13-14

OCD Artesia

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. **NMNM 0030452** TOS 1/7/2013

6. If Indian, Allotee or Tribe Name

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 SWD INJ ☐ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. **Delaware B 23 Fed 4 SWD** #1 (396117)

2. Name of Operator **BOPCO, L. P.** per Jeremy B. (260737)

9. API Well No. 30-015-40935

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

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

10. Field and Pool, or Exploratory **Poker Lake SW (~~Delaware~~) Devonian** (96101)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **NENW, UL C, 1115' FNL & 2180' FWL, Lat: N32.207442, Lng:W103.8527**
At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area **Sec 23 T24S-R31E, Mer NMP**

14. Distance in miles and direction from nearest town or post office* **22 miles east 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
1115' (lease line) / 3,369' (Unit line)	**1200**	**40**
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
761' (PLU 341H)	**17,785' TVD**	**COB 000050**
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3,435' GL	**11/15/2012**	**110 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
Jeremy Braden	**Jeremy Braden**	10-23-12
Title **Engineering Assistant**		

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ Don Peterson		JAN - 2 2013
Title **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)*

RECEIVED
JAN 07 2013
NMOCD ARTESIA

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
30-015-40935	96101	SWD; Devonian

Property Code	Property Name	Well Number
~~306402~~ 39611	PLU DELAWARE B 23 FEDERAL SWD	1 ~~SWD~~

OGRID No.	Operator Name	Elevation
260737	BOPCO, L.P.	3435

Surface Location

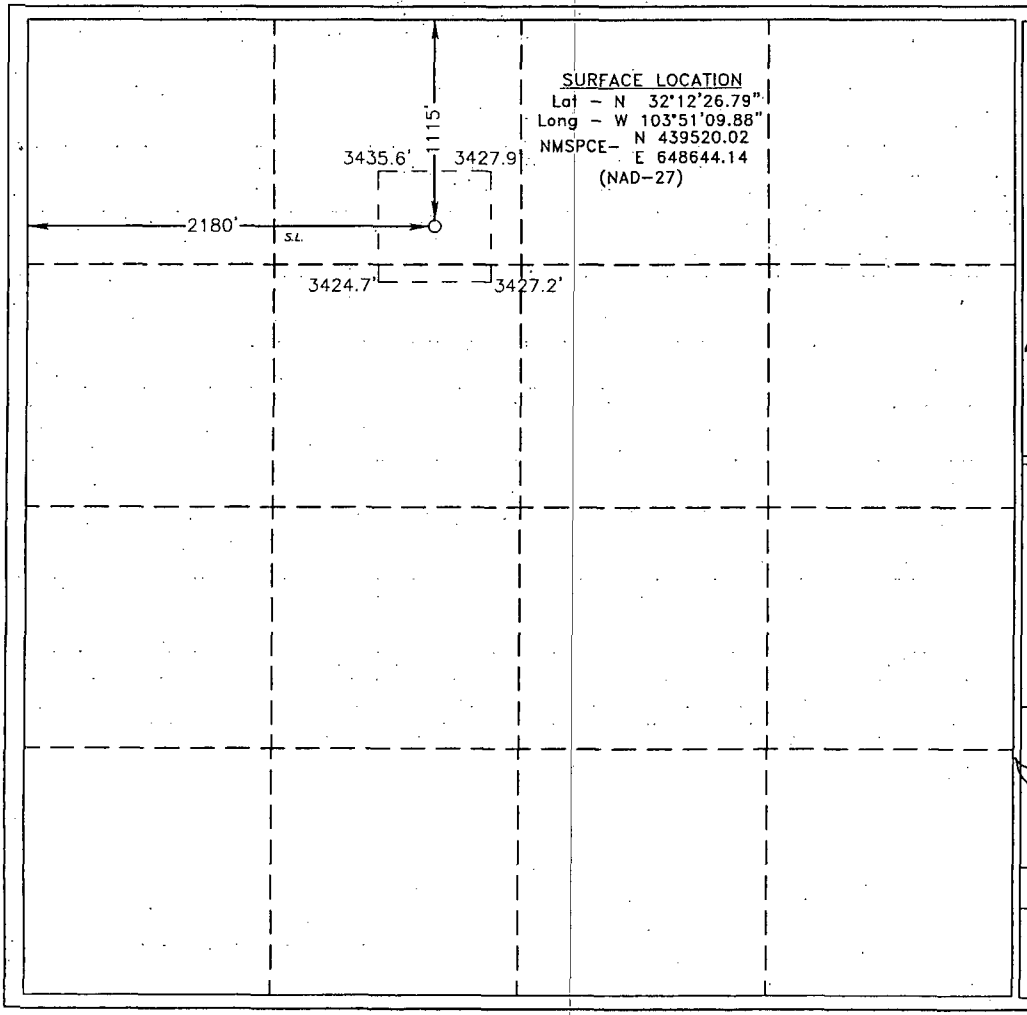
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	23	24 S	30 E		1115	NORTH	2180	WEST	EDDY

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
Ø			

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.

Jeremy Braden 10-17-12
Signature Date

Jeremy Braden
Printed Name

jdbraden@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.

JUNE 29, 2012
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

W.O. 26947

Certificate No. Gary L. Jones 7977

BASIN SURVEYS 26947

BOPCO, L.P.

P. O. Box 2760
Midland, Texas 79702

432-683-2277 FAX-432-687-0329

September 25, 2012

Bureau of Land Management
Carlsbad Field Office
620 East Green Street
Carlsbad, New Mexico 88220-6292

Attn: Mr. Don Peterson – Assistant Field Manager, Minerals

RE: APPLICATION FOR PERMIT TO DRILL
Delaware B 23 Federal SWD 1
1,115' FNL, 2,180' FWL, Sec. 23, T24S, R30E, Eddy County, NM

Dear Mr. Peterson,

In reference to the above captioned well, I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in the APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 25 day of September, 2012.

