13-372

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TES 4/4/2013

Form 3160-3
(April 2004)

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
BHL NMNM 0002862

6. If Indian, Allotee or Tribe Name
See pg 1 of 8pt DP for lease info.

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No.
Poker Lake Unit 428H <306402>

2. Name of Operator
BOPCO, L. P. <260737>

9. API Well No.
30-015-41246

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

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

10. Field and Pool, or Exploratory
Nash Draw (Del., BS, Avalon Sand) <47545>

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface **NENW,UL C, 850' FNL,2225' FWL, Lat:N 32.179144, Long:W 103.869872**

At proposed prod. zone **1950' FNL&1950' FEL,Sec28,T24S-R30E,Lat:32.190492, Lg:103.883397**

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 34, T24S, R30E, Mer, NMP

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

12. County or Parish
Eddy

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
850'	**3,120**	**360**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
1,466' (PLU 300H)	**13,210' MD / 7,568' TVD** MTVD 7650'	**COB 000050**
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3,336' GL	**06/22/2013**	**30 Days**

24. Attachments

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

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name *(Printed/Typed)*	Date
Courtney Lockhart	**Courtney Lockhart**	2-5-13

Title: **Regulatory Analyst**

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ DON PETERSON	/s/ DON PETERSON	MAR 29 2013
Title: FOR FIELD MANAGER	Office: CARLSBAD FIELD OFFICE	

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

APPROVAL FOR TWO YEARS

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.

*(Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised July 16, 2010

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-41246	47545	Nash Draw (Del., BS, Avalon Sand)

Property Code	Property Name	Well Number
306402	POKER LAKE UNIT	428H

OGRID No.	Operator Name	Elevation
260737	BOPCO, L.P.	3336'

Surface Location

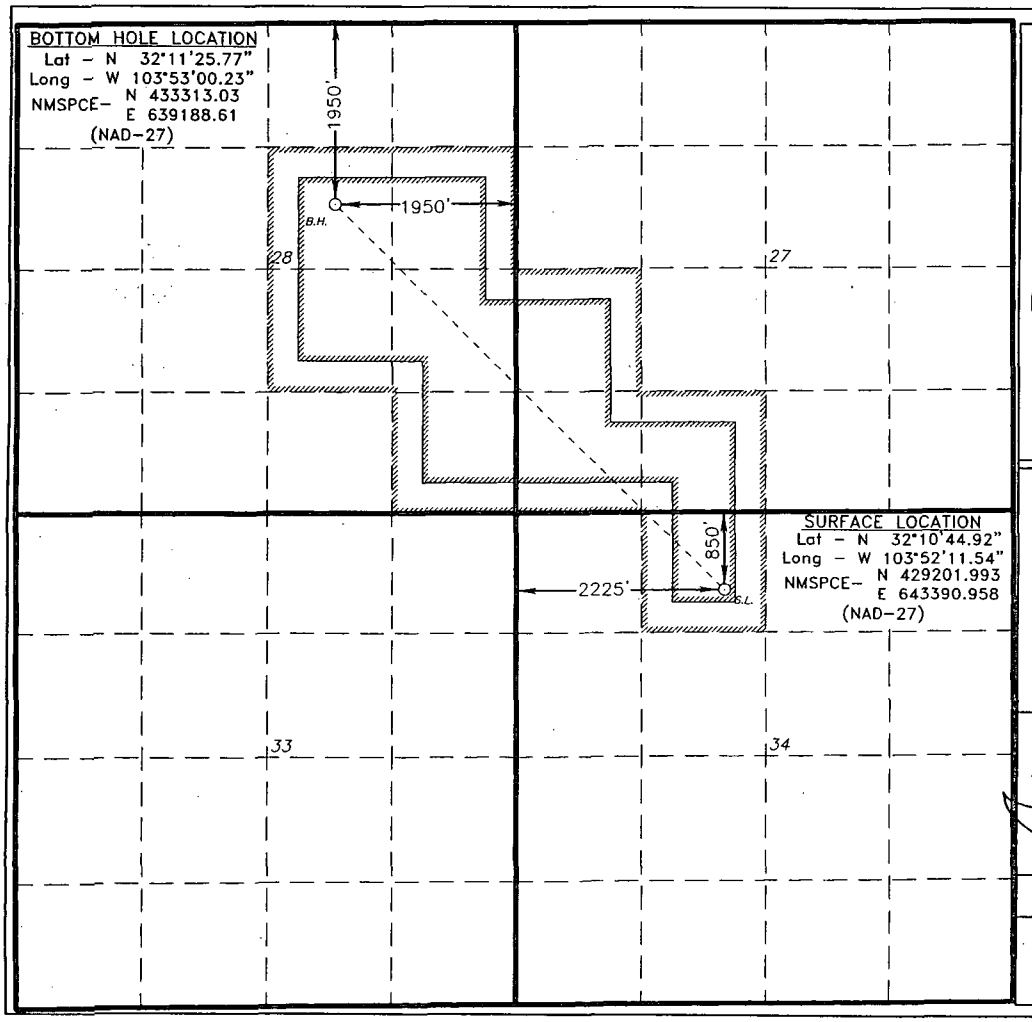
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	34	24 S	30 E		850	NORTH	2225	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	28	24 S	30 E		1950	NORTH	1950	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
360			

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



OPERATOR CERTIFICATION

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

Courtney J. Lockhart 2-5-13
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 supervison, and that the same is true and correct to the best of my belief.

JANUARY 10, 2013
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

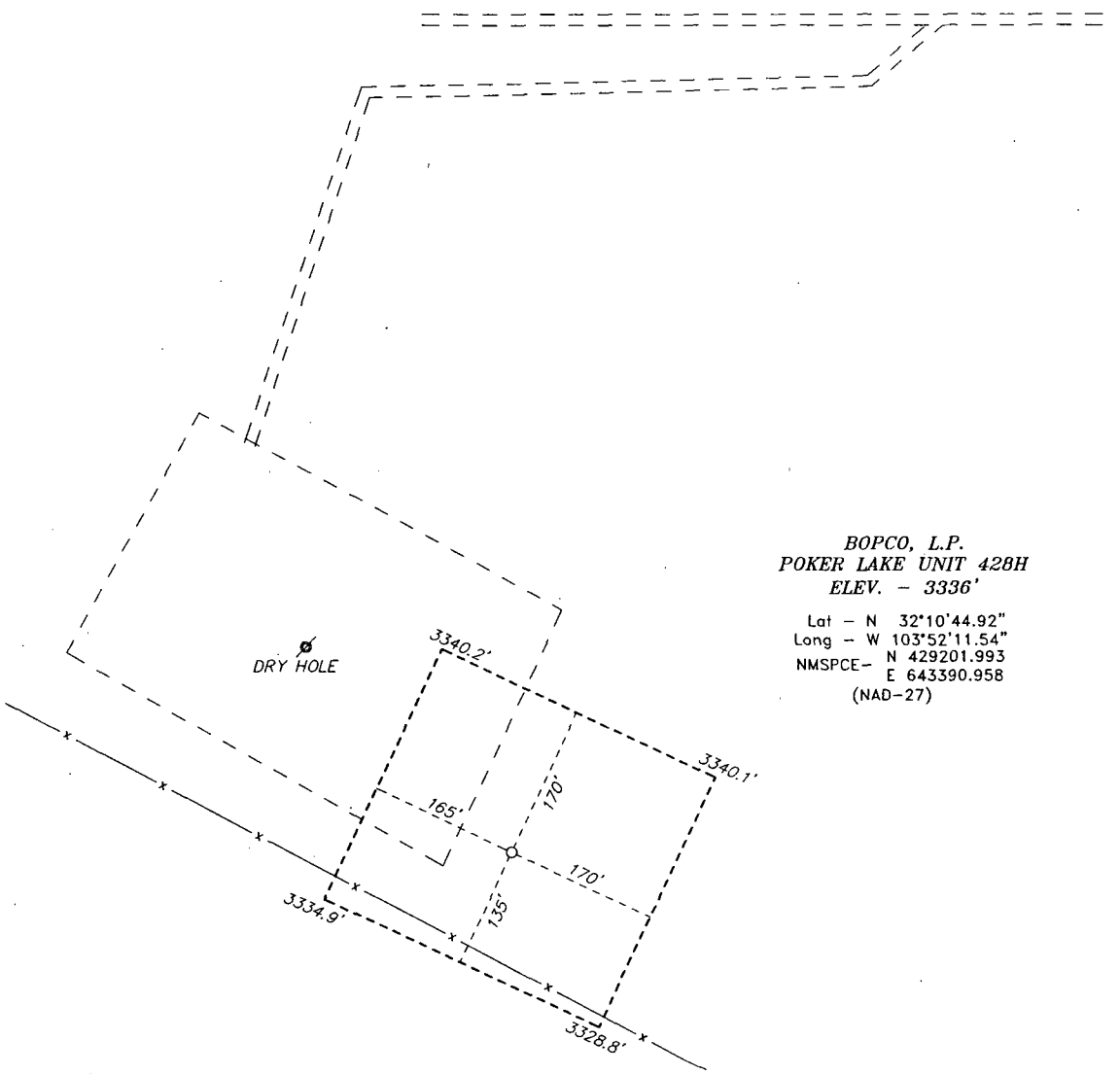
No. 27921

Certificate No. Gary L. Jones 7977

BASIN SURVEYS 27921

SECTION 34, TOWNSHIP 24 SOUTH, RANGE 30 EAST, N.M.P.M.,

EDDY COUNTY, WELL PAD LAYOUT **NEW MEXICO.**



BOPCO, L.P.
POKER LAKE UNIT 428H
ELEV. – 3336'

Lat – N 32°10'44.92"
Long – W 103°52'11.54"
NMSPCE– N 429201.993
E 643390.958
(NAD–27)

200 0 200 400 FEET

SCALE: 1" = 200'

Directions to Location:

FROM THE JUNCTION OF CO 787 TWIN WELLS AND CO749 McDONALD GO WEST ON McDONALD 0.4 MILES THEN SOUTH THROUGH WELL PAD FOR 0.2 MILES TO LEASE ROAD TO 367H AND PROPOSED LOCATION.

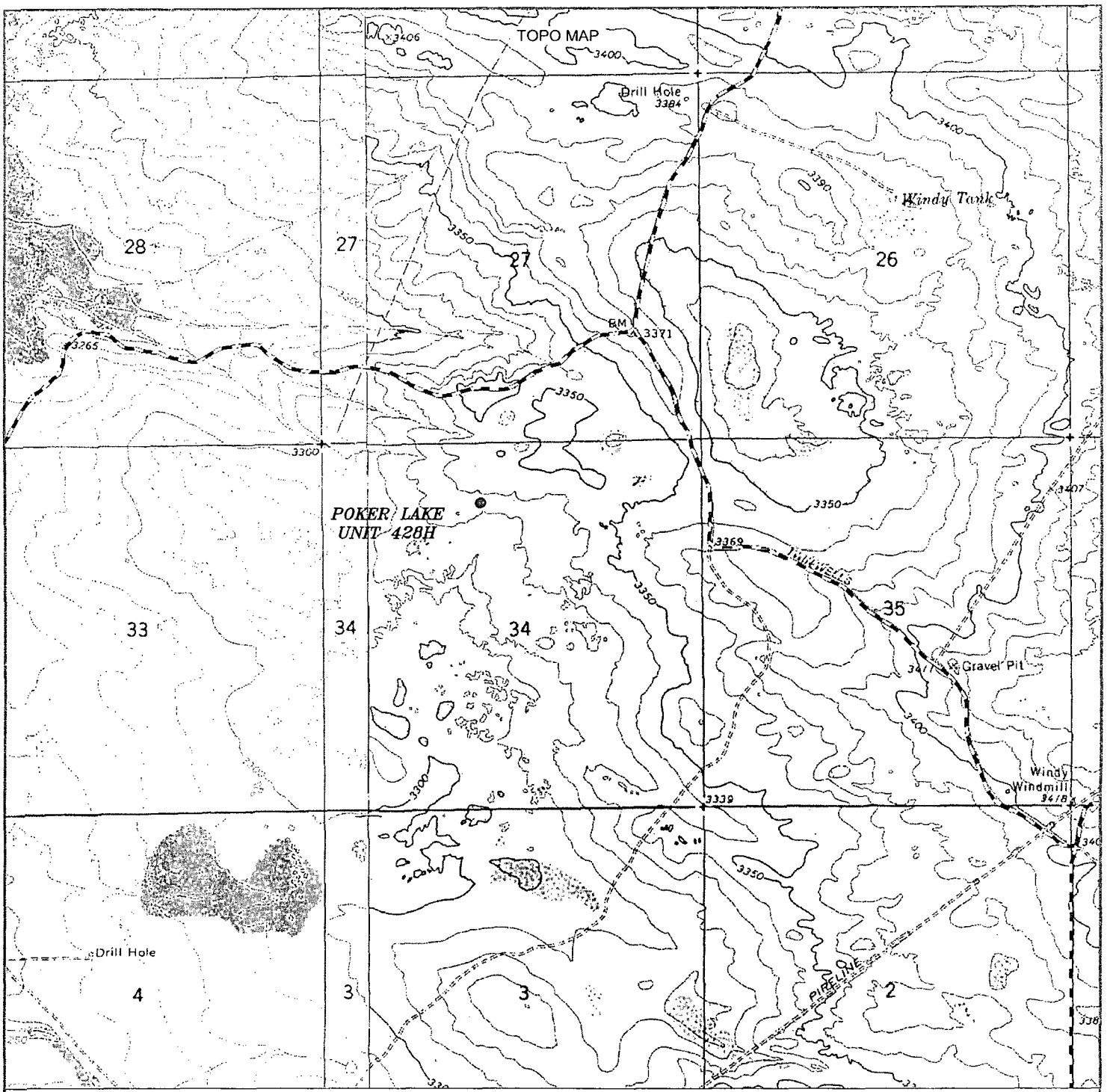
BOPCO, L.P.

