

NM OIL CONSERVATION

ARTESIA DISTRICT

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

JAN 13 2015
OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

RECEIVED

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM02790
2. Name of Operator BOPCO LP Contact: WHITNEY MCKEE E-Mail: wbmckee@basspet.com		6. If Indian, Allottee or Tribe Name
3a. Address P O BOX 2760 MIDLAND, TX 79702	3b. Phone No. (include area code) Ph: 432-683-2277	7. If Unit or CA/Agreement, Name and/or No. 891000303X
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 32 T25S R31E SENE 2180FNL 0660FEL 32.051632 N Lat, 103.473643 W Lon		8. Well Name and No. PLU CVX JV PB 008H
		9. API Well No. 30-015-42630-00-X1
		10. Field and Pool, or Exploratory UNDESIGNATED
		11. County or Parish, and State EDDY COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☒ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

BOPCO, L.P. respectfully requests to amend the casing and cement programs for the PLU CVX JV PB #008H approved APD API #30-015-42630, BOPCO is planning to drill a 12-1/4" intermediate hole and set 9-5/8" casing at 4,143', then drill an 8-3/4" 2nd intermediate hole and set 7" casing at 10,416' MD/ 10,123' TVD and then drill a 6-1/8" lateral to a TD of 18,012' MD/ 10,146' TVD then run a 4-1/2" cemented production liner tied 50' back into the 7" casing. Please see attached.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Accepted by record
MIDCD

ARD

1/14/2015

14. I hereby certify that the foregoing is true and correct. Electronic Submission #267253 verified by the BLM Well Information System For BOPCO LP, sent to the Carlsbad Committed to AFMSS for processing by JENNIFER MASON on 01/05/2015 (15JAM0154SE)	
Name (Printed/Typed) BRIAN BRAUN	Title DRILLING ENGINEER
Signature (Electronic Submission)	Date 09/30/2014
THIS SPACE FOR FEDERAL OR STATE OFFICE USE	
Approved By	Title
Conditions of approval, if any, are attached. Approval of this notice 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.	Office

APPROVED

JAN 8 2015

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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.

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

BOPCO, L.P. respectfully requests to amend the casing and cement programs for the PLU CVX JV PB #008H approved APD API #30-015-42630, BOPCO is planning to drill a 12-1/4" intermediate hole and set 9-5/8" casing at 4,143', then drill an 8-3/4" 2nd intermediate hole and set 7" casing at 10,416' MD/ 10,123' TVD and then drill a 6-1/8" lateral to a TD of 18,012' MD/ 10,146' TVD then run a 4-1/2" cemented production liner tied 50' back into the 7" casing.

Approved hole sizes:

- 11" intermediate, 7-7/8" 2nd intermediate, curve and lateral

Amended hole sizes, casing design and cement volumes:

- 12-1/4" intermediate, 8-3/4" 2nd intermediate and curve, 6-1/8" lateral

9-5/8" casing properties:

- 9-5/8" 40 lb/ft, J-55, LTC
 - (Collapse- 2,570 SF-1.10, Burst- 3,950' SF-2.00, Yield- 630,000 SF- 4.49)

Cement volumes and properties:

- Lead Volume: 890 sacks (Density- 12.9 ppg, Yield- 1.85 ft³/sk, H₂O- 9.81 gal/sk)
- Tail Volume: 100 sacks (Density- 14.8 ppg, Yield- 1.33 ft³/sk, H₂O 6.34 gal/sk)
- TOC: Surface

7" casing properties:

- Set Depth:
- 7" 26 lb/ft, HCP-110, BTC
 - (Collapse- 7,800 SF-1.23, Burst- 9,950 SF-2.38, Yield- 693,000 SF- 3.11)

Cement volumes and properties:

- DV tool set at 5,000'
- 1st stage:
 - Lead- 395 sacks (Density- 11.9 ppg, Yield- 2.26 ft³/sack, H₂O- 12.89 gal/sack)
 - Tail- 165 sacks (Density- 14.5 ppg, Yield- 1.21 ft³/sack, H₂O- 5.30 gal/sack)
- 2nd stage:
 - Lead- 430 sacks (Density- 11.9 ppg, Yield- 2.25 ft³/ sack, H₂O- 12.8 gal/sack)
 - Tail- 50 sacks (Density- 14.8 ppg, Yield- 1.33 ft³/sack, H₂O- 6.34 gal/sack)
- TOC- 3,143' (Approx. 1,000' into 9-5/8" casing)

4-1/2" casing properties:

- 4-1/2" 11.6 lb/ft, HCP-110, BTC
 - (Collapse- 8,650 SF-1.42, Burst- 10,690 SF-2.55, Yield- 367,000 SF- 3.11)
- Set Depth: 18,012' MD/ 10,146' TVD
- Liner Top: 10,366' MD

Cement volumes and properties:

- 1. stage:
 - 775 sacks (Density- 14.5 ppg, Yield- 1.21 ft³/sack, H₂O- 5.49 gal/sk)
- TOC: 10,366'

5D Plan Report

NM OIL CONSERVATION
ARTESIA DISTRICT

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5D Plan Report

BOPCO, L.P.

Field Name: *Eddy Co, NM Nad27 NMEZ*
Site Name: *Poker Lake Unit PB CVX JV #008H*
Well Name: *Poker Lake Unit PB CVX JV #008H*
Plan: *P1:V3*

17 September 2014



Weatherford®

Poker Lake Unit PB CVX JV #008H

Field Name Eddy Co, NM Nad27 NMEZ	Map Units : US ft		Company Name : BOPCO, L.P.	
	Vertical Reference Datum (VRD) : Mean Sea Level			
	Projected Coordinate System : NAD27 / New Mexico East			
	Comment :			
Site Name Poker Lake Unit PB CVX JV #008H	Units : US ft	North Reference : Grid	Convergence Angle : 0.29	
	Position	Northing : 396108.50 US ft	Latitude : 32° 5' 16.32"	
		Easting : 667201.10 US ft	Longitude : 103° 47' 36.43"	
	Elevation above Mean Sea Level: 3286.00 US ft			
Comment :				

Slot Name Poker Lake Unit PB CVX JV #008H	Position (Offsets relative to Site Centre)			
	+N / -S : 0.00 US ft	Northing : 396108.50 US ft	Latitude : 32° 5' 16.32"	
	+E / -W : 0.00 US ft	Easting : 667201.10 US ft	Longitude : 103° 47' 36.43"	
	Elevation above Mean Sea Level : 3286.00 US ft			
Comment :				

Well Name Poker Lake Unit PB CVX JV #008H	Type : Main well	UWI :	Plan : P1:V3	
	Rig Height Well TVD Reference : 20.00 US ft	Comment :		
	Relative to Mean Sea Level: 3306.00 US ft			
	Closure Distance : 8154.18 US ft	Closure Azimuth : 179.739°		
	Vertical Section (Position of Origin Relative to Slot)			
	+N / -S : 0.00 US ft	+E / -W : 0.00 US ft	Az : 179.74°	
	Magnetic Parameters			
	Model : BGGM	Field Strength : 48158.1nT	Dec : 7.44°	Dip : 59.93°

Target Set	
Name : PLU PB CVX JV	Number of Targets : 4
#008H	

Comment :

Target Name PBHL #008 Shape: Cuboid	Position (Relative to Slot centre)			
	+N / -S : -8154.10 US ft	Northing : 387954.40 US ft	Latitude : 32° 3' 55.63"	
	+E / -W : 37.10 US ft	Easting : 667238.20 US ft	Longitude : 103° 47' 36.48"	
	TVD (Well TVD Reference) : 10146.00 US ft			
Orientation Azimuth : 0.00°		Inclination : 0.00°		
Dimensions Length : 0.00 US ft		Breadth : 0.00 US ft		Height : 0.00 US ft

5D Plan Report

Target Name: HB 1 For Dwg Shape: Cuboid	Position (Relative to Slot centre)		
	+N / -S : 10.00 US ft	Northing : 396108.50 US ft	Latitude : 32°5'16.32"
	+E / -W : 0.00 US ft	Easting : 667201.10 US ft	Longitude : -103°47'36.43"
	TVD (Well TVD Reference) : 10216.00 US ft		
Target Name: HB 2 For Dwg Shape: Cuboid	Position (Relative to Slot centre)		
	+N / -S : -1998.56 US ft	Northing : -394109.94 US ft	Latitude : 32°4'56.55"
	+E / -W : 9.09 US ft	Easting : 667210.19 US ft	Longitude : -103°47'36.44"
	TVD (Well TVD Reference) : 10208.00 US ft		
Target Name: HB 3 For Dwg Shape: Cuboid	Position (Relative to Slot centre)		
	+N / -S : -8154.10 US ft	Northing : -387954.40 US ft	Latitude : 32°3'55.63"
	+E / -W : 37.10 US ft	Easting : 667238.20 US ft	Longitude : -103°47'36.48"
	TVD (Well TVD Reference) : 10156.00 US ft		
	Orientation Azimuth : 179.74°	Inclination : 0.00°	
	Dimensions Length : 1790.00 US ft	Breadth : 0.00 US ft	Height : 1.00 US ft

Casing Points (Relative to Slot centre, TVD relative to Well TVD Reference)								
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N Offset (US ft)	E Offset (US ft)	Northing (US ft)	Easting (US ft)	Name
10416.61	70.00	179.74	10123.42	-564.93	2.56	395543.57	667203.66	7 in

Well path created using minimum curvature.

