12-1602

R-111 Potash

Amend 7/7/012: add Unit # NM70966X

Form 3160-3
(August 2007)

OCD Hobbs ~~HOBBS OCD~~

JAN 28 2013

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM~~0~~27572

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, ~~Name and No.~~
NM 70966X Laguna Deep Unit

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

8. Lease Name and ~~Well No.~~ <38335>
Laguna Deep Unit Federal 35 #2H

2. Name of Operator Marshall & Winston Inc. <141877>

9. API Well No.
30-025- 40943

3a. Address POB 50880
Midland, TX 79710-0880

3b. Phone No. *(include area code)*
(432) 260-8650

10. Field and Pool, or Exploratory
Teas Bone Springs

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 1140' FSL & 436' FEL
At proposed prod. zone 660' FSL & 330' FWL (Horizontal wellbore)

11. Sec., T. R. M. or Blk. and Survey or Area
SHL: Sec. 35 (P) T-19-S, R-33-E
BHL: Sec. 35 (M) " "

14. Distance in miles and direction from nearest town or post office*

12. County or Parish
Lea

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
436' west of "lease" line.
155' From Laguna Deep Federal #3 per BLM GIS

16. No. of acres in lease
320.00

17. Spacing Unit dedicated to this well
160.00 acre spacing unit

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
~~1774' south of the LDU 35 #1H, (producing BS)~~
Per GIS @ BLM

19. Proposed Depth
9400'TVD, 13,766' TMD
max

20. BLM/BIA Bond No. on file
BL~~M NM 0877~~ NMB 000380

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3592' GL

22. Approximate date work will start*
09/30/2012

23. Estimated duration
40-45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 must 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 BLM.

25. Signature: Vernon D Dyer
Name *(Printed/Typed)*: Vernon D. Dyer
Date: 4-20-2012

Title: AGENT. Contact Mr. Dyer at (575) 420-0355 for any deficiencies or necessary data regarding this APD.

Approved by *(Signature)*: /s/ William Merhege
Name *(Printed/Typed)*:
Date: JAN 16 2013

Title: ~~STATE DIRECTOR~~
Office: NM STATE 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.

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

KZ 01/30/13

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

DRILLING PLAN

1. **Geologic Name of Surface Formation:**
   a. Quaternary Alluvium Deposits -Permian

2. **Estimate Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:**

a. Surface Water	350'-450'	Possible water
b. Rustler	1350'	Anhydrite Matrix
c. Top of Salt	1460'	
d. Salado	1700'	
e. Base of Salt	3170'	
f. Yates	3,200'	n/a
g. Top of Reef	3,555'	Possible Salt contaminated Water; > 50k Cl^-
h. Delaware	5,600'	Oil shows
i. Bone Spring	8,200'	n/a
j. Bone Spring 1st Sand	9,255'	n/a
k. Bone Spring Carbonate Pay	9,390'	Oil
l. 2nd Bone Spring Sand	9,760'	n/a

No other formations are anticipated to yield oil, gas or fresh water in measurable volumes. Any surface water presence will be protected by the 13 ⅜" casing, which will set approximately 25' into the top of the anhydrite formation with cement circulated back to surface. A 9⅝" casing will be set at 3300' with cement circulated back to surface. The Capitan Reef will be protected by setting 7" casing from surface to 4880' with a DV tool at 3400' to aid in adequately filling annulus with cement to the surface. The anticipated Bone Springs pay and remaining hole to TD will be isolated with 4½" liner from 4500' to 13,766' and cement circulated with sufficient volumes to reach the top of the liner.

3. **Casing Program:**
   All casing is new and within API standards. If used casing is a necessity, it will be visually inspected and x-rayed by Tuboscope. All wall thickness shall be at least 88% of nominal new pipe. See COA

See COA

Hole Size	Depth	OD Csg	Weight	Collar	Grade
17½"	0'-~~1375'~~ 1455	13⅜"	48#	STC	H-40
12¼"	0'-3300'	9⅝"	40#	STC	J-55
8¾"	0'-4880'	7"	26#	STC	N-80
6⅛"	4500'-13,766'	4½"	11.6#	LTC	P-110

LTC

Safety Factors: Burst 1.0 Collapse 1.125 Tension 1.8

4. Cement Program: *(The cement program has been revised by Baker Hughes as of 07/06/2012. The number of sacks ordered for displacement are rounded up, thus providing an extra amount).*

a. Surface:
Lead: 800 sacks Class C cement, 2% Calcium Chloride, 0.25lbs/sk Cello Flake, 4 % Bentonite, 81.3% fresh water. Properties: 100% excess, 1389 cu.ft., 13.5 ppg, 1.75 yield.

Tail: 420 sacks Class C cement, .5% Calcium Chloride, .25lbs/sx Cello Flake, 56.1% Fresh Water.
Properties: 100% excess, 520 cu.ft., 14.8 ppg, 1.33 yield.

b. 1st Intermediate Casing:
Lead: 570 sacks (50:50) Pozzolan Class C cement, 5% Sodium Chloride, 0.125 lbs/sk Cello Flake, 5.25 lbs/sk LCM, 10% Bentonite, 107 % fresh water.
Properties: 75% excess, 1211 cu.ft., 12.5 ppg, 2.13 yield.

Tail: 285 sacks Class C cement, .125lbs/sk Cello Flake, 56.1% Fresh Water.
Properties: 127% excess, 368 cu.ft., 14.8 ppg, 1.33 yield.

c. ~~2nd Intermediate Casing~~ Production:
Stage 1 Lead: 75sacks, 35:65 Poz Class C cement, 5% Sodium Chloride, 0.125 lbs/sk Cello Flake, 4% bentonite, 5 lbs/sk LCM and 107% fresh water.
Properties: 100% excess, 150 cuft., 12.5 ppg, 2.13 yield.

Stage 1 Tail: 200 sacks, Class C cement, .125 lbs/sack Cello Flake and 56.1 % fresh water.
Properties: 75% excess, 259 cuft., 14.0 ppg, 1.33 yield.

Stage 2 Lead: 235 sacks, Class C cement, 0.125lbs/sk Cello Flake, 5 lbs/sk LCM. 4% Bentonite, 1% Sodium Chloride. Properties: 100% excess, 494 cu.ft., 12.5 ppg, 2.13 yield.

Stage 2 Tail: 414 sacks, Class C cement, .005 water loss additive and 56.1 % fresh water. Properties: 75% excess in the last 100 ft, 550 cu.ft., 14.8 ppg, 1.33 yield.

d. Production Liner:
Lead: 330 sacks 35:65 Pozzolan Class H cement, 4% Bentonite, .125% Cello Flake, 5 lbs/sk LCM, and 104% fresh water. Properties: 75 % excess, 677 cu.ft., 12.5 ppg, 2.07 yield.

Tail: 625 sacks Class H cement, 2% bentonite, .75% fluid loss additive and 56.2% fresh water. Properties: 75% excess, displace 787 cu.ft., 14.2 ppg, 1.27 yield.

5. Pressure Control Equipment:

A 13⅝" blowout preventor equipment (BOP), consisting of a casing head, double ram type and annular Hydril preventor rated at 5,000 psi., and shall be used as a 3M BOP. It shall be tested to 1200 psi (< 70% of surface casing burst tolerance of 1730 psi) and held for 30 minutes. Both units will be hydraulically operated. The double ram preventor will be positioned with 4½" blind rams on bottom and 4½" pipe rams on top. Testing of all BOPE shall be performed by a third party and the BLM will be notified at least 48 hours prior to the testing. See: Exhibit 2.0.

After setting the 9⅝" 1st Intermediate casing, a 11" x 5,000 psi rated BOPE including, double rams and annular preventor will be installed. The annular and rams will be tested separately utilizing a test plug. The rams will be tested for high and low integrity 5,000/250 psi and held for 30 minutes, as well as the annular preventor will be tested to 2500/250 psi and held for 30 minutes. The 5M system will remain throughout the drilling to TD of 13,766'. All BOPE installation and testing shall be conducted in accordance with the BLM Onshore Oil and Gas Order No. 2. Testing of all BOPE shall be performed by a third party and the BLM will be notified at least 48 hours prior to the testing.
See: Exhibit 2.2.

