

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an
abandoned well. Use form 3160-3 (APD) for such proposals.**SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM108503
2. Name of Operator EOG RESOURCES INCORPORATED Contact: STAN WAGNER E-Mail: stan_wagner@eogresources.com		6. If Indian, Allottee, or Tribe Name
3a. Address MIDLAND, TX 79702	3b. Phone No. (include area code) Ph: 432-686-3689	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 11 T25S R33E SESE 0170FSL 1200FEL 32.138214 N Lat, 103.538014 W Lon		8. Well Name and No. VACA 11 FED 2H
		9. API Well No. 30-025-41523-00-X1
		10. Field and Pool, or Exploratory RED HILLS
		11. County or Parish, and State LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

EOG Resources intends to change the TVD and TMD from the original APD as follows:

New Proposed TVD is 10680'. New Proposed TMD is 15695'.
Amended drill plan and directional plan are attached.

14. I hereby certify that the foregoing is true and correct. Electronic Submission #231183 verified by the BLM Well Information System For EOG RESOURCES INCORPORATED, sent to the Hobbs Committed to AFMSS for processing by JOHNNY DICKERSON on 01/10/2014 (14JLD1075SE)	
Name (Printed/Typed) STAN WAGNER	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 01/06/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By CHRISTOPHER WALLS	Title PETROLEUM ENGINEER	Date 01/17/2014
Conditions of approval, if any, are attached. Approval of this notice 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.		Office Hobbs

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.

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

JAN 22 2014

EOG RESOURCES, INC.
VACA 11 FED NO. 2H
REVISED 1/6/14

HOBBS OCD

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

JAN 21 2014

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

RECEIVED

Rustler	1,135'
Top of Salt	1,480'
Base of Salt	4,850'
Lamar	5,090'
Bell Canyon	5,120'
Cherry Canyon	6,180'
Brushy Canyon	7,735'
Bone Spring Lime	9,265'
1 st Bone Spring Sand	10,195'
TD	10,680'

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

Upper Permian Sands	0- 400'	Fresh Water
Cherry Canyon	6,180'	Oil
Brushy Canyon	7,735'	Oil
Bone Spring Lime	9,265'	Oil
1 st Bone Spring Sand	10,195'	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 1,200' 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 -1,200'	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'-5,000'	9.625"	40#	HCK55	LTC	1.125	1.25	1.60
8.75"	0'-15,695'	5.500"	17#	P110 or HCP110	LTC	1.125	1.25	1.60

EOG RESOURCES, INC.
VACA 11 FED NO. 2H
REVISED 1/6/14

Cementing Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /ft	Slurry Description
1,200'	600	13.5	1.73	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	Tail: Class C + 0.005 pps Static Free + 1% CaCl ₂ + 0.25 pps CelloFlake + 0.005 gps FP-6L
5,000'	1100	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 (TOC @ surface)
	200	14.8	1.32	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
15,695'	250	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 (TOC @ 4500')
	650	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
	1375	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.

EOG RESOURCES, INC.
VACA 11 FED NO. 2H
REVISED 1/6/14

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:

The applicable depths and properties of the drilling fluid systems are as follows. Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,200'	Fresh Water Gel	8.6-8.8	28-34	N/c
1,200' – 5,000'	Saturated Brine	10.0-10.2	28-34	N/c
5,000' – 10,202'	Cut Brine Water	8.5-9.3	28-34	N/c
10,202' – 15,695' 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.

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.
VACA 11 FED NO. 2H
REVISED 1/6/14

8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not planned for this well.

GR-CCL Will be run in cased hole during completions phase of operations, from kick off point to intermediate casing point.

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

The estimated bottom-hole temperature (BHT) at TD is 165 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 4264 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.