Sillant Points (Relative to Slot centre, TVD relative to Well TVD Reference)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N Offset (US ft)	E Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	B Rate (°/100 US ft)	T Rate (°/100 US ft)	Face (°)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	
9516.61	0.00	0.00	9516.61	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	KOP
10216.61	70.00	179.74	10055.01	-376.99	1.71	376.99	10.00	10.00	0.00	179.74	Hold
10416.61	70.00	179.74	10123.42	-564.93	2.56	564.93	0.00	0.00	0.00	0.00	Build 6's; 7 in
10754.55	90.28	179.74	10181.00	-896.13	4.07	896.14	6.00	6.00	-0.00	360.00	LP
18012.67	90.28	179.74	10146.00	-8154.10	37.10	8154.18	0.00	0.00	0.00	0.00	PBHL 000*H

Interpolated Points (Relative to Slot centre, TVD relative to Well TVD Reference)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N Offset (US ft)	E Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)		Comment
9500.00	0.00	0.00	9500.00	0.00	0.00	-0.00	0.00	396108.50	667201.10		
9516.61	0.00	0.00	9516.61	0.00	0.00	-0.00	0.00	396108.50	667201.10		KOP
9600.00	8.34	179.74	9599.71	-6.06	0.03	6.06	10.00	396102.44	667201.13		
9700.00	18.34	179.74	9696.88	-29.10	0.13	29.10	10.00	396079.40	667201.23		
9717.06	20.05	179.74	9713.00	-34.71	0.16	34.71	10.00	396073.79	667201.26		2nd BS Sand
9800.00	28.34	179.74	9788.59	-68.67	0.31	68.67	10.00	396039.83	667201.41		
9900.00	38.34	179.74	9872.02	-123.55	0.56	123.56	10.00	395984.95	667201.66		
10000.00	48.34	179.74	9944.66	-192.10	0.87	192.10	10.00	395916.40	667201.97		

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Well TVD Reference)										
MD (USft)	Incl (°)	Az (°)	TVD (USft)	N Offset (USft)	E Offset (USft)	VS (USft)	PLS (%/100 USft)	Northing (USft)	Easting (USft)	Comment
10100.00	58.34	179.74	10004.29	-272.21	1.24	272.22	10.00	395836.29	667202.34	
10200.00	68.34	179.74	10049.11	-361.47	1.64	361.47	10.00	395747.03	667202.74	
10216.61	70.00	179.74	10055.01	-376.99	1.71	376.99	10.00	395731.51	667202.81	Hold
10300.00	70.00	179.74	10083.54	-455.35	2.07	455.36	0.00	395653.15	667203.17	
10400.00	70.00	179.74	10117.74	-549.32	2.49	549.32	0.00	395559.18	667203.59	
10416.61	70.00	179.74	10123.42	-564.93	2.56	564.93	0.00	395543.57	667203.66	Build 6's; 7 in
10500.00	75.00	179.74	10148.48	-644.43	2.92	644.44	6.00	395464.07	667204.02	
10530.92	76.86	179.74	10156.00	-674.42	3.06	674.43	6.00	395434.08	667204.16	Snd BS "C" Sand :
10600.00	81.00	179.74	10169.26	-742.20	3.37	742.21	6.00	395366.30	667204.47	
10700.00	87.00	179.74	10179.70	-841.61	3.82	841.62	6.00	395266.89	667204.92	
10754.55	90.28	179.74	10181.00	-896.13	4.07	896.14	6.00	395212.37	667205.17	LP
10800.00	90.28	179.74	10180.78	-941.58	4.28	941.59	0.00	395166.92	667205.38	
10900.00	90.28	179.74	10180.30	-1041.58	4.73	1041.59	0.00	395066.92	667205.83	
11000.00	90.28	179.74	10179.81	-1141.58	5.19	1141.59	0.00	394966.92	667206.29	
11100.00	90.28	179.74	10179.33	-1241.58	5.64	1241.59	0.00	394866.92	667206.74	
11200.00	90.28	179.74	10178.85	-1341.58	6.10	1341.59	0.00	394766.92	667207.20	
11300.00	90.28	179.74	10178.37	-1441.57	6.55	1441.59	0.00	394666.93	667207.65	
11400.00	90.28	179.74	10177.88	-1541.57	7.01	1541.59	0.00	394566.93	667208.11	
11500.00	90.28	179.74	10177.40	-1641.57	7.46	1641.59	0.00	394466.93	667208.56	
11600.00	90.28	179.74	10176.92	-1741.57	7.92	1741.59	0.00	394366.93	667209.02	
11700.00	90.28	179.74	10176.44	-1841.57	8.37	1841.58	0.00	394266.93	667209.47	
11800.00	90.28	179.74	10175.96	-1941.56	8.83	1941.58	0.00	394166.94	667209.93	
11900.00	90.28	179.74	10175.47	-2041.56	9.28	2041.58	0.00	394066.94	667210.38	
12000.00	90.28	179.74	10174.99	-2141.56	9.74	2141.58	0.00	393966.94	667210.84	
12100.00	90.28	179.74	10174.51	-2241.56	10.19	2241.58	0.00	393866.94	667211.29	
12200.00	90.28	179.74	10174.03	-2341.55	10.65	2341.58	0.00	393766.95	667211.75	
12300.00	90.28	179.74	10173.54	-2441.55	11.10	2441.58	0.00	393666.95	667212.20	
12400.00	90.28	179.74	10173.06	-2541.55	11.56	2541.58	0.00	393566.95	667212.66	
12500.00	90.28	179.74	10172.58	-2641.55	12.01	2641.57	0.00	393466.95	667213.11	
12600.00	90.28	179.74	10172.10	-2741.55	12.47	2741.57	0.00	393366.95	667213.57	
12700.00	90.28	179.74	10171.62	-2841.54	12.92	2841.57	0.00	393266.96	667214.02	
12800.00	90.28	179.74	10171.13	-2941.54	13.38	2941.57	0.00	393166.96	667214.48	
12900.00	90.28	179.74	10170.65	-3041.54	13.83	3041.57	0.00	393066.96	667214.93	
13000.00	90.28	179.74	10170.17	-3141.54	14.29	3141.57	0.00	392966.96	667215.39	
13100.00	90.28	179.74	10169.69	-3241.53	14.74	3241.57	0.00	392866.97	667215.84	
13200.00	90.28	179.74	10169.21	-3341.53	15.20	3341.57	0.00	392766.97	667216.30	
13300.00	90.28	179.74	10168.72	-3441.53	15.65	3441.57	0.00	392666.97	667216.75	
13400.00	90.28	179.74	10168.24	-3541.53	16.11	3541.56	0.00	392566.97	667217.21	
13500.00	90.28	179.74	10167.76	-3641.53	16.56	3641.56	0.00	392466.97	667217.66	
13600.00	90.28	179.74	10167.28	-3741.52	17.02	3741.56	0.00	392366.98	667218.12	
13700.00	90.28	179.74	10166.79	-3841.52	17.47	3841.56	0.00	392266.98	667218.57	
13800.00	90.28	179.74	10166.31	-3941.52	17.93	3941.56	0.00	392166.98	667219.03	
13900.00	90.28	179.74	10165.83	-4041.52	18.38	4041.56	0.00	392066.98	667219.48	
14000.00	90.28	179.74	10165.35	-4141.51	18.84	4141.56	0.00	391966.99	667219.94	
14100.00	90.28	179.74	10164.87	-4241.51	19.29	4241.56	0.00	391866.99	667220.39	
14200.00	90.28	179.74	10164.38	-4341.51	19.75	4341.55	0.00	391766.99	667220.85	
14300.00	90.28	179.74	10163.90	-4441.51	20.20	4441.55	0.00	391666.99	667221.30	
14400.00	90.28	179.74	10163.42	-4541.51	20.66	4541.55	0.00	391566.99	667221.76	
14500.00	90.28	179.74	10162.94	-4641.50	21.11	4641.55	0.00	391467.00	667222.21	
14600.00	90.28	179.74	10162.45	-4741.50	21.57	4741.55	0.00	391367.00	667222.67	
14700.00	90.28	179.74	10161.97	-4841.50	22.02	4841.55	0.00	391267.00	667223.12	
14800.00	90.28	179.74	10161.49	-4941.50	22.48	4941.55	0.00	391167.00	667223.58	
14900.00	90.28	179.74	10161.01	-5041.49	22.93	5041.55	0.00	391067.01	667224.03	
15000.00	90.28	179.74	10160.53	-5141.49	23.39	5141.55	0.00	390967.01	667224.49	
15100.00	90.28	179.74	10160.04	-5241.49	23.84	5241.54	0.00	390867.01	667224.94	
15200.00	90.28	179.74	10159.56	-5341.49	24.30	5341.54	0.00	390767.01	667225.40	
15300.00	90.28	179.74	10159.08	-5441.49	24.75	5441.54	0.00	390667.01	667225.85	