If you have any questions regarding the accuracy of the plan provided herein, please do not hesitate to contact me at (432) 683-2277.

Sincerely,

Jeremy Braden

Jeremy Braden
Engineering Tech

20" OD Surface casing is to be set into the Rustler below all fresh water sands at an approximate depth of 930' and cement circulated to surface.

13-3/8" OD salt protection casing will be set into the Lamar Lime at 4,115'. Cement will be circulated to surface.

9-5/8" OD protection\production casing will be set at approximately 12,000' into the Wolfcamp formation and cemented in two stages with DV tool set at approximately 7,000'. Cement will be circulated 500' into the 9-5/8" 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.

Surface Lease Numbers- Federal Lease: NMNM 0030452 (1200 acres)

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: Delaware B 23 Federal SWD 1
LEGAL DESCRIPTION - SURFACE: 1,115' FNL, 2,180' FWL, Section 23, T24S, R30E, Eddy County, NM.

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

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

Anticipated Formation Tops: KB 3,460' (estimated)
GL 3,435'

Formation Description	Est from KB (TVD)	Est (MD)	SUB-SEA TOP	BEARING
T/Fresh Water	400'	400'	+ '	Fresh Water
T/Rustler	710'	710'	+ 2,750'	Barren
T/Salado	940'	940'	+ 2,520'	Barren
T/Lamar	4,060'	4,060'	- 600'	Oil/Gas
Delaware Sand	4,095'	4,095'	- 635'	Oil/Gas
Bone Spring	7,925'	7,925'	- 4,465'	Oil/Gas
Wolfcamp	11,305'	11,305'	- 7,845'	Oil/Gas
Middle Wolfcamp	12,553'	12,553'	- 9,093'	Oil/Gas
Strawn	13,445'	13,445'	- 9,985'	Oil/Gas
Atoka	13,505'	13,505'	- 10,045'	Oil/Gas
Morrow	13,965'	13,965'	- 10,505'	Oil/Gas
Middle Morrow	14,530'	14,530'	- 11,070'	Oil/Gas
Lower Morrow	15,010'	15,010'	- 11,550'	Oil/Gas
Mississippian Lime	15,875'	15,875'	- 12,415'	Oil/Gas
Woodford	16,130'	16,130'	- 12,670'	Oil/Gas
Devonian	16,285'	16,285'	- 12,825'	Brine Water
Ordovician Montoya	17,385'	17,385'	-13,925'	Brine Water
TD	17,785'	17,785'	- 14,325'	Brine Water

POINT 3: CASING PROGRAM

TYPE	INTERVAL MD	HOLE SIZE	PURPOSE	INSTALLATION TYPE
30"	0' – 120'	36"		
20", 94 ppf, J-55, BTC	0' – 930'	26"	Surface	New
13-3/8", 68 ppf, HCN-80, BTC	0' – 4,115'	17-1/2"	Potash	New
9-5/8", 53.50 ppf, L-80, LTC* P-110	0' – ~~7,500'~~	12-1/4"	Production	New
~~9-5/8", 53.50 ppf, HCL-80, LTC*~~	~~7,500'~~ – 11,980'	12-1/4"	Production	New
7-5/8", 39 ppf, P-110 Ultra FJ	11,780' – 14,500'	8-1/2"	Prod. Liner	New
7-5/8", 42.80 ppf, P-110 Ultra FJ	14,500' – 16,300	8-1/2"	Prod Liner.	New

***9-5/8", 53.50, L-80 & HCL-80 will be special drift to 8.5".**

DESIGN CRITERIA AND CASING LOADING ASSUMPTIONS:

SURFACE CASING - (20")

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 - (13-3/8")

Tension — A 1.6 design factor utilizing the effects of buoyancy (10.2 ppg).

Collapse — A 1.125 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered.

In the case of development drilling, collapse design should be analyzed using internal evacuation equal to 1/3 the proposed total depth of the well. This criterion will be used when there is absolutely no potential of the protective string being used as a production casing string.

Burst — A 1.0 surface design factor and a 1.3 downhole design factor with a surface pressure equivalent to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure at that depth. 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 - (9-5/8")

Tension — A 1.6 design factor utilizing the effects of buoyancy (9.5 ppg).

Collapse — A 1.125 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.

Burst — A 1.25 design factor with anticipated maximum tubing pressure (5000 psig) on top of the maximum anticipated packer fluid gradient. (0.433 psi/ft) Backup on production strings will be formation pore pressure. (0.433 psi/ft) The effects of tension on burst will not be utilized.

Production Liner - (7-5/8")

Tension — A 1.6 design factor utilizing the effects of buoyancy (12.5 ppg).

Collapse — A 1.125 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.

Burst — A 1.25 design factor with anticipated maximum tubing pressure (5000 psig) on top of the maximum anticipated packer fluid gradient. (0.433 psi/ft) Backup on production strings will be formation pore pressure. (0.433 psi/ft) The effects of tension on burst will not be utilized.

POINT 4: PRESSURE CONTROL EQUIPMENT (SEE ATTACHED DIAGRAM 1 & 2)

The BOPE when rigged up on the 20" surface casing head (17-1/2" hole) will consist of 20" annular and diverter system per Diagram B (2,000 psi WP). The annular when installed on surface casing will be tested to 1,000 psi. There will be a 6", 5000 psi gate valve installed on the drilling spool for fill up. The choke manifold system will be rigged up to the hydraulic gate valve on the drilling spool.

The BOPE when rigged up on the 13-3/8" intermediate casing spool (12-1/4" open hole) will consist of 13-5/8" X 10,000 psi annular, (2) 13-5/8" x 10,000 psi pipe rams & (1) blind ram with mud cross, choke manifold, chokes, and hydril per Diagram 1 (10,000 psi WP). The pipe and blind rams, choke, kill lines, kelly cocks, inside BOP, etc. when installed will be hydro-tested as a 5M BOP/BOPE system equivalent or better by an independent tester. In addition to the high pressure test, a low pressure (250-300 psig) test will be required. The annular when installed on the intermediate casing will be tested to 2500 psig.

