S is encountered, the H₂S contingency plan attached will be implemented. **(Please refer to diagram A or B for choke manifold and closed loop system layout when H₂S is present)** Please refer to H₂S location diagram for location of important H₂S safety items.

F) CLOSED LOOP AND CHOKE MANIFOLD

Please see diagram A, B, C or D depending on configuration.

POINT 7: ANTICIPATED RESERVOIR CONDITIONS

Normal pressures are anticipated throughout Delaware section. Lost circulation may exist, but not likely, in the Delaware Section from 4,060'-7,900' TVD. Once in the Bone Spring, pore pressures will gradually increase to the top of the Wolfcamp. 9-5/8" casing will be set in the Wolfcamp and pore pressures will continue to increase through the Strawn and Atoka sections. A 7" production liner will be set into the Devonian with mud weights at 12.5 ppg or less. The Devonian BHP is 7200 psi and can be drilled with 8.5 ppg fresh water. Maximum surface pressures in the Devonian if productive could be 5500 psi with 7500 ppm H₂S and 5% CO₂; however, we anticipate drilling down dip in a non-productive area. There is no Devonian production within +/- 4 miles.

POINT 8: OTHER PERTINENT INFORMATION

A) Auxiliary Equipment

Upper and lower kelly cocks. Full opening stab in valve on the rig floor.

B) Anticipated Starting Date

Upon approval

110 days drilling operations

10 days completion operations

JDB

2. Article Number



7160 3901 9846 4644 8123

3. Service Type **CERTIFIED MAIL**4. Restricted Delivery? (Extra Fee) ☐ Yes

1. Article Addressed to:

The Allar Company
P.O. Box 1567
Graham, TX 76540

PS Form 3811, January 2005

Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly)

Sheila Burt

B. Date of Delivery

8/5/14

C. Signature

X Sheila Burt

☐ Agent
☐ AddresseeD. Is delivery address different from item 1?
If YES, enter delivery address below:☐ Yes
☐ No

2. Article Number



7160 3901 9846 4644 8147

3. Service Type **CERTIFIED MAIL**4. Restricted Delivery? (Extra Fee) ☐ Yes

1. Article Addressed to:

Mobil Producing TX & NM, Inc
12450 Greenspoint Dr
Houston, TX 77060-1991

PS Form 3811, January 2005

Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly)

Craig Blanton

B. Date of Delivery

8-5-14

C. Signature

X CRAIG BLANTON

☐ Agent
☐ AddresseeD. Is delivery address different from item 1?
If YES, enter delivery address below:☐ Yes
☐ No

2. Article Number



7160 3901 9846 4644 8161

3. Service Type **CERTIFIED MAIL**4. Restricted Delivery? (Extra Fee) ☐ Yes

1. Article Addressed to:

Conoco Phillips Co
P. O. Box 7500
Bartlesville, OK 74005

PS Form 3811, January 2005

Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly)

B. Date of Delivery

C. Signature


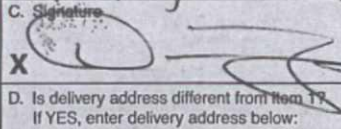
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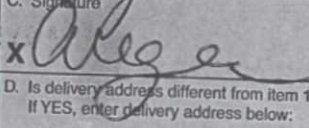
ConocoPhillips

☐ Agent
☐ AddresseeD. Is delivery address different from item 1?
If YES, enter delivery address below:☐ Yes
☐ No

AUG 4 2014

Mail Services
Bartlesville, OK

2. Article Number		COMPLETE THIS SECTION ON DELIVERY	
 7160 3901 9846 4644 8154		A. Received by (Please Print Clearly)	B. Date of Delivery
		D Trejo-Mer 6/10/14	
3. Service Type CERTIFIED MAIL		C. Signature	<input type="checkbox"/> Agent <input type="checkbox"/> Addressee
4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes		X 	
1. Article Addressed to:		D. Is delivery address different from item 1? If YES, enter delivery address below:	
Concho Operating, LLC 600 W Illinois Ave Midland, TX 79701			
PS Form 3811, January 2005		Domestic Return Receipt	

2. Article Number		COMPLETE THIS SECTION ON DELIVERY	
 7160 3901 9846 4644 8130		A. Received by (Please Print Clearly)	B. Date of Delivery
		Argue 8/4/14	
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4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes		X 	
1. Article Addressed to:		D. Is delivery address different from item 1? If YES, enter delivery address below:	
Yates Petroleum Corporation 105 South Fourth St Artesia, NM 88210			
PS Form 3811, January 2005		Domestic Return Receipt	

Affidavit of Publication

State of New Mexico,
County of Eddy, ss.

Kathy McCarroll, being first duly sworn,
on oath says:

That she is the Classified Supervisor of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

August 6	2014
August 7	2014
August 8	2014

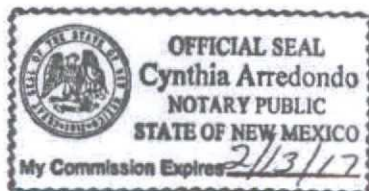
That the cost of publication is \$193.97 and That payment thereof has been made and will be assessed as court costs.

