13-633

OCD-ARTESIA
Operator Copy

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 065914 (see box six)

6. If Indian, Allotee or Tribe Name
Lease information is on pg 1 of 8pt.

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
Big Eddy Unit 68294X

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

8. Lease Name and Well No.
Big Eddy Unit DI5 24H 313598

2. Name of Operator
BOPCO, L. P.

9. API Well No.
30-015-43444

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

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

10. Field and Pool, or Exploratory
Parallel (Bone Spring)

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface **SWNE, UL G, 2000' FNL, 1873' FEL, Lat:N32.546183,Long:W103.987658**
At proposed prod. zone **NESE, UL I, 2310' FSL, 330' FEL,Sec 25,T20S-R31E**

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 27, T20S-R31E

14. Distance in miles and direction from nearest town or post office*
25 miles to the NE of Carlsbad, NM

12. County or Parish
Eddy

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
1,848' / 19,180' (BEU line)	1,520	400
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**
167'	20,675' MD \ ~~9,920'~~ 9483 TVD TVD PH 9812	COB 000050
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3,523' GL	06/01/2013	45 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	3-21-13
Title: Engineering Assistant		

Approved by (Signature)	Name (Printed/Typed)	Date
/s/George MacDonell		OCT 28 2015
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.

NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 30 2015
RECEIVED

*(Instructions on page 2)

11/3/2015

Capitan Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

BOPCO, L.P.

P. O. Box 2760
Midland, Texas 79702

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

March 20, 2013

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
BEU DI5 24H
2000' FNL, 1873' FEL, SEC. 27, T20S, R31E, 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 21 day of March, 2013.

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
Engineering Tech

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
30-015-43444	49600	Parallel (Bone Spring)

Property Code	Property Name	Well Number
~~305860~~ 313598	BIG EDDY UNIT DI 5	24H

OGRID No.	Operator Name	Elevation
260737	BOPCO, L.P.	3523'

Surface Location

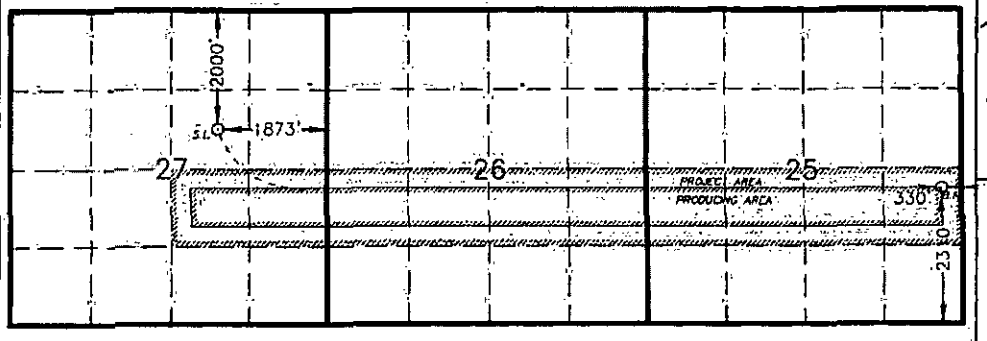
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	27	20 S	31 E		2000	NORTH	1873	EAST	EDDY

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
I	25	20 S	31 E		2310	SOUTH	330	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
400			

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



SURFACE LOCATION
Lat - N 32°32'45.29"
Long - W 103°51'14.47"
NMSPCE- N 562648.553
E 647698.318
(NAD-27)

PROPOSED BOTTOM HOLE LOCATION
Lat - N 32°32'35.72"
Long - W 103°48'53.09"
NMSPCE- N 561737.982
E 659805.078
(NAD-27)

SCALE 1" = 3000'

BOTTOM HOLE LOCATION IS CALCULATED FROM PLATTED GLO DISTANCES.
NO SURVEY WAS PERFORMED FOR BOTTOM HOLE

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 3-21-13
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.

JANUARY 4, 2012
Date Surveyed

Signature & Seal of Professional Surveyor

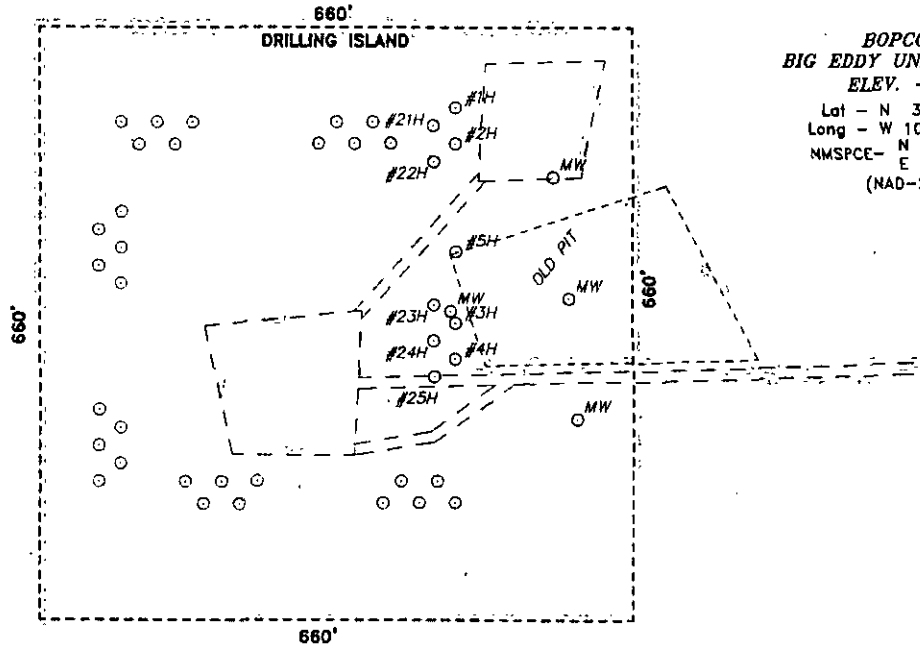
NEW MEXICO 7977 REGISTERED PROFESSIONAL SURVEYOR

Certificate No. Gary L. Jones 7977

BASIN SURVEYS 26033

SECTION 27, TOWNSHIP 20 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY, WELL PAD LAYOUT NEW MEXICO.



BOPCO, L.P.
BIG EDDY UNIT DI 5 #24H
ELEV. - 3523'
Lat - N 32°32'45.29"
Long - W 103°51'14.47"
NMSPCE- N 562648.553
E 647698.318
(NAD-27)

200 0 200 400 FEET

SCALE: 1" = 200'

Directions to Location:

FROM MILE MAKER 61 OF HOBBS HWY, GO WEST 0.5 MILES TO LEASE ROAD, ON LEASE ROAD, GO NORTH 1.3 MILES TO LEASE ROAD, ON LEASE ROAD GO WEST 0.3 MILES TO PROPOSED DRILLING ISLAND WITH PROPOSED WELLS.

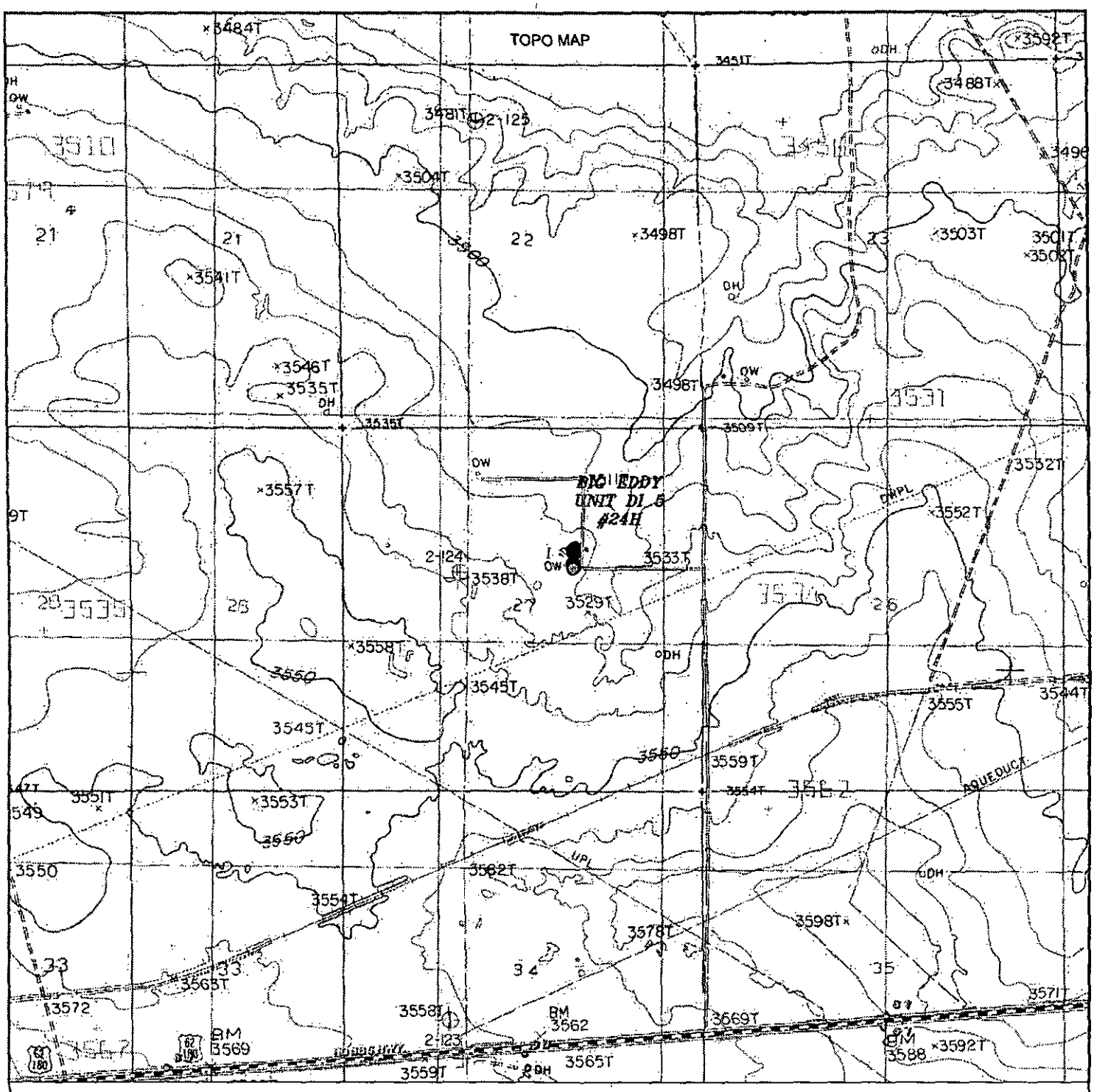
BOPCO, L.P.

REF: BIG EDDY UNIT DI 5 #24H / WELL PAD TOPO

THE BIG EDDY UNIT DI 5 #24H LOCATED 2000' FROM THE NORTH LINE AND 1873' FROM THE EAST LINE OF SECTION 27, TOWNSHIP 20 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

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

W.O. Number: 26033	Drawn By: J. GOAD		
Date: 1-20-2012	Disk: JG - 26033WELL	Survey Date: 1-17-2012	Sheet 1 of 6 Sheets



BIG EDDY UNIT DI 5 #24H
Located 2000' FNL and 1873' FEL
Section 27, Township 20 South, Range 31 East,
N.M.P.M., Eddy County, New Mexico.

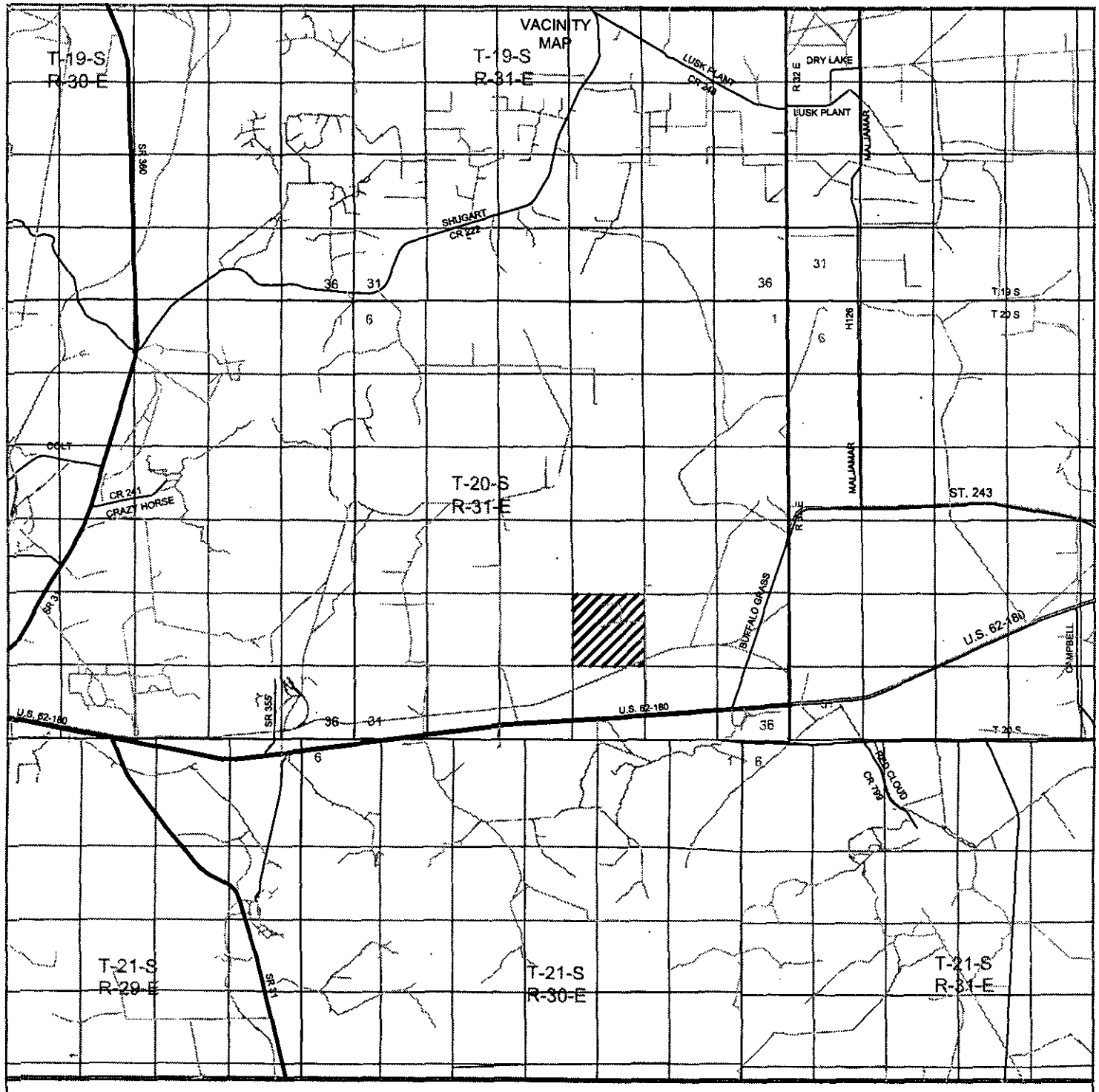
basin surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: JG - 26033
Survey Date: 1-17-2012
Scale: 1" = 2000'
Date: 1-20-2012

N

BOPCO, L.P.

Sheet 2 of 6 Sheets

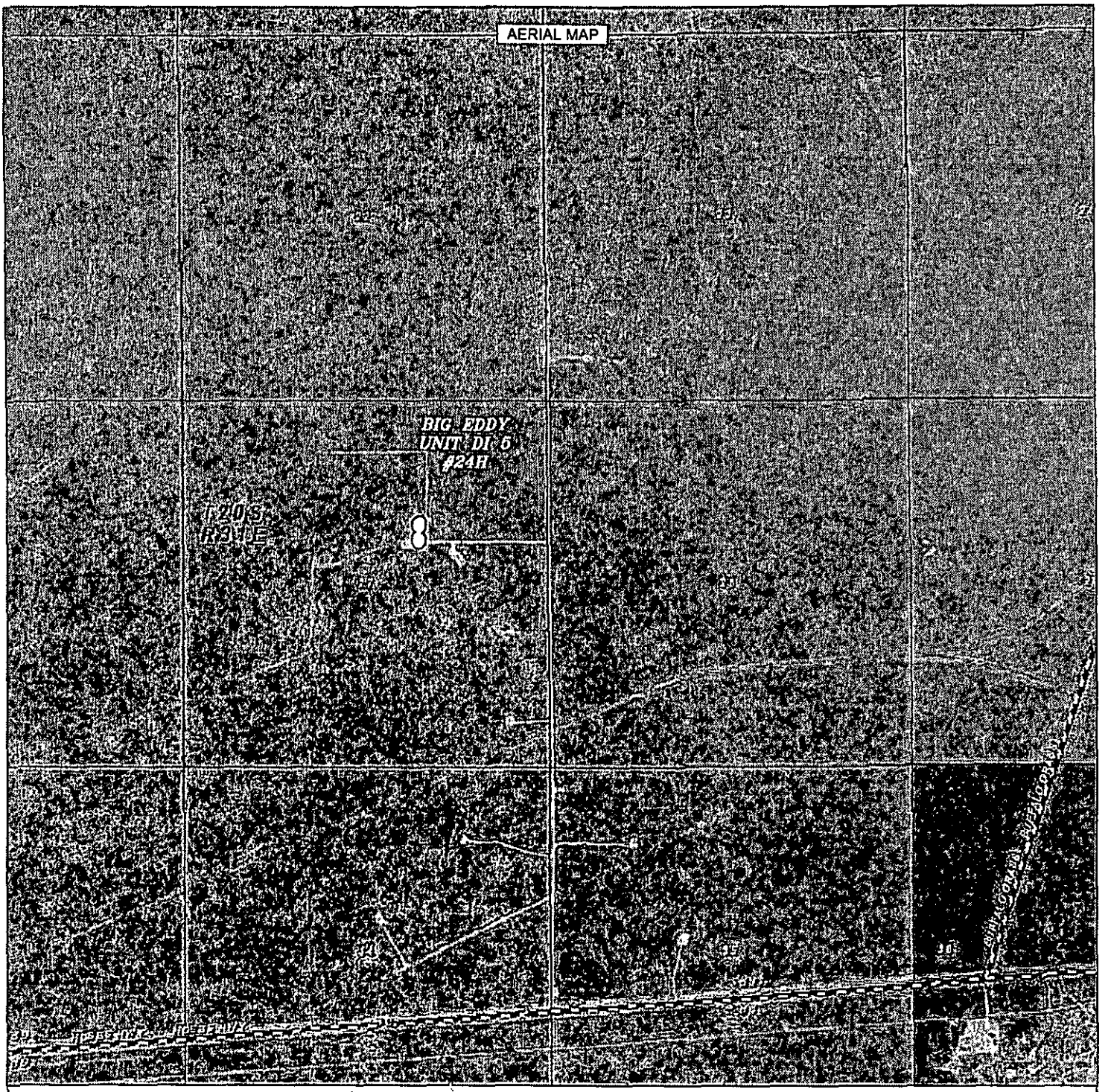


BIG EDDY UNIT DI 5 #24H
Located 2000' FNL and 1873' FEL
Section 27, Township 20 South, Range 31 East,
N.M.P.M., Eddy County, New Mexico.

