

Tom HOBBS

11-871
FORM APPROVED
OMB No 1004-013
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD

OCT 11 2011

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		RECEIVED	5. Lease Serial No. SH: NM022643 BH: NM111962	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone			6. If Indian, Allottee or Tribe Name	
2. Name of Operator COG Operating LLC. (229137)			7. If Unit or CA Agreement, Name and No.	
3a. Address 2208 West Main Street Artesia, NM 88210		3b. Phone No. (include area code) 575-748-6940		8. Lease Name and Well No. 38876 Peashooter 4 Federal Com #1H
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 380' FNL & 760' FWL Unit Letter (D) NWNW SHL At proposed prod. Zone 330' FSL & 380' FWL Unit Letter M (SWSW) BHL			9. API Well No. 30-025-40313	
14. Distance in miles and direction from nearest town or post office* About 12 miles from Maljamar			10. Field and Pool, or Exploratory Lusk; Bone Spring North (41450)	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. Unit line, if any) 330'			11. Sec., T.R.M. or Blk and Survey or Area Sec. 4 - T19S - R32E	
16. No. of acres in lease SHL: 360 BHL: 120			12. County or Parish Lea County	
17. Spacing Unit dedicated to this well 160'			13. State NM	
18. Distance from location* to nearest well, drilling, completed, applied for, on this lease, ft. 100'			20. BLM/BIA Bond No. on file NMB000740 + 215 JH 8/18	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3673'			22. Approximate date work will start* 9/31/2011	
			23. Estimated duration 30 days	

24. Attachments

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

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan | 5. Operator certification |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature Mayte Reyes	Name (Printed/Typed) Mayte Reyes	Date 8/4/2011
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Regulatory Analyst		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date OCT 05 2011
Title JOE FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legan 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

KZ 10/19/11

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

OCT 20 2011

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Date: August 4, 2011

Lease #: SHL: NMNM022643 & BHL: NMNM111962
Peashooter 4 Federal Com #1H

Legal Description: Sec. 4- T19S - R32E
Lea County, New Mexico

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Formation(s): Bone Springs

Bond Coverage: Statewide - *NMB000215*

BA

BLM Bond File #: NMB000740
BOND Coverage: INDIVIDUAL

COG OPERATING LLC

Mayte Reyes

Mayte Reyes
Regulatory Analyst

COG Operating LLC
DRILLING AND OPERATIONS PROGRAM
Peashooter 4 Federal Com #1H
SHL: 380' FNL & 760' FWL
BHL: 330' FSL & 380' FWL
Section 4 T19S R32E
Lea County, New Mexico

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In conjunction with Form 3160-3, Application for Permit to Drill subject well, COG Operating LLC submits the following eleven items of pertinent information in accordance with BLM requirements.

1. Geological surface formation: Permian
2. The estimated tops of geologic markers & estimated depths at which anticipated water, oil or gas formations are expected to be encountered are as follows:

Fresh Water	~ 223'	
Rustler <i>Rustler</i>	1250'	
Top of Salt	1300'	
Base of Salt	2850'	
Yates	2940'	
7 Rivers	3260'	
Queen	3750'	
San Andres	4580'	
Delaware	5440'	Oil
Bone Spring	7130'	
1 st BSS	8471'	Oil
2 nd BSS	9249'	Oil
3 rd BSS	9941'	
TD TVD	9410'	
TMD	13,765'	

No other formations are expected to give up oil, gas or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13-3/8" casing at 1275' and circulating cement back to surface. All intervals will be isolated by setting 5 1/2" casing to total depth and tying back cement to 500' inside 9-5/8" shoe.

3. Proposed Casing Program: All casing is new and API approved

Hole Size	Depths	Section	OD Casing	New/Used	Wt	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 1/2"	0' - 1275'	Surface	13 3/8"	New	54.5#	STC	J-55	1.125	1.125	1.6
12 1/4"	0' - 3200' ^{3100'} <i>See 603</i>	Intrmd	9 5/8"	New	36#	STC	J-55	1.125	1.125	1.6
7 7/8"	0' - 13,765'	Production Curve & Lateral	5 1/2"	New	17#	LTC	P-110	1.125	1.125	1.6

- While running all casing strings, the pipe will be kept a minimum of 1/3 full at all times to avoid approaching the collapse pressure of casing.

4. Proposed Cement Program

- a. 13-3/8" Surface
- Lead: 600 sx Class C + 4% Gel + 2% CaCl₂
(13.5 ppg / 1.75 cuft/sx)
- Tail: 250 sx Class C + 2% CaCl₂
(14.8 ppg / 1.35 cuft/sx)
- **Calculated w/50% excess on OH volumes
- b. 9 5/8" Intermediate
- Lead: 600 sx Class C + 4% Gel
(13.5 ppg / 1.75 cuft/sx)
- Tail: 250 sx Class C + 1% CaCl₂
(14.8 ppg / 1.35 cuft/sx)
- **Calculated w/35% excess on OH volumes
- d. 5 1/2" Production
- Lead: 650 sx 35:65:6 H + Salt+Gilsonite+CFR-3+ HR601
(12.7 ppg / 1.89 cuft/sx)
- Tail: 1200 sx 50:50:2 H +Salt+GasStop +HR601 +CFR-3
(14.4 ppg / 1.25 cuft/sx)
- **Calculated w/35% excess on OH volumes
- The above cement volumes could be revised pending the caliper measurement from the open hole logs.
 - The 9-5/8" intermediate string is designed to circulate to surface.
 - The production string TOC is designed to reach 500' inside 9-5/8" csg shoe.

5. Minimum Specifications for Pressure Control:

Nipple up on 13 3/8 with 2M system (Hydril) tested to 2000# by independent tester,
Nipple up on 9 5/8 with 3M system tested to 3000# by independent tester
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. A 2" kill line and a 3" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

6. Estimated BHP:

Lateral TD = 4080 psi

7. Mud Program: The applicable depths and properties of this system are as follows:

Depth	Type System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0' – 1275'	Fresh Water	8.4	29	N.C.
1275' – 3200' <i>3100</i>	Brine	10	29	N.C.
3200' – 13,765' (Lateral)	Cut Brine	8.9 – 9.2	29	N.C.