The BOPE when rigged up on the 9-5/8" production casing spool (8-1/2" open hole) will consist of 13-5/8" x 10,000 psi annular, (2) 13-5/8" x 10,000 psi pipe rams & (1) blind ram with mud cross, choke manifold and chokes as in Diagram 1. The pipe and blind rams, choke, kill lines, kelly cocks inside BOP, etc. when installed will be hydro-tested as a 10M BOP/BOPE system equivalent or better by an independent tester. In addition to the high pressure test, a low pressure (250-300 psig) test will be required. The annular when installed on the intermediate casing will be tested to 5000 psig.

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

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

BOPCO, LP would like to request a variance to utilize a 3-1/2" ID, 10, 10,000 psi WP, armored flex hose to be installed between the BOP stack and choke manifold in the drilling of this well. The hose has passed a hydrostatic test to 15,OOO psi by Midwest Hose & Specialty, Inc. The 40' hose, serial number 7469, has 10,000 psi swedged fittings. This well will be drilled to a maximum TVD of 17,785' and a maximum surface pressure should be +4,595 psi. Which is max BHP minus 0.22 psi/ft. as per

Please refer to diagram 1 for BOP layout. Please see diagram 2 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.

MOA [illegible] 2015

CASING DESIGN SAFETY FACTORS:

TYPE	TENSION	COLLAPSE	BURST
20", 94 ppf, J-55, BTC	18.66	1.15	1.37
13-3/8", 68 ppf, HCN-80, BTC	6.59	1.25	2.19
9-5/8", 53.50 ppf, ~~L-80~~ P-110, LTC*	2.27	1.31	1.67
9-5/8", 53.50 ppf, ~~HCL-80~~, LTC*	6.07	1.39	1.66
7-5/8", 39 ppf, P-110 Ultra FJ	10.60	1.14	1.60
7-5/8", 42.80 ppf, P-110 Ultra FJ	16.58	1.29	1.77

P-110

***9-5/8", 53.50, ~~L-80 & HCL-80~~ will be special drift to 8.5".**

POINT 5: MUD PROGRAM

DEPTH	MUD TYPE	WEIGHT	FV	PV	YP	FL	Ph
0 - 930'	FW Spud Mud	8.5 – 9.2	70-40	20	12	NC	10.0
930' - 4,115'	Brine Water	9.8 – 10.2	28-32	NC	NC	NC	10.0
4,115' – 9,000'	FW/Gel	8.7 – 9.0	28-32	NC	NC	NC	9.5 -10.5
9,000' – 11,980'	Cut Brine\Brine Mud	9.0 – 9.5	34-42	10	8	< 25	9.5 – 10.5
11,980' – 16.300'	XCD Brine Mud	11.0 – 12.5	45-48	20	10	< 5	9.5 – 10.5
16,300' – 17,785'	Fresh Water Mud	8.4 – 8.6	28-30	NC	NC	NC	9.5 – 10.5

NOTE: May increase vis for logging purposes only.

POINT 6: TECHNICAL STAGES OF OPERATION

A) TESTING
None anticipated.

B) LOGGING See COA

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

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

Mud Logger: Rigged up at 100'

C) CONVENTIONAL CORING

Rotary sidewall cores in Bone Spring and Wolfcamp.

D) CEMENT

INTERVAL	AMOUNT SXS	FT OF FILL	TYPE	GALS/SX	PPG	FT³/SX
SURFACE: Lead: 0' – 630'	1140	630'	Cemex premium Plus C + bentonite + CaCl2	8.79	13.70	1.68
Tail: 630' – 930'	740	300'	Cemex Premium Plus C + CaCl2	6.48	14.80	1.35
INTERMEDIATE: Lead: 0' – 3,615'	2570	3615'	Class C + 0.1% HR-601, 3% salt	9.88	12.90	1.83
Tail: 3,615' – 4,115'	560	500	HalCem C	6.34	14.80	1.33
Production Stage 1: Lead: 6,000' – 11,250'	900	5250	Tuned Light + 0.75% + CFR-3 + 1.5#/sk CaCl	12.41	10.20	2.76
Tail: 11,250' – 11,980'	240	730	VersaCem-PBSH2 + 0.4% Halad-9	8.76	13.0	1.65
DV Tool @ 6,000' Stage 2: Lead: 3,615' – 5,500'	840	1885	EconCem HLC + 1% Econolite + 5% CaCl + 5#/sk Gilsonite	10.71	12.60	2.04
Tail: 5,500' – 6,000'	190	500	HalCem C	6.34	14.80	1.33
Production Liner Tail: 11,780' – 16,300'	430	4520	VersaCem H + 0.5% Halad – 344 + 0.30% HR-601	5.05	14.40	1.24

Cement excesses will be as follows:

Surface – 100% excess with cement circulated to surface.

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

Production- Production Liner – 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) H_2S SAFTEY 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 and diagram 2)** 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 2 for choke manifold and closed loop system layout.) Please refer to H2S location diagram for location of important H2S safety items.**

F) CLOSED LOOP AND CHOKE MANIFLOLD

Please see diagram 2.