REF: POKER LAKE UNIT 428H / WELL PAD TOPO

THE POKER LAKE UNIT 428H LOCATED 850' FROM THE NORTH LINE AND 2225' FROM THE WEST LINE OF SECTION 34, TOWNSHIP 24 SOUTH, RANGE 30 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

W.O. Number: 27921	Drawn By: J SMALL		
Date: 01–18–2013	Disk: JMS. 27921	Survey Date: 01–12–2013	Sheet 1 of 6 Sheets



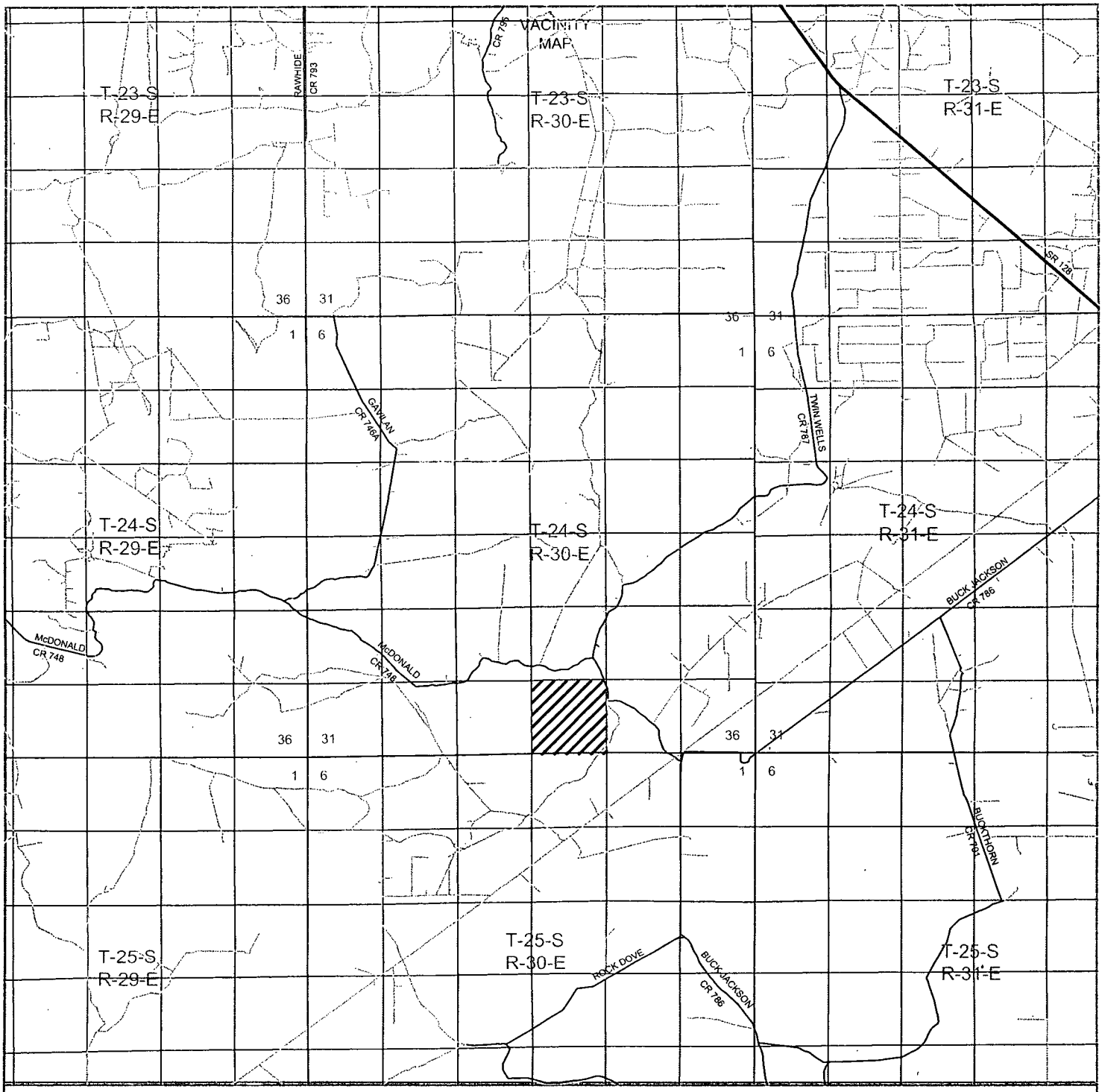
POKER LAKE UNIT 428H
Located 850' FNL and 2225' FWL
Section 34, Township 24 South, Range 30 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 – Office
(575) 392-2206 – Fax
basinsurveys.com

W.O. Number: JMS 27921
Survey Date: 01-12-2013
Scale: 1" = 2000'
Date: 01-18-2013

N

BOPCO, L.P.



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W.O. Number: JMS 27921
Survey Date: 01-12-2013
Scale: 1" = 2 Miles
Date: 01-18-2013

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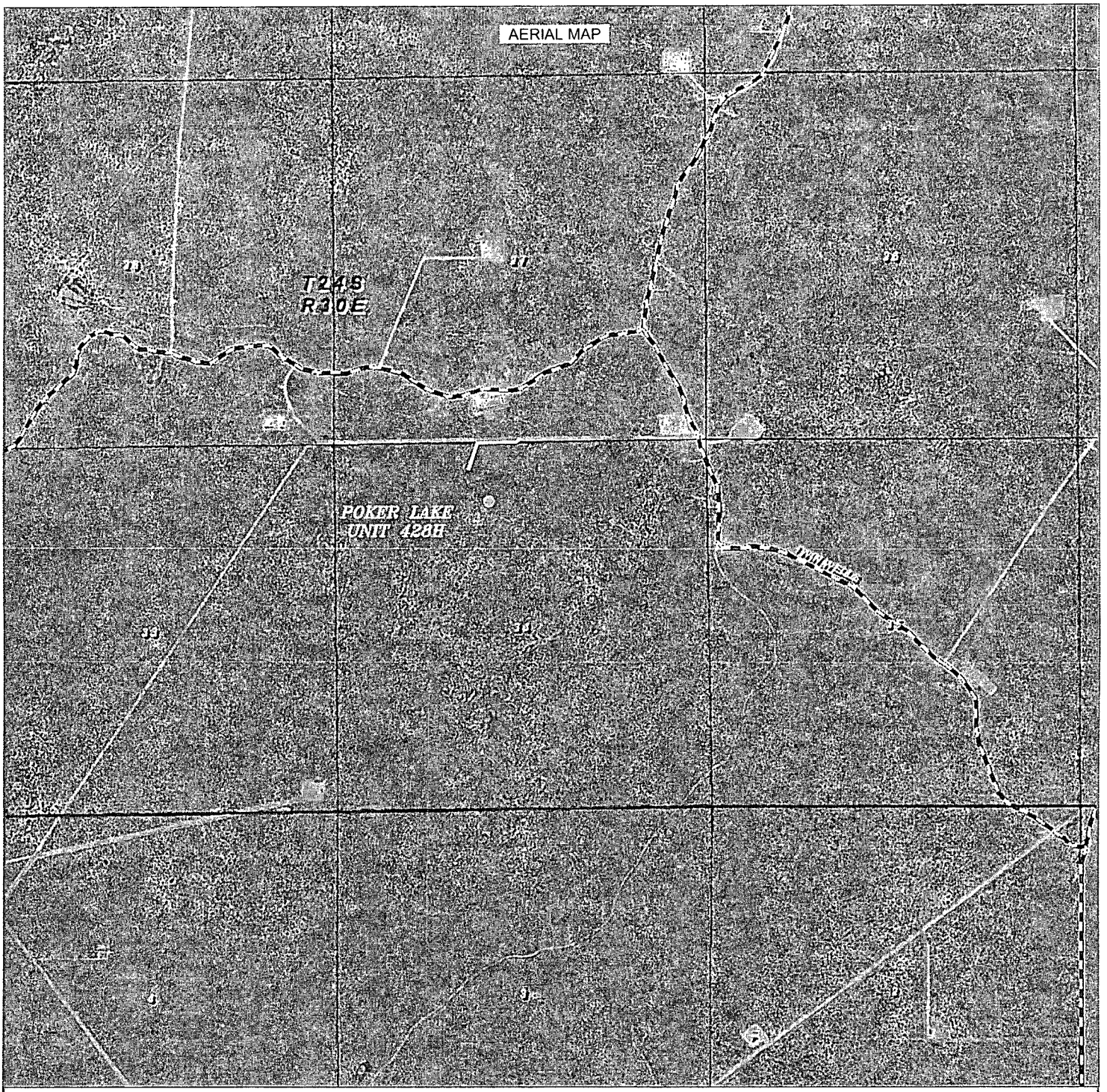
BOPCO, L.P.



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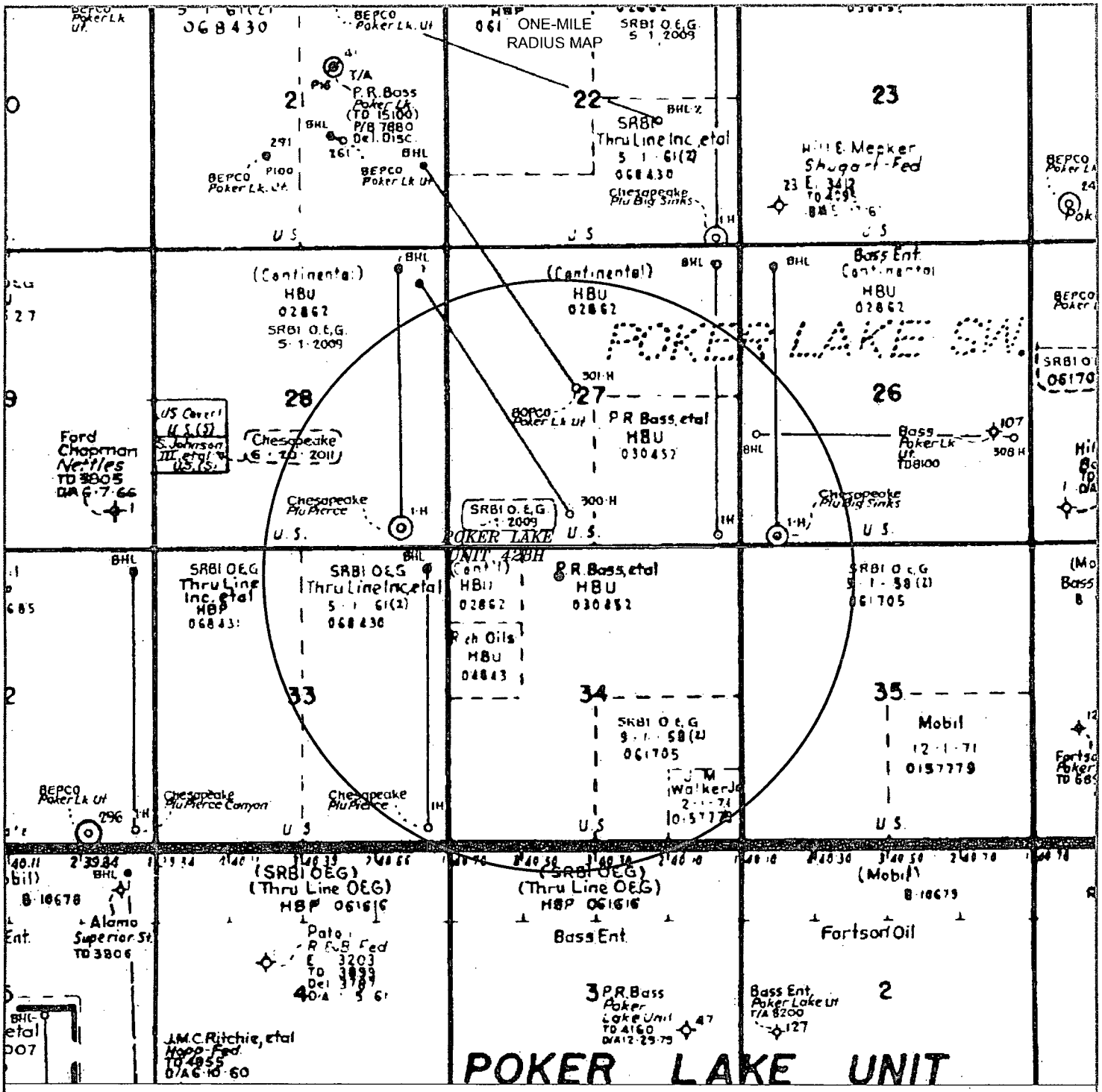
W.O. Number: JMS 27921

Scale: 1" = 2000'

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

N

BOPCO, L.P.