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DIS (%/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
15400.00	90.28	179.74	10158.60	-5541.48	25.21	5541.54	0.00	390567.02	667226.31	
15500.00	90.28	179.74	10158.12	-5641.48	25.67	5641.54	0.00	390467.02	667226.77	
15600.00	90.28	179.74	10157.63	-5741.48	26.12	5741.54	0.00	390367.02	667227.22	
15700.00	90.28	179.74	10157.15	-5841.48	26.58	5841.54	0.00	390267.02	667227.68	
15800.00	90.28	179.74	10156.67	-5941.47	27.03	5941.54	0.00	390167.03	667228.13	
15900.00	90.28	179.74	10156.19	-6041.47	27.49	6041.54	0.00	390067.03	667228.59	
16000.00	90.28	179.74	10155.70	-6141.47	27.94	6141.53	0.00	389967.03	667229.04	
16100.00	90.28	179.74	10155.22	-6241.47	28.40	6241.53	0.00	389867.03	667229.50	
16200.00	90.28	179.74	10154.74	-6341.47	28.85	6341.53	0.00	389767.03	667229.95	
16300.00	90.28	179.74	10154.26	-6441.46	29.31	6441.53	0.00	389667.04	667230.41	
16400.00	90.28	179.74	10153.78	-6541.46	29.76	6541.53	0.00	389567.04	667230.86	
16500.00	90.28	179.74	10153.29	-6641.46	30.22	6641.53	0.00	389467.04	667231.32	
16600.00	90.28	179.74	10152.81	-6741.46	30.67	6741.53	0.00	389367.04	667231.77	
16700.00	90.28	179.74	10152.33	-6841.46	31.13	6841.53	0.00	389267.04	667232.23	
16800.00	90.28	179.74	10151.85	-6941.45	31.58	6941.52	0.00	389167.05	667232.68	
16900.00	90.28	179.74	10151.36	-7041.45	32.04	7041.52	0.00	389067.05	667233.14	
17000.00	90.28	179.74	10150.88	-7141.45	32.49	7141.52	0.00	388967.05	667233.59	
17100.00	90.28	179.74	10150.40	-7241.45	32.95	7241.52	0.00	388867.05	667234.05	
17200.00	90.28	179.74	10149.92	-7341.44	33.40	7341.52	0.00	388767.06	667234.50	
17300.00	90.28	179.74	10149.44	-7441.44	33.86	7441.52	0.00	388667.06	667234.96	
17400.00	90.28	179.74	10148.95	-7541.44	34.31	7541.52	0.00	388567.06	667235.41	
17500.00	90.28	179.74	10148.47	-7641.44	34.77	7641.52	0.00	388467.06	667235.87	
17600.00	90.28	179.74	10147.99	-7741.44	35.22	7741.52	0.00	388367.06	667236.32	
17700.00	90.28	179.74	10147.51	-7841.43	35.68	7841.51	0.00	388267.07	667236.78	
17800.00	90.28	179.74	10147.03	-7941.43	36.13	7941.51	0.00	388167.07	667237.23	
17900.00	90.28	179.74	10146.54	-8041.43	36.59	8041.51	0.00	388067.07	667237.69	
18000.00	90.28	179.74	10146.06	-8141.43	37.04	8141.51	0.00	387967.07	667238.14	
18012.67	90.28	179.74	10146.00	-8154.10	37.10	8154.18	0.00	387954.40	667238.20	PBHL 000*H

Formation Points (Relative to Slot centre, TVD relative to Well TVD Reference)									
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Name	Comment
9717.06	20.05	179.74	9713.00	-34.71	0.16	396073.79	667201.26	2nd BS Sand	
10530.92	76.86	179.74	10156.00	-674.42	3.06	395434.08	667204.16	Snd BS "C" Sand	

NM OIL CONSERVATION
ARTESIA DISTRICT

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5D Anti-Collision Report

BOPCO, L.P.

Field Name: *Eddy Co, NM Nad27 NMEZ*

Site Name: *Poker Lake Unit PB CVX JV #008H*

Well Name: *Poker Lake Unit PB CVX JV #008H*

17 September 2014



Weatherford®



Weatherford

Poker Lake Unit PB CVX JV #008H

Field Name Eddy Co, NM Nad27 NMEZ	Map Units : US ft		Company Name : BOPCO, L.P.	
	Vertical Reference Datum (VRD) : Mean Sea Level			
	Projected Coordinate System : NAD27 / New Mexico East			
	Comment :			
Site Name Poker Lake Unit PB CVX JV #008H	Units : US ft	North Reference : Grid	Convergence Angle : 0.29	
	Position	Northing : 396108.50 US ft	Latitude : 32° 5' 16.32"	
		Easting : 667201.10 US ft	Longitude : -103° 47' 36.43"	
	Elevation above Mean Sea Level : 3286.00 US ft			
Comment :				
Slot Name Poker Lake Unit PB CVX JV #008H	Position (Offsets relative to Site Centre)			
	+N / -S : 0.00 US ft	Northing : 396108.50 US ft	Latitude : 32° 5' 16.32"	
	+E / -W : 0.00 US ft	Easting : 667201.10 US ft	Longitude : -103° 47' 36.43"	
	Elevation above Mean Sea Level : 3286.00 US ft			
Comment :				
Well Name Poker Lake Unit PB CVX JV #008H	Type : Main well		UWI :	Plan : Working Plan
	Rig Height : 20.00 US ft		Comment :	
	Well TVD Reference : 20.00 US ft			
	Relative to Mean Sea Level : 3306.00 US ft			
	Closure Distance : 8154.18 US ft		Closure Azimuth : 179.739°	
	Vertical Section (Position of Origin Relative to Slot)			
	+N / -S : 0.00 US ft		+E / -W : 0.00 US ft	Az : 179.74°
	Magnetic Parameters			
	Model : BGGM	Field Strength : 48158.1nT	Dec : 7.44°	Dip : 59.93°
				Date : 15/Oct/2014

Collision / Uncertainty Analysis				
Primary Well	Start MD (US ft)	End MD (US ft)	Collision Risk Interval	No. of Std Deviations in Error Computation
Poker Lake Unit PB CVX JV #008H (p)	0.00	18012.67	100.00	2

Secondary Well Names
Poker Lake Unit 444H (p)

Anti-Collision Report Terminology	
S.Minor, S.Major :	Radii of the ellipse of uncertainty at the current location as seen in the along hole direction.
PHI :	Angle between high-side vector and semi-minor axis
TVD Spread :	Total TVD range of the ellipsoid of uncertainty at the current location
ES :	Distance between the extremities of the primary and secondary uncertainty ellipsoids in the direction Cr-Cr
T.Face to Sec :	Angle between the Hi-Side vector of the primary well at the current location and line of closest approach between the two wells

Separation factors Calculated using Pedal Curve (Independent Uncertainty). Well path created using minimum curvature.

5D Anti-Collision Report

Anti-Collision Proximity Summary (TVD Relative to Well TVD Reference)

Secondary Well Name	Pr MD (US ft)	Sec MD (US ft)	TVD (US ft)	CC (US ft)	ES (US ft)	SF	Risk
Poker Lake Unit 444H (p)	9561.13	9560.09	9561.09	39.95	-3.30	0.92	SF (Hi)

Primary Well: Poker Lake Unit PB CVX JV #008H (p) (TVD Relative to Well TVD Reference; All Azimuth Relative to GRID NORTH)									
MD (US ft)	TVD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	Nearest Well	CC (US ft)	ES (US ft)	SF	Risk
0.00	0.00	89.28	0.00	0.00	Poker Lake Unit 444H (p)	39.92	39.33	67.94	
100.00	100.00	89.28	0.12	0.12	Poker Lake Unit 444H (p)	39.90	39.09	49.02	
200.00	200.00	89.28	0.34	0.34	Poker Lake Unit 444H (p)	39.90	38.64	31.60	
300.00	300.00	89.28	0.57	0.57	Poker Lake Unit 444H (p)	39.90	38.19	23.31	
400.00	400.00	89.28	0.79	0.79	Poker Lake Unit 444H (p)	39.90	37.74	18.46	
500.00	500.00	89.28	1.02	1.02	Poker Lake Unit 444H (p)	39.90	37.29	15.28	
600.00	600.00	89.28	1.24	1.24	Poker Lake Unit 444H (p)	39.90	36.84	13.04	
700.00	700.00	89.28	1.46	1.46	Poker Lake Unit 444H (p)	39.90	36.39	11.37	
800.00	800.00	89.28	1.69	1.69	Poker Lake Unit 444H (p)	39.90	35.94	10.08	
900.00	900.00	89.28	1.91	1.91	Poker Lake Unit 444H (p)	39.90	35.49	9.05	
1000.00	1000.00	89.28	2.14	2.14	Poker Lake Unit 444H (p)	39.90	35.04	8.21	
1100.00	1100.00	89.28	2.36	2.36	Poker Lake Unit 444H (p)	39.90	34.60	7.52	
1200.00	1200.00	89.28	2.59	2.59	Poker Lake Unit 444H (p)	39.90	34.15	6.93	
1300.00	1300.00	89.28	2.81	2.81	Poker Lake Unit 444H (p)	39.90	33.70	6.43	
1400.00	1400.00	89.28	3.04	3.04	Poker Lake Unit 444H (p)	39.90	33.25	5.99	
1500.00	1500.00	89.28	3.26	3.26	Poker Lake Unit 444H (p)	39.90	32.80	5.62	
1600.00	1600.00	89.28	3.49	3.49	Poker Lake Unit 444H (p)	39.90	32.35	5.28	
1700.00	1700.00	89.28	3.71	3.71	Poker Lake Unit 444H (p)	39.90	31.90	4.99	
1800.00	1800.00	89.28	3.94	3.94	Poker Lake Unit 444H (p)	39.90	31.45	4.72	
1900.00	1900.00	89.28	4.16	4.16	Poker Lake Unit 444H (p)	39.90	31.00	4.48	
2000.00	2000.00	89.28	4.39	4.39	Poker Lake Unit 444H (p)	39.90	30.55	4.27	
2100.00	2100.00	89.28	4.61	4.61	Poker Lake Unit 444H (p)	39.90	30.10	4.07	
2200.00	2200.00	89.28	4.84	4.84	Poker Lake Unit 444H (p)	39.90	29.65	3.89	
2300.00	2300.00	89.28	5.06	5.06	Poker Lake Unit 444H (p)	39.90	29.20	3.73	
2400.00	2400.00	89.28	5.29	5.29	Poker Lake Unit 444H (p)	39.90	28.75	3.58	
2500.00	2500.00	89.28	5.51	5.51	Poker Lake Unit 444H (p)	39.90	28.30	3.44	
2600.00	2600.00	89.28	5.73	5.73	Poker Lake Unit 444H (p)	39.90	27.85	3.31	
2700.00	2700.00	89.28	5.96	5.96	Poker Lake Unit 444H (p)	39.90	27.40	3.19	
2800.00	2800.00	89.28	6.18	6.18	Poker Lake Unit 444H (p)	39.90	26.95	3.08	
2900.00	2900.00	89.28	6.41	6.41	Poker Lake Unit 444H (p)	39.90	26.50	2.98	
3000.00	3000.00	89.28	6.63	6.63	Poker Lake Unit 444H (p)	39.90	26.06	2.88	
3100.00	3100.00	89.28	6.86	6.86	Poker Lake Unit 444H (p)	39.90	25.61	2.79	