The necessary mud products for weight addition and fluid loss control will be on location at all times.

8. Auxiliary Well Control and Monitoring Equipment:

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

9. Testing, Logging and Coring Program: *See COA*

- a. Drill stem tests will be based on geological sample shows.
- b. The open hole electrical logging program will be:
 - i. Total Depth to Intermediate Casing: Dual Laterolog-Micro Laterolog and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
 - ii. Total Depth to Surface: Compensated Neutron with Gamma Ray
 - iii. No coring program is planned
 - iv. Additional testing will be initiated subsequent to setting the 5 1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

10. Potential Hazards:

- a. No abnormal pressures or temperatures are expected. There is no known presence of H₂S in this area. If H₂S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. No H₂S is anticipated to be encountered.

11. Anticipated starting date and Duration of Operations:

- a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 30 days.

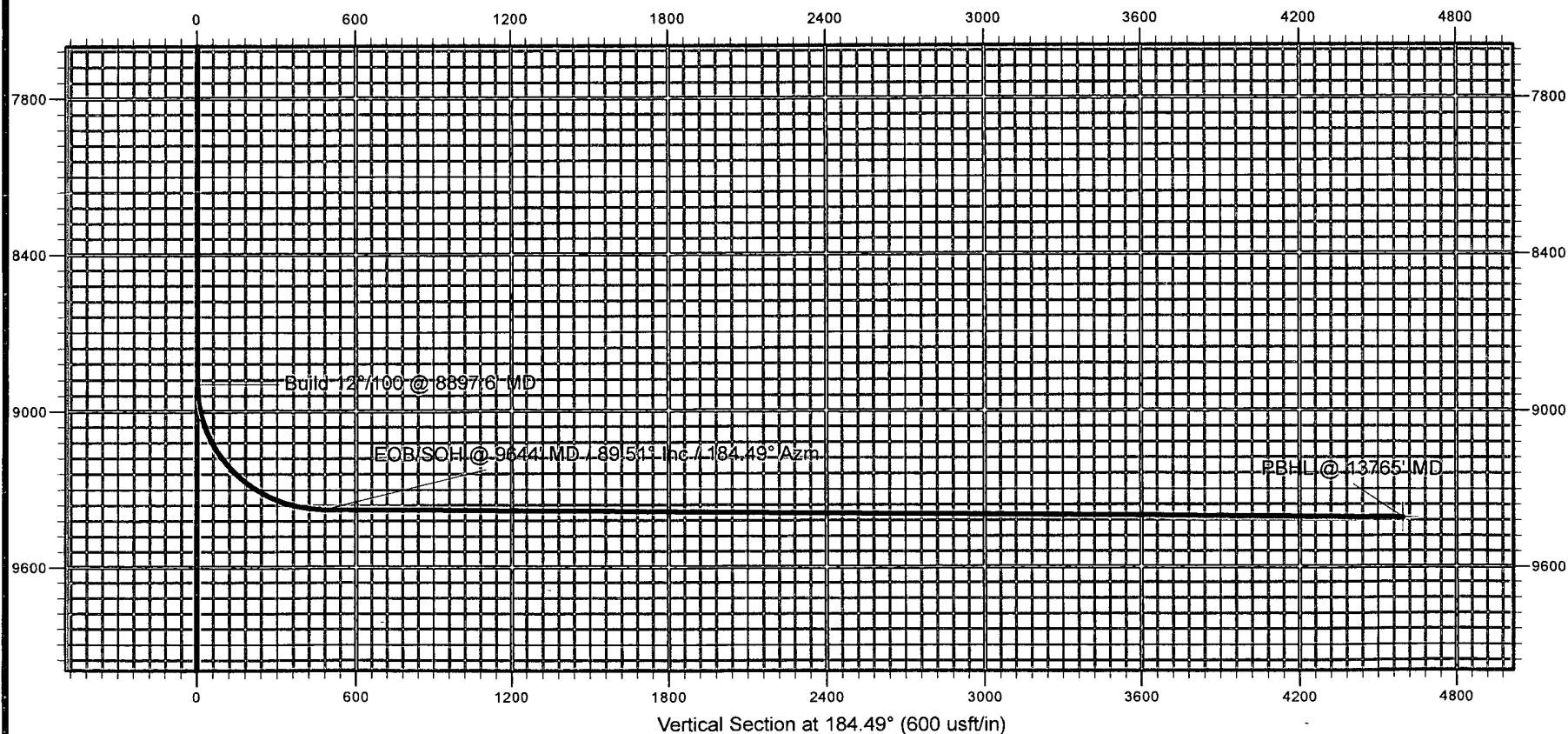
COG OPERATING, INC

Lea County, NM
Sec 4, T19S, R32E, N.M.P.M
Peashooter 4 Federal Com #1H
Quote 110526