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: JG - 26033
Survey Date: 1-17-2012
Scale: 1" = 2 Miles
Date: 1-20-2012

BOPCO, L.P.



BIG EDDY UNIT DI 5 #24H
Located 2000' FNL and 1873' FEL
Section 27, Township 20 South, Range 31 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

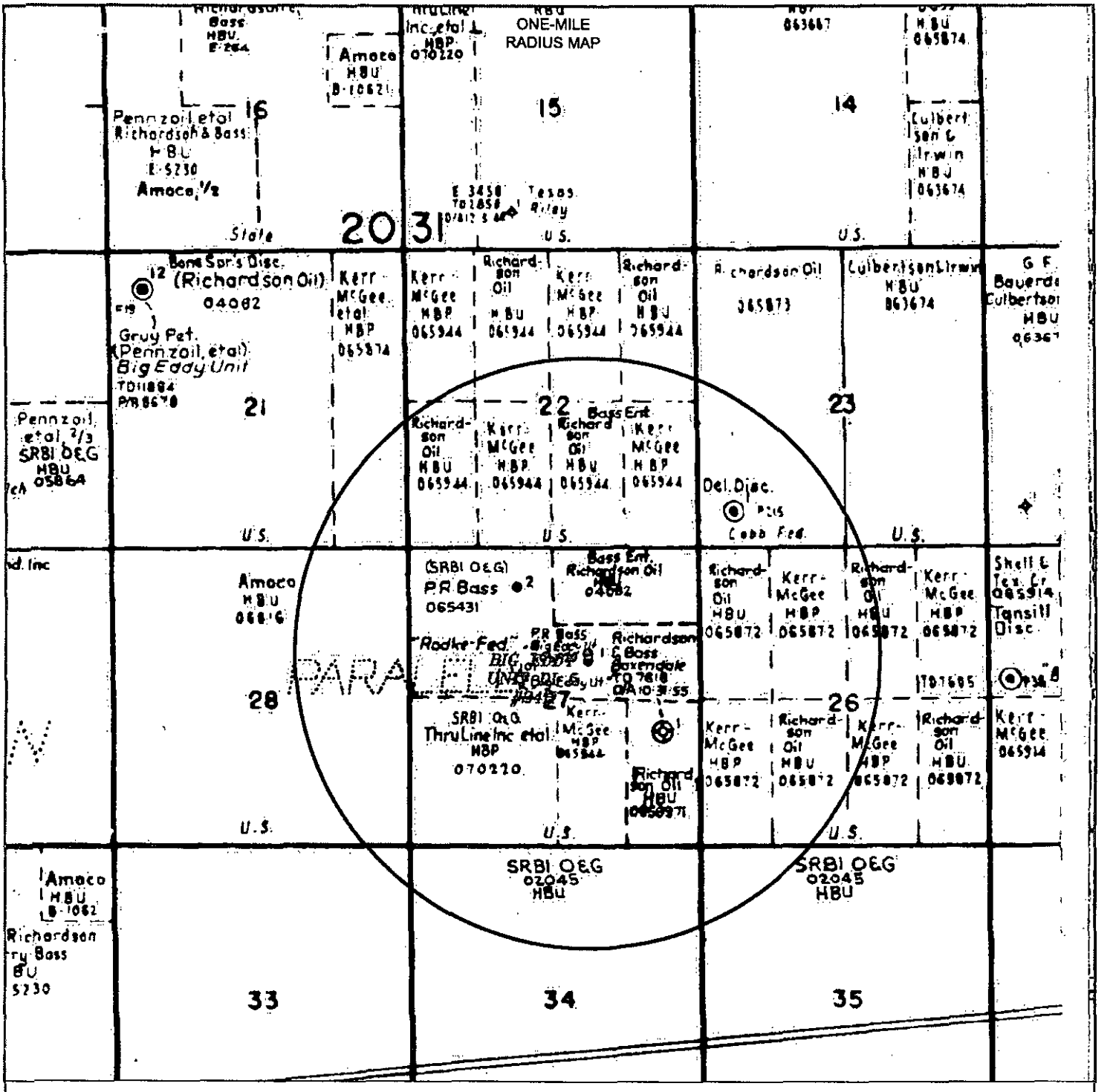
W.O. Number: JG - 26033

Scale: 1" = 2000'

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

N

BOPCO, L.P.



BIG EDDY UNIT DI 5 #24H
Located 2000' FNL and 1873' FEL
Section 27, Township 20 South, Range 31 East,
N.M.P.M., Eddy County, New Mexico.

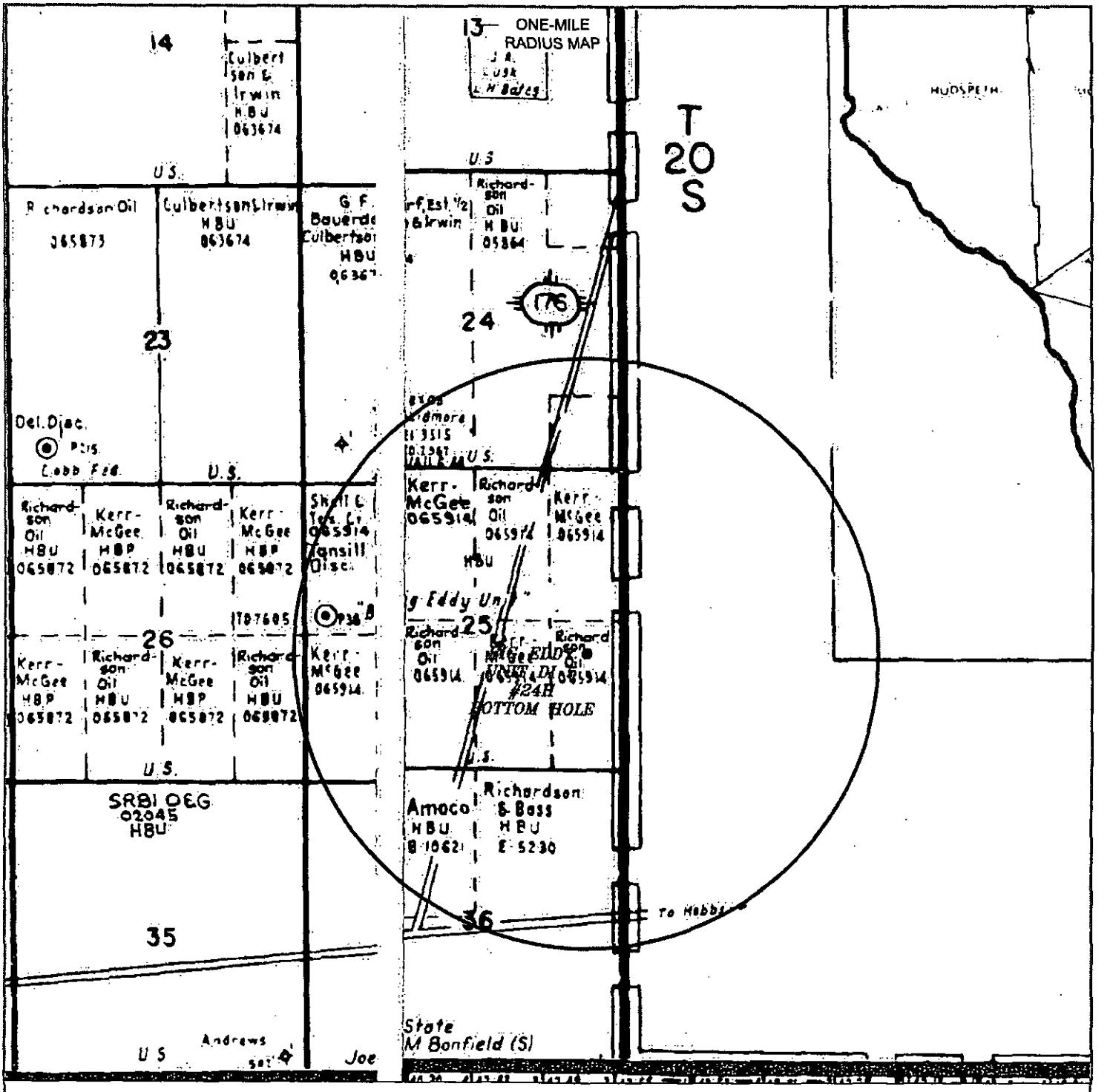
Basin Surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 – Office
(575) 392-2206 – Fax
basinsurveys.com

W.O. Number: JG – 26033

Scale: None

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

BOPCO, L.P.



BIG EDDY UNIT DI 5 #24H
Located 2000' FNL and 1873' FEL
Section 27, Township 20 South, Range 31 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: JG – 26033

Scale: None

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

BOPCO, L.P.

Surface casing is to be set into the Rustler below all fresh water sands at an approximate depth of 849' and cement circulated to surface.

A Capitan Reef string will be set at an approximate depth of 2,855' and cement circulated to surface.

7" casing will be set at approximately 9,705' MD, 9,406' TVD (In curve) and cemented in two stages with DV Tool set at approximately 5,000'. Cement will be circulated 50' above the Capitan reef.

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

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

The surface location is nonstandard and located inside the Big Eddy Unit.

The bottom hole location is standard and located inside the Big Eddy Unit.

Surface Lease Numbers – NMLC 065431

Bottom Hole Lease Numbers – NMLC 065914A

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).

BOPCO, L.P., Big Eddy Unit DI5 #24H

1. Geologic Formations

TVD of target	9483	Pilot hole depth	9812
MD at TD:	20675	Deepest expected fresh water:	130

The Surface hole location is nonstandard, and inside the Big Eddy Unit.

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Top Rustler	677	Water	
Top Salt	859	Salt	
Top Tansil	2804	Salt	
Top Reef	2904	Water	Loss of circulation
T/Delaware Mtn Group	3247	Oil/Gas	
Top Delaware Sand	3841	Oil/Gas	
Top Brushy Canyon	6457	Oil/Gas	
T/Cobb	6972	Oil/Gas	
T/Lower Brushy Canyon 8A Sand	7277	Oil/Gas	
T/Bone Spring Lime	7481	Oil/Gas	
T/1st Bone Spring Sand	8709	Oil/Gas	
T/2nd Bone Spring A' Sand	9237	Oil/Gas	
T/2nd Bone Spring B Sand	9463	Target Zone	
T/2nd Bone Spring C Sand	9581	Oil/Gas	
T/2nd Bone Spring Carbonate	9762	Oil/Gas	
TD Pilot Hole *	9812	Oil/Gas	

See COA

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
18.125"	0	849	16"	84	J55	BTC	3.42	1.94	21.63
14.75"	0	2854	13.375"	68	HCL80 Ultra Flush Joint	STC	1.85	3.16	9.53
12.25"	0	3277 3500	9.625"	40	J55	LTC	1.55	5.57	2.16
8.75"	0	9705	7"	26	HCP110	LTC	1.50	1.90	3.29
6.125"	9655	20675	4.5"	11.6	HCP110	LTC	1.57	2.02	2.95
BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet				

See COA

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	N
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	N
Is well located in R-111-P and SOPA?	Y
If yes, are the first three strings cemented to surface?	Y
Is 2nd string set 100' to 600' below the base of salt?	Y
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N

3. Cementing Program **KOP- 8967**

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	250	13.5	1.75	8.69	14	Lead: Class C +2% CACL + 4% Bentonite + 0.25 LB/SK Cello Flake + 3 lb/sk LCM-1
	220	14.8	1.35	6.35	8	Tail: Class C + 2% CACL + 0.25 LB/Sk CF + 3 LB/Sk LCM-1
Inter.	480	12.9	1.85	9.32	14	Lead: EconoCEM HLC + 5% CaCl + 5#/sk Gilsonite
	220	14.8	1.33	6.34	6	Tail: Class C neat
2nd Inter.	140	13.5	1.75	8.69	14	1st primary: HalCem C 4% bentonite + 0.6% Halad(R)-9
						DV Tool and ECP @ 2854'
2nd Inter.	480 180	12.9 14.8	1.85 1.33	9.83 6.34	14 6	2nd Lead: EconoCem HLC + NaCL 2nd Tail: Class C neat

3rd Inter.	350	11	2.64	14.87	11	1st Lead: Tuned Light + 0.125 pps Poly – E- Flake
	100	12	2.03	11.41	14	1st Tail: Class H + 0.5% Halad-344 + 0.25% CFR-3 + 0.5% Econolite
	DV Tool 5000'					
	220	11	2.35	11.7	11	2nd stage Primary: Tuned Light + 0.125 pps Poly – E-Flake
Prod.	780	12	2.03	11.41	14	Primary: Class H + 0.5% Halad-344 + 0.25% CFR-3 + 0.5% Econolite
Pilot Hole	500	14.8	1.33	6.34	6	Class ~~C~~ H neat class H required **8800'-9812' interval**

DV tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe.

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	30%
2nd Intermediate	0'	50% See COA
3rd Intermediate	2854'	50% See COA
Production	9655'	50%
Pilot Hole	8800'	50%

Cement % Excess behind pipe is 10%

4. Pressure Control Equipment

X	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
14-3/4"	13-5/8"	3M	Annular	x	50% of working pressure
			Blind Ram	x	3000
			Pipe Ram	x	
			Double Ram		
			Other*		
12-1/4"	13-5/8"	3M	Annular	x	50% of working pressure
			Blind Ram	x	3000
			Pipe Ram	x	
			Double Ram		
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% of working pressure
			Blind Ram	x	3000
			Pipe Ram	x	
			Double Ram		
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
X	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	N Are anchors required by manufacturer?
	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. See attached schematic.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. shoe	FW Gel	8 -9.2	38-70	N/C
Surf csg	Int shoe	Saturated Brine	9.8-10.2	28-30	N/C
Int. shoe	Prod. Shoe	FW/Gel	8.7-9.0	28-36	N/C
Prod. casing shoe	TD	FW/Gel/Starch	8.7-9.0	28-36	<100

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain	Pason/Visual Monitoring

of fluid?	