5D Anti-Collision Report

Primary Well: Poker Lake Unit PB CVX JV #008H (p) (TVD Relative to Well TVD Reference; All Azimuth Relative to GRID NORTH)									
MD (USft)	TVD (USft)	True to See (°)	S-Major (USft)	S-Minor (USft)	Nearest Well	GC (USft)	ES (USft)	SF	Risk
3200.00	3200.00	89.28	7.08	7.08	Poker Lake Unit 444H (p)	39.90	25.16	2.71	
3300.00	3300.00	89.28	7.31	7.31	Poker Lake Unit 444H (p)	39.90	24.71	2.63	
3400.00	3400.00	89.28	7.53	7.53	Poker Lake Unit 444H (p)	39.90	24.26	2.55	
3500.00	3500.00	89.28	7.76	7.76	Poker Lake Unit 444H (p)	39.90	23.81	2.48	
3600.00	3600.00	89.28	7.98	7.98	Poker Lake Unit 444H (p)	39.90	23.36	2.41	
3700.00	3700.00	89.28	8.21	8.21	Poker Lake Unit 444H (p)	39.90	22.91	2.35	
3800.00	3800.00	89.28	8.43	8.43	Poker Lake Unit 444H (p)	39.90	22.46	2.29	
3900.00	3900.00	89.28	8.66	8.66	Poker Lake Unit 444H (p)	39.90	22.01	2.23	
4000.00	4000.00	89.28	8.88	8.88	Poker Lake Unit 444H (p)	39.90	21.56	2.18	
4100.00	4100.00	89.28	9.11	9.11	Poker Lake Unit 444H (p)	39.90	21.11	2.12	
4200.00	4200.00	89.28	9.33	9.33	Poker Lake Unit 444H (p)	39.90	20.66	2.07	
4300.00	4300.00	89.28	9.56	9.56	Poker Lake Unit 444H (p)	39.90	20.21	2.03	
4400.00	4400.00	89.28	9.78	9.78	Poker Lake Unit 444H (p)	39.90	19.76	1.98	SF (Lo)
4500.00	4500.00	89.28	10.01	10.01	Poker Lake Unit 444H (p)	39.90	19.31	1.94	SF (Lo)
4600.00	4600.00	89.28	10.23	10.23	Poker Lake Unit 444H (p)	39.90	18.86	1.90	SF (Lo)
4700.00	4700.00	89.28	10.45	10.45	Poker Lake Unit 444H (p)	39.90	18.41	1.86	SF (Lo)
4800.00	4800.00	89.28	10.68	10.68	Poker Lake Unit 444H (p)	39.90	17.96	1.82	SF (Lo)
4900.00	4900.00	89.28	10.90	10.90	Poker Lake Unit 444H (p)	39.90	17.52	1.78	SF (Lo)
5000.00	5000.00	89.28	11.13	11.13	Poker Lake Unit 444H (p)	39.90	17.07	1.75	SF (Lo)
5100.00	5100.00	89.28	11.35	11.35	Poker Lake Unit 444H (p)	39.90	16.62	1.71	SF (Lo)
5200.00	5200.00	89.28	11.58	11.58	Poker Lake Unit 444H (p)	39.90	16.17	1.68	SF (Lo)
5300.00	5300.00	89.28	11.80	11.80	Poker Lake Unit 444H (p)	39.90	15.72	1.65	SF (Lo)
5400.00	5400.00	89.28	12.03	12.03	Poker Lake Unit 444H (p)	39.90	15.27	1.62	SF (Lo)
5500.00	5500.00	89.28	12.25	12.25	Poker Lake Unit 444H (p)	39.90	14.82	1.59	SF (Lo)
5600.00	5600.00	89.28	12.48	12.48	Poker Lake Unit 444H (p)	39.90	14.37	1.56	SF (Lo)
5700.00	5700.00	89.28	12.70	12.70	Poker Lake Unit 444H (p)	39.90	13.92	1.54	SF (Lo)
5800.00	5800.00	89.28	12.93	12.93	Poker Lake Unit 444H (p)	39.90	13.47	1.51	SF (Lo)
5900.00	5900.00	89.28	13.15	13.15	Poker Lake Unit 444H (p)	39.90	13.02	1.48	SF (Med)
6000.00	6000.00	89.28	13.38	13.38	Poker Lake Unit 444H (p)	39.90	12.57	1.46	SF (Med)
6100.00	6100.00	89.28	13.60	13.60	Poker Lake Unit 444H (p)	39.90	12.12	1.44	SF (Med)
6200.00	6200.00	89.28	13.83	13.83	Poker Lake Unit 444H (p)	39.90	11.67	1.41	SF (Med)
6300.00	6300.00	89.28	14.05	14.05	Poker Lake Unit 444H (p)	39.90	11.22	1.39	SF (Med)
6400.00	6400.00	89.28	14.28	14.28	Poker Lake Unit 444H (p)	39.90	10.77	1.37	SF (Med)
6500.00	6500.00	89.28	14.50	14.50	Poker Lake Unit 444H (p)	39.90	10.32	1.35	SF (Med)
6600.00	6600.00	89.28	14.73	14.73	Poker Lake Unit 444H (p)	39.90	9.87	1.33	SF (Med)
6700.00	6700.00	89.28	14.95	14.95	Poker Lake Unit 444H (p)	39.90	9.42	1.31	SF (Med)

SD Anti-Collision Report

Primary Well: Poker Lake Unit PB CVX 9V #008H (p) (TVD Relative to Well TVD Reference; All Azimuth Relative to GRID NORTH)									
MD (US ft)	TVD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	Nearest Well	CC (US ft)	ES (US ft)	SF	RISK
6800.00	6800.00	89.28	15.17	15.17	Poker Lake Unit 444H (p)	39.90	8.97	1.29	SF (Med)
6900.00	6900.00	89.28	15.40	15.40	Poker Lake Unit 444H (p)	39.90	8.52	1.27	SF (Med)
7000.00	7000.00	89.28	15.62	15.62	Poker Lake Unit 444H (p)	39.90	8.08	1.25	SF (Med)
7100.00	7100.00	89.28	15.85	15.85	Poker Lake Unit 444H (p)	39.90	7.63	1.24	SF (Med)
7200.00	7200.00	89.28	16.07	16.07	Poker Lake Unit 444H (p)	39.90	7.18	1.22	SF (Med)
7300.00	7300.00	89.28	16.30	16.30	Poker Lake Unit 444H (p)	39.90	6.73	1.20	SF (Med)
7400.00	7400.00	89.28	16.52	16.52	Poker Lake Unit 444H (p)	39.90	6.28	1.19	SF (Med)
7500.00	7500.00	89.28	16.75	16.75	Poker Lake Unit 444H (p)	39.90	5.83	1.17	SF (Med)
7600.00	7600.00	89.28	16.97	16.97	Poker Lake Unit 444H (p)	39.90	5.38	1.16	SF (Med)
7700.00	7700.00	89.28	17.20	17.20	Poker Lake Unit 444H (p)	39.90	4.93	1.14	SF (Med)
7800.00	7800.00	89.28	17.42	17.42	Poker Lake Unit 444H (p)	39.90	4.48	1.13	SF (Med)
7900.00	7900.00	89.28	17.65	17.65	Poker Lake Unit 444H (p)	39.90	4.03	1.11	SF (Med)
8000.00	8000.00	89.28	17.87	17.87	Poker Lake Unit 444H (p)	39.90	3.58	1.10	SF (Med)
8100.00	8100.00	89.28	18.10	18.10	Poker Lake Unit 444H (p)	39.90	3.13	1.09	SF (Med)
8200.00	8200.00	89.28	18.32	18.32	Poker Lake Unit 444H (p)	39.90	2.68	1.07	SF (Med)
8300.00	8300.00	89.28	18.55	18.55	Poker Lake Unit 444H (p)	39.90	2.23	1.06	SF (Med)
8400.00	8400.00	89.28	18.77	18.77	Poker Lake Unit 444H (p)	39.90	1.78	1.05	SF (Med)
8500.00	8500.00	89.28	19.00	19.00	Poker Lake Unit 444H (p)	39.90	1.33	1.03	SF (Med)
8600.00	8600.00	89.28	19.22	19.22	Poker Lake Unit 444H (p)	39.90	0.88	1.02	SF (Med)
8700.00	8700.00	89.28	19.45	19.45	Poker Lake Unit 444H (p)	39.90	0.43	1.01	SF (Med)
8800.00	8800.00	89.28	19.67	19.67	Poker Lake Unit 444H (p)	39.90	-0.02	1.00	SF (Hi)
8900.00	8900.00	89.28	19.90	19.90	Poker Lake Unit 444H (p)	39.90	-0.47	0.99	SF (Hi)
9000.00	9000.00	89.28	20.12	20.12	Poker Lake Unit 444H (p)	39.90	-0.92	0.98	SF (Hi)
9100.00	9100.00	89.28	20.35	20.35	Poker Lake Unit 444H (p)	39.90	-1.37	0.97	SF (Hi)
9200.00	9200.00	89.28	20.57	20.57	Poker Lake Unit 444H (p)	39.90	-1.81	0.96	SF (Hi)
9300.00	9300.00	89.28	20.79	20.79	Poker Lake Unit 444H (p)	39.90	-2.26	0.95	SF (Hi)
9400.00	9400.00	89.28	21.02	21.02	Poker Lake Unit 444H (p)	39.90	-2.71	0.94	SF (Hi)
9500.00	9500.00	89.28	21.24	21.24	Poker Lake Unit 444H (p)	39.90	-3.16	0.93	SF (Hi)
9600.00	9599.71	261.01	21.42	21.24	Poker Lake Unit 444H (p)	40.41	-3.04	0.93	SF (Hi)
9700.00	9696.88	235.01	21.58	20.97	Poker Lake Unit 444H (p)	49.57	5.76	1.13	SF (Med)
9800.00	9788.59	213.31	21.74	20.36	Poker Lake Unit 444H (p)	79.69	35.51	1.80	SF (Lo)
9900.00	9872.02	202.33	21.92	19.46	Poker Lake Unit 444H (p)	130.14	85.61	2.92	
10000.00	9944.66	197.33	22.20	18.41	Poker Lake Unit 444H (p)	196.51	151.69	4.38	
10100.00	10004.29	195.59	22.54	17.34	Poker Lake Unit 444H (p)	275.44	230.35	6.11	
10200.00	10049.11	196.64	22.98	16.42	Poker Lake Unit 444H (p)	363.98	318.78	8.05	
10300.00	10083.54	194.36	23.55	16.40	Poker Lake Unit 444H (p)	457.42	412.14	10.10	

