

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTOCD-HOBBS
HOBBS OCDATS-12-97
FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

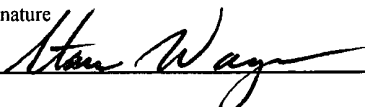
MAR 12 2012

1a. Type of Work ☒ DRILL ☐ REENTER		5. Lease Serial No. NM 28881 SHL, NM14497-A BHL	
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, Texas 79702		8. Lease Name and Well No. <2377> Diamond 31 Fed Com 2H	
3b. Phone No. (include area code) 432-686-3689		9. API Well No. 30-025-40484	
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 50' FNL & 430' FWL, U/L D, Sec 31 T24S R34E At proposed prod. zone 2310' FNL & 430' FWL, U/L E, Sec 31 T25S R34E		10. Field and Pool, or W/2 Red Hills Bone Spring 11. Sec., T., R., M., or Blk and Survey or Area Sec 31, T25S, R34E	
14. Distance in miles and direction from nearest town or post office* Approximately +/- 25 miles Southwest from Jal, NM		12. County or Parish Lea	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) .50'		13. State NM	
16. No. of Acres in lease 1319.84		17. Spacing Unit dedicated to this well W/2 31, NW/4 6	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 80' from Diamond 6-2		20. BLM/BIA Bond No. on file NM 2308	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3500' GL		22. Approximate date work will start* 1/1/2012	
		23. Estimated duration 30 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 11/4/11
Title Regulatory Analyst		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed)	Date MAR 08 2012
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

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

MAR 19 2012

EOG RESOURCES, INC.
DIAMOND 31 FED COM NO. 2H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,190'
Top of Salt	1,440'
Base of Salt	4,990'
Lamar	5,250'
Bell Canyon	5,280'
Cherry Canyon	6,280'
Brushy Canyon	7,800'
Bone Spring Lime	9,230'
TD	9,430'

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

Upper Permian Sands	0- 400'	Fresh Water
Cherry Canyon	6,280'	Oil
Brushy Canyon	7,800'	Oil
Bone Spring Lime	9,230'	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 11.75" casing at 1,215' and circulating cement back to surface.

4. CASING PROGRAM - NEW

See COA

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
14.75"	0 - 1215'	11.750"	42#	H40	STC	1.125	1.25	1.60
11.00"	0 - 4000'	8.625"	32#	J55	LTC	1.125	1.25	1.60
11.00"	4000'-5150'	8.625"	32#	HCK55	LTC	1.125	1.25	1.60
7.875"	0'-16,761'	5.5"	20#	P110 or HCP110	NSCC	1.125	1.25	1.60

EOG RESOURCES, INC.
DIAMOND 31 FED COM NO. 2H

Cementing Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /ft	Slurry Description
1,215'	350	13.5	1.73	Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake
	200	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
5,150'	700	12.7	2.22	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
	200	14.8	1.32	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
16,761'	150	10.8	3.68	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
	300	11.8	2.38	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
	1400	14.2	1.28	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.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 3000/ 250 psig and the annular preventer to 2500/ 250 psig. The surface casing will be tested to 1400 psi for 30 minutes.

EOG RESOURCES, INC.
DIAMOND 31 FED COM NO. 2H

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 2500/ 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:

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

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,215' <i>1260</i>	Fresh water + Gel	8.6-8.8	28-34	N/c
1,215' – 5,150'	Saturated Brine	10.0-10.2	28-34	N/c
5,150' – 8,952'	Cut Brine	8.6-9.5	28-34	N/c
8,952' – 16,761' Lateral	Cut Brine	8.6-9.5	28-34	N/c

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.
DIAMOND 31 FED COM NO. 2H

8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not planned for this well.

See COA

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 161 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 4110 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.

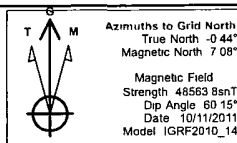
10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

The drilling operation should be finished in approximately one month. If the well is productive, an additional 90-120 days will be required for completion and testing before a decision is made to install permanent facilities.

EOG Resources

Project: Lea County, NM (Nad27)
Site: Diamond 31 Fed Com
Well: Diamond 31 Fed Com 2H
Wellbore: Wellbore #1
Plan: Plan #1 101011
Rig: Cactus Rig No. 123

PROJECT DETAILS		Lea County, NM (Nad27)
Geodetic System	US State Plane 1927 (Exact solution)	
Datum	NAD 1927 (NADCON CONUS)	
Ellipsoid	Clarke 1866	
Zone	New Mexico East 3001	
System Datum	Mean Sea Level	
Location North	Grid	



PHOENIX
TECHNOLOGY SERVICES

WELL DETAILS: Diamond 31 Fed Com 2H

Ground Level	3500 60
Northing	Eastng Latitude Longitude
430543 30	752984 40 32° 10' 51 735 N03° 30' 56 311 W

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
BHL Diamond 31 Fed Com 2H 9491 63		-7535 60	57 00	423007 70	753041 40	Point