6. Logging and Testing Procedures

Logging, Coring and Testing:	
	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
X	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
	CBL	Production casing
X	Mud log	2nd Intermediate shoe to TD *
X	PEX	

see COA for Mud log requirement

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4438 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Standard LCM will be on location to use when needed.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
	H2S is present
X	H2S Plan attached

8. Other facets of operation

Is this a walking operation? No

Will be pre-setting casing? No

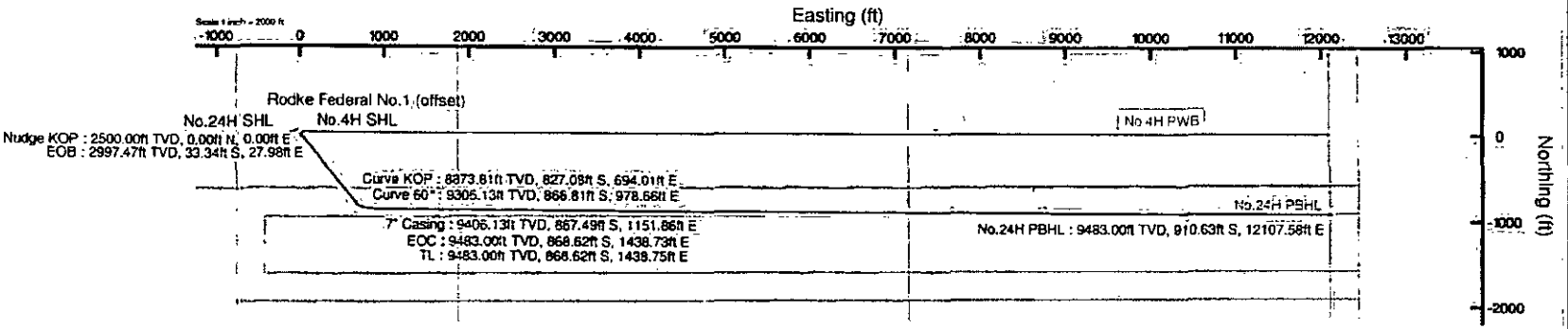
Attachments
_X_ Directional Plan
___ Other, describe

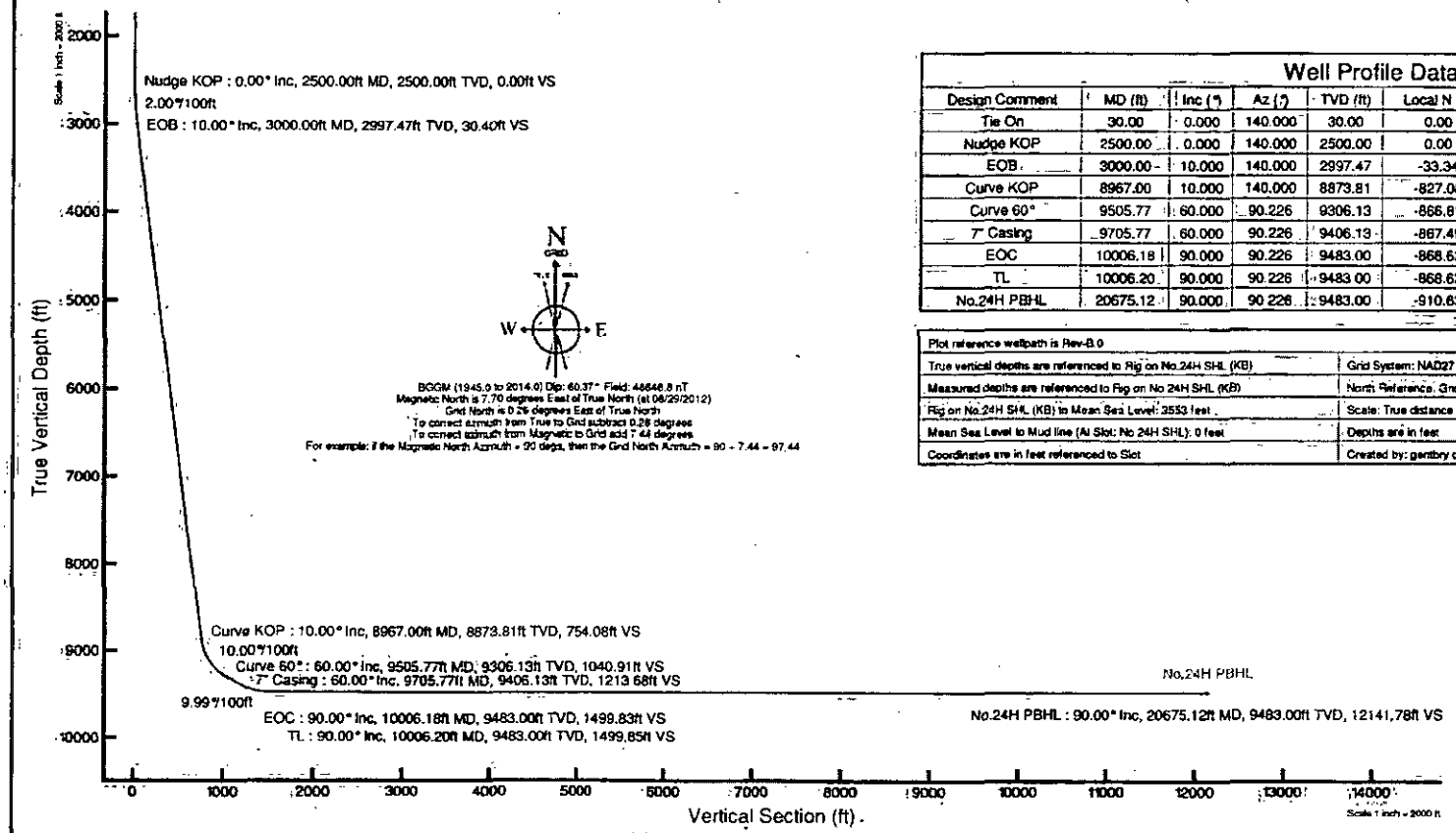
BOPCO, L.P.

Location: Eddy County, NM
Field: Big Eddy Unit Drilling Island 5
Facility: Big Eddy Unit DI5

Slot: No.24H SHL
Well: No.24H
Wellbore: No.24H PWB

BAKER HUGHES





Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	30.00	0.000	140.000	30.00	0.00	0.00	0.00	0.00
Nudge KOP	2500.00	0.000	140.000	2500.00	0.00	0.00	0.00	0.00
EOB	3000.00	10.000	140.000	2997.47	-33.34	27.98	2.00	30.40
Curve KOP	8967.00	10.000	140.000	8873.81	-827.08	694.01	0.00	754.08
Curve 60°	9505.77	60.000	90.226	9306.13	-866.81	978.66	10.00	1040.91
7" Casing	9705.77	60.000	90.226	9406.13	-867.49	1151.86	0.00	1213.68
EOC	10006.18	90.000	90.226	9483.00	-868.62	1438.73	9.99	1499.83
TL	10006.20	90.000	90.226	9483.00	-868.62	1438.75	2.00	1499.85
No.24H PBHL	20675.12	90.000	90.226	9483.00	-910.63	12107.58	0.00	12141.78

Plot reference wellpath is Rev-B.0	
True vertical depths are referenced to Rig on No.24H SHL (KB)	Grid System: NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No.24H SHL (KB)	North Reference: Grid north
Rig on No.24H SHL (KB) to Mean Sea Level: 3553 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: No.24H SHL): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: gentry on 09/04/2012

Rev-B.0

Planned Wellpath Report

Rev-B.0

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.24H SHL
Area	Eddy County, NM	Well	No.24H
Field	Big Eddy Unit Drilling Island 5	Wellbore	No.24H PWB
Facility	Big Eddy Unit DI5		

REPORT SETUP INFORMATION			
Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 3.0.0
North Reference	Grid	User	Gentbry
Scale	0.999934	Report Generated	09/04/2012 at 1:01:37 PM
Convergence at slot	0.26° East	Database/Source file	WA Midland/No.24H_PWB.xml

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-19.93	-24.04	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W
Facility Reference Pt			647722.36	562668.48	32°32'45.492"N	103°51'14.189"W
Field Reference Pt			647722.35	562788.51	32°32'46.679"N	103°51'14.183"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No.24H SHL (KB) to Facility Vertical Datum	3553.00ft
Horizontal Reference Pt	Slot	Rig on No.24H SHL (KB) to Mean Sea Level	3553.00ft
Vertical Reference Pt	Rig on No.24H SHL (KB)	Rig on No.24H SHL (KB) to Mud Line at Slot (No.24H SHL)	3553.00ft
MD Reference Pt	Rig on No.24H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	94.30°

Planned Wellpath Report

Rev-B.0

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.24H SHL
Area	Eddy County, NM	Well	No.24H
Field	Big Eddy Unit Drilling Island 5	Wellbore	No.24H PWB
Facility	Big Eddy Unit DI5		

WELLPATH DATA (225 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	140.000	0.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
30.00	0.000	140.000	30.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	Tie On
130.00†	0.000	140.000	130.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
230.00†	0.000	140.000	230.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
330.00†	0.000	140.000	330.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
430.00†	0.000	140.000	430.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
530.00†	0.000	140.000	530.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
630.00†	0.000	140.000	630.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
677.00†	0.000	140.000	677.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	Rustler
730.00†	0.000	140.000	730.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
830.00†	0.000	140.000	830.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
859.00†	0.000	140.000	859.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	T/Salt
930.00†	0.000	140.000	930.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
1030.00†	0.000	140.000	1030.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
1130.00†	0.000	140.000	1130.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
1230.00†	0.000	140.000	1230.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
1330.00†	0.000	140.000	1330.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
1430.00†	0.000	140.000	1430.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
1530.00†	0.000	140.000	1530.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
1630.00†	0.000	140.000	1630.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
1730.00†	0.000	140.000	1730.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
1830.00†	0.000	140.000	1830.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
1930.00†	0.000	140.000	1930.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
2030.00†	0.000	140.000	2030.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
2130.00†	0.000	140.000	2130.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
2230.00†	0.000	140.000	2230.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
2330.00†	0.000	140.000	2330.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
2430.00†	0.000	140.000	2430.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	
2500.00	0.000	140.000	2500.00	0.00	0.00	0.00	647698.32	562648.55	32°32'45.296"N	103°51'14.471"W	0.00	Nudge KOP
2530.00†	0.600	140.000	2530.00	0.11	-0.12	0.10	647698.42	562648.43	32°32'45.294"N	103°51'14.470"W	2.00	
2630.00†	2.600	140.000	2629.96	2.06	-2.26	1.90	647700.21	562646.29	32°32'45.273"N	103°51'14.449"W	2.00	
2730.00†	4.600	140.000	2729.75	6.45	-7.07	5.93	647704.25	562641.48	32°32'45.225"N	103°51'14.402"W	2.00	
2804.57†	6.091	140.000	2804.00	11.30	-12.39	10.40	647708.71	562636.16	32°32'45.173"N	103°51'14.350"W	2.00	T/Tansill
2830.00†	6.600	140.000	2829.27	13.26	-14.54	12.20	647710.52	562634.01	32°32'45.151"N	103°51'14.329"W	2.00	
2905.35†	8.107	140.000	2904.00	20.00	-21.93	18.40	647716.72	562626.62	32°32'45.078"N	103°51'14.257"W	2.00	T/Reef
2930.00†	8.600	140.000	2928.39	22.50	-24.67	20.70	647719.02	562623.88	32°32'45.051"N	103°51'14.231"W	2.00	
3000.00	10.000	140.000	2997.47	30.40	-33.34	27.98	647726.29	562615.22	32°32'44.964"N	103°51'14.146"W	2.00	EOB
3030.00†	10.000	140.000	3027.01	34.04	-37.33	31.32	647729.64	562611.22	32°32'44.925"N	103°51'14.107"W	0.00	
3130.00†	10.000	140.000	3125.49	46.16	-50.63	42.49	647740.80	562597.92	32°32'44.793"N	103°51'13.978"W	0.00	
3230.00†	10.000	140.000	3223.97	58.29	-63.94	53.65	647751.96	562584.62	32°32'44.661"N	103°51'13.848"W	0.00	
3253.38†	10.000	140.000	3247.00	61.13	-67.05	56.26	647754.57	562581.51	32°32'44.630"N	103°51'13.818"W	0.00	T/DMG
3330.00†	10.000	140.000	3322.45	70.42	-77.24	64.81	647763.12	562571.32	32°32'44.528"N	103°51'13.718"W	0.00	
3430.00†	10.000	140.000	3420.93	82.55	-90.54	75.97	647774.28	562558.02	32°32'44.396"N	103°51'13.589"W	0.00	
3530.00†	10.000	140.000	3519.41	94.68	-103.84	87.13	647785.45	562544.72	32°32'44.264"N	103°51'13.459"W	0.00	
3630.00†	10.000	140.000	3617.89	106.80	-117.14	98.30	647796.61	562531.42	32°32'44.132"N	103°51'13.329"W	0.00	

Planned Wellpath Report

Rev-B.0

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.24H SHL
Area	Eddy County, NM	Well	No.24H
Field	Big Eddy Unit Drilling Island 5	Wellbore	No.24H PWB
Facility	Big Eddy Unit DI5		

WELLPATH DATA (225 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3730.00†	10.000	140.000	3716.38	118.93	-130.45	109.46	647807.77	562518.12	32°32'44.000"N	103°51'13.199"W	0.00	
3830.00†	10.000	140.000	3814.86	131.06	-143.75	120.62	647818.93	562504.81	32°32'43.868"N	103°51'13.070"W	0.00	
3856.55†	10.000	140.000	3841.00	134.28	-147.28	123.58	647821.89	562501.28	32°32'43.833"N	103°51'13.035"W	0.00	T/Del Sd
3930.00†	10.000	140.000	3913.34	143.19	-157.05	131.78	647830.09	562491.51	32°32'43.736"N	103°51'12.940"W	0.00	
4030.00†	10.000	140.000	4011.82	155.32	-170.35	142.94	647841.25	562478.21	32°32'43.604"N	103°51'12.810"W	0.00	
4130.00†	10.000	140.000	4110.30	167.45	-183.66	154.11	647852.41	562464.91	32°32'43.471"N	103°51'12.681"W	0.00	
4230.00†	10.000	140.000	4208.78	179.57	-196.96	165.27	647863.57	562451.61	32°32'43.339"N	103°51'12.551"W	0.00	
4330.00†	10.000	140.000	4307.26	191.70	-210.26	176.43	647874.73	562438.31	32°32'43.207"N	103°51'12.421"W	0.00	
4430.00†	10.000	140.000	4405.74	203.83	-223.56	187.59	647885.90	562425.01	32°32'43.075"N	103°51'12.292"W	0.00	
4530.00†	10.000	140.000	4504.22	215.96	-236.86	198.75	647897.06	562411.70	32°32'42.943"N	103°51'12.162"W	0.00	
4630.00†	10.000	140.000	4602.70	228.09	-250.17	209.91	647908.22	562398.40	32°32'42.811"N	103°51'12.032"W	0.00	
4730.00†	10.000	140.000	4701.18	240.21	-263.47	221.08	647919.38	562385.10	32°32'42.679"N	103°51'11.903"W	0.00	
4830.00†	10.000	140.000	4799.66	252.34	-276.77	232.24	647930.54	562371.80	32°32'42.547"N	103°51'11.773"W	0.00	
4930.00†	10.000	140.000	4898.14	264.47	-290.07	243.40	647941.70	562358.50	32°32'42.415"N	103°51'11.643"W	0.00	
5030.00†	10.000	140.000	4996.63	276.60	-303.38	254.56	647952.86	562345.20	32°32'42.282"N	103°51'11.514"W	0.00	
5130.00†	10.000	140.000	5095.11	288.73	-316.68	265.72	647964.02	562331.90	32°32'42.150"N	103°51'11.384"W	0.00	
5230.00†	10.000	140.000	5193.59	300.85	-329.98	276.89	647975.19	562318.60	32°32'42.018"N	103°51'11.254"W	0.00	
5330.00†	10.000	140.000	5292.07	312.98	-343.28	288.05	647986.35	562305.29	32°32'41.886"N	103°51'11.124"W	0.00	
5430.00†	10.000	140.000	5390.55	325.11	-356.58	299.21	647997.51	562291.99	32°32'41.754"N	103°51'10.995"W	0.00	
5530.00†	10.000	140.000	5489.03	337.24	-369.89	310.37	648008.67	562278.69	32°32'41.622"N	103°51'10.865"W	0.00	
5630.00†	10.000	140.000	5587.51	349.37	-383.19	321.53	648019.83	562265.39	32°32'41.490"N	103°51'10.735"W	0.00	
5730.00†	10.000	140.000	5685.99	361.50	-396.49	332.70	648030.99	562252.09	32°32'41.358"N	103°51'10.606"W	0.00	
5830.00†	10.000	140.000	5784.47	373.62	-409.79	343.86	648042.15	562238.79	32°32'41.225"N	103°51'10.476"W	0.00	
5930.00†	10.000	140.000	5882.95	385.75	-423.10	355.02	648053.31	562225.49	32°32'41.093"N	103°51'10.346"W	0.00	
6030.00†	10.000	140.000	5981.43	397.88	-436.40	366.18	648064.47	562212.19	32°32'40.961"N	103°51'10.217"W	0.00	
6130.00†	10.000	140.000	6079.91	410.01	-449.70	377.34	648075.64	562198.88	32°32'40.829"N	103°51'10.087"W	0.00	
6230.00†	10.000	140.000	6178.39	422.14	-463.00	388.50	648086.80	562185.58	32°32'40.697"N	103°51'09.957"W	0.00	
6330.00†	10.000	140.000	6276.88	434.26	-476.30	399.67	648097.96	562172.28	32°32'40.565"N	103°51'09.828"W	0.00	
6430.00†	10.000	140.000	6375.36	446.39	-489.61	410.83	648109.12	562158.98	32°32'40.433"N	103°51'09.698"W	0.00	
6512.90†	10.000	140.000	6457.00	456.45	-500.63	420.08	648118.37	562147.95	32°32'40.323"N	103°51'09.590"W	0.00	T/Br Cnyn
6530.00†	10.000	140.000	6473.84	458.52	-502.91	421.99	648120.28	562145.68	32°32'40.301"N	103°51'09.568"W	0.00	
6630.00†	10.000	140.000	6572.32	470.65	-516.21	433.15	648131.44	562132.38	32°32'40.168"N	103°51'09.439"W	0.00	
6730.00†	10.000	140.000	6670.80	482.78	-529.51	444.31	648142.60	562119.08	32°32'40.036"N	103°51'09.309"W	0.00	
6830.00†	10.000	140.000	6769.28	494.90	-542.82	455.48	648153.76	562105.77	32°32'39.904"N	103°51'09.179"W	0.00	
6930.00†	10.000	140.000	6867.76	507.03	-556.12	466.64	648164.92	562092.47	32°32'39.772"N	103°51'09.049"W	0.00	
7030.00†	10.000	140.000	6966.24	519.16	-569.42	477.80	648176.09	562079.17	32°32'39.640"N	103°51'08.920"W	0.00	
7035.85†	10.000	140.000	6972.00	519.87	-570.20	478.45	648176.74	562078.39	32°32'39.632"N	103°51'08.912"W	0.00	T/ Cobb Pay
7130.00†	10.000	140.000	7064.72	531.29	-582.72	488.96	648187.25	562065.87	32°32'39.508"N	103°51'08.790"W	0.00	
7230.00†	10.000	140.000	7163.20	543.42	-596.02	500.12	648198.41	562052.57	32°32'39.376"N	103°51'08.660"W	0.00	
7330.00†	10.000	140.000	7261.68	555.55	-609.33	511.29	648209.57	562039.27	32°32'39.244"N	103°51'08.531"W	0.00	
7345.55†	10.000	140.000	7277.00	557.43	-611.40	513.02	648211.30	562037.20	32°32'39.223"N	103°51'08.511"W	0.00	T/ LBC "8A"
7430.00†	10.000	140.000	7360.16	567.67	-622.63	522.45	648220.73	562025.97	32°32'39.111"N	103°51'08.401"W	0.00	
7530.00†	10.000	140.000	7458.64	579.80	-635.93	533.61	648231.89	562012.67	32°32'38.979"N	103°51'08.271"W	0.00	
7630.00†	10.000	140.000	7557.13	591.93	-649.23	544.77	648243.05	561999.36	32°32'38.847"N	103°51'08.142"W	0.00	
7730.00†	10.000	140.000	7655.61	604.06	-662.54	555.93	648254.21	561986.06	32°32'38.715"N	103°51'08.012"W	0.00	