Kathy McCarroll

Subscribed and sworn to before me this

14 day of August, 2014
Cynthia Arredondo

My commission expires 2/13/17
Notary Public



3,292 psi and the estimated maximum rate will be 30,000 bbls produced water/day. The proposed disposal well is located in Eddy County, New Mexico in Section 17, T25S, R30E. The produced salt water will be disposed at a subsurface depth of 16,470' - 17,960'.

Any questions concerning this application should be directed to Emma Z. Galindo, Engineering Assistant, BOPCO, L.P., P O Box 2760, Midland, Texas 79702-2760, (432) 683-2277.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, New Mexico 87505 within 15 days.

August 6, 7
and 8, 2014

NOTICE OF APPLICATION FOR SALT WATER DISPOSAL WELL PERMIT

BOPCO, L.P. is in the process of applying to the New Mexico Oil Conservation Division for a permit to dispose of produced salt water into a porous formation not productive of oil or gas.

The applicant proposes to dispose of produced water into the Pierce Canyon 17 Federal SWD #1 (Devonian Formation). The maximum allowable injection pressure will be

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Legal Notices 152

4. Volatile Organic Compounds (VOC) 95
5. Particulate Matter (PM10) 95
6. Sulfur Dioxide (SO2) combustion equipment other than engines, turbines, & flares 30
7. Hydrogen Sulfide (H2S) for facilities in the Permian Basin 0.5
8. Hydrogen Sulfide (H2S) for facilities elsewhere in New Mexico 0.05
9. Any one (1) Hazardous Air Pollutant (HAP) 8
10. Sum of all Hazardous Air Pollutants (HAPs) 20

The owner and/or operator of the Plant is: Cimarex Energy Co., 202 S. Cheyenne Ave., Suite 1000, Tulsa, OK, 74103

If you have any questions or comments about construction or operation of above facility, and want your comments to be made as a part of the permit review process, you must submit your comments in writing to the address below:

New Mexico Environment Department
Air Quality Bureau
Technical Services Unit

Legal Notices 152

525 Camino de los Marquez, Suite 1 Santa Fe, New Mexico, 87505
Phone (505) 476-4300
Fax (505) 476-4375
www.nmenv.state.nm.us/aqb
Other comments and questions may be submitted verbally.

Please refer to the company name and site name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice.

August 6, 7 and 8, 2014

NOTICE OF APPLICATION FOR SALT WATER DISPOSAL WELL PERMIT

BOPCO, L.P. is in the process of applying to the New Mexico Oil Conservation Division for a permit to dispose of produced salt water into a porous formation not productive of oil or gas.

The applicant proposes to dispose of produced water into the Pierce Canyon 17 Federal SWD #1 (Devonian Formation). The maximum allowable injection pressure will be

Legal Notices 152

3,292 psi and the estimated maximum rate will be 30,000 bbls produced water/day. The proposed disposal well is located in Eddy County, New Mexico in Section 17, T25S, R30E. The produced salt water will be disposed at a subsurface depth of 16,470' - 17,960'.

Any questions concerning this application should be directed to Emma Z. Galindo, Engineering Assistant, BOPCO, L.P., P.O. Box 2760, Midland, Texas 79702-2760, (432) 683-2277.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, New Mexico 87505 within 15 days.

July 18, 25, August 1 and 8, 2014

STATE OF NEW MEXICO
COUNTY OF EDDY
FIFTH JUDICIAL DISTRICT

Case No. D-503-CV-2013-00639

SOUTHWEST STAGE FUNDING, D/B/A CASCADE FINANCIAL SERVICES,

Plaintiff,

ANGEL HERNANDEZ, CANDI E. ARMENDARIZ, CMH HOMES INC, THE UNKNOWN SPOUSE OF ANGEL HERNANDEZ, IF ANY AND THE UNKNOWN SPOUSE OF CANDI E. ARMENDARIZ, IF ANY,

Defendants.

NOTICE OF SALE

NOTICE IS HEREBY GIVEN that the undersigned Special Master will on August 12, 2014 at 11:00 AM, At the North Door of the Eddy County Courthouse, 102 North Canal, Carlsbad, NM, sell and convey to the highest bidder for cash all the right, title, and interest of the above-named defendants in and to the following described real estate located in said County and State:

LOT 68, BLOCK 4, MAY SUBDIVISION, TO THE CITY OF CARLSBAD, EDDY COUNTY, NEW MEXICO, AS SHOWN ON

Legal Notices 152

given notice that it should verify the location and address of the property being sold. Said sale will be made pursuant to the judgment entered on May 16, 2014 in the above entitled and numbered cause, which was a suit to foreclose a mortgage held by the above Plaintiff and wherein Plaintiff was adjudged to have a lien against the above-described real estate in the sum of \$118,834.84 plus interest from January 2, 2014 to the date of sale at the rate of 6.500% per annum, the costs of sale, including the Special Master's fee, publication costs, and Plaintiff's costs expended for taxes, insurance, and keeping the property in good repair. Plaintiff has the right to bid at such sale and submit its bid verbally or in writing. The Plaintiff may apply all or any part of its judgment to the purchase price in lieu of cash.