5D Anti-Collision Report

Primary Well: Poker Lake Unit PB CVX JV #008H (p) (TVD Relative to Well TVD Reference / All Azimuth Relative to GRID NORTH)									
ID (US ft)	TVD (US ft)	T-Face to Sec (°)	S-Major (US ft)	S-Minor (US ft)	Nearest Well	GC (US ft)	ES (US ft)	SF	Risk
10400.00	10117.74	191.98	24.21	16.57	Poker Lake Unit 444H (p)	551.09	505.65	12.13	
10500.00	10148.48	193.45	24.99	16.39	Poker Lake Unit 444H (p)	645.99	600.36	14.16	
10600.00	10169.26	198.97	25.87	16.26	Poker Lake Unit 444H (p)	743.60	697.86	16.26	
10700.00	10179.70	222.20	26.84	16.27	Poker Lake Unit 444H (p)	842.88	797.08	18.40	
10800.00	10180.78	276.49	27.88	16.55	Poker Lake Unit 444H (p)	942.76	896.93	20.57	
10900.00	10180.30	277.17	29.01	16.83	Poker Lake Unit 444H (p)	1042.68	996.83	22.74	
11000.00	10179.81	277.85	30.20	17.13	Poker Lake Unit 444H (p)	1142.61	1096.74	24.91	
11100.00	10179.33	278.53	31.45	17.46	Poker Lake Unit 444H (p)	1242.55	1196.67	27.08	
11200.00	10178.85	279.21	32.76	17.81	Poker Lake Unit 444H (p)	1342.50	1296.60	29.25	
11300.00	10178.37	279.88	34.12	18.19	Poker Lake Unit 444H (p)	1442.46	1396.54	31.41	
11400.00	10177.88	280.55	35.52	18.58	Poker Lake Unit 444H (p)	1542.42	1496.49	33.58	
11500.00	10177.40	181.08	36.95	19.00	Poker Lake Unit 444H (p)	1630.63	1588.15	38.38	
11600.00	10176.92	181.06	38.42	19.43	Poker Lake Unit 444H (p)	1630.67	1587.37	37.67	
11700.00	10176.44	181.04	39.92	19.88	Poker Lake Unit 444H (p)	1630.70	1586.58	36.96	
11800.00	10175.96	181.02	41.44	20.35	Poker Lake Unit 444H (p)	1630.74	1585.77	36.27	
11900.00	10175.47	181.00	42.99	20.83	Poker Lake Unit 444H (p)	1630.78	1584.98	35.61	
12000.00	10174.99	180.98	44.56	21.32	Poker Lake Unit 444H (p)	1630.82	1584.03	34.86	
12100.00	10174.51	180.96	46.15	21.79	Poker Lake Unit 444H (p)	1630.85	1583.21	34.23	
12200.00	10174.03	180.94	47.75	22.37	Poker Lake Unit 444H (p)	1630.89	1582.15	33.46	
12300.00	10173.54	180.92	49.38	22.87	Poker Lake Unit 444H (p)	1630.93	1581.23	32.81	
12400.00	10173.06	180.90	51.01	23.41	Poker Lake Unit 444H (p)	1630.97	1580.26	32.16	
12500.00	10172.58	180.88	52.66	23.95	Poker Lake Unit 444H (p)	1631.01	1579.25	31.51	
12600.00	10172.10	180.86	54.32	24.54	Poker Lake Unit 444H (p)	1631.05	1578.22	30.88	
12700.00	10171.62	180.84	55.99	25.13	Poker Lake Unit 444H (p)	1631.09	1577.15	30.24	
12800.00	10171.13	180.82	57.67	25.72	Poker Lake Unit 444H (p)	1631.13	1576.17	29.68	
12900.00	10170.65	180.80	59.36	26.31	Poker Lake Unit 444H (p)	1631.17	1575.01	29.05	
13000.00	10170.17	180.78	61.05	26.91	Poker Lake Unit 444H (p)	1631.21	1573.89	28.46	
13100.00	10169.69	180.77	62.76	27.51	Poker Lake Unit 444H (p)	1631.25	1572.77	27.90	
13200.00	10169.21	180.75	64.47	28.12	Poker Lake Unit 444H (p)	1631.29	1571.66	27.36	
13300.00	10168.72	180.73	66.19	28.74	Poker Lake Unit 444H (p)	1631.33	1570.54	26.83	
13400.00	10168.24	180.71	67.91	29.36	Poker Lake Unit 444H (p)	1631.37	1569.40	26.33	
13500.00	10167.76	180.69	69.64	29.99	Poker Lake Unit 444H (p)	1631.41	1568.26	25.84	
13600.00	10167.28	180.67	71.37	30.62	Poker Lake Unit 444H (p)	1631.45	1567.11	25.36	
13700.00	10166.79	180.65	73.11	31.26	Poker Lake Unit 444H (p)	1631.49	1565.95	24.89	
13800.00	10166.31	180.63	74.85	31.90	Poker Lake Unit 444H (p)	1631.53	1564.78	24.44	
13900.00	10165.83	180.61	76.60	32.54	Poker Lake Unit 444H (p)	1631.57	1563.57	23.99	