SECTION DETAILS

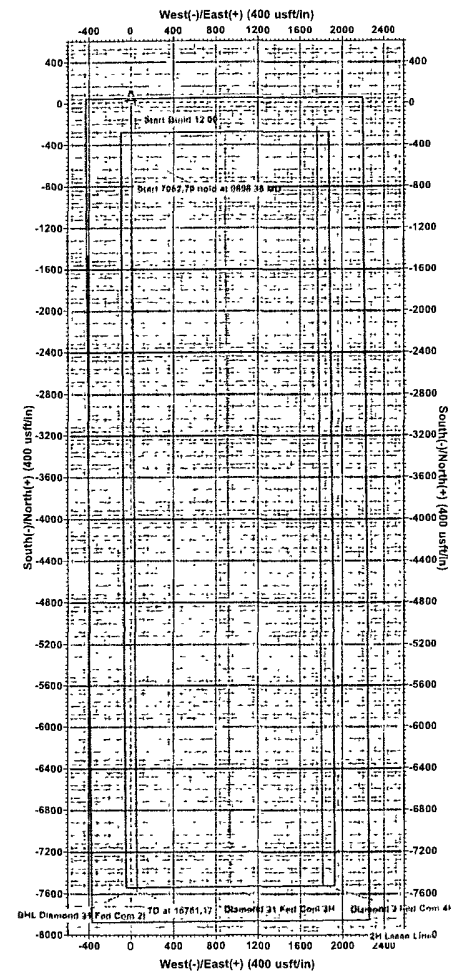
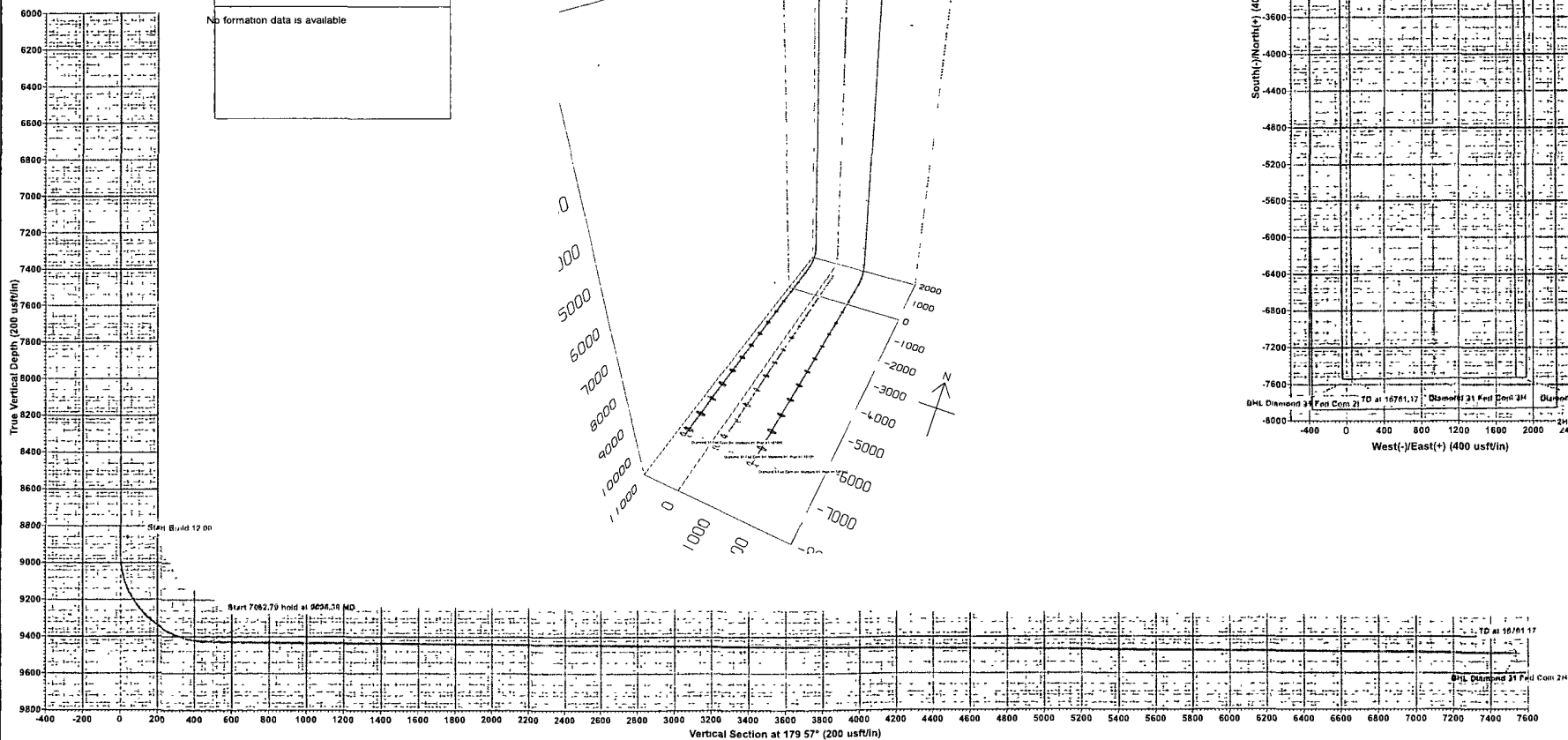
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
8952 55	0 00	0 00	8952 55	0 00	0 00	0 00	0 00	0 00	
8952 38	89 50	179 57	9430 00	-473 28	3 58	12 00	179 57	473 30	
16761 17	89 50	179 57	9491 63	-7535 60	96 98	0 00	0 00	7535 82	BHL Diamond 31 Fed Com 2H

ANNOTATIONS

TVD	MD	Annotation
8952 55	8952 55	Start Build 12 00
9430 00	9698 38	Start 7062 79 hold at 9698 38 MD
9491 62	16760 00	TD at 16761 17

FORMATION TOP DETAILS

No formation data is available



EOG Resources

Lea County, NM (Nad27)
Diamond 31 Fed Com
Diamond 31 Fed Com 2H
Wellbore #1

Plan: Plan #1 101011

EOG Resources

11 October, 2011



Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Diamond 31 Fed Com 2H
Project:	Lea County, NM (Nad27)	TVD Reference:	WELL @ 3530.60usft (Original Well Elev + 30' KB)
Site:	Diamond 31 Fed Com	MD Reference:	WELL @ 3530.60usft (Original Well Elev + 30' KB)
Well:	Diamond 31 Fed Com 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 101011	Database:	GCR DB v5000

Project:	Lea County, NM (Nad27)		
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 Diamond 31 Fed Com					
Site Position:		Northing: 430,543.30 usft		Latitude: 32° 10' 51.735 N	
From:	Map	Easting: 752,984.40 usft		Longitude: 103° 30' 56.311 W	
Position Uncertainty: 0.00 usft		Slot Radius: 13-3/16 "		Grid Convergence: 0.44 °	

Well:	Diamond 31 Fed Com 2H					
Well Position	+N/-S	0.00 usft	Northing:	430,543.30 usft	Latitude:	32° 10' 51.735 N
	+E/-W	0.00 usft	Easting:	752,984.40 usft	Longitude:	103° 30' 56.311 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,500.60 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	10/11/2011	7.52	60.15	48,564