POINT 7: ANTICIPATED RESERVOIR CONDITIONS

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

POINT 8: OTHER PERTINENT INFORMATION

A) Auxiliary Equipment

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

B) Anticipated Starting Date

Upon approval

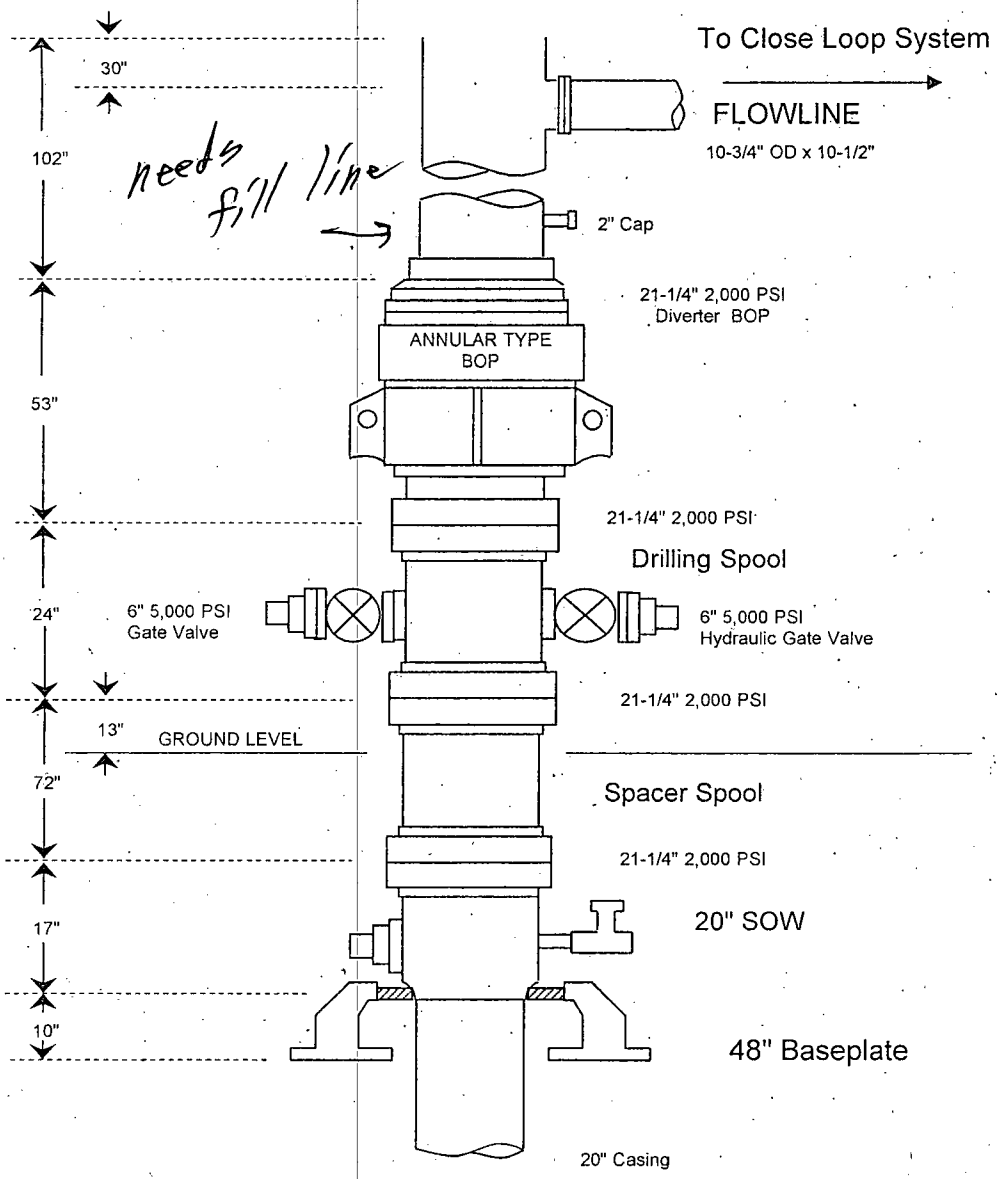
110 days drilling operations

10 days completion operations

JDB

BOPCO, L. P

20" 2,000 PSI Diverter



Note: Actual lengths of casing heads may vary. Always measure items prior to installing in order to ensure proper spacing.