5D Anti-Collision Report

Primary Well: Poker Lake Unit PB CVX JV #008H (p) (TVD Relative to Well TVD Reference; All Azimuth Relative to GRID NORTH)									
MD (US ft)	TVD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	Nearest Well	CG (US ft)	ES (US ft)	SF	Risk
14000.00	10165.35	180.59	78.35	33.19	Poker Lake Unit 444H (p)	1631.62	1562.34	23.55	
14100.00	10164.87	180.57	80.10	33.84	Poker Lake Unit 444H (p)	1631.66	1561.11	23.13	
14200.00	10164.38	180.55	81.86	34.49	Poker Lake Unit 444H (p)	1631.70	1559.88	22.72	
14300.00	10163.90	180.53	83.61	35.15	Poker Lake Unit 444H (p)	1631.74	1558.64	22.32	
14400.00	10163.42	180.51	85.38	35.81	Poker Lake Unit 444H (p)	1631.79	1557.39	21.94	
14500.00	10162.94	180.49	87.14	36.47	Poker Lake Unit 444H (p)	1631.83	1556.14	21.56	
14600.00	10162.45	180.47	88.91	37.14	Poker Lake Unit 444H (p)	1631.87	1554.89	21.20	
14700.00	10161.97	180.45	90.68	37.80	Poker Lake Unit 444H (p)	1631.92	1553.62	20.84	
14800.00	10161.49	180.43	92.45	38.48	Poker Lake Unit 444H (p)	1631.96	1552.36	20.50	
14900.00	10161.01	180.41	94.23	39.15	Poker Lake Unit 444H (p)	1632.00	1551.08	20.17	
15000.00	10160.53	180.39	96.00	39.82	Poker Lake Unit 444H (p)	1632.05	1549.81	19.84	
15100.00	10160.04	180.37	97.78	40.50	Poker Lake Unit 444H (p)	1632.09	1548.52	19.53	
15200.00	10159.56	180.35	99.56	41.18	Poker Lake Unit 444H (p)	1632.13	1547.24	19.23	
15300.00	10159.08	180.33	101.34	41.86	Poker Lake Unit 444H (p)	1632.18	1545.95	18.93	
15400.00	10158.60	180.31	103.12	42.54	Poker Lake Unit 444H (p)	1632.22	1544.65	18.64	
15500.00	10158.12	180.29	104.91	43.23	Poker Lake Unit 444H (p)	1632.27	1543.36	18.36	
15600.00	10157.63	180.28	106.70	43.91	Poker Lake Unit 444H (p)	1632.31	1542.06	18.09	
15700.00	10157.15	180.26	108.48	44.60	Poker Lake Unit 444H (p)	1632.36	1540.75	17.82	
15800.00	10156.67	180.24	110.27	45.29	Poker Lake Unit 444H (p)	1632.40	1539.44	17.56	
15900.00	10156.19	180.22	112.06	45.98	Poker Lake Unit 444H (p)	1632.45	1538.13	17.31	
16000.00	10155.70	180.20	113.85	46.67	Poker Lake Unit 444H (p)	1632.49	1536.82	17.06	
16100.00	10155.22	180.18	115.65	47.36	Poker Lake Unit 444H (p)	1632.54	1535.50	16.82	
16200.00	10154.74	180.16	117.44	48.05	Poker Lake Unit 444H (p)	1632.59	1534.18	16.59	
16300.00	10154.26	180.14	119.23	48.75	Poker Lake Unit 444H (p)	1632.63	1532.86	16.36	
16400.00	10153.78	180.12	121.03	49.45	Poker Lake Unit 444H (p)	1632.68	1531.54	16.14	
16500.00	10153.29	180.10	122.83	50.14	Poker Lake Unit 444H (p)	1632.73	1530.21	15.93	
16600.00	10152.81	180.08	124.62	50.84	Poker Lake Unit 444H (p)	1632.77	1528.88	15.72	
16700.00	10152.33	180.06	126.42	51.54	Poker Lake Unit 444H (p)	1632.82	1527.55	15.51	
16800.00	10151.85	180.04	128.22	52.24	Poker Lake Unit 444H (p)	1632.87	1526.21	15.31	
16900.00	10151.36	180.02	130.02	52.94	Poker Lake Unit 444H (p)	1632.91	1524.88	15.11	
17000.00	10150.88	180.00	131.82	53.64	Poker Lake Unit 444H (p)	1632.96	1523.54	14.92	
17100.00	10150.40	179.98	133.62	54.35	Poker Lake Unit 444H (p)	1633.01	1522.20	14.74	
17200.00	10149.92	179.96	135.42	55.05	Poker Lake Unit 444H (p)	1633.06	1520.86	14.56	
17300.00	10149.44	179.94	137.23	55.75	Poker Lake Unit 444H (p)	1633.10	1519.52	14.38	
17400.00	10148.95	179.92	139.03	56.46	Poker Lake Unit 444H (p)	1633.15	1518.17	14.20	
17500.00	10148.47	179.90	140.83	57.16	Poker Lake Unit 444H (p)	1633.20	1516.83	14.03	

5D Anti-Collision Report

Primary Well: Poker Lake Unit PB CVX JV #008H (p) (TVD Relative to Well TVD Reference (Primary); All Azimuth Relative to GRID NORTH)									
MD (US.ft)	TVD (US.ft)	T Face to Sec (°)	S Major (US.ft)	S Minor (US.ft)	Nearest Well	CC (US.ft)	ES (US.ft)	SF	Risk
17600.00	10147.99	179.88	142.64	57.87	Poker Lake Unit 444H (p)	1633.25	1515.48	13.87	
17700.00	10147.51	179.87	144.44	58.58	Poker Lake Unit 444H (p)	1634.03	1515.34	13.77	
17800.00	10147.03	179.87	146.25	59.29	Poker Lake Unit 444H (p)	1640.13	1521.34	13.81	
17900.00	10146.54	179.87	148.06	59.99	Poker Lake Unit 444H (p)	1652.27	1533.74	13.94	
18000.00	10146.06	179.87	149.86	60.70	Poker Lake Unit 444H (p)	1670.32	1552.15	14.14	
18012.67	10146.00	179.87	150.09	60.79	Poker Lake Unit 444H (p)	1673.02	1554.90	14.16	

Secondary Well: Poker Lake Unit 444H (p) (TVD Relative to Well TVD Reference (Primary); All Azimuth Relative to GRID NORTH)									
PRIMD (US.ft)	TVD (US.ft)	SecMD (US.ft)	T Face to Sec (°)	S Major (US.ft)	S Minor (US.ft)	CC (US.ft)	ES (US.ft)	SF	Risk
0.00	1.00	0.00	89.28	0.00	0.00	39.92	39.33	67.94	
100.00	100.00	99.00	89.28	0.11	0.11	39.90	39.09	49.02	
200.00	200.00	199.00	89.28	0.34	0.34	39.90	38.64	31.60	
300.00	300.00	299.00	89.28	0.56	0.56	39.90	38.19	23.31	
400.00	400.00	399.00	89.28	0.79	0.79	39.90	37.74	18.46	
500.00	500.00	499.00	89.28	1.01	1.01	39.90	37.29	15.28	
600.00	600.00	599.00	89.28	1.24	1.24	39.90	36.84	13.04	
700.00	700.00	699.00	89.28	1.46	1.46	39.90	36.39	11.37	
800.00	800.00	799.00	89.28	1.69	1.69	39.90	35.94	10.08	
900.00	900.00	899.00	89.28	1.91	1.91	39.90	35.49	9.05	
1000.00	1000.00	999.00	89.28	2.14	2.14	39.90	35.04	8.21	
1100.00	1100.00	1099.00	89.28	2.36	2.36	39.90	34.60	7.52	
1200.00	1200.00	1199.00	89.28	2.59	2.59	39.90	34.15	6.93	
1300.00	1300.00	1299.00	89.28	2.81	2.81	39.90	33.70	6.43	
1400.00	1400.00	1399.00	89.28	3.04	3.04	39.90	33.25	5.99	
1500.00	1500.00	1499.00	89.28	3.26	3.26	39.90	32.80	5.62	
1600.00	1600.00	1599.00	89.28	3.49	3.49	39.90	32.35	5.28	
1700.00	1700.00	1699.00	89.28	3.71	3.71	39.90	31.90	4.99	
1800.00	1800.00	1799.00	89.28	3.93	3.93	39.90	31.45	4.72	
1900.00	1900.00	1899.00	89.28	4.16	4.16	39.90	31.00	4.48	
2000.00	2000.00	1999.00	89.28	4.38	4.38	39.90	30.55	4.27	
2100.00	2100.00	2099.00	89.28	4.61	4.61	39.90	30.10	4.07	
2200.00	2200.00	2199.00	89.28	4.83	4.83	39.90	29.65	3.89	
2300.00	2300.00	2299.00	89.28	5.06	5.06	39.90	29.20	3.73	
2400.00	2400.00	2399.00	89.28	5.28	5.28	39.90	28.75	3.58	
2500.00	2500.00	2499.00	89.28	5.51	5.51	39.90	28.30	3.44	
2600.00	2600.00	2599.00	89.28	5.73	5.73	39.90	27.85	3.31	
2700.00	2700.00	2699.00	89.28	5.96	5.96	39.90	27.40	3.19	
2800.00	2800.00	2799.00	89.28	6.18	6.18	39.90	26.95	3.08	
2900.00	2900.00	2899.00	89.28	6.41	6.41	39.90	26.50	2.98	
3000.00	3000.00	2999.00	89.28	6.63	6.63	39.90	26.06	2.88	
3100.00	3100.00	3099.00	89.28	6.86	6.86	39.90	25.61	2.79	
3200.00	3200.00	3199.00	89.28	7.08	7.08	39.90	25.16	2.71	
3300.00	3300.00	3299.00	89.28	7.31	7.31	39.90	24.71	2.63	
3400.00	3400.00	3399.00	89.28	7.53	7.53	39.90	24.26	2.55	
3500.00	3500.00	3499.00	89.28	7.76	7.76	39.90	23.81	2.48	
3600.00	3600.00	3599.00	89.28	7.98	7.98	39.90	23.36	2.41	
3700.00	3700.00	3699.00	89.28	8.20	8.20	39.90	22.91	2.35	
3800.00	3800.00	3799.00	89.28	8.43	8.43	39.90	22.46	2.29	
3900.00	3900.00	3899.00	89.28	8.65	8.65	39.90	22.01	2.23	
4000.00	4000.00	3999.00	89.28	8.88	8.88	39.90	21.56	2.18	
4100.00	4100.00	4099.00	89.28	9.10	9.10	39.90	21.11	2.12	
4200.00	4200.00	4199.00	89.28	9.33	9.33	39.90	20.66	2.07	
4300.00	4300.00	4299.00	89.28	9.55	9.55	39.90	20.21	2.03	
4400.00	4400.00	4399.00	89.28	9.78	9.78	39.90	19.76	1.98	SF (Lo)