Design: Plan #1 101011				
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	179.57

Survey Tool Program		Date	10/11/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	16,760.54	Plan #1 101011 (Wellbore #1)	MWD	MWD - Standard	

Phoenix Technology Services
EOG Resources



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Project:	Lea County, NM (Nad27)	TVD Reference:	WELL @ 3530.60usft (Original Well Elev + 30' KB)
Site:	Diamond 31 Fed Com	MD Reference:	WELL @ 3530.60usft (Original Well Elev + 30' KB)
Well:	Diamond 31 Fed Com 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 101011	Database:	GCR DB v5000

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
0.00	0 00	0 00	-3,530.60	0 00	0 00	0.00	0.00	0.00	430,543.30	752,984.40	
100.00	0 00	0 00	-3,430.60	100 00	0 00	0.00	0.00	0 00	430,543.30	752,984.40	
200.00	0 00	0 00	-3,330.60	200.00	0 00	0.00	0.00	0.00	430,543.30	752,984.40	
300.00	0 00	0 00	-3,230.60	300.00	0 00	0.00	0.00	0.00	430,543.30	752,984.40	
400.00	0 00	0 00	-3,130.60	400 00	0 00	0 00	0.00	0.00	430,543.30	752,984.40	
500.00	0 00	0 00	-3,030.60	500 00	0 00	0.00	0.00	0.00	430,543.30	752,984.40	
600.00	0 00	0 00	-2,930.60	600 00	0 00	0.00	0.00	0.00	430,543.30	752,984.40	
700.00	0 00	0 00	-2,830.60	700.00	0 00	0 00	0.00	0 00	430,543.30	752,984.40	
800.00	0 00	0 00	-2,730.60	800.00	0 00	0 00	0.00	0.00	430,543.30	752,984.40	
900.00	0 00	0 00	-2,630.60	900.00	0 00	0.00	0.00	0.00	430,543.30	752,984.40	
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1,500.00	0 00	0 00	-2,030.60	1,500.00	0 00	0.00	0.00	0.00	430,543.30	752,984.40	
1,600.00	0 00	0 00	-1,930.60	1,600 00	0 00	0.00	0.00	0.00	430,543.30	752,984.40	
1,700.00	0 00	0 00	-1,830.60	1,700.00	0 00	0.00	0.00	0 00	430,543.30	752,984.40	
1,800.00	0 00	0 00	-1,730.60	1,800 00	0 00	0.00	0.00	0.00	430,543.30	752,984.40	
1,900.00	0 00	0 00	-1,630.60	1,900 00	0 00	0.00	0.00	0.00	430,543.30	752,984.40	
2,000.00	0 00	0 00	-1,530.60	2,000 00	0 00	0.00	0 00	0.00	430,543.30	752,984.40	
2,100.00	0 00	0 00	-1,430.60	2,100 00	0 00	0.00	0.00	0 00	430,543.30	752,984.40	
2,200.00	0 00	0 00	-1,330.60	2,200.00	0 00	0.00	0 00	0.00	430,543.30	752,984.40	
2,300.00	0 00	0 00	-1,230.60	2,300.00	0 00	0.00	0.00	0.00	430,543.30	752,984.40	
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2,500.00	0 00	0 00	-1,030.60	2,500.00	0 00	0.00	0.00	0.00	430,543.30	752,984.40	
2,600.00	0 00	0 00	-930.60	2,600 00	0 00	0.00	0 00	0.00	430,543.30	752,984.40	

Phoenix Technology Services
EOG Resources



Company: EOG Resources
Project: Lea County, NM (Nad27)
Site: Diamond 31 Fed Com
Well: Diamond 31 Fed Com 2H
Wellbore: Wellbore #1
Design: Plan #1 101011

Local Co-ordinate Reference: Well Diamond 31 Fed Com 2H
TVD Reference: WELL @ 3530.60usft (Original Well Elev + 30' KB)
MD Reference: WELL @ 3530.60usft (Original Well Elev + 30' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,700.00	0.00	0.00	-830.60	2,700.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
2,800.00	0.00	0.00	-730.60	2,800.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
2,900.00	0.00	0.00	-630.60	2,900.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
3,000.00	0.00	0.00	-530.60	3,000.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
3,100.00	0.00	0.00	-430.60	3,100.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
3,200.00	0.00	0.00	-330.60	3,200.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
3,300.00	0.00	0.00	-230.60	3,300.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
3,400.00	0.00	0.00	-130.60	3,400.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
3,500.00	0.00	0.00	-30.60	3,500.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
3,600.00	0.00	0.00	69.40	3,600.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
3,700.00	0.00	0.00	169.40	3,700.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
3,800.00	0.00	0.00	269.40	3,800.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
3,900.00	0.00	0.00	369.40	3,900.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
4,000.00	0.00	0.00	469.40	4,000.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
4,100.00	0.00	0.00	569.40	4,100.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
4,200.00	0.00	0.00	669.40	4,200.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
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4,400.00	0.00	0.00	869.40	4,400.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
4,500.00	0.00	0.00	969.40	4,500.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
4,600.00	0.00	0.00	1,069.40	4,600.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
4,700.00	0.00	0.00	1,169.40	4,700.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
4,800.00	0.00	0.00	1,269.40	4,800.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
4,900.00	0.00	0.00	1,369.40	4,900.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
5,000.00	0.00	0.00	1,469.40	5,000.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
5,100.00	0.00	0.00	1,569.40	5,100.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
5,200.00	0.00	0.00	1,669.40	5,200.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40
5,300.00	0.00	0.00	1,769.40	5,300.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Diamond 31 Fed Com 2H
Project:	Lea County, NM (Nad27)	TVD Reference:	WELL @ 3530.60usft (Original Well Elev + 30' KB)
Site:	Diamond 31 Fed Com	MD Reference:	WELL @ 3530.60usft (Original Well Elev + 30' KB)
Well:	Diamond 31 Fed Com 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 101011	Database:	GCR DB v5000