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basinsurveys.com

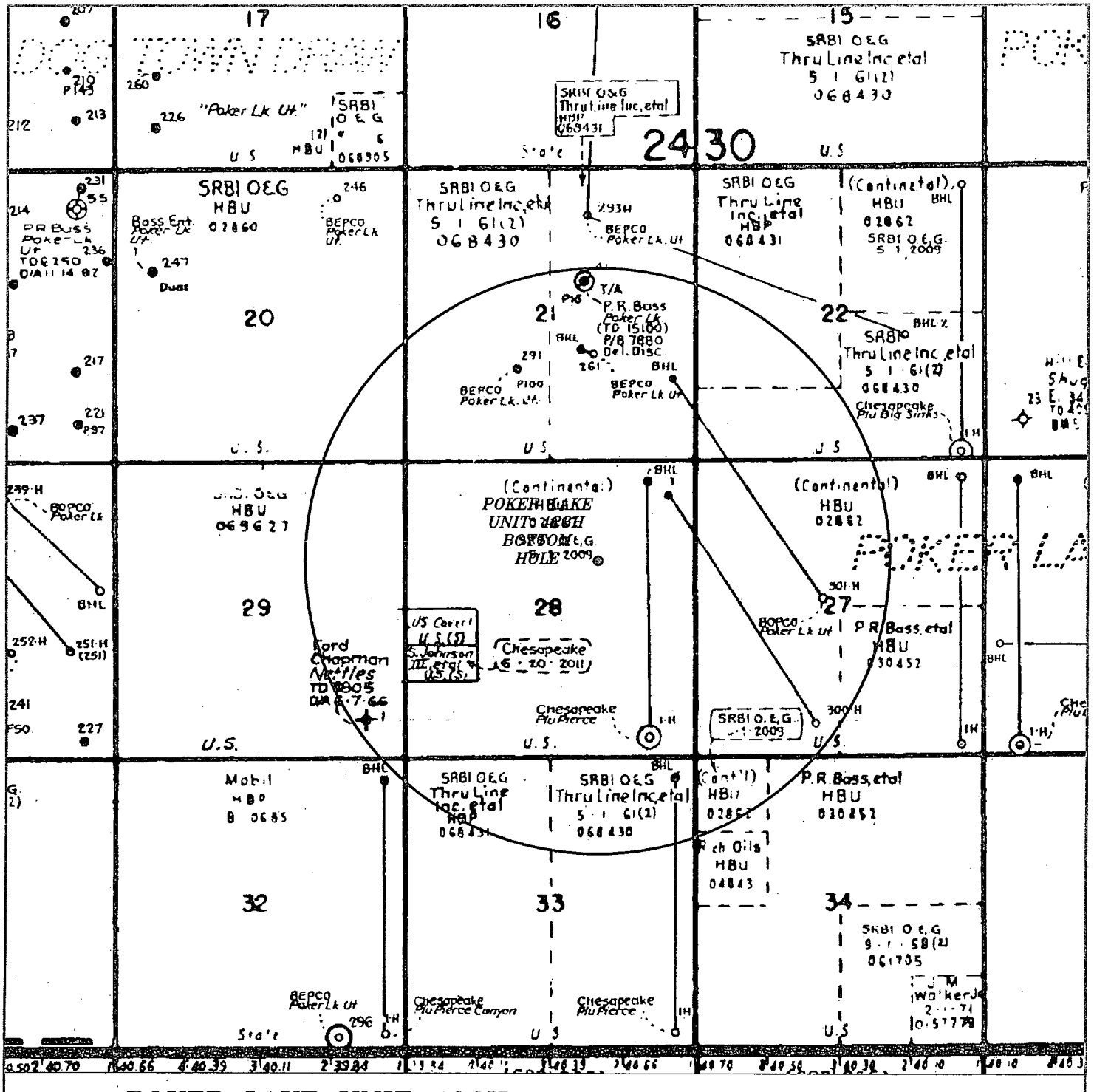
W.O. Number: JMS 27921

Scale: None

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

N

BOPCO, L.P.



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Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: DAJ 26961

Scale: None

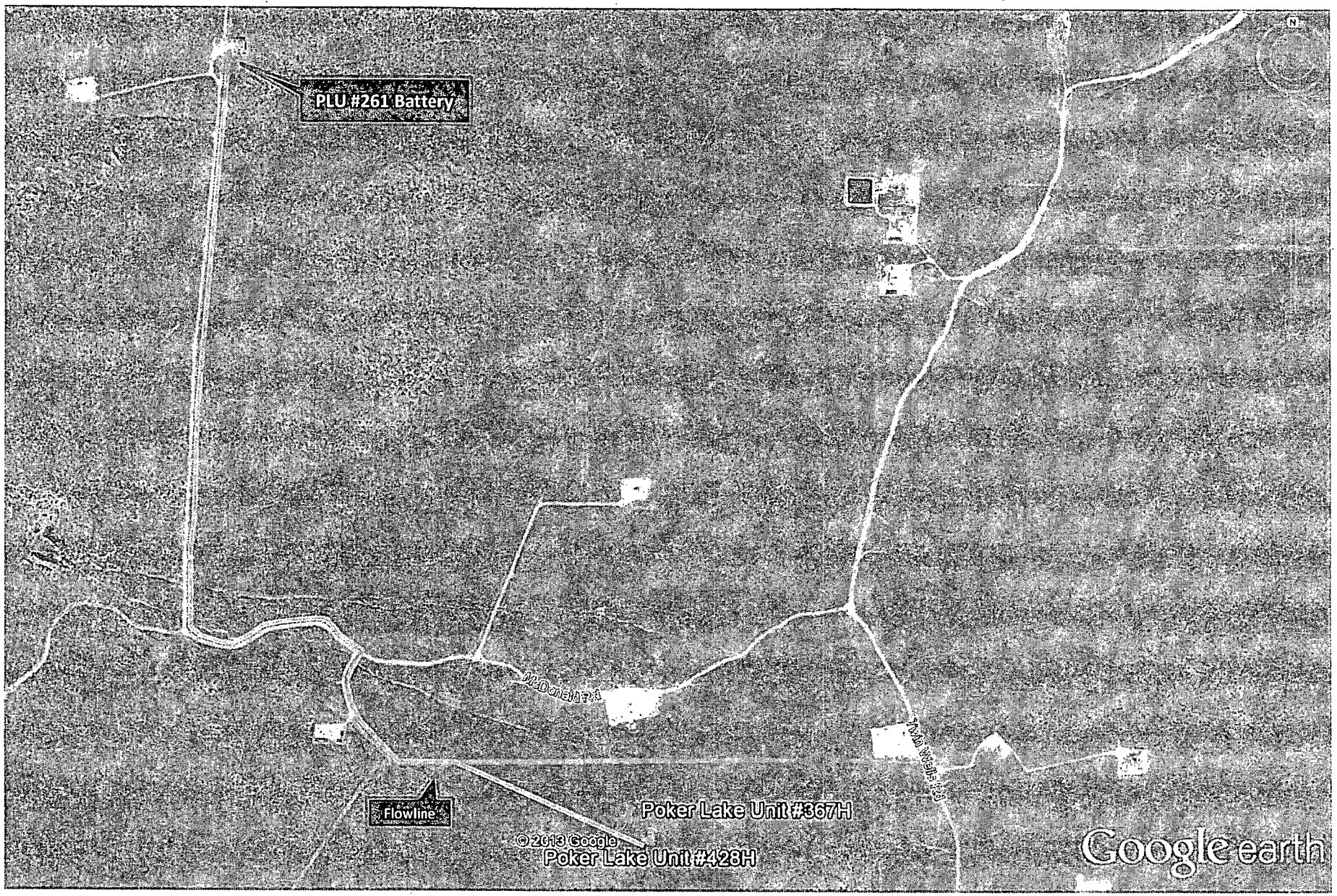
YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND

N

BOPCO, L.P.

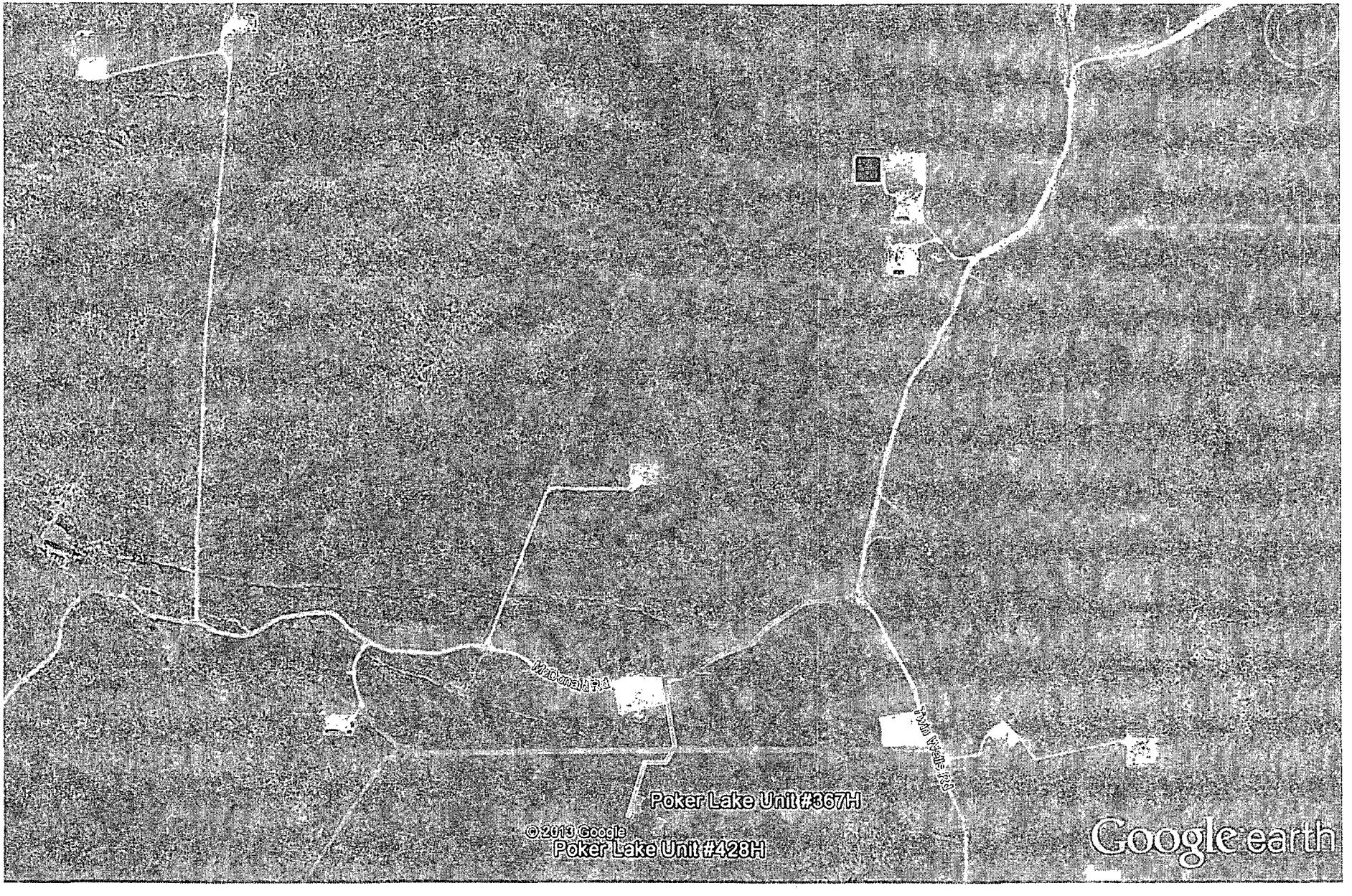
5 6

Flowline and Powerline Diagram 4



Flowline and Powerline Diagram 4

Access Road Diagram



EIGHT POINT DRILLING PROGRAM
BOPCO, L.P.

NAME OF WELL: Poker Lake Unit 428H
LEGAL DESCRIPTION - SURFACE: 850' FNL, 2225' FWL, Section 34, T24S, R30E, Eddy County, NM.
BHL: 1950' FNL, 1950' FEL, Section 28, T24S, 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 3355' (estimated)
GL 3336'

Formation Description	Est from KB (TVD)	Est (MD)	SUB SEA TOP	BEARING
T/Fresh Water	400'	400'	+ 2,955'	Fresh Water
T/Rustler	755'	755'	+ 2,600'	Barren
T/Salado	1,030'	1,030'	+ 2,325'	Barren
T/Lamar	3,875'	3,875'	- 520'	Oil/Gas
Delaware	3,915'	3,915'	- 560'	Oil/Gas
KOP	6,977'	6,977'	- 3,622'	Oil/Gas
Lower Brushy Canyon "8A"	7,450'	7,533'	- 4,095'	Oil/Gas
Top of LBC "Y"	7,607'	7,853'	- 4,252'	Oil/Gas
EOC	7,649'	8,086'	- 4,294'	Oil/Gas
Target #1	7,649'	8,086'	- 4,294'	Oil/Gas
TD Horizontal Hole	7,565'	13,210'	- 4,210'	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, or 54.5#, J-55 8rd, ST&C*	0' – 1,010'	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' – 3,895'	12-1/4"	Intermediate	New
7", 26 ppf, N-80, Buttress or 8rd LTC*	0' – 7,777'	8-3/4"	Production	New
Completion System				
4-1/2", 11.6 ppf, HCP-110 8rd LT&C, BTC	7,727' – 13,210'	6-1/8"	Completion System	New

*** Depending on availability.**

Surface casing is to be set into the Rustler below all fresh water sands at an approximate depth of 1,010' and cement circulated to surface.

7" casing will be set at approximately 7,777' MD, 7,537' TVD (In curve) and cemented in two stages with DV Tool set at approximately 5,000'. Cement will be circulated 500' into the 9-5/8" 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: NMNM 0030452

Bottom Hole Lease Numbers – Federal Lease: NMNM 0002862

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).

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 A, B, or C)

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

After running the 9-5/8" intermediate casing, a 13-5/8" or 11" BOP/BOPE system with a minimum rating of 3M will be installed on the 9-5/8" intermediate casing spool (8-3/4" open hole), used, maintained and tested as per Onshore Order 2. In addition to the high pressure test, a low pressure (250-300 psig) test will be performed.

After running the 7" intermediate casing, a 13-5/8" or 11" BOP/BOPE system with a minimum rating of 3M will be installed on the 9-5/8" intermediate casing spool (8-3/4" open hole), used, maintained and tested as per Onshore Order 2. In addition to the high pressure test, a low pressure (250-300 psig) test will be performed.