5D Anti-Collision Report

Secondary Wellbore: Poker Lake Unit 444H (p) (TVD Relative to Well TVD Reference (Primary) : All Azimuth Relative to GRID NORTH)									
PRIMD (US ft)	TVD (US ft)	SecMD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	GS (US ft)	ES (US ft)	SF	Risk
4500.00	4500.00	4499.00	89.28	10.00	10.00	39.90	19.31	1.94	SF (Lo)
4600.00	4600.00	4599.00	89.28	10.23	10.23	39.90	18.86	1.90	SF (Lo)
4700.00	4700.00	4699.00	89.28	10.45	10.45	39.90	18.41	1.86	SF (Lo)
4800.00	4800.00	4799.00	89.28	10.68	10.68	39.90	17.96	1.82	SF (Lo)
4900.00	4900.00	4899.00	89.28	10.90	10.90	39.90	17.52	1.78	SF (Lo)
5000.00	5000.00	4999.00	89.28	11.13	11.13	39.90	17.07	1.75	SF (Lo)
5100.00	5100.00	5099.00	89.28	11.35	11.35	39.90	16.62	1.71	SF (Lo)
5200.00	5200.00	5199.00	89.28	11.58	11.58	39.90	16.17	1.68	SF (Lo)
5300.00	5300.00	5299.00	89.28	11.80	11.80	39.90	15.72	1.65	SF (Lo)
5400.00	5400.00	5399.00	89.28	12.03	12.03	39.90	15.27	1.62	SF (Lo)
5500.00	5500.00	5499.00	89.28	12.25	12.25	39.90	14.82	1.59	SF (Lo)
5600.00	5600.00	5599.00	89.28	12.48	12.48	39.90	14.37	1.56	SF (Lo)
5700.00	5700.00	5699.00	89.28	12.70	12.70	39.90	13.92	1.54	SF (Lo)
5800.00	5800.00	5799.00	89.28	12.92	12.92	39.90	13.47	1.51	SF (Lo)
5900.00	5900.00	5899.00	89.28	13.15	13.15	39.90	13.02	1.48	SF (Med)
6000.00	6000.00	5999.00	89.28	13.37	13.37	39.90	12.57	1.46	SF (Med)
6100.00	6100.00	6099.00	89.28	13.60	13.60	39.90	12.12	1.44	SF (Med)
6200.00	6200.00	6199.00	89.28	13.82	13.82	39.90	11.67	1.41	SF (Med)
6300.00	6300.00	6299.00	89.28	14.05	14.05	39.90	11.22	1.39	SF (Med)
6400.00	6400.00	6399.00	89.28	14.27	14.27	39.90	10.77	1.37	SF (Med)
6500.00	6500.00	6499.00	89.28	14.50	14.50	39.90	10.32	1.35	SF (Med)
6600.00	6600.00	6599.00	89.28	14.72	14.72	39.90	9.87	1.33	SF (Med)
6700.00	6700.00	6699.00	89.28	14.95	14.95	39.90	9.42	1.31	SF (Med)
6800.00	6800.00	6799.00	89.28	15.17	15.17	39.90	8.97	1.29	SF (Med)
6900.00	6900.00	6899.00	89.28	15.40	15.40	39.90	8.52	1.27	SF (Med)
7000.00	7000.00	6999.00	89.28	15.62	15.62	39.90	8.08	1.25	SF (Med)
7100.00	7100.00	7099.00	89.28	15.85	15.85	39.90	7.63	1.24	SF (Med)
7200.00	7200.00	7199.00	89.28	16.07	16.07	39.90	7.18	1.22	SF (Med)
7300.00	7300.00	7299.00	89.28	16.30	16.30	39.90	6.73	1.20	SF (Med)
7400.00	7400.00	7399.00	89.28	16.52	16.52	39.90	6.28	1.19	SF (Med)
7500.00	7500.00	7499.00	89.28	16.75	16.75	39.90	5.83	1.17	SF (Med)
7600.00	7600.00	7599.00	89.28	16.97	16.97	39.90	5.38	1.16	SF (Med)
7700.00	7700.00	7699.00	89.28	17.20	17.20	39.90	4.93	1.14	SF (Med)
7800.00	7800.00	7799.00	89.28	17.42	17.42	39.90	4.48	1.13	SF (Med)
7900.00	7900.00	7899.00	89.28	17.65	17.65	39.90	4.03	1.11	SF (Med)
8000.00	8000.00	7999.00	89.28	17.87	17.87	39.90	3.58	1.10	SF (Med)
8100.00	8100.00	8099.00	89.28	18.10	18.10	39.90	3.13	1.09	SF (Med)
8200.00	8200.00	8199.00	89.28	18.32	18.32	39.90	2.68	1.07	SF (Med)
8300.00	8300.00	8299.00	89.28	18.54	18.54	39.90	2.23	1.06	SF (Med)
8400.00	8400.00	8399.00	89.28	18.77	18.77	39.90	1.78	1.05	SF (Med)
8500.00	8500.00	8499.00	89.28	18.99	18.99	39.90	1.33	1.03	SF (Med)
8600.00	8600.00	8599.00	89.28	19.22	19.22	39.90	0.88	1.02	SF (Med)
8700.00	8700.00	8699.00	89.28	19.44	19.44	39.90	0.43	1.01	SF (Med)
8800.00	8800.00	8799.00	89.28	19.67	19.67	39.90	-0.02	1.00	SF (Hi)
8900.00	8900.00	8899.00	89.28	19.89	19.89	39.90	-0.47	0.99	SF (Hi)
9000.00	9000.00	8999.00	89.28	20.12	20.12	39.90	-0.92	0.98	SF (Hi)
9100.00	9100.00	9099.00	89.28	20.34	20.34	39.90	-1.37	0.97	SF (Hi)
9200.00	9200.00	9199.00	89.28	20.57	20.57	39.90	-1.81	0.96	SF (Hi)
9300.00	9300.00	9299.00	89.28	20.79	20.79	39.90	-2.26	0.95	SF (Hi)
9400.00	9400.00	9399.00	89.28	21.02	21.02	39.90	-2.71	0.94	SF (Hi)
9500.00	9500.00	9499.00	89.28	21.24	21.24	39.90	-3.16	0.93	SF (Hi)
9600.00	9599.71	9598.71	261.01	21.47	21.47	40.41	-3.04	0.93	SF (Hi)
9700.00	9696.88	9695.88	235.01	21.68	21.68	49.57	5.76	1.13	SF (Med)
9800.00	9788.59	9787.59	213.31	21.89	21.89	79.69	35.51	1.80	SF (Lo)
9900.00	9872.02	9871.02	202.33	22.08	22.08	130.14	85.61	2.92	
10000.00	9944.66	9943.66	197.33	22.24	22.24	196.51	151.69	4.38	
10100.00	10004.29	10003.29	195.59	22.38	22.38	275.44	230.35	6.11	
10200.00	10049.11	10048.11	196.64	22.48	22.48	363.98	318.78	8.05	