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D Leg. (°/100usft)	Northing (usft)	Easting (usft)	
5,400.00	0.00	0.00	1,869.40	5,400.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
5,500.00	0.00	0.00	1,969.40	5,500.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
5,600.00	0.00	0.00	2,069.40	5,600.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
5,700.00	0.00	0.00	2,169.40	5,700.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
5,800.00	0.00	0.00	2,269.40	5,800.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
5,900.00	0.00	0.00	2,369.40	5,900.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
6,000.00	0.00	0.00	2,469.40	6,000.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
6,100.00	0.00	0.00	2,569.40	6,100.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
6,200.00	0.00	0.00	2,669.40	6,200.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
6,300.00	0.00	0.00	2,769.40	6,300.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
6,400.00	0.00	0.00	2,869.40	6,400.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
6,500.00	0.00	0.00	2,969.40	6,500.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
6,600.00	0.00	0.00	3,069.40	6,600.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
6,700.00	0.00	0.00	3,169.40	6,700.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
6,800.00	0.00	0.00	3,269.40	6,800.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
6,900.00	0.00	0.00	3,369.40	6,900.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
7,000.00	0.00	0.00	3,469.40	7,000.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
7,100.00	0.00	0.00	3,569.40	7,100.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
7,200.00	0.00	0.00	3,669.40	7,200.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
7,300.00	0.00	0.00	3,769.40	7,300.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
7,400.00	0.00	0.00	3,869.40	7,400.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
7,500.00	0.00	0.00	3,969.40	7,500.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
7,600.00	0.00	0.00	4,069.40	7,600.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
7,700.00	0.00	0.00	4,169.40	7,700.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
7,800.00	0.00	0.00	4,269.40	7,800.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
7,900.00	0.00	0.00	4,369.40	7,900.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
8,000.00	0.00	0.00	4,469.40	8,000.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Diamond 31 Fed Com 2H
Project:	Lea County, NM (Nad27)	TVD Reference:	WELL @ 3530.60usft (Original Well Elev + 30' KB)
Site:	Diamond 31 Fed Com	MD Reference:	WELL @ 3530.60usft (Original Well Elev + 30' KB)
Well:	Diamond 31 Fed Com 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 101011	Database:	GCR DB v5000

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
8,100.00	0 00	0 00	4,569.40	8,100.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
8,200.00	0.00	0.00	4,669.40	8,200.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
8,300.00	0 00	0.00	4,769.40	8,300.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
8,400.00	0.00	0.00	4,869.40	8,400.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
8,500.00	0 00	0.00	4,969.40	8,500.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
8,600.00	0 00	0.00	5,069.40	8,600.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
8,700.00	0.00	0.00	5,169.40	8,700.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
8,800.00	0.00	0.00	5,269.40	8,800.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
8,900.00	0.00	0.00	5,369.40	8,900.00	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
8,952.55	0.00	0.00	5,421.95	8,952.55	0.00	0.00	0.00	0.00	430,543.30	752,984.40	
Start Build 12.00											
9,000.00	5.69	179.57	5,469.32	8,999.92	-2.36	0.02	2.36	12.00	430,540.94	752,984.42	
9,100.00	17.69	179.57	5,567.07	9,097.67	-22.59	0.17	22.59	12.00	430,520.71	752,984.57	
9,200.00	29.69	179.57	5,658.47	9,189.07	-62.70	0.47	62.70	12.00	430,480.60	752,984.87	
9,300.00	41.69	179.57	5,739.54	9,270.14	-120.93	0.91	120.94	12.00	430,422.37	752,985.31	
9,400.00	53.69	179.57	5,806.72	9,337.32	-194.75	1.47	194.76	12.00	430,348.55	752,985.87	
9,500.00	65.69	179.57	5,857.09	9,387.69	-280.93	2.12	280.94	12.00	430,262.37	752,986.52	
9,600.00	77.69	179.57	5,888.44	9,419.04	-375.69	2.84	375.70	12.00	430,167.61	752,987.24	
9,698.38	89.50	179.57	5,899.40	9,430.00	-473.28	3.58	473.30	12.00	430,070.02	752,987.98	
Start 7062.79 hold at 9698.38 MD											
9,700.00	89.50	179.57	5,899.41	9,430.01	-474.90	3.59	474.92	0.00	430,068.40	752,987.99	
9,800.00	89.50	179.57	5,900.28	9,430.88	-574.89	4.35	574.91	0.00	429,968.41	752,988.75	
9,900.00	89.50	179.57	5,901.16	9,431.76	-674.89	5.10	674.91	0.00	429,868.41	752,989.50	
10,000.00	89.50	179.57	5,902.03	9,432.63	-774.88	5.86	774.90	0.00	429,768.42	752,990.26	
10,100.00	89.50	179.57	5,902.90	9,433.50	-874.87	6.62	874.90	0.00	429,668.43	752,991.02	
10,200.00	89.50	179.57	5,903.77	9,434.37	-974.87	7.37	974.90	0.00	429,568.43	752,991.77	
10,300.00	89.50	179.57	5,904.65	9,435.25	-1,074.86	8.13	1,074.89	0.00	429,468.44	752,992.53	

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Diamond 31 Fed Com 2H
Project:	Lea County, NM (Nad27)	TVD Reference:	WELL @ 3530.60usft (Original Well Elev + 30' KB)
Site:	Diamond 31 Fed Com	MD Reference:	WELL @ 3530.60usft (Original Well Elev + 30' KB)
Well:	Diamond 31 Fed Com 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 101011	Database:	GCR DB v5000