H2S contingency

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

These tests will be performed:

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

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

BOPCO, 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 13,210 MD (7,565' TVD) and max surface pressure should be +/- 1876 psi as prescribed in onshore order #2 shown as max BHP minus 0.22 psi/ft. Thus, 3000 psi BOPE is all that is needed for this well. **Please refer to diagrams A, B, or 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 -1,010'	FW Spud Mud	8.5 – 9.2	38-70	NC	NC	NC	10.0	9.5 – 10.5
1,010' – 3,895'	Brine Water	9.8 – 10.2	28-30	NC	NC	NC	9.5 – 10.5	9.5 – 10.5
3,895' – 7,777'	FW/Gel	8.7 – 9.0	28-36	NC	NC	NC	9.5 – 10.0	9.5 – 10.5
7,777'-13,210'	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.

D) CEMENT

INTERVAL	AMOUNT SXS	FT OF FILL	TYPE	GALS/SX	PPG	FT³/SX
SURFACE:						
Lead: 0' – 710' 13 3/8	570	710	Class C +2% CACL + 4% Bentonite + 0.25 LB/SK Cello Flake + 3 lb/sk LCM-1	8.69	13.50	1.75
Tail: 710' – 1,010'	340	300	Class C + 2% CACL + 0.25 LB/SK CF 0.25LB/SK Cello Flake + 3 lb/sk LCM-1	6.35	14.80	1.35
INTERMEDIATE:						
Lead: 0' – 3,395' 9 5/8	1020	3,395	EconoCEM HLC + 5% CaCl + 5#/sk Gilsonite	9.32	12.90	1.85
Tail: 3,395' – 3,895'	270	500	HalCem C	6.34	14.80	1.33
Production						
Stage 1:						
Lead: 5,000' – 6,977' 7"	170	1977	Tuned Light + 0.75% + CFR-3 + 1.5#/sk CaCl	12.41	10.20	2.76
Tail: 6,977' – 7,777'	130	800	VersaCem-PBSH2 + 0.4% Halad-9	8.76	13.0	1.67
DV Tool @ 5,000'						
Stage 2:						
Lead: 3,395' – 4,500'	110	1105	EconCem HLC + 1% Econolite + 5% CaCl + 5#/sk Gilsonite	10.71	12.60	2.04
Tail: 4,500' – 5,000'	100	500	HalCem C	6.34	14.80	1.33

Cement excesses will be as follows:

Surface – 100% excess with cement circulated to surface.

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

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.

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 3M 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.

Mud Logger: Rigged up at 100'

C) CONVENTIONAL CORING

None anticipated

E) COMPLETIONS SYSTEM

A 4-1/2" completion system with open hole packers will be run in the producing lateral to a depth of 13,210'. The top of the Completion System will be set at approximately 7,727'. Cement will not be required for this 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 6,977' at which point a directional hole will be kicked off and drilled at an azimuth of 314.37 degrees, building angle at 10.00 deg/100' to 60 degrees at a TVD of 7,473' (MD 7,577'). This angle and azimuth will be maintained for 200' to a measured depth of 7,777' (7,537' TVD). At this depth 7", 26#, N80, Buttress, or 8rd LTC casing will be installed and cemented in two stages (DV Tool @ approximately 5000') with cement circulated 500' inside the 9-5/8" intermediate casing. A 6-1/8" open hole lateral will then be drilled out from 7" casing at an azimuth of 314.37 degrees, inclination of 90.92 degrees to a measured depth of 13,210', TVD 7,565'. 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

As stated in the BLM Onshore Order 6, for wells located inside the H2S area, H_2S equipment will be rigged up after setting surface casing. For the wells located inside the H2S area the flare pit will be located 150' from the location. For wells located outside the H2S area flare pit will be located 100' away from the location. **(See page 6 of Survey plat package for flare line reference)** There is not any H_2S anticipated in the area, although in the event that H_2S is encountered, the H_2S contingency plan attached will be implemented. **(Please refer to diagram B or C 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 A, B or C depending on configuration.

POINT 7: ANTICIPATED RESERVOIR CONDITIONS

Normal pressures are anticipated throughout Delaware section. A BHP of 3579 psi (max) or MWE of 9.0 ppg is expected. Lost circulation may exist in the Delaware Section from 3,915'-7,649' 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

BTC

Bopco L P

Eddy County, NM (NAD 27)
Poker Lake Unit
#428H

Wellbore #1 / Job #1310134

Plan: Plan #1 01-28-13

Standard Planning Report

28 January, 2013

PHOENIX
TECHNOLOGY SERVICES

Database:	GCR DB	**Local Co-ordinate Reference:**	Well #428H
Company:	Bopco L P	**TVD Reference:**	KB @ 3358.00usft (McVay 5)
Project:	Eddy County, NM (NAD 27)	**MD Reference:**	KB @ 3358.00usft (McVay 5)
Site:	Poker Lake Unit	**North Reference:**	Grid
Well:	#428H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1 / Job #1310134		
Design:	Plan #1 01-28-13		

Project Eddy County, NM (NAD 27)

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Poker Lake Unit

Site Position:		**Northing:**	435,896.68 usft	**Latitude:**	32° 11' 51.0535 N
From:	Map	**Easting:**	646,110.12 usft	**Longitude:**	103° 51' 39.5614 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.25 °

Well #428H

Well Position	**+N/-S**	-6,694.69 usft	**Northing:**	429,201.99 usft	**Latitude:**	32° 10' 44.9192 N
	+E/-W	-2,719.16 usft	**Easting:**	643,390.96 usft	**Longitude:**	103° 52' 11.5420 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,336.00 usft

Wellbore Wellbore #1 / Job #1310134

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	01/28/13	7.52	60.05	48,395

Design Plan #1 01-28-13

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	314.37

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,977.00	0.00	0.00	6,977.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,577.00	60.00	314.37	7,473.20	200.33	-204.79	10.00	10.00	0.00	314.37	
7,777.00	60.00	314.37	7,573.20	321.45	-328.60	0.00	0.00	0.00	0.00	
8,086.16	90.92	314.37	7,649.88	528.19	-539.93	10.00	10.00	0.00	0.00	
13,210.30	90.92	314.37	7,568.00	4,111.04	-4,202.35	0.00	0.00	0.00	0.00	PBHL-PLU #428H

Database:	GCR DB	**Local Co-ordinate Reference:**	Well #428H
Company:	Bopco L P	**TVD Reference:**	KB @ 3358.00usft (McVay 5)
Project:	Eddy County, NM (NAD 27)	**MD Reference:**	KB @ 3358.00usft (McVay 5)
Site:	Poker Lake Unit	**North Reference:**	Grid
Well:	#428H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1 / Job #1310134		
Design:	Plan #1 01-28-13		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
T/Fresh Water									
755.00	0.00	0.00	755.00	0.00	0.00	0.00	0.00	0.00	0.00
T/Rustler									
1,030.00	0.00	0.00	1,030.00	0.00	0.00	0.00	0.00	0.00	0.00
T/Salado									
3,875.00	0.00	0.00	3,875.00	0.00	0.00	0.00	0.00	0.00	0.00
T/Lamar									
3,915.00	0.00	0.00	3,915.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
6,977.00	0.00	0.00	6,977.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Start Build 10.00									
7,000.00	2.30	314.37	6,999.99	0.32	-0.33	0.46	10.00	10.00	0.00
7,100.00	12.30	314.37	7,099.06	9.20	-9.40	13.15	10.00	10.00	0.00
7,200.00	22.30	314.37	7,194.41	29.97	-30.63	42.85	10.00	10.00	0.00
7,300.00	32.30	314.37	7,283.16	62.00	-63.38	88.66	10.00	10.00	0.00
7,400.00	42.30	314.37	7,362.61	104.32	-106.64	149.18	10.00	10.00	0.00
7,500.00	52.30	314.37	7,430.34	155.65	-159.11	222.58	10.00	10.00	0.00
7,533.43	55.64	314.37	7,450.00	174.55	-178.43	249.61	10.00	10.00	0.00
Lower Brushy Canyon "8A"									
7,577.00	60.00	314.37	7,473.20	200.33	-204.79	286.48	10.00	10.00	0.00
Start 200.00 hold at 7577.00 MD									
7,600.00	60.00	314.37	7,484.70	214.26	-219.02	306.40	0.00	0.00	0.00
7,700.00	60.00	314.37	7,534.70	274.82	-280.93	393.00	0.00	0.00	0.00
7,777.00	60.00	314.37	7,573.20	321.45	-328.60	459.68	0.00	0.00	0.00
Start DLS 10.00 TFO 0.00									
7,800.00	62.30	314.37	7,584.29	335.54	-343.00	479.83	10.00	10.00	0.00
7,853.72	67.67	314.37	7,607.00	369.57	-377.79	528.49	10.00	10.00	0.00
Top of LBC "Y"									
7,900.00	72.30	314.37	7,622.83	399.97	-408.86	571.96	10.00	10.00	0.00
8,000.00	82.30	314.37	7,644.79	468.10	-478.51	669.39	10.00	10.00	0.00
8,086.16	90.92	314.37	7,649.88	528.19	-539.93	755.32	10.00	10.00	0.00
LP Start 5124.14 hold at 8086.16 MD									
8,100.00	90.92	314.37	7,649.66	537.87	-549.82	769.16	0.00	0.00	0.00
8,200.00	90.92	314.37	7,648.07	607.79	-621.30	869.15	0.00	0.00	0.00
8,300.00	90.92	314.37	7,646.47	677.71	-692.77	969.14	0.00	0.00	0.00
8,400.00	90.92	314.37	7,644.87	747.63	-764.25	1,069.12	0.00	0.00	0.00
8,500.00	90.92	314.37	7,643.27	817.55	-835.72	1,169.11	0.00	0.00	0.00
8,600.00	90.92	314.37	7,641.67	887.47	-907.19	1,269.10	0.00	0.00	0.00
8,700.00	90.92	314.37	7,640.08	957.39	-978.67	1,369.08	0.00	0.00	0.00
8,800.00	90.92	314.37	7,638.48	1,027.31	-1,050.14	1,469.07	0.00	0.00	0.00
8,900.00	90.92	314.37	7,636.88	1,097.24	-1,121.61	1,569.06	0.00	0.00	0.00
9,000.00	90.92	314.37	7,635.28	1,167.16	-1,193.09	1,669.05	0.00	0.00	0.00
9,100.00	90.92	314.37	7,633.68	1,237.08	-1,264.56	1,769.03	0.00	0.00	0.00
9,200.00	90.92	314.37	7,632.09	1,307.00	-1,336.04	1,869.02	0.00	0.00	0.00
9,300.00	90.92	314.37	7,630.49	1,376.92	-1,407.51	1,969.01	0.00	0.00	0.00
9,400.00	90.92	314.37	7,628.89	1,446.84	-1,478.98	2,068.99	0.00	0.00	0.00
9,500.00	90.92	314.37	7,627.29	1,516.76	-1,550.46	2,168.98	0.00	0.00	0.00
9,600.00	90.92	314.37	7,625.69	1,586.68	-1,621.93	2,268.97	0.00	0.00	0.00
9,700.00	90.92	314.37	7,624.10	1,656.60	-1,693.41	2,368.96	0.00	0.00	0.00
9,800.00	90.92	314.37	7,622.50	1,726.52	-1,764.88	2,468.94	0.00	0.00	0.00
9,900.00	90.92	314.37	7,620.90	1,796.44	-1,836.35	2,568.93	0.00	0.00	0.00

Database:	GCR DB	**Local Co-ordinate Reference:**	Well #428H
Company:	Bopco L P	**TVD Reference:**	KB @ 3358.00usft (McVay 5)
Project:	Eddy County, NM (NAD 27)	**MD Reference:**	KB @ 3358.00usft (McVay 5)
Site:	Poker Lake Unit	**North Reference:**	Grid
Well:	#428H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1 / Job #1310134		
Design:	Plan #1 01-28-13		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,000.00	90.92	314.37	7,619.30	1,866.37	-1,907.83	2,668.92	0.00	0.00	0.00
10,100.00	90.92	314.37	7,617.70	1,936.29	-1,979.30	2,768.91	0.00	0.00	0.00
10,200.00	90.92	314.37	7,616.11	2,006.21	-2,050.77	2,868.89	0.00	0.00	0.00
10,300.00	90.92	314.37	7,614.51	2,076.13	-2,122.25	2,968.88	0.00	0.00	0.00
10,400.00	90.92	314.37	7,612.91	2,146.05	-2,193.72	3,068.87	0.00	0.00	0.00
10,500.00	90.92	314.37	7,611.31	2,215.97	-2,265.20	3,168.85	0.00	0.00	0.00
10,600.00	90.92	314.37	7,609.71	2,285.89	-2,336.67	3,268.84	0.00	0.00	0.00
10,700.00	90.92	314.37	7,608.12	2,355.81	-2,408.14	3,368.83	0.00	0.00	0.00
10,800.00	90.92	314.37	7,606.52	2,425.73	-2,479.62	3,468.82	0.00	0.00	0.00
10,900.00	90.92	314.37	7,604.92	2,495.65	-2,551.09	3,568.80	0.00	0.00	0.00
11,000.00	90.92	314.37	7,603.32	2,565.58	-2,622.56	3,668.79	0.00	0.00	0.00
11,100.00	90.92	314.37	7,601.72	2,635.50	-2,694.04	3,768.78	0.00	0.00	0.00
11,200.00	90.92	314.37	7,600.13	2,705.42	-2,765.51	3,868.76	0.00	0.00	0.00
11,300.00	90.92	314.37	7,598.53	2,775.34	-2,836.99	3,968.75	0.00	0.00	0.00
11,400.00	90.92	314.37	7,596.93	2,845.26	-2,908.46	4,068.74	0.00	0.00	0.00
11,500.00	90.92	314.37	7,595.33	2,915.18	-2,979.93	4,168.73	0.00	0.00	0.00
11,600.00	90.92	314.37	7,593.73	2,985.10	-3,051.41	4,268.71	0.00	0.00	0.00
11,700.00	90.92	314.37	7,592.13	3,055.02	-3,122.88	4,368.70	0.00	0.00	0.00
11,800.00	90.92	314.37	7,590.54	3,124.94	-3,194.36	4,468.69	0.00	0.00	0.00
11,900.00	90.92	314.37	7,588.94	3,194.86	-3,265.83	4,568.68	0.00	0.00	0.00
12,000.00	90.92	314.37	7,587.34	3,264.79	-3,337.30	4,668.66	0.00	0.00	0.00
12,100.00	90.92	314.37	7,585.74	3,334.71	-3,408.78	4,768.65	0.00	0.00	0.00
12,200.00	90.92	314.37	7,584.14	3,404.63	-3,480.25	4,868.64	0.00	0.00	0.00
12,300.00	90.92	314.37	7,582.55	3,474.55	-3,551.72	4,968.62	0.00	0.00	0.00
12,400.00	90.92	314.37	7,580.95	3,544.47	-3,623.20	5,068.61	0.00	0.00	0.00
12,500.00	90.92	314.37	7,579.35	3,614.39	-3,694.67	5,168.60	0.00	0.00	0.00
12,600.00	90.92	314.37	7,577.75	3,684.31	-3,766.15	5,268.59	0.00	0.00	0.00
12,700.00	90.92	314.37	7,576.15	3,754.23	-3,837.62	5,368.57	0.00	0.00	0.00
12,800.00	90.92	314.37	7,574.56	3,824.15	-3,909.09	5,468.56	0.00	0.00	0.00
12,900.00	90.92	314.37	7,572.96	3,894.07	-3,980.57	5,568.55	0.00	0.00	0.00
13,000.00	90.92	314.37	7,571.36	3,964.00	-4,052.04	5,668.54	0.00	0.00	0.00
13,100.00	90.92	314.37	7,569.76	4,033.92	-4,123.51	5,768.52	0.00	0.00	0.00
13,200.00	90.92	314.37	7,568.16	4,103.84	-4,194.99	5,868.51	0.00	0.00	0.00
13,210.30	90.92	314.37	7,568.00	4,111.04	-4,202.35	5,878.81	0.00	0.00	0.00