DIAGRAM B

BOPCO, L. P.
10-M WP BOPE WITH 10-M WP ANNULAR

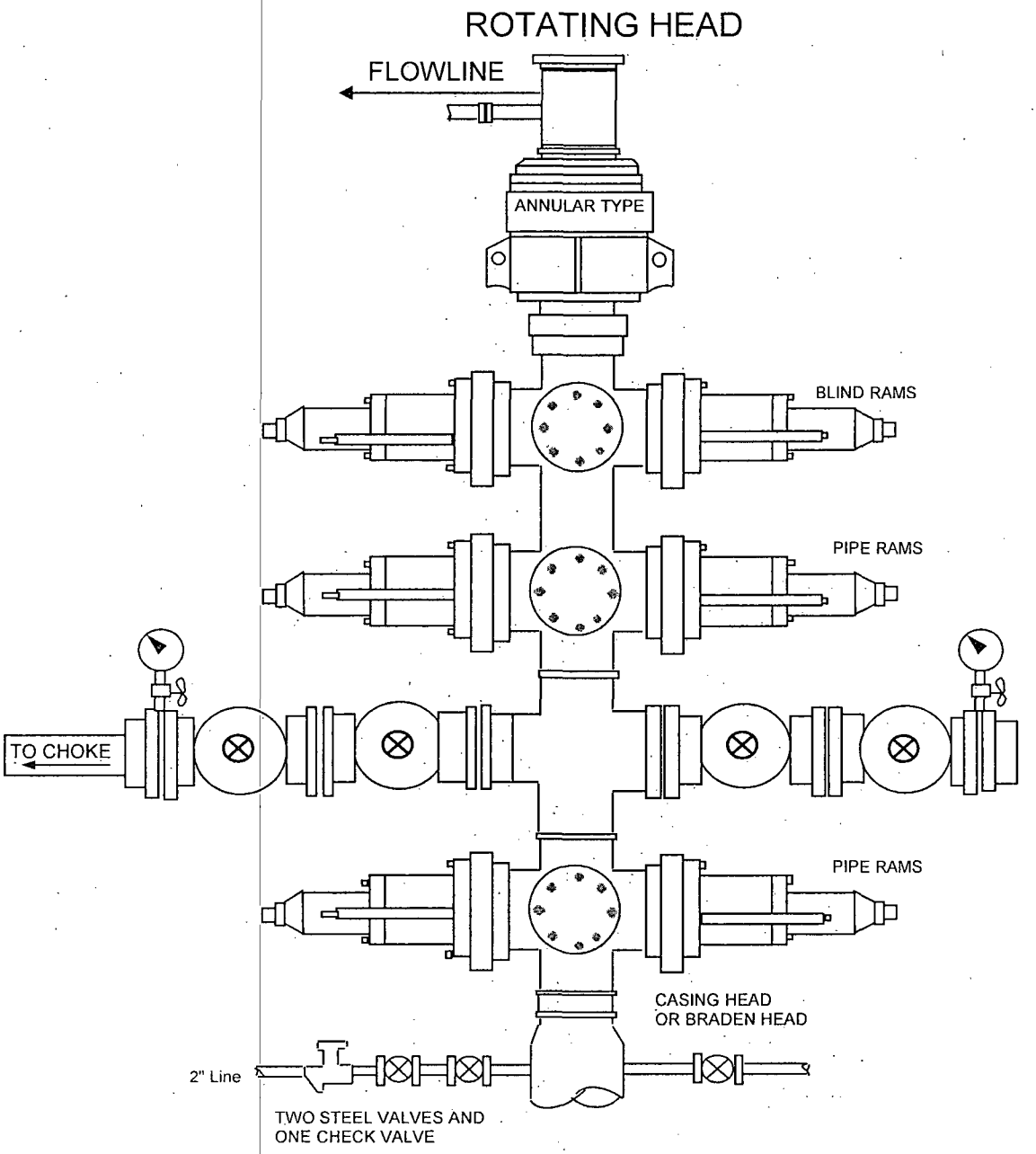


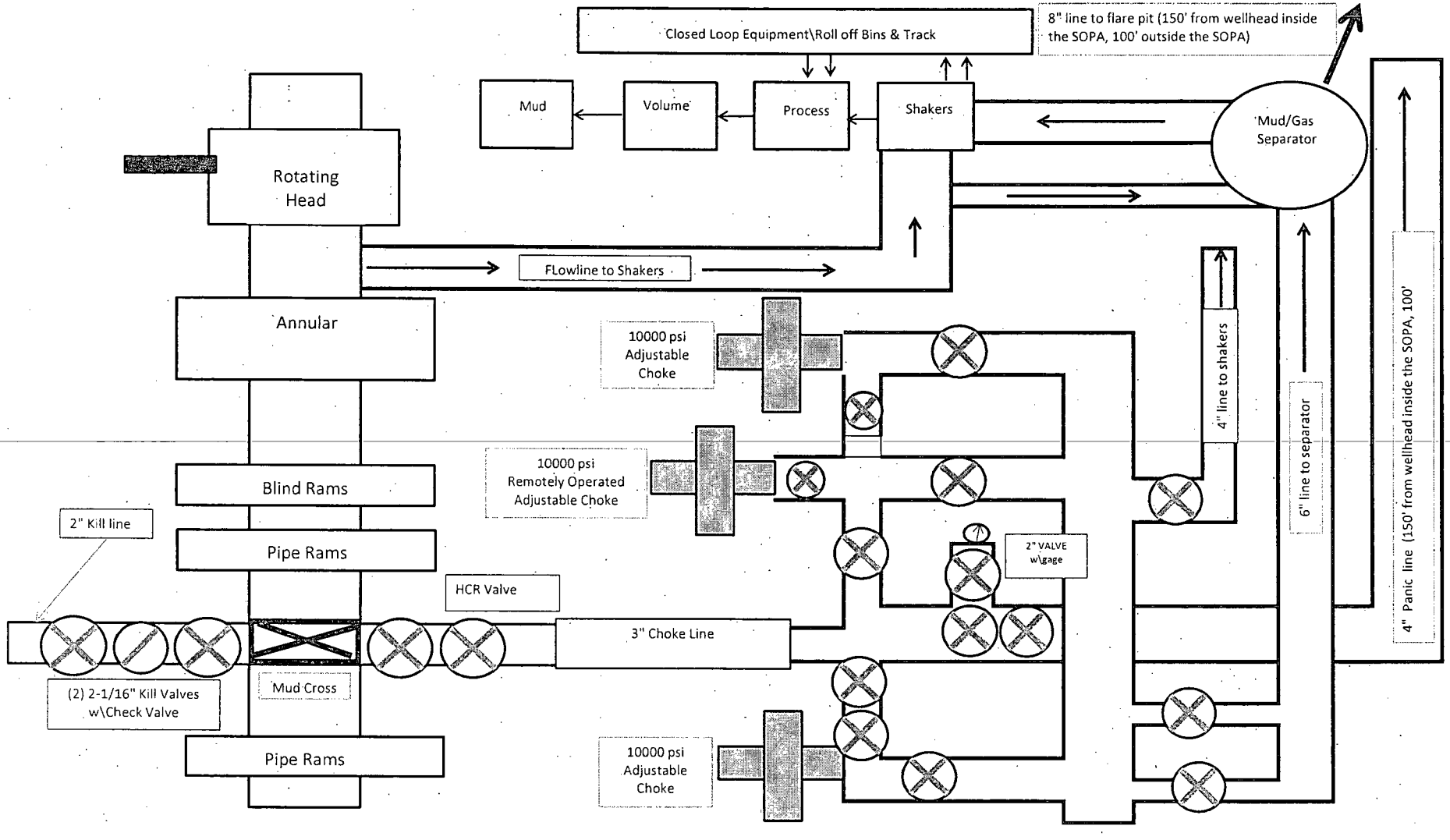
DIAGRAM 1

BOPCO, L. P.

