Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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. OCD Artesia

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMLC063873A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
PLU BIG SINKS 23 25 30 USA 1H

2. Name of Operator
BOPCO LP
Contact: WHITNEY MCKEE
E-Mail: wbmckee@basspet.com

9. API Well No.
30-015-41639

3a. Address
P.O. BOX 2760
MIDLAND, TX 79702

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

10. Field and Pool, or Exploratory
~~UNDESIGNATED(BONE SPRING)~~
Corral Canyon; B.S. So. (Gas) C133547

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 23 T25S R30E NWNW 250FNL 660FWL

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 to Original APD
	☐ 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 recomplete 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 recompletion 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 8 pt. for the PLU Big Sinks 23-25-30 #1H. Attached is the survey plat package, new 8 pt. drilling program, well plan and Cameron wellhead diagram.

New BHL 2340'FNL & 660'FWL, Sec 26-T25S-R30E

RECEIVED
JAN 23 2014
NMOCD ARTESIA

Accepted for record
NMOCD TES 1-23-2014

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #231821 verified by the BLM Well Information System
For BOPCO LP, sent to the Carlsbad
Committed to AFMSS for processing by JOHNNY DICKERSON on 01/15/2014 ()

Name *(Printed/Typed)* BRIAN BRAUN — Title DRILLING ENGINEER

Signature (Electronic Submission) — Date 01/10/2014

APPROVED
/s/ Chris Walls
JAN 17 2014
Date

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

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.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-41639	~~96043~~ 13354	~~WILDCAT (BONE SPRING)~~ CORRAL CANYON; B.S.

Property Code	Property Name	Well Number
306402	PLU BIG SINKS 23 25 30 USA	1H

OGRID No.	Operator Name	Elevation
260737	BOPCO, L.P.	3361'

Surface Location

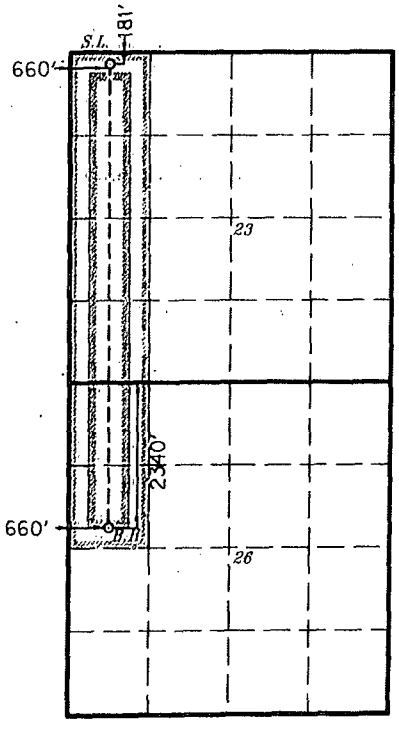
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	23	25 S	30 E		181	NORTH	660	WEST	EDDY

Bottom Hole 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
E	26	25 S	30 E		2340	NORTH	660	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
240			

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



PROPOSED SURFACE LOCATION
Lat - N 32°07'21.19"
Long - W 103°51'28.03"
NMSPCE- N 408632.2
E 647221.8
(NAD-27)

SCALE 1"=3000'

PROPOSED BOTTOM HOLE LOCATION
Lat - N 32°06'07.09"
Long - W 103°51'28.13"
NMSPCE- N 401144.7
E 647245.7
(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 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.

Courtney Lockhart 1-15-14
Signature Date

Courtney Lockhart
Printed Name

cjlockhart@basspet.com
Email Address

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.

JANUARY 10, 2014
Date Surveyed

Signature & seal of Professional Surveyor

CHAD A. GULICK NEW MEXICO 21052 PROFESSIONAL SURVEYOR

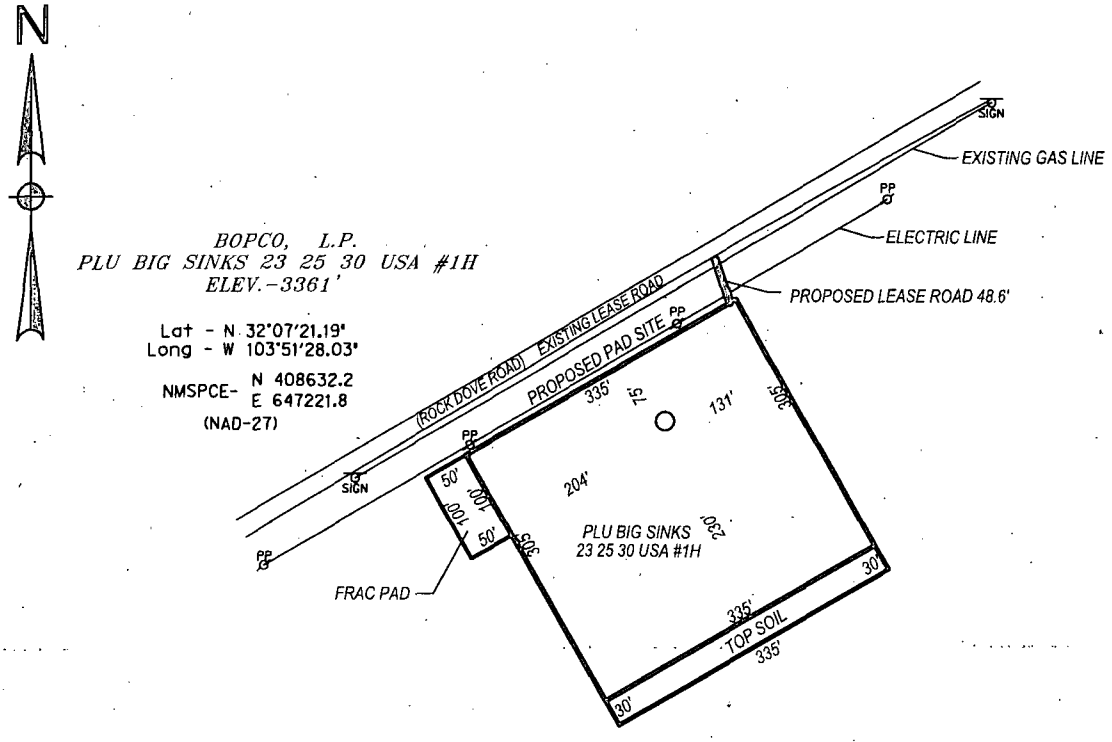
Chad Gulick

CHAD. A. GULICK 1-14-14
Certificate No. 21052

HALFF ASSOC., INC/COBB FENDLEY 29714-W017

SECTION 23, TOWNSHIP 25 SOUTH, RANGE 30 EAST, N.M.P.M.,

EDDY COUNTY, WELL PAD LAYOUT NEW MEXICO



NOTE: WELL IS LOCATED ABOUT 29.8 MILES SOUTHEAST OF CARLSBAD, NM

0 100 200 300 400

SCALE: 1"=200'

Directions to Location:

FROM THE JUNCTION OF BUCK JACKSON ROAD WITH ROCK DOVE ROAD RUNNING IN A SOUTHWESTERLY DIRECTION, TURN LEFT ON ROCK DOVE ROAD AND CONTINUE 1.0 MILE ALONG ROCK DOVE ROAD, TURN LEFT, CONTINUE ALONG PROPOSED LEASE ROAD FOR 48.6 FEET TO PROPOSED PAD SITE.