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
10,400.00	89.50	179.57	5,905.52	9,436.12	-1,174.85	8.89	1,174.89	0.00	429,368.45	752,993.29	
10,500.00	89.50	179.57	5,906.39	9,436.99	-1,274.85	9.64	1,274.88	0.00	429,268.45	752,994.04	
10,600.00	89.50	179.57	5,907.26	9,437.86	-1,374.84	10.40	1,374.88	0.00	429,168.46	752,994.80	
10,700.00	89.50	179.57	5,908.14	9,438.74	-1,474.83	11.16	1,474.88	0.00	429,068.47	752,995.56	
10,800.00	89.50	179.57	5,909.01	9,439.61	-1,574.83	11.91	1,574.87	0.00	428,968.47	752,996.31	
10,900.00	89.50	179.57	5,909.88	9,440.48	-1,674.82	12.67	1,674.87	0.00	428,868.48	752,997.07	
11,000.00	89.50	179.57	5,910.75	9,441.35	-1,774.81	13.42	1,774.87	0.00	428,768.49	752,997.82	
11,100.00	89.50	179.57	5,911.63	9,442.23	-1,874.81	14.18	1,874.86	0.00	428,668.49	752,998.58	
11,200.00	89.50	179.57	5,912.50	9,443.10	-1,974.80	14.94	1,974.86	0.00	428,568.50	752,999.34	
11,300.00	89.50	179.57	5,913.37	9,443.97	-2,074.79	15.69	2,074.85	0.00	428,468.51	753,000.09	
11,400.00	89.50	179.57	5,914.25	9,444.85	-2,174.79	16.45	2,174.85	0.00	428,368.51	753,000.85	
11,500.00	89.50	179.57	5,915.12	9,445.72	-2,274.78	17.21	2,274.85	0.00	428,268.52	753,001.61	
11,600.00	89.50	179.57	5,915.99	9,446.59	-2,374.77	17.96	2,374.84	0.00	428,168.53	753,002.36	
11,700.00	89.50	179.57	5,916.86	9,447.46	-2,474.77	18.72	2,474.84	0.00	428,068.53	753,003.12	
11,800.00	89.50	179.57	5,917.74	9,448.34	-2,574.76	19.48	2,574.84	0.00	427,968.54	753,003.88	
11,900.00	89.50	179.57	5,918.61	9,449.21	-2,674.75	20.23	2,674.83	0.00	427,868.55	753,004.63	
12,000.00	89.50	179.57	5,919.48	9,450.08	-2,774.75	20.99	2,774.83	0.00	427,768.55	753,005.39	
12,100.00	89.50	179.57	5,920.35	9,450.95	-2,874.74	21.74	2,874.82	0.00	427,668.56	753,006.14	
12,200.00	89.50	179.57	5,921.23	9,451.83	-2,974.73	22.50	2,974.82	0.00	427,568.57	753,006.90	
12,300.00	89.50	179.57	5,922.10	9,452.70	-3,074.73	23.26	3,074.82	0.00	427,468.57	753,007.66	
12,400.00	89.50	179.57	5,922.97	9,453.57	-3,174.72	24.01	3,174.81	0.00	427,368.58	753,008.41	
12,500.00	89.50	179.57	5,923.84	9,454.44	-3,274.71	24.77	3,274.81	0.00	427,268.59	753,009.17	
12,600.00	89.50	179.57	5,924.72	9,455.32	-3,374.71	25.53	3,374.80	0.00	427,168.59	753,009.93	
12,700.00	89.50	179.57	5,925.59	9,456.19	-3,474.70	26.28	3,474.80	0.00	427,068.60	753,010.68	
12,800.00	89.50	179.57	5,926.46	9,457.06	-3,574.69	27.04	3,574.80	0.00	426,968.61	753,011.44	
12,900.00	89.50	179.57	5,927.34	9,457.94	-3,674.69	27.80	3,674.79	0.00	426,868.61	753,012.20	
13,000.00	89.50	179.57	5,928.21	9,458.81	-3,774.68	28.55	3,774.79	0.00	426,768.62	753,012.95	

Phoenix Technology Services
EOG Resources



Company: EOG Resources
Project: Lea County, NM (Nad27)
Site: Diamond 31 Fed Com
Well: Diamond 31 Fed Com 2H
Wellbore: Wellbore #1
Design: Plan #1 101011

Local Co-ordinate Reference: Well Diamond 31 Fed Com 2H
TVD Reference: WELL @ 3530.60usft (Original Well Elev + 30' KB)
MD Reference: WELL @ 3530.60usft (Original Well Elev + 30' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
13,100.00	89.50	179.57	5,929.08	9,459.68	-3,874.67	29.31	3,874.79	0.00	426,668.63	753,013.71
13,200.00	89.50	179.57	5,929.95	9,460.55	-3,974.67	30.06	3,974.78	0.00	426,568.63	753,014.46
13,300.00	89.50	179.57	5,930.83	9,461.43	-4,074.66	30.82	4,074.78	0.00	426,468.64	753,015.22
13,400.00	89.50	179.57	5,931.70	9,462.30	-4,174.65	31.58	4,174.77	0.00	426,368.65	753,015.98
13,500.00	89.50	179.57	5,932.57	9,463.17	-4,274.65	32.33	4,274.77	0.00	426,268.65	753,016.73
13,600.00	89.50	179.57	5,933.44	9,464.04	-4,374.64	33.09	4,374.77	0.00	426,168.66	753,017.49
13,700.00	89.50	179.57	5,934.32	9,464.92	-4,474.63	33.85	4,474.76	0.00	426,068.67	753,018.25
13,800.00	89.50	179.57	5,935.19	9,465.79	-4,574.63	34.60	4,574.76	0.00	425,968.67	753,019.00
13,900.00	89.50	179.57	5,936.06	9,466.66	-4,674.62	35.36	4,674.76	0.00	425,868.68	753,019.76
14,000.00	89.50	179.57	5,936.93	9,467.53	-4,774.61	36.12	4,774.75	0.00	425,768.69	753,020.52
14,100.00	89.50	179.57	5,937.81	9,468.41	-4,874.61	36.87	4,874.75	0.00	425,668.69	753,021.27
14,200.00	89.50	179.57	5,938.68	9,469.28	-4,974.60	37.63	4,974.74	0.00	425,568.70	753,022.03
14,300.00	89.50	179.57	5,939.55	9,470.15	-5,074.59	38.38	5,074.74	0.00	425,468.71	753,022.78
14,400.00	89.50	179.57	5,940.43	9,471.03	-5,174.59	39.14	5,174.74	0.00	425,368.71	753,023.54
14,500.00	89.50	179.57	5,941.30	9,471.90	-5,274.58	39.90	5,274.73	0.00	425,268.72	753,024.30
14,600.00	89.50	179.57	5,942.17	9,472.77	-5,374.57	40.65	5,374.73	0.00	425,168.73	753,025.05
14,700.00	89.50	179.57	5,943.04	9,473.64	-5,474.57	41.41	5,474.72	0.00	425,068.73	753,025.81
14,800.00	89.50	179.57	5,943.92	9,474.52	-5,574.56	42.17	5,574.72	0.00	424,968.74	753,026.57
14,900.00	89.50	179.57	5,944.79	9,475.39	-5,674.55	42.92	5,674.72	0.00	424,868.75	753,027.32
15,000.00	89.50	179.57	5,945.66	9,476.26	-5,774.55	43.68	5,774.71	0.00	424,768.75	753,028.08
15,100.00	89.50	179.57	5,946.53	9,477.13	-5,874.54	44.44	5,874.71	0.00	424,668.76	753,028.84
15,200.00	89.50	179.57	5,947.41	9,478.01	-5,974.53	45.19	5,974.71	0.00	424,568.77	753,029.59
15,300.00	89.50	179.57	5,948.28	9,478.88	-6,074.53	45.95	6,074.70	0.00	424,468.77	753,030.35
15,400.00	89.50	179.57	5,949.15	9,479.75	-6,174.52	46.70	6,174.70	0.00	424,368.78	753,031.10
15,500.00	89.50	179.57	5,950.02	9,480.62	-6,274.51	47.46	6,274.69	0.00	424,268.79	753,031.86
15,600.00	89.50	179.57	5,950.90	9,481.50	-6,374.51	48.22	6,374.69	0.00	424,168.79	753,032.62
15,700.00	89.50	179.57	5,951.77	9,482.37	-6,474.50	48.97	6,474.69	0.00	424,068.80	753,033.37