10-M WP BOPE WITH 10-M WP ANNULAR

THE FOLLOWING CONSTITUTE MINIMUM BLOWOUT PREVENTER REQUIREMENTS

A. Opening between the ram to be flanged, studded, or clamped.
B. All connections from operating manifolds to preventers to be all steel hose or tube a mininum of one inch in diameter.
C. The available closing pressure shall be at least 15% in excess of that required with suffficient volume to operate (close, open, and re-close) the preventers.
D. All connections to and from preventer to have a pressure rating equivalent to that of the BOPs.
E. Manual controls to be installed before drilling cement plug.
F. Kelly cock to be installed on kelly.
G. Inside blowout preventer to be available on rig floor.
H. Dual operating controls: one located by drillers position and the other located a safe distance from the rig floor.
I. All chokes will be adjustable.
J. **Exception to utilize a 3 1/2" ID psi WP, armored flex hose to be installed between the BOP stack and the choke manifold**



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

13-5/8" X 10-M BOPE (3 Rams and Rotating Head) & Closed Loop System Equipment Schematic Diagram 2

Midwest Hose
& Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

Customer:	Customer P.O. Number:
LATSHAW	RIG 18

HOSE SPECIFICATIONS

Type:	Hose Length:
Rotary / Vibrator Hose C/K /API 7K	40 FEET

I.D.	O.D.
3.5 INCHES	5.31 INCHES

WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE
7,500 PSI	15,000 PSI	N/A PSI

COUPLINGS

Part Number	Stem Lot Number	Ferrule Lot Number
E3.5X64WB	LOT 10-12	LOT 10-12
E3.5X64WB	LOT 10-12	LOT 10-12

Type of Coupling:	Die Size:
Swage-It	5.75 INCHES

PROCEDURE

Hose assembly pressure tested with water at ambient temperature.

TIME HELD AT TEST PRESSURE	ACTUAL BURST PRESSURE:
1 1/2 MIN.	N/A PSI

Hose Assembly Serial Number:	Hose Serial Number:
1337641-1	7554

Commente:

Date:	Tested:	Approved:
2/14/2012	Dave McLemore	Preston Morgan

Midwest Hose & Specialty, Inc.

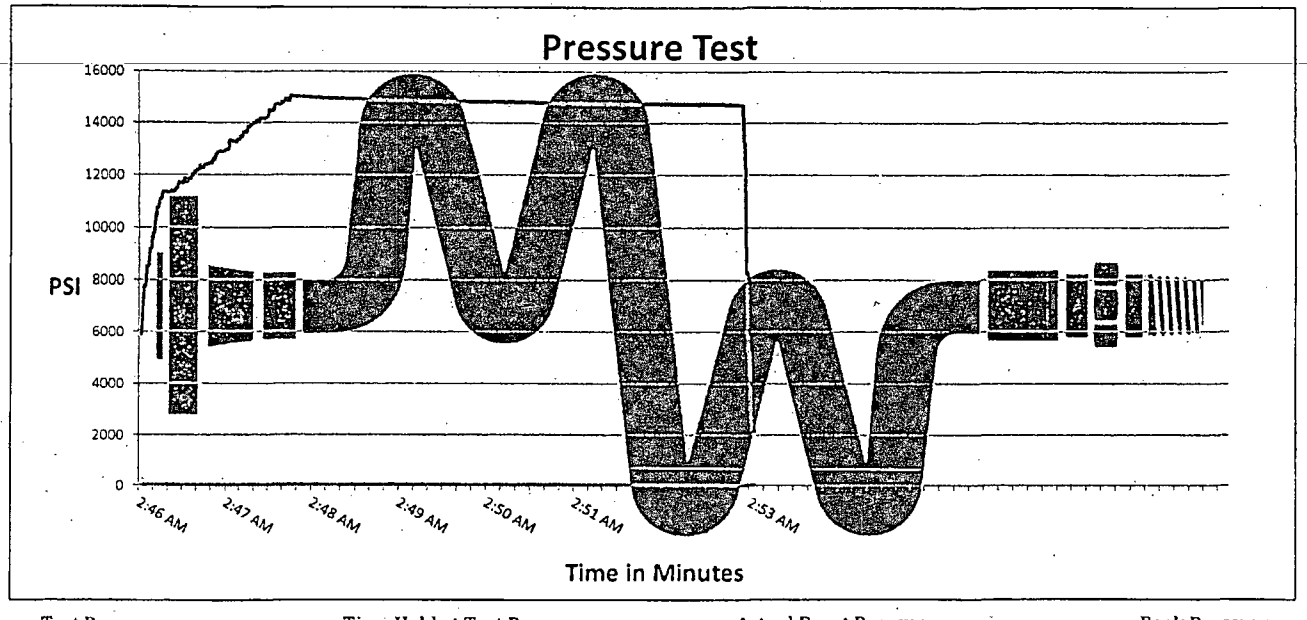
Internal Hydrostatic Test Report

June 3, 2011

Customer: Latshaw

Purchase Order: RIG# 7

Hose Specifications		Verification	
Hose Type	Length	Type of Fitting	Coupling Method
E	40	4 1/16 10K	Swage
I.D.	O.D.	Die Size	Final O.D.
4"	5 1/4	5.75	5 49/64
Working Pressure	Burst Pressure	Serial #	Sales Order
10000 PSI	Standard Safety Multipher Applies	7496	110479



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	2/4 Minutes		15131 PSI

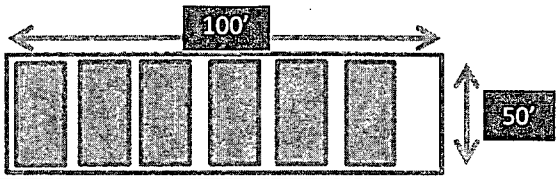
Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Donnie Mclemore*