The choke manifold is rated at 5,000 psi. It will have one hydraulically operated choke valve and one manually operated. The choke manifold has a hydraulically remote controlled valve on the rig floor and at the base of the dog house steps. The panic line will be buried and runs a minimum of 150' to the flare stack to the edge of the drilling pad. See: Exhibit 3.0.

6. Proposed Mud Circulating System

Depth	Mud Weight in ppg	Visc	Fluid Loss	Make-Up
0 - 1375'~~1455~~	8.4–8.6	32-36	n/a	Fresh water mud
~~1390~~'-3300'	10.0–10.1	32-33	n/a	Brine water
3300'-4880'	8.4-9.5	30-35	n/a	* Fresh water ~~& Brine~~ See COA
4880'-10,766'	9.5-9.7	32-38	< 10 cc	Duo-Vis/LCM

Prior to drilling out from under the 9 5/8'' casing, fresh water will be added to mud pits for adequate volume and continued use to reach TD. The water in the pits will be treated for cement contamination prevention as the chlorides will continue to dilute as fresh water is added for volume. If lost circulation is encountered in the Reef, only fresh water will be utilized as the drilling fluid. The mud system will be a Closed Loop System.

7. Auxillary Well Control Monitoring Equipment:

a. A 5,000 psi rated Choke Manifold with one hydraulically controlled choke and one manual controlled choke will be installed as part of the BOPE.
b. Mud tanks float sensors will be utilized.
c. H2S sensor, alarm and light will be installed at the mud return line on the pits.
d. A Kelly Cock will be tied in while drilling with locking handle readily available on the rig floor at all times.
e. A panic line will be hooked up at the initial BOPE installation. It does not run to the pits or through the gas separator. The panic line will be buried and run a minimum of 150' to the edge of pad. It will be housed at the flare area with a vertical stack and have a remote ignition system. Circulation, gas separator and flare lines are displayed on the rig plat schematic.

8. Logging, Coring and Testing Program:

Mud logging	2 man unit from 4880' to TD.
Electric Logging	CNL / LDT / CAL from TD to 3300' / Set COA
	GR/ DLL from TD to surface.

No DST or Cores are anticipated at this time.

9. Potential Hazards:

No abnormal pressures or temperatures are anticipated. (Estimated BHP: 4230 psi, BHT 175 deg). The area is not expected to have H2S, but an H2S Contingency Plan will be in operations by a third party.

10. Anticipating Starting Date and Duration of Operations:

Location construction will begin as soon as the BLM approves the APD. It is desirable to have the APD approval as soon as possible or within 30 to 45 days after the closing of the Lesser Prairie Chicken drilling restriction period (i.e. March 1 thru June15). **The tentative rig schedule and spud date was on or before August 30th, 2012. If it necessary to drill an alternative well, the next available rig schedule is September 30th, 2012.**

The duration of drilling is anticipated to be approximately 45 days without prolonged downhole problems. An additional 30 days more or less is anticipated to complete the well and construct production facilities. Any production from a successful well will be pumped to the Laguna Deep Unit 35-1 (i.e. Central Battery Facilities) via Fasline poly line which run along the edge of the road between the Laguna Deep Unit 35 # 1 and #2 wells. The road is on private surface and a ROW with the private surface owner is incorporated as depicted in the Surface Use Plan.

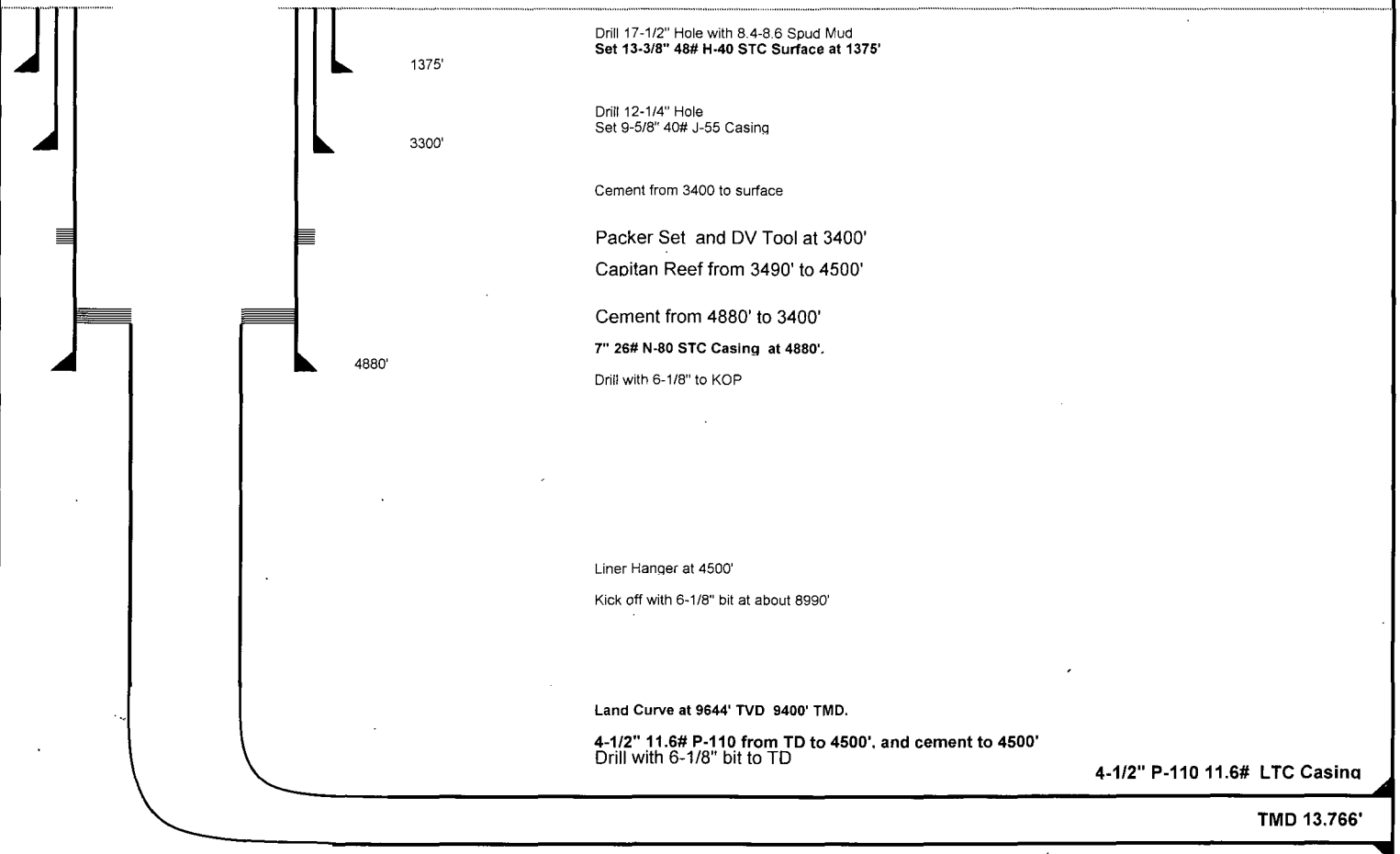
11. Surface and Mineral Ownership: The surface land is privately owned by Kenneth Smith, 267 Smith Road, Hobbs, NM 88240, (575) 390-1247. The minerals are owned by the United States of America and managed by the Bureau of Land Management. A surface use agreement between the private surface owner and the operator(s) have been met.

12. Other: This well is within the Laguna Deep Unit boundaries. The unit operator is Cimarex Energy Company of Colorado, 600 N. Marienfeld St., Ste: 600, Midland, TX, (432) 571-3111.

A NMOCD C-144 application has been submitted to the OCD, District I, Hobbs, NM for approval. Operations are anticipated to haul off cuttings and waste materials to Controlled Recovery Incorporated, 6601 West Carlsbad Hwy., Hobbs, NM. (877) 505-4274, NMOCD Permit number R9166. Alternative back up sites are Gandy Marley or Sundance Incorporated.

