

HOBBS OCD

JUN 17 2013

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

5. Lease Serial No.
SHL: NMNM111962, BHL: NMNM122643

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

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

8. Lease Name and Well No. 38876
Peashooter 4 Federal Com #3H

2. Name of Operator

COG Operating LLC.

<229137>

9. API Well No.

30-025-41214

3a. Address

2208 West Main Street
Artesia, NM 88210

3b. Phone No. (include area code)

575-748-6940

10. Field and Pool, or Exploratory

Lusk; Bone Spring, North 41450

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

At surface 190' FSL & 1980' FWL Unit Letter N (SESW) SHL Sec 4-T19S-R32E

At proposed prod. Zone 330' FNL & 1980' FWL Unit Letter C (NENW) BHL Sec 4-T19S-R32E

11. Sec., T.R.M. or Blk and Survey or Area

Sec. 4 - T19S - R32E

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

About 12 miles from Maljamar

12. County or Parish

Lea County

13. State

NM

15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. Unit line, if any)

190'

16. No. of acres in lease

SHL: 120
BHL: 280

17. Spacing Unit dedicated to this well

160

18. Distance from location*
to nearest well, drilling, completed,
applied for, on this lease, ft.

SHL: 615' BHL: 1221'
Closest to the wellbore: 0'

19. Proposed Depth

TVD: 9,450' MD: 13,911'

20. BLM/BIA Bond No. on file

NMB000740 & NMB000215

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

3657.5 GL

22. Approximate date work will start*

8/1/2013

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:

- Well plat certified by a registered surveyor.
- A Drilling Plan
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature

Name (Printed/Typed)

Date

Title

Regulatory Analyst

Approved by (Signature)

/s/ James Stovall

Name (Printed/Typed)

Date

JUN 12 2013

Title

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

K2 06/18/13

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

JUN 18 2013

COG Operating LLC
DRILLING AND OPERATIONS PROGRAM
Peashooter 4 Federal Com 3H
SHL: 190' FSL & 1980' FWL
BHL: 330' FNL & 1980' FWL
Section 4 T19S R32E
Lea County, New Mexico

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	225'	
Rustler	1152'	
Top of Salt	1232'	
Base of Salt	2770'	
Yates	3002'	
Seven Rivers	3266'	
Grayburg	4396'	
Delaware	5494'	Oil
Bone Spring	7126'	Oil
TD TVD	9450'	
TD MD	13911'	

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 1180' 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 a minimum of 500' into the 9-5/8" casing.

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

Hole Size	Depths <i>See COA</i>	Section	OD Casing	New/Used	Wt	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 1/2"	0' - 1180' 1247'	Surface	13 3/8"	New	54.5#	STC	J-55	1.125	1.125	1.6
12 1/4"	0' - 3100' 2950'	Intrmd	9 5/8"	New	36#	LTC	J-55	1.125	1.125	1.6
7 7/8"	0' - 13,911'	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: 525 sx Class C + 4% Gel + 2% CaCl ₂
(13.5 ppg / 1.75 cuft/sx)
Tail: 250 sx Class C + 2% CaCl ₂
(14.8 ppg / 1.34 cuft/sx)
**Calculated w/50% excess on OH volumes |
| b. 9 5/8" Intermediate: | Lead: 550 sx Class C + 4% Gel + 2% CaCl ₂
(13.5 ppg / 1.75 cuft/sx)
Tail: 250 sx Class C + 2% CaCl ₂
(14.8 ppg / 1.34 cuft/sx)
**Calculated w/35% excess on OH volumes |
| c. 5 1/2" Production | Lead: 800 sx 35:65:6 H + Salt+Gilsonite+CFR-3+ HR601
(12.7 ppg / 1.89 cuft/sx)
Tail: 950 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.
- The 9-5/8" intermediate string is designed to circulate cement to surface.
- The production string will tie back a minimum of 500' into the 9-5/8" casing.

5. Control:

Nipple up on 13 3/8 with annular preventer tested to 50% of rated working pressure by independent tester and the rest of the 2M system tested to 2000 psi.

Nipple up on 9 5/8 with 3M system tested to 3000 psi 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 minimum 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. A remotely operated choke will be installed before drilling out intermediate shoe.

6. Estimated BHP & BHT:

Lateral TD = 4324 psi

Lateral TD= 150°F

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

Depth	Type System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0' - 1180' ¹²⁴⁷	Fresh Water	8.4	29	N.C.
1180' - 3100'	Brine	10	29	N.C.
²⁹⁵⁰ 3100 - 13,911' (Lateral)	Cut Brine	8.8 - 9.2	29	N.C.

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

- A visual and electronic mud monitoring system will be rigged up prior to spud to detect changes in the volume of mud system. The electronic system consists of a pit volume total, stroke counter and flow sensor at flow line.
- If weight and/or viscosity are introduced to the mud system a daily mud check will be performed by mud contractor, along with tourly check by rig personnel.
- After setting intermediate casing, a third party gas unit detection system will be installed at the flow line.

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 CMA

- a. Drill stem tests will be based on geological sample shows.
- b. If open hole electrical logging is performed, the 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. 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 soon 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.



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00073			LE	2	4	34	19S	32E	617502	3609301*	575			
CP 00075			LE	2	4	34	19S	32E	617502	3609301*	575			
CP 00639 EXPL			LE	3	1	20	19S	32E	613029	3612880*	350	345		5
CP 00640 EXPL			LE	2	2	19	19S	32E	612621	3613280*	260	102		158

Average Depth to Water: **223 feet**

Minimum Depth: **102 feet**

Maximum Depth: **345 feet**

Record Count: 4

PLSS Search:

Township: 19S

Range: 32E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 4

Township: 19S

Range: 32E

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

4/25/13 11:36 AM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



COG Peashooter 4 Federal Com #3H Rev0 MDT 16Apr13 Proposal Geodetic Report (Def Plan)

PATHFINDER
A Schlumberger Company

Report Date: April 25, 2013 - 03:31 PM
Client: COG
Field: NM Lea County (NAD 27)
Structure / Slot: COG Peashooter 4 Federal Com #3H / COG Peashooter 4 Federal Com #3H
Well: COG Peashooter 4 Federal Com #3H
Borehole: Original Borehole
UWI / API#: Patriot 6 / Unknown
Survey Name: COG Peashooter 4 Federal Com #3H Rev0 MDT 16Apr13
Survey Date: April 16, 2013
Tort / AHD / DDI / ERD Ratio: 88.667° / 4764.328 ft / 5.794 / 0.504
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 40' 57.40512", W 103° 46' 22.65582"
Location Grid N/E Y/X: N 612500.800 ftUS, E 672414.700 ftUS
CRS Grid Convergence Angle: 0.3026°
Grid Scale Factor: 0.99994313

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 359.745° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3675.500 ft above
Seabed / Ground Elevation: 3657.500 ft above
Magnetic Declination: 7.596°
Total Gravity Field Strength: 998.5007 mgn (9.80665 Based)
Total Magnetic Field Strength: 48660.022 nT
Magnetic Dip Angle: 60.493°
Declination Date: April 16, 2013
Magnetic Declination Model: BGGM 2012
North Reference: Grid North
Grid Convergence Used: 0.3026°
Total Corr Mag North->Grid North: 7.2937°
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	359.75	0.00	0.00	0.00	0.00	N/A	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
KOP Build @ 12"	8872.66	0.00	359.75	8872.66	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
DLS	9611.55	88.67	359.75	9350.00	466.36	466.35	-2.08	12.00	612967.13	672412.62	N 32 41 2.02	W 103 46 22.65
Landing Point												
COG Peashooter 4												
Federal Com #3H	13910.69	88.67	359.75	9450.00	4764.33	4764.28	-21.20	0.00	617264.80	672393.50	N 32 41 44.55	W 103 46 22.61
PBHL												

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	18.000	1/100.000	30.000	30.000	SLB_MWD-STD-Depth Only	Original Borehole / COG Peashooter 4 Federal Com #3H
	18.000	13910.685	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / COG Peashooter 4 Federal Com #3H



COG Peashooter 4 Federal Com #3H Rev0 MDT 16Apr13 Proposal Geodetic Report (Def Plan)

PATHFINDER
A Schlumberger Company

Report Date: April 25, 2013 - 03:31 PM
Client: COG
Field: NM Lea County (NAD 27)
Structure / Slot: COG Peashooter 4 Federal Com #3H / COG Peashooter 4 Federal Com #3H
Well: COG Peashooter 4 Federal Com #3H
Borehole: Original Borehole
UWI / API#: Patriot 6 / Unknown
Survey Name: COG Peashooter 4 Federal Com #3H Rev0 MDT 16Apr13
Survey Date: April 16, 2013
Tort / AHD / DDI / ERD Ratio: 88.667 * / 4764.328 ft / 5.794 / 0.504
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 40' 57.40512", W 103° 46' 22.85582"
Location Grid N/E Y/X: N 612500.800 ftUS, E 672414.700 ftUS
CRS Grid Convergence Angle: 0.3026 *
Grid Scale Factor: 0.99994313

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 359.745 * (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3675.500 ft above
Seabed / Ground Elevation: 3657.500 ft above
Magnetic Declination: 7.596 *
Total Gravity Field Strength: 998.5007 mgn (9.80665 Based)
Total Magnetic Field Strength: 48660.022 nT
Magnetic Dip Angle: 60.493 *
Declination Date: April 16, 2013
Magnetic Declination Model: BGM 2012
North Reference: Grid North
Grid Convergence Used: 0.3026 *
Total Corr Mag North->Grid North: 7.2937 *
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (*/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	359.75	0.00	0.00	0.00	0.00	N/A	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	100.00	0.00	359.75	100.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	200.00	0.00	359.75	200.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	300.00	0.00	359.75	300.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	400.00	0.00	359.75	400.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	500.00	0.00	359.75	500.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	600.00	0.00	359.75	600.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	700.00	0.00	359.75	700.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	800.00	0.00	359.75	800.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	900.00	0.00	359.75	900.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	1000.00	0.00	359.75	1000.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	1100.00	0.00	359.75	1100.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	1200.00	0.00	359.75	1200.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	1300.00	0.00	359.75	1300.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	1400.00	0.00	359.75	1400.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	1500.00	0.00	359.75	1500.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	1600.00	0.00	359.75	1600.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	1700.00	0.00	359.75	1700.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	1800.00	0.00	359.75	1800.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	1900.00	0.00	359.75	1900.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	2000.00	0.00	359.75	2000.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	2100.00	0.00	359.75	2100.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	2200.00	0.00	359.75	2200.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	2300.00	0.00	359.75	2300.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	2400.00	0.00	359.75	2400.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	2500.00	0.00	359.75	2500.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	2600.00	0.00	359.75	2600.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	2700.00	0.00	359.75	2700.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	2800.00	0.00	359.75	2800.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	2900.00	0.00	359.75	2900.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	3000.00	0.00	359.75	3000.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	3100.00	0.00	359.75	3100.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	3200.00	0.00	359.75	3200.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	3300.00	0.00	359.75	3300.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	3400.00	0.00	359.75	3400.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	3500.00	0.00	359.75	3500.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	3600.00	0.00	359.75	3600.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	3700.00	0.00	359.75	3700.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	3800.00	0.00	359.75	3800.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	3900.00	0.00	359.75	3900.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	4000.00	0.00	359.75	4000.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	4100.00	0.00	359.75	4100.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	4200.00	0.00	359.75	4200.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	4300.00	0.00	359.75	4300.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	4400.00	0.00	359.75	4400.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	4500.00	0.00	359.75	4500.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	4600.00	0.00	359.75	4600.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	4700.00	0.00	359.75	4700.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	4800.00	0.00	359.75	4800.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	4900.00	0.00	359.75	4900.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	5000.00	0.00	359.75	5000.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	5100.00	0.00	359.75	5100.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	5200.00	0.00	359.75	5200.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	5300.00	0.00	359.75	5300.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	5400.00	0.00	359.75	5400.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	5500.00	0.00	359.75	5500.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	5600.00	0.00	359.75	5600.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	5700.00	0.00	359.75	5700.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	5800.00	0.00	359.75	5800.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	5900.00	0.00	359.75	5900.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	6000.00	0.00	359.75	6000.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	6100.00	0.00	359.75	6100.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	6200.00	0.00	359.75	6200.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	6300.00	0.00	359.75	6300.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6400.00	0.00	359.75	6400.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	6500.00	0.00	359.75	6500.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	6600.00	0.00	359.75	6600.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	6700.00	0.00	359.75	6700.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	6800.00	0.00	359.75	6800.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	6900.00	0.00	359.75	6900.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	7000.00	0.00	359.75	7000.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	7100.00	0.00	359.75	7100.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	7200.00	0.00	359.75	7200.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	7300.00	0.00	359.75	7300.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	7400.00	0.00	359.75	7400.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	7500.00	0.00	359.75	7500.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	7600.00	0.00	359.75	7600.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	7700.00	0.00	359.75	7700.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	7800.00	0.00	359.75	7800.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	7900.00	0.00	359.75	7900.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	8000.00	0.00	359.75	8000.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	8100.00	0.00	359.75	8100.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	8200.00	0.00	359.75	8200.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	8300.00	0.00	359.75	8300.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	8400.00	0.00	359.75	8400.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	8500.00	0.00	359.75	8500.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	8600.00	0.00	359.75	8600.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	8700.00	0.00	359.75	8700.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	8800.00	0.00	359.75	8800.00	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
KOP Build @ 12° DLS	8872.66	0.00	359.75	8872.66	0.00	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.41	W 103 46 22.66
	8900.00	3.28	359.75	8899.99	0.78	0.78	0.00	12.00	612501.58	672414.70	N 32 40 57.41	W 103 46 22.66
	9000.00	15.28	359.75	8998.50	16.88	16.88	-0.08	12.00	612517.68	672414.62	N 32 40 57.57	W 103 46 22.66
	9100.00	27.28	359.75	9091.51	53.11	53.11	-0.24	12.00	612553.90	672414.46	N 32 40 57.93	W 103 46 22.66
	9200.00	39.28	359.75	9174.95	107.88	107.88	-0.48	12.00	612608.67	672414.22	N 32 40 58.47	W 103 46 22.65
	9300.00	51.28	359.75	9245.19	178.81	178.81	-0.80	12.00	612679.60	672413.90	N 32 40 59.17	W 103 46 22.65
	9400.00	63.28	359.75	9299.14	262.79	262.79	-1.17	12.00	612763.57	672413.53	N 32 41 0.01	W 103 46 22.65
	9500.00	75.28	359.75	9334.46	356.15	356.15	-1.58	12.00	612856.93	672413.12	N 32 41 0.93	W 103 46 22.65
	9600.00	87.28	359.75	9349.59	454.81	454.81	-2.02	12.00	612955.58	672412.68	N 32 41 1.91	W 103 46 22.65
Landing Point	9611.55	88.67	359.75	9350.00	466.35	466.35	-2.08	12.00	612967.13	672412.62	N 32 41 2.02	W 103 46 22.65
	9700.00	88.67	359.75	9352.05	554.78	554.78	-2.47	0.00	613055.54	672412.23	N 32 41 2.89	W 103 46 22.65
	9800.00	88.67	359.75	9354.38	654.75	654.75	-2.91	0.00	613155.51	672411.79	N 32 41 3.88	W 103 46 22.65
	9900.00	88.67	359.75	9356.71	754.73	754.73	-3.36	0.00	613255.48	672411.34	N 32 41 4.87	W 103 46 22.65
	10000.00	88.67	359.75	9359.03	854.70	854.69	-3.80	0.00	613355.44	672410.90	N 32 41 5.86	W 103 46 22.65
	10100.00	88.67	359.75	9361.36	954.67	954.66	-4.25	0.00	613455.41	672410.45	N 32 41 6.85	W 103 46 22.65
	10200.00	88.67	359.75	9363.68	1054.65	1054.64	-4.69	0.00	613555.37	672410.01	N 32 41 7.84	W 103 46 22.65
	10300.00	88.67	359.75	9366.01	1154.62	1154.61	-5.14	0.00	613655.34	672409.56	N 32 41 8.83	W 103 46 22.64
	10400.00	88.67	359.75	9368.34	1254.59	1254.58	-5.58	0.00	613755.31	672409.12	N 32 41 9.82	W 103 46 22.64
	10500.00	88.67	359.75	9370.66	1354.57	1354.55	-6.03	0.00	613855.27	672408.67	N 32 41 10.81	W 103 46 22.64
	10600.00	88.67	359.75	9372.99	1454.54	1454.52	-6.47	0.00	613955.24	672408.23	N 32 41 11.80	W 103 46 22.64
	10700.00	88.67	359.75	9375.31	1554.51	1554.50	-6.92	0.00	614055.20	672407.78	N 32 41 12.79	W 103 46 22.64
	10800.00	88.67	359.75	9377.64	1654.48	1654.47	-7.36	0.00	614155.17	672407.34	N 32 41 13.78	W 103 46 22.64
	10900.00	88.67	359.75	9379.97	1754.46	1754.44	-7.81	0.00	614255.14	672406.89	N 32 41 14.76	W 103 46 22.64
	11000.00	88.67	359.75	9382.29	1854.43	1854.41	-8.25	0.00	614355.10	672406.45	N 32 41 15.75	W 103 46 22.64
	11100.00	88.67	359.75	9384.62	1954.40	1954.38	-8.70	0.00	614455.07	672406.00	N 32 41 16.74	W 103 46 22.64
	11200.00	88.67	359.75	9386.95	2054.38	2054.36	-9.14	0.00	614555.03	672405.56	N 32 41 17.73	W 103 46 22.64
	11300.00	88.67	359.75	9389.27	2154.35	2154.33	-9.59	0.00	614655.00	672405.11	N 32 41 18.72	W 103 46 22.63
	11400.00	88.67	359.75	9391.60	2254.32	2254.30	-10.03	0.00	614754.97	672404.67	N 32 41 19.71	W 103 46 22.63
	11500.00	88.67	359.75	9393.92	2354.29	2354.27	-10.48	0.00	614854.93	672404.22	N 32 41 20.70	W 103 46 22.63
	11600.00	88.67	359.75	9396.25	2454.27	2454.24	-10.92	0.00	614954.90	672403.78	N 32 41 21.69	W 103 46 22.63
	11700.00	88.67	359.75	9398.58	2554.24	2554.22	-11.37	0.00	615054.87	672403.33	N 32 41 22.68	W 103 46 22.63
	11800.00	88.67	359.75	9400.90	2654.21	2654.19	-11.81	0.00	615154.83	672402.89	N 32 41 23.67	W 103 46 22.63
	11900.00	88.67	359.75	9403.23	2754.19	2754.16	-12.26	0.00	615254.80	672402.44	N 32 41 24.66	W 103 46 22.63
	12000.00	88.67	359.75	9405.55	2854.16	2854.13	-12.70	0.00	615354.76	672402.00	N 32 41 25.65	W 103 46 22.63
	12100.00	88.67	359.75	9407.88	2954.13	2954.10	-13.15	0.00	615454.73	672401.55	N 32 41 26.64	W 103 46 22.63
	12200.00	88.67	359.75	9410.21	3054.11	3054.08	-13.59	0.00	615554.70	672401.11	N 32 41 27.62	W 103 46 22.63
	12300.00	88.67	359.75	9412.53	3154.08	3154.05	-14.04	0.00	615654.66	672400.67	N 32 41 28.61	W 103 46 22.63
	12400.00	88.67	359.75	9414.86	3254.05	3254.02	-14.48	0.00	615754.63	672400.22	N 32 41 29.60	W 103 46 22.62
	12500.00	88.67	359.75	9417.19	3354.02	3353.99	-14.93	0.00	615854.59	672399.78	N 32 41 30.59	W 103 46 22.62
	12600.00	88.67	359.75	9419.51	3454.00	3453.96	-15.37	0.00	615954.56	672399.33	N 32 41 31.58	W 103 46 22.62
	12700.00	88.67	359.75	9421.84	3553.97	3553.93	-15.82	0.00	616054.53	672398.89	N 32 41 32.57	W 103 46 22.62
	12800.00	88.67	359.75	9424.16	3653.94	3653.91	-16.26	0.00	616154.49	672398.44	N 32 41 33.56	W 103 46 22.62
	12900.00	88.67	359.75	9426.49	3753.92	3753.88	-16.70	0.00	616254.46	672398.00	N 32 41 34.55	W 103 46 22.62
	13000.00	88.67	359.75	9428.82	3853.89	3853.85	-17.15	0.00	616354.42	672397.55	N 32 41 35.54	W 103 46 22.62
	13100.00	88.67	359.75	9431.14	3953.86	3953.82	-17.59	0.00	616454.39	672397.11	N 32 41 36.53	W 103 46 22.62
	13200.00	88.67	359.75	9433.47	4053.83	4053.79	-18.04	0.00	616554.36	672396.66	N 32 41 37.52	W 103 46 22.62
	13300.00	88.67	359.75	9435.79	4153.81	4153.77	-18.48	0.00	616654.32	672396.22	N 32 41 38.51	W 103 46 22.62
	13400.00	88.67	359.75	9438.12	4253.78	4253.74	-18.93	0.00	616754.29	672395.77	N 32 41 39.50	W 103 46 22.61
	13500.00	88.67	359.75	9440.45	4353.75	4353.71	-19.37	0.00	616854.25	672395.33	N 32 41 40.48	W 103 46 22.61
	13600.00	88.67	359.75	9442.77	4453.73	4453.68	-19.82	0.00	616954.22	672394.88	N 32 41 41.47	W 103 46 22.61
	13700.00	88.67	359.75	9445.10	4553.70	4553.65	-20.26	0.00	617054.19	672394.44	N 32 41 42.46	W 103 46 22.61
	13800.00	88.67	359.75	9447.43	4653.67	4653.63	-20.71	0.00	617154.15	672		

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (%/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type		Borehole / Survey				
	0.000	18.000		1/100.000	30.000	30.000	SLB_MWD-STD-Depth Only	Original Borehole / COG				
	18.000	13910.685		1/100.000	30.000	30.000	SLB_MWD-STD	Peashooter 4 Federal Com #3H				
								Original Borehole / COG				
								Peashooter 4 Federal Com #3H				



COG

Rev0

PATHFINDER
A Schlumberger Company

WELL	COG Peashooter 4 Federal Com #3H		FIELD	NM Lea County (NAD 27)		STRUCTURE	Patriot 6	
Magnetic Parameters	Model:	DUGIM 2012	Dip:	AG 491°	Date:	April 16, 2013	Surface Location	NAD27 New Mexico State Plane, Eastern Zone, UN Feet
			Mag Dec:	7.59°		49040.0e7	Lat:	N 32 40 57.405
							Long:	W 103 46 22.656
							Marking:	612500.80 DLS
							Utd Corr:	0.901°
							Scale Fact:	0.99994313
MacroEasings	Site:	Peashooter 4 Federal Com #3H		TVD Ref:	RKB/1675.50 above		Plan:	Rev0 MDT 16 Apr 13
				Survey Date:	April 16, 2013			

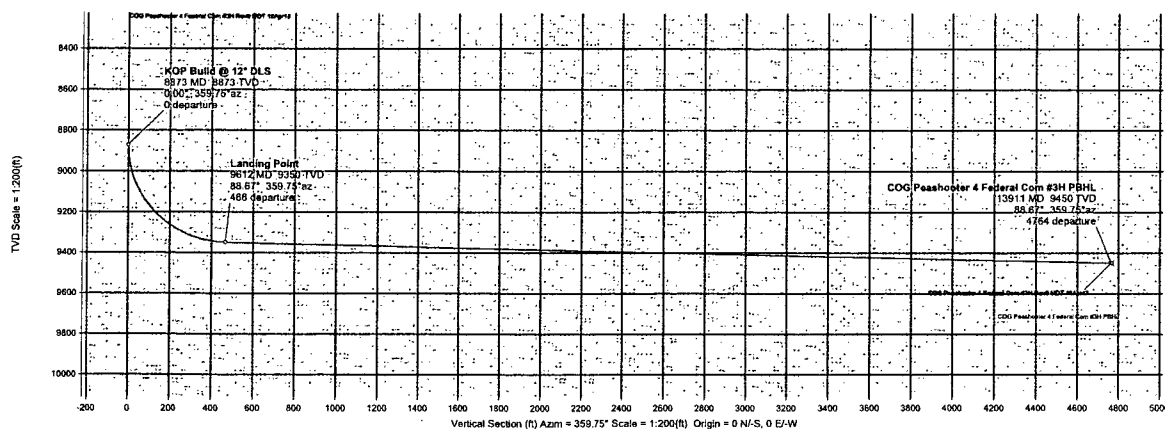
Legend

COG Peashooter 4 Federal Com #3H PBHL
COG Peashooter 4 Federal Com #3H MD
COG Peashooter 4 Federal Com #3H DLS
COG Peashooter 4 Federal Com #3H Landing Point

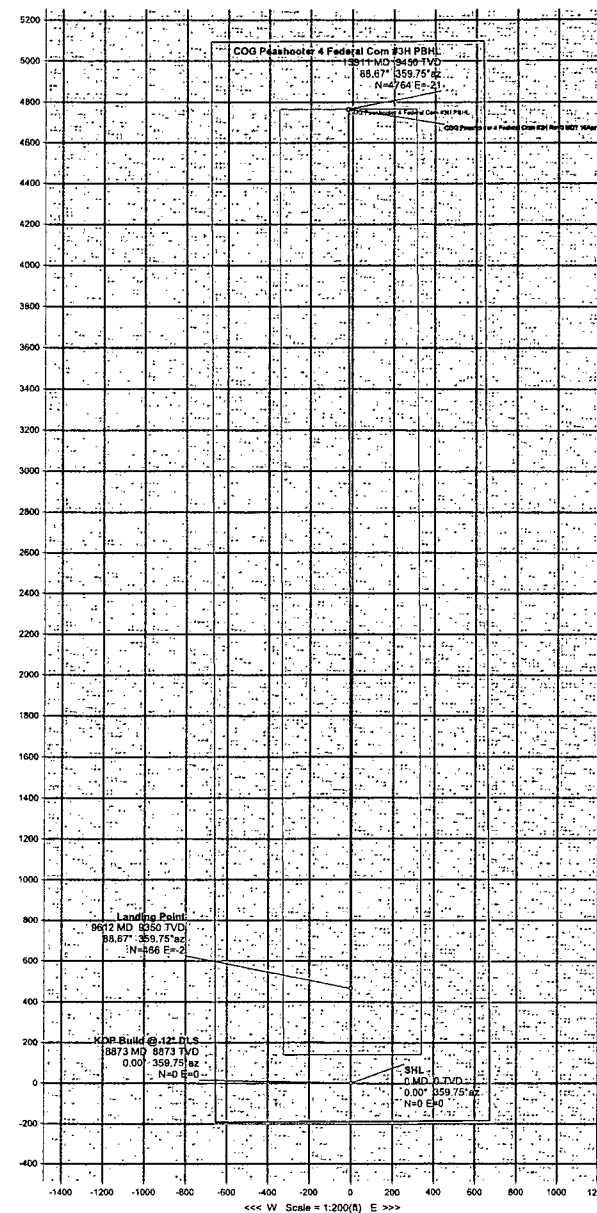


Grid North
Tot Corr (M->G)
7.2937°
Mag Dec (7.59°)
Grid Conv (0.303°)

Comments	Survey MD(ft)	Inclination(deg)	Azimuth(deg)	TVD(ft)	Sub Sea(TVD)	VS(ft)	NS(ft)	EW(ft)	Northing(ftUS)	Easting(ftUS)	Latitude(deg)	Longitude(deg)	DLS(ft)	Tool Face(deg)
SHL	0.00	0.00	359.75	0.00	-3675.50	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.405	W 103 46 22.656	359.75	
KOP Build @ 12° DLS	8872.66	0.00	359.75	8872.66	5197.16	0.00	0.00	0.00	612500.80	672414.70	N 32 40 57.405	W 103 46 22.656	0.00	359.75
Landing Point	9611.55	88.67	359.75	9350.00	5674.50	466.36	466.35	-2.08	612967.13	672412.62	N 32 41 2.020	W 103 46 22.651	12.00	0.00
COG Peashooter 4 Federal Com #3H PBHL	13910.69	88.67	359.75	9450.00	5774.50	4764.33	4764.28	-21.20	617264.80	672393.50	N 32 41 44.547	W 103 46 22.609	0.00	

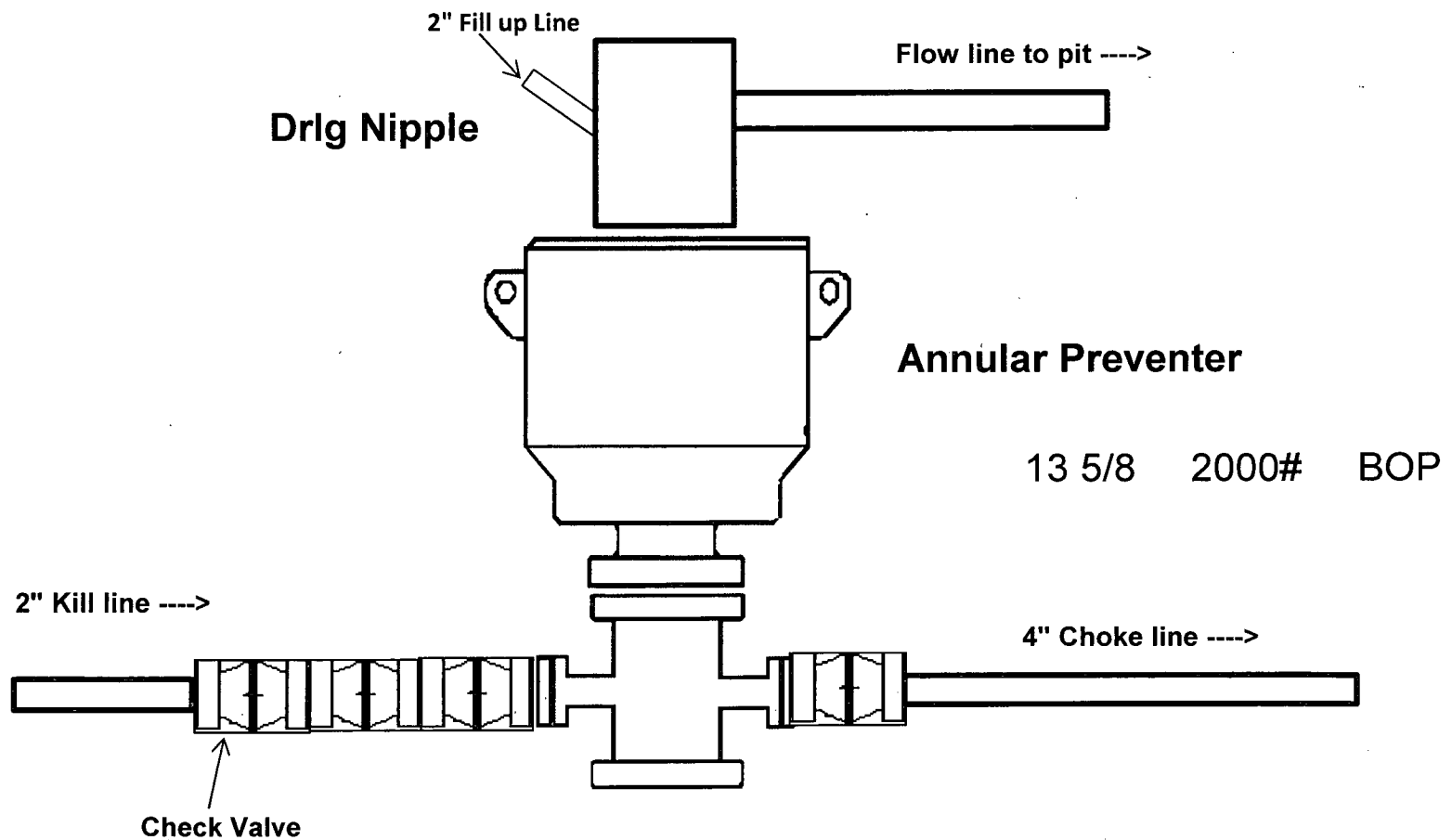


<<< S Scale = 1:200(ft) N >>>

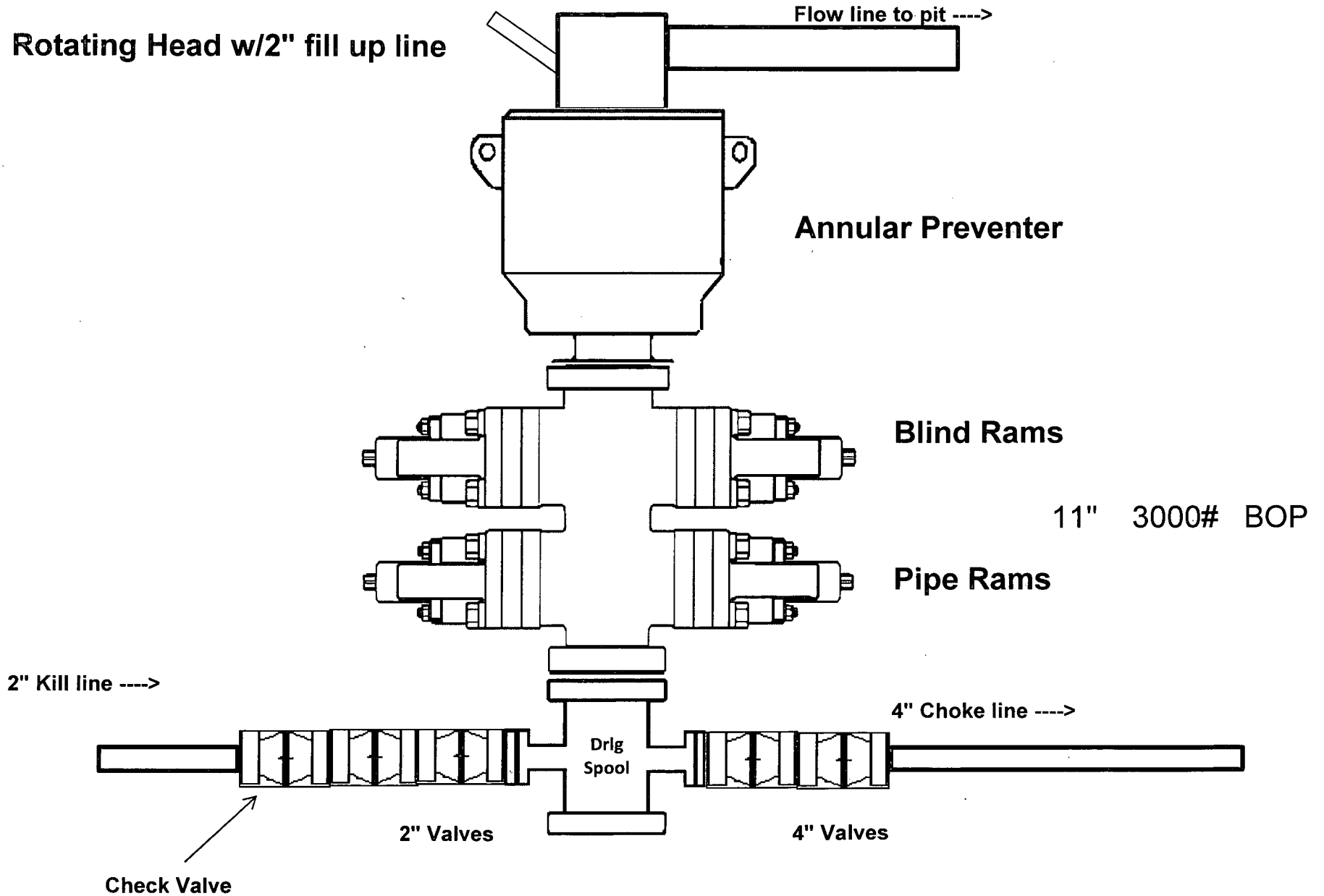


Drawn By: Current User
Data Created: April 25, 2013 03:26:29 PM
Checked By:
Checked Date:
Approved By:
Approved Date:

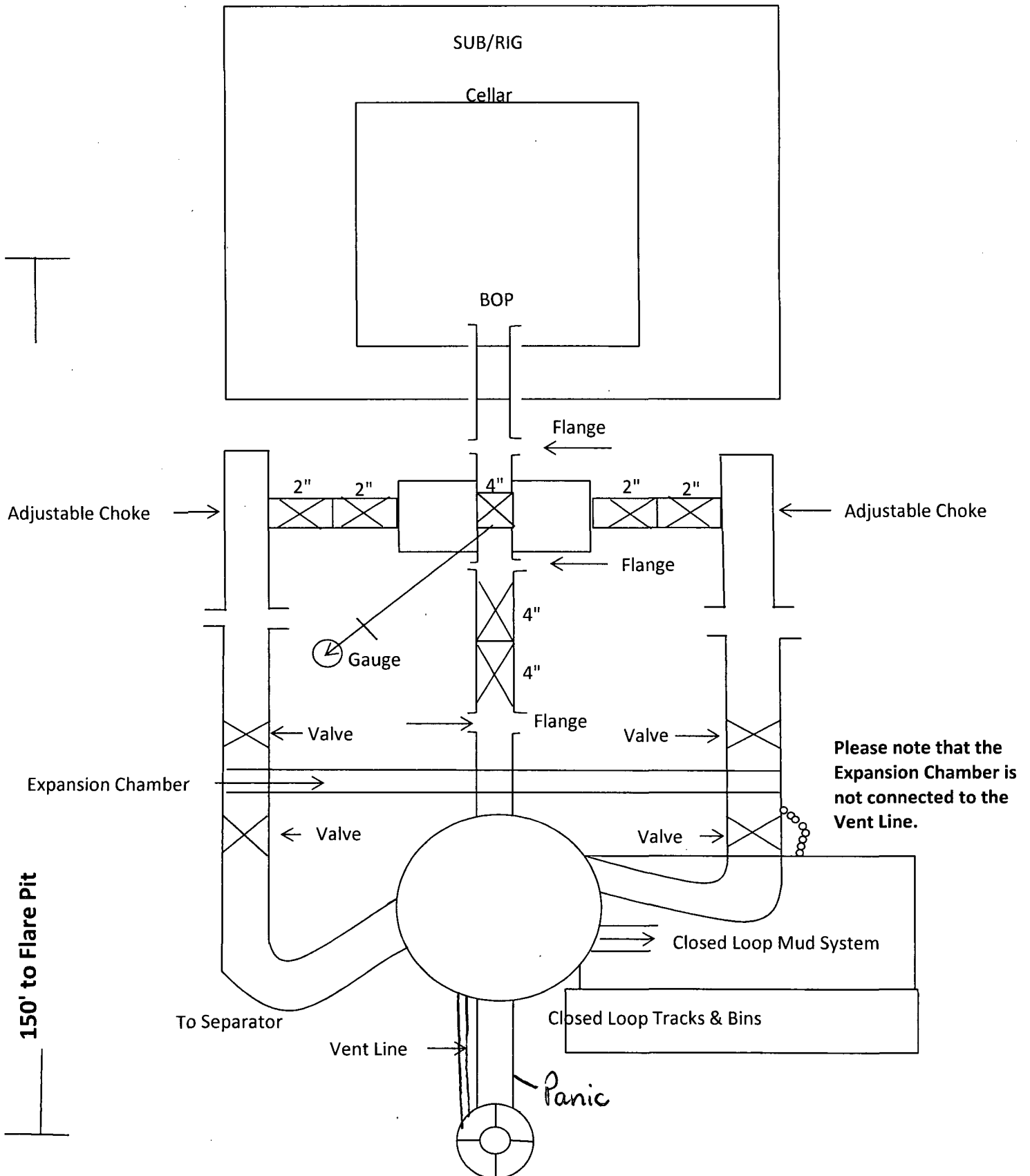
2,000 psi BOP Schematic



3,000 psi BOP Schematic



2M Choke Manifold Equipment



3M Choke Manifold Equipment