TD at 13210.30 - PBHL-PLU #428H

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL-PLU #428H - plan hits target center - Point	0.00	0.00	7,568.00	4,111.04	-4,202.35	433,313.03	639,188.61	32° 11' 25.7791 N	103° 53' 0.2380 W

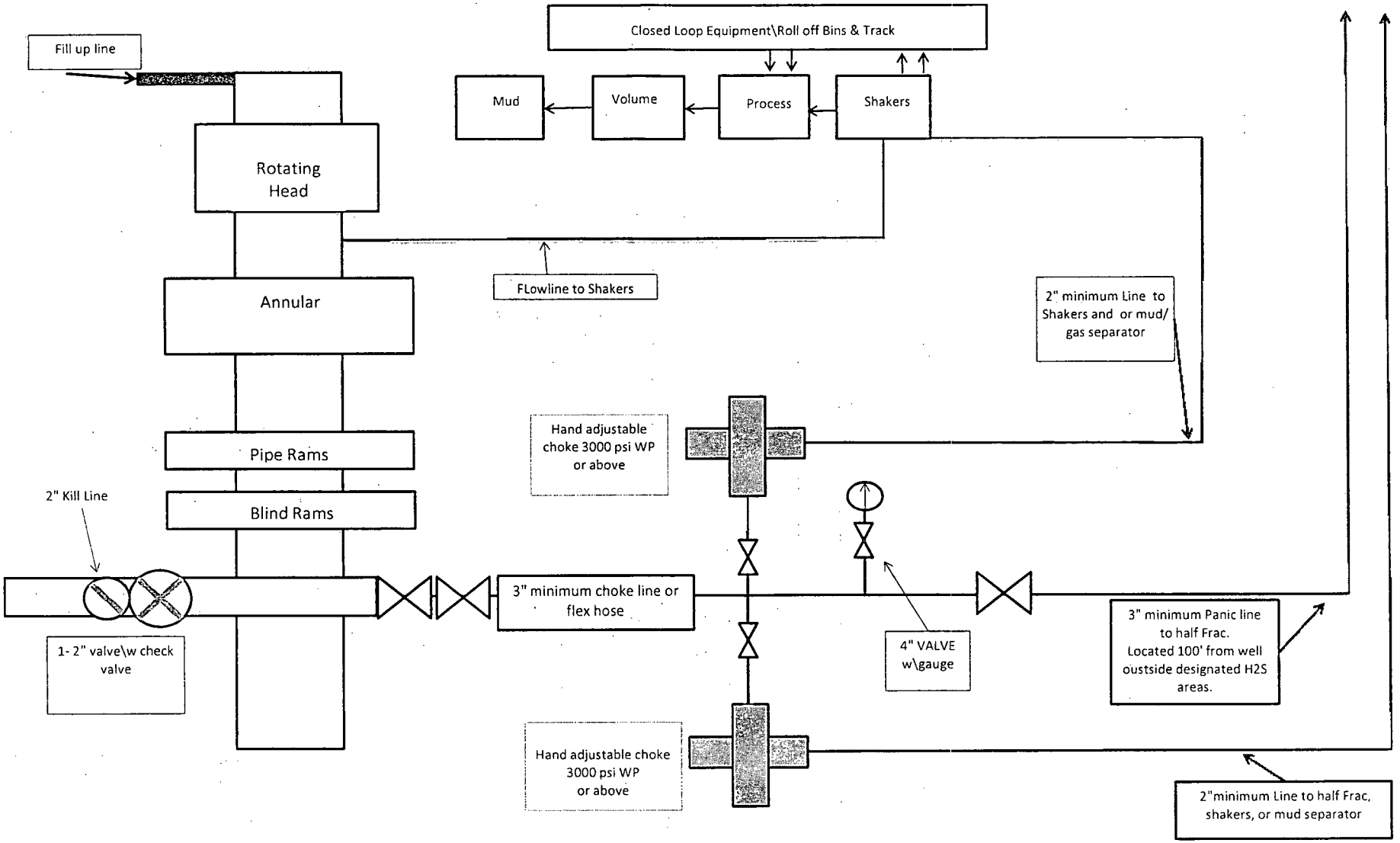
Database:	GCR DB	**Local Co-ordinate Reference:**	Well #428H
Company:	Bopco L P	**TVD Reference:**	KB @ 3358.00usft (McVay 5)
Project:	Eddy County, NM (NAD 27)	**MD Reference:**	KB @ 3358.00usft (McVay 5)
Site:	Poker Lake Unit	**North Reference:**	Grid
Well:	#428H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1 / Job #1310134		
Design:	Plan #1 01-28-13		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
400.00	400.00	T/Fresh Water			
755.00	755.00	T/Rustler			
1,030.00	1,030.00	T/Salado			
3,875.00	3,875.00	T/Lamar			
3,915.00	3,915.00	Delaware			
7,533.43	7,450.00	Lower Brushy Canyon "8A"			
7,853.72	7,607.00	Top of LBC "Y"			

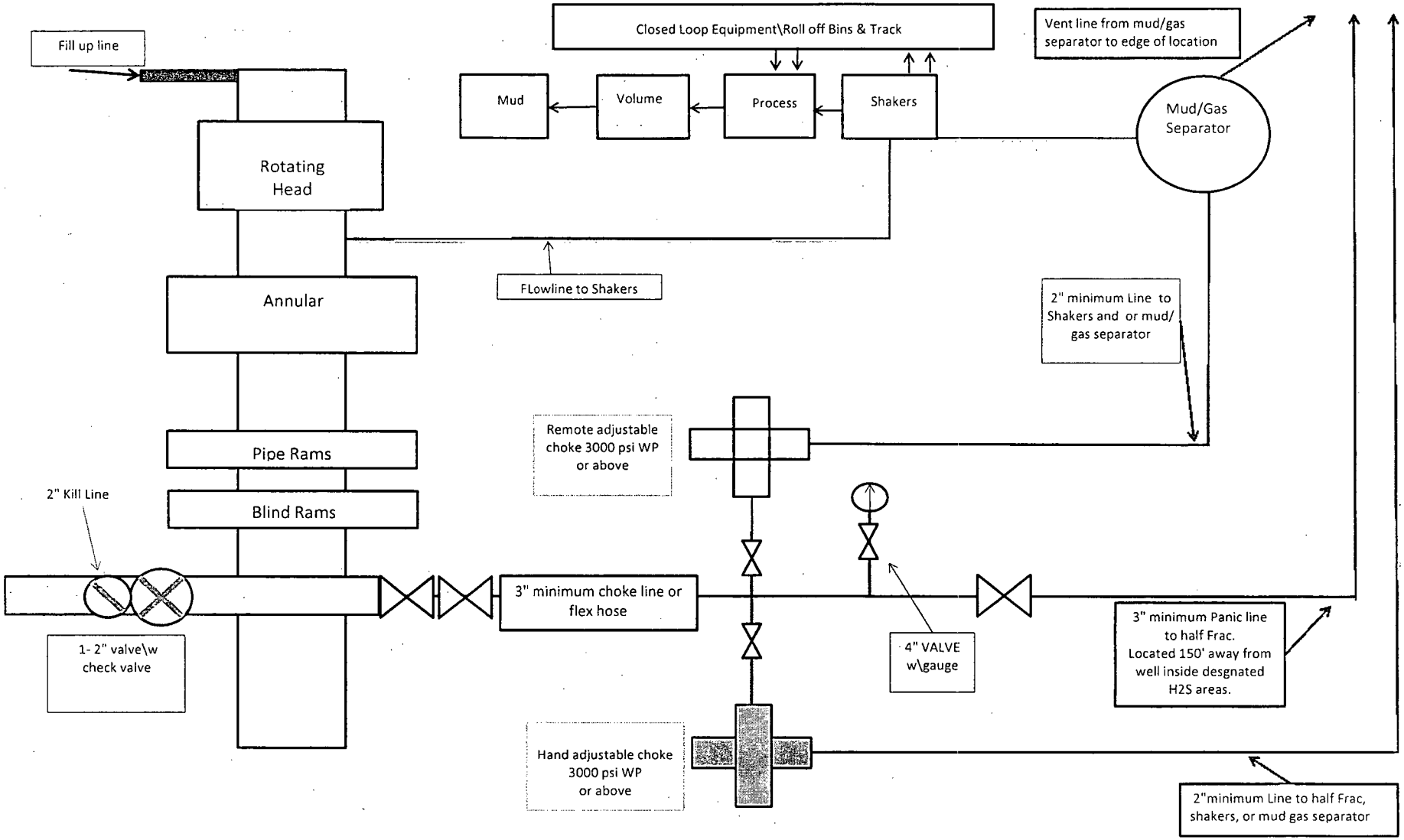
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
6,977.00	6,977.00	0.00	0.00	KOP Start Build 10.00
7,577.00	7,473.20	200.33	-204.79	Start 200.00 hold at 7577.00 MD
7,777.00	7,573.20	321.45	-328.60	Start DLS 10.00 TFO 0.00
8,086.16	7,649.88	528.19	-539.93	LP Start 5124.14 hold at 8086.16 MD
13,210.30	7,568.00	4,111.04	-4,202.35	TD at 13210.30



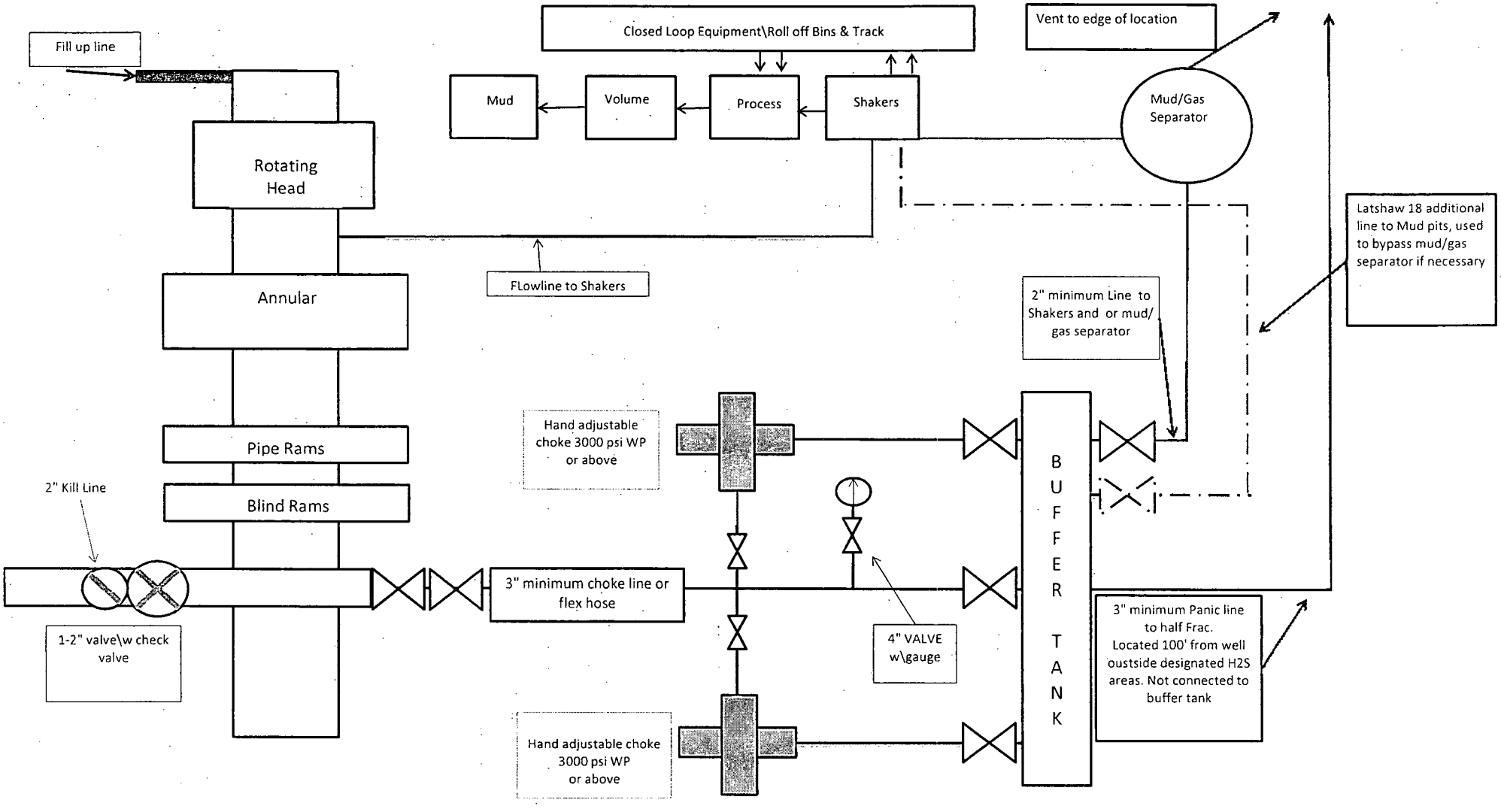
13-5/8" or 11" X 3-M BOPE (2 Rams and Rotating Head) & Closed Loop System Equipment Schematic Diagram A

Note: all valves & lines on choke manifold are 3" unless otherwise noted. Exact manifold configuration may vary.