NMOCD C144 Application Attached.

AFE No.	MWA Marshall & Winston, Inc.	AFE Information
API #	**Laguna Deep Federal 35-2H**	Dry Hole: Days:
Permit No.	Lea County, NM	Proposed TD: 13,766' TMD 9,300' TVD
Project No.	Proposed Wellbore Sketch	v



Drill 17-1/2" Hole with 8.4-8.6 Spud Mud
Set 13-3/8" 48# H-40 STC Surface at 1375'

Drill 12-1/4" Hole
Set 9-5/8" 40# J-55 Casing

Cement from 3400 to surface

Packer Set and DV Tool at 3400'

Capitan Reef from 3490' to 4500'

Cement from 4880' to 3400'

7" 26# N-80 STC Casing at 4880'.

Drill with 6-1/8" to KOP

Liner Hanger at 4500'

Kick off with 6-1/8" bit at about 8990'

Land Curve at 9644' TVD 9400' TMD.

4-1/2" 11.6# P-110 from TD to 4500', and cement to 4500'
Drill with 6-1/8" bit to TD

4-1/2" P-110 11.6# LTC Casing

TMD 13.766'

Exhibit 5.0
X-Section of
Anticipated Wellbore

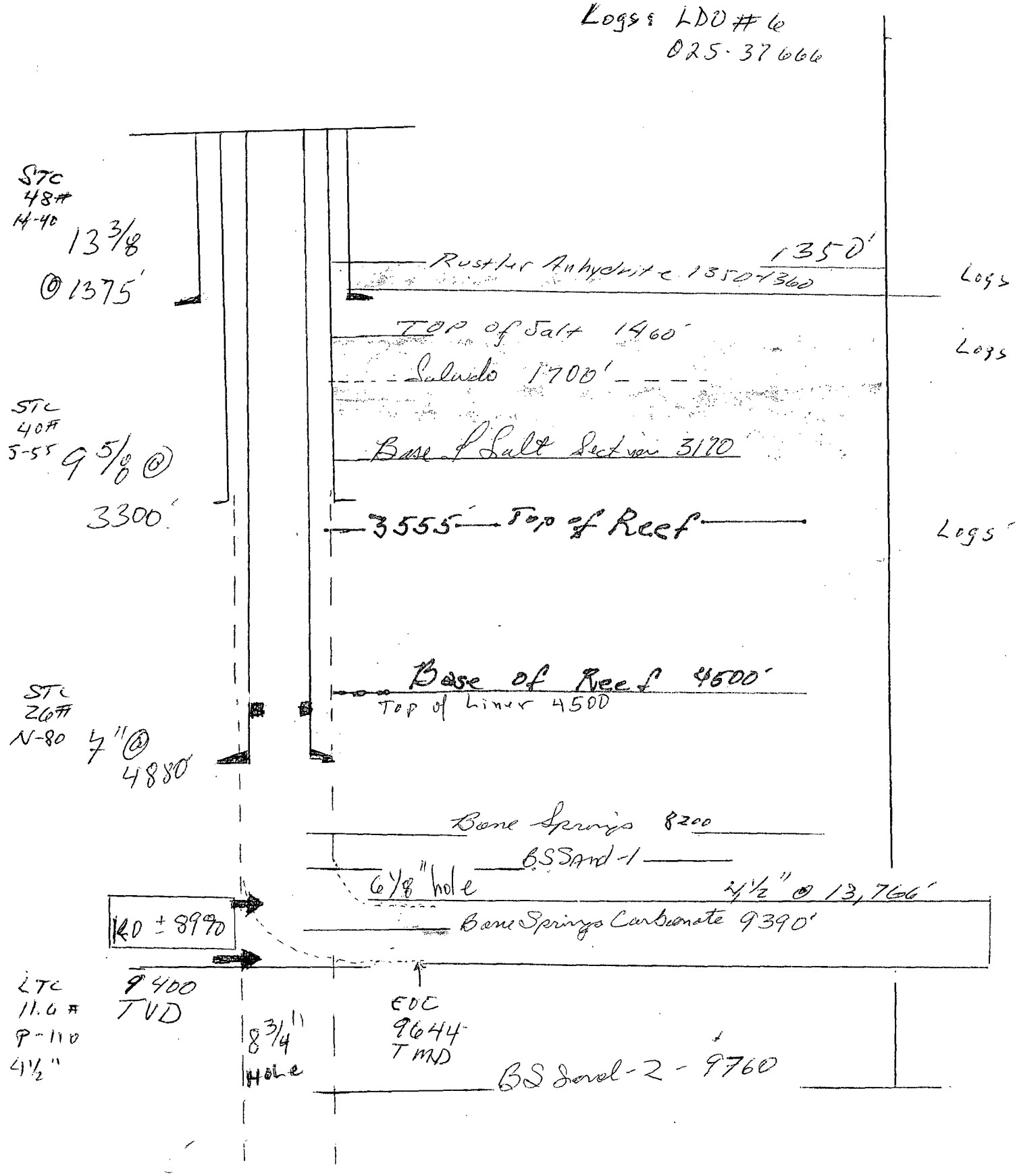
Well Information

Surface Location: Lea County, NM T19S R33E Section 35

Notes Re:

Marshall & Winston's
Laguna Deep Unit Federal
35 # 2H
Section 35-P-T19S-R33E

Logs: LDO #6
025-37666



Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Laguna Deep Unit Fed 35-2H
Company:	Marshall & Winston, Inc	**TVD Reference:**	WELL @ 3593.0usft (Original Well Elev)
Project:	Lea County, NM	**MD Reference:**	WELL @ 3593.0usft (Original Well Elev)
Site:	Sec 35,19S,33E	**North Reference:**	Grid
Well:	Laguna Deep Unit Fed 35-2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project Lea County, NM

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

Site Sec 35,19S,33E

Site Position:		**Northing:**	587,237.10 usft	**Latitude:**	32° 36' 44.743 N
From:	Map	**Easting:**	717,721.30 usft	**Longitude:**	103° 37' 34.543 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.38 °

Well Laguna Deep Unit Fed 35-2H

Well Position	**+N/-S**	0.0 usft	**Northing:**	587,237.10 usft	**Latitude:**	32° 36' 44.743 N
	+E/-W	0.0 usft	**Easting:**	717,721.30 usft	**Longitude:**	103° 37' 34.543 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,593.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/13/2012	7.57	60.52	48,786

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	263.65

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,990.9	0.00	0.00	8,990.9	0.0	0.0	0.00	0.00	0.00	0.00	
9,643.7	91.39	263.65	9,400.0	-46.4	-416.6	14.00	14.00	-14.76	263.65	
13,766.5	91.39	263.65	9,300.0	-502.3	-4,512.9	0.00	0.00	0.00	0.00	PBHL Laguna Deep

EXHIBIT 7.1
ANTICIPATED
DIRECTIONAL SURVEY
(page 1 of 5)