HALFF

HALFF ASSOCIATES, INC.
ENGINEERS - SURVEYORS
1201 NORTH BOWSER ROAD
RICHARDSON, TEXAS - 75081-2275
PHONE: (214) 346-6200
FAX: (214) 739-0095

BOPCO, L.P.

REF: PLU BIG SINKS 23 25 30 USA #1H / WELL PAD TOPO

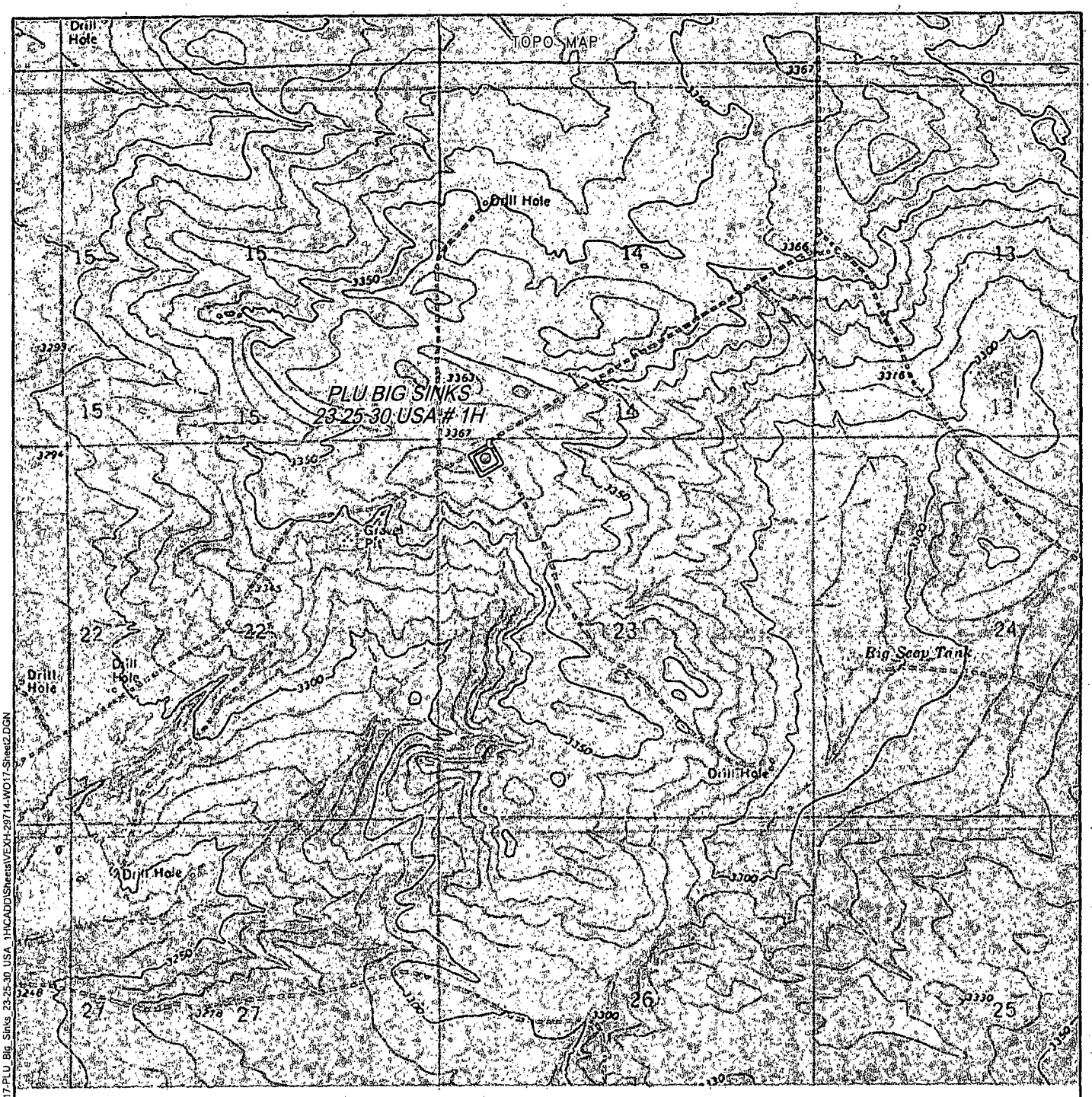
THE PLU BIG SINKS 23 25 30 USA #1H LOCATED 181'

FROM THE NORTH LINE AND 660' FROM THE WEST LINE OF

SECTION 23, TOWNSHIP 25 SOUTH, RANGE 30 EAST,

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

AVO. 29714-W017	Drawn By: RG		
Date: 1/14/2014	Checked By: VK	Survey Date: 01-10-2014	Sheet 1 of 7 Sheets



PLU BIG SINKS 23 25 30 USA #1H

Located 181' FNL, 660' FWL
Section 23, Township 25 South, Range 30 East
N.M.P.M., Eddy County, New Mexico.

HALFF
HALFF ASSOCIATES, INC.
ENGINEERS – SURVEYORS
1201 NORTH BOWSER ROAD
RICHARDSON, TEXAS – 75081-2275
PHONE: (214) 346-6200
FAX: (214) 739-0095