Phoenix Technology Services
EOG Resources



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Project:	Lea County, NM (Nad27)	TVD Reference:	WELL @ 3530.60usft (Original Well Elev + 30' KB)
Site:	Diamond 31 Fed Com	MD Reference:	WELL @ 3530.60usft (Original Well Elev + 30' KB)
Well:	Diamond 31 Fed Com 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 101011	Database:	GCR DB v5000

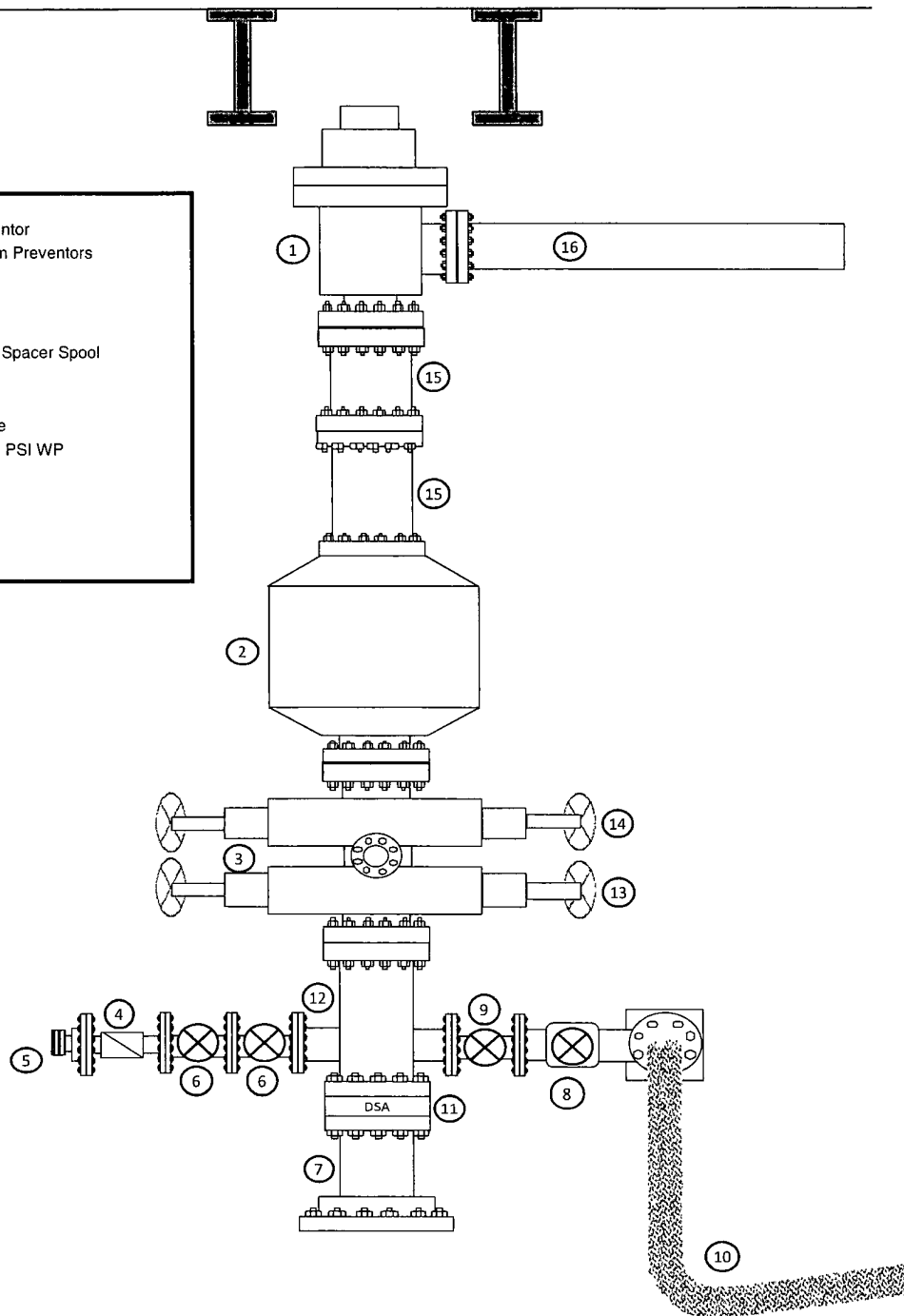
Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
15,800.00	89.50	179.57	5,952.64	9,483.24	-6,574.49	49.73	6,574.68	0.00	423,968.81	753,034.13	
15,900.00	89.50	179.57	5,953.51	9,484.11	-6,674.49	50.49	6,674.68	0.00	423,868.81	753,034.89	
16,000.00	89.50	179.57	5,954.39	9,484.99	-6,774.48	51.24	6,774.68	0.00	423,768.82	753,035.64	
16,100.00	89.50	179.57	5,955.26	9,485.86	-6,874.47	52.00	6,874.67	0.00	423,668.83	753,036.40	
16,200.00	89.50	179.57	5,956.13	9,486.73	-6,974.47	52.76	6,974.67	0.00	423,568.83	753,037.16	
16,300.00	89.50	179.57	5,957.01	9,487.61	-7,074.46	53.51	7,074.66	0.00	423,468.84	753,037.91	
16,400.00	89.50	179.57	5,957.88	9,488.48	-7,174.45	54.27	7,174.66	0.00	423,368.85	753,038.67	
16,500.00	89.50	179.57	5,958.75	9,489.35	-7,274.45	55.02	7,274.66	0.00	423,268.85	753,039.42	
16,600.00	89.50	179.57	5,959.62	9,490.22	-7,374.44	55.78	7,374.65	0.00	423,168.86	753,040.18	
16,700.00	89.50	179.57	5,960.50	9,491.10	-7,474.43	56.54	7,474.65	0.00	423,068.87	753,040.94	
16,761.17	89.50	179.57	5,961.03	9,491.63	-7,535.60	57.00	7,535.82	0.00	423,007.70	753,041.40	
TD at 16761.17											