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Laguna Deep Unit Fed 35-2H
Company:	Marshall & Winston, Inc	**TVD Reference:**	WELL @ 3593.0usft (Original Well Elev)
Project:	Lea County, NM	**MD Reference:**	WELL @ 3593.0usft (Original Well Elev)
Site:	Sec 35,19S,33E	**North Reference:**	Grid
Well:	Laguna Deep Unit Fed 35-2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
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3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Laguna Deep Unit Fed 35-2H
Company:	Marshall & Winston, Inc	**TVD Reference:**	WELL @ 3593.0usft (Original Well Elev)
Project:	Lea County, NM	**MD Reference:**	WELL @ 3593.0usft (Original Well Elev)
Site:	Sec 35,19S,33E	**North Reference:**	Grid
Well:	Laguna Deep Unit Fed 35-2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 14°/100' @ 8991' MD									
8,990.9	0.00	0.00	8,990.9	0.0	0.0	0.0	0.00	0.00	0.00
9,000.0	1.27	263.65	9,000.0	0.0	-0.1	0.1	14.00	14.00	0.00
9,100.0	15.27	263.65	9,098.7	-1.6	-14.4	14.5	14.00	14.00	0.00
9,200.0	29.27	263.65	9,191.0	-5.8	-51.9	52.3	14.00	14.00	0.00
9,300.0	43.27	263.65	9,271.4	-12.3	-110.6	111.3	14.00	14.00	0.00
9,400.0	57.27	263.65	9,335.2	-20.8	-186.8	188.0	14.00	14.00	0.00
9,500.0	71.27	263.65	9,378.5	-30.7	-276.2	277.9	14.00	14.00	0.00
9,600.0	85.27	263.65	9,398.8	-41.5	-373.2	375.5	14.00	14.00	0.00
EOB @ 9644' MD / 91.39° Inc / 263.65° Azm / 9400' TVD									
9,643.7	91.39	263.65	9,400.0	-46.4	-416.6	419.2	14.00	14.00	0.00
9,700.0	91.39	263.65	9,398.7	-52.6	-472.6	475.5	0.00	0.00	0.00
9,800.0	91.39	263.65	9,396.2	-63.7	-571.9	575.5	0.00	0.00	0.00
9,900.0	91.39	263.65	9,393.8	-74.7	-671.3	675.4	0.00	0.00	0.00
10,000.0	91.39	263.65	9,391.4	-85.8	-770.6	775.4	0.00	0.00	0.00
10,100.0	91.39	263.65	9,389.0	-96.8	-870.0	875.4	0.00	0.00	0.00
10,200.0	91.39	263.65	9,386.5	-107.9	-969.3	975.3	0.00	0.00	0.00

EXHIBIT 7.1
page 3 of 5

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Laguna Deep Unit Fed 35-2H
Company:	Marshall & Winston, Inc	**TVD Reference:**	WELL @ 3593.0usft (Original Well Elev)
Project:	Lea County, NM	**MD Reference:**	WELL @ 3593.0usft (Original Well Elev)
Site:	Sec 35,19S,33E	**North Reference:**	Grid
Well:	Laguna Deep Unit Fed 35-2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,300.0	91.39	263.65	9,384.1	-119.0	-1,068.7	1,075.3	0.00	0.00	0.00
10,400.0	91.39	263.65	9,381.7	-130.0	-1,168.1	1,175.3	0.00	0.00	0.00
10,500.0	91.39	263.65	9,379.3	-141.1	-1,267.4	1,275.2	0.00	0.00	0.00
10,600.0	91.39	263.65	9,376.8	-152.1	-1,366.8	1,375.2	0.00	0.00	0.00
10,700.0	91.39	263.65	9,374.4	-163.2	-1,466.1	1,475.2	0.00	0.00	0.00
10,800.0	91.39	263.65	9,372.0	-174.2	-1,565.5	1,575.2	0.00	0.00	0.00
10,900.0	91.39	263.65	9,369.6	-185.3	-1,664.8	1,675.1	0.00	0.00	0.00
11,000.0	91.39	263.65	9,367.1	-196.4	-1,764.2	1,775.1	0.00	0.00	0.00
11,100.0	91.39	263.65	9,364.7	-207.4	-1,863.6	1,875.1	0.00	0.00	0.00
11,200.0	91.39	263.65	9,362.3	-218.5	-1,962.9	1,975.0	0.00	0.00	0.00
11,300.0	91.39	263.65	9,359.8	-229.5	-2,062.3	2,075.0	0.00	0.00	0.00
11,400.0	91.39	263.65	9,357.4	-240.6	-2,161.6	2,175.0	0.00	0.00	0.00
11,500.0	91.39	263.65	9,355.0	-251.7	-2,261.0	2,275.0	0.00	0.00	0.00
11,600.0	91.39	263.65	9,352.6	-262.7	-2,360.3	2,374.9	0.00	0.00	0.00
11,700.0	91.39	263.65	9,350.1	-273.8	-2,459.7	2,474.9	0.00	0.00	0.00
11,800.0	91.39	263.65	9,347.7	-284.8	-2,559.1	2,574.9	0.00	0.00	0.00
11,900.0	91.39	263.65	9,345.3	-295.9	-2,658.4	2,674.8	0.00	0.00	0.00
12,000.0	91.39	263.65	9,342.9	-306.9	-2,757.8	2,774.8	0.00	0.00	0.00
12,100.0	91.39	263.65	9,340.4	-318.0	-2,857.1	2,874.8	0.00	0.00	0.00
12,200.0	91.39	263.65	9,338.0	-329.1	-2,956.5	2,974.7	0.00	0.00	0.00
12,300.0	91.39	263.65	9,335.6	-340.1	-3,055.8	3,074.7	0.00	0.00	0.00
12,400.0	91.39	263.65	9,333.2	-351.2	-3,155.2	3,174.7	0.00	0.00	0.00
12,500.0	91.39	263.65	9,330.7	-362.2	-3,254.6	3,274.7	0.00	0.00	0.00
12,600.0	91.39	263.65	9,328.3	-373.3	-3,353.9	3,374.6	0.00	0.00	0.00
12,700.0	91.39	263.65	9,325.9	-384.4	-3,453.3	3,474.6	0.00	0.00	0.00
12,800.0	91.39	263.65	9,323.5	-395.4	-3,552.6	3,574.6	0.00	0.00	0.00
12,900.0	91.39	263.65	9,321.0	-406.5	-3,652.0	3,674.5	0.00	0.00	0.00
13,000.0	91.39	263.65	9,318.6	-417.5	-3,751.3	3,774.5	0.00	0.00	0.00
13,100.0	91.39	263.65	9,316.2	-428.6	-3,850.7	3,874.5	0.00	0.00	0.00
13,200.0	91.39	263.65	9,313.7	-439.7	-3,950.1	3,974.5	0.00	0.00	0.00
13,300.0	91.39	263.65	9,311.3	-450.7	-4,049.4	4,074.4	0.00	0.00	0.00
13,400.0	91.39	263.65	9,308.9	-461.8	-4,148.8	4,174.4	0.00	0.00	0.00
13,500.0	91.39	263.65	9,306.5	-472.8	-4,248.1	4,274.4	0.00	0.00	0.00
13,600.0	91.39	263.65	9,304.0	-483.9	-4,347.5	4,374.3	0.00	0.00	0.00
13,700.0	91.39	263.65	9,301.6	-494.9	-4,446.8	4,474.3	0.00	0.00	0.00
TD @ 13767' MD / 9300' TVD									
13,766.5	91.39	263.65	9,300.0	-502.3	-4,512.9	4,540.8	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Laguna Deep U - plan hits target center - Point	0.00	0.00	9,300.0	-502.3	-4,512.9	586,734.80	713,208.40	32° 36' 40.067 N	103° 38' 27.340 W

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Laguna Deep Unit Fed 35-2H
Company:	Marshall & Winston, Inc	**TVD Reference:**	WELL @ 3593.0usft (Original Well Elev)
Project:	Lea County, NM	**MD Reference:**	WELL @ 3593.0usft (Original Well Elev)
Site:	Sec 35,19S,33E	**North Reference:**	Grid
Well:	Laguna Deep Unit Fed 35-2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
8,990.9	8,990.9	0.0	0.0	Build 14°/100' @ 8991' MD
9,643.7	9,400.0	-46.4	-416.6	EOB @ 9644' MD / 91.39° Inc / 263.65° Azm / 9400' TVD
13,766.5	9,300.0	-502.3	-4,512.9	TD @ 13767' MD / 9300' TVD