AVO. 29714-W017

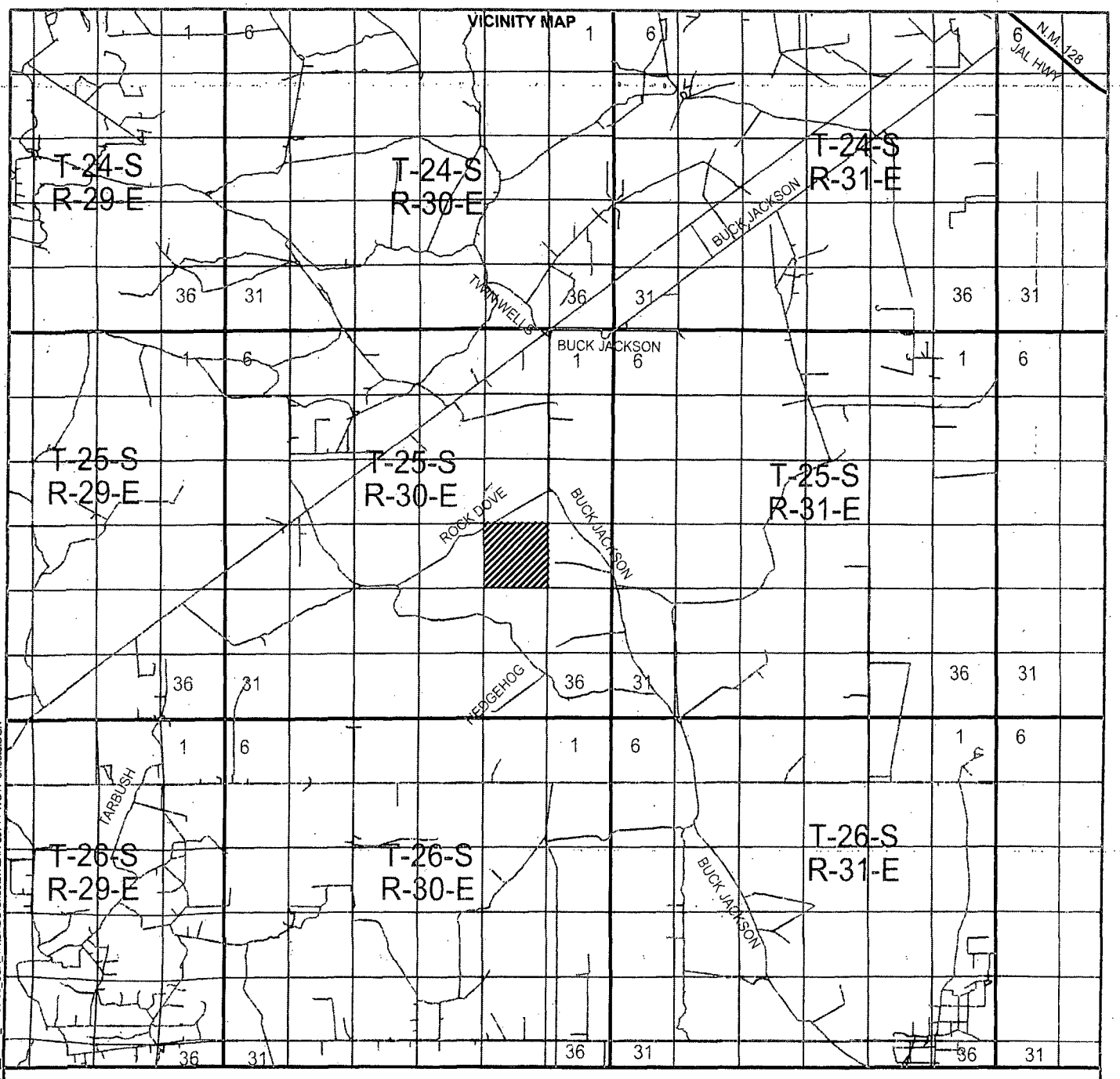
Survey Date: 01-10-2014

Scale: 1"=2000'

Date: 1/14/2014

N

BOPCO, L.P.



PLU BIG SINKS 23 25 30 USA #1H

Located 181' FNL, 660' FWL
Section 23, Township 25 South, Range 30 East
N.M.P.M., Eddy County, New Mexico.

HALFF
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ENGINEERS ~ SURVEYORS
1201 NORTH BOWSER ROAD
RICHARDSON, TEXAS ~ 75081-2275
PHONE: (214) 346-6200
FAX: (214) 739-0095

AVO. 29714-W017

Survey Date: 01-10-2014

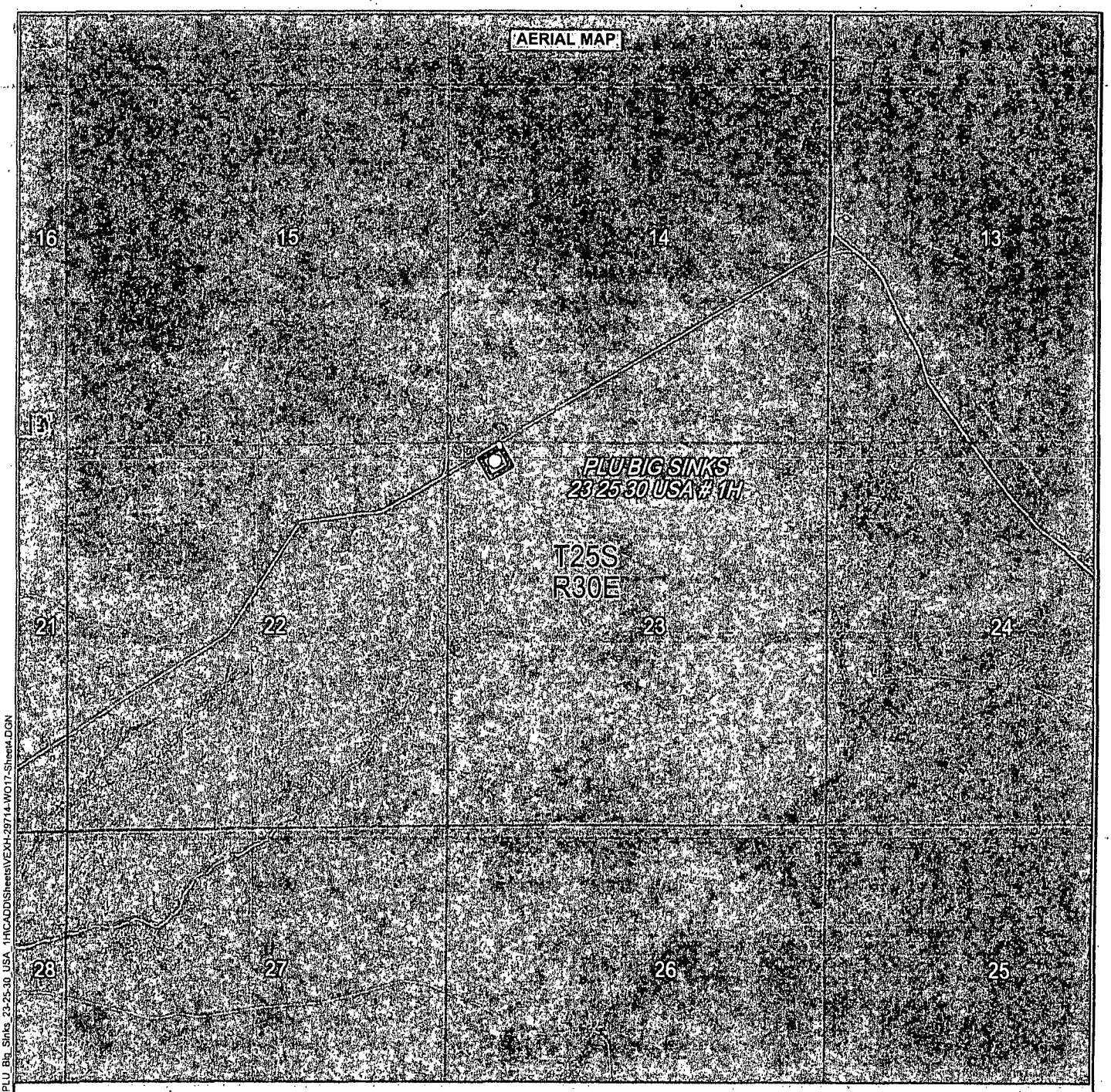
Scale: 1" = 2 MILES

Date: 1/14/2014

N

BOPCO, L.P.

Sheet 3 of 7 Sheets



PLU BIG SINKS 23 25 30 USA #1H

Located 181' FNL, 660' FWL
Section 23, Township 25 South, Range 30 East
N.M.P.M., Eddy County, New Mexico.