13-5/8" or 11" X 3-M BOPE (2 Rams and Rotating Head) & Closed Loop System Equipment Schematic
H2S contingency
Diagram B

Note: all valves & lines on choke manifold are 3" unless otherwise noted. Exact manifold configuration may vary.



Latshaw 4 closed loop system, with Latshaw 18 addition "clouded."

Latshaw 13-5/8" or 11" X 3-M BOPE (2 Rams and Rotating Head) & Closed Loop System Equipment Schematic
Diagram C

Note: all valves & lines on choke manifold are 3" unless otherwise noted. Exact manifold configuration may vary.

MIDWEST

HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT		
Customer: LATSHAW DRILLING		**P.O. Number:** RIG#4
HOSE SPECIFICATIONS		
Type: CHOKE LINE		**Length:** 30'
I.D. 3" *INCHES*		**O.D.** 6" *INCHES*
WORKING PRESSURE 5,000 *PSI*	**TEST PRESSURE** 10,000 *PSI*	**BURST PRESSURE** *PSI*
COUPLINGS		
Type of End Fitting 4 1/16 5K FLANGE		
Type of Coupling: SWEDGED	**MANUFACTURED BY** MIDWEST HOSE & SPECIALTY	
PROCEDURE		
Hose assembly pressure tested with water at ambient temperature.		
TIME HELD AT TEST PRESSURE 1 *MIN.*	**ACTUAL BURST PRESSURE:** 0 *PSI*	
COMMENTS: SO#81610 Hose is covered with stainless steel armour cover and wraped with fire resistant vermiculite coated fiberglass insulation rated for 1500 degrees complete with lifting eyes		
Date: 3/2/2011	**Tested By:** BOBBY FINK	**Approved:** MENDI JACKSON

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

April 4, 2012

Customer: Latshaw

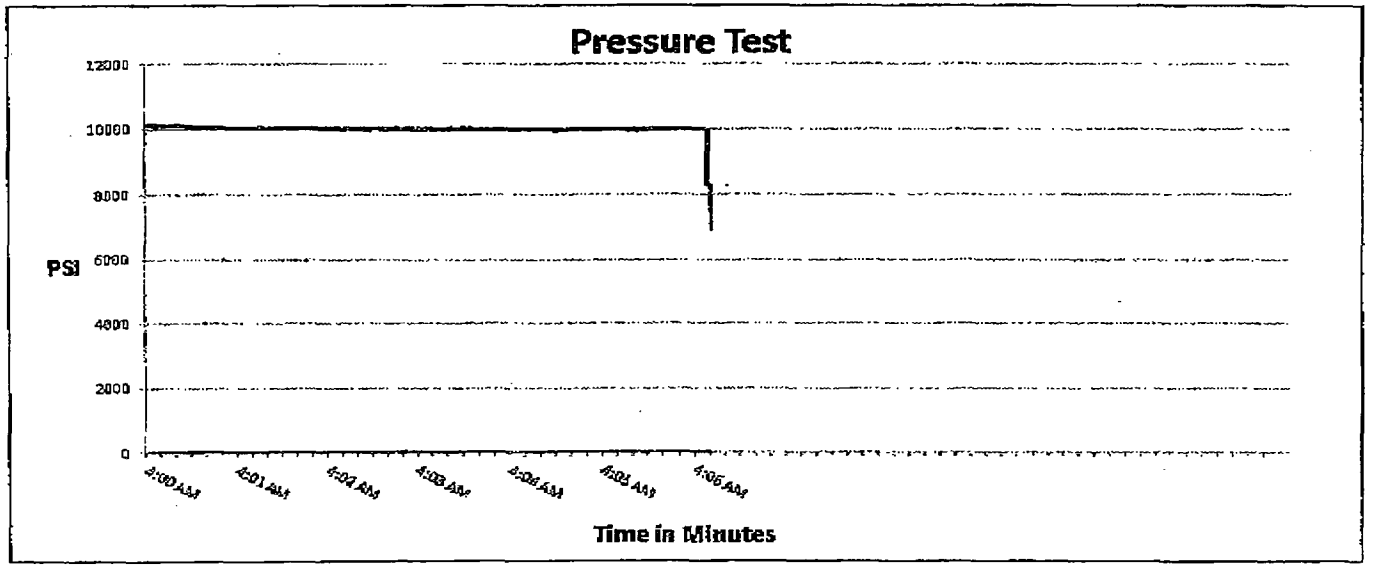
Pick Ticket #: 81610

Hose Specifications

Hose Type	Length
D	30'
I.D.	**O.D.**
3"	4 15/32
Working Pressure	**Burst Pressure**
5000 PSI	Standard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
41/16 5K	Swage
Die Size	**Final O.D.**
5.12"	5.16"
Hose Serial #	**Hose Assembly Serial #**
6884	81610



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
10000 PSI	6 1/4 Minutes		10195 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Donnie Melemore*

Approved By: *Bobby Fink*

RIG LAYOUT

Exhibit "D"

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

Flare Pit 150' away from location in H2S area, 100' away from location outside H2S

100'
50'
Water, and
Mud Storage

A
EDGE OF LOCATION W/ BERM

SOLIDS CONTROL
MUD LOGGER

TOPSOIL STOCKPILE

6
7
1
1
8
5
3
2
2
4
MUD
2
FLOWLINE

135'

MUD PUMPS

LIGHT PLANT
BOTTOM DOG
WATER TANK
WATER TANK
FUEL TANK
PARTS HOUSE

SUBSTRUCTURE
DOG HOUSE
PIPE RACKS

170'

POKER LAKE UNIT 428H
Located 850' FNL and 2225' FWL
Section 34, Township 24 South, Range 30 East,
N.M.P.M., Eddy County, New Mexico.

TRAILER HOUSES

S
E
M
N

ACCESS

170'
165'

P.O. Box 1786
W.O. Number: JWS 27921

TABLE OF CONTENTS

H_2S CONTINGENCY PLAN SECTION

Scope:

This contingency plan provides an organized plan of action for alerting and protecting the public within an area of exposure prior to an intentional release, or following the accidental release of a potentially hazardous volume of hydrogen sulfide. The plan establishes guidelines for all personnel whose work activity may involve exposure to Hydrogen Sulfide Gas (H_2S).

Objective:

Prevent any and all accidents, and prevent the uncontrolled release of H_2S into the atmosphere.

Provide proper evacuation procedures to cope with emergencies.

Provide immediate and adequate medical attention should an injury occur.

Discussion of Plan:

Suspected Problem Zones:

Implementation: This plan, with all details, is to be fully implemented 500' above or three days prior to drilling into the first known sour zone

Emergency Response and Public Protection Procedure: This section outlines the conditions and denotes steps to be taken in the event of an emergency.

Emergency Equipment and Procedure: This section outlines the safety and emergency equipment that will be required for the drilling of this well.

Training Provisions: This section outlines the training provisions that must be adhered to 500 feet above or three days prior to drilling into the first known sour zone.

Emergency call lists: Included are the telephone numbers of all persons that would need to be contacted should an H_2S emergency occur.

Briefing: This section deals with the briefing of all persons involved with the drilling of this well.

Public Safety: Public Safety Personnel will be made aware of the drilling of this well.

EMERGENCY PROCEDURES AND PUBLIC PROTECTION SECTION

I. In the event of any evidence of H_2S levels above 10 ppm, take the following steps immediately:

A. Secure breathing apparatus.

B. Order non-essential personnel out of the danger zone.

C. Take steps to determine if the H_2S level can be corrected or suppressed, and if so, proceed with normal operations.

II. If uncontrollable conditions occur, proceed with the following:

A. Take steps to protect and/or remove any public downwind of the rig, including partial evacuation or isolation. Notify necessary public safety personnel and the New Mexico Oil & Gas of the situation.

B. Isolate area and prevent entry by unauthorized persons into the 100 ppm ROE.

C. Remove all personnel to the Safe Briefing Area.

D. Notify public safety personnel for help with maintaining roadblocks and implementing evacuation. Phone number list attached.

E. Determine and proceed with the best possible plan to regain control of the well. Maintain tight security and safety measures.

III. Responsibility:

A. The Company Approved Supervisor shall be responsible for the total implementation of the plan.

B. The Company Approved Supervisor shall be in complete command during any emergency.

C. The Company Approved Supervisor shall designate a back up Supervisor in the event that he/she is not available.

EMERGENCY PROCEDURE IMPLEMENTATION

I. Drilling or Tripping

A. All Personnel

1. When alarm sounds, don escape unit and report to upwind Safe Briefing Area.
2. Check status of other personnel (buddy system).
3. Secure breathing apparatus.
4. Wait for orders from supervisor.

B. Drilling Foreman

1. Report to the upwind Safe Briefing Area.
2. Don Breathing Apparatus and return to the point of release with the Tool Pusher or Driller (buddy system).
3. Determine the concentration of H_2S.
4. Assess the situation and take appropriate control measures.

C. Tool Pusher

1. Report to the upwind Safe Briefing Area.
2. Don breathing apparatus and return to the point of release with the Drilling Foreman or the Driller (buddy system).
3. Determine the concentration.
4. Assess the situation and take appropriate control measures.

D. Driller

1. Check the status of other personnel (in a rescue attempt, always use the buddy system).
2. Assign the least essential person to notify the Drilling Foreman and Tool Pusher, in the event of their absence.

3. Assume the responsibility of the Drilling Foreman and the Tool Pusher until they arrive, in the event of their absence.

E. Derrick Man and Floor Hands

1. Remain in the upwind Safe Briefing Area until otherwise instructed by a supervisor.

F. Mud Engineer

1. Report to the upwind Safe Briefing Area.

2. When instructed, begin check of mud for pH level and H_2S level.

G. On-site Safety Personnel

1. Don Breathing Apparatus.

2. Check status of all personnel.

3. Wait for instructions from Drilling Foreman or Tool Pusher.

II. Taking a Kick

A. All personnel report to the upwind Safe Briefing Area.

B. Follow standard BOP procedures.

III. Open Hole Logging

A. All unnecessary personnel should leave the rig floor.

B. Drilling Foreman and Safety Personnel should monitor the conditions and make necessary safety equipment recommendations.

IV. Running Casing or Plugging

A. Follow "Drilling or Tripping" procedures.

B. Assure that all personnel have access to protective equipment.

SIMULATED BLOWOUT CONTROL DRILLS

All drills will be initiated by activating alarm devices (air horn). Use one long blast on the air horn for ACTUAL and SIMULATED Blowout Control Drills. This operation will be performed by the Drilling Foreman or Tool Pusher at least one time per week for each of the following conditions, with each crew:

Drill # 1 Bottom Drilling

Drill # 2 Tripping Drill Pipe

In each of these drills, the initial reaction time to shutting in the well shall be timed as well as the total time for the crew to complete its entire pit drill assignment. The times must be recorded on the IADC Driller's Log as "Blowout Control Drill".

Drill No.:		
Reaction Time to Shut-In:	minutes,	seconds.
Total Time to Complete Assignment:	minutes,	seconds.

I. Drill Overviews

A. Drill No. 1- Bottom Drilling

1. Sound the alarm immediately.
2. Stop the rotary and hoist kelly joint above the rotary table.
3. Stop the circulatory pump.
4. Close the drill pipe rams.
5. Record casing and drill pipe shut-in pressures and pit volume increases.

B. Drill No. 2 – Tripping Drill Pipe

1. Sound the alarm immediately.
2. Position the upper tool joint just above the rotary table and set the slips.

3. Install a full opening valve or inside blowout preventor tool in order to close the drill pipe.

4. Close the drill pipe rams.

5. Record the shut-in annular pressure.

II. Crew Assignments

A. Drill No. 1 – Bottom Drilling

1. Driller

   a) Stop the rotary and hoist kelly joint above the rotary table.

   b) Stop the circulatory pump.

   c) Check flow.

   d) If flowing, sound the alarm immediately.

   e) Record the shut-in drill pipe pressure.

   f) Determine the mud weight increase needed or other courses of action.

2. Derrickman

   a) Open choke line valve at BOP.

   b) Signal Floor Man # 1 at accumulator that choke line is open.

   c) Close choke and upstream valve after pipe tams have been closed.

   d) Read the shut-in annular pressure and report readings to Driller.

3. Floor Man # 1

   a) Close the pipe rams after receiving the signal from the Derrickman.

   b) Report to Driller for further instructions.