EXHIBIT 7.1
page 5 of 5

Marshall & Winston, Inc

Lea County, NM

Laguna Deep Unit Fed 35-2H

Quote 120034

The DIRECTIONAL DRILLING COMPANY

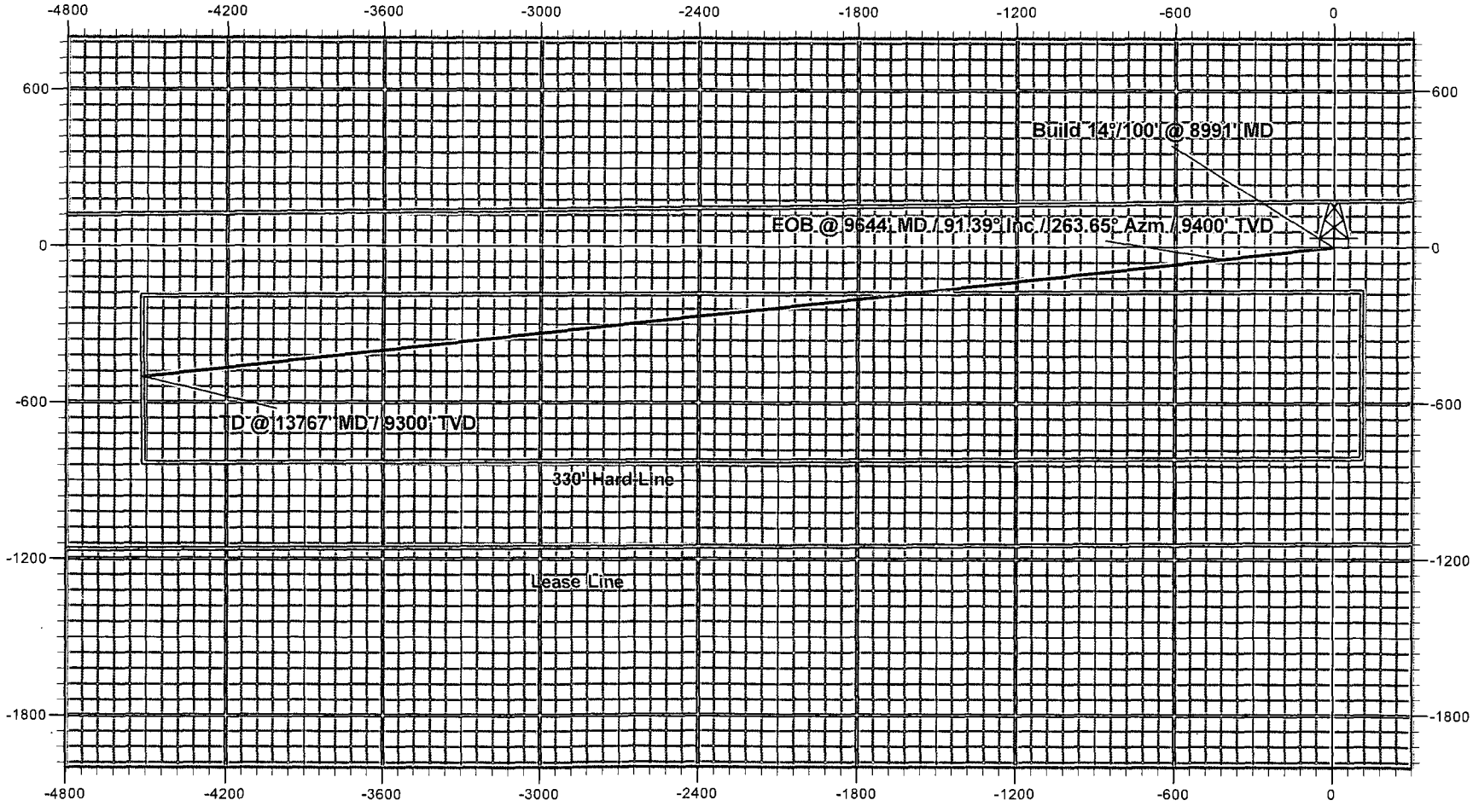


EXHIBIT 7.2 DIRECTIONAL SURVEY GRAPH TOP VIEW

Marshall & Winston, Inc

Lea County, NM

Laguna Deep Unit Fed 35-2H

Quote 120034

The DIRECTIONAL DRILLING COMPANY

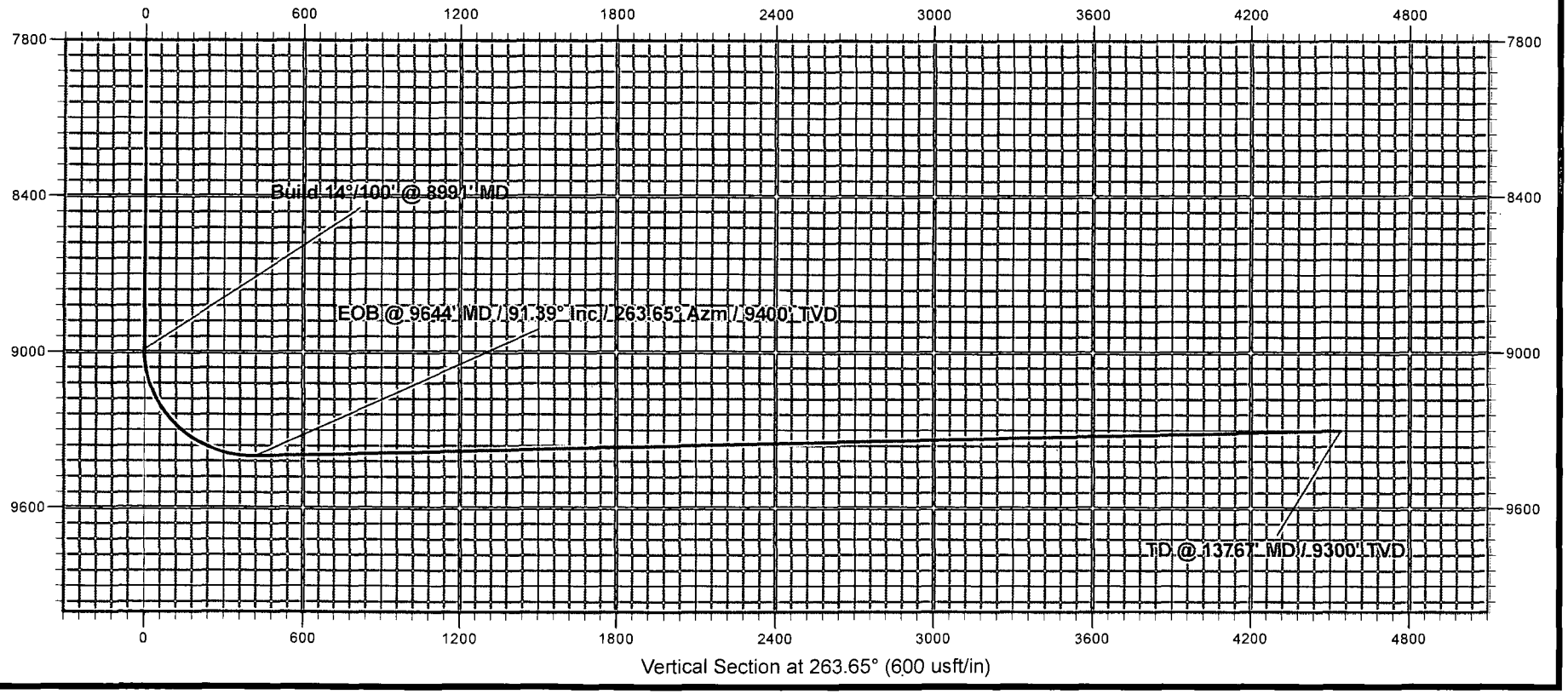