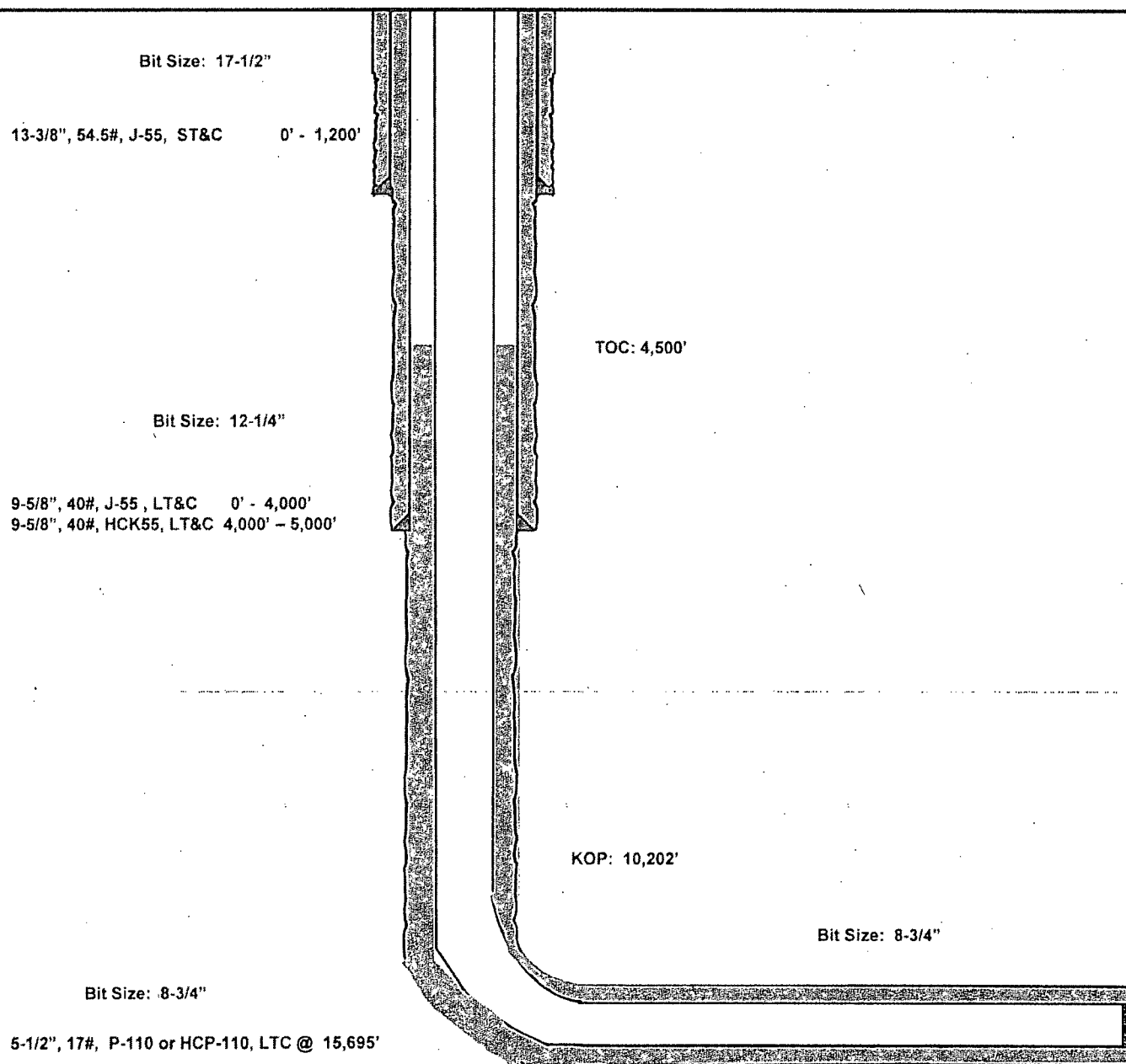
Vaca 11 Fed #2H
Red Hills
Lea County, New Mexico

Revised 1/6/14
Proposed Wellbore

170' FSL
1200' FEL
Section 11
T-25-S, R-33-E

API: 30-025- 41523

KB: 3,393.5'
GL: 3,363.0'