Planned Wellpath Report

Rev-B.0

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.24H SHL
Area	Eddy County, NM	Well	No.24H
Field	Big Eddy Unit Drilling Island 5	Wellbore	No.24H PWB
Facility	Big Eddy Unit DI5		

WELLPATH DATA (225 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7830.00†	10.000	140.000	7754.09	616.19	-675.84	567.10	648265.37	561972.76	32°32'38.583"N	103°51'07.882"W	0.00	
7930.00†	10.000	140.000	7852.57	628.31	-689.14	578.26	648276.54	561959.46	32°32'38.451"N	103°51'07.753"W	0.00	
8030.00†	10.000	140.000	7951.05	640.44	-702.44	589.42	648287.70	561946.16	32°32'38.319"N	103°51'07.623"W	0.00	
8130.00†	10.000	140.000	8049.53	652.57	-715.74	600.58	648298.86	561932.86	32°32'38.187"N	103°51'07.493"W	0.00	
8230.00†	10.000	140.000	8148.01	664.70	-729.05	611.74	648310.02	561919.56	32°32'38.054"N	103°51'07.364"W	0.00	
8330.00†	10.000	140.000	8246.49	676.83	-742.35	622.90	648321.18	561906.25	32°32'37.922"N	103°51'07.234"W	0.00	
8430.00†	10.000	140.000	8344.97	688.95	-755.65	634.07	648332.34	561892.95	32°32'37.790"N	103°51'07.104"W	0.00	
8530.00†	10.000	140.000	8443.45	701.08	-768.95	645.23	648343.50	561879.65	32°32'37.658"N	103°51'06.975"W	0.00	
8630.00†	10.000	140.000	8541.93	713.21	-782.26	656.39	648354.66	561866.35	32°32'37.526"N	103°51'06.845"W	0.00	
8730.00†	10.000	140.000	8640.41	725.34	-795.56	667.55	648365.82	561853.05	32°32'37.394"N	103°51'06.715"W	0.00	
8830.00†	10.000	140.000	8738.89	737.47	-808.86	678.71	648376.99	561839.75	32°32'37.262"N	103°51'06.585"W	0.00	
8930.00†	10.000	140.000	8837.38	749.59	-822.16	689.88	648388.15	561826.45	32°32'37.130"N	103°51'06.456"W	0.00	
8967.00	10.000	140.000	8873.81	754.08	-827.08	694.01	648392.28	561821.53	32°32'37.081"N	103°51'06.408"W	0.00	Curve KOP
9030.00†	14.553	119.054	8935.39	765.10	-835.13	704.45	648402.72	561813.48	32°32'37.001"N	103°51'06.286"W	10.00	
9130.00†	23.476	104.778	9029.88	796.18	-846.34	734.77	648433.04	561802.27	32°32'36.888"N	103°51'05.933"W	10.00	
9230.00†	33.000	98.246	9117.90	843.05	-855.35	781.10	648479.36	561793.27	32°32'36.797"N	103°51'05.392"W	10.00	
9330.00†	42.724	94.416	9196.77	904.29	-861.88	842.02	648540.29	561786.73	32°32'36.730"N	103°51'04.681"W	10.00	
9430.00†	52.535	91.788	9264.08	978.05	-865.74	915.70	648613.96	561782.87	32°32'36.688"N	103°51'03.820"W	10.00	
9505.77	60.000	90.226	9306.13	1040.91	-866.81	978.66	648676.91	561781.80	32°32'36.675"N	103°51'03.085"W	10.00	Curve 60°
9530.00†	60.000	90.226	9318.25	1061.84	-866.89	999.64	648697.89	561781.72	32°32'36.673"N	103°51'02.840"W	0.00	
9630.00†	60.000	90.226	9368.25	1148.23	-867.23	1086.24	648784.49	561781.38	32°32'36.666"N	103°51'01.828"W	0.00	
9705.77	60.000	90.226	9406.13	1213.68	-867.49	1151.86	648850.10	561781.12	32°32'36.660"N	103°51'01.062"W	0.00	7" Casing
9730.00†	62.420	90.226	9417.80	1234.86	-867.58	1173.09	648871.33	561781.04	32°32'36.659"N	103°51'00.814"W	9.99	
9830.00†	72.406	90.226	9456.16	1326.84	-867.94	1265.31	648963.54	561780.67	32°32'36.651"N	103°50'59.736"W	9.99	
9930.00†	82.392	90.226	9477.95	1424.06	-868.32	1362.77	649061.00	561780.29	32°32'36.643"N	103°50'58.598"W	9.99	
10006.18	90.000	90.226	9483.00	1499.83	-868.62	1438.73	649136.95	561779.99	32°32'36.636"N	103°50'57.711"W	9.99	EOC
10006.20	90.000	90.226	9483.00	1499.85	-868.62	1438.75	649136.97	561779.99	32°32'36.636"N	103°50'57.710"W	2.00	TL
10030.00†	90.000	90.226	9483.00	1523.58	-868.72	1462.55	649160.77	561779.89	32°32'36.634"N	103°50'57.432"W	0.00	
10130.00†	90.000	90.226	9483.00	1623.33	-869.11	1562.55	649260.76	561779.50	32°32'36.626"N	103°50'56.264"W	0.00	
10230.00†	90.000	90.226	9483.00	1723.08	-869.51	1662.55	649360.75	561779.11	32°32'36.618"N	103°50'55.096"W	0.00	
10330.00†	90.000	90.226	9483.00	1822.82	-869.90	1762.55	649460.74	561778.71	32°32'36.609"N	103°50'53.928"W	0.00	
10430.00†	90.000	90.226	9483.00	1922.57	-870.29	1862.55	649560.74	561778.32	32°32'36.601"N	103°50'52.760"W	0.00	
10530.00†	90.000	90.226	9483.00	2022.32	-870.69	1962.55	649660.73	561777.93	32°32'36.592"N	103°50'51.592"W	0.00	
10630.00†	90.000	90.226	9483.00	2122.07	-871.08	2062.54	649760.72	561777.53	32°32'36.584"N	103°50'50.424"W	0.00	
10730.00†	90.000	90.226	9483.00	2221.81	-871.47	2162.54	649860.71	561777.14	32°32'36.575"N	103°50'49.256"W	0.00	
10830.00†	90.000	90.226	9483.00	2321.56	-871.87	2262.54	649960.71	561776.74	32°32'36.567"N	103°50'48.088"W	0.00	
10930.00†	90.000	90.226	9483.00	2421.31	-872.26	2362.54	650060.70	561776.35	32°32'36.559"N	103°50'46.919"W	0.00	
11030.00†	90.000	90.226	9483.00	2521.05	-872.66	2462.54	650160.69	561775.96	32°32'36.550"N	103°50'45.751"W	0.00	
11130.00†	90.000	90.226	9483.00	2620.80	-873.05	2562.54	650260.68	561775.56	32°32'36.542"N	103°50'44.583"W	0.00	
11230.00†	90.000	90.226	9483.00	2720.55	-873.44	2662.54	650360.68	561775.17	32°32'36.533"N	103°50'43.415"W	0.00	
11330.00†	90.000	90.226	9483.00	2820.30	-873.84	2762.54	650460.67	561774.78	32°32'36.525"N	103°50'42.247"W	0.00	
11430.00†	90.000	90.226	9483.00	2920.04	-874.23	2862.54	650560.66	561774.38	32°32'36.517"N	103°50'41.079"W	0.00	
11530.00†	90.000	90.226	9483.00	3019.79	-874.62	2962.54	650660.65	561773.99	32°32'36.508"N	103°50'39.911"W	0.00	
11630.00†	90.000	90.226	9483.00	3119.54	-875.02	3062.54	650760.65	561773.59	32°32'36.500"N	103°50'38.743"W	0.00	
11730.00†	90.000	90.226	9483.00	3219.28	-875.41	3162.54	650860.64	561773.20	32°32'36.491"N	103°50'37.575"W	0.00	

Planned Wellpath Report

Rev-B.0

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.24H SHL
Area	Eddy County, NM	Well	No.24H
Field	Big Eddy Unit Drilling Island 5	Wellbore	No.24H PWB
Facility	Big Eddy Unit DI5		

WELLPATH DATA (225 stations) † = interpolated/extrapolated station.

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11830.00†	90.000	90.226	9483.00	3319.03	-875.81	3262.54	650960.63	561772.81	32°32'36.483"N	103°50'36.407"W	0.00	
11930.00†	90.000	90.226	9483.00	3418.78	-876.20	3362.53	651060.62	561772.41	32°32'36.474"N	103°50'35.238"W	0.00	
12030.00†	90.000	90.226	9483.00	3518.53	-876.59	3462.53	651160.62	561772.02	32°32'36.466"N	103°50'34.070"W	0.00	
12130.00†	90.000	90.226	9483.00	3618.27	-876.99	3562.53	651260.61	561771.63	32°32'36.457"N	103°50'32.902"W	0.00	
12230.00†	90.000	90.226	9483.00	3718.02	-877.38	3662.53	651360.60	561771.23	32°32'36.449"N	103°50'31.734"W	0.00	
12330.00†	90.000	90.226	9483.00	3817.77	-877.77	3762.53	651460.59	561770.84	32°32'36.440"N	103°50'30.566"W	0.00	
12430.00†	90.000	90.226	9483.00	3917.51	-878.17	3862.53	651560.59	561770.44	32°32'36.432"N	103°50'29.398"W	0.00	
12530.00†	90.000	90.226	9483.00	4017.26	-878.56	3962.53	651660.58	561770.05	32°32'36.424"N	103°50'28.230"W	0.00	
12630.00†	90.000	90.226	9483.00	4117.01	-878.96	4062.53	651760.57	561769.66	32°32'36.415"N	103°50'27.062"W	0.00	
12730.00†	90.000	90.226	9483.00	4216.76	-879.35	4162.53	651860.56	561769.26	32°32'36.407"N	103°50'25.894"W	0.00	
12830.00†	90.000	90.226	9483.00	4316.50	-879.74	4262.53	651960.56	561768.87	32°32'36.398"N	103°50'24.726"W	0.00	
12930.00†	90.000	90.226	9483.00	4416.25	-880.14	4362.53	652060.55	561768.48	32°32'36.390"N	103°50'23.557"W	0.00	
13030.00†	90.000	90.226	9483.00	4516.00	-880.53	4462.53	652160.54	561768.08	32°32'36.381"N	103°50'22.389"W	0.00	
13130.00†	90.000	90.226	9483.00	4615.74	-880.92	4562.52	652260.53	561767.69	32°32'36.373"N	103°50'21.221"W	0.00	
13230.00†	90.000	90.226	9483.00	4715.49	-881.32	4662.52	652360.53	561767.29	32°32'36.364"N	103°50'20.053"W	0.00	
13330.00†	90.000	90.226	9483.00	4815.24	-881.71	4762.52	652460.52	561766.90	32°32'36.356"N	103°50'18.885"W	0.00	
13430.00†	90.000	90.226	9483.00	4914.99	-882.11	4862.52	652560.51	561766.51	32°32'36.347"N	103°50'17.717"W	0.00	
13530.00†	90.000	90.226	9483.00	5014.73	-882.50	4962.52	652660.50	561766.11	32°32'36.339"N	103°50'16.549"W	0.00	
13630.00†	90.000	90.226	9483.00	5114.48	-882.89	5062.52	652760.50	561765.72	32°32'36.330"N	103°50'15.381"W	0.00	
13730.00†	90.000	90.226	9483.00	5214.23	-883.29	5162.52	652860.49	561765.33	32°32'36.322"N	103°50'14.213"W	0.00	
13830.00†	90.000	90.226	9483.00	5313.97	-883.68	5262.52	652960.48	561764.93	32°32'36.313"N	103°50'13.045"W	0.00	
13930.00†	90.000	90.226	9483.00	5413.72	-884.07	5362.52	653060.47	561764.54	32°32'36.305"N	103°50'11.876"W	0.00	
14030.00†	90.000	90.226	9483.00	5513.47	-884.47	5462.52	653160.46	561764.15	32°32'36.296"N	103°50'10.708"W	0.00	
14130.00†	90.000	90.226	9483.00	5613.22	-884.86	5562.52	653260.46	561763.75	32°32'36.288"N	103°50'09.540"W	0.00	
14230.00†	90.000	90.226	9483.00	5712.96	-885.26	5662.52	653360.45	561763.36	32°32'36.279"N	103°50'08.372"W	0.00	
14330.00†	90.000	90.226	9483.00	5812.71	-885.65	5762.52	653460.44	561762.96	32°32'36.271"N	103°50'07.204"W	0.00	
14430.00†	90.000	90.226	9483.00	5912.46	-886.04	5862.51	653560.43	561762.57	32°32'36.262"N	103°50'06.036"W	0.00	
14530.00†	90.000	90.226	9483.00	6012.20	-886.44	5962.51	653660.43	561762.18	32°32'36.254"N	103°50'04.868"W	0.00	
14630.00†	90.000	90.226	9483.00	6111.95	-886.83	6062.51	653760.42	561761.78	32°32'36.245"N	103°50'03.700"W	0.00	
14730.00†	90.000	90.226	9483.00	6211.70	-887.22	6162.51	653860.41	561761.39	32°32'36.237"N	103°50'02.532"W	0.00	
14830.00†	90.000	90.226	9483.00	6311.44	-887.62	6262.51	653960.40	561761.00	32°32'36.228"N	103°50'01.364"W	0.00	
14930.00†	90.000	90.226	9483.00	6411.19	-888.01	6362.51	654060.40	561760.60	32°32'36.219"N	103°50'00.195"W	0.00	
15030.00†	90.000	90.226	9483.00	6510.94	-888.41	6462.51	654160.39	561760.21	32°32'36.211"N	103°49'59.027"W	0.00	
15130.00†	90.000	90.226	9483.00	6610.69	-888.80	6562.51	654260.38	561759.81	32°32'36.202"N	103°49'57.859"W	0.00	
15230.00†	90.000	90.226	9483.00	6710.43	-889.19	6662.51	654360.37	561759.42	32°32'36.194"N	103°49'56.691"W	0.00	
15330.00†	90.000	90.226	9483.00	6810.18	-889.59	6762.51	654460.37	561759.03	32°32'36.185"N	103°49'55.523"W	0.00	
15430.00†	90.000	90.226	9483.00	6909.93	-889.98	6862.51	654560.36	561758.63	32°32'36.177"N	103°49'54.355"W	0.00	
15530.00†	90.000	90.226	9483.00	7009.67	-890.37	6962.51	654660.35	561758.24	32°32'36.168"N	103°49'53.187"W	0.00	
15630.00†	90.000	90.226	9483.00	7109.42	-890.77	7062.51	654760.34	561757.85	32°32'36.160"N	103°49'52.019"W	0.00	
15730.00†	90.000	90.226	9483.00	7209.17	-891.16	7162.50	654860.34	561757.45	32°32'36.151"N	103°49'50.851"W	0.00	
15830.00†	90.000	90.226	9483.00	7308.92	-891.56	7262.50	654960.33	561757.06	32°32'36.142"N	103°49'49.683"W	0.00	
15930.00†	90.000	90.226	9483.00	7408.66	-891.95	7362.50	655060.32	561756.66	32°32'36.134"N	103°49'48.515"W	0.00	
16030.00†	90.000	90.226	9483.00	7508.41	-892.34	7462.50	655160.31	561756.27	32°32'36.125"N	103°49'47.346"W	0.00	
16130.00†	90.000	90.226	9483.00	7608.16	-892.74	7562.50	655260.31	561755.88	32°32'36.117"N	103°49'46.178"W	0.00	
16230.00†	90.000	90.226	9483.00	7707.90	-893.13	7662.50	655360.30	561755.48	32°32'36.108"N	103°49'45.010"W	0.00	

Planned Wellpath Report

Rev-B.0

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.24H SHL
Area	Eddy County, NM	Well	No.24H
Field	Big Eddy Unit Drilling Island 5	Wellbore	No.24H PWB
Facility	Big Eddy Unit DI5		