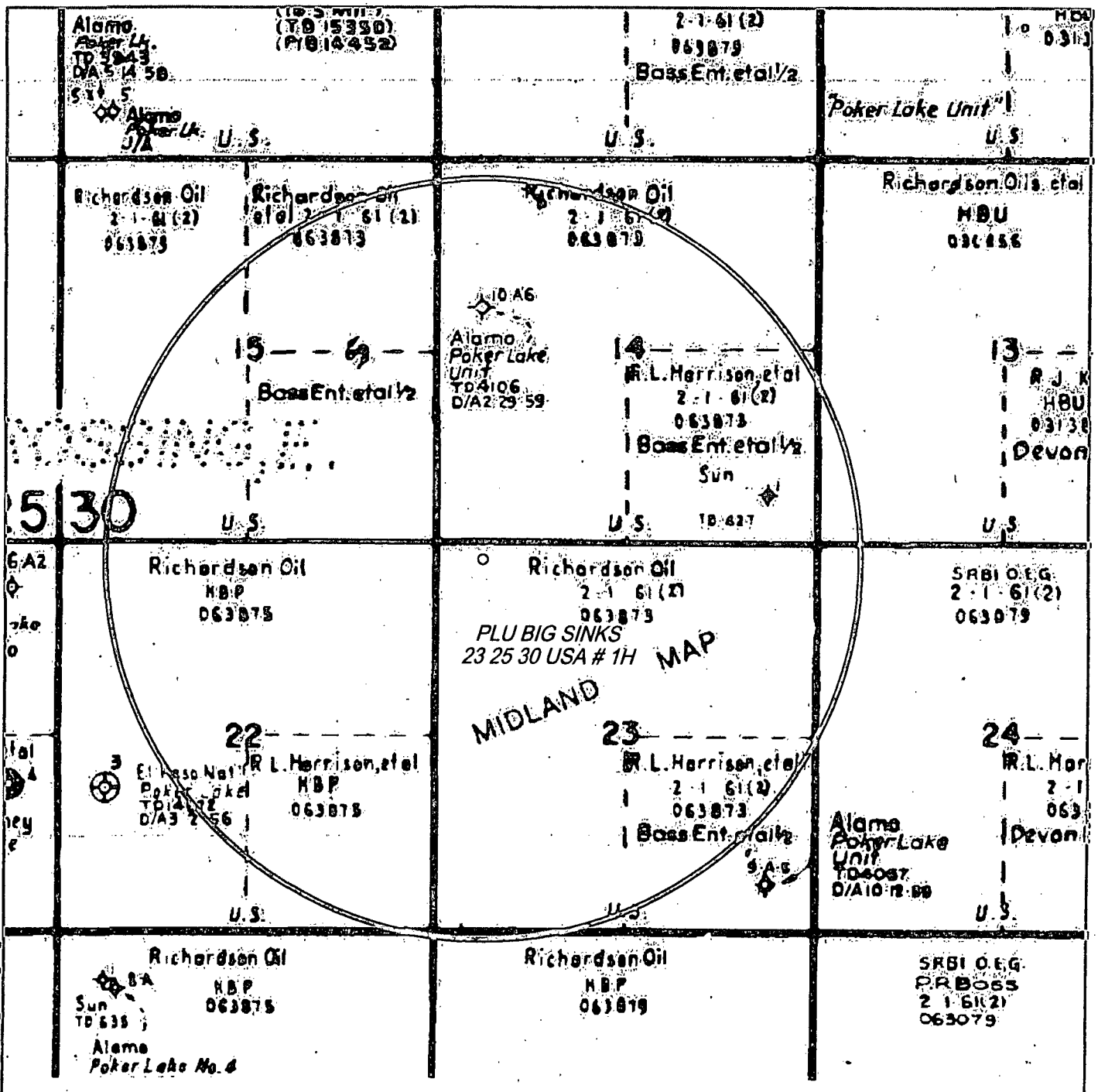
HALFF
HALFF ASSOCIATES, INC.
ENGINEERS ~ SURVEYORS
1201 NORTH BOWSER ROAD
RICHARDSON, TEXAS ~ 75081-2275
PHONE: (214) 346-6200
FAX: (214) 739-0095

AVO. 29714-W017
Survey Date: 01-10-2014
Scale: 1"=2000'
Date: 1/14/2014

N

BOPCO, L.P.

Sheet 4 of 7 Sheets



PLU BIG SINKS 23 25 30 USA #1H (SURFACE HOLE MAP)

Located 181' FNL, 660' FWL
Section 23, Township 25 South, Range 30 East
N.M.P.M., Eddy County, New Mexico.

HALFF

HALFF ASSOCIATES, INC.
ENGINEERS - SURVEYORS
1201 NORTH BOWSER ROAD
RICHARDSON, TEXAS - 75081-2275
PHONE: (214) 346-6200
FAX: (214) 739-0095

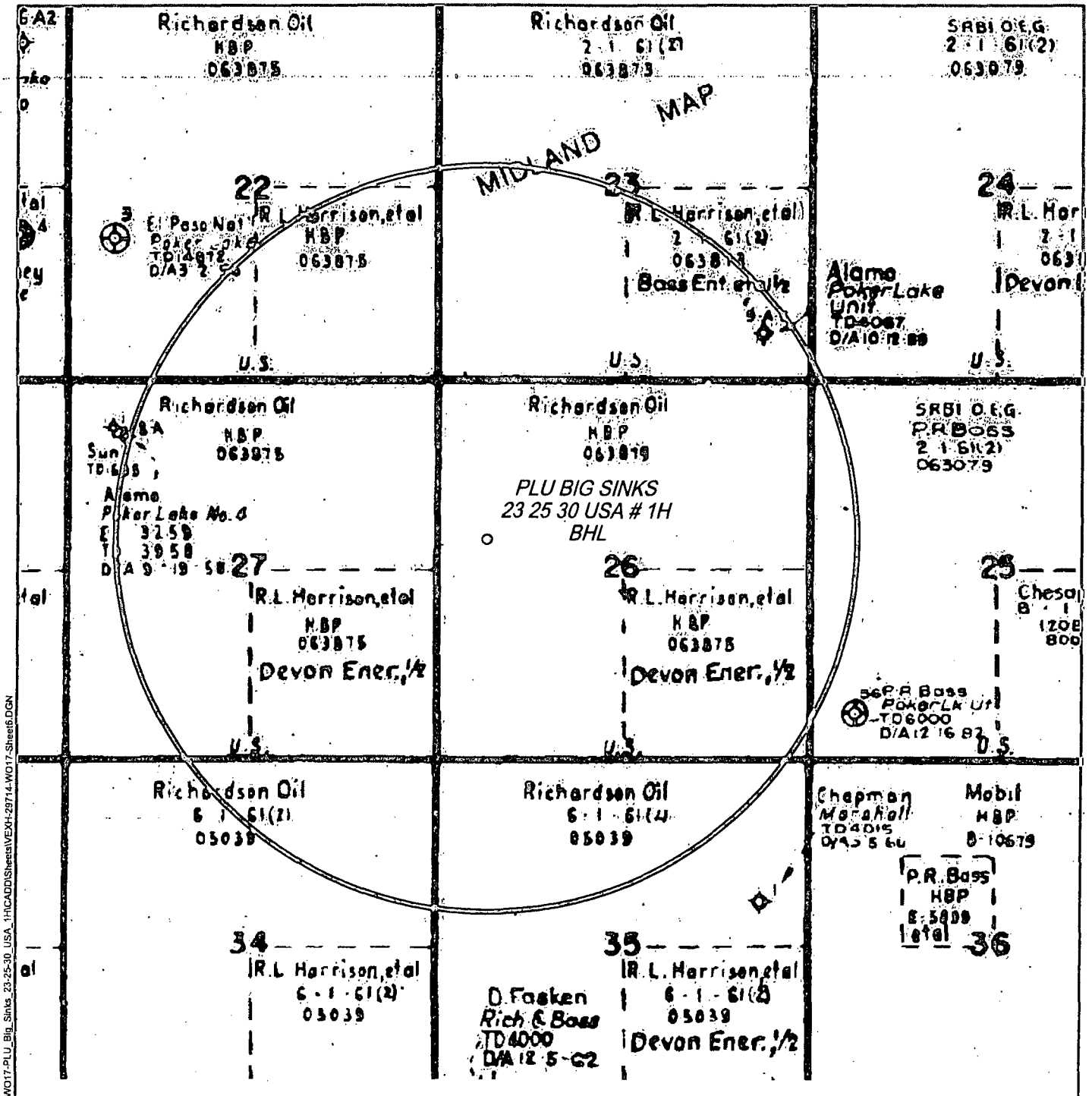
AVO. 29714-W017 | Scale: 1"=2000'

Survey Date: 01-10-2014
Date: 1/14/2014

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

N

BOPCO, L.P.