Lateral: 15,695' MD, 10,680' TVD

BH Location: 230' FSL & 1200' FEL
Section 14
T-25-S, R-33-E



Project: Lea County, NM (NAD27 NME)
 Site: Vaca 11 Federal
 Well: #2H
 Wellbore: WB1/Job #1410036
 Design: Plan #1 01-04-14
 Rig: Patterson 452

HOBBS OGD

JAN 21 2014

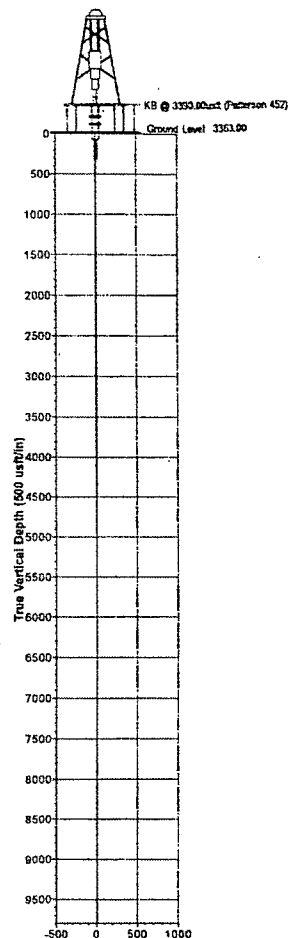
RECEIVED



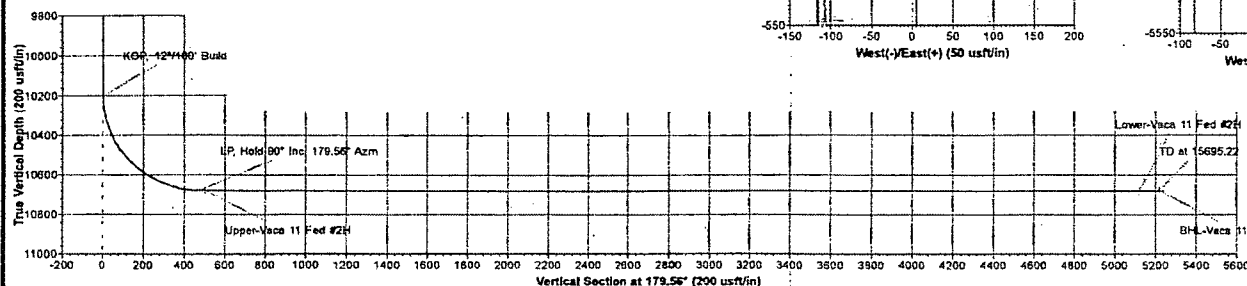
PHOENIX
 TECHNOLOGY SERVICES



Azimuth to Grid North
 True North: -0.42°
 Magnetic North: 8.83°
 Magnetic Field
 Strength: 48313.25 nT
 Dip Angle: 60.05°
 Date: 01/04/2014
 Model: IGRF2010_14



Vertical Section at 179.55° (500 usf/in)