At the date and time stated above, the Special Master may postpone the sale to such later date and time as the Special Master may specify.

NOTICE IS FURTHER GIVEN that this sale may be subject to a bankruptcy filing, a pay off, a reinstatement or any other condition that would cause the cancellation of this sale. Further, if any of these conditions exist, at the time of sale, this sale will be null and void, the successful bidder's funds shall be returned, and the Special Master and the mortgagee giving this notice shall not be liable to the successful bidder for any damages.

NOTICE IS FURTHER GIVEN that the real property and improvements concerned with herein will be sold subject to any and all patent reservations, easements, all recorded and unrecorded liens not foreclosed herein, and all recorded and unrecorded special assessments and taxes that may be due. Plaintiff and its attorneys disclaim all responsibility for, and the purchaser at the sale takes the property subject to, the valuation of the property by the County Assessor as real or personal property, affixture of any mobile

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August 8, 2014

INVITATION TO SUBMIT REQUEST FOR SEALED QUALIFICATIONS CONSTRUCTION MANAGER AT RISK

On or before Thursday, August 21, 2014 at 2:00 PM Mountain Time, Requests for Qualifications for the items/services listed below will be received by the Procurement Officer at the Administration Office, 408 North Canyon Street, Carlsbad, New Mexico, 88220, prepar-

Legal Notices 152

atory to letting a contract for:

RFP 2014-2015-02 CONSTRUCTION MANAGER AT RISK

The Board of Education reserves the right to accept or reject any or all bids. Specifications and bid forms may be obtained at the above address or at the District Web site: http://www.carlsbadnmschools.com/apps/pages/index.jsp?uREC_ID=261488&type=d&pREC_ID=603093

CARLSBAD CURRENT-ARGUS

The Carlsbad Current-Argus IMMEDIATE OPENING for Inc Contract Home Delivery Newspaper in and around Carlsbad, New Mex

All applicants must be eligible in the United States, have de transportation, a valid driver's lic proof of liability automobile insur Call Judi Freisinger at (575) 628 information about delivering the Current-Argus.

WE WILL TRAIN YOU

WONDERWORD

By DAVI
OUELLE

HOW TO PLAY: All the words listed below appear in the tally, vertically, diagonally, even backward. Find them and LETTERS ONLY. DO NOT CIRCLE THE WORD. To spell the Wonderword.

UNIVERSAL UCLICK CROSSWORD

L H I N T S R R E W S M
L I D C K E P Y T C E F
E G C I T P A R K E R E
C H L N R E A D V O G I
L L E D E G H I W U Z C
U I N I T P T S L O A T

UDOKU

Difficulty: 5 (of 5)

5		6		8	
2		7			9
	5			3	
1		6		7	
			4		
			2		5
				8	
	1		9		3
					6

Jones, William V, EMNRD

From: Galindo, Emma Z. <EZGalindo@BassPet.Com>
Sent: Monday, March 09, 2015 7:35 AM
To: Jones, William V, EMNRD
Subject: RE: BOPCO, LP SWD application for the proposed PLU Pierce Canyon 17 Federal SWD Well No. 1 30-015-NA Devonian
Attachments: Affidavit of publication PLU Pierce Canyon 17 Federal SWD#1

Attached is the last email I have received regarding this application.

From: Jones, William V, EMNRD [<mailto:WilliamV.Jones@state.nm.us>]
Sent: Friday, March 06, 2015 3:38 PM
To: Galindo, Emma Z.
Cc: Sanchez, Daniel J., EMNRD; Goetze, Phillip, EMNRD; Sharp, Karen, EMNRD; Fernandez, Ed
Subject: BOPCO, LP SWD application for the proposed PLU Pierce Canyon 17 Federal SWD Well No. 1 30-015-NA Devonian

Hello Emma and Phillip,

This is for a proposed federal well to be drilled for disposal - still has no API number.

We received this application for disposal a while back and looks like Phillip began a review on it. Have you two talked about this permit?

Hello Emma:

I just looked it over and see that certified notice, copy of the application for disposal should be sent to the:

BLM in Carlsbad and

Harvard Petroleum Company, LLC.

— 8/21/14
— 3/16/15 + 15 = 4/1/15

Would you please let me know if the waste water to be disposed into this well will be only from the Poker Lake Unit? ✓

Please list the formations from which the disposal water will originate and send a typical water analysis of each of those formations (list on the water analysis the well and formation from which it came) ✓

Thanks for the application and contact me or Phillip if you need to.