Approved By: *Kim Thomas*

x _____

x _____



Latshaw Rig 18 location plat

177' 7"

MUD HOUSE 20' x 10'

ACTIVE PIT / SUCTION MUD TANK 53' x 10'

SHAKER PIT / MUD TANK 53' x 10'

MUD PUMP 1 23' x 9' 9"

MUD PUMP 1 28' x 9' 9"

COOLING SKID 22' x 6' 6"

TRIP TANK

CHOKE MANIFOLD / TRIP TANK 45' x 10'

TD HOUSE 20' x 8'

OFF DRILLER SIDE SUB 45' 6" x 7' 3"

DRILLWISE SPOOL 12' 6" x 8'

VIEW A

SCR 44' x 10'

STATIONERY WIRE TRAY 60' x 3'

162' TO DERRICK STAND

CABLE TRAY / GRASSHOPPER 45' x 3'

30' 2"

DRILLER SIDE SUB 45' 6" x 7' 3"

DIESEL TANK 40' x 8'

CAT GEN SET 3 40' x 11'

CAT GEN SET 2 40' x 11'

CAT GEN SET 1 40' x 11'

PARTS HOUSE 40' x 10'

WATER TANK 40' x 10'

KOOMEY / ACCUMULATOR 45' x 10'

177' 77"

CHANGE HOUSE 45' x 10' 6"

CREW QUARTERS 40' x 13' 4"

TOOL PUSHER TRAILER 53' 6" x 13' 4"

120'

70'

53'

25'

12' 2"

8' 3"

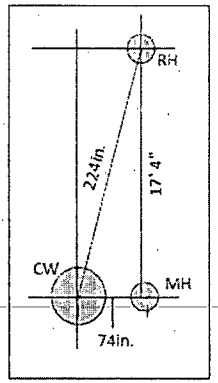
8' 10"

5'-0"

6'-0"

6'

65'



NOTES:
MOUSE HOLE IS AT A 5 DEGREE SLANT AWAY FROM WELL.

RAT HOLE IS 27 FEET DEEP AT 10 DEGREE SLANT AWAY FROM WELL

N

V-Door east

RIG 18
1600 HP

Latshaw DRILLING

December 4, 2011

Topsoil Pile

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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.

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.

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.

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 2.)

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 diagram 2 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 diagram 2).
- Choke manifold (See diagram 2).
- 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
Buddy Jenkins	Assistant Supt	432-238-3295
Bill Dannels	Engineer	432-638-9463
Pete Lensing	Engineer	432-557-7157
Charles Warne	Engineer	432-894-1392