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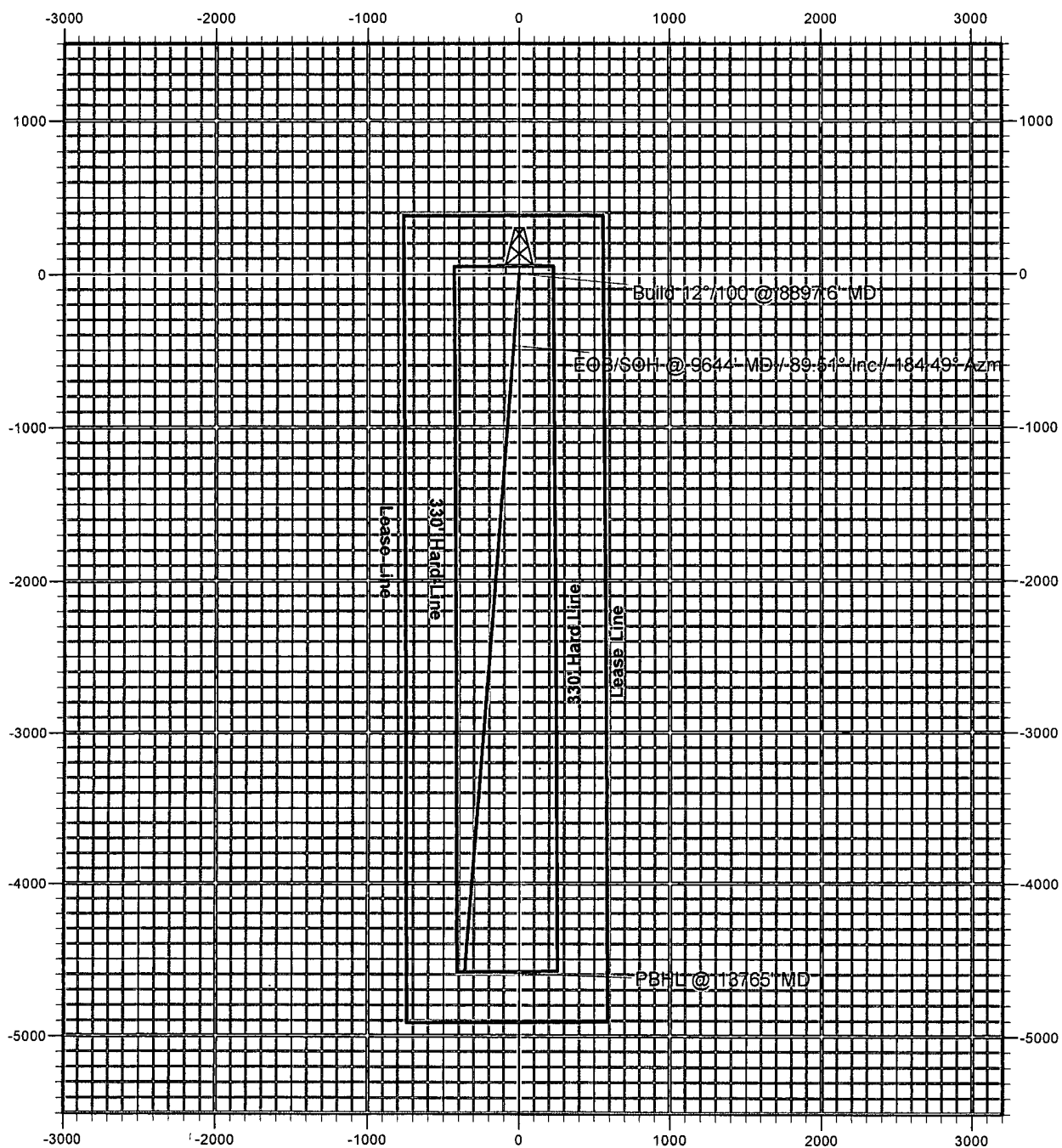
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COG Operating, LLC

Lea County, NM

Sec 4, T19S, R32E, N.M.P.M

Peashooter 4 Federal Com #1H

Wellbore #1

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Plan: Design #1

Standard Planning Report - Geographic

, 02 August, 2011

DDC
Planning Report - Geographic

Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Well Peashooter 4 Federal Com #1H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3690 0usft (Original Well Elev)
Project:	Lea County, NM	MD Reference:	WELL @ 3690 0usft (Original Well Elev)
Site:	Sec 4, T19S, R32E, N M P.M	North Reference:	Grid
Well:	Peashooter 4 Federal Com #1H	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 4, T19S, R32E, N M P M		
Site Position:		Northing:	617,211 30 usft Latitude:
From:	Map	Easting:	671,174.10 usft Longitude:
Position Uncertainty:		Slot Radius:	13-3/16 " Grid Convergence:
			0 0 usft 0 30 °
Well	Peashooter 4 Federal Com #1H		
Well Position	+N/-S	0 0 usft Northing:	Latitude:
	+E/-W	0.0 usft Easting:	Longitude:
Position Uncertainty	0 0 usft Wellhead Elevation:	Ground Level:	3,673 0 usft

Wellbore	Wellbore #1									
Magnetics	Model Name	Sample Date	Declination (°)		Dip Angle (°)		Field Strength (nT)			
	IGRF2010	7/28/2011	7 70		60 59		48,865			
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		184 49				
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	
8,897 6	0 00	0 00	8,897 6	0 0	0 0	0 00	0 00	0 00	0.00	
9,643 6	89 51	184.49	9,375 0	-472.0	-37 0	12 00	12 00	-23 53	184.49	
13,765 0	89.51	184 49	9,410 0	-4,580 6	-359.3	0 00	0 00	0 00	0 00	PBHL Peashooter 4 I
Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0 0	0 00	0 00	0.0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
100 0	0 00	0.00	100 0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
200 0	0.00	0 00	200 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
300 0	0.00	0 00	300 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
400 0	0 00	0 00	400 0	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
500.0	0 00	0 00	500 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
600 0	0 00	0.00	600 0	0.0	0 0	617,211 30	671,174.10	32° 41' 44 081 N	103° 46' 36 882 W	
700 0	0 00	0.00	700 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
800 0	0.00	0 00	800 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
900 0	0 00	0 00	900 0	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
1,000 0	0 00	0 00	1,000 0	0 0	0.0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
1,100 0	0 00	0.00	1,100 0	0 0	0.0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
1,200 0	0 00	0.00	1,200 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
1,300 0	0 00	0 00	1,300 0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
1,400.0	0 00	0 00	1,400 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
1,500 0	0.00	0 00	1,500 0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
1,600.0	0 00	0 00	1,600 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
1,700 0	0 00	0 00	1,700 0	0 0	0 0	617,211.30	671,174.10	32° 41' 44 081 N	103° 46' 36 882 W	
1,800 0	0 00	0.00	1,800 0	0 0	0.0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
1,900 0	0 00	0 00	1,900.0	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
2,000 0	0 00	0 00	2,000 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
2,100 0	0 00	0 00	2,100.0	0 0	0.0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
2,200 0	0 00	0.00	2,200 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	
2,300 0	0 00	0 00	2,300 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W	