4. Floor Man # 2

   a) Notify the Tool Pusher and Operator Representative of the H_2S alarms.

   b) Check for open fires and, if safe to do so, extinguish them.

   c) Stop all welding operations.

   d) Turn-off all non-explosion proof lights and instruments.

   e) Report to Driller for further instructions.

5. Tool Pusher

   a) Report to the rig floor.

   b) Have a meeting with all crews.

   c) Compile and summarize all information.

   d) Calculate the proper kill weight.

   e) Ensure that proper well procedures are put into action.

6. Operator Representative

   a) Notify the Drilling Superintendent.

   b) Determine if an emergency exists and if so, activate the contingency plan.

B. Drill No. 2 – Tripping Pipe

1. Driller

   a) Sound the alarm immediately when mud volume increase has been detected.

   b) Position the upper tool joint just above the rotary table and set slips.

   c) Install a full opening valve or inside blowout preventor tool to close the drill pipe.

   d) Check flow.

e) Record all data reported by the crew.

f) Determine the course of action.

2. Derrickman

a) Come down out of derrick.

b) Notify Tool Pusher and Operator Representative.

c) Check for open fires and, if safe to do so, extinguish them.

d) Stop all welding operations.

e) Report to Driller for further instructions.

3. Floor Man # 1

a) Pick up full opening valve or inside blowout preventor tool and stab into tool joint above rotary table (with Floor Man # 2).

b) Tighten valve with back-up tongs.

c) Close pipe rams after signal from Floor Man # 2.

d) Read accumulator pressure and check for possible high pressure fluid leaks in valves or piping.

e) Report to Driller for further instructions.

4. Floor Man # 2

a) Pick-up full opening valve or inside blowout preventor tool and stab into tool joint above rotary table (with Floor Man # 1).

b) Position back-up tongs on drill pipe.

c) Open choke line valve at BOP.

d) Signal Floor Man # 1 at accumulator that choke line is open.

e) Close choke and upstream valve after pipe rams have been closed.

f) Check for leaks on BOP stack and choke manifold.

g) Read annular pressure.

h) Report readings to the Driller.

5. Tool Pusher

a) Report to the rig floor.

b) Have a meeting with all of the crews.

c) Compile and summarize all information.

d) See that proper well kill procedures are put into action.

6. Operator Representative

a) Notify Drilling Superintendent

b) Determine if an emergency exists, and if so, activate the contingency plan.

IGNITION PROCEDURES

Responsibility:

The decision to ignite the well is the responsibility of the DRILLING FOREMAN in concurrence with the STATE POLICE. The State Police shall be the Incident Command on the scene of any major release. Intentional ignition must be coordinated with the NMOCD and local officials. In the event the Drilling Foreman is incapacitated, it becomes the responsibility of the RIG TOOL PUSHER. This decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.

2. There is no hope of controlling the blowout under the prevailing conditions.

If time permits, notify the main office, but do not delay if human life is in danger. Initiate the first phase of the evacuation plan.

Instructions for Igniting the Well:

1. Two people are required for the actual igniting operation. Both men must wear self-contained breathing apparatus and must use a full body harness and attach a retrievable safety line to the D-Ring in the back. One man must monitor the atmosphere for explosive gases with the LEL monitor, while the Drilling Foreman is responsible for igniting the well.

2. The primary method to ignite is a 25mm flare gun with a range of approximately 500 feet.

3. Ignite from upwind and do not approach any closer than is warranted.

4. Select the ignition site best suited for protection and which offers an easy escape route.

5. Before igniting, check for the presence of combustible gases.

6. After igniting, continue emergency actions and procedures as before.

7. All unassigned personnel will limit their actions to those directed by the Drilling Foreman.

NOTE: After the well is ignited, burning Hydrogen Sulfide will convert to Sulfur Dioxide (SO_2), which is also highly toxic. Do not assume the area is safe after the well is ignited.

TRAINING REQUIREMENTS

When working in an area where Hydrogen Sulfide (H_2S) might be encountered, definite training requirements must be carried out. The Company Supervisor will ensure that all personnel at the well site, whether regularly assigned, contracted, or employed on an unscheduled basis, have had adequate training by a qualified instructor in the following:

1. Hazards and Characteristics of Hydrogen Sulfide and Sulfur Dioxide.
2. Physicals effects of Hydrogen Sulfide on the human body.
3. Toxicity of Hydrogen Sulfide and Sulfur Dioxide.
4. H_2S detection, emergency alarm and sensor location.
5. Emergency rescue.
6. First aid and artificial resuscitation.
7. The effects of Hydrogen Sulfide on metals.
8. Location safety.

In addition, Supervisory Personnel will be trained in the following areas:

1. If high tensile tubular are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well as well as blowout prevention and well control procedures.
3. The contents and requirements of the H_2S Drilling Operations Contingency Plan and the Public Protection Plan.

Service company personnel and visiting personnel must be notified if the zone contains H_2S, and each service company must provide adequate training and equipment for their employees before they arrive at the well site.

EMERGENCY EQUIPMENT

As stated in the BLM Onshore Order 6, for wells located in a known H_2S areas, H_2S equipment will be rigged up after setting surface casing. For wells located inside known H_2S areas, the flare pit will be located 150' from the location and for wells located outside known H_2S areas, the flare pit will be located 100' away from the location. (See page 6 of Survey plat package and diagram B or C.)

It is not anticipated that any H_2S is in the area, however in the event that H_2S is encountered, the attached H_2S Contingency Plan will be implemented. (Please refer to diagrams B or C for choke manifold and closed loop system layout.) See H_2S location layout diagram for location of all H_2S equipment on location.

All H_2S safety equipment and systems will be installed, tested and be operational when drilling reaches a depth of 500' above, or three days prior to penetrating a known formation containing H_2S.

Lease Entrance Sign:

Caution signs should be located at all roads providing direct access to the location. Signs shall have a yellow background with black lettering and contain the words "CAUTION" and "POISON GAS" that is legible from a distance of at least 50 feet.

LEASE NAME
CAUTION – POTENTIAL POISON GAS
HYDROGEN SULFIDE
NO ADMITTANCE WITHOUT AUTHORIZATION

Windsocks or Wind Streamers:

- A minimum of two 10" windsocks located at strategic locations so that they may be seen from any point on location.
- Wind streamers (if preferred) should be placed at various locations on the well site to ensure wind consciousness at all times. (Corners of location)

Hydrogen Sulfide Detector and Alarms:

- H_2S monitors with alarms will be located on the rig floor, at the cellar, and at the mud pits. These monitors will be set to alarm at 10 PPM with a red light and to alarm at 15 PPM with a red light and audible alarm.

Well Condition Flags:

The Well Condition flags should be located at all roads providing direct access to the location. It should have three (3) color coded flags (green, yellow and red) that will be used to denote the following location conditions:

GREEN – Normal Operating Conditions
YELLOW – Potential Danger
RED – Danger, H_2S Gas Present

Respiratory Equipment:

- Fresh air breathing equipment should be placed at the company supervision trailer and the safe briefing areas and should include the following:
  - A minimum of two SCBA's at each briefing area and the supervisor company supervision trailer.
  - Enough air line units to operate safely, anytime the H_2S concentration reaches the IDLH level (100 PPM).
  - Cascade system with enough breathing air hose and manifolds to reach the rig floor, the derrickman and the other operation areas.

Fire Extinguishers:

Adequate fire extinguishers shall be located at strategic locations.

Mud Program:

The mud program has been designed to minimize the volume of H_2S circulated to the surface. Proper mud weight, safe drilling practices and the use of H_2S scavengers will minimize hazards when penetrating H_2S bearing zones.

Metallurgy:

All drill strings, casing, tubing, wellhead; blowout preventer, drilling spools, kill lines, choke manifold and lines, and valves shall be suitable for H_2S service.

Well Control Equipment:

- Flare Line (See page 6 of survey plat package for flare line reference).
- Choke manifold (See diagram B or C and refer to H2S location diagram for location of important H2S safety items).
- Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing units.
- Auxiliary equipment may include, if applicable, annular preventer & rotating head.

Communication Equipment:

- Proper communication equipment such as cell phones or 2 – way radios should be available for communication between the company man's trailer, rig floor and tool pusher's trailer.

Well Testing:

- There will be no drill stem testing.

Evacuation Plan:

- Evacuation routes should be established prior to spudding the well.
- Should be discussed with all rig personnel.

Designated Areas:

Parking and Visitor area:

- All vehicles are to be parked at a pre-determined safe distance from the wellhead.
- A smoking area will be designated at a pre-determined safe distance from the wellhead and any other possible flammable areas.

Safe Briefing Areas:

- Two Safe Briefing Areas shall be designated on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds or they are at a 180 degree angle if wind directions tend to shift in the area.

- Personal protective equipment should be stored at both briefing areas or if a moveable cascade trailer is used, it should be kept upwind of existing winds. When wind is from the prevailing direction, both briefing areas should be accessible.

NOTE:

- Additional equipment will be available at Indian Fire and Safety in Hobbs, NM or at Total Safety in Hobbs, NM.

EVACUATION PLAN

General Plan

The direct lines of action to protect the public from hazardous gas situations are as follows:

1. When the company approved supervisor (Drilling Foremen, Tool Pusher or Driller) determine that Hydrogen Sulfide gas cannot be limited to the well location, and the public will be involved, he will activate the evacuation plan. Escape routes are noted on the Area Map.

2. Company safety personnel or designee will notify the appropriate local government agency that a hazardous condition exists and evacuation needs to be implemented.

3. Company approved safety personnel that have been trained in the use of the proper emergency equipment will be utilized.

4. Law enforcement personnel (State Police, Local Police Department, Fire Department, and the Sheriff's Department) will be called to aid in setting up and maintaining road blocks. Also, they will aid in evacuation of the public if necessary.

NOTE: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

5. After the discharge of gas has been controlled, Company approved safety personnel will determine when the area is safe for re-entry.

See Emergency Action Plan

Contacting Authorities

BOPCO L.P. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

H_2S CONTINGENCY PLAN EMERGENCY CONTACTS

BOPCO L.P. Midland Office 432-683-2277

Key Personnel

Name	Title	Cell Phone Number
Stephen Martinez	Drilling Supt.	432-556-0262
Charles Warne	Engineer	432-312-4431
Chris Giese	Engineer	432-661-7328
Stephen Ordoyne	Engineer	985-665-7249
Brian Braun	Engineer	210-683-9849
Chris Volek	Engineer	785-979-2643

Artesia

Ambulance	911
State Police	575-746-2703
City Police	575-746-2703
Sheriff's Office	575-746-9888
Fire Department	575-746-2701
Local Emergency Planning Committee	575-746-2122
New Mexico Oil Conservation Division	575-748-1283

Carlsbad

Ambulance	911
State Police	575-885-3137
City Police	575-885-2111
Sheriff's Office	575-887-7551
Fire Department	575-887-3798
Local Emergency Planning Committee	575-887-6544
US Bureau of Land Management	575-887-6544

New Mexico Emergency Response Commission (Santa Fe)	505-476-9600
24 Hour	505-827-9126
New Mexico State Emergency Operations Center	505-476-9635
National Emergency Response Center (Washington, DC)	800-424-8802

Other

Wild Well Control	432-550-6202 (Permian Basin)
Cudd PressureControl	432-580-3544 or 432-570-5300 (Permian Basin)
Flight For Life – 4000 24th St. Lubbock, Texas	806-743-9911
Aerocare – R3, Box 49F, Lubbock, Texas	806-747-8923
Med Flight Air Amb – 2301 Yale Blvd SE #D3, Albuq., NM	505-842-4433
S B Air Med Service – 2505 Clark Carr Loop SE, Albuq., NM	505-842-4949
Indian Fire and Safety – 3317 NW Cnty Rd, Hobbs, NM	575-393-3093
Total Safety – 3229 Industrial Dr., Hobbs, NM	575-392-2973

TOXIC EFFECTS OF HYDROGEN SULFIDE

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 PPM, which is .001% by volume. Hydrogen Sulfide is heavier than air (specific gravity = 1.192) and colorless. It forms an explosive mixture with air between 4.3 and 46.0 percent by volume. Hydrogen sulfide is almost as toxic as hydrogen cyanide and is between five and six times more toxic than carbon monoxide. Toxicity data for hydrogen sulfide and various other gases are compared in Table I. Physical effects at various Hydrogen Sulfide exposure levels are shown in Table II.

Table I - TOXICITY OF VARIOUS GASES

Common Name	Chemical Formula	Specific Gravity (SC=1)	Threshold Limit (1)	Hazardous Limit (2)	Lethal Concentration (3)
Hydrogen Cyanide	HCN	0.94	10 PPM	150 PPM/HR	300 PPM
Hydrogen Sulfide	H2S	1.18	10 PPM	250 PPM/HR	600 PPM
Sulfur Dioxide	SO2	2.21	5 PPM	--	1000 PPM
Chlorine	CL2	2.45	1 PPM	4 PPM/HR	1000 PPM
Carbon Monoxide	CO	0.97	50 PPM	400 PPM/HR	1000 PPM
Carbon Dioxide	CO2	1.52	5000 PPM	5%	10%
Methane	CH4	0.55	90,000 PPM	Combustible in air	Above 5%

1) **Threshold Limit – Concentration at which it is believed that all worker may be repeatedly exposed day after day without adverse effects.**

2) **Hazardous Limit – Concentration that will cause death with short-term exposure.**

3) **Lethal Concentration – Concentration that will cause death with short-term exposure.**

Table II – PHYSICAL EFFECTS OF HYDROGEN SULFIDE

Percent (%)	PPM	Concentration Grains 100 STD. FT3*	Physical Effects
0.001	< 10	00.65	Obvious & unpleasant odor.
0.002	10	01.30	Safe for 8 hours of exposure.
0.010	100	06.48	Kills smell in 3-15 minutes. May sting eyes & throat.
0.020	200	12.96	Kills smell shortly; stings eyes & throat.
0.050	500	32.96	Dizziness; Breathing ceases in a few minutes. Needs prompt artificial respiration.
0.070	700	45.36	Unconscious quickly; Death will result if not rescued promptly.
0.100	1000	64.30	Unconscious at once; Followed by death within minutes.