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

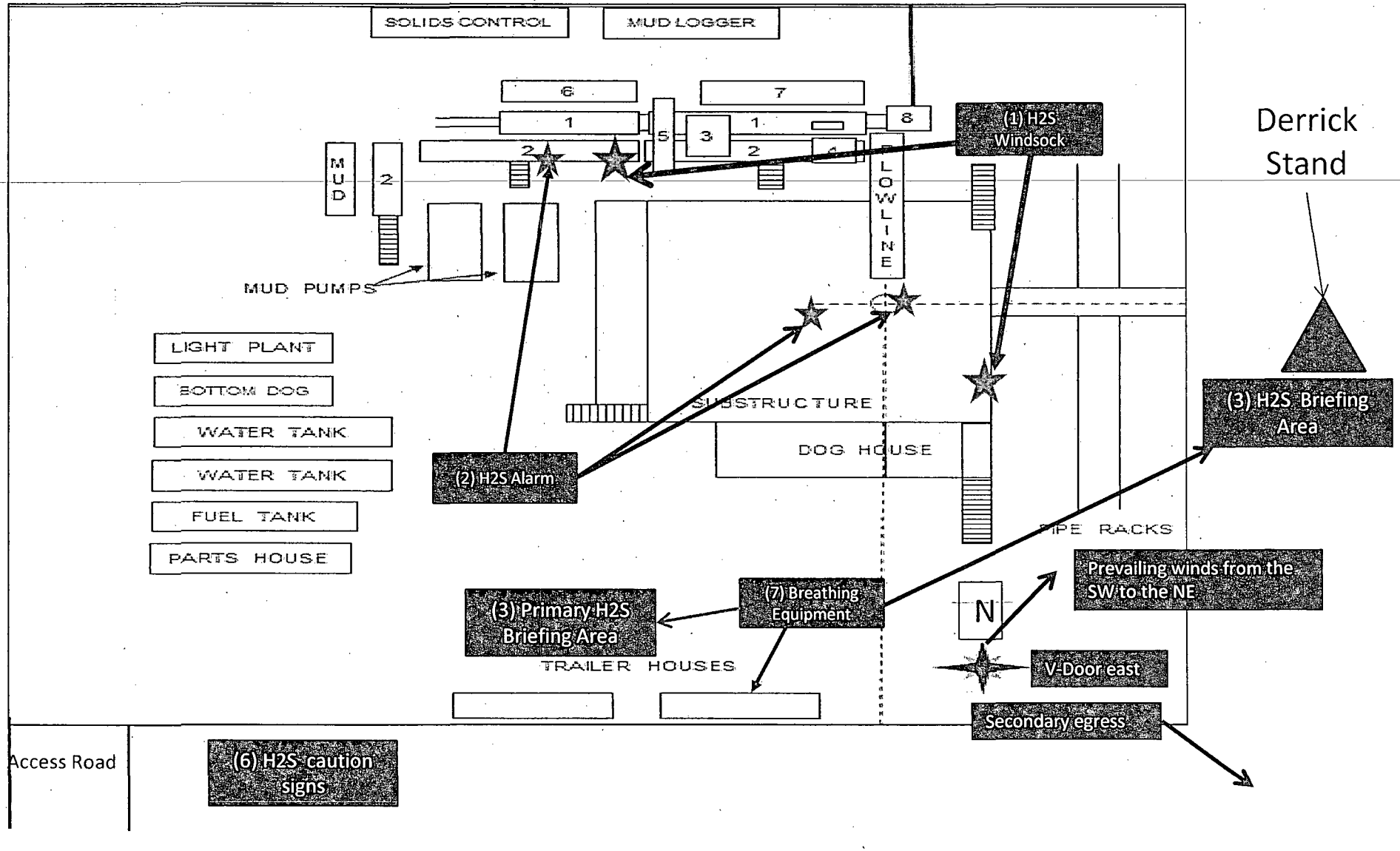
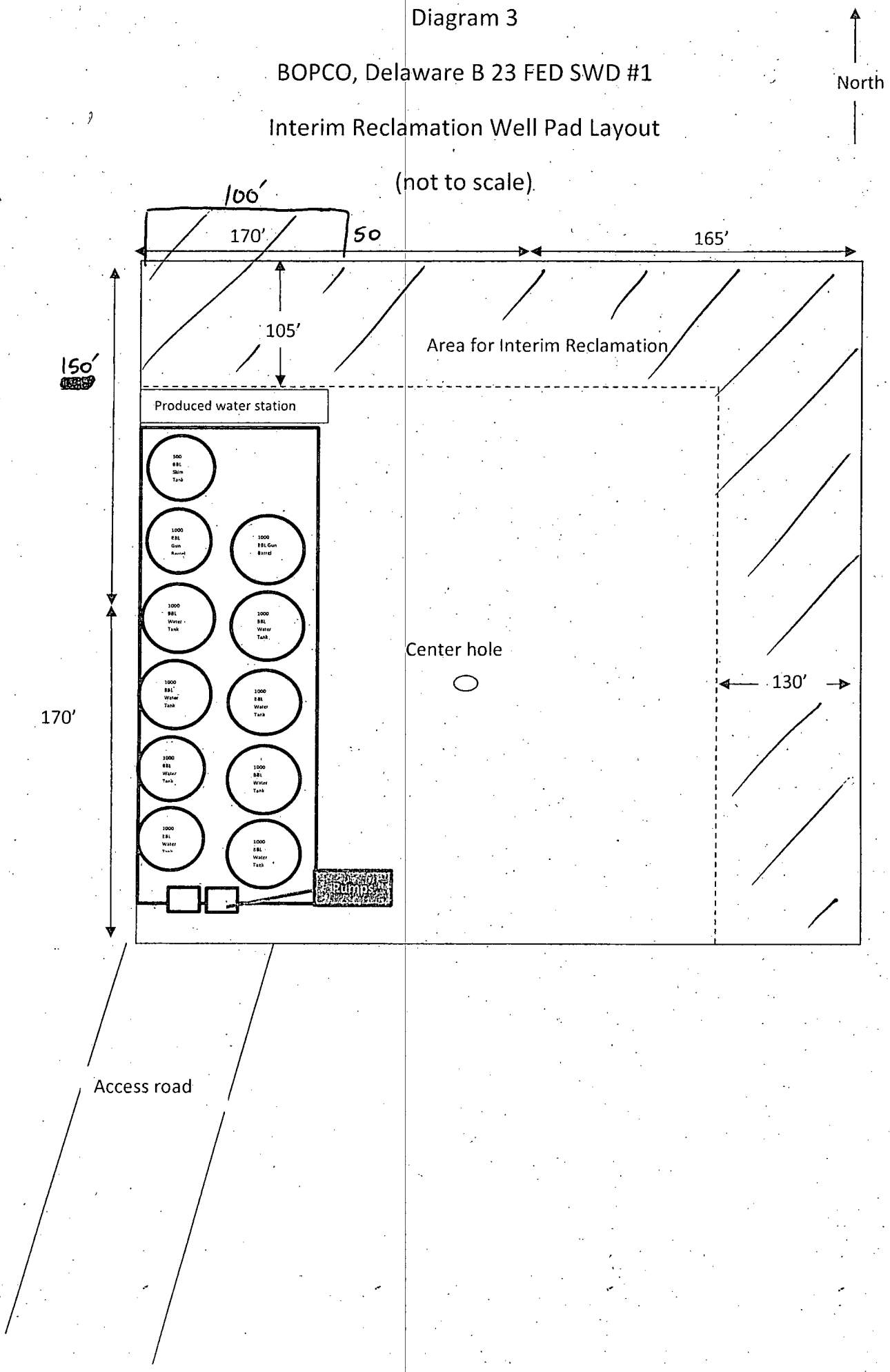


Diagram 3

BOPCO, Delaware B 23 FED SWD #1

Interim Reclamation Well Pad Layout

(not to scale)



Location On-Site Notes

Location on-site meeting was held with Cecil Watkins (BOPCO L.P.), Justin Frye (BLM), and Robert Gomez (Basin Survey). One location was evaluated. The location was moved 145' south and 20' west to get location off slope. V-door east.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO
LEASE NO.:	NM030452
WELL NAME & NO.:	Delaware B 23 Fed SWD 1
SURFACE HOLE FOOTAGE:	1115'/ FNL & 2180'/ FWL
BOTTOM HOLE FOOTAGE	'/ FL & '/ FL
LOCATION:	Section 23, T.24 S., R.30 E., NMPM
COUNTY:	Eddy County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

☐ **General Provisions**
☐ **Permit Expiration**
☐ **Archaeology, Paleontology, and Historical Sites**
☐ **Noxious Weeds**
☒ **Special Requirements**
- Interim Reclamation
- Pipeline Placement
- Lesser Prairie-Chicken Timing Stipulations
- Ground-level Abandoned Well Marker

☒ **Construction**
- Notification
- Topsoil
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- Well Pads
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- Waste Material and Fluids

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- Well Structures & Facilities
- Pipelines

☐ **Interim Reclamation**
☒ **Final Abandonment & Reclamation**