WELLPATH DATA (225 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16330.00†	90.000	90.226	9483.00	7807.65	-893.52	7762.50	655460.29	561755.09	32°32'36.100"N	103°49'43.842"W	0.00	
16430.00†	90.000	90.226	9483.00	7907.40	-893.92	7862.50	655560.28	561754.70	32°32'36.091"N	103°49'42.674"W	0.00	
16530.00†	90.000	90.226	9483.00	8007.15	-894.31	7962.50	655660.28	561754.30	32°32'36.082"N	103°49'41.506"W	0.00	
16630.00†	90.000	90.226	9483.00	8106.89	-894.71	8062.50	655760.27	561753.91	32°32'36.074"N	103°49'40.338"W	0.00	
16730.00†	90.000	90.226	9483.00	8206.64	-895.10	8162.50	655860.26	561753.51	32°32'36.065"N	103°49'39.170"W	0.00	
16830.00†	90.000	90.226	9483.00	8306.39	-895.49	8262.50	655960.25	561753.12	32°32'36.057"N	103°49'38.002"W	0.00	
16930.00†	90.000	90.226	9483.00	8406.13	-895.89	8362.50	656060.25	561752.73	32°32'36.048"N	103°49'36.834"W	0.00	
17030.00†	90.000	90.226	9483.00	8505.88	-896.28	8462.49	656160.24	561752.33	32°32'36.039"N	103°49'35.665"W	0.00	
17130.00†	90.000	90.226	9483.00	8605.63	-896.67	8562.49	656260.23	561751.94	32°32'36.031"N	103°49'34.497"W	0.00	
17230.00†	90.000	90.226	9483.00	8705.38	-897.07	8662.49	656360.22	561751.55	32°32'36.022"N	103°49'33.329"W	0.00	
17330.00†	90.000	90.226	9483.00	8805.12	-897.46	8762.49	656460.22	561751.15	32°32'36.014"N	103°49'32.161"W	0.00	
17430.00†	90.000	90.226	9483.00	8904.87	-897.86	8862.49	656560.21	561750.76	32°32'36.005"N	103°49'30.993"W	0.00	
17530.00†	90.000	90.226	9483.00	9004.62	-898.25	8962.49	656660.20	561750.36	32°32'35.996"N	103°49'29.825"W	0.00	
17630.00†	90.000	90.226	9483.00	9104.36	-898.64	9062.49	656760.19	561749.97	32°32'35.988"N	103°49'28.657"W	0.00	
17730.00†	90.000	90.226	9483.00	9204.11	-899.04	9162.49	656860.19	561749.58	32°32'35.979"N	103°49'27.489"W	0.00	
17830.00†	90.000	90.226	9483.00	9303.86	-899.43	9262.49	656960.18	561749.18	32°32'35.970"N	103°49'26.321"W	0.00	
17930.00†	90.000	90.226	9483.00	9403.61	-899.82	9362.49	657060.17	561748.79	32°32'35.962"N	103°49'25.153"W	0.00	
18030.00†	90.000	90.226	9483.00	9503.35	-900.22	9462.49	657160.16	561748.40	32°32'35.953"N	103°49'23.985"W	0.00	
18130.00†	90.000	90.226	9483.00	9603.10	-900.61	9562.49	657260.15	561748.00	32°32'35.945"N	103°49'22.816"W	0.00	
18230.00†	90.000	90.226	9483.00	9702.85	-901.01	9662.49	657360.15	561747.61	32°32'35.936"N	103°49'21.648"W	0.00	
18330.00†	90.000	90.226	9483.00	9802.59	-901.40	9762.48	657460.14	561747.22	32°32'35.927"N	103°49'20.480"W	0.00	
18430.00†	90.000	90.226	9483.00	9902.34	-901.79	9862.48	657560.13	561746.82	32°32'35.919"N	103°49'19.312"W	0.00	
18530.00†	90.000	90.226	9483.00	10002.09	-902.19	9962.48	657660.12	561746.43	32°32'35.910"N	103°49'18.144"W	0.00	
18630.00†	90.000	90.226	9483.00	10101.84	-902.58	10062.48	657760.12	561746.03	32°32'35.901"N	103°49'16.976"W	0.00	
18730.00†	90.000	90.226	9483.00	10201.58	-902.97	10162.48	657860.11	561745.64	32°32'35.893"N	103°49'15.808"W	0.00	
18830.00†	90.000	90.226	9483.00	10301.33	-903.37	10262.48	657960.10	561745.25	32°32'35.884"N	103°49'14.640"W	0.00	
18930.00†	90.000	90.226	9483.00	10401.08	-903.76	10362.48	658060.09	561744.85	32°32'35.875"N	103°49'13.472"W	0.00	
19030.00†	90.000	90.226	9483.00	10500.82	-904.16	10462.48	658160.09	561744.46	32°32'35.867"N	103°49'12.304"W	0.00	
19130.00†	90.000	90.226	9483.00	10600.57	-904.55	10562.48	658260.08	561744.07	32°32'35.858"N	103°49'11.135"W	0.00	
19230.00†	90.000	90.226	9483.00	10700.32	-904.94	10662.48	658360.07	561743.67	32°32'35.849"N	103°49'09.967"W	0.00	
19330.00†	90.000	90.226	9483.00	10800.06	-905.34	10762.48	658460.06	561743.28	32°32'35.841"N	103°49'08.799"W	0.00	
19430.00†	90.000	90.226	9483.00	10899.81	-905.73	10862.48	658560.06	561742.88	32°32'35.832"N	103°49'07.631"W	0.00	
19530.00†	90.000	90.226	9483.00	10999.56	-906.12	10962.48	658660.05	561742.49	32°32'35.823"N	103°49'06.463"W	0.00	
19630.00†	90.000	90.226	9483.00	11099.31	-906.52	11062.47	658760.04	561742.10	32°32'35.815"N	103°49'05.295"W	0.00	
19730.00†	90.000	90.226	9483.00	11199.05	-906.91	11162.47	658860.03	561741.70	32°32'35.806"N	103°49'04.127"W	0.00	
19830.00†	90.000	90.226	9483.00	11298.80	-907.31	11262.47	658960.03	561741.31	32°32'35.797"N	103°49'02.959"W	0.00	
19930.00†	90.000	90.226	9483.00	11398.55	-907.70	11362.47	659060.02	561740.92	32°32'35.789"N	103°49'01.791"W	0.00	
20030.00†	90.000	90.226	9483.00	11498.29	-908.09	11462.47	659160.01	561740.52	32°32'35.780"N	103°49'00.623"W	0.00	
20130.00†	90.000	90.226	9483.00	11598.04	-908.49	11562.47	659260.00	561740.13	32°32'35.771"N	103°48'59.455"W	0.00	
20230.00†	90.000	90.226	9483.00	11697.79	-908.88	11662.47	659360.00	561739.73	32°32'35.763"N	103°48'58.286"W	0.00	
20330.00†	90.000	90.226	9483.00	11797.54	-909.27	11762.47	659459.99	561739.34	32°32'35.754"N	103°48'57.118"W	0.00	
20430.00†	90.000	90.226	9483.00	11897.28	-909.67	11862.47	659559.98	561738.95	32°32'35.745"N	103°48'55.950"W	0.00	
20530.00†	90.000	90.226	9483.00	11997.03	-910.06	11962.47	659659.97	561738.55	32°32'35.736"N	103°48'54.782"W	0.00	
20630.00†	90.000	90.226	9483.00	12096.78	-910.46	12062.47	659759.97	561738.16	32°32'35.728"N	103°48'53.614"W	0.00	
20675.12†	90.000	90.226	9483.00	12141.78	-910.63	12107.58	659805.08	561737.98	32°32'35.724"N	103°48'53.087"W	0.00	No.24H PBHL

Planned Wellpath Report

Rev-B.0

REFERENCE WELLPATH IDENTIFICATION			
Operator	**BOPCO, L.P.**	Slot	**No.24H SHL**
Area	**Eddy County, NM**	Well	**No.24H**
Field	**Big Eddy Unit Drilling Island 5**	Wellbore	**No.24H PWB**
Facility	**Big Eddy Unit DI5**		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No.24H PBHL	20675.12	9483.00	-910.63	12107.58	659805.08	561737.98	32°32'35.724"N	103°48'53.087"W	point

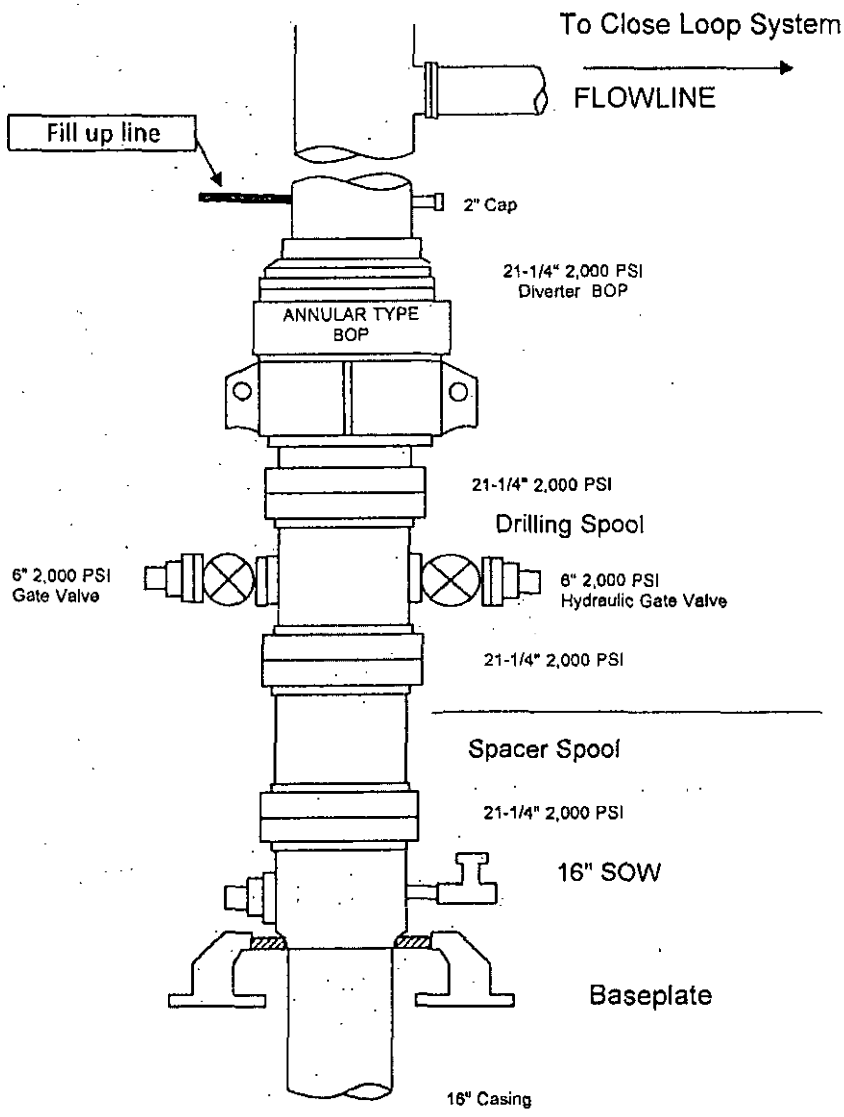
SURVEY PROGRAM - Ref Wellbore: No.24H PWB Ref Wellpath: Rev-B.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
30.00	20675.12	NaviTrak (Standard)		No.24H PWB

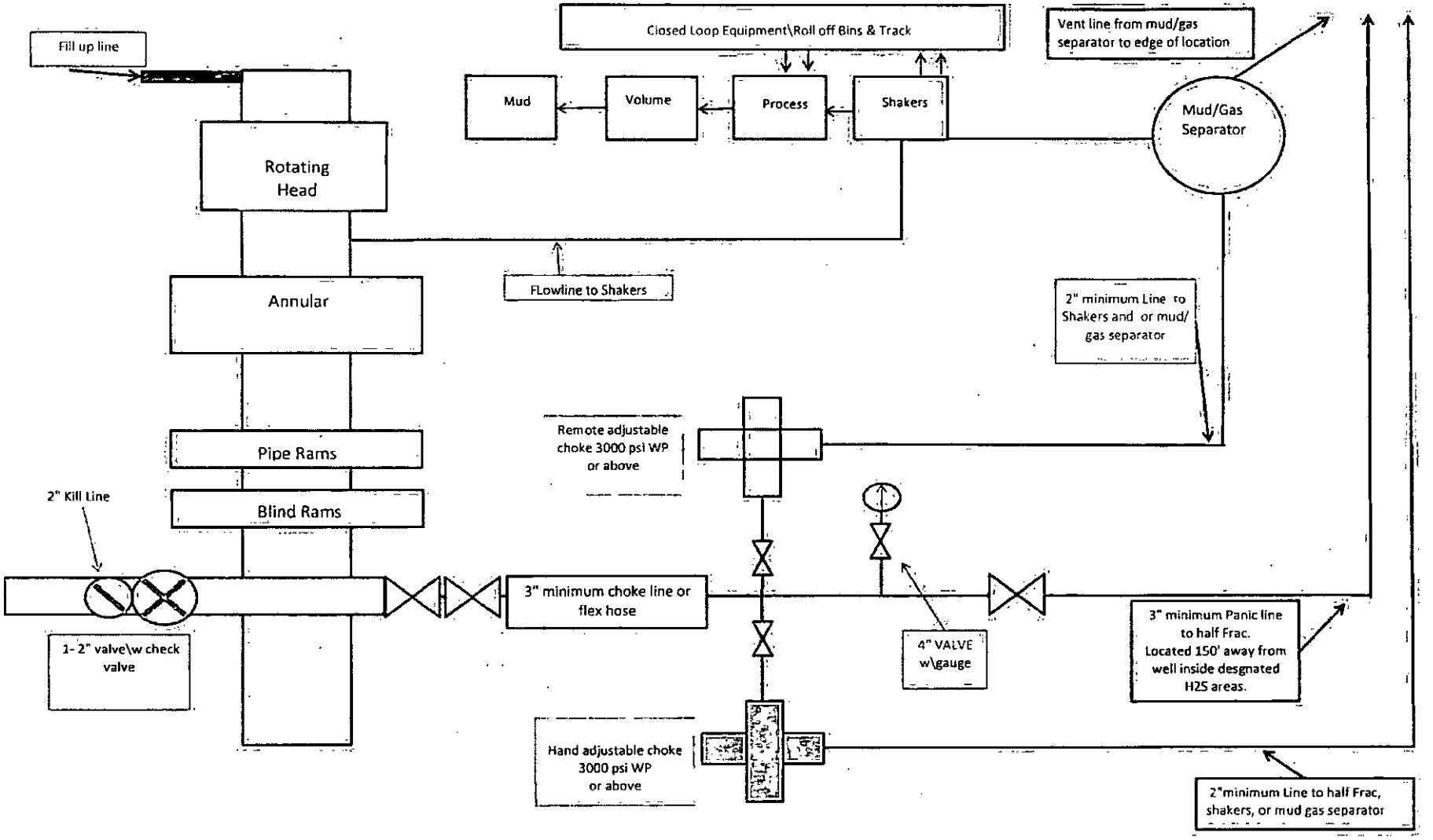
BOPCO, L. P

20" 2,000 PSI Diverter

Diagram Z

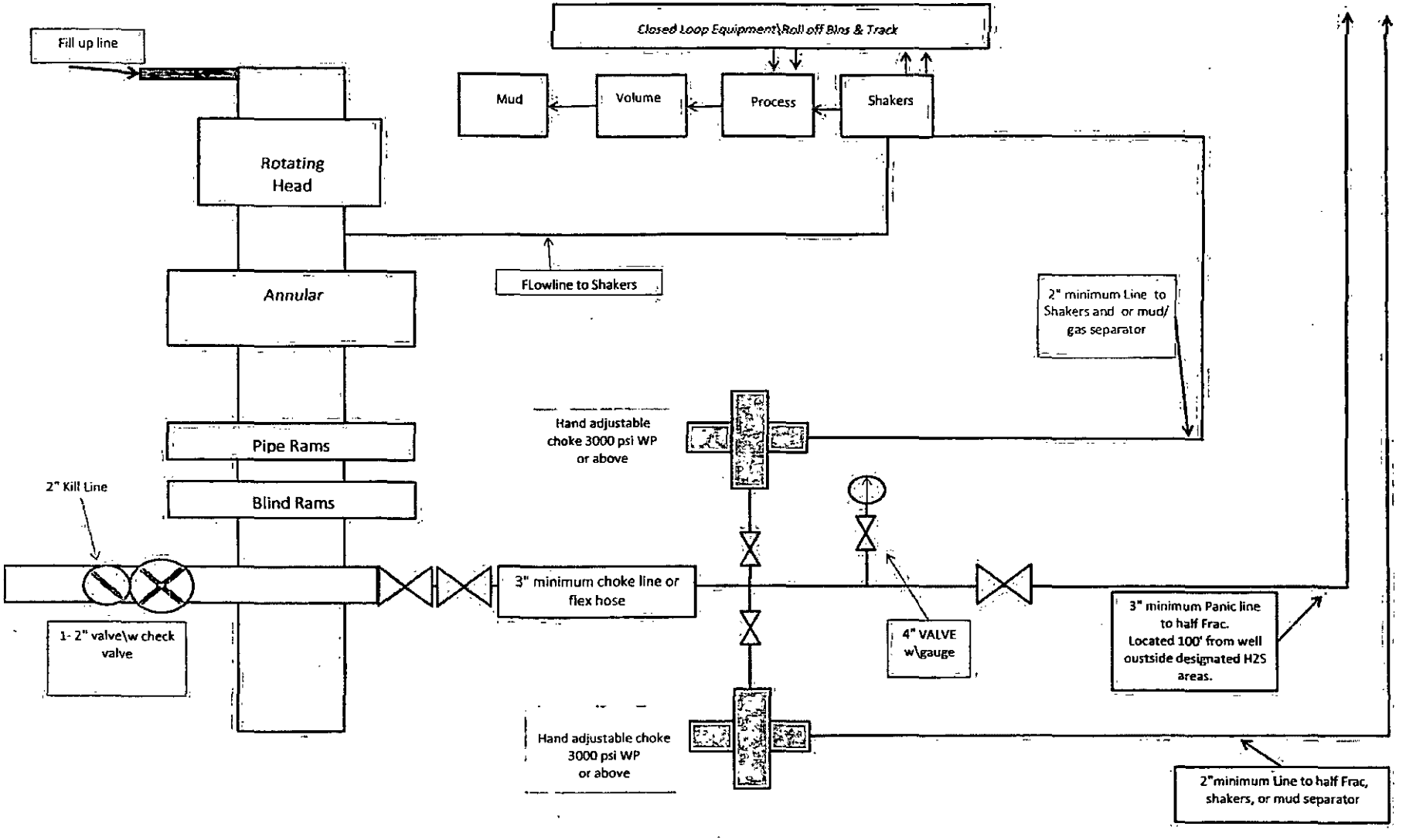


Note: Actual lengths of casing heads may vary. Always measure items prior to installing in order to ensure proper spacing.