Regards,

Will



William V. Jones, P.E., District IV Supervisor
Oil Conservation Division <http://www.emnrd.state.nm.us/ocd/>
1220 South St. Francis Drive, Santa Fe, NM 87505
P: 505.476.3477 C: 505.419.1995

Jones, William V, EMNRD

From: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Sent: Tuesday, December 23, 2014 2:58 PM
To: Galindo, Emma Z.
Subject: Affidavit of publication PLU Pierce Canyon 17 Federal SWD#1

Ms. Galindo:

Can you provide me a copy of the affidavit of publication for the PLU Pierce Canyon 17 Federal SWD#1?
It was ran August 6-8 , 2014 in the Carlsbad newspaper.

Thank You

Michael A. McMillan

Engineering and Geological Services Bureau, Oil Conservation Division
1220 South St. Francis Dr., Santa Fe NM 87505
O: 505.476.3448 F. 505.476.3462

Jones, William V, EMNRD

From: Galindo, Emma Z. <EZGalindo@BassPet.Com>
Sent: Monday, March 16, 2015 2:54 PM
To: jharvard@hpcnm.com
Cc: Schoch, Frederick D.; Jones, William V, EMNRD
Subject: PLU Pierce Canyon 17 Federal SWD #1
Attachments: Mailed C-108 1st part.pdf; Mailed C-108 2nd part.pdf


Mr. Harvard,

As per our conversation, attached is our application for permitting of our SWD well to be drilled sometime in the future. Also, if there is anything else we can provide, do not hesitate to contact me or Fritz Schoch, our office number is (432) 683-2277.

Thank you,

Emma Z. Galindo

Engineering Assistant III

 BOPCO, L.P.

Jones, William V, EMNRD

From: Galindo, Emma Z. <EZGalindo@BassPet.Com>
Sent: Tuesday, March 10, 2015 2:14 PM
To: Jones, William V, EMNRD
Subject: RE: BOPCO, LP SWD application for the proposed PLU Pierce Canyon 17 Federal SWD Well No. 1 30-015-NA Devonian
Attachments: Return Receipt BLM.pdf

Mr. Jones,

Attached you will find the certified receipt from the BLM. You request that I send a copy to Harvard Petroleum Company, LLC?

Thanks,

Emma

From: Jones, William V, EMNRD [<mailto:WilliamV.Jones@state.nm.us>]
Sent: Friday, March 06, 2015 3:38 PM
To: Galindo, Emma Z.
Cc: Sanchez, Daniel J., EMNRD; Goetze, Phillip, EMNRD; Sharp, Karen, EMNRD; Fernandez, Ed
Subject: BOPCO, LP SWD application for the proposed PLU Pierce Canyon 17 Federal SWD Well No. 1 30-015-NA Devonian

Hello Emma and Phillip,

This is for a proposed federal well to be drilled for disposal - still has no API number.

We received this application for disposal a while back and looks like Phillip began a review on it. Have you two talked about this permit?

Hello Emma:

I just looked it over and see that certified notice, copy of the application for disposal should be sent to the:
BLM in Carlsbad and
Harvard Petroleum Company, LLC.

Would you please let me know if the waste water to be disposed into this well will be only from the Poker Lake Unit?

Please list the formations from which the disposal water will originate and send a typical water analysis of each of those formations (list on the water analysis the well and formation from which it came)

Thanks for the application and contact me or Phillip if you need to.

Regards,

Will

2. Article Number



7160 3901 9846 4644 8055

3. Service Type **CERTIFIED MAIL**

4. Restricted Delivery? (Extra Fee) ☐ Yes

1. Article Addressed to:

Bureau of Land Management
620 E. Greene Street
Carlsbad, NM 88220-6292

COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly)

B. Date of Delivery

C. Signature

X

D. Is delivery address different from item 1?
If YES, enter delivery address below:

☐ Agent

☒ Addressee

☐ Yes

☐ No

PS Form 3811, January 2005

Domestic Return Receipt

Jones, William V, EMNRD

From: Galindo, Emma Z. <EZGalindo@BassPet.Com>
Sent: Monday, March 16, 2015 3:25 PM
To: Jones, William V, EMNRD
Subject: RE: BOPCO, LP SWD application for the proposed PLU Pierce Canyon 17 Federal SWD Well No. 1 30-015-NA Devonian
Attachments: Water Analyses.pdf

Mr. Jones,
Answers to your questions.....

Would you please let me know if the waste water to be disposed into this well will be only from the Poker Lake Unit? Disposed water will be primarily from the Poker Lake Unit, but might include BOPCO operated James Ranch Unit wells also.

Please list the formations from which the disposal water will originate and send a typical water analysis of each of those formations (list on the water analysis the well and formation from which it came)—Bone Spring, Avalon, Brushy Canyon - attached
James Ranch Unit wells will be from the Wolfcamp formation, I have attached a water analysis from the Big Eddy Unit, we can get one from the James Ranch Unit if need be.