EXHIBIT 7.3 DIRECTIONAL SURVEY GRAPH SIDE VIEW

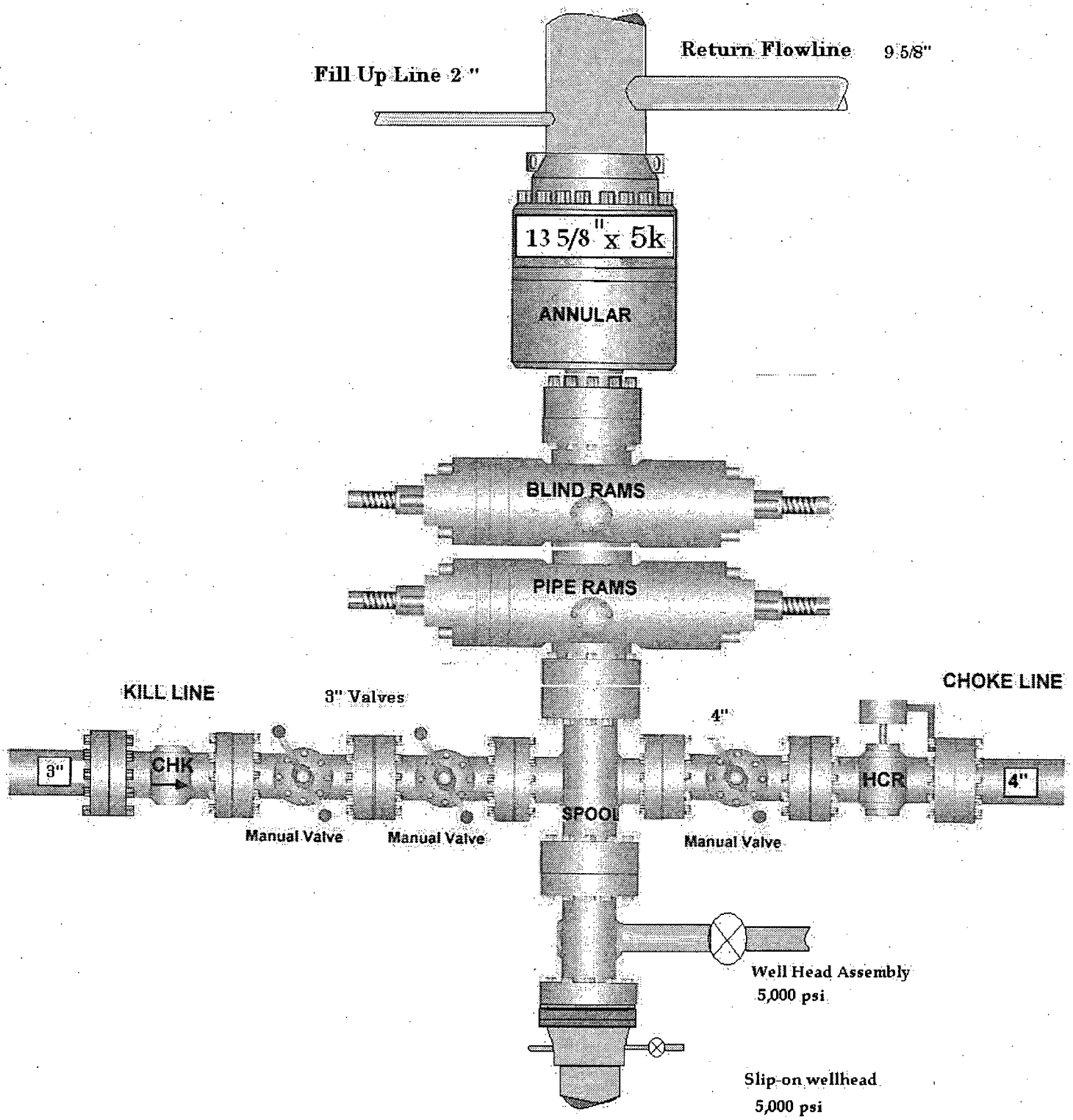


Exhibit 2.1 13 3/8" x 5,000 psi BOPE
Valves and Lines are rated at 5,000 psi

Marshall & Winston Inc.
Laguna Deep Unit Federal 35 2H
Section 35-P, T19S, R33E
SHL: 'P' 1140' FSL & 436' FEL

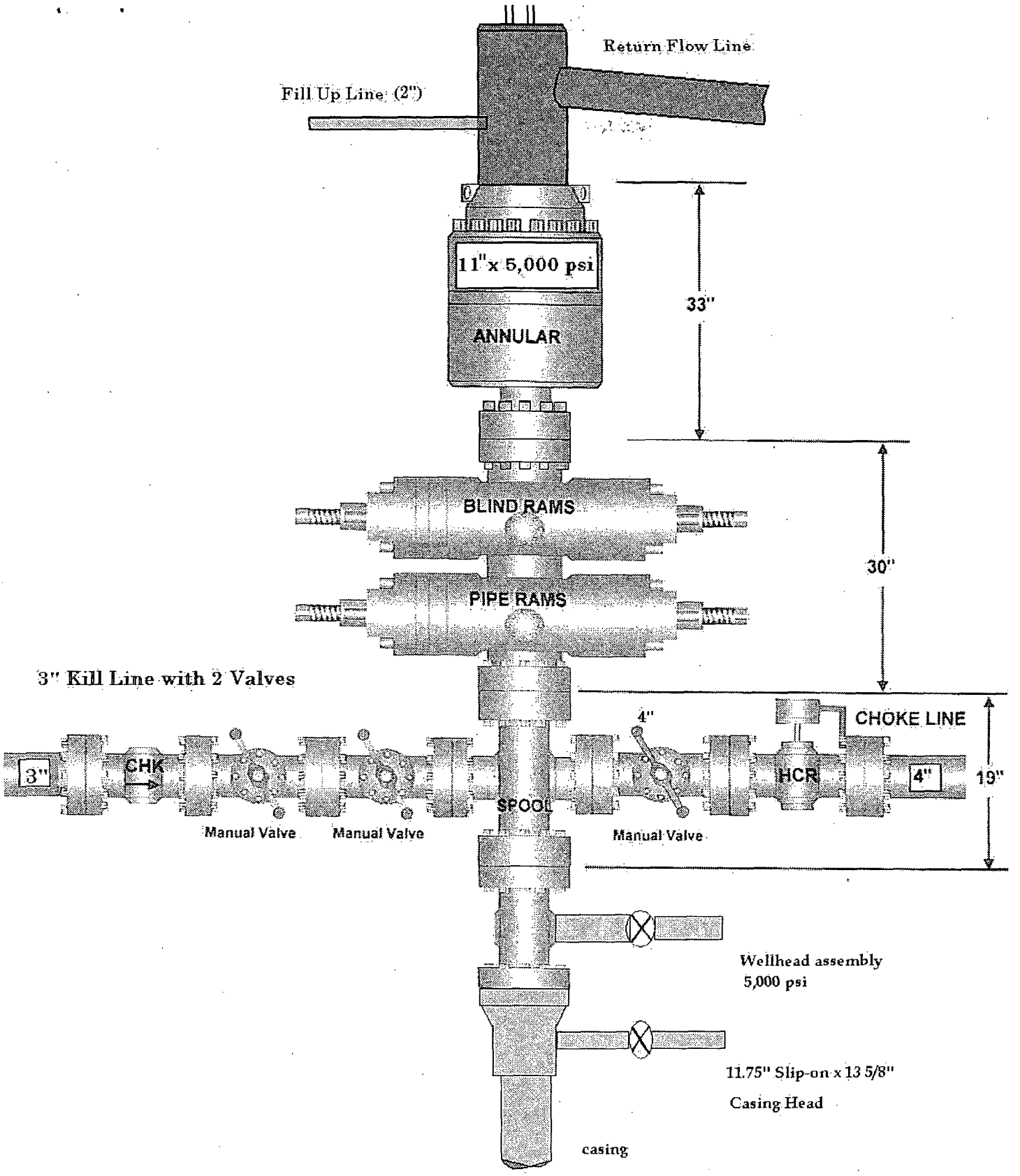
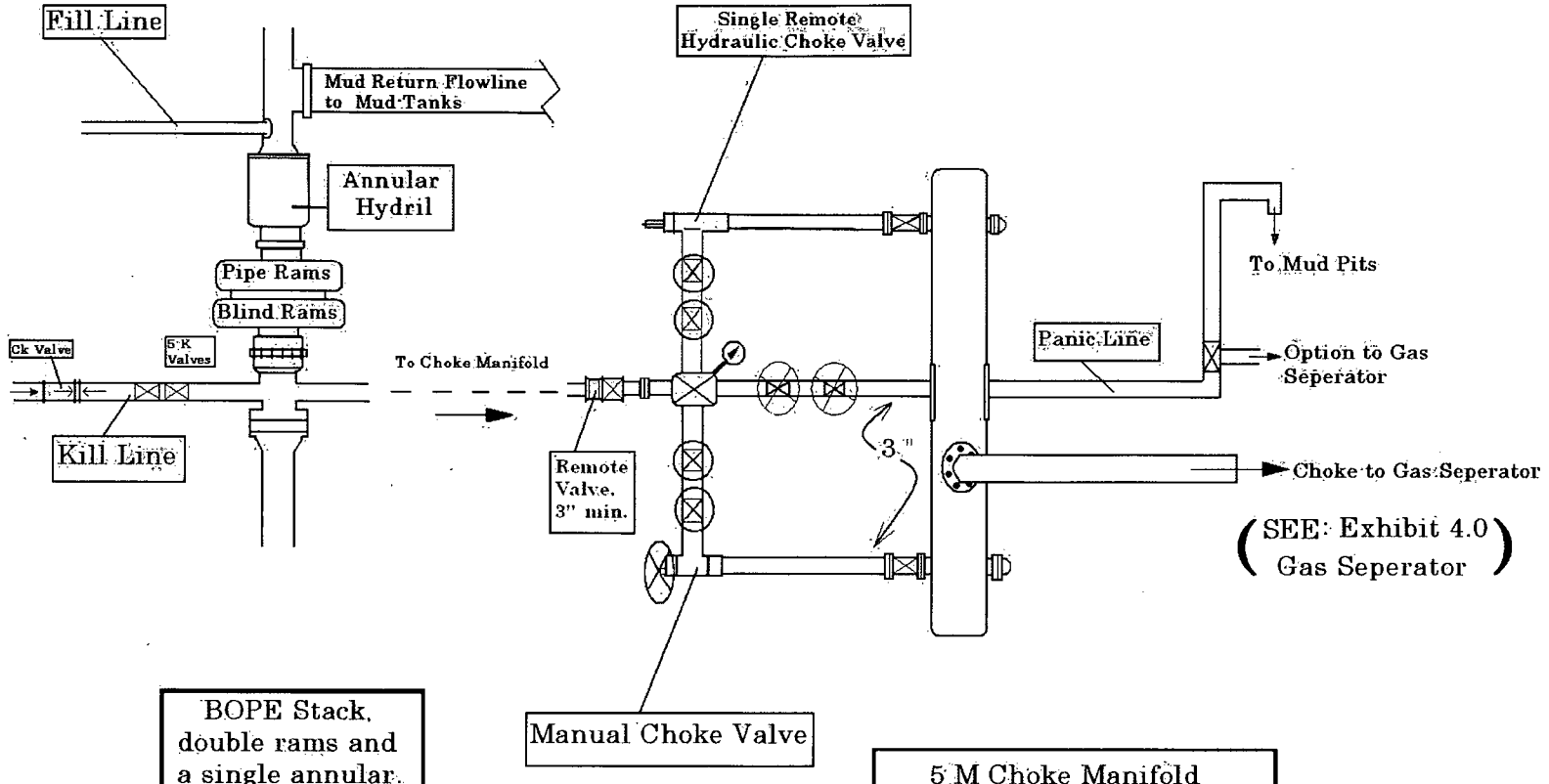