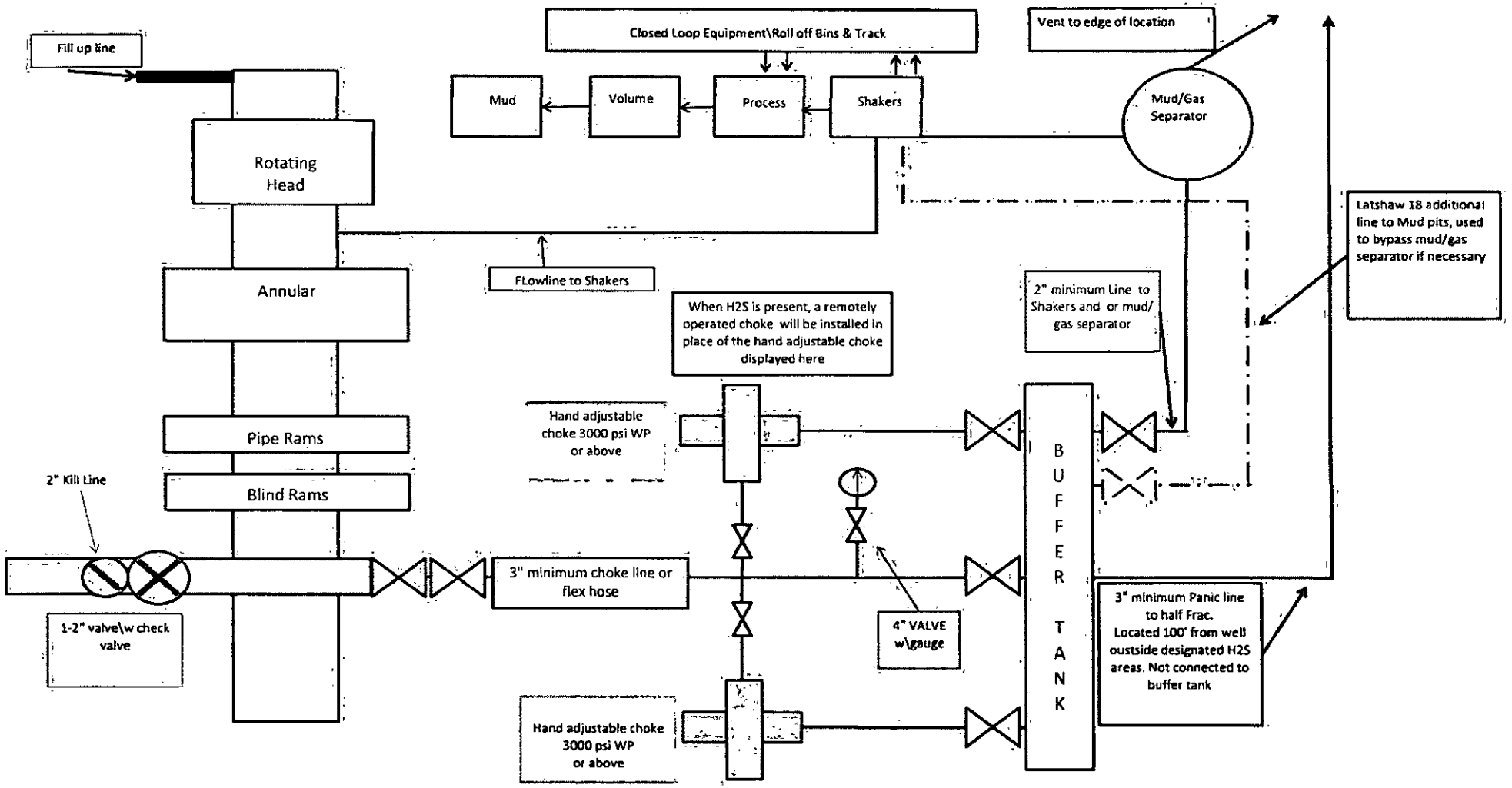
13-5/8" or 11" X 3-M BOPE (2 Rams and Rotating Head)
& Closed Loop System Equipment Schematic
H2S contingency
Diagram B

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



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.



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

Latshaw 13-5/8" 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
& Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

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

HOSE SPECIFICATIONS

Type: Rotary / Vibrator Hose C/K /API 7K	Hose Length: 40 FEET
I.D. 3.5 *INCHES*	O.D. 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: 1337641-1	Hose Serial Number: 7554

Comments:

Date:	Tested:	Approved:
2/14/2012	Dave McLemore	Parson Magin

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

February 12, 2012

Customer: Latshaw

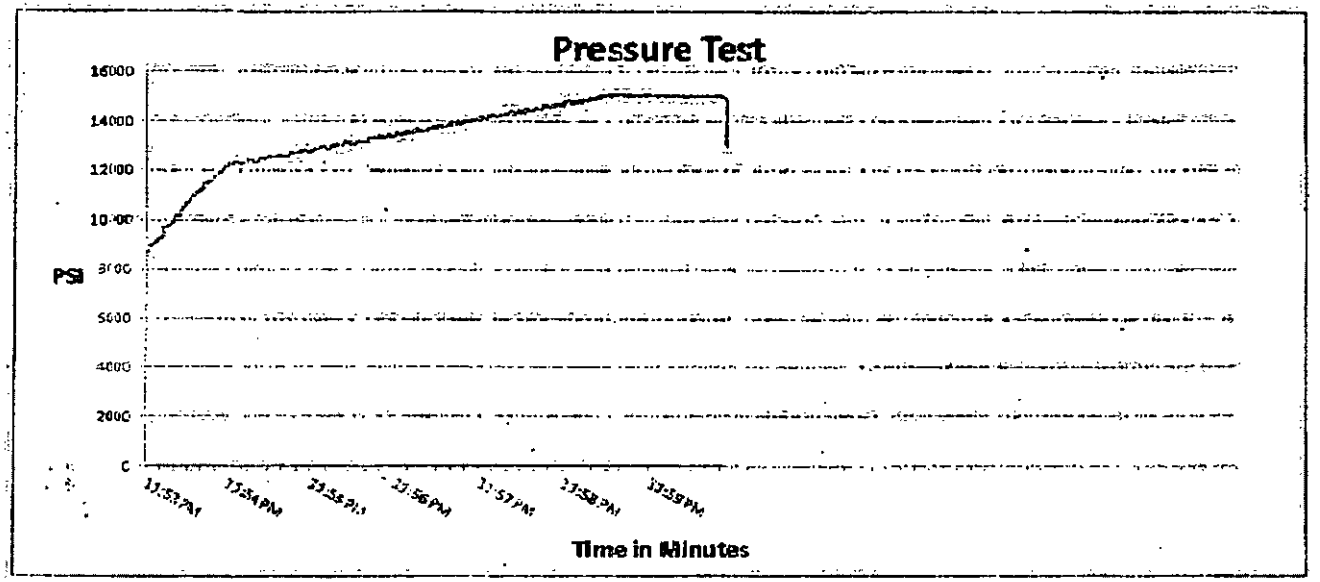
Pick Ticket #: 137641-1

Hose Specifications

Hose Type	Length
E	40'
I.D.	**O.D.**
3.5"	5 22/71
Working Pressure	**Burst Pressure**
7500 PSI	Standard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
41/16 10K	Swage
Die Size	**Final O.D.**
5.75"	5 19/25
Hose Serial #	**Hose Assembly Serial #**
7554	137641 1



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	1 2/4 Minutes		15151 PS

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

Tested By: *Donnie Mclemore*

Approved By: *Preston Morgan*

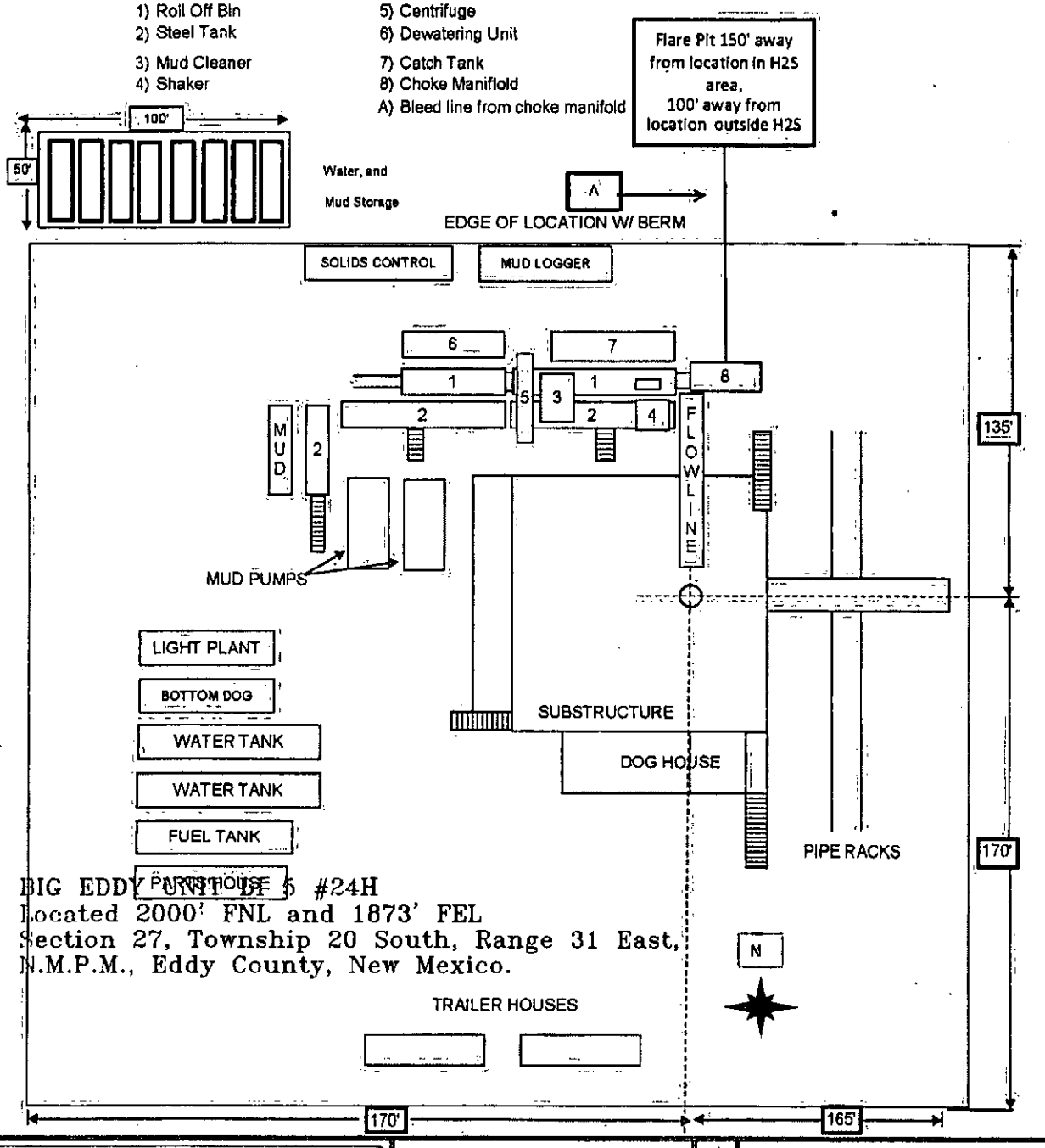
RIG LAYOUT

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



BIG EDDY UNIT DI 5 #24H
Located 2000' FNL and 1873' FEL
Section 27, Township 20 South, Range 31 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: JG - 26033
Survey Date: 1-17-2012
Scale: 1" = 2000'
Date: 1-20-2012

BOPCO, L.P.

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

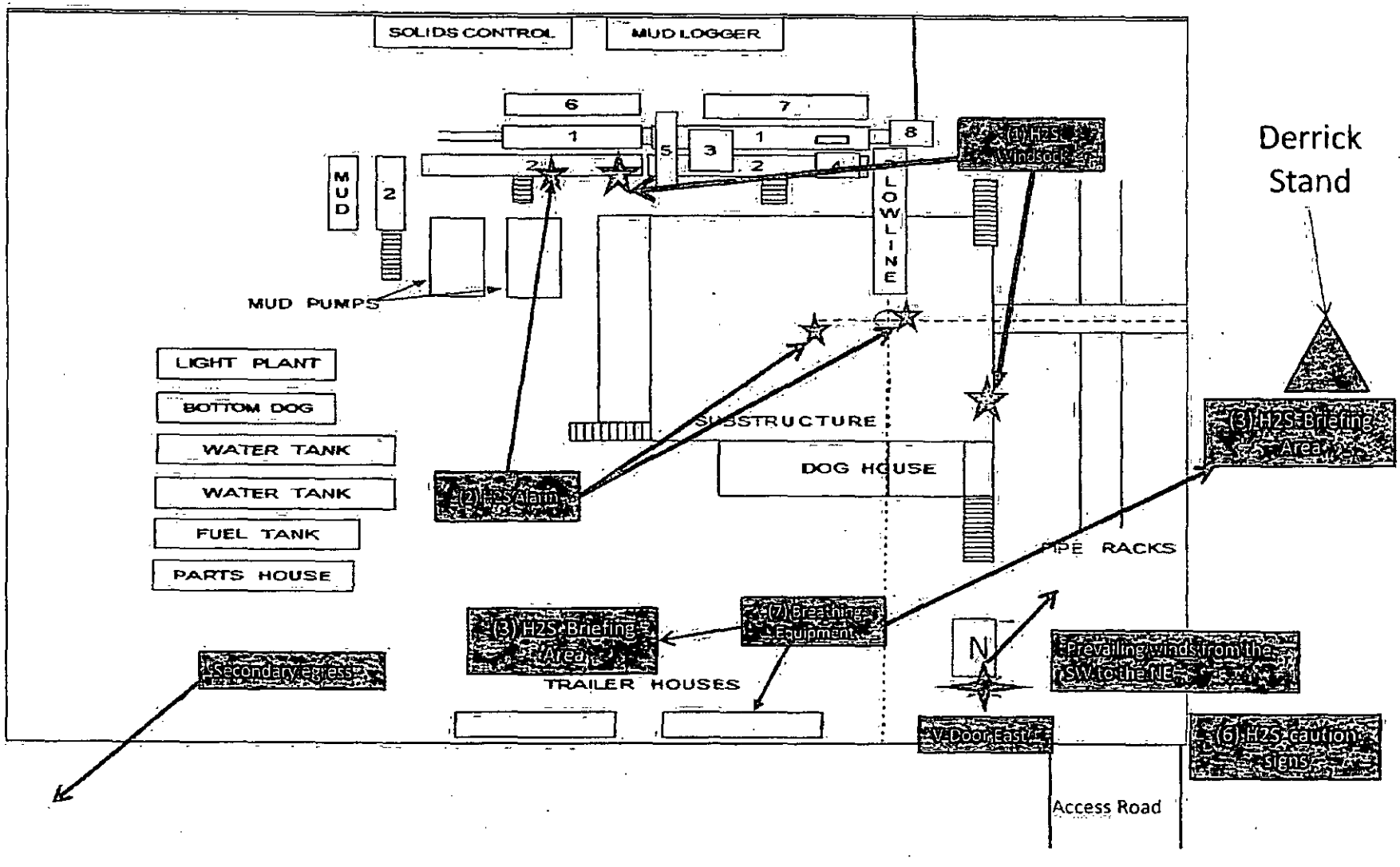
3) Location of briefing areas.

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.