*Thanks,
Emma*

From: Jones, William V, EMNRD [<mailto:WilliamV.Jones@state.nm.us>]
Sent: Tuesday, March 10, 2015 5:57 PM
To: Galindo, Emma Z.
Subject: RE: BOPCO, LP SWD application for the proposed PLU Pierce Canyon 17 Federal SWD Well No. 1 30-015-NA Devonian

Yes, or just ask them for a waiver,

Thanks Emma

Will

From: Galindo, Emma Z. [<mailto:EZGalindo@BassPet.Com>]
Sent: Tuesday, March 10, 2015 2:14 PM
To: Jones, William V, EMNRD
Subject: RE: BOPCO, LP SWD application for the proposed PLU Pierce Canyon 17 Federal SWD Well No. 1 30-015-NA Devonian

*Mr. Jones,
Attached you will find the certified receipt from the BLM. You request that I send a copy to Harvard Petroleum Company, LLC?*

*Thanks,
Emma*

From: Jones, William V, EMNRD [<mailto:WilliamV.Jones@state.nm.us>]

Sent: Friday, March 06, 2015 3:38 PM

To: Galindo, Emma Z.

Cc: Sanchez, Daniel J., EMNRD; Goetze, Phillip, EMNRD; Sharp, Karen, EMNRD; Fernandez, Ed

Subject: BOPCO, LP SWD application for the proposed PLU Pierce Canyon 17 Federal SWD Well No. 1 30-015-NA Devonian

Hello Emma and Phillip,

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Harvard Petroleum Company, LLC.

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Thanks for the application and contact me or Phillip if you need to.

Regards,

Will



William V. Jones, P.E., District IV Supervisor

Oil Conservation Division <http://www.emnrd.state.nm.us/ocd/>

1220 South St. Francis Drive, Santa Fe, NM 87505

P: 505.476.3477 C: 505.419.1995



Addendum

Wolfcamp

Martin Water Laboratories, Inc.*Analysts & Consultants since 1953*
Bacterial & Chemical Analysis

TO: David Nelson
ADDRESS: 6 Desta Drive, Suite 3700, Midland, TX 79705
COMPANY: BOPCO, LP
LEASE: Big Eddy Unit
FORMATION:

LABORATORY NO. 0914-36 (page 2) -- Addendum
SAMPLE RECEIVED: 8/22/14
RESULTS REPORTED: 8/27/14
COUNTY, STATE:
FIELD OR POOL:

DESCRIPTION OF SAMPLES				
No. 1	Submitted water sample - taken 8/20/14 from BEU 265 H. Wolfcamp			
No. 2				
No. 3				
No. 4				
Chemical and Physical Properties (milligrams per liter)	No. 1	No. 2	No. 3	No. 4
Specific Gravity @ 60°F.	1.1088			
pH When Received	6.00			
Bicarbonate as HCO ₃	88			
Total Hardness, as CaCO ₃	33,000			
Calcium, as Ca	11,200			
Magnesium, as Mg	1,215			
Sodium and/or Potassium	59,505			
Sulfate, as SO ₄	104			
Chloride, as Cl	115,020			
Iron, as Fe	105			
Barium, as Ba	0			
Total Dissolved Solids, Calculated	187,132			
Hydrogen Sulfide	0.00			
Resistivity, ohms/cm @ 77°F.	0.060			
Strontium	38.5			
REMARKS: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.				

By: Greg Ogden, B.S.

(432) 683-4521 * 709 W. Indiana, Midland, Texas 79701 * (fax) 682-8819

Remit to Address: P.O. Box 98, Midland, Texas 79702

Email: martinwaterlabs@nts-online.net



Permian Area Laboratory

(432) 530-2667

BAKER HUGHES			
PERMIAN AREA LAB, ODESSA			
(432) 530-2667			
WATER ANALYSIS			PFS Water.11
OPERATOR: Bopco		ANALYSIS DATE: 02/20/13	QTR: 1
WELL: PLU 274 Btry (Bone Spring)		SAMPLE DATE: 02/14/13	
FORMATION:		DISTRICT: Water Management	
FIELD:		REQUESTED BY: Carlos camacho	
COUNTY:		ANALYST: A. Gomez	
DEPTH:		SOURCE: Battery	
WATER TYPE: Raw Produced		NUMBER: 71	PROJ HRS: 0.5

REMARKS	
: Reducing Agents: Present	BF7L Precipitate: Moderate
: Reported by: Larry Hines	Verified by: Jenifer Lascano

Specific Gravity: 1.210 @: 68 F		pH: 4.75	
Resistivity: 4_		H2S: None Detected	
Calculations		CATIONS (+)	
Size	Titrant	Sodium (calc) : 63,020 : 2,751.97 : 52,083	
: .1	: 9.9	Calcium : 39,699 : 1,980.99 : 32,809	
: .1	: 2.7	Magnesium : 6,561 : 539.78 : 5,422	
		Barium : : :	
		Potassium : : :	
		Iron : 136.00 : 4.87 : 112.397	
Calculations		ANIONS (-)	
Size	Titrant	Chloride : 187,000 : 5,275.04 : 154,545	
: 2.0	: 18.7	Sulfate : 36 : .75 : 30	
	vf	Bicarbonate : 110 : 1.80 : 91	
: 50.0	: .9 : .90	Carbonate : 0 : .00 : 0	
	: .0 : .00	Hydroxide : 0 : .00 : 0	
	: .00		
Total Dissolved Solids : 245,093 PPM		SCALING -> CaSO4 Scale: POSSIBLE	
Total Hardness as CaCO3: 104,258 PPM		TENDENCIES-> CaCO3 Scale: PROBABLE	