PLU BIG SINKS 23 25 30 USA #1H (BOTTOM HOLE MAP)

Located 2340' FNL, 660' FWL
Section 26, Township 25 South, Range 30 East
N.M.P.M., Eddy County, New Mexico.

HALFF
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ENGINEERS – SURVEYORS
1201 NORTH BOWSER ROAD
RICHARDSON, TEXAS – 75081-2275
PHONE: (214) 346-6200
FAX: (214) 739-0095

AVO. 29714-W017	Scale: 1"=2000'
Survey Date: 01-10-2014	
Date: 1/14/2014	

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

N

BOPCO, L.P.

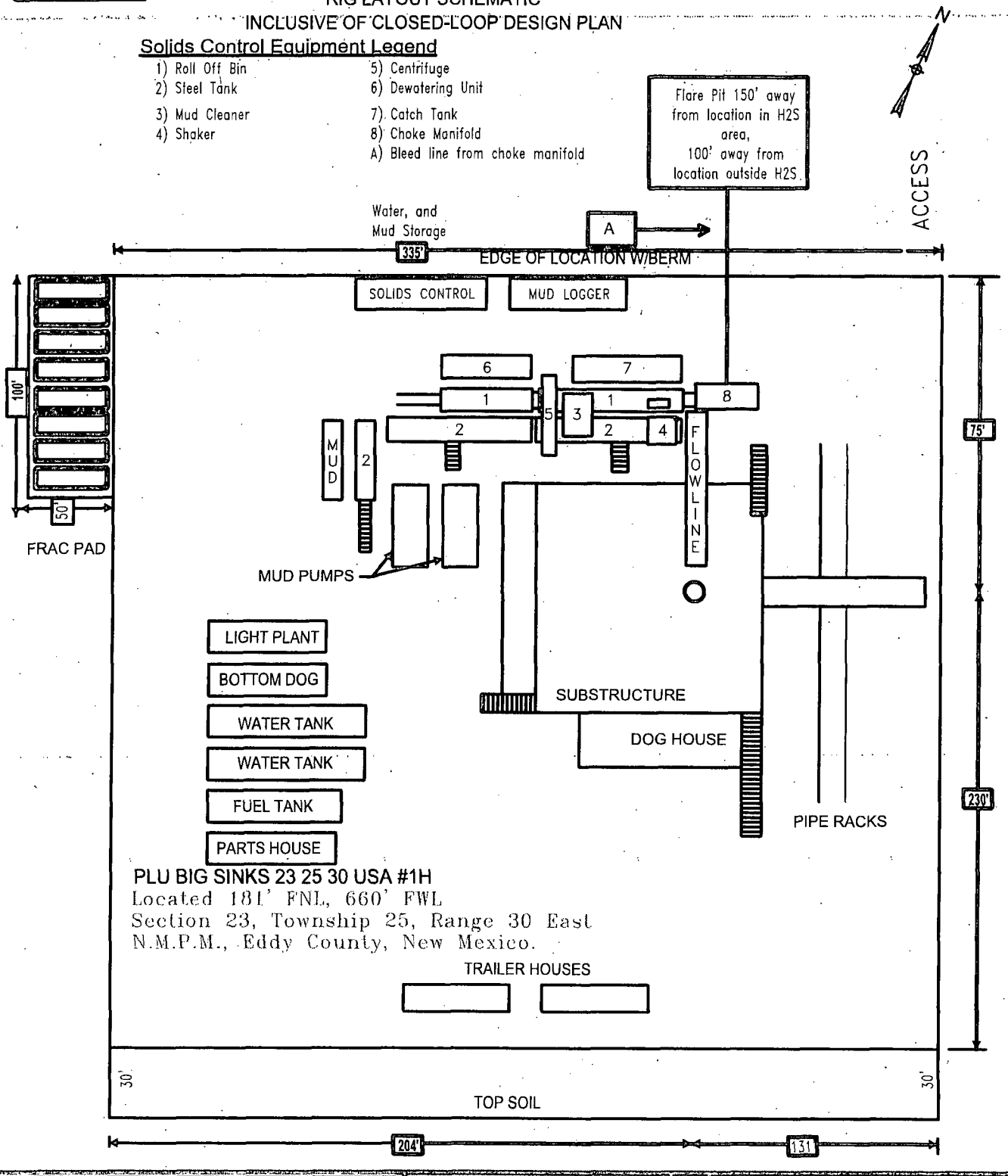
Exhibit"D"

RIG LAYOUT

RIG LAYOUT SCHEMATIC
INCLUSIVE OF CLOSED-LOOP DESIGN PLAN

Solids Control Equipment Legend

1) Roll Off Bin
2) Steel Tank
3) Mud Cleaner
4) Shaker
5) Centrifuge
6) Dewatering Unit
7) Catch Tank
8) Choke Manifold
A) Bleed line from choke manifold



PLU BIG SINKS 23 25 30 USA #1H
Located 181' FNL, 660' FWL
Section 23, Township 25, Range 30 East
N.M.P.M., Eddy County, New Mexico.

HALFF
HALFF ASSOCIATES, INC.
ENGINEERS ~ SURVEYORS
1201 NORTH BOWSER ROAD
RICHARDSON, TEXAS ~ 75081-2275
PHONE: (214) 346-6200
FAX (214) 739-0095

AVO. 29714-W017
Survey Date: 01-10-2014
NOT TO SCALE
Date: 1/14/2014

BOPCO, L.P.

Surface casing is to be set into the Rustler below all fresh water sands at an approximate depth of 1,200' and cement circulated to surface.

7" casing will be set at approximately 10,149' MD, 9,883' TVD (In curve) and cemented in two stages with DV Tool set at approximately 5,000'. Cement will be circulated 500' inside 1st intermediate casing.

Drilling procedure, BOP diagram, and anticipated tops are attached.

This well is located outside the R111 Potash area and Secretary's Potash area.

The surface location is nonstandard and located inside the Poker Lake Unit.

The bottom hole location is nonstandard and located inside the Poker Lake Unit.

Surface Lease Numbers- Federal Lease: NMLC 0063873A

Bottom Hole Lease Numbers – Federal Lease: NMLC 0063875A

BOPCO, L.P., at P. O. Box 2760, Midland, TX, 79702 is a subsidiary of BOPCO, L.P., 201 Main Street, Ft. Worth, TX, 76102. Bond No. COB000050 (Nationwide).

EIGHT POINT DRILLING PROGRAM
BOPCO, L.P.

NAME OF WELL: PLU Big Sinks 23 25 30 USA 1H
LEGAL DESCRIPTION - SURFACE: 250' FNL, 660' FWL, Section 23, T25S, R30E, Eddy County, NM.
BHL: 2340' FNL, 660' FWL, Section 26, T25S, R30E, Eddy County, New Mexico.