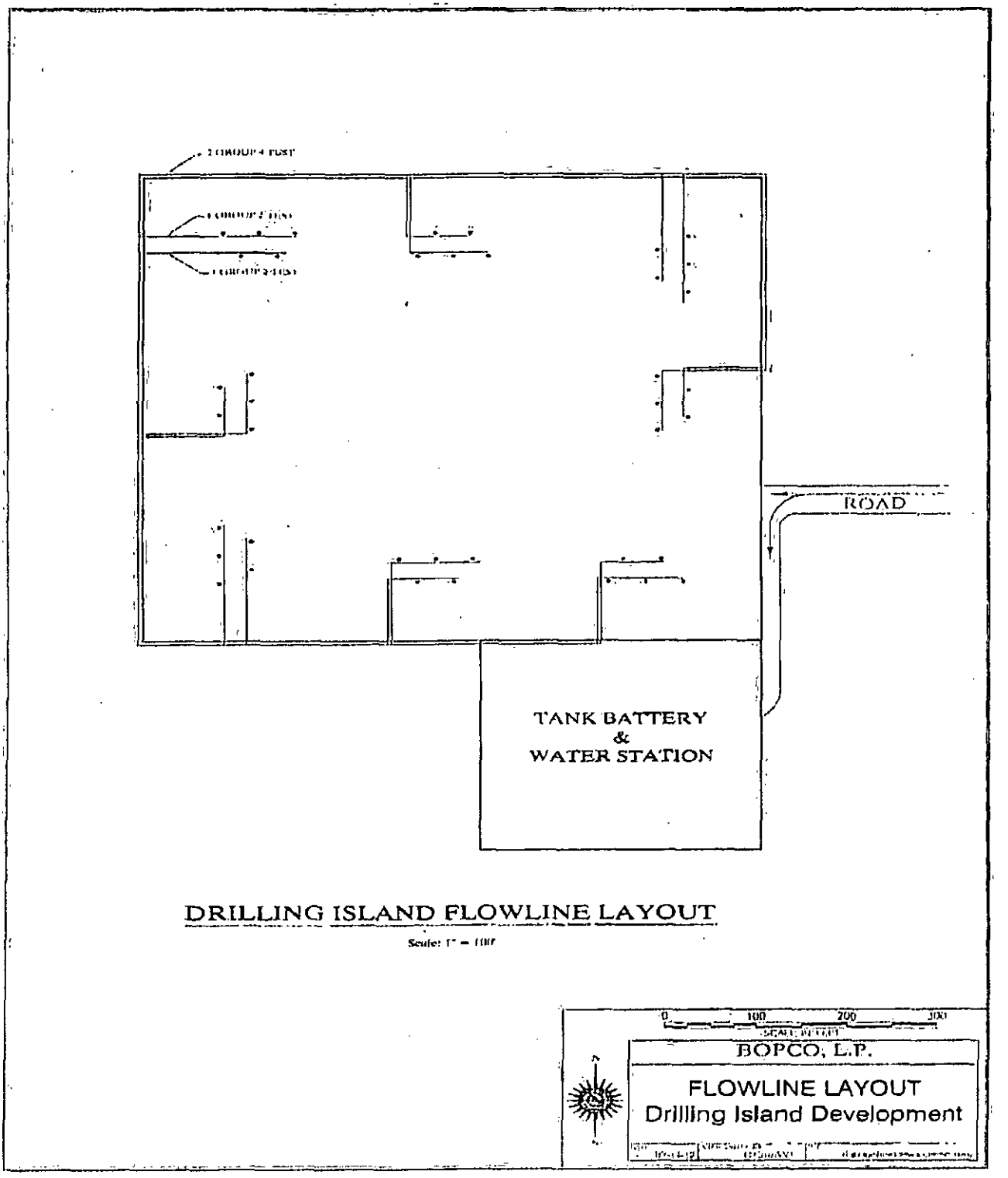
(7) Location of Breathing Equipment



Location On-Site Notes

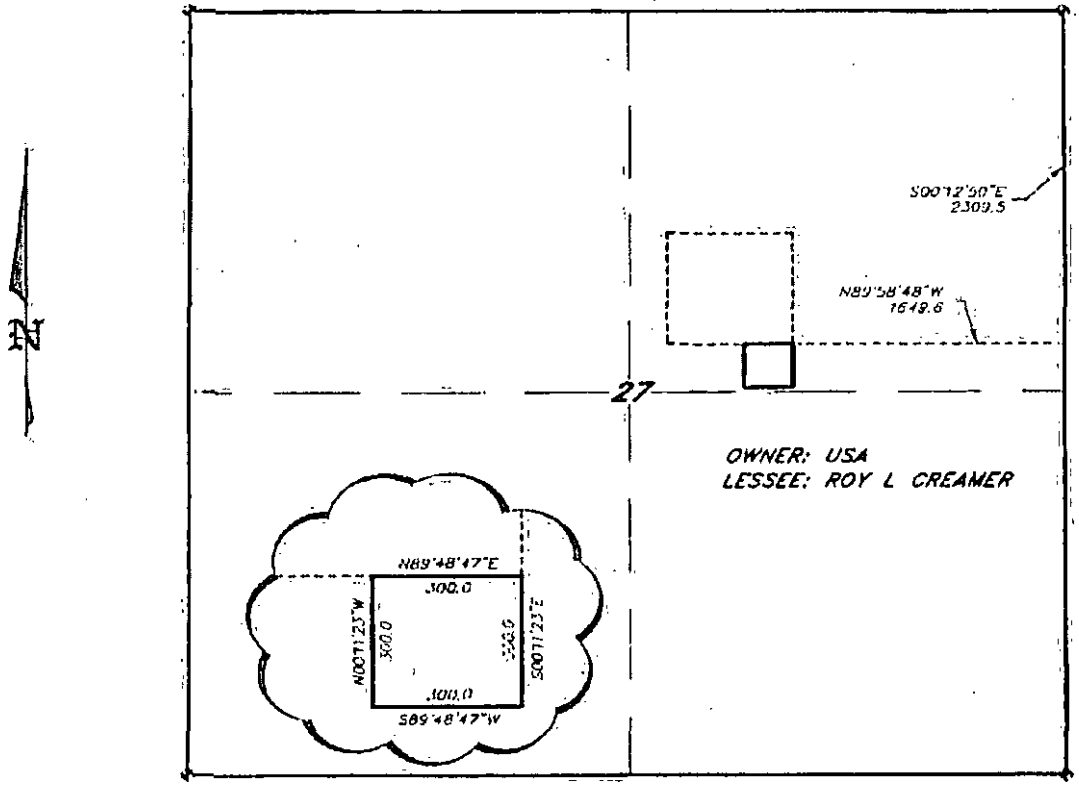
On November 17, 2011 a BLM on-site meeting was held with C.K. Jenkins and Bill Franks - BOPCO, L.P., Randy Rust- BLM, and Robert Gomez- Basin Surveys. The drilling island 5 was approved as is.

Big Eddy Unit DI5 Flow-line Layout Exhibit #4



BEU DI5 Facilities Pad Exhibit 5

SECTION 27, TOWNSHIP 20 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A TRACT OF LAND LOCATED IN SECTION 27, TOWNSHIP 20 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT WHICH LIES S.00°12'50"E., 2309.5 FEET AND N.89°58'48"W., 1649.6 FEET FROM THE NORTHEAST CORNER OF SAID SECTION 27; THENCE S.00°11'23"E., 300.0 FEET; THENCE S.89°48'47"W., 300.0 FEET; THENCE N.00°11'23"W., 300.0 FEET; THENCE N.89°48'47"E., 300.0 FEET TO THE POINT OF BEGINNING. SAID TRACT OF LAND CONTAINING 2.07 ACRES, MORE OR LESS.

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS IN THIS STATE.

GARY L. JONES — TEXAS R.P.L.S. No. 7977 — NEW MEXICO P.S. No. 9074

1000 0 1000 2000 FEET

BOPCO, L.P.

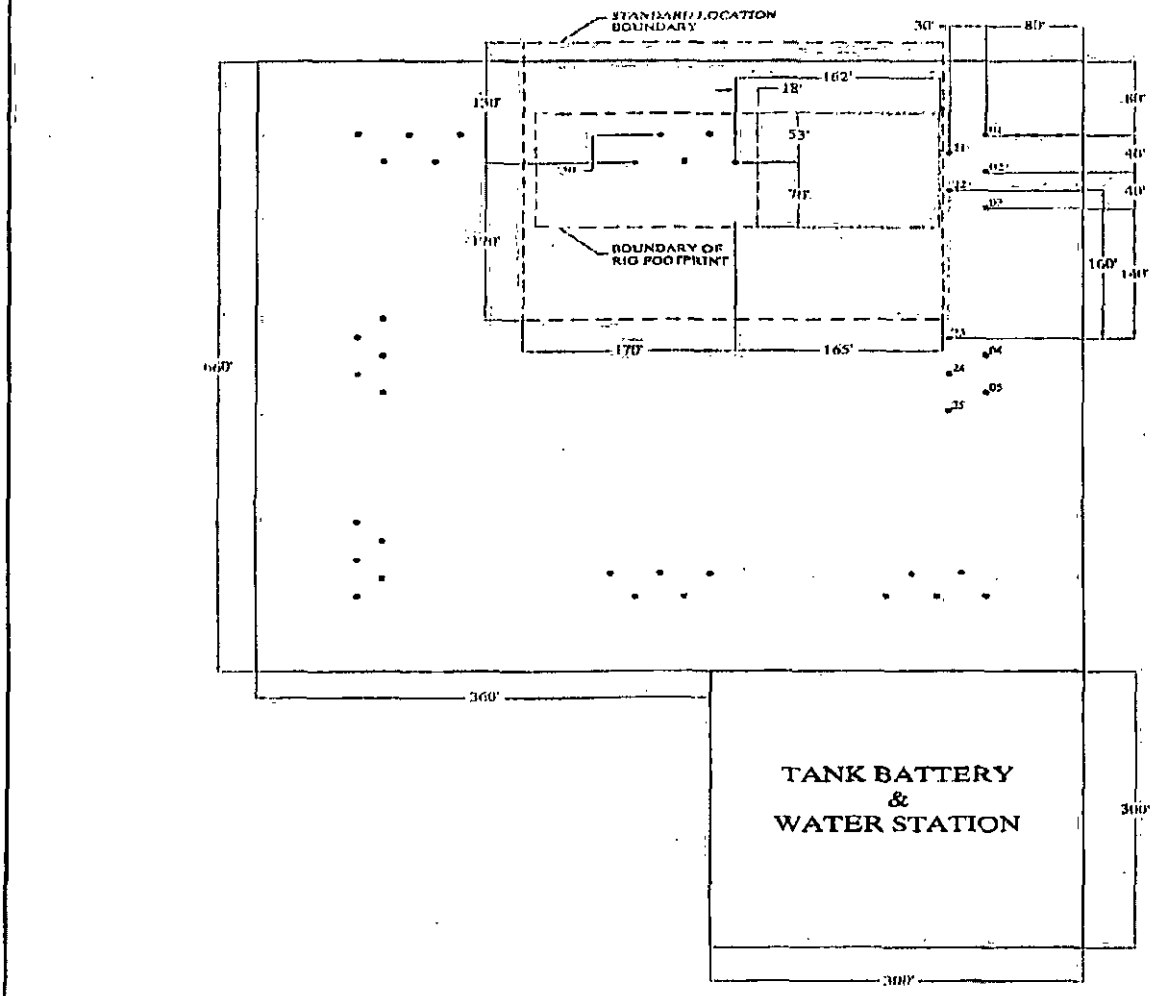
REF: PROPOSED FACILITIES PAD

A TRACT OF LAND LOCATED ON USA LAND IN SECTION 27, TOWNSHIP 20 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

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

W.O. Number: 25814	Drawn By: J. M. SMALL		
Date: 12-27-2011	Disk: JMS 25814	Survey Date: 12-08-2011	Sheet 1 of 1 Sheets

BEU DI5 Facilities Pad Exhibit 5



DRILLING ISLAND LAYOUT

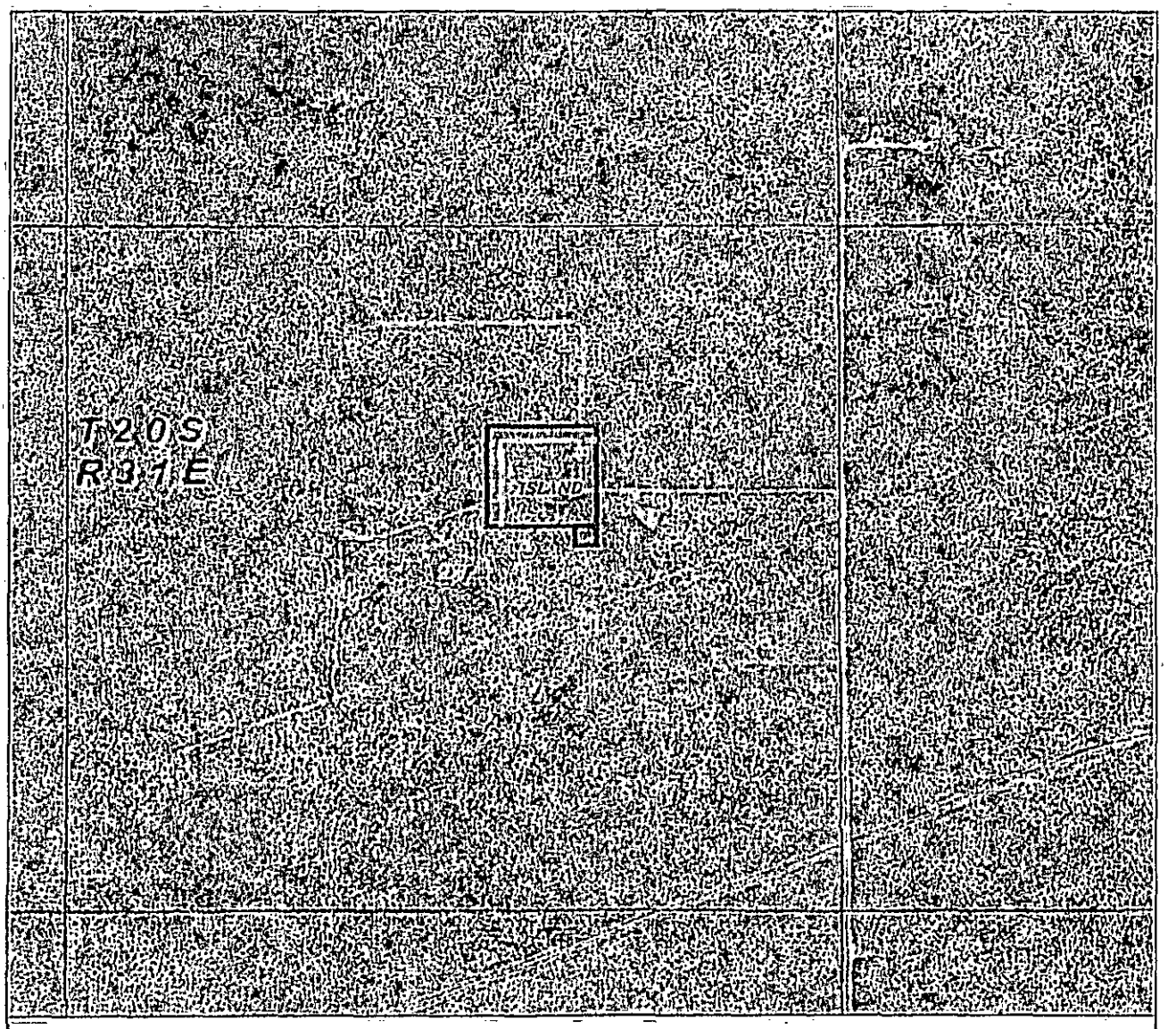
Scale: 1" = 100'

0 100 200 300

BOPCO, L.P.

BOWLING PIN 40' x 30'
Drilling Island Development

BEU DI5 4H Facilities Pad Exhibit 5



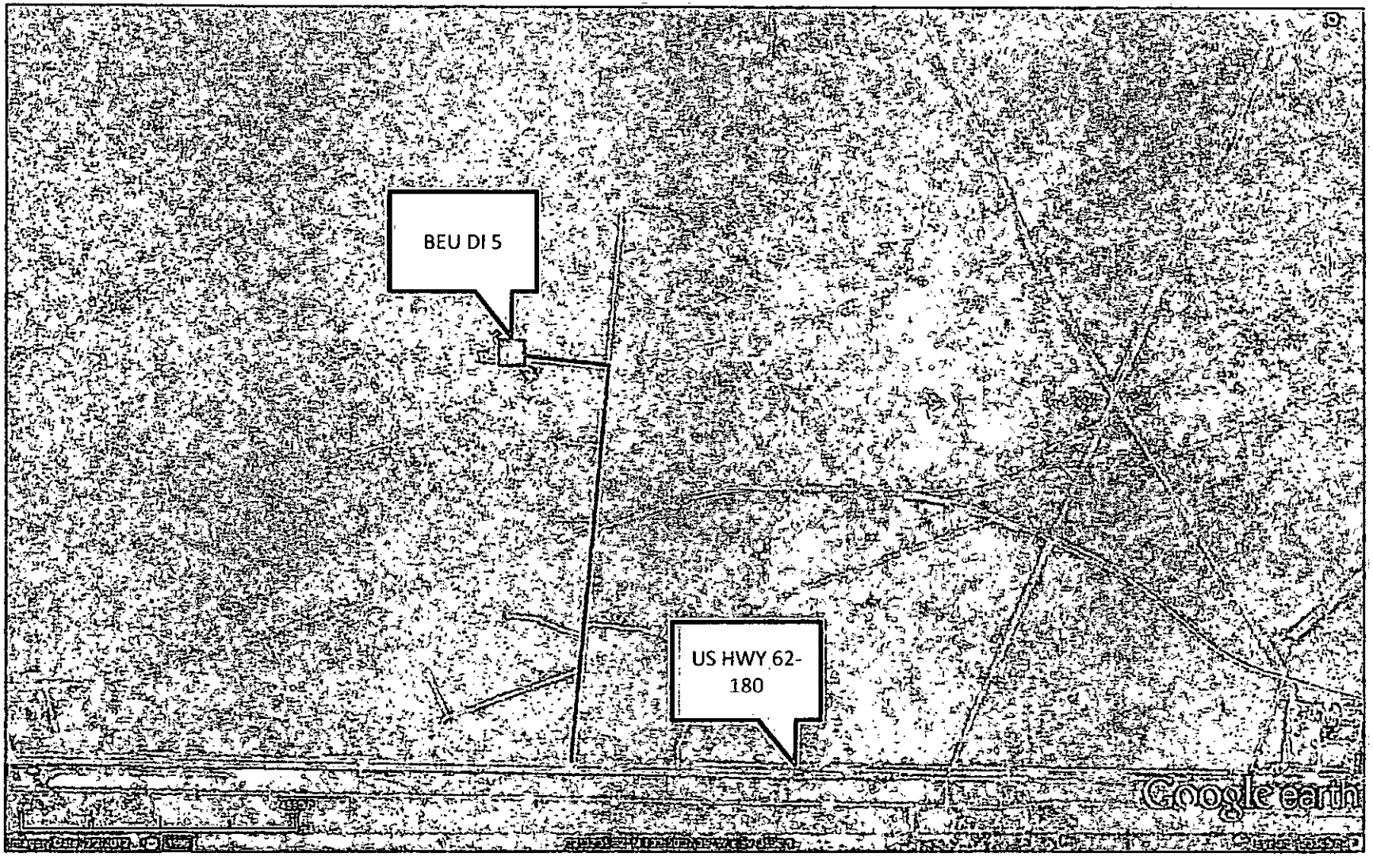
PROPOSED FACILITIES PAD
Section 27, Township 20 South, Range 31 East,
N.M.P.M., Eddy County, New Mexico.

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 25814
Survey Date: 12-08-2011
Scale: 1" = 1000'
Date: 12-27-2011

BOPCO, L.P.

Major roads Exhibit



MULTI-POINT SURFACE USE PLAN

NAME OF WELL: BEU DI5 24H
LEGAL DESCRIPTION - SURFACE: 2,000' FNL, 1873' FEL, Section 27, T20S, R31E, Eddy County, NM.
BHL: 2310' FNL, 330' FEL, Section 25, T20S, R31E, Eddy County, New Mexico.

POINT 1: EXISTING ROADS

A) Proposed Well Site Location:

See Form C-102 (Survey Plat).