2,400 0	0 00	0 00	2,400 0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
2,500.0	0.00	0 00	2,500.0	0.0	0.0	617,211 30	671,174 10	32° 41' 44.081 N	103° 46' 36 882 W
2,600 0	0 00	0 00	2,600 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
2,700 0	0 00	0 00	2,700.0	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
2,800 0	0 00	0 00	2,800 0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
2,900.0	0.00	0 00	2,900 0	0.0	0 0	617,211.30	671,174.10	32° 41' 44 081 N	103° 46' 36.882 W
3,000 0	0 00	0 00	3,000 0	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
3,100 0	0.00	0 00	3,100 0	0 0	0.0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
3,200 0	0 00	0.00	3,200 0	0 0	0.0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
3,300 0	0 00	0 00	3,300 0	0 0	0.0	617,211 30	671,174.10	32° 41' 44 081 N	103° 46' 36 882 W
3,400.0	0 00	0 00	3,400 0	0 0	0 0	617,211 30	671,174.10	32° 41' 44 081 N	103° 46' 36.882 W
3,500 0	0 00	0 00	3,500.0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
3,600.0	0 00	0 00	3,600 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36.882 W
3,700.0	0.00	0 00	3,700 0	0 0	0.0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
3,800 0	0.00	0 00	3,800 0	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
3,900 0	0 00	0 00	3,900 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36.882 W
4,000 0	0 00	0 00	4,000 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36.882 W
4,100 0	0 00	0 00	4,100 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44.081 N	103° 46' 36 882 W
4,200 0	0 00	0.00	4,200 0	0 0	0 0	617,211.30	671,174.10	32° 41' 44.081 N	103° 46' 36 882 W
4,300.0	0 00	0.00	4,300.0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
4,400.0	0 00	0 00	4,400 0	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36.882 W
4,500 0	0 00	0 00	4,500 0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
4,600.0	0 00	0 00	4,600.0	0.0	0 0	617,211 30	671,174.10	32° 41' 44.081 N	103° 46' 36.882 W
4,700.0	0 00	0 00	4,700 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
4,800.0	0 00	0 00	4,800 0	0.0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
4,900.0	0 00	0 00	4,900 0	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
5,000 0	0 00	0 00	5,000 0	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
5,100 0	0 00	0 00	5,100 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44.081 N	103° 46' 36 882 W
5,200 0	0.00	0.00	5,200 0	0 0	0 0	617,211.30	671,174.10	32° 41' 44 081 N	103° 46' 36 882 W
5,300 0	0.00	0 00	5,300 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
5,400 0	0 00	0 00	5,400 0	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,500 0	0 00	0 00	5,500.0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
5,600 0	0 00	0.00	5,600 0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
5,700 0	0 00	0 00	5,700 0	0.0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
5,800 0	0 00	0 00	5,800 0	0 0	0.0	617,211 30	671,174.10	32° 41' 44 081 N	103° 46' 36 882 W
5,900 0	0 00	0 00	5,900 0	0 0	0.0	617,211.30	671,174.10	32° 41' 44 081 N	103° 46' 36 882 W
6,000 0	0 00	0 00	6,000 0	0 0	0 0	617,211 30	671,174.10	32° 41' 44 081 N	103° 46' 36.882 W
6,100.0	0 00	0 00	6,100.0	0 0	0 0	617,211 30	671,174 10	32° 41' 44.081 N	103° 46' 36 882 W
6,200 0	0 00	0 00	6,200 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
6,300 0	0 00	0 00	6,300 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36.882 W
6,400.0	0 00	0 00	6,400 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
6,500.0	0 00	0 00	6,500 0	0 0	0.0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
6,600 0	0 00	0 00	6,600 0	0 0	0.0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
6,700 0	0 00	0 00	6,700.0	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
6,800 0	0 00	0.00	6,800 0	0 0	0 0	617,211.30	671,174.10	32° 41' 44.081 N	103° 46' 36.882 W
6,900 0	0 00	0 00	6,900 0	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
7,000 0	0 00	0 00	7,000 0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
7,100 0	0 00	0 00	7,100 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
7,200.0	0 00	0 00	7,200 0	0 0	0 0	617,211 30	671,174.10	32° 41' 44 081 N	103° 46' 36 882 W
7,300 0	0 00	0 00	7,300.0	0.0	0.0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W

7,400 0	0.00	0.00	7,400 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
7,500.0	0 00	0 00	7,500.0	0 0	0.0	617,211 30	671,174 10	32° 41' 44.081 N	103° 46' 36 882 W
7,600 0	0 00	0 00	7,600 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
7,700 0	0 00	0 00	7,700 0	0.0	0 0	617,211.30	671,174.10	32° 41' 44 081 N	103° 46' 36 882 W
7,800 0	0 00	0 00	7,800 0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
7,900 0	0 00	0 00	7,900 0	0 0	0.0	617,211 30	671,174.10	32° 41' 44 081 N	103° 46' 36 882 W
8,000 0	0 00	0 00	8,000 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
8,100 0	0 00	0 00	8,100.0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
8,200 0	0 00	0.00	8,200 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
8,300 0	0 00	0 00	8,300.0	0 0	0.0	617,211 30	671,174 10	32° 41' 44.081 N	103° 46' 36.882 W
8,400 0	0 00	0 00	8,400.0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
8,500 0	0 00	0 00	8,500 0	0.0	0 0	617,211.30	671,174 10	32° 41' 44.081 N	103° 46' 36 882 W
8,600 0	0.00	0 00	8,600 0	0.0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
8,700 0	0.00	0 00	8,700 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
8,800 0	0 00	0.00	8,800 0	0 0	0 0	617,211 30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W
8,897 6	0 00	0 00	8,897 6	0 0	0 0	617,211.30	671,174 10	32° 41' 44 081 N	103° 46' 36 882 W