The alkalinity is reported as ppm HCO3-, CO3--, & OH--. ND* NOT DETERMINED

The above data is for informational purposes, and Baker Hughes makes no guarantees or warranties, either expressed or implied, with respect to the accuracy or use of these data and interpretations.



Permian Area Laboratory

(432) 530-2667

BAKER HUGHES			
PERMIAN AREA LAB, ODESSA			
(432) 530-2667			
WATER ANALYSIS			PFS Water.11
OPERATOR: Bopco		ANALYSIS DATE: 02/20/13 QTR: 1	
WELL: PLU 327 (Brushy Canyon)		SAMPLE DATE: 02/14/13	
FORMATION:		DISTRICT: Water Management	
FIELD:		REQUESTED BY: Carlos Camacho	
COUNTY:		ANALYST: A. Gomez	
DEPTH:		SOURCE: Battery	
WATER TYPE: Raw Produced		NUMBER: 72 PROJ HRS: 0.5	

REMARKS	
: Reducing Agents: Present	BF7L Precipitate: Moderate
: Reported by: Larry Hines	Verified by: Jenifer Lascano

Specific Gravity: 1.215 @: 68 F		pH: 4.84	
Resistivity: 4.5		H2S: None Detected	
Calculations		CATIONS (+)	
Size Titrant		Sodium (calc) : 82,845 : 3,617.69 : 68,185	
: .1 : 9.0		Calcium : 36,090 : 1,800.90 : 29,704	
: .1 : 1.4		Magnesium : 3,402 : 279.88 : 2,800	
		Barium : : :	
		Potassium : : :	
		Iron : 29.53 : 1.06 : 24.305	
Calculations		ANIONS (-)	
Size Titrant		Chloride : 202,000 : 5,698.17 : 166,255	
: 1.0 : 10.1		Sulfate : 47 : .98 : 39	
	vf	Bicarbonate : 24 : .39 : 20	
: 50.0 : .2 : .20		Carbonate : 0 : .00 : 0	
: .0 : .00		Hydroxide : 0 : .00 : 0	
Total Dissolved Solids : 267,027 PPM		SCALING -> CaSO4 Scale: POSSIBLE	
Total Hardness as CaCO3: 85,706 PPM		TENDENCIES-> CaCO3 Scale: POSSIBLE	

The alkalinity is reported as ppm HCO3-, CO3--, & OH--.

ND* NOT DETERMINED

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Permian Area Laboratory

(432) 530-2667

BAKER HUGHES			
PERMIAN AREA LAB, ODESSA			
(432) 530-2667			
W A T E R		A N A L Y S I S	
		PFS Water.11	
OPERATOR: Bopco		ANALYSIS DATE: 02/20/13 QTR: 1	
WELL: Pierce Canyon 17-1H Avalon		SAMPLE DATE: 02/14/13	
FORMATION:		DISTRICT: Water Management	
FIELD:		REQUESTED BY: Carlos Camacho	
COUNTY:		ANALYST: A. Gomez, L. Hines	
DEPTH:		SOURCE: Battery	
WATER TYPE: Raw Produced		NUMBER: 73 PROJ HRS: 0.5	

REMARKS	
: Reducing Agents: Present	BF7L Precipitate: Moderate
: Reported by: Larry Hines	Verified by: Jenifer Lascano

Specific Gravity: 1.075 @: 68 F		pH: 6.84	
Resistivity: 5_		H2S: None Detected	
Calculations		CATIONS (+)	
Size	Titant	Sodium (calc) : 45,170 : 1,972.49 : 42,019	
: 1.0	: 1.8	Calcium : 722 : 36.03 : 672	
: 1.0	: .2	Magnesium : 49 : 4.03 : 46	
		Barium : : :	
		Potassium : : :	
		Iron : 33.48 : 1.20 : 31.144	
Calculations		ANIONS (-)	
Size	Titant	Chloride : 68,800 : 1,940.76 : 64,000	
: 5.0	: 17.2	Sulfate : 1,008 : 20.99 : 938	
	vf	Bicarbonate : 3,172 : 51.99 : 2,951	
: 50.0	: 26.0 : 26.00	Carbonate : 0 : .00 : 0	
	: .0 : .00	Hydroxide : 0 : .00 : 0	
	: .00		
Total Dissolved Solids : 110,655 PPM		SCALING -> CaSO4 Scale: POSSIBLE	
Total Hardness as CaCO3: 1,865 PPM		TENDENCIES-> CaCO3 Scale: PROBABLE	