5D Anti-Collision Report

Secondary Wellbore - Poker Lake Unit 444H (p) (TVD Relative to Well TVD Reference (Primary) - All Azimuth Relative to GRID NORTH)									
Pd MD (USF)	TVD (USF)	Sec MD (USF)	T Face to Sec (°)	S Major (USF)	S Minor (USF)	CC (USF)	ES (USF)	SP	Risk
10300.00	10083.54	10082.54	194.36	22.55	22.55	457.42	412.14	10.10	
10400.00	10117.74	10116.74	191.98	22.63	22.63	551.09	505.65	12.13	
10500.00	10148.48	10147.48	193.45	22.70	22.70	645.99	600.36	14.16	
10600.00	10169.26	10168.26	198.97	22.75	22.75	743.60	697.86	16.26	
10700.00	10179.70	10178.70	222.20	22.77	22.77	842.88	797.08	18.40	
10800.00	10180.78	10179.78	276.49	22.77	22.77	942.76	896.93	20.57	
10900.00	10180.30	10179.30	277.17	22.77	22.77	1042.68	996.83	22.74	
11000.00	10179.81	10178.81	277.85	22.77	22.77	1142.61	1096.74	24.91	
11100.00	10179.33	10178.33	278.53	22.77	22.77	1242.55	1196.67	27.08	
11200.00	10178.85	10177.85	279.21	22.77	22.77	1342.50	1296.60	29.25	
11300.00	10178.37	10177.37	279.88	22.77	22.77	1442.46	1396.54	31.41	
11400.00	10177.88	10176.88	280.55	22.77	22.77	1542.42	1496.49	33.58	
11500.00	11807.72	13136.60	181.08	39.30	22.87	1630.63	1588.15	38.38	
11600.00	11807.29	13236.60	181.06	40.68	23.25	1630.67	1587.37	37.67	
11700.00	11806.86	13336.59	181.04	42.10	23.63	1630.70	1586.58	36.96	
11800.00	11806.42	13436.59	181.02	43.54	24.00	1630.74	1585.77	36.27	
11900.00	11805.99	13536.59	181.00	45.02	24.35	1630.78	1584.98	35.61	
12000.00	11805.55	13636.59	180.98	46.52	24.86	1630.82	1584.03	34.86	
12100.00	11805.12	13736.59	180.96	48.04	25.25	1630.85	1583.21	34.23	
12200.00	11804.68	13836.59	180.94	49.58	25.76	1630.89	1582.15	33.46	
12300.00	11804.25	13936.58	180.92	51.15	26.23	1630.93	1581.23	32.81	
12400.00	11803.81	14036.58	180.90	52.73	26.70	1630.97	1580.26	32.16	
12500.00	11803.38	14136.58	180.88	54.32	27.20	1631.01	1579.25	31.51	
12600.00	11802.95	14236.58	180.86	55.93	27.68	1631.05	1578.22	30.88	
12700.00	11802.51	14336.58	180.84	57.55	28.20	1631.09	1577.15	30.24	
12800.00	11802.08	14436.58	180.82	59.18	28.64	1631.13	1576.17	29.68	
12900.00	11801.64	14536.58	180.80	60.83	29.24	1631.17	1575.01	29.05	
13000.00	11801.21	14636.57	180.78	62.48	29.81	1631.21	1573.89	28.46	
13100.00	11800.77	14736.57	180.77	64.14	30.36	1631.25	1572.77	27.90	
13200.00	11800.34	14836.57	180.75	65.82	30.90	1631.29	1571.66	27.36	
13300.00	11799.90	14936.57	180.73	67.50	31.45	1631.33	1570.54	26.83	
13400.00	11799.47	15036.57	180.71	69.18	32.00	1631.37	1569.40	26.33	
13500.00	11799.04	15136.57	180.69	70.88	32.55	1631.41	1568.26	25.84	
13600.00	11798.60	15236.56	180.67	72.58	33.11	1631.45	1567.11	25.36	
13700.00	11798.17	15336.56	180.65	74.28	33.68	1631.49	1565.95	24.89	
13800.00	11797.73	15436.56	180.63	76.00	34.25	1631.53	1564.78	24.44	
13900.00	11797.30	15536.56	180.61	77.71	34.87	1631.57	1563.57	23.99	
14000.00	11796.86	15636.56	180.59	79.44	35.48	1631.62	1562.34	23.55	
14100.00	11796.43	15736.56	180.57	81.16	36.10	1631.66	1561.11	23.13	
14200.00	11795.99	15836.56	180.55	82.89	36.72	1631.70	1559.88	22.72	
14300.00	11795.56	15936.55	180.53	84.63	37.35	1631.74	1558.64	22.32	
14400.00	11795.12	16036.55	180.51	86.37	37.98	1631.79	1557.39	21.94	
14500.00	11794.69	16136.55	180.49	88.11	38.61	1631.83	1556.14	21.56	
14600.00	11794.26	16236.55	180.47	89.85	39.24	1631.87	1554.89	21.20	
14700.00	11793.82	16336.55	180.45	91.60	39.88	1631.92	1553.62	20.84	
14800.00	11793.39	16436.55	180.43	93.35	40.52	1631.96	1552.36	20.50	
14900.00	11792.95	16536.54	180.41	95.11	41.16	1632.00	1551.08	20.17	
15000.00	11792.52	16636.54	180.39	96.87	41.81	1632.05	1549.81	19.84	
15100.00	11792.08	16736.54	180.37	98.63	42.46	1632.09	1548.52	19.53	
15200.00	11791.65	16836.54	180.35	100.39	43.11	1632.13	1547.24	19.23	
15300.00	11791.21	16936.54	180.33	102.15	43.76	1632.18	1545.95	18.93	
15400.00	11790.78	17036.54	180.31	103.92	44.42	1632.22	1544.65	18.64	
15500.00	11790.35	17136.53	180.29	105.69	45.08	1632.27	1543.36	18.36	
15600.00	11789.91	17236.53	180.28	107.46	45.74	1632.31	1542.06	18.09	
15700.00	11789.48	17336.53	180.26	109.23	46.40	1632.36	1540.75	17.82	
15800.00	11789.04	17436.53	180.24	111.01	47.06	1632.40	1539.44	17.56	
15900.00	11788.61	17536.53	180.22	112.78	47.73	1632.45	1538.13	17.31	
16000.00	11788.17	17636.53	180.20	114.56	48.40	1632.49	1536.82	17.06	

5D Anti-Collision Report

Secondary Well : Poker Lake Unit 444H (p) (TVD Relative to Well TVD Reference (Primary) : All Azimuth Relative to GRID NORTH)									
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	Ti Face to Sec (°)	S Major (US ft)	S Minor (US ft)	CG (US ft)	ES (US ft)	SF	Risk
16100.00	11787.74	17736.53	180.18	116.34	49.07	1632.54	1535.50	16.82	
16200.00	11787.30	17836.52	180.16	118.12	49.74	1632.59	1534.18	16.59	
16300.00	11786.87	17936.52	180.14	119.90	50.41	1632.63	1532.86	16.36	
16400.00	11786.44	18036.52	180.12	121.68	51.09	1632.68	1531.54	16.14	
16500.00	11786.00	18136.52	180.10	123.47	51.76	1632.73	1530.21	15.93	
16600.00	11785.57	18236.52	180.08	125.25	52.44	1632.77	1528.88	15.72	
16700.00	11785.13	18336.52	180.06	127.04	53.12	1632.82	1527.55	15.51	
16800.00	11784.70	18436.51	180.04	128.82	53.80	1632.87	1526.21	15.31	
16900.00	11784.26	18536.51	180.02	130.61	54.48	1632.91	1524.88	15.11	
17000.00	11783.83	18636.51	180.00	132.40	55.17	1632.96	1523.54	14.92	
17100.00	11783.39	18736.51	179.98	134.19	55.85	1633.01	1522.20	14.74	
17200.00	11782.96	18836.51	179.96	135.98	56.54	1633.06	1520.86	14.56	
17300.00	11782.52	18936.51	179.94	137.78	57.22	1633.10	1519.52	14.38	
17400.00	11782.09	19036.51	179.92	139.57	57.91	1633.15	1518.17	14.20	
17500.00	11781.66	19136.50	179.90	141.36	58.60	1633.20	1516.83	14.03	
17600.00	11781.22	19236.50	179.88	143.16	59.29	1633.25	1515.48	13.87	
17700.00	11781.00	19287.47	179.87	144.07	59.64	1634.03	1515.34	13.77	
17800.00	11781.00	19287.47	179.87	144.07	59.64	1640.13	1521.34	13.81	
17900.00	11781.00	19287.47	179.87	144.07	59.64	1652.27	1533.74	13.94	
18000.00	11781.00	19287.47	179.87	144.07	59.64	1670.32	1552.15	14.14	
18012.67	11781.00	19287.47	179.87	144.07	59.64	1673.02	1554.90	14.16	

**Weatherford**

Weatherford Drilling Services

GeoDec4 v2.0.0.3

Report Date: September 16, 2014
Job Number: _____
Customer: BOPCO
Well Name: Poker Lake Unit PB CVX JV #008H
API Number: _____
Rig Name: _____
Location: Eddy Co, NM Nad27 NME
Block: _____
Engineer: RWJ

NAD27 / New Mexico East

NAD27

Projected Coordinate System

Geodetic Coordinate System

Datum: North American Datum 1927

Datum: North American Datum 1927

Ellipsoid: Clarke 1866

Ellipsoid: Clarke 1866

EPSG: 32012

EPSG: 4267

North: 396108.50 US Survey Foot

Latitude: 32.087868 Degree

East: 667201.10 US Survey Foot

Longitude: -103.793454 Degree

Convergence: 0.29°

Declination: 7.44°

Total Correction: 7.15°

Datum Transformation: none

Geodetic Location WGS84

MSL Elevation = 0 m

Latitude = 32° 05' 16.32" N

Longitude = 103° 47' 36.43" W

Magnetic Declination	=	7.44 deg	[True North Offset]	
Local Gravity	=	.9988 g	Checksum	= 6763
Local Field Strength	=	48158 nT	Magnetic Vector X	= 23927 nT
Magnetic Dip	=	59.93 deg	Magnetic Vector Y	= 3123 nT
Magnetic Model	=	bggm2014.dat	Magnetic Vector Z	= 41677 nT
Run Date	=	October 15, 2014	Magnetic Vector H	= 24130 nT

Signed: _____

Date: _____

JAN 13 2015

RECEIVED

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO, L.P.
LEASE NO.:	NMNM-02790
WELL NAME & NO.:	PLU CVX JV PB 008H
SURFACE HOLE FOOTAGE:	2180' FNL & 0660' FEL
BOTTOM HOLE FOOTAGE:	0330' FSL & 0660' FEL Sec. 05, T. 26 S., R 31 E.
LOCATION:	Section 32, T. 25 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico
API:	30-015-42630

The original COAs still stand with the following drilling modifications:

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- Spudding well (minimum of 24 hours)
- Setting and/or Cementing of all casing strings (minimum of 4 hours)
- BOPE tests (minimum of 4 hours)

☒ Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

- Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. If H₂S is encountered in quantities greater than 10 PPM the well shall be shut in and H₂S equipment shall be installed and flare line must be extended pursuant to Onshore Oil and Gas Order #6. Report measured values and formation to the BLM. After detection, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items.
- Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Medium Cave/Karst

Possibility of water flows in the Salado and Castile.

Possibility of lost circulation in the Red Beds, Rustler, and Delaware.

1. The **13-3/8** inch surface casing shall be set at approximately **960** feet (**in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt**) and cemented to the surface.

a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

Centralizers required through the curve and a minimum of one every other joint.

3. The minimum required fill of cement behind the **7** inch production casing is:

Operator has proposed DV tool at depth of 5000', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve approved top of cement on the next stage.

b. Second stage above DV tool:

☒ Cement as proposed by operator. Operator shall provide method of verification.

4. The minimum required fill of cement behind the 4-1/2 inch production Liner is:

☒ Cement as proposed by operator. Operator shall provide method of verification.

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi.**

a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**

b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**

c. **Manufacturer representative shall install the test plug for the initial BOP test.**

- d. Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
 - f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

JAM 010815