Build 12°/100 @ 8897.6' MD

8,900 0	0 29	184 49	8,900 0	0 0	0.0	617,211 30	671,174.09	32° 41' 44.081 N	103° 46' 36 882 W
8,925 0	3.29	184 49	8,925 0	-0 8	-0.1	617,210 52	671,174 03	32° 41' 44.073 N	103° 46' 36 883 W
8,950 0	6 29	184 49	8,949.9	-2.9	-0.2	617,208 44	671,173 87	32° 41' 44 053 N	103° 46' 36 885 W
8,975 0	9 29	184 49	8,974.7	-6.2	-0.5	617,205 06	671,173 61	32° 41' 44.019 N	103° 46' 36 888 W
9,000.0	12 29	184.49	8,999 2	-10 9	-0.9	617,200 40	671,173 24	32° 41' 43.973 N	103° 46' 36 893 W
9,025.0	15 29	184.49	9,023 5	-16 8	-1.3	617,194 46	671,172 77	32° 41' 43 914 N	103° 46' 36 898 W
9,050 0	18 29	184 49	9,047 4	-24 0	-1.9	617,187 26	671,172 21	32° 41' 43 843 N	103° 46' 36 905 W
9,075.0	21.29	184 49	9,070 9	-32 5	-2.5	617,178 82	671,171 55	32° 41' 43 760 N	103° 46' 36 914 W
9,100 0	24 29	184 49	9,094 0	-42 1	-3.3	617,169 17	671,170 79	32° 41' 43 664 N	103° 46' 36 923 W
9,125 0	27 29	184 49	9,116 5	-53 0	-4.2	617,158 33	671,169 94	32° 41' 43 557 N	103° 46' 36 934 W
9,150 0	30 29	184 49	9,138 4	-65 0	-5.1	617,146 33	671,169 00	32° 41' 43 438 N	103° 46' 36 945 W
9,175 0	33.29	184.49	9,159 7	-78 1	-6.1	617,133.20	671,167 97	32° 41' 43 308 N	103° 46' 36 958 W
9,200 0	36 29	184 49	9,180.2	-92 3	-7.2	617,118.98	671,166.85	32° 41' 43 168 N	103° 46' 36 972 W
9,225 0	39 29	184.49	9,199.9	-107 6	-8.4	617,103.71	671,165.66	32° 41' 43 017 N	103° 46' 36 987 W
9,250 0	42 29	184.49	9,218 9	-123 9	-9.7	617,087 43	671,164 38	32° 41' 42.856 N	103° 46' 37 003 W
9,275 0	45 29	184.49	9,236 9	-141 1	-11.1	617,070 19	671,163 03	32° 41' 42.685 N	103° 46' 37.020 W
9,300 0	48.29	184 49	9,254 0	-159.3	-12.5	617,052.03	671,161 60	32° 41' 42 506 N	103° 46' 37 038 W
9,325 0	51.29	184 49	9,270 2	-178 3	-14.0	617,033 00	671,160 11	32° 41' 42 317 N	103° 46' 37 056 W

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,350 0	54.29	184 49	9,285 3	-198 2	-15 5	617,013.15	671,158.55	32° 41' 42 121 N	103° 46' 37 076 W
9,375 0	57 29	184 49	9,299 3	-218 8	-17 2	616,992.54	671,156 94	32° 41' 41 917 N	103° 46' 37 096 W
9,400.0	60 29	184.49	9,312 3	-240.1	-18 8	616,971.23	671,155.26	32° 41' 41 706 N	103° 46' 37 117 W
9,425 0	63.29	184 49	9,324 1	-262.0	-20 6	616,949 27	671,153 54	32° 41' 41 489 N	103° 46' 37 138 W
9,450 0	66 29	184 49	9,334.8	-284 6	-22.3	616,926 72	671,151 77	32° 41' 41 266 N	103° 46' 37 161 W
9,475 0	69 29	184 49	9,344.2	-307 7	-24 1	616,903 65	671,149 96	32° 41' 41 038 N	103° 46' 37 183 W
9,500.0	72 29	184 49	9,352 4	-331 2	-26 0	616,880 12	671,148 12	32° 41' 40 805 N	103° 46' 37 206 W
9,525 0	75 29	184 49	9,359 4	-355 1	-27.9	616,856 19	671,146 24	32° 41' 40 568 N	103° 46' 37 230 W
9,550 0	78 29	184 49	9,365 1	-379 4	-29 8	616,831 93	671,144.34	32° 41' 40.328 N	103° 46' 37 253 W
9,575.0	81 29	184 49	9,369 6	-403 9	-31.7	616,807 40	671,142 41	32° 41' 40 086 N	103° 46' 37 277 W
9,600.0	84 29	184.49	9,372.7	-428 6	-33 6	616,782.68	671,140 47	32° 41' 39 841 N	103° 46' 37 302 W
9,625 0	87 29	184 49	9,374 5	-453 5	-35.6	616,757 82	671,138 52	32° 41' 39 596 N	103° 46' 37 326 W
9,643 6	89.51	184 49	9,375 0	-472 0	-37 0	616,739.34	671,137 07	32° 41' 39 413 N	103° 46' 37 344 W
EOB/SOH @ 9644' MD / 89.51° Inc / 184.49° Azm									
9,700 0	89 51	184 49	9,375 5	-528 2	-41.4	616,683.06	671,132 66	32° 41' 38.856 N	103° 46' 37.399 W