A 660' X 660' location pad will be built. **(refer to page 1 of the C-102 plat package)** The location will be built to BLM specs and have 12" of compact caliche put on the surface. Along with the location pad a 300' x 300' facilities pad will be built and butted up with the southeast edge of the location pad. **(Please refer to the facilities pad exhibt labled exhibit 5)**

B) Existing Roads:

From mile marker 61 of US 62-180, go west 0.5 miles to lease road. Head north on lease road for 1.3 miles and turn west on lease road. Travel 0.3 miles on lease road to proposed drilling island.

B) 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:

Upgrade existing lease road. There will be no new lease road constructed.. (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..... (4)
Water wells..... (0)

POINT 4: LOCATION OF EXISTING OR PROPOSED FACILITIES

A) No existing production facilities operated by BOPCO, L.P. are located within one mile of the BEU DI5 24H.

B) New Facilities in the Event of Production:

New production facilities will be built southeast of the BEU DI5 Island. A 300' x 300' facilities pad has been staked and onsite approved by a BLM field representative. A 2-7/8" or 3-1/2" in size flow-line will be laid along the perimeter (north, west, and south) of the drilling area in such way that an area along the east side of the drilling area will be left open for entry. (see flow-line layout labeled Diagram 4)

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 commercial facilities located in the area of Carlsbad, New Mexico. Brine water will be hauled from commercial facilities also located in the Carlsbad, New Mexico area.

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

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)

POINT 7: METHODS FOR HANDLING WASTE MATERIAL

A) Cuttings

Cuttings will be contained in the roll off bins and disposed at Controlled Recovery Inc. located in Lea County, NM.

B) Drilling Fluids

Drilling fluids will be contained in the steel pits, frac tanks and disposed at licensed disposal sites.

C) Produced Fluids

Water production will be contained in the steel pits.

Hydrocarbon fluid or other fluids that may be produced during testing will be retained in test tanks. Prior to cleanup operations, any hydrocarbon material in the reserve pit will be removed by skimming or burning as the situation would dictate.

D) Sewage

Current laws and regulations pertaining to the disposal of human waste will be complied with.

E) Garbage

Portable containers will be utilized for garbage disposal during the drilling of this well.

F) Cleanup of Well Site

Upon release of the drilling rig, the surface of the drilling pad will be graded to accommodate a completion rig if electric log analysis indicates potential productive zones. Reasonable cleanup will be performed prior to the final restoration of the site.

POINT 8: ANCILLARY FACILITIES

None required.

POINT 9: WELL SITE LAYOUT

A) Rig Orientation and Layout **(See Rig Diagram Exhibit)**

B) Locations of Access Road

See the Well Pad Layout, Topo Map, and Vicinity Map of the survey plat (Sheet 1, 2, and 3 of plat package).

C)Lining of the Pits

No reserve pits - closed loop system.

POINT 10: PLANS FOR RESTORATION OF THE SURFACE

A) Reserve Pit Cleanup - Not applicable. Closed loop drilling fluid system will be used

The pits will be fenced immediately after construction and shall be maintained until they are backfilled. Previous to backfill operations, any hydrocarbon material on the pits' surfaces shall be removed. The fluids and solids contained in the pits shall be backfilled with soil excavated from the site and soil adjacent to the reserve pits. The restored surface of the pits shall be contoured to prevent impoundment of surface water flow. Water-bars will be constructed as needed to prevent excessive erosion. Topsoil, as available, shall be placed over the restored surface in a uniform layer. The area will be seeded according to the Bureau of Land Management stipulations during the appropriate season following restoration.

B) Restoration Plans - Production Developed

Due to the long term plans of the drilling island, downsizing will be done after the drilling and completion of the entire drilling island. Estimated time to completion is about five years. Those areas not required for production will be graded to blend with the surrounding topography. Topsoil, as available, will be placed upon those areas and seeded. The portion of the site required for production will be graded to minimize erosion and provide access during inclement conditions. Following depletion and abandonment of the site, restoration procedures will be those that follow under Item C.

C) Restoration Plans - No Production Developed

With no production developed, the entire surface disturbed by construction of the well site will be restored. The site will be contoured to blend with the surrounding topography and provide drainage of surface water. The topsoil, as available, shall be replaced in a uniform layer and seeded according to the Bureau of Land Management's stipulations.

D) Rehabilitation's Timetable

Upon completion of drilling operations, the initial cleanup of the site will be performed as soon as weather and site conditions allow economic execution of the work.

POINT 11: OTHER INFORMATION

A) On-Site

On November 17, 2011 a BLM on-site meeting was held with C.K. Jenkins and Bill Franks - BOPCO, L.P., Randy Rust- BLM, and Robert Gomez- Basin Surveys. The drilling island 5 was approved as is.

B) Soil

Caliche and sand.

C) Vegetation

Sparse, primarily grasses and mesquite with very little grass.

POINT 11: OTHER INFORMATION – cont'd...

D) Surface Use

Primarily grazing.

E) Surface Water

There are no ponds, lakes, streams or rivers within several miles of the wellsite.

F) Water Wells

There are not any water wells located within one mile of the proposed location.

G) Residences and Buildings

None in the immediate vicinity.

H) Historical Sites

None observed.

I) Archeological Resources

No independent archeological survey has been done. This well location is located in the area covered by Memorandum of Agreement – Permian Basin. A Payment of $4,260.00 fee for this project was included in the application for the BEU DI5 4H APD, approved on 06/04/2012. This MOA contribution will cover the 660' X 660' location along with the 300' X 300' facilities pad. This has been agreed upon per Martin Stein (BLM Archeologist) **please refer to the memo from Martin Stein attached as exhibit 6.** Any location or construction conflicts will be resolved before construction begins. Please see diagram 4 for flowline route.

J) *Surface Ownership*

The well site is on federally owned land. There will be no new access roads required for this location.

K) Well signs will be posted at the drilling site.

L) Open Pits

No open pits will be used for drilling or production. Any open top tanks will be netted.

M) Terrian

Slightly rolling hills.

POINT 12: OPERATOR'S FIELD REPRESENTATIVE

(Field personnel responsible for compliance with development plan for surface use).

DRILLING
Stephen Martinez
Box 2760
Midland, Texas 79702
(432) 683-2277

PRODUCTION
Gary Fletcher
3104 East Green Street
Carlsbad, New Mexico 88220
(575) 887-7329

Fritz Schoch
Box 2760
Midland, Texas 79702
(432) 683-2277

JDB

Form NM 8140-9
(March 2008)

United States Department of the Interior
Bureau of Land Management
New Mexico State Office

Permian Basin Cultural Resource Mitigation Fund

The company shown below has agreed to contribute funding to the Permian Basin Cultural Resource Fund in lieu of being required to conduct a Class III survey for cultural resources associated with their project. This form verifies that the company has elected to have the Bureau of Land Management (BLM) follow the procedures specified within the Memorandum of Agreement (MOA) concerning improved strategies for managing historic properties within the Permian Basin, New Mexico, for the undertaking rather than the Protocol to meet the agency's Section 106 obligations.

Company Name: BOPCO, L.P.

Address: P. O. Box 2760

Midland, Texas 79702

Project description: Big Eddy Unit DI5, Location, Road, and Flowline. This MOA is a blanket agreement for the entire drilling island 660' x 660' and the 300' x 300' facilities pad. Please refer to MOA Memo Exhibit #6 (This has already been paid.)

T, 20S, R 31E, Section 27 NMPM, Eddy County, New Mexico

Amount of contribution: $ 4,260.00

Provisions of the MOA:

A. No new Class III inventories are required of industry within the Project Area for those projects where industry elects to contribute to the mitigation fund.

B. The amount of funds contributed was derived from the rate schedule established within Appendix B of the MOA. The amount of the funding contribution acknowledged on this form reflects those rates.

C. The BLM will utilize the funding to carry out a program of mitigation at high-priority sited whose study is needed to answer key questions identified within the Regional Research Design.

D. Donating to the fund is voluntary. Industry acknowledges that it is aware it has the right to pay for Class III survey rather than contributing to the mitigation fund, and that it must avoid or fund data recovery at those sites already recorded that are eligible for nomination to the National Register or whose eligibility is unknown and that any such payments are independent of the mitigation funds established by this MOA.

E. Previously recorded archeological sites determined eligible for nomination to the National Register or whose eligibility remains undetermined must be avoided or mitigated.

F. If any skeletal remains that might be human or funerary objects are discovered by any activities, the land-use applicant will cease activities in the area of discovery, protect the remains, and notify the BLM within 24 hours. The BLM will determine the appropriate treatment of the remains in consultation with culturally affiliated Indian Tribe(s) and lineal descendents. Applicants will be requited to pay for treatment of the cultural items independent and outside of the mitigation fund.

Jeremy Braden
Company-Authorized Officer

3-21-13
Date

BLM-Authorized Officer

Date

BEU DI5 MOA Memo Exhibit 6

Braden, Jeremy D.

From: Stein, Chris M <cstein@blm.gov>
Sent: Friday, February 10, 2012 11:46 AM
To: Braden, Jeremy D.
Subject: Big Eddy Unit Drill Island 5

Mr. Braden:

The Big Eddy Unit Drill Island 5 is located within the Permian Basin MOA area and thus it qualifies as an MOA project. Because the drill island is of a larger size (660 feet by 660 feet) than a standard well pad and also includes an adjacent 300 feet by 300 feet facilities pad we agree that a modified fee of $4,260 will cover the expected project area of potential effect and provide a 100 feet buffer zone.

This fee will cover any well planned for now or in the future that is located within the drill island pad.

Thank you for participating in the Permian Basin MOA.

Martin Stein

Martin Stein
Archeologist
BLM – Carlsbad Field Office
620 East Greene Street
Carlsbad, New Mexico 88220-6292
(575) 234-5967
Send large files to: cfoarchaeology@gmail.com

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO
LEASE NO.:	LC065914A
WELL NAME & NO.:	24H Big Eddy Unit D15
SURFACE HOLE FOOTAGE:	2000' FNL & 1873' FEL
BOTTOM HOLE FOOTAGE	2310' FSL & 330' FEL, Sec 25
LOCATION:	Section 27, T.20 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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.

☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:
Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching:
Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Commercial Well Determination
A commercial well determination shall be submitted after production has been established for at least six months.

Unit Wells
The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately inches in depth. The topsoil will be used for interim and final reclamation.

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

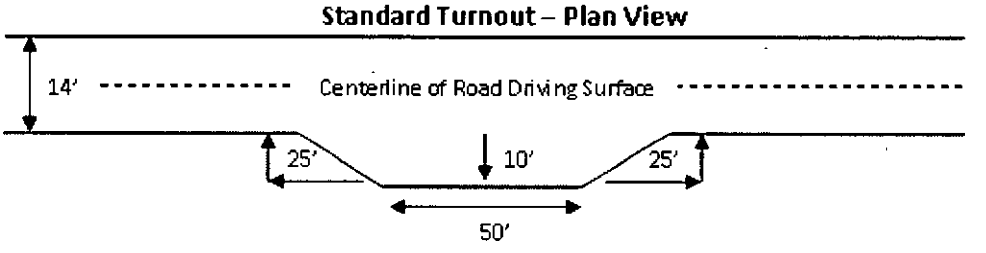
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on the uphill side of the road.

Ditching shall be required on both sides of the road.

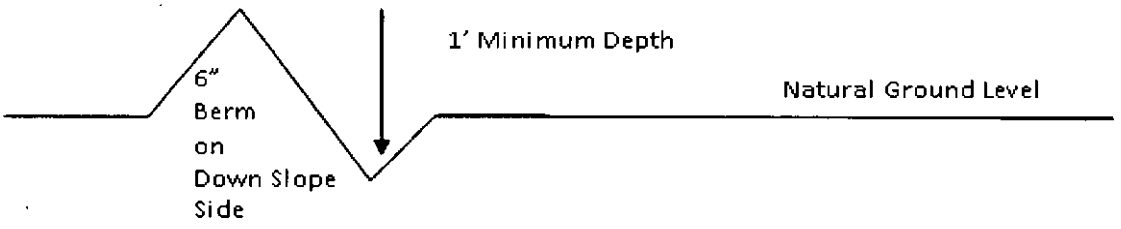
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Culvert Installations
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.
A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

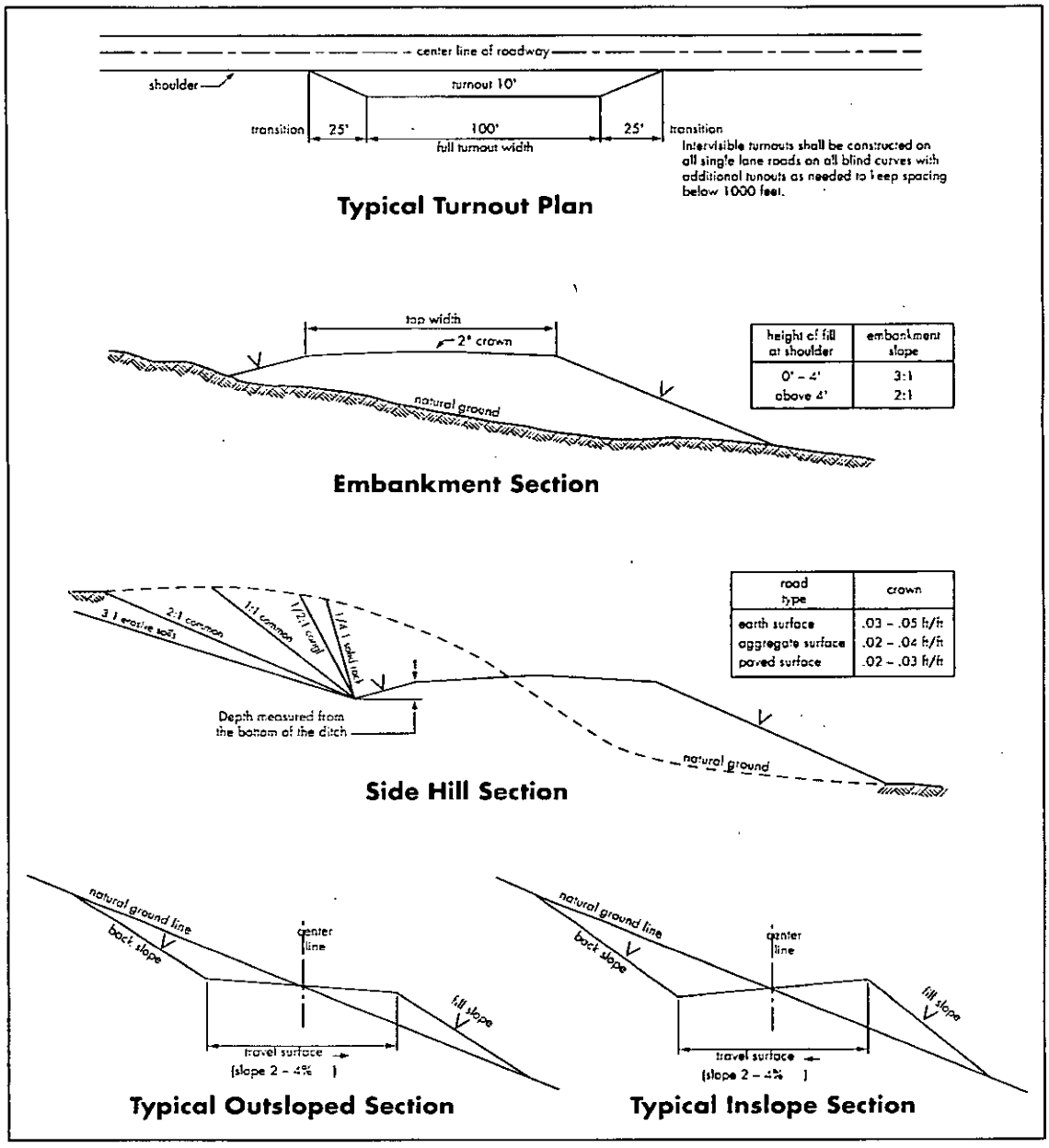
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

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

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **Approved to drill pilot hole to 9812' TVD, the operator shall not drill deeper than this depth without prior approval from the BLM CFO geology/engineer staff.** Submit daily mudlog report via email to the BLM geologist (Andrea Bowen at abowen@blm.gov or Robert "Zeke" Salaz at rsalaz@blm.gov) beginning at the top of the Bone Spring Lime until the TD of the pilot hole is reached.

5. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

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

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

Wait on cement (WOC) for Potash Areas:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.

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

R-111-P
Capitan Reef
Possibility of water flows in the Artesia Group, Salado, and Capitan Reef.
Possibility of lost circulation in the Artesia Group, Rustler, Capitan Reef, and Delaware.

1. The **16** inch surface casing shall be set at approximately 849 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

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

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

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

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

2. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing, which shall be set at approximately **2854** feet, is:

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

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing, which shall be set in the Base of the Capitan Reef or the Top of the Delaware at approximately **2854** feet, is:

Operator has proposed DV tool at depth of 2915', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage. **Excess calculates to 11% - Additional cement may be required**

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef and potash. Excess calculates to 18% - Additional cement may be required**

Pilot hole plug shall be class H cement. Plugging procedure approved as written.

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

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

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage. **Excess calculates to 20% - Additional cement may be required**

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

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

☒ Cement should tie-back to the top of the liner. Operator shall provide method of verification. Variance approved for a minimum of 50' liner overlap.

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

7. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

C. PRESSURE CONTROL

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

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

3. **A variance is granted for the use of a diverter on the 16" surface casing.**

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** 1st intermediate casing shoe shall be **3000 (3M)** psi.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

    d. The results of the test shall be reported to the appropriate BLM office.

    e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

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

E. WASTE MATERIAL AND FLUIDS

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

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

CRW 102715

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not

be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory

revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).
Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:
Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed