

Form 3160-3
(March 2012)

OCD Hobbs

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires October 31, 2014HOBBSDO
FEB 02 2015

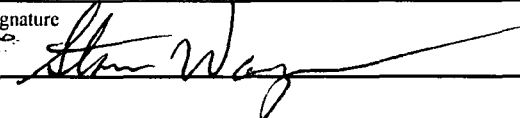
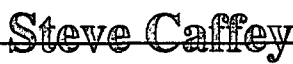
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM19858	
1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator EOG Resources, Inc.		7. Unit or CA Agreement Name and No.	
3a. Address P.O. Box 2267 Midland, TX 79702		8. Lease Name and Well No. Hawk 35 Fed 8H	
3b. (Phone No. (include area code) 432-686-3689		9. API Well No. 30-025-42411	
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 500' FNL & 1977' FEL, NWNE (B), Sec 35 24S 33E At proposed prod. zone 230' FNL & 1379' FEL, NWNE (B), Sec 26 24S 33E		10. Field and Pool, or Exploratory Red Hills; Upper BS Shale	
14. Distance in miles and direction from nearest town or post office* Approximately +/- 21 miles WNW from Jal NM		11. Sec., T., R., M., or Blk. and Survey or Area Sec 35, T24S, R33E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 500' OL, 66' LL		12. County or Parish Lea	
16. No. of Acres in lease 1440		13. State NM	
17. Spacing Unit dedicated to this well 160 acres			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30' to 8H		19. Proposed Depth 14970 M - 9526 V	
20. BLM/BIA Bond No. on file NM 2308			
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3519' GL		22. Approximate date work will start* 8/1/2014	
23. Estimated duration 20 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. | 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 must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM |

25. Signature 	Name (Printed/Typed) Stan Wagner	Date 1/29/14
Title Regulatory Analyst		
Approved by (Signature) 	Name (Printed/Typed) Steve Caffey	Date JAN 26 2015
Title FIELD MANAGER		
Office CARLSBAD FIELD OFFICE		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

K = 02/02/15

P

Approval Subject to General Requirements
& Special Stipulations AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL

FEB 03 2015

OPERATOR CERTIFICATION

I certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal Laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true, and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 28th day of January, 2014.

Name: Roger Motley

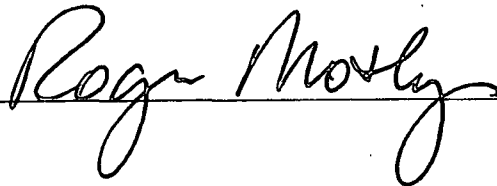
Position: Land Specialist

Address: P.O. Box 2267, Midland, TX 79705

Telephone: (432) 686-3642

Email: roger_motley@eogresources.com

Signed

A handwritten signature in cursive script, reading "Roger Motley", is written over a horizontal line.

EOG RESOURCES, INC.
HAWK 35 FED NO. 8H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,210'
Top of Salt	1,460'
Base of Salt	4,962'
Base Anhydrite	5,150'
Lamar	5,223'
Bell Canyon	5,253'
Cherry Canyon	6,350'
Brushy Canyon	7,760'
Bone Spring Lime	9,260'
TD	9,480'

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Upper Permian Sands	0- 400'	Fresh Water
Cherry Canyon	6,350'	Oil
Brushy Canyon	7,760'	Oil
Bone Spring Lime	9,260'	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 13.375" casing at 1,300' and circulating cement back to surface.

4. CASING PROGRAM - NEW

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0 – 1,300'	13.375"	54.5#	J55	STC	1.125	1.25	1.60
12.25"	0-4,000'	9.625"	40#	J55	LTC	1.125	1.25	1.60
12.25"	4,000' – 5,100'	9.625"	40#	HCK55	LTC	1.125	1.25	1.60
8.75"	0'-14,970'	5.500"	17#	P110 or HCP110	LTC	1.125	1.25	1.60

EOG RESOURCES, INC.
HAWK 35 FED NO. 8H

Cementing Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /ft	Mix Water Gal/sk	Slurry Description
13-3/8" 1,300'	600	13.5	1.73	9.13	Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ surface)
	300	14.8	1.34	6.34	Tail: Class C + 0.005 pps Static Free + 2% CaCl ₂ + 0.25 pps CelloFlake + 0.005 gps FP-6L
9-5/8" 5,100'	1000	12.7	2.22	12.38	Lead: Class 'C' + 1.50% R-3 + 0.25 lb/sk Cello-Flake + 2.0% Sodium Metasilicate + 10% Salt + 0.005 lb/sk Static Free (TOC @ surface)
	200	14.8	1.32	6.33	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
5-1/2" 14,970'	375	10.8	3.67	21.7	Lead: 60:40:0 Class 'C' + 15.00 lb/sk BA-90 + 4.00% MPA-5 + 3.00% SMS + 5.00% A-10 + 1.00% BA-10A + 0.80% ASA-301 + 2.90% R-21 + 8.00 lb/sk LCM-1 + 0.005 lb/sk Static Free (TOC @ 4600')
	400	11.8	2.38	13.25	Middle: 50:50:10 Class 'H' + 0.80% FL-52 + 0.45% ASA-301 + 0.40% SMS + 2.00% Salt + 3.00 lb/sx LCM-1 + 0.20% R-21 + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
	1450	14.2	1.28	5.75	Tail: 50:50:2 Class 'H' + 0.65% FL-52 + 0.20% CD-32 + 0.15% SMS + 2.00% Salt + 0.10% R-3 + 0.005 lb/sk Static Free

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line).

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a double ram-type (10,000 psi WP) preventer and an annular preventer (5000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

3000 psi BOPE is adequate for this application. Due to the 3000 psi BOPE requirement no FIT tests are planned.

EOG RESOURCES, INC.
HAWK 35 FED NO. 8H

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 2000/ 250 psig and the annular preventer to 2000/ 250 psig. The surface casing will be tested to 1500 psi for 30 minutes.

Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000/ 250 psig and the annular preventer to 3000/ 250 psig. The intermediate casing will be tested to 2000 psi for 30 minutes.

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 hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

During this procedure we plan to use a Closed-Loop System and haul contents to the required disposal.

The applicable depths and properties of the drilling fluid systems are as follows.

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,300'	Fresh Water Gel	8.6-8.8	28-34	N/c
1,300' – 5,100'	Saturated Brine	10.0-10.2	28-34	N/c
5,100' – 9,002'	Fresh Water	8.4-8.6	28-34	N/c
9,002' – 14,970' Lateral	Cut Brine Water	9.0-9.5	28-34	N/c

An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate.

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

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) H₂S monitoring and detection equipment will be utilized from surface casing point to TD.

EOG RESOURCES, INC.
HAWK 35 FED NO. 8H

8. LOGGING, TESTING AND CORING PROGRAM:

*See
COA* Open-hole logs are not planned for this well.

GR-CCL Will be run in cased hole during completions phase of operations.

**9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND
POTENTIAL HAZARDS:**

The estimated bottom-hole temperature (BHT) at TD is 155 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 4124 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

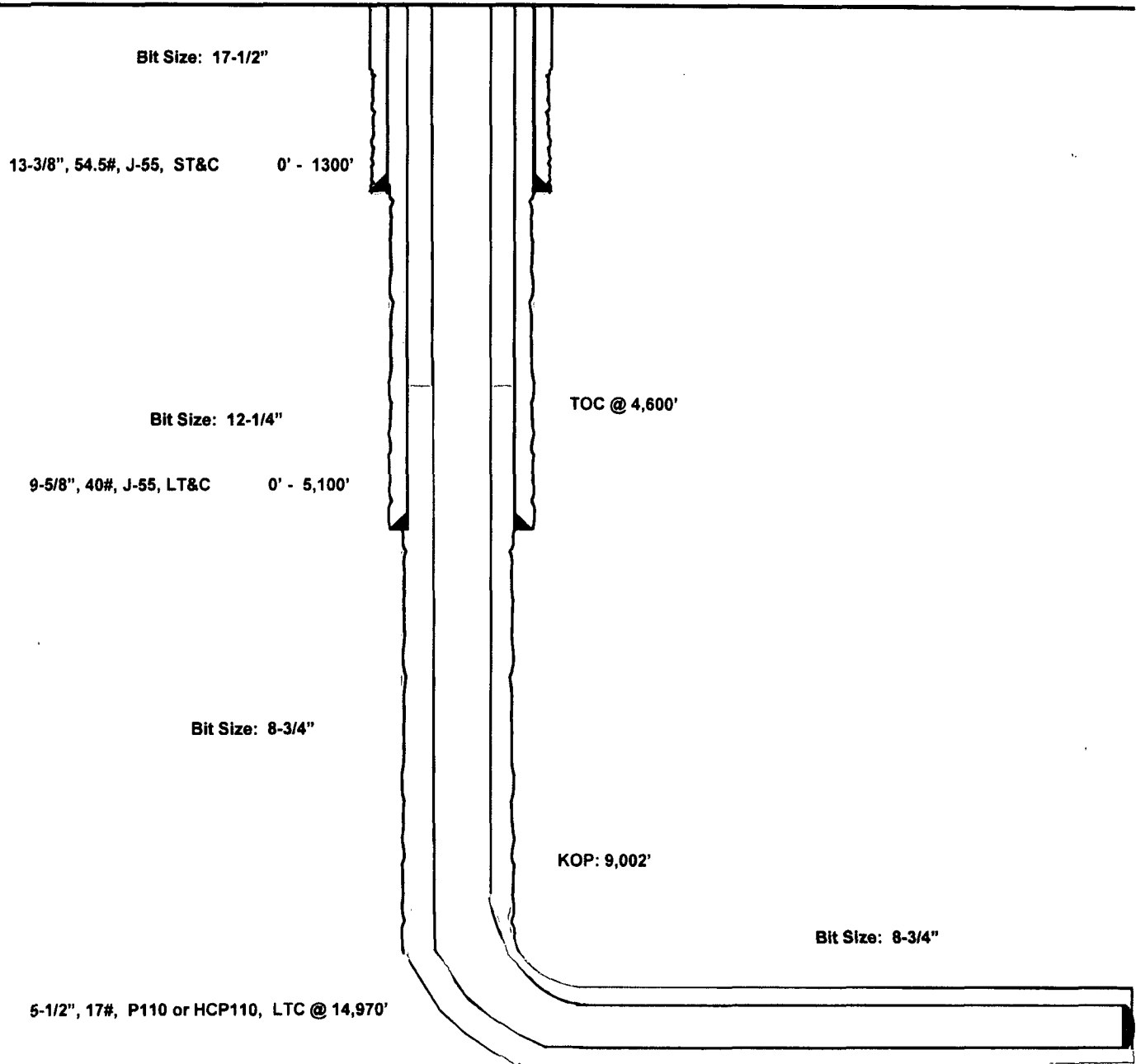
The drilling operation should be finished in approximately one month. If the well is productive, an additional 60-90 days will be required for completion and testing before a decision is made to install permanent facilities.

Hawk 35 Fed #8H
Lea County, New Mexico
Proposed Wellbore

500' FNL
1977' FEL
Section 35
T-24-S, R-33-E

API: 30-025-*****

KB: 3,549'
GL: 3,519'



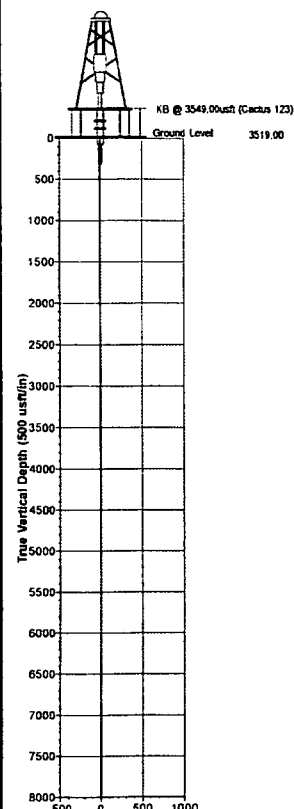
Lateral:
14,970' MD, 9,526' TVD
Upper Most Perf:
66' FSL & 1386' FEL
Lower Most Perf:
330' FNL & 1379' FEL
BH Location: 230' FNL & 1379' FEL
Section 26
T-24-S, R-33-E



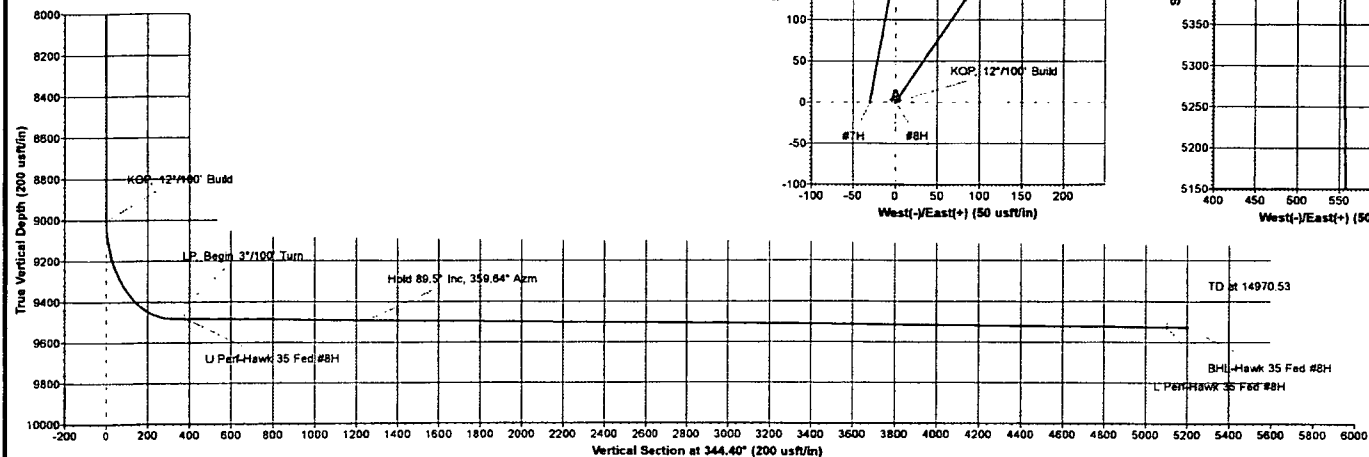
Project: Lea County, NM (NAD27 NME)
Site: Hawk 35 Fed
Well: #8H
Wellbore: WB1/Job #1410059
Design: Plan #1 01-07-14
Rig: Cactus 123



Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.83°
Magnetic Field
Strength: 48335.7nT
Dip Angle: 60.09°
Date: 01/07/2014
Model: IGRF2010_14



Vertical Section at 344.40° (500 usft/in)



WELL DETAILS

-N-S	-E-W	North	Ground Level	3519.00	Latitude	Longitude
0.00	0.00	430050.00	Easting	745298.00	32° 10' 47.42256 N	103° 32' 25.78398 W

SECTION DETAILS

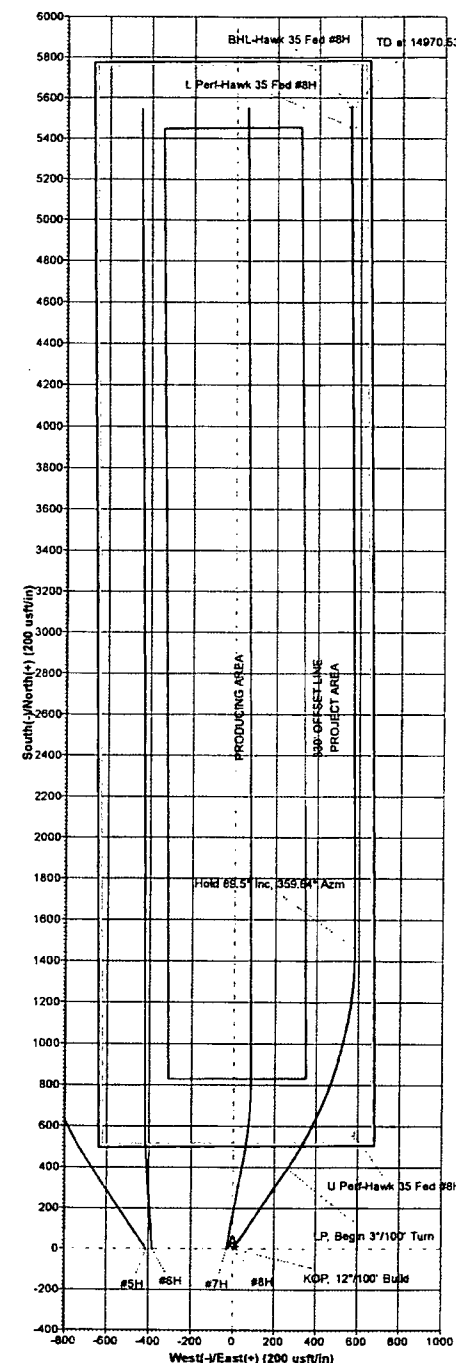
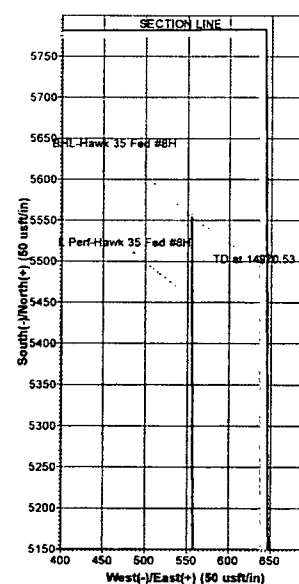
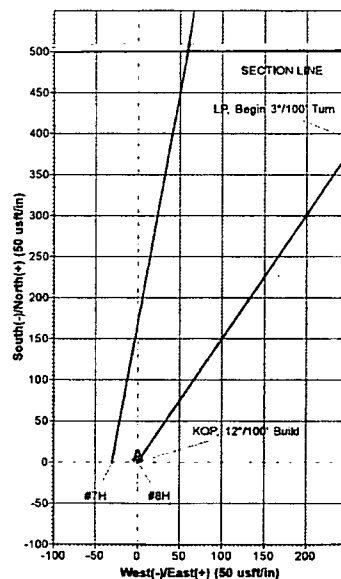
Sec	MD	Inc	Azi	TVD	-N-S	-E-W	Dleg	IFace	V-Set	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	9002.50	0.00	0.00	9002.50	0.00	0.00	0.00	0.00	0.00		KOP, 12°/100' Build
3	9748.42	89.50	35.60	9489.00	394.26	261.95	12.00	33.60	309.31		LP, Begin 3°/100' Turn
4	10860.50	89.50	359.64	9490.20	1483.21	540.90	3.00	-40.16	1253.00		Hold 89.5° Inc, 359.64° Azm
5	14970.53	89.50	359.64	9528.00	5553.00	555.00	0.00	0.00	5199.24	BHL-Hawk 35 Fed #8H	TD at 14970.53

DESIGN TARGET DETAILS

Name	TVD	-N-S	-E-W	North	Easting	Latitude	Longitude	Shape
U Perf-Hawk 35 Fed #8H	5480.00	554.00	586.00	430054.00	745884.00	32° 10' 52.68188 N	103° 32' 18.91840 W	Point
- plan misses target center by 204.74usft at 10070.60usft MD (9482.50 TVD, 538.05 N, 399.78 E)								
L Perf-Hawk 35 Fed #8H	9525.12	5453.00	558.00	435503.00	745854.00	32° 11' 41.34200 N	103° 32' 18.84624 W	Point
- plan misses target center by 0.36usft at 14870.52usft MD (9525.12 TVD, 5453.00 N, 555.64 E)								
BHL-Hawk 35 Fed #8H	9528.00	5553.00	555.00	435502.00	745853.00	32° 11' 42.33168 N	103° 32' 18.84927 W	Point
- plan hits target center								

LEGEND

- #8H, WB1/Job #1410057, Plan #1 01-07-14 V0
- #7H, WB1/Job #1410058, Plan #1 01-07-14 V0
- #5H, WB1/Job #1410056, Plan #1 01-07-14 V0
- Plan #1 01-07-14





EOG Resources

Lea County, NM (NAD27 NME)

Hawk 35 Fed

#8H

WB1/Job #1410059

Plan: Plan #1 01-07-14

Standard Planning Report

07 January, 2014





Phoenix Technology Services
Planning Report



Database: GCR DB
Company: EOG Resources
Project: Lea County, NM (NAD27 NME)
Site: Hawk 35 Fed
Well: #8H
Wellbore: WB1/Job #1410059
Design: Plan #1 01-07-14

Local Co-ordinate Reference: Well #8H
TVD Reference: KB @ 3549.00usft (Cactus 123)
MD Reference: KB @ 3549.00usft (Cactus 123)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project: Lea County, NM (NAD27 NME)

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

System Datum: Mean Sea Level

Site: Hawk 35 Fed

Site Position: Northing: 435,000.00 usft Latitude: 32° 11' 36.43427 N
From: Map Easting: 744,900.00 usft Longitude: 103° 32' 29.99070 W
Position Uncertainty: 0.00 usft Slot Radius: 13-3/16 " Grid Convergence: 0.42 °

Well: #8H

Well Position: +N-S -4,950.00 usft Northing: 430,050.00 usft Latitude: 32° 10' 47.42257 N
+E-W 398.00 usft Easting: 745,298.00 usft Longitude: 103° 32' 25.78398 W
Position Uncertainty: 0.00 usft Wellhead Elevation: Ground Level: 3,519.00 usft

Wellbore: WB1/Job #1410059

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	01/07/14	7.25	60.09	48,336

Design: Plan #1 01-07-14

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.00	0.00	0.00	344.40

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,002.50	0.00	0.00	9,002.50	0.00	0.00	0.00	0.00	0.00	0.00	
9,748.42	89.50	33.60	9,480.00	394.26	261.95	12.00	12.00	0.00	33.60	
10,880.51	89.50	359.64	9,490.20	1,463.21	580.98	3.00	0.00	-3.00	-90.16	
14,970.53	89.50	359.64	9,526.00	5,553.00	555.00	0.00	0.00	0.00	0.00	BHL-Hawk 35 Fed #8



Phoenix Technology Services
Planning Report



Database: GCR DB
Company: EOG Resources
Project: Lea County, NM (NAD27 NME)
Site: Hawk 35 Fed
Well: #8H
Wellbore: WB1/Job #1410059
Design: Plan #1 01-07-14

Local Co-ordinate Reference: Well #8H
TVD Reference: KB @ 3549.00usft (Cactus 123)
MD Reference: KB @ 3549.00usft (Cactus 123)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,002.50	0.00	0.00	9,002.50	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 12°/100' Build									
9,100.00	11.70	33.60	9,099.32	8.26	5.49	6.48	12.00	12.00	0.00
9,200.00	23.70	33.60	9,194.42	33.54	22.28	26.31	12.00	12.00	0.00
9,300.00	35.70	33.60	9,281.12	74.72	49.65	58.62	12.00	12.00	0.00
9,400.00	47.69	33.60	9,355.66	130.03	86.39	102.01	12.00	12.00	0.00
9,500.00	59.69	33.60	9,414.76	197.03	130.90	154.57	12.00	12.00	0.00
9,600.00	71.69	33.60	9,455.85	272.80	181.25	214.01	12.00	12.00	0.00
9,700.00	83.69	33.60	9,477.13	354.03	235.21	277.74	12.00	12.00	0.00
9,748.42	89.50	33.60	9,480.00	394.26	261.95	309.31	12.00	12.00	0.00
LP, Begin 3°/100' Turn									
9,800.00	89.50	32.05	9,480.45	437.81	289.91	343.53	3.00	-0.01	-3.00
9,900.00	89.49	29.05	9,481.34	523.71	340.73	412.80	3.00	-0.01	-3.00
10,000.00	89.48	26.05	9,482.23	612.36	386.98	485.74	3.00	-0.01	-3.00
10,029.60	89.48	25.16	9,482.50	639.05	399.78	508.01	3.00	0.00	-3.00
U Perf-Hawk 35 Fed #8H									
10,100.00	89.48	23.05	9,483.14	703.30	428.53	562.17	3.00	0.00	-3.00
10,200.00	89.48	20.05	9,484.05	796.29	465.26	641.86	3.00	0.00	-3.00
10,300.00	89.48	17.05	9,484.96	891.08	497.07	724.60	3.00	0.00	-3.00
10,400.00	89.48	14.05	9,485.88	987.41	523.88	810.17	3.00	0.00	-3.00
10,500.00	89.48	11.05	9,486.79	1,085.00	545.60	898.33	3.00	0.00	-3.00
10,600.00	89.48	8.05	9,487.69	1,183.60	562.20	988.83	3.00	0.00	-3.00
10,700.00	89.49	5.05	9,488.60	1,282.93	573.60	1,081.44	3.00	0.00	-3.00
10,800.00	89.49	2.05	9,489.49	1,382.72	579.80	1,175.89	3.00	0.01	-3.00
10,880.50	89.50	359.64	9,490.20	1,483.21	580.98	1,253.09	3.00	0.01	-3.00
Hold 89.5° Inc, 359.64° Azm									
10,900.00	89.50	359.64	9,490.37	1,482.71	580.86	1,271.90	0.00	0.00	0.00
11,000.00	89.50	359.64	9,491.24	1,582.70	580.22	1,368.39	0.00	0.00	0.00
11,100.00	89.50	359.64	9,492.12	1,682.69	579.59	1,464.87	0.00	0.00	0.00
11,200.00	89.50	359.64	9,492.99	1,782.69	578.95	1,561.35	0.00	0.00	0.00
11,300.00	89.50	359.64	9,493.87	1,882.68	578.32	1,657.83	0.00	0.00	0.00
11,400.00	89.50	359.64	9,494.74	1,982.68	577.68	1,754.31	0.00	0.00	0.00
11,500.00	89.50	359.64	9,495.62	2,082.67	577.05	1,850.80	0.00	0.00	0.00
11,600.00	89.50	359.64	9,496.49	2,182.66	576.41	1,947.28	0.00	0.00	0.00
11,700.00	89.50	359.64	9,497.37	2,282.66	575.78	2,043.76	0.00	0.00	0.00
11,800.00	89.50	359.64	9,498.24	2,382.65	575.14	2,140.24	0.00	0.00	0.00
11,900.00	89.50	359.64	9,499.12	2,482.65	574.51	2,236.72	0.00	0.00	0.00
12,000.00	89.50	359.64	9,500.00	2,582.64	573.87	2,333.21	0.00	0.00	0.00
12,100.00	89.50	359.64	9,500.87	2,682.64	573.23	2,429.69	0.00	0.00	0.00
12,200.00	89.50	359.64	9,501.75	2,782.63	572.60	2,526.17	0.00	0.00	0.00
12,300.00	89.50	359.64	9,502.62	2,882.62	571.96	2,622.65	0.00	0.00	0.00
12,400.00	89.50	359.64	9,503.50	2,982.62	571.33	2,719.13	0.00	0.00	0.00
12,500.00	89.50	359.64	9,504.37	3,082.61	570.69	2,815.62	0.00	0.00	0.00
12,600.00	89.50	359.64	9,505.25	3,182.61	570.06	2,912.10	0.00	0.00	0.00
12,700.00	89.50	359.64	9,506.12	3,282.60	569.42	3,008.58	0.00	0.00	0.00
12,800.00	89.50	359.64	9,507.00	3,382.59	568.79	3,105.06	0.00	0.00	0.00
12,900.00	89.50	359.64	9,507.87	3,482.59	568.15	3,201.54	0.00	0.00	0.00
13,000.00	89.50	359.64	9,508.75	3,582.58	567.52	3,298.03	0.00	0.00	0.00
13,100.00	89.50	359.64	9,509.63	3,682.58	566.88	3,394.51	0.00	0.00	0.00
13,200.00	89.50	359.64	9,510.50	3,782.57	566.25	3,490.99	0.00	0.00	0.00
13,300.00	89.50	359.64	9,511.38	3,882.57	565.61	3,587.47	0.00	0.00	0.00
13,400.00	89.50	359.64	9,512.25	3,982.56	564.98	3,683.95	0.00	0.00	0.00
13,500.00	89.50	359.64	9,513.13	4,082.55	564.34	3,780.44	0.00	0.00	0.00



Phoenix Technology Services Planning Report



Database: GCR DB
Company: EOG Resources
Project: Lea County, NM (NAD27 NME)
Site: Hawk 35 Fed
Well: #8H
Wellbore: WB1/Job #1410059
Design: Plan #1 01-07-14

Local Co-ordinate Reference: Well #8H
TVD Reference: KB @ 3549.00usft (Cactus 123)
MD Reference: KB @ 3549.00usft (Cactus 123)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
13,600.00	89.50	359.64	9,514.00	4,182.55	563.71	3,878.92	0.00	0.00	0.00
13,700.00	89.50	359.64	9,514.88	4,282.54	563.07	3,973.40	0.00	0.00	0.00
13,800.00	89.50	359.64	9,515.75	4,382.54	562.44	4,069.88	0.00	0.00	0.00
13,900.00	89.50	359.64	9,516.63	4,482.53	561.80	4,166.36	0.00	0.00	0.00
14,000.00	89.50	359.64	9,517.50	4,582.52	561.17	4,262.85	0.00	0.00	0.00
14,100.00	89.50	359.64	9,518.38	4,682.52	560.53	4,359.33	0.00	0.00	0.00
14,200.00	89.50	359.64	9,519.25	4,782.51	559.89	4,455.81	0.00	0.00	0.00
14,300.00	89.50	359.64	9,520.13	4,882.51	559.26	4,552.29	0.00	0.00	0.00
14,400.00	89.50	359.64	9,521.01	4,982.50	558.62	4,648.77	0.00	0.00	0.00
14,500.00	89.50	359.64	9,521.88	5,082.49	557.99	4,745.26	0.00	0.00	0.00
14,600.00	89.50	359.64	9,522.76	5,182.49	557.35	4,841.74	0.00	0.00	0.00
14,700.00	89.50	359.64	9,523.63	5,282.48	556.72	4,938.22	0.00	0.00	0.00
14,800.00	89.50	359.64	9,524.51	5,382.48	556.08	5,034.70	0.00	0.00	0.00
14,870.52	89.50	359.64	9,525.12	5,453.00	555.64	5,102.75	0.00	0.00	0.00
L Perf-Hawk 35 Fed #8H									
14,900.00	89.50	359.64	9,525.38	5,482.47	555.45	5,131.18	0.00	0.00	0.00
14,970.53	89.50	359.64	9,526.00	5,553.00	555.00	5,199.23	0.00	0.00	0.00
TD at 14970.53 - BHL-Hawk 35 Fed #8H									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
U Perf-Hawk 35 Fed #8H	0.00	0.01	9,480.00	554.00	586.00	430,604.00	745,884.00	32° 10' 52.86188 N	103° 32' 18.91840 W
- hit/miss target									
- Shape									
- plan misses target center by 204.74usft at 10029.60usft MD (9482.50 TVD, 639.05 N, 399.78 E)									
- Point									
L Perf-Hawk 35 Fed #8H	0.00	0.00	9,525.12	5,453.00	556.00	435,503.00	745,854.00	32° 11' 41.34208 N	103° 32' 18.84624 W
- hit/miss target									
- Shape									
- plan misses target center by 0.36usft at 14870.52usft MD (9525.12 TVD, 5453.00 N, 555.64 E)									
- Point									
BHL-Hawk 35 Fed #8H	0.00	0.00	9,526.00	5,553.00	555.00	435,603.00	745,853.00	32° 11' 42.33168 N	103° 32' 18.84927 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
9,002.50	9,002.50	0.00	0.00	KOP, 12°/100' Build
9,748.42	9,480.00	394.26	261.95	LP, Begin 3°/100' Turn
10,880.50	9,490.20	1,463.21	580.98	Hold 89.5° Inc, 359.64° Azm
14,970.53	9,526.00	5,553.00	555.00	TD at 14970.53

Rig Floor

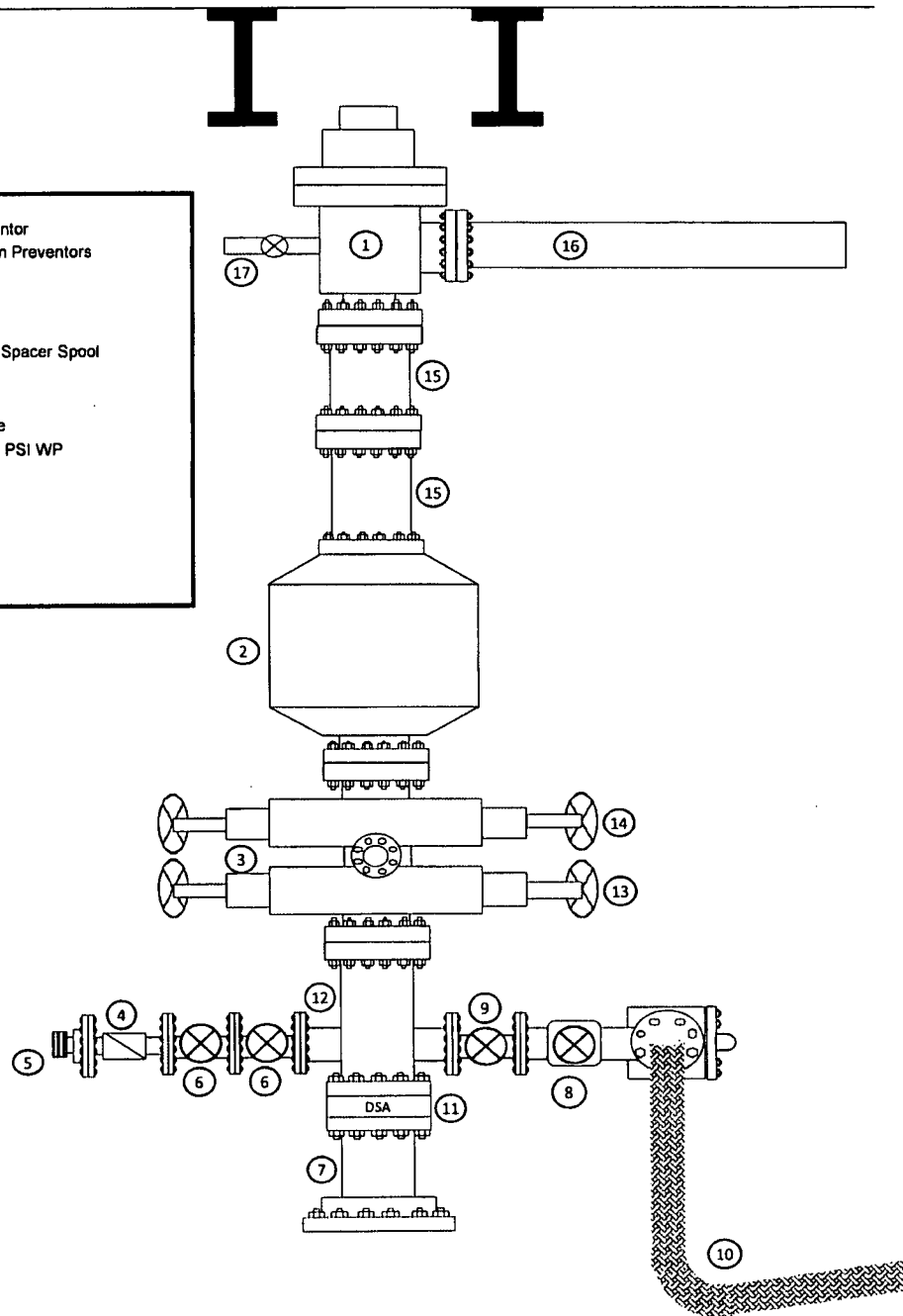
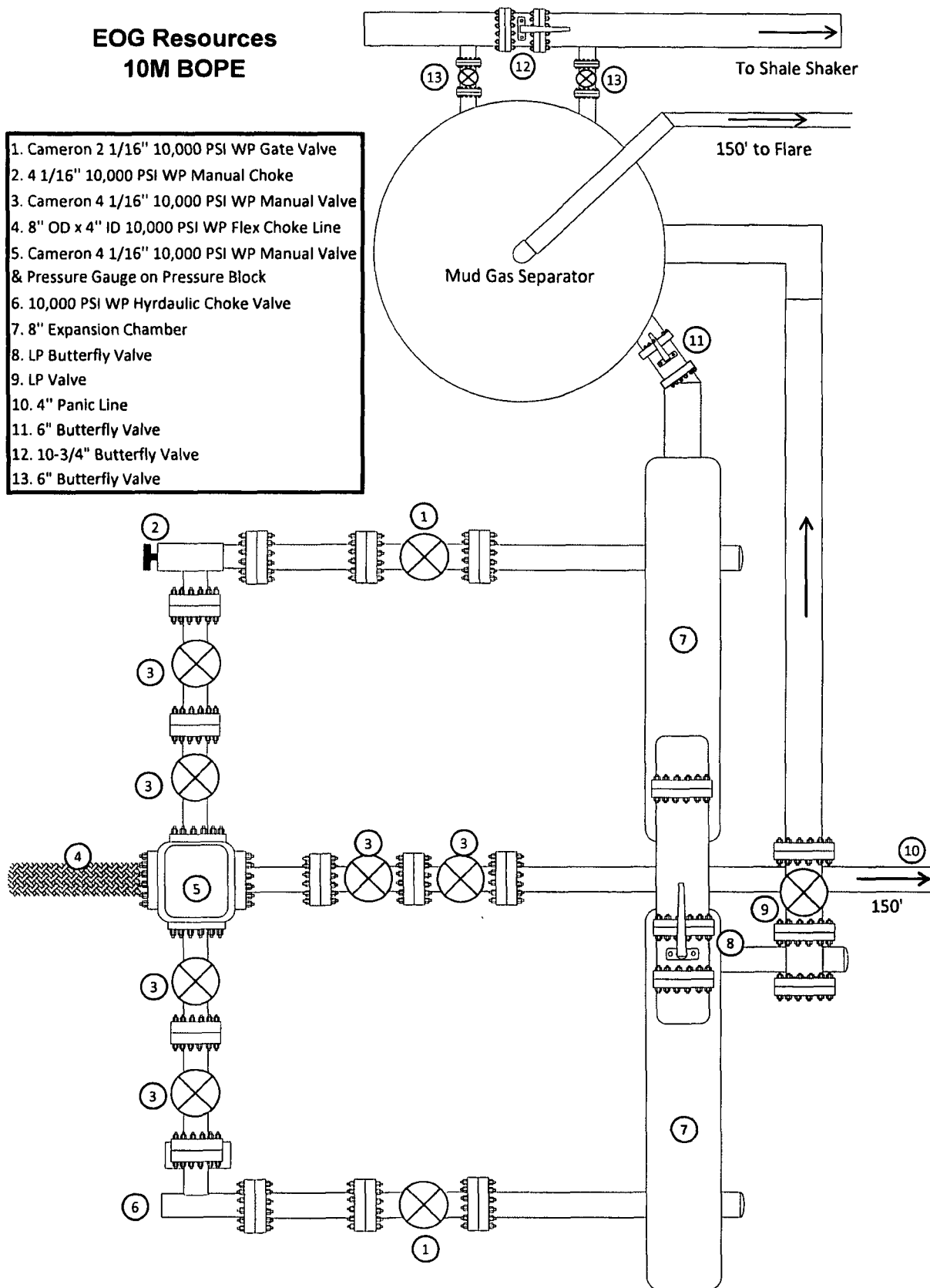


Exhibit 1a

EOG Resources 10M BOPE

1. Cameron 2 1/16" 10,000 PSI WP Gate Valve
2. 4 1/16" 10,000 PSI WP Manual Choke
3. Cameron 4 1/16" 10,000 PSI WP Manual Valve
4. 8" OD x 4" ID 10,000 PSI WP Flex Choke Line
5. Cameron 4 1/16" 10,000 PSI WP Manual Valve & Pressure Gauge on Pressure Block
6. 10,000 PSI WP Hydraulic Choke Valve
7. 8" Expansion Chamber
8. LP Butterfly Valve
9. LP Valve
10. 4" Panic Line
11. 6" Butterfly Valve
12. 10-3/4" Butterfly Valve
13. 6" Butterfly Valve



EOG 10M Choke Manifold Diagram (rev. 5/1/12)

Manufacturer: Midwest Hose & Specialty

Serial Number: SN#90067

Length: 35'

Size: OD = 8" ID = 4"

Ends: Flanges Size: 4-1/16"

WP Rating: 10,000 psi Anchors required by manufacturer: No

M I D W E S T
HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT			
Customer: CACTUS		P.O. Number: RIG #123 Asset # M10761	
HOSE SPECIFICATIONS			
Type: CHOKER LINE		Length: 35'	
I.D. 4" INCHES		O.D. 8" INCHES	
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000 PSI	BURST PRESSURE PSI	
COUPLINGS			
Type of End Fitting 4 1/16 10K FLANGE			
Type of Coupling: SWEDGED		MANUFACTURED BY MIDWEST HOSE & SPECIALTY	
PROCEDURE			
<i>Hose assembly pressure tested with water at ambient temperature.</i>			
TIME HELD AT TEST PRESSURE 1 MIN.		ACTUAL BURST PRESSURE: 0 PSI	
COMMENTS: SN#90087 M10761 Hose is covered with stainless steel armour cover and wrapped with fire resistant vermiculite coated fiberglass insulation rated for 1500 degrees complete with lifting eyes			
Date: 6/6/2011	Tested By: BOBBY FINK		Approved: MENDI JACKSON



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: CACTUS

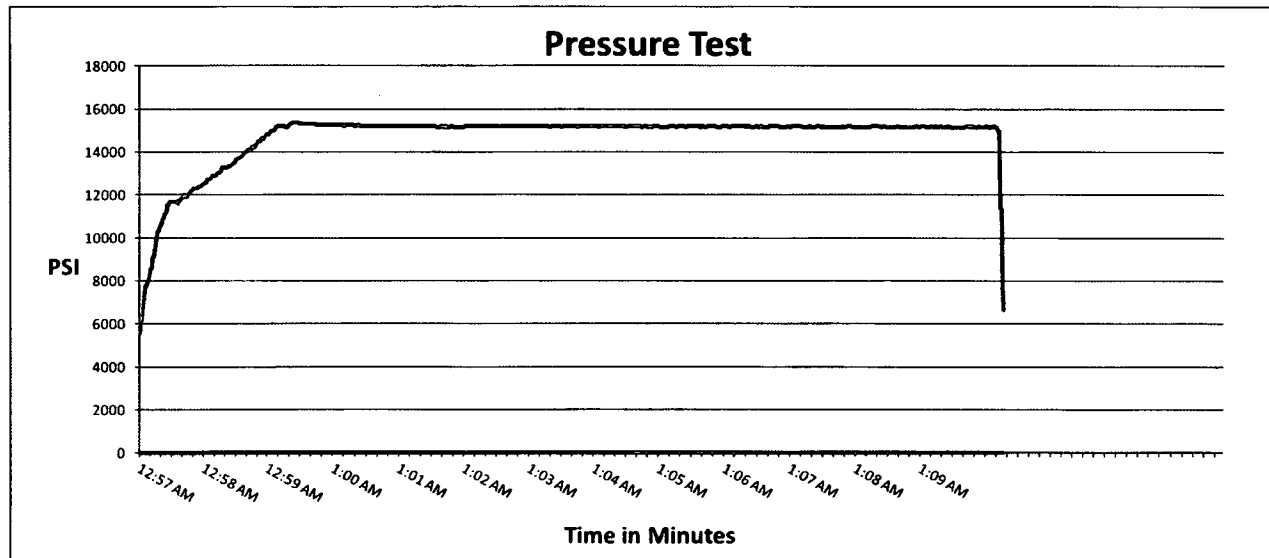
SALES ORDER# 90067

Hose Specifications

<u>Hose Type</u>	<u>Length</u>
C & K	35'
<u>I.D.</u>	<u>O.D.</u>
4"	8"
<u>Working Pressure</u>	<u>Burst Pressure</u>
10000 PSI	Standard Safety Multiplier Applies

Verification

<u>Type of Fitting</u>	<u>Coupling Method</u>
4 1/16 10K	Swage
<u>Die Size</u>	<u>Final O.D.</u>
6.62"	6.68"
<u>Hose Serial #</u>	<u>Hose Assembly Serial #</u>
	90067



Test Pressure
15000 PSI

Time Held at Test Pressure
11 1/4 Minutes

Actual Burst Pressure

Peak Pressure
15439 PSI

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

Tested By: Bobby Fink

Approved By: Mendi Jackson

Bobby Fink

Mendi Jackson

Exhibit 4
EOG Resources
Hawk 35 Fed #8H

Well Site Diagram