9,800 0	89 51	184.49	9,376 4	-627 9	-49 3	616,583 37	671,124 84	32° 41' 37 870 N	103° 46' 37 497 W
9,900 0	89 51	184 49	9,377.2	-727 6	-57.1	616,483 68	671,117 02	32° 41' 36.884 N	103° 46' 37.594 W
10,000.0	89 51	184 49	9,378 1	-827 3	-64 9	616,383 99	671,109 20	32° 41' 35.898 N	103° 46' 37 692 W
10,100.0	89 51	184.49	9,378 9	-927 0	-72 7	616,284 30	671,101 38	32° 41' 34 912 N	103° 46' 37 790 W
10,200 0	89.51	184 49	9,379 8	-1,026.7	-80 5	616,184.61	671,093 56	32° 41' 33 926 N	103° 46' 37 887 W
10,300 0	89 51	184 49	9,380 6	-1,126.4	-88 4	616,084 92	671,085.75	32° 41' 32 940 N	103° 46' 37 985 W
10,400 0	89 51	184 49	9,381 5	-1,226 1	-96 2	615,985 23	671,077 93	32° 41' 31 954 N	103° 46' 38 082 W
10,500 0	89 51	184 49	9,382 3	-1,325 8	-104.0	615,885 54	671,070 11	32° 41' 30.968 N	103° 46' 38.180 W
10,600 0	89 51	184 49	9,383 2	-1,425 5	-111.8	615,785.85	671,062 29	32° 41' 29 982 N	103° 46' 38 278 W
10,700.0	89 51	184 49	9,384 0	-1,525 1	-119.6	615,686.16	671,054 47	32° 41' 28 996 N	103° 46' 38.375 W
10,800 0	89 51	184 49	9,384 9	-1,624 8	-127.5	615,586 47	671,046 65	32° 41' 28 010 N	103° 46' 38 473 W
10,900 0	89 51	184 49	9,385 7	-1,724 5	-135.3	615,486 78	671,038 83	32° 41' 27.024 N	103° 46' 38 571 W
11,000 0	89 51	184 49	9,386 6	-1,824 2	-143 1	615,387.09	671,031 01	32° 41' 26 037 N	103° 46' 38 668 W
11,100 0	89 51	184 49	9,387 4	-1,923.9	-150 9	615,287 40	671,023.20	32° 41' 25 051 N	103° 46' 38 766 W
11,200 0	89 51	184 49	9,388 2	-2,023 6	-158.7	615,187.71	671,015.38	32° 41' 24 065 N	103° 46' 38.863 W
11,300 0	89 51	184 49	9,389 1	-2,123 3	-166 5	615,088 02	671,007 56	32° 41' 23 079 N	103° 46' 38 961 W
11,400 0	89 51	184.49	9,389 9	-2,223 0	-174 4	614,988 33	670,999 74	32° 41' 22 093 N	103° 46' 39.059 W
11,500 0	89.51	184 49	9,390.8	-2,322 7	-182 2	614,888.64	670,991.92	32° 41' 21 107 N	103° 46' 39.156 W
11,600 0	89 51	184 49	9,391.6	-2,422 4	-190.0	614,788 95	670,984 10	32° 41' 20 121 N	103° 46' 39 254 W
11,700 0	89 51	184 49	9,392 5	-2,522 0	-197 8	614,689 26	670,976 28	32° 41' 19 135 N	103° 46' 39 351 W
11,800.0	89.51	184 49	9,393 3	-2,621 7	-205 6	614,589 57	670,968 46	32° 41' 18 149 N	103° 46' 39 449 W
11,900 0	89.51	184 49	9,394 2	-2,721 4	-213 5	614,489 88	670,960 64	32° 41' 17 163 N	103° 46' 39 547 W
12,000 0	89.51	184.49	9,395 0	-2,821 1	-221 3	614,390 19	670,952 82	32° 41' 16.177 N	103° 46' 39 644 W
12,100 0	89 51	184 49	9,395 9	-2,920 8	-229 1	614,290 50	670,945 00	32° 41' 15 191 N	103° 46' 39 742 W
12,200.0	89 51	184 49	9,396.7	-3,020 5	-236 9	614,190 81	670,937 18	32° 41' 14.205 N	103° 46' 39 839 W
12,300 0	89 51	184 49	9,397.6	-3,120 2	-244 7	614,091 12	670,929 36	32° 41' 13 219 N	103° 46' 39 937 W
12,400 0	89.51	184 49	9,398 4	-3,219.9	-252 6	613,991 43	670,921.54	32° 41' 12 233 N	103° 46' 40 035 W
12,500 0	89 51	184 49	9,399 3	-3,319.6	-260 4	613,891.74	670,913.72	32° 41' 11 247 N	103° 46' 40 132 W
12,600 0	89 51	184 49	9,400 1	-3,419 3	-268.2	613,792 05	670,905.90	32° 41' 10 261 N	103° 46' 40 230 W
12,700 0	89 51	184 49	9,401 0	-3,518 9	-276 0	613,692 36	670,898.08	32° 41' 9.275 N	103° 46' 40 327 W
12,800 0	89 51	184 49	9,401 8	-3,618.6	-283 8	613,592.67	670,890 26	32° 41' 8 289 N	103° 46' 40 425 W
12,900 0	89 51	184 49	9,402.7	-3,718 3	-291 7	613,492.98	670,882 44	32° 41' 7 303 N	103° 46' 40 523 W
13,000.0	89 51	184 49	9,403.5	-3,818.0	-299 5	613,393 29	670,874 62	32° 41' 6.317 N	103° 46' 40.620 W
13,100.0	89 51	184 49	9,404 4	-3,917 7	-307 3	613,293 60	670,866 80	32° 41' 5.330 N	103° 46' 40 718 W
13,200 0	89 51	184 49	9,405.2	-4,017 4	-315 1	613,193 91	670,858 98	32° 41' 4 344 N	103° 46' 40.815 W
13,300.0	89 51	184.49	9,406 1	-4,117 1	-322.9	613,094 22	670,851.16	32° 41' 3 358 N	103° 46' 40.913 W
13,400 0	89.51	184 49	9,406.9	-4,216 8	-330.8	612,994 53	670,843 34	32° 41' 2 372 N	103° 46' 41.011 W
13,500 0	89 51	184 49	9,407 8	-4,316 5	-338.6	612,894 84	670,835 52	32° 41' 1.386 N	103° 46' 41 108 W
13,600.0	89 51	184 49	9,408 6	-4,416 2	-346 4	612,795 15	670,827 70	32° 41' 0.400 N	103° 46' 41 206 W

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,700 0	89 51	184 49	9,409 4	-4,515 8	-354 2	612,695 46	670,819 88	32° 40' 59 414 N	103° 46' 41 303 W
13,765 0	89 51	184 49	9,410 0	-4,580 6	-359 3	612,630.70	670,814 80	32° 40' 58 774 N	103° 46' 41 367 W