The alkalinity is reported as ppm HCO3-, CO3--, & OH--. ND* NOT DETERMINED

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Permian Area Laboratory

(432) 530-2667

BAKER HUGHES
PERMIAN AREA LAB, ODESSA
(432) 530-2667
W A T E R A N A L Y S I S PFS Water.11

OPERATOR: Bopco ANALYSIS DATE: 02/20/13 QTR: 1
WELL: Bone Spring, Avalon, Brushy SAMPLE DATE: 02/14/13
FORMATION: DISTRICT: Water Management
FIELD: REQUESTED BY: Carlos Camacho
COUNTY: ANALYST: A. Gomez
DEPTH: SOURCE: Composite
WATER TYPE: Produced Raw NUMBER: 74 PROJ HRS: 0.5

REMARKS

: Reducing Agents: Present BF7L Precipitate: Moderate
: Reported by: Larry Hines Verified by: Jenifer Lascano

Specific Gravity: 1.205 @: 68 F
Resistivity: 4.5

pH: 5.27
H2S: None Detected

Calculations	CATIONS (+)	MG/LITER	MEQ/LITER	PPM
Size Titrant	Sodium (calc)	: 66,642	: 2,910.13	: 55,305
: .1 : 9.4	Calcium	: 37,694	: 1,880.94	: 31,281
: .1 : 2.3	Magnesium	: 5,589	: 459.81	: 4,638
	Barium	:	:	:
	Potassium	:	:	:
	Iron	: 42.78	: 1.53	: 35.502

Calculations	ANIONS (-)			
Size Titrant	Chloride	: 186,000	: 5,246.83	: 154,357
: 1.0 : 9.3	Sulfate	: 47	: .98	: 39
	Bicarbonate	: 281	: 4.61	: 233
: 50.0 : 2.3 : 2.30	Carbonate	: 0	: .00	: 0
: .0 : .00	Hydroxide	: 0	: .00	: 0
: .00				

Total Dissolved Solids : 245,889 PPM SCALING -> CaSO4 Scale: POSSIBLE
Total Hardness as CaCO3: 97,214 PPM TENDENCIES-> CaCO3 Scale: PROBABLE

The alkalinity is reported as ppm HCO3-, CO3--, & OH--. ND* NOT DETERMINED

The above data is for informational purposes, and Baker Hughes makes no guarantees or warranties, either expressed or implied, with respect to the accuracy or use of these data and interpretations.



Permian Area Laboratory

(432) 530-2667

BAKER HUGHES			
PERMIAN AREA LAB, ODESSA			
(432) 530-2667			
WATER ANALYSIS		PFS Water.11	
OPERATOR: Bopco		ANALYSIS DATE: 02/21/13 QTR: 1	
WELL: Composite		SAMPLE DATE: 02/14/13	
FORMATION:		DISTRICT: Water Management	
FIELD:		REQUESTED BY: Carlos Camacho	
COUNTY:		ANALYST: Hines/Gomez	
DEPTH:		SOURCE: Treated	
WATER TYPE: ClO2, 75890, 875 Treated		NUMBER: 76 PROJ HRS: 0.5	

REMARKS	
: Reducing Agents: Present	BF7L Precipitate: Severe
: Reported by: Larry Hines	Verified by: Armando Gomez

Specific Gravity: 1.190 @: 64 F		pH: 4.11	
Resistivity: 0.3		H2S: None Detected	
Calculations		CATIONS (+)	
Size Titrant		MG/LITER MEQ/LITER PPM	
: .1 : 6.5		Sodium (calc) : 81,459 : 3,557.16 : 68,453	
: .1 : 1.1		Calcium : 26,065 : 1,300.65 : 21,903	
		Magnesium : 2,673 : 219.91 : 2,246	
		Barium : : :	
		Potassium : : :	
		Iron : 29.18 : 1.04 : 24.521	
Calculations		ANIONS (-)	
Size Titrant		Chloride : 180,000 : 5,077.57 : 151,261	
: 1.0 : 9.0		Sulfate : 38 : .79 : 32	
	vf	Bicarbonate : 24 : .39 : 20	
: 50.0 : .2 : .20		Carbonate : 0 : .00 : 0	
: .0 : .00		Hydroxide : 0 : .00 : 0	
		Total Dissolved Solids : 243,940 PPM	
		Total Hardness as CaCO3: 63,947 PPM	
		SCALING -> CaSO4 Scale: POSSIBLE	
		TENDENCIES-> CaCO3 Scale: POSSIBLE	

The alkalinity is reported as ppm HCO3-, CO3--, & OH--.

ND* NOT DETERMINED

The above data is for informational purposes, and Baker Hughes makes no guarantees or warranties, either expressed or implied, with respect to the accuracy or use of these data and interpretations.