Exhibit 2.2 11"x 5,000 BOPE
Valves and Lines rated at 5,000 psi



BOPE Stack, double rams and a single annular.

(SEE: Exhibit 2.1 and / or Exhibit 2.2 for specific BOP application.)

(SEE: Exhibit 4.0 Gas Seperator)

5 M Choke Manifold

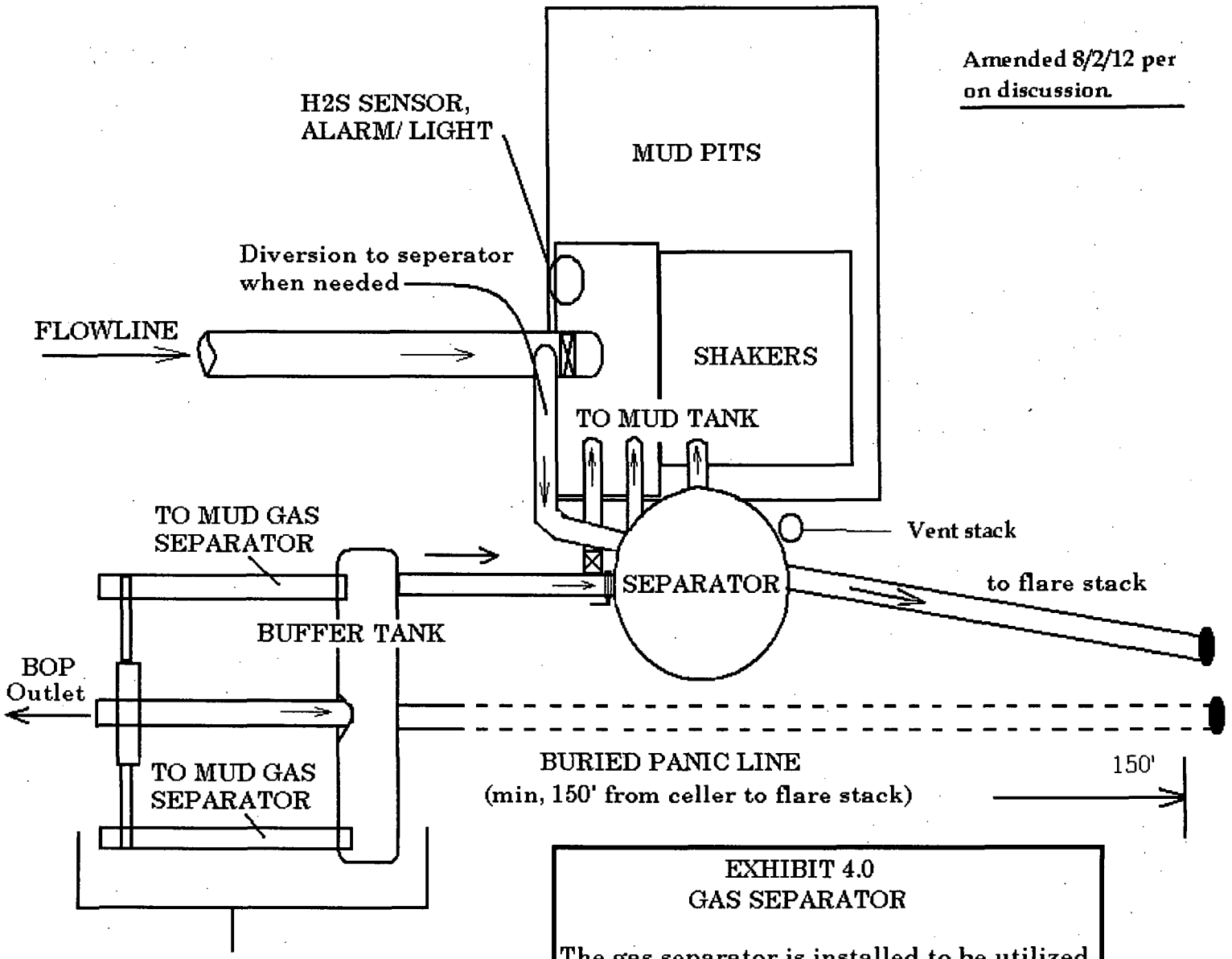
with 3" minimum lines, a single remote valve and a single manual choke valve.

All manifold valves and lines are rated at 5,000 psi.

Exhibit 3.0

5M BOPE and Choke Manifold Configuration

Amended 8/2/12 per on discussion.



5 M Choke Manifold

FOR DETAILS SEE:

EXHIBIT 3.0
CHOKE MANIFOLD CONFIGURATION

EXHIBIT 4.0
GAS SEPARATOR

The gas separator is installed to be utilized if necessary. Return flow fluid can be circulated via the gas buster during normal circulation or during choking the return flow if needed.

The bleed line will run independently from the manifold to a flare stack placed a minimum of 150 ft from the celler. The line will be buried aft the manifold to the stack point. There are no T's or shared valves on this line.