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,952.55	8,952.55	0.00	0.00	Start Build 12.00
9,698.38	9,430.00	-473.28	3.58	Start 7062 79 hold at 9698.38 MD
16,761.17	9,491.63	-7,535.60	57.00	TD at 16761.17

Checked By: _____	Approved By: _____	Date: _____
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Rig Floor

1. 13 5/8" Rotating Head
- 2 Hydril 13 5/8" 5,000 PSI WP GK Annular Preventor
- 3 13 5/8" Cameron Type "U" 10,000 PSI WP Ram Preventors
- 4 2 1/16" - 10,000 PSI WP Check Valve
5. 10,000 PSI WP - 1502 Union to kill line
6. 2 1/16" - 10,000 PSI WP Manual Valves
7. 13 5/8" 3,000 PSI WP x 13 5/8" 5,000 PSI WP Spacer Spool
- 8 4 1/16" 10,000 PSI WP HCR Valve
9. 4 1/16" 10,000 PSI WP Manual Valve
10. 8" OD x 4" ID 10,000 PSI WP Flex Choke Line
- 11 DSA - 13 5/8" 10,000 PSI WP x 13 5/8" 5,000 PSI WP
12. Mud Cross - 13 5/8" 10,000 PSI WP
- 13 Blind Rams
14. Pipe Rams
15. 13 5/8" 5,000 PSI WP Spacer Spools
16. Flow Line



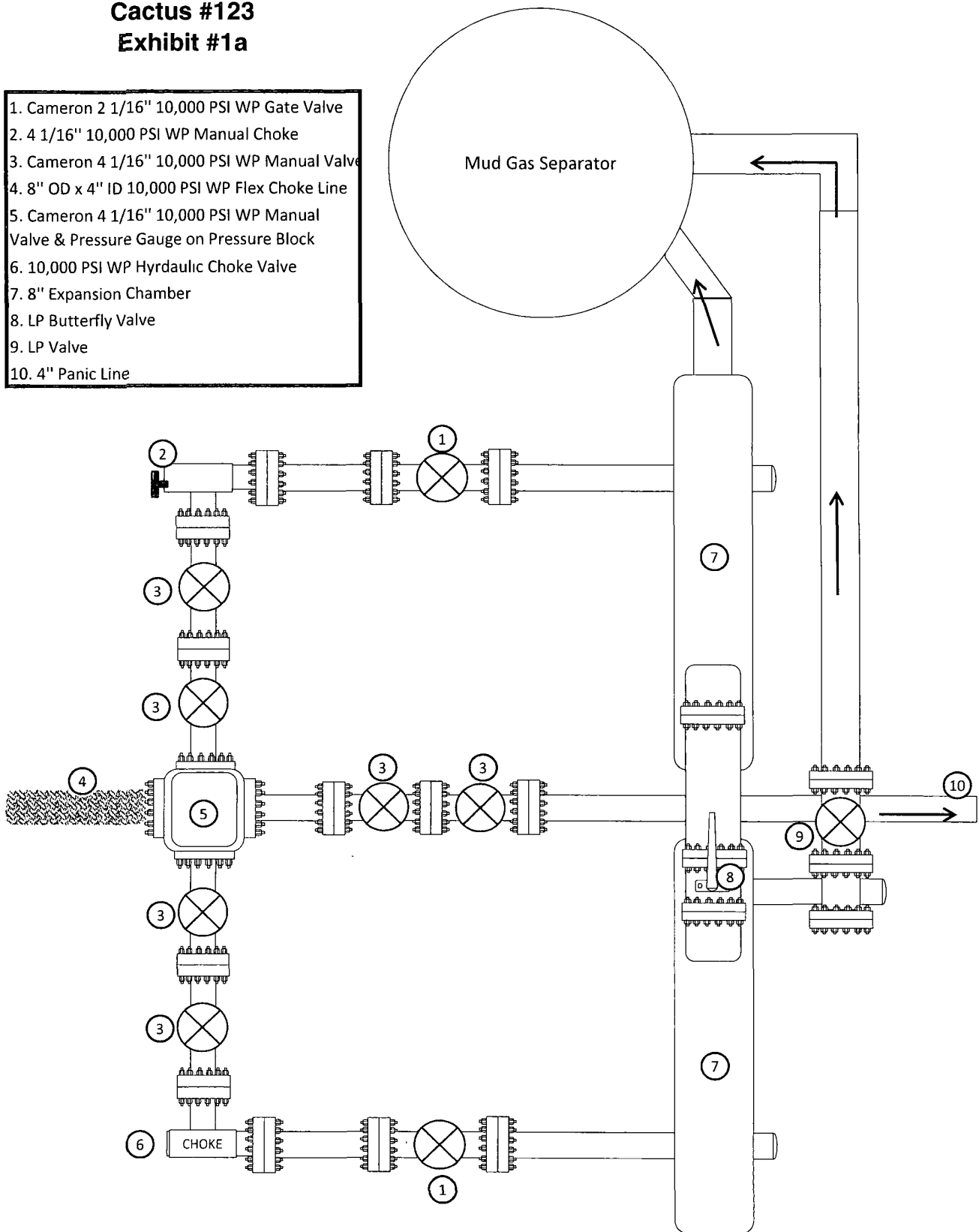
EOG RESOURCES, INC.
DIAMOND 31 FED COM #2H