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

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

Anticipated Formation Tops: KB 3383' (estimated)
GL 3361'

Formation Description	Est. Top (KB TVD)	Est. Top (MD)	Est. Top (Sub Sea)	Bearing
T/Fresh Water	400'	400'	+ 2,981'	Fresh Water
T/Rustler	1,151'	1,151'	+ 2,232'	Barren
T/Salado	1,419'	1,419'	+ 1,964'	Barren
B/Salt	3,974'	3,974'	- 591'	Barren
T/Lamar	4,015'	4,015'	- 632'	Oil/Gas
T/Ramsey	4,046'	4,046'	- 663'	Oil/Gas
Cherry Canyon	4,941'	4,941'	- 1,558'	Oil/Gas
Brushy Canyon	6,110'	6,110'	- 2,727'	Oil/Gas
Bone Spring Lime	7,843'	7,843'	- 4,460'	Oil/Gas
Upper Avalon	8,071'	8,071'	- 4,688'	Oil/Gas
Lower Avalon	8,456'	8,456'	- 5,073'	Oil/Gas
1st Bone Spring	8,843'	8,843'	- 5,460'	Oil/Gas
2nd Bone Spring Sand	9,603'	9,603'	- 6,220'	Oil/Gas
3rd Bone Spring Sand	10,580'	10,580'	- 5,807'	Oil/Gas
Wolfcamp	11,103'	11,103'	- 7,720'	Oil/Gas
TD Pilot Hole	11,603'	11,603'	- 8,220'	Oil/Gas

FORMATION (LATERAL HOLE)	TOP EST FROM KB (TVD)	MD	SUB-SEA TOP	BEARING
Est. KOP	9,366'	9,366'	- 5,983'	Oil/Gas
2nd Bone Spring Sand	9,603'	9,613'	- 6,220'	Oil/Gas
2nd Bone Spring Target	9,911'	10,295'	- 6,528'	Oil/Gas
TD Horizontal Hole	9,883'	17,069'	- 6,500'	Oil/Gas

POINT 3: CASING PROGRAM

TYPE	INTERVAL MD	HOLE SIZE	PURPOSE	INSTALLATION TYPE
20"	0' – 120'	30"	Conductor	Contractor Discretion
13-3/8", 48 ppf, H-40 ST&C*	0' – 1200'	17-1/2"	Surface	New
9-5/8", 40 ppf, N-80, 8rd, LT&C or 9-5/8" 40 ppf, J-55, 8rd, LT&C*	0' – 4035'	12-1/4"	Intermediate	New

7", 26 ppf, HCP-110, Buttress or 8rd LTC*	0' – 10,149'	8-3/4"	Production	New
Completion System				
4-1/2", 11.6 ppf, HCP-110 8rd LT&C, BTC	10,099' – 17,069'	6-1/8"	Completion System	New

*** Depending on availability.**

CASING DESIGN SAFETY FACTORS:

TYPE	TENSION	COLLAPSE	BURST
13-3/8", 48 ppf, H-40, 8rd, ST&C*	6.50	1.21	1.11
9-5/8", 40 ppf, N-80, 8rd, LT&C*	5.41	1.33	2.55
9-5/8", 40 ppf, J-55, 8rd, LT&C*	4.62	1.20	1.75
7", 26 ppf, HCP-110*	3.13	1.41	1.80
Completion System			
4-1/2", 11.6 ppf, HCP-110 8rd. LT&C	2.81	1.51	1.93
4-1/2", 11.6 ppf, HCP-110 BTC	3.70	1.63	1.93

*** Depending on availability.**

DESIGN CRITERIA AND CASING LOADING ASSUMPTIONS:

SURFACE CASING - (13-3/8")

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 a 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.

PROTECTIVE CASING - (9-5/8")

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. Back 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.

Production CASING - (7")

Tension — A 1.6 design factor utilizing the effects of buoyancy (9.0 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.

Completion System - (4-1/2")

Tension — A 1.6 design factor utilizing the effects of buoyancy (9.0 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 C or D)

After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M will be installed on the Cameron Multi-Bowl System (MBS) wellhead. The BOP/BOPE will be pressure tested to 5,000 psi high and 250 psi low after installation on the surface casing which will cover testing requirements for the duration of the well as per Onshore Order #2. The 9-5/8" intermediate casing and 7" production casing will be run with a mandrel hanger through the 13-5/8" BOP/BOPE system without breaking any connections on the BOP/BOPE system and thus not requiring a pressure test. Please find attached wellhead schematic. The field reports from the Cameron representative and the BOP test information will be provided in a subsequent report.

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, L.P. would like to request a variance to use an armored, 3", 5000 psi WP flex hose for the choke line in the drilling of the well if the rig is equip with hose. (See specification for hose that might be used, attached with APD exhibits). This is rig equipment and will help quicken nipple up time thus saving money without a safety problem. The hose itself is rated to 5000 psi, and has 5000 psi flanges on each end. This well is to be drilled to 11,603' TVD and max surface pressure should be +/- 2877 psi as prescribed in onshore order #2 shown as max BHP minus 0.22 psi/ft. Thus, 5000 psi BOPE is all that is needed for this well. **Please refer to diagrams C for 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	PV	YP	FL	Ph
0 -1,200'	FW Spud Mud	8.5 – 9.2	38-70	NC	NC	NC	10.0	9.5 – 10.5
1,200' – 4,035'	Brine Water	9.8 – 10.2	28-30	NC	NC	NC	9.5 – 10.5	9.5 - 10.5
4,035'–10,149'	FW/Gel	8.7 – 9.0	28-36	NC	NC	NC	9.5 – 10.0	9.5 – 10.5
10,149'-17,069'	FW/Gel/Starch	8.7 – 9.0	28-36	NC	NC	<100	9.5 – 10.0	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 5M system so trip tanks will not be required per Onshore Order #2.

6. Gas detections systems will be installed on exploratory wells per Onshore 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: GR with MWD during drilling of build and horizontal portions of 8-3/4" and 6-1/8" hole.

Run #2: Shuttle log w/GR, PE, Density, Neutron, Resistivity in lateral leg open hole are possible.

Mud Logger: Rigged up at 100'

C) CONVENTIONAL CORING

None anticipated

D) CEMENT

Pilot Hole Plug Back Cement

INTERVAL	AMT SXS	FT OF FILL	TYPE	GAL/SX	PPG	FT^3/SX
11,003' – 11,603'	330	600	Class H-50/50 POZ + 0.2 FL-52	5.74	14.8	1.26
9,066' – 9,566'	310	500	Class H + 1.2 CD-32 + 0.1 R3	2.93	18.0	0.89

INTERVAL	AMOUNT SXS	FT OF FILL	TYPE	GALS/SX	PPG	FT/SX
SURFACE:						
Lead: 0' – 900'	720	900	Class C +2% CACL + 4% Bentonite + 0.25 LB/SK Cello Flake + 3 lb/sk LCM-1	8.69	13.50	1.75
Tail: 900' – 1,200'	340	300	Class C + 2% CACL + 0.25 LB/SK CF	6.35	14.80	1.35
INTERMEDIATE:			0.25LB/SK Cello Flake + 3 lb/sk LCM-1			
Lead: 0' – 3,535'	790	3535	EconoCEM HLC + 5% CaCl + 5#/sk Gilsonite	9.32	12.90	1.85
Tail: 3,535' – 4,035'	190	500	HalCem C	6.34	14.80	1.33
Production						
Stage 1:						
Lead: 5,000' – 9,366'	380	4366	Tuned Light + 0.125 pps Poly-E-Flake	14.87	11.0	2.64
Tail: 9,366' – 10,149'	100	783	Class "H" + 0.5% Halad-344 + 0.25% CFR-3 + 0.5% Econolite	11.41	12.00	2.03
DV Tool @ 5,000'						
Stage 2:						
Lead: 3,535' – 5,000'	140	1465	Tuned Light + 0.125 pps Poly-E-Flake	11.70	11.0	2.35

BOPCO L.P plans to drill a pilot hole to a total depth of 11,603' (MD). After drilling pilot hole, BOPCO will set two cement plugs in order to plug back the pilot hole to a depth of 9,066'. The cement plug intervals will be a bottom plug from a depth of 11,003' TVD up to a depth of 11,603' TVD, followed by a top plug from a depth of 9,566' TVD to a depth of 9,066' TVD. The cement excess pumped will be 30% above gauge hole.

Cement excesses will be as follows:

Surface – 100% excess with cement circulated to surface.

1st Intermediate – 30% excess above fluid caliper with cement circulated to surface.

Production – 50% above gauge hole or 35% above electric log caliper with cement circulated 500' up into the 9-5/8" 1st intermediate casing in areas outside the SOPA. Cement will be circulated to surface on areas inside the SOPA. Cement volumes will be adjusted proportionately for depth changes of the multi stage tool.

E) COMPLETION SYSTEM

BOPCO, L.P. plans to plug and perforate the 7" casing. The top perforation will be located inside of the producing interval. A 4-1/2" completion system with open hole packers will be run in the producing lateral to a depth of 17,069'. The top of the completion system will be set at approximately 10,099', 50' inside the 7" casing. Cement will not be required for the 4-1/2" completion system.

F) DIRECTIONAL DRILLING

BOPCO, L.P. plans to drill out the 9-5/8" intermediate casing with a 8-3/4" bit to a TVD of approximately 9,366' at which point a directional hole will be kicked off of the pilot hole and drilled at an azimuth of 179.82 degrees, building angle at 12.00 deg/100' to 70 degrees and 179.82 degrees azimuth at a TVD of approximately 9,814' (MD 9,949'). This angle will be held to a depth of approximately 10,149' MD (9,883' TVD). At this depth 7", 26#, HCP-110, Buttress, or 8rd LTC casing will be installed and cemented in two stages (DV Tool @ approximately 5000') with cement circulated to surface. A 6-1/8" open hole lateral will then be drilled out from 7" casing at an azimuth of 179.82 degrees, building inclination to 90.24 degrees at a depth of 10,295' MD. This angle and azimuth will be maintained to a measured depth of approximately 17,069', TVD 9,883'. At this depth a 4-1/2" Completion System with packers installed for zone isolation will be run into the producing lateral.

G) H_2S SAFETY EQUIPMENT

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. **(Please refer to diagram B, C or D 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.**

H) CLOSED LOOP AND CHOKE MANIFLOLD

Please see diagram C or **D** depending on configuration.

POINT 7: ANTICIPATED RESERVOIR CONDITIONS

Normal pressures are anticipated throughout Delaware, Bone Spring and Wolfcamp sections. A BHP of 5430 psi (max) or MWE of 9.0 ppg is expected. Lost circulation may exist in the Delaware, Bone Spring and Wolfcamp sections from 4,015'-11,603' TVD.

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

30 days drilling operations

14 days completion operations

Todd Carpenter

Project: Eddy County, NM (NAD27 NME)
Site: PLU Big Sinks 23-25-30 USA
Well: #1H
Wellbore: WB2/Job #1310463
Design: Plan #3 01-09-14
Rig: Latshaw 14

PHOENIX TECHNOLOGY SERVICES

Azimuths to Grid North
True North: -0.25°
Magnetic North: 7.14°

Magnetic Field
Strength: 48267.4snT
Dip Angle: 59.98°
Date: 01/09/2014
Model: IGRF2010_14

WELL DETAILS

Ground Level: 3361.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	408563.20	647222.10	32° 7' 20.50895 N	103° 51' 28.02585 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	9366.00	0.00	0.00	9366.00	0.00	0.00	0.00	0.00	0.00		KOP, 12°/100' Build
3	9949.33	70.00	179.82	9814.67	-314.16	0.99	12.00	179.82	314.16		200' Hold 70 ° Inc, 179.82° Azm
4	10149.33	70.00	179.82	9883.07	-502.10	1.58	0.00	0.00	502.10		Begin 12°/100' Build
5	10318.04	90.24	179.82	9911.86	-667.44	2.10	12.00	-0.01	667.44		LP, Hold 90.24° Inc, °179.82 Azm
6	17069.20	90.24	179.82	9883.00	-7418.50	23.60	0.00	0.00	7418.54	PBHL-BS 23-25-30 #1H	TD at 17069.20

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL-BS 23-25-30 #1H - plan hits target center	9883.00	-7418.50	23.60	401144.70	647245.70	32° 6' 7.09282 N	103° 51' 28.13201 W	Rectangle (Sides: L20.00 W100.00)

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Local Origin: Well #1H, Grid North

Latitude: 32° 7' 20.50895 N
Longitude: 103° 51' 28.02585 W

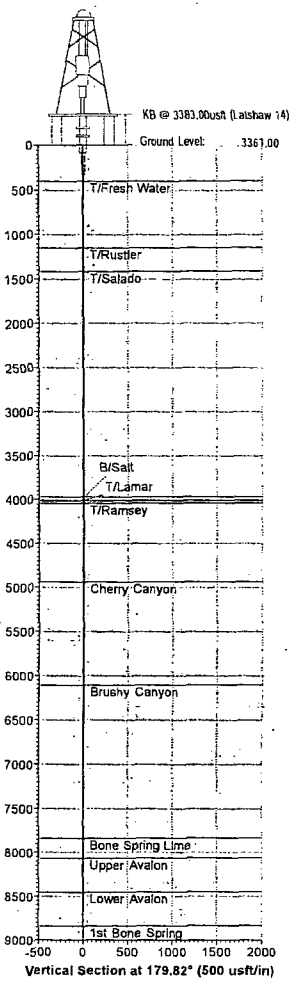
Grid East: 647222.10
Grid North: 408563.20
Scale Factor: 1.000

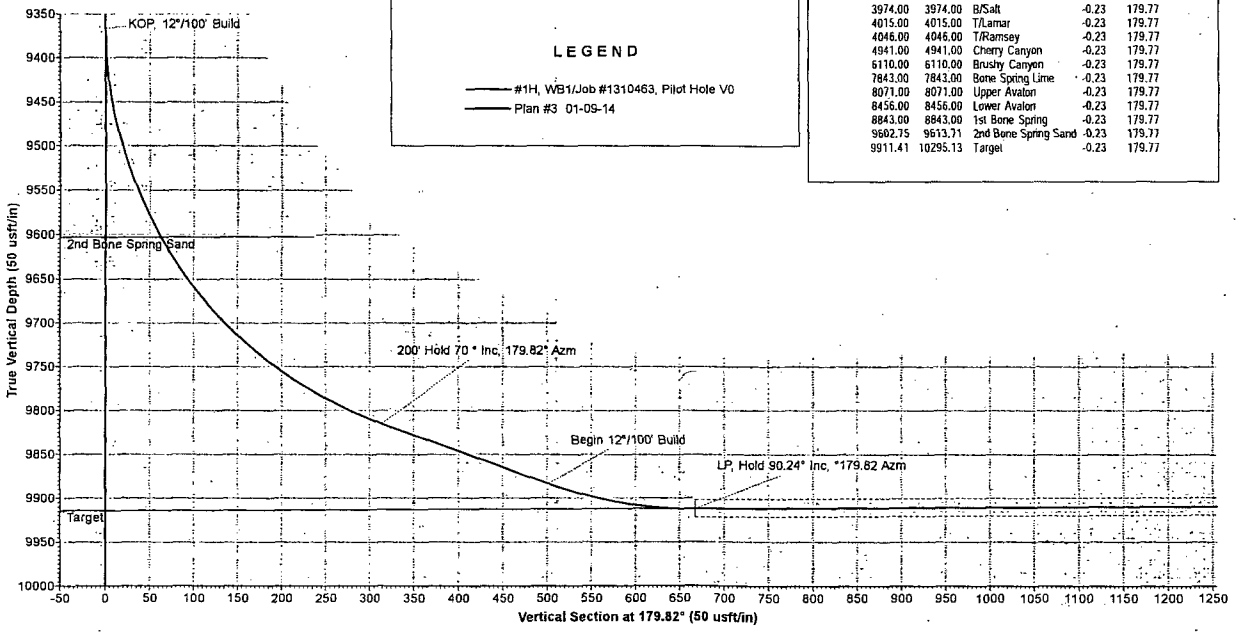
Geomagnetic Model: IGRF2010_14
Sample Date: 09-Jan-14
Magnetic Declination: 7.39°
Dip Angle from Horizontal: 59.98°
Magnetic Field Strength: 48267

To convert a Magnetic Direction to a Grid Direction, Add 7.14°
To convert a Magnetic Direction to a True Direction, Add 7.39° East
To convert a True Direction to a Grid Direction, Subtract 0.25°

FORMATION TOP DETAILS

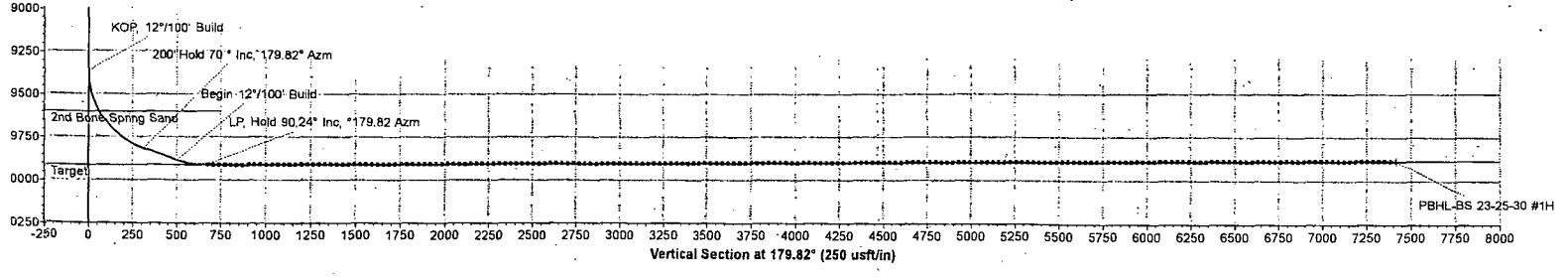
TVDPath	MDPath	Formation	DipAngle	DipDir
400.00	400.00	T/Fresh Water	-0.23	179.77
1151.00	1151.00	T/Rustler	-0.23	179.77
1419.00	1419.00	T/Salado	-0.23	179.77
3974.00	3974.00	B/Salt	-0.23	179.77
4015.00	4015.00	T/Lamar	-0.23	179.77
4046.00	4046.00	T/Ramsey	-0.23	179.77
4941.00	4941.00	Cherry Canyon	-0.23	179.77
6110.00	6110.00	Brushy Canyon	-0.23	179.77
7843.00	7843.00	Bone Spring Lime	-0.23	179.77
8071.00	8071.00	Upper Avalon	-0.23	179.77
8456.00	8456.00	Lower Avalon	-0.23	179.77
8843.00	8843.00	1st Bone Spring	-0.23	179.77
9602.75	9613.71	2nd Bone Spring Sand	-0.23	179.77
9911.41	10295.13	Target	-0.23	179.77

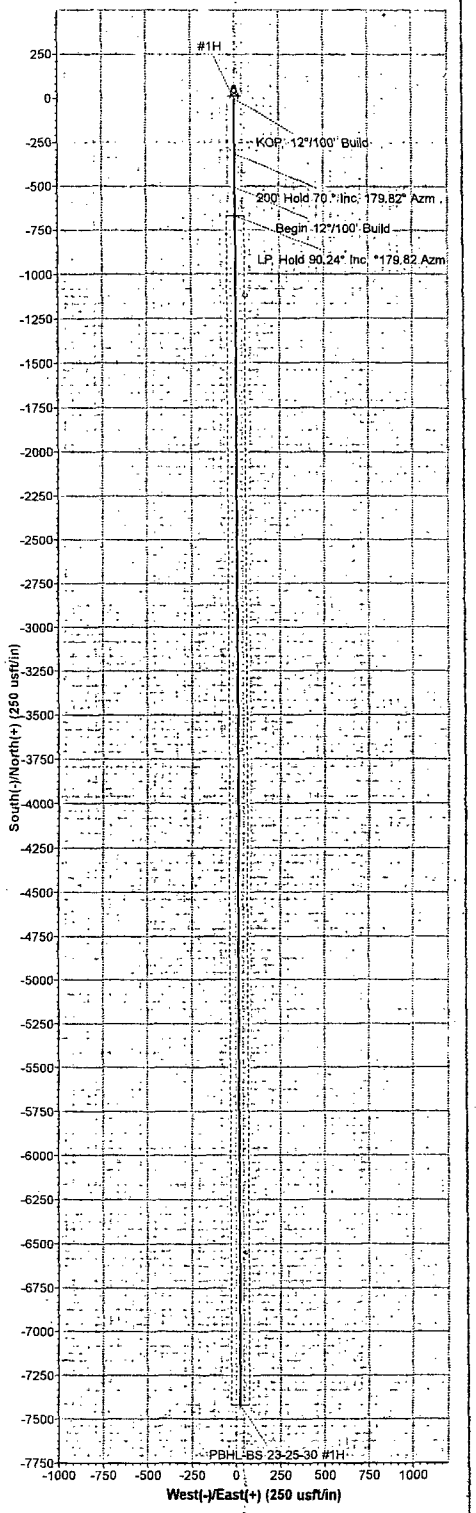




LEGEND

#1H, WB1/Job #1310463, Pilot Hole V0
Plan #3 01-09-14





Created By: Julio Pina Date: 15:23, January 09 2014

CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO, L.P.
LEASE NO.:	NMLC-063873A
WELL NAME & NO.:	PLU Big Sinks 23 25 30 USA 1H
SURFACE HOLE FOOTAGE:	0250' FNL & 0660' FWL
BOTTOM HOLE FOOTAGE	2340' FNL & 0660' FWL, Section 26
LOCATION:	Section 23, T. 25 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

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

1. **Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.**

2. 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. 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.).

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. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. 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, Castile, Delaware, and Bone Spring.
Possibility of lost circulation in the Rustler, Delaware, and Bone Spring.

1. The **13-3/8** inch surface casing shall be set at approximately **1200** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

    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.

Formation below the 13-3/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

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.**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

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 curve, must be type for directional service and a minimum of one every other joint.

Pilot hole is required to have a plug at the bottom of the hole and at the KOP. If two plugs are set, the BLM is to be contacted (575-361-2822) prior to tag of bottom plug, which must be tagged at 11,053 or higher. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug. Note plug tops on subsequent drilling report.

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

Operator has proposed DV tool at a depth of 5000'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

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 should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.

4. Cement not required on the **4-1/2"** casing. **Packer system being used.**

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 5000 (5M) 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 9-5/8" and 7" casing integrity tests 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.

5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

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.

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.

CRW 011714