The flare stack is vertical. It can be ignited from a remote location either by electric or butane pilot.

Marshall & Winston Inc.
Laguna Deep Unit Federal 35 # 2H
1140'/s & 436'/e, Sec 35-P; T19S-R33E
Lea County, NM

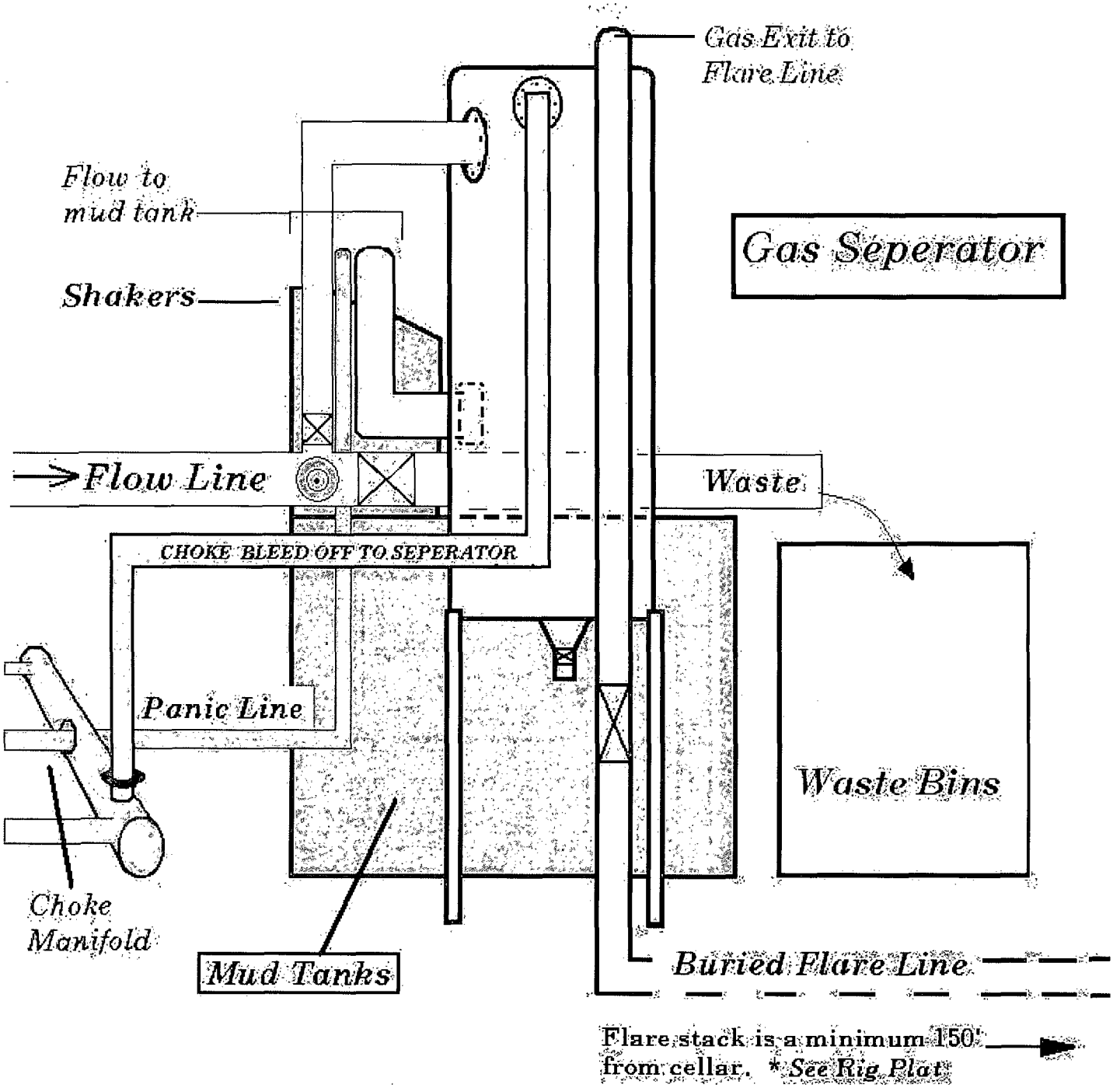
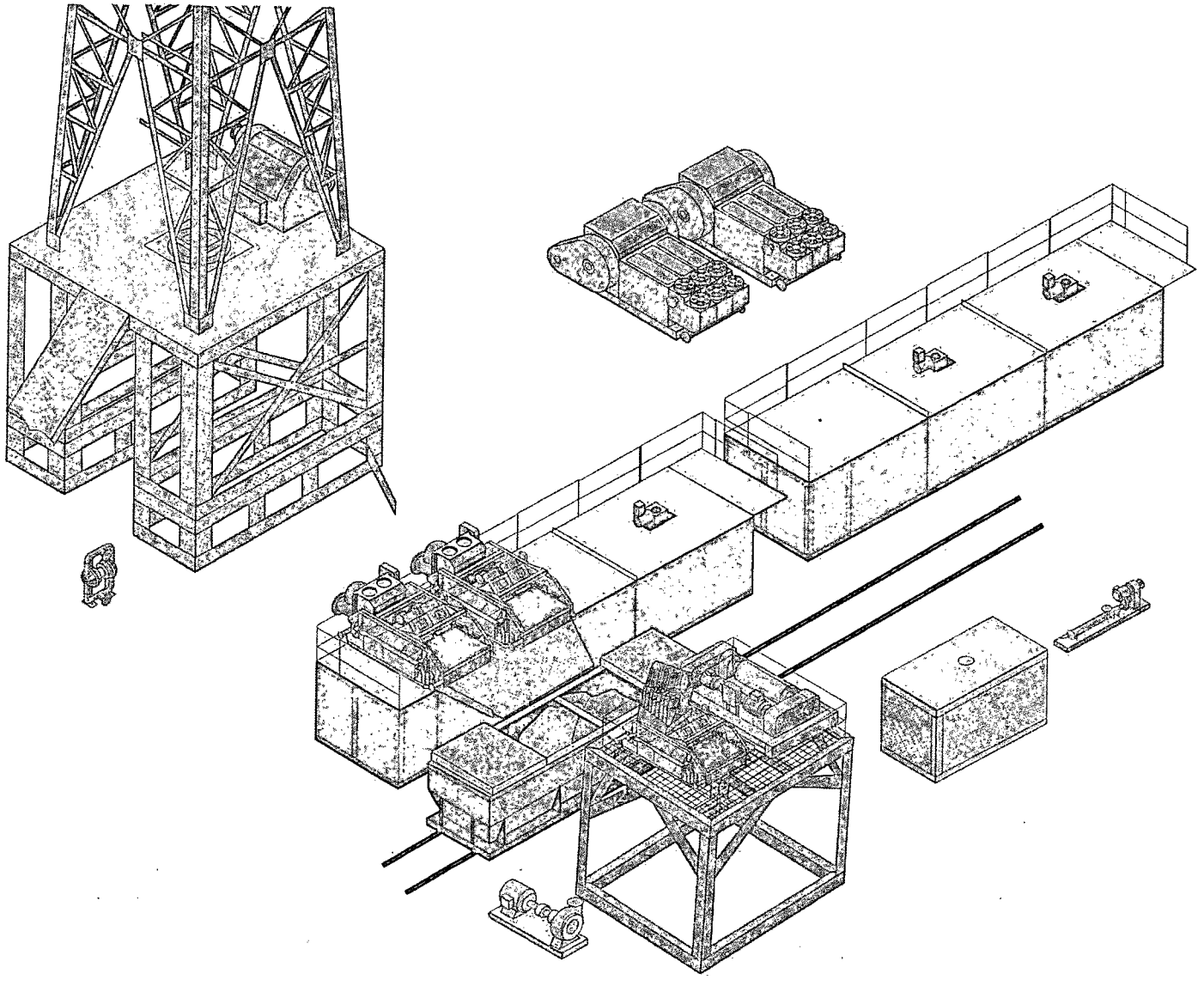


Exhibit 4.0

Gas Seperator Facility



MiSWACO