C-108 Review Checklist: Received 8/21/14 Add. Request: _____ Reply Date: _____ Suspended: _____ [Ver 13]PERMIT TYPE: WFX / PMX SWD Number: 1541 Permit Date: 4/1/15 Legacy Permits/Orders: _____Well No. 1 Well Name(s): PL4 Pierce Canyon 17 Federal SWD#1API: 30-0 15 - Pending Spud Date: _____ New or Old: N (UIC Class II Primacy 03/07/1982)Footages 1200 FSLF 2450 Fm Lot _____ or Unit N Sec 17 Tsp 25S Rge 30E County EddyGeneral Location: 10 mi N. of Red Bluff Res SWD; DCUOWIAN Pool No.: 96101BLM 100K Map: _____ Operator: BORCO, L.P. OGRID: 260737 Contact: Emma GalindoCOMPLIANCE RULE 5.9: Total Wells: 563 Inactive: 7 Fincl Assur: y Compl. Order? _____ IS 5.9 OK? y Date: 3/6/14WELL FILE REVIEWED ☐ Current Status: Proposed (No well File)WELL DIAGRAMS: NEW: Proposed ☐ or RE-ENTER: Before Conv. ☐ After Conv. ☐ Logs in Imaging: _____

Planned Rehab Work to Well: _____

Well Construction Details:		Sizes (in) Borehole / Pipe	Setting Depths (ft)	Stage Tool	Cement Sx or Cf	Cement Top and Determination Method
Planned <input checked="" type="checkbox"/> or Existing _____ Surface		14 7/8" / 16"	825'		480	SURFACE / C
Planned <input checked="" type="checkbox"/> or Existing _____ Interm/Prod		14 7/8" / 13 1/2"	3741		730	SURFACE / C
Planned <input checked="" type="checkbox"/> or Existing _____ Interm/Prod						
Planned <input checked="" type="checkbox"/> or Existing _____ Prod/Liner		12 1/4" / 9 5/8"	11407	5500'	2060	SURFACE / C
Planned <input checked="" type="checkbox"/> or Existing <u>(Liner)</u>		8 1/2" / 7" (11207-16470)			580	11207 / TOL
Planned <input checked="" type="checkbox"/> or Existing <u>(OH/PERF)</u>		16470	17460	Inj Length 1490		
Injection Stratigraphic Units:		Depths (ft)	Injection or Confining Units	Tops	Completion/Operation Details:	
Adjacent Unit: Litho. Struc. Por.					Drilled TD _____ PBTD _____	
Confining Unit: Litho. Struc. Por.					NEW TD <u>17960</u> NEW PBTD _____	
Proposed Inj Interval TOP:		<u>16420</u>	<u>DEV.</u>		NEW Open Hole <input checked="" type="checkbox"/> or NEW Perfs <input type="checkbox"/>	
Proposed Inj Interval BOTTOM:		<u>17960</u>	<u>"</u>		Tubing Size <u>4 1/2</u> in. Inter Coated? <input checked="" type="checkbox"/>	
Confining Unit: Litho. Struc. Por.					Proposed Packer Depth <u>16420</u> ft	
Adjacent Unit: Litho. Struc. Por.					Min. Packer Depth <u>16370</u> (100-ft limit)	
					Proposed Max. Surface Press. <u>3292</u> psi	
					Admin. Inj. Press. <u>3294</u> (0.2 psi per ft)	

AOR: Hydrologic and Geologic Information

POTASH: R-111-P ☒ Noticed? _____ BLM Sec Ord ☐ WIPP ☐ Noticed? _____ SALT/SALADO T: _____ B: _____ CLIFF HOUSEFRESH WATER: Aquifer 148' 540' Max Depth _____ HYDRO AFFIRM STATEMENT By Qualified Person ☐NMOSE Basin: CARLSBAD CAPITAN REEF: thru ☐ adj ☐ NA ☐ No. Wells within 1-Mile Radius? _____ FW Analysis ☐Disposal Fluid: Formation Source(s) Delaware Analysis? N On Lease ☐ Operator Only ☐ or Commercial ☐Disposal Int: Inject Rate (Avg/Max BWPD): 30000/30000 Protectable Waters? _____ Source: _____ System: Closed ☒ or Open ☐HC Potential: Producing Interval? _____ Formerly Producing? _____ Method: Logs/DST/P&A/Other _____ 2-Mile Radius Pool Map ☐AOR Wells: 1/2-M Radius Map? _____ Well List? _____ Total No. Wells Penetrating Interval: 0 Horizontals? 0Penetrating Wells: No. Active Wells 0 Num Repairs? _____ on which well(s)? _____ Diagrams? _____Penetrating Wells: No. P&A Wells 0 Num Repairs? _____ on which well(s)? _____ Diagrams? _____NOTICE: Newspaper Date Aug 8, 2014 Mineral Owner BLM Surface Owner BLM N. Date _____RULE 26.7(A): Identified Tracts? NO Affected Persons: CONOCO, Mobil, YATES/ALLAR N. Date 8-05-2014Permit Conditions: Issues: will mudlog/ELG open hole

Add Permit Cond: _____

Send NOTICE TO BLM/Harward Patrick Conroy, LLC