ATTACHMENT TO EXHIBIT #1

1. Wear ring to be properly installed in head.
2. Blow out preventer and all fittings must be in good condition, 5000 psi W.P. minimum. Exhibit #1.
3. All fittings to be flanged
4. Safety valve must be available on rig floor at all times with proper connections, valve to be full bore 5000 psi W.P. minimum.
5. All choke and fill lines to be securely anchored especially ends of choke lines.
6. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
7. Kelly cock on kelly.
8. Extension wrenches and hand wheels to be properly installed.
9. Blow out preventer control to be located as close to driller's position as feasible.
10. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation, and meet all API specifications.

EOG Resources
Cactus #123
Exhibit #1a

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



Manufacturer: Midwest Hose & Specialty

Serial Number: SN#90067

Length: 35'

Size: OD = 8" ID = 4"

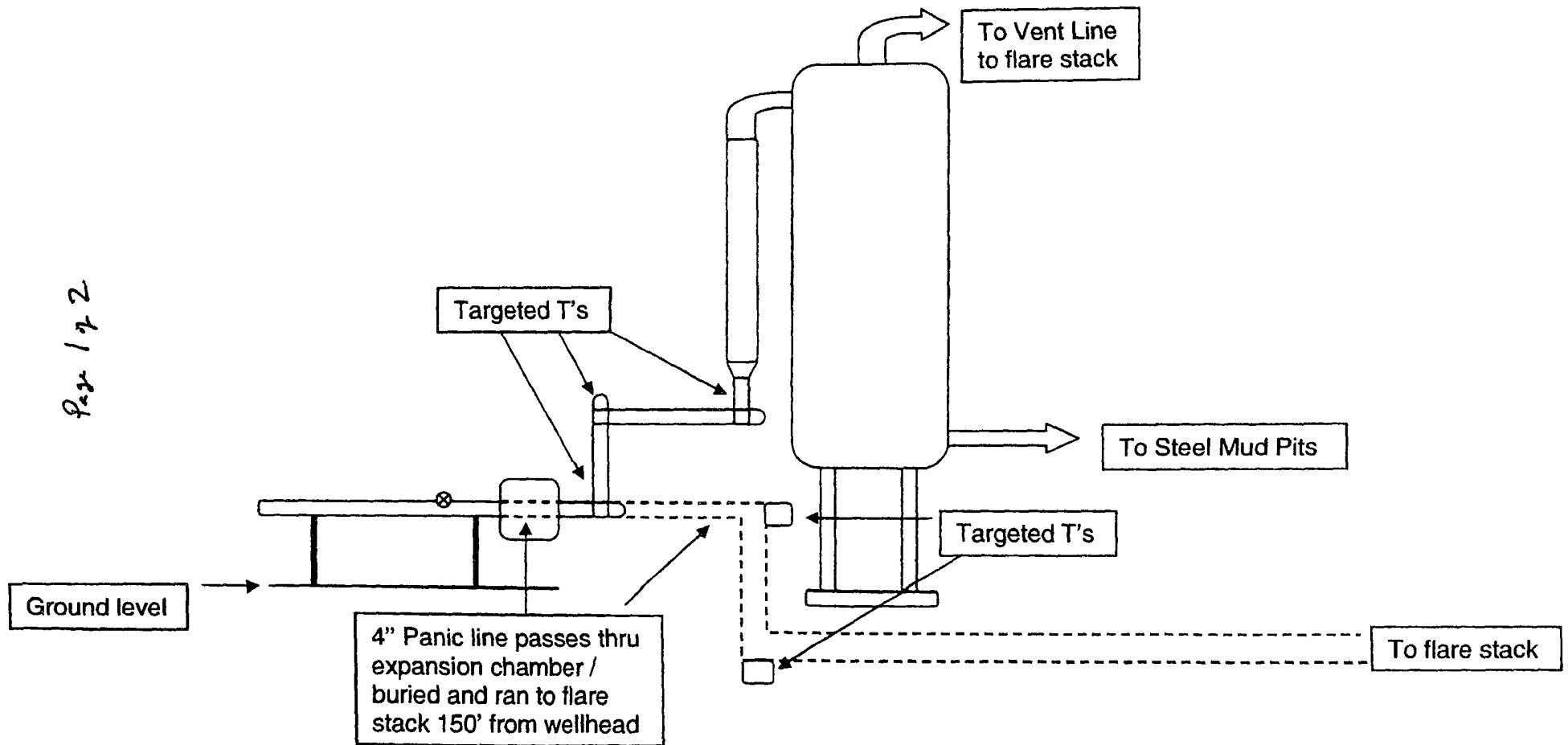
Ends: Flanges Size: 4-1/16"

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#90067 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

Profile View of Piping from Choke Manifold to the Mud Gas Separator



Page 2 of 2

Aerial View of the Piping from the Choke
Manifold to the Mud Gas Separator