PBHL @ 13765' MD

Design Targets

Target Name

- hit/miss target
- Shape

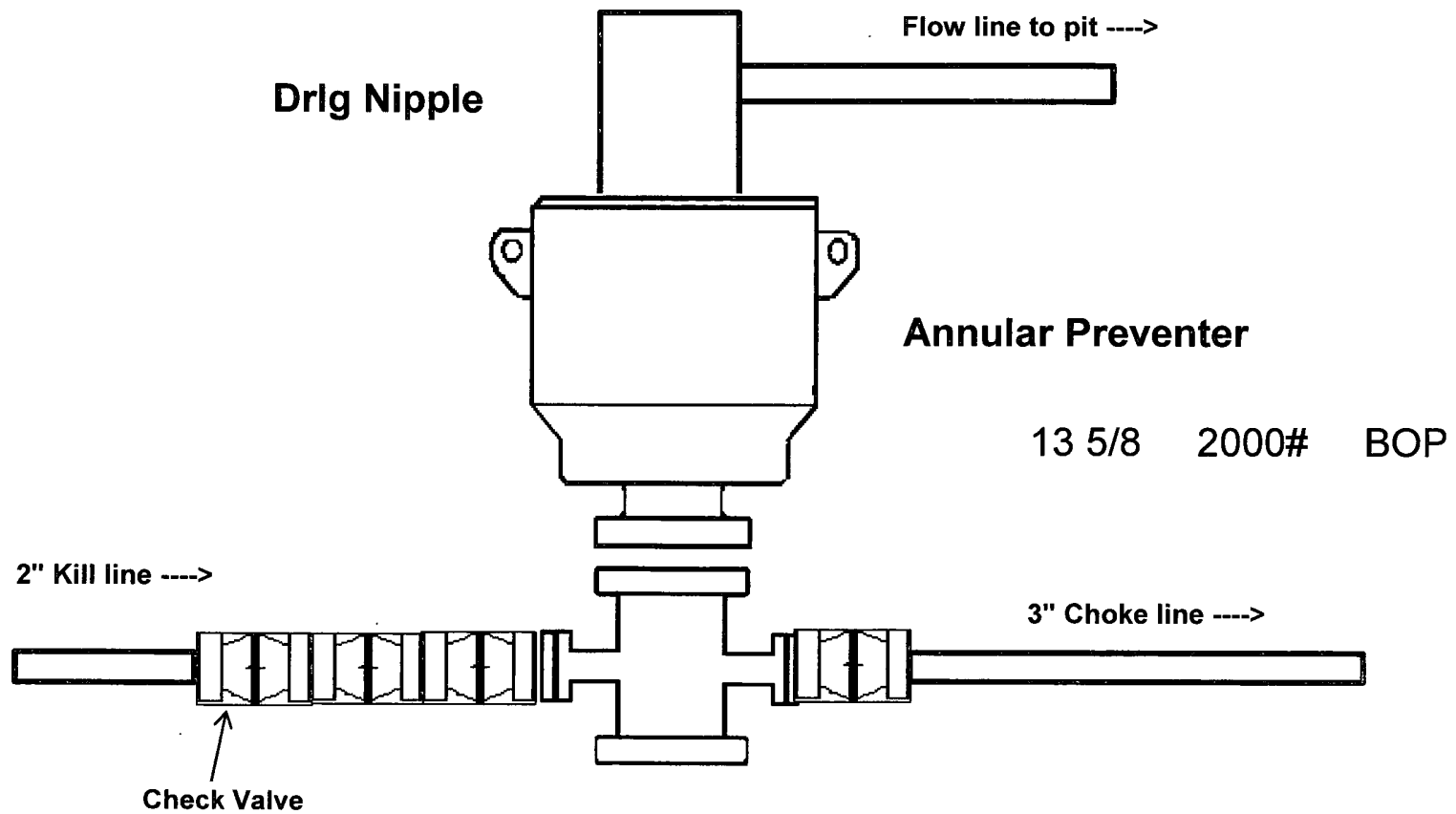
	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Peashooter 4 Federal Co - plan hits target center	0 00	0 00	9,410 0	-4,580 6	-359 3	612,630 70	670,814 80	32° 40' 58 774 N	103° 46' 41 367 W

- Circle (radius 0 0)

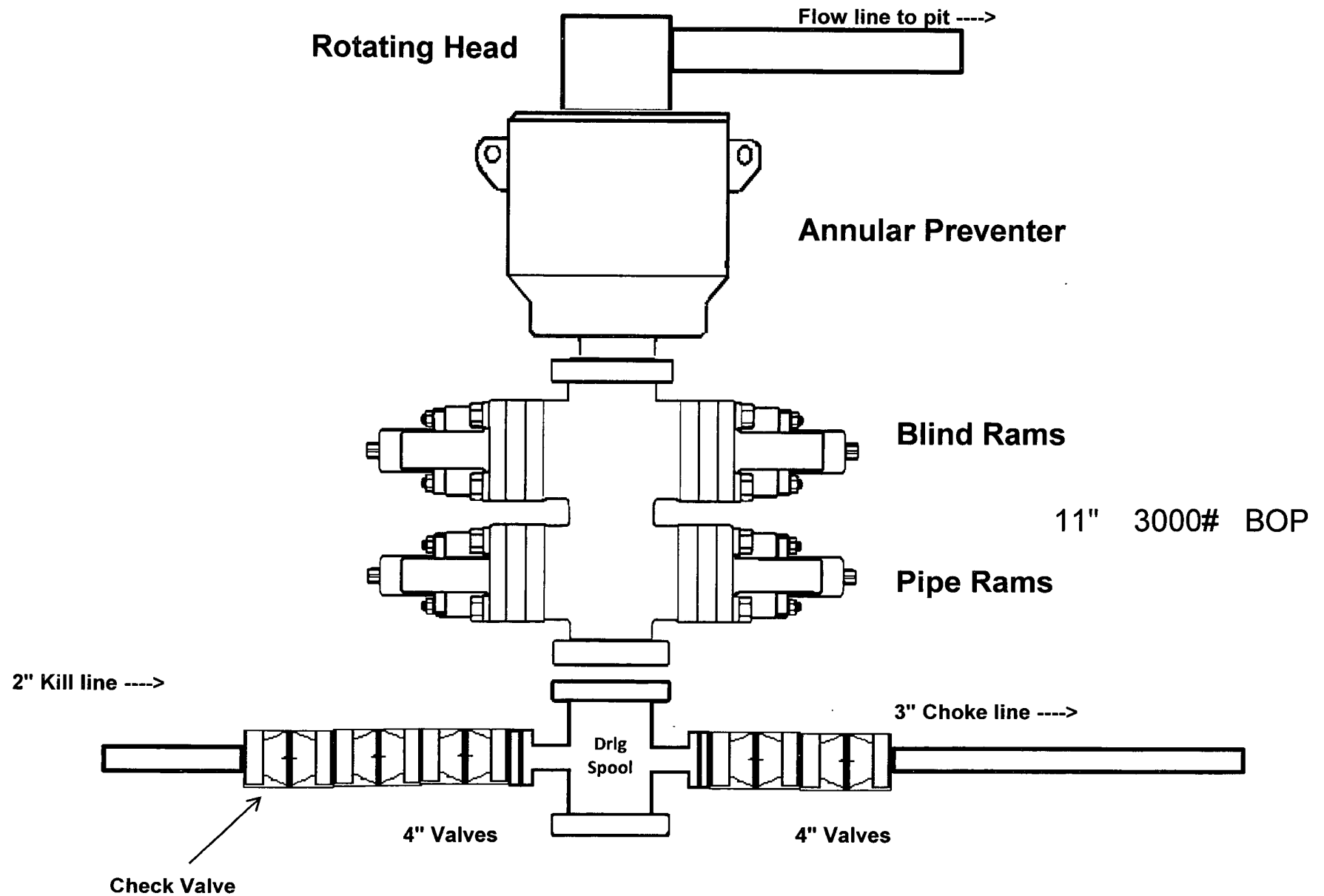
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,897.6	8,897.6	0.0	0.0	Build 12°/100 @ 8897.6' MD
9,643.6	9,375.0	-472.0	-37.0	EOB/SOH @ 9644' MD / 89.51° Inc / 184.49° Azm
13,765.0	9,410.0	-4,580.6	-359.3	PBHL @ 13765' MD