- At 15.00 PSIA and 60° F.

USE OF SELF-CONTAINED BREATHING APPARATUS

1. Anyone who uses an SCBA shall: Be approved by a physician or licensed health care practitioner; Pass a fit test; Be trained in donning and doffing, proper use, including how to ensure a proper face seal, conducting an inspection of the SCBA, and conduct proper maintenance.

2. Such items as facial hair (beard or sideburns) and eyeglasses will not allow a proper face mask seal.

3. Anyone reasonably expected to wear SCBA's shall have these items removed before entering a toxic atmosphere.

4. A special mask with a mount for prescription glasses must be obtained for anyone who must wear eyeglasses in order to see while using an SCBA.

5. SCBA's should be worn in H_2S concentrations above 10 PPM.

RESCUE & FIRST AID FOR H_2S POISONING

DO NOT PANIC – REMAIN CALM – THINK

1. Hold your breath – do not inhale first.

2. Put on SCBA.

3. Remove victim(s) to fresh air as quickly as possible. Go upwind from source or at right angle to the wind. Do not go downwind.

4. Briefly apply chest pressure – using arm lift method of artificial respiration to clean victim's lungs and to avoid inhaling any toxic gas directly from victim's lungs.

5. Provide artificial respiration if needed.

6. Provide for prompt transportation to the hospital and continue giving artificial respiration if needed.

7. Inform hospital/medical facilities of the possibility of H2S gas poisoning before they treat.

Besides basic first aid, everyone on location should have a good working knowledge of artificial respiration and CPR, as well as first aid for eyes and skin contact with liquid H_2S.

Proposed H2S Safety Schematic

1) Location of windsocks.

2) Location of H2S alarms

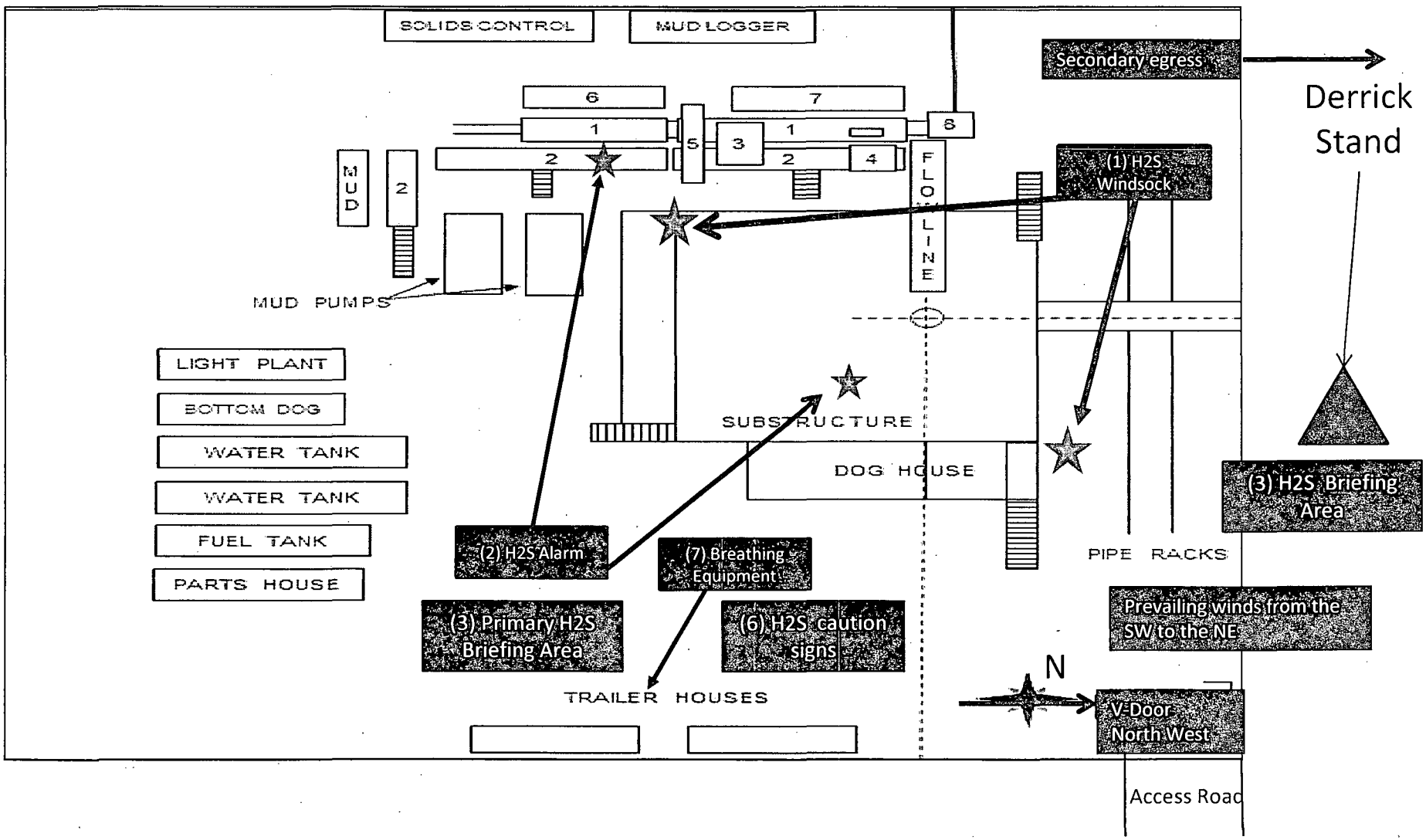
3) Location of briefing areas.

4) Terrain of surrounding area (Please refer to page 2 of survey plat package also see point 11 of multi-surface use plan)

5) Location of flare line(s) and pit(s) (Please refer to diagram 2 choke manifold diagram and or page six of survey plat packet)

6) Location of caution and/or danger signs.

(7) Location of Breathing Equipment



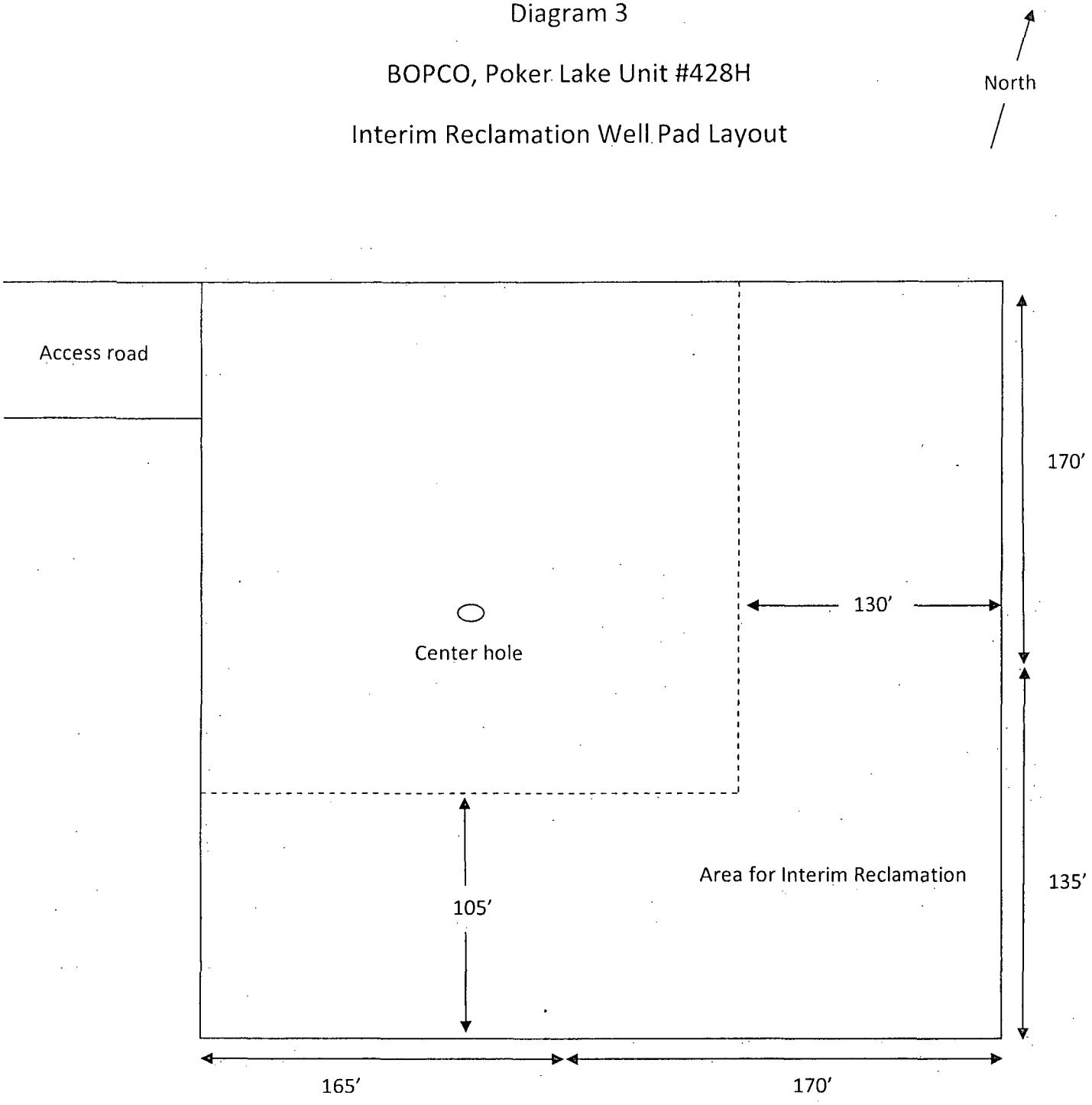
Location On-Site Notes

Location on-site conducted by Todd Carpenter- BOPCO L.P., Courtney Lockhart- BOPCO, L.P., Amanda Lynch- BLM, Erin Goslin-BLM archeologist and Robert Gomez- Basin Surveys on 01/10/2013. The Poker Lake Unit 428H was approved as is in Sec 34-T24S-R30E. Location layout includes v-door facing the northwest, access road will enter at the west/northwest corner of proposed pad and topsoil will be stockpiled to the northeast side of location.

Diagram 3

BOPCO, Poker Lake Unit #428H

Interim Reclamation Well Pad Layout



MULTI-POINT SURFACE USE PLAN

NAME OF WELL: Poker Lake Unit #428H

LEGAL DESCRIPTION - SURFACE: 850' FNL, 2225' FWL, Section 34, T24S, R30E, Eddy County, NM.
BHL: 1950' FNL, 1950' FEL, Section 28, T24S, R30E, Eddy County, New Mexico.

POINT 1: EXISTING ROADS

A) Proposed Well Site Location:

See Form C-102 (Survey Plat).

B) Existing Roads:

From the junction of CO 787 Twin Wells and CO 749 McDonald go west on McDonald for 0.4 miles then south through the well pad for 0.2 miles to the lease road to PLU #376H and proposed location.

C) Existing Road Maintenance or Improvement Plan:

Existing roads will be maintained and kept in the same or better condition than before operations began. See the Well Pad Layout and Topo Map of the survey plat (Sheet 1 and 2 of plat package)

POINT 2: NEW PLANNED ACCESS ROUTE

A) Route Location:

No new lease road will be built. (See the Well Pad Layout of the survey plat (Sheet 1 of plat package).

B) Width

14' wide

C) Maximum Grade

Grade to match existing topography or as per BLM requirements.

D) Turnout Ditches

As required by BLM stipulations

E) Culverts, Cattle Guards, and Surfacing Equipment

If required, culverts and cattle guards will be set per BLM Specs.

POINT 3: LOCATION OF EXISTING WELLS

The following wells are located within a one-mile radius of the location site. See the One-Mile Radius Map (Sheet 5 of the plat package).

Existing wells..... 6 (Six)
Water wells..... 0 (Zero)

POINT 4: LOCATION OF EXISTING OR PROPOSED FACILITIES

A) The PLU Pierce Canyon 28 Federal battery is 0.6 miles northwest and the PLU Pierce Canyon 33 Federal battery is 0.9 miles southwest of the proposed Poker Lake Unit #428H location.

B) New Facilities in the Event of Production:

New production facilities will be built at Poker Lake Unit #261 battery (located in the NWSE quarter Sec 34, T24S, R30E. A 2-7/8" or 3-1/2" flowline carrying oil, water, and gas will be laid on top of ground from Poker Lake Unit #428H to Poker Lake Unit #261 battery following existing lease roads and right of ways (see the Aerial Map labeled diagram 4). This flowline will not exceed a working pressure of 125 psi and will be approximately 2.25 miles long. Permanent power will be run to this location from a 0.17 miles North of the location.

C) Rehabilitation of Disturbed Areas Unnecessary for Production:

Following the construction, those access areas required for continued production will be graded to provide drainage and minimize erosion. The areas unnecessary for use will be graded to blend in with the surrounding topography (see Point 10)

POINT 5: LOCATION AND TYPE OF WATER SUPPLY

A) Location and Type of Water Supply

Fresh water will be hauled from Johnson Station 50 miles east of Carlsbad, New Mexico or other commercial facilities. Brine water will be hauled from commercial facilities.

B) Water Transportation System

Water hauling to the location will be over the existing and proposed roads.

POINT 6: SOURCE OF CONSTRUCTION MATERIALS

A) Materials

On-site caliche will be used. If this is not sufficient, caliche will be hauled from a BLM approved pit.

B) Land Ownership

Federally Owned

C) Materials Foreign to the Site

No construction materials foreign to this area are anticipated for this drill site

D) Access Roads

See the Well Pad Layout and Aerial Map of the survey plat (Sheet 1 and 4 of plat package)