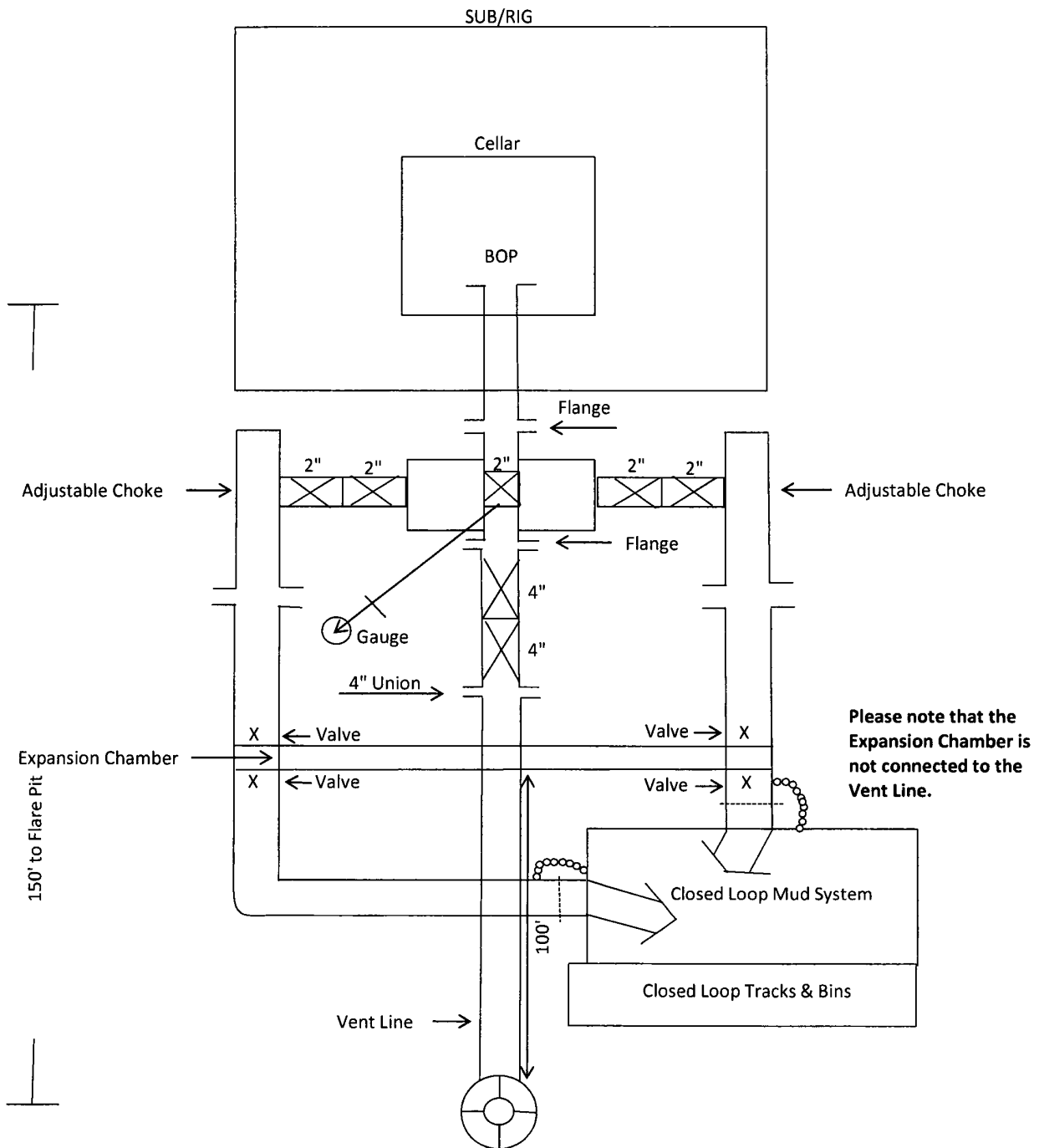
2,000 psi BOP Schematic



3,000 psi BOP Schematic



2M Choke Manifold Equipment



3M Choke Manifold Equipment