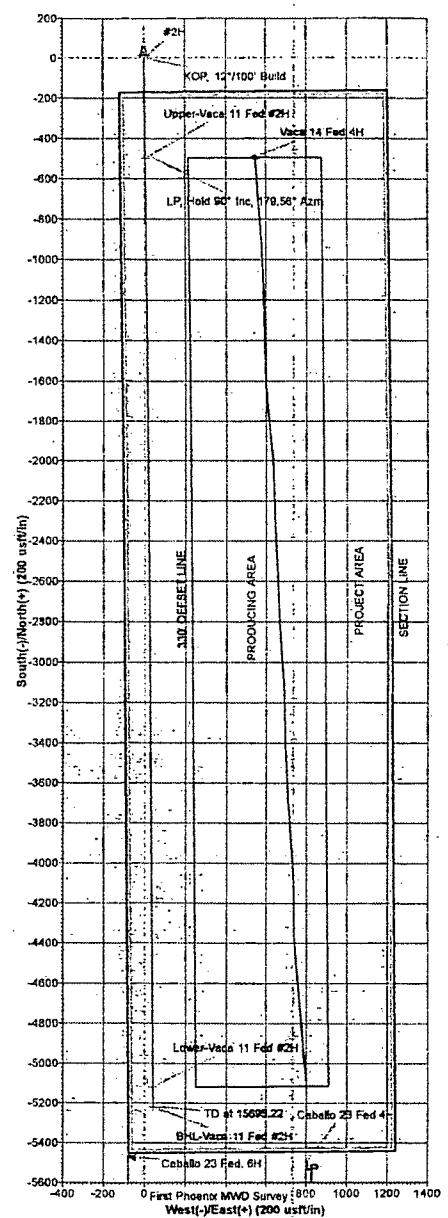
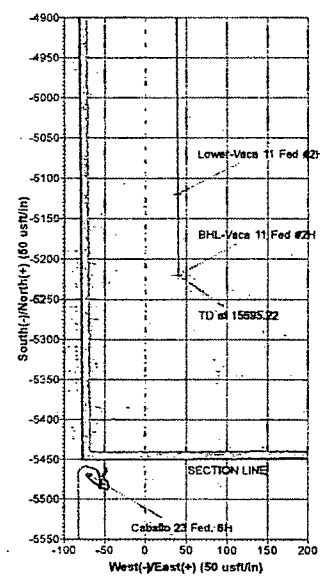
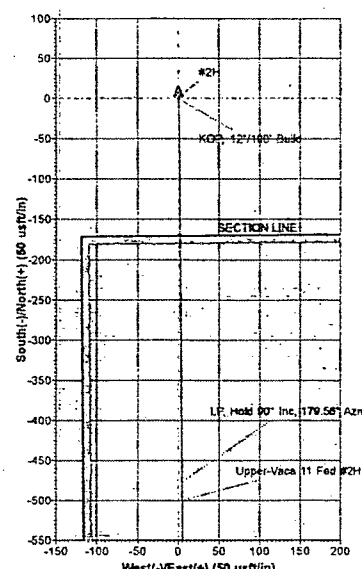
Vertical Section at 179.55° (200 usf/in)

WELL DETAILS									
	+N-S	-E-W	Northing	Ground Level	Existing	Latitude	Longitude		
	0.00	0.00	414888.00	3363.00	746178.00	32° 8' 17.32228 N	103° 32' 16.84885 W		

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N-S	-E-W	Diag	TFace	V Sect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		KOP, 12°/100' Build
2	10292.54	0.00	0.00	10292.54	0.00	0.00	0.00	0.00	0.00		LP, Hold 90° Inc, 179.55° Azm
3	10992.54	90.00	179.56	10992.54	-477.45	3.66	12.00	179.56	477.45		
4	15895.22	90.00	179.56	10680.00	-5220.00	40.00	0.00	0.00	5220.15	BHL-Vaca 11 Fed #2H	TD at 15895.22

DESIGN TARGET DETAILS									
Name	TVD	+N-S	-E-W	Northing	Existing	Latitude	Longitude	Shore	
BHL-Vaca 11 Fed #2H	10580.00	-5220.00	40.00	405658.00	746218.00	32° 7' 25.8444 N	103° 32' 16.83187 W	Point	
- plan hits target center									
Lower-Vaca 11 Fed #2H	10630.00	-5120.00	39.00	406788.00	746217.00	32° 7' 26.85407 N	103° 32' 16.83492 W	Point	
- plan misses target center by 0.73m at 15895.22m MD (10680.00 TVD, -5120.00 N, 39.23 E)									
Upper-Vaca 11 Fed #2H	10680.00	-500.00	4.00	414388.00	746182.00	32° 8' 12.37418 N	103° 32' 16.84627 W	Point	
- plan misses target center by 0.17m at 10975.09m MD (10680.00 TVD, -500.00 N, 3.63 E)									

LEGEND	
—	Caballo 23 Fed 4H, Wellbore #1, Wellbore #1 VO
—	Caballo 23 Fed 6H, Wellbore #1, Wellbore #1 VO
—	Vaca 14 Fed 3H, Wellbore #1, Wellbore #1 VO
—	Vaca 14 Fed 4H, Wellbore #1, Wellbore #1 VO
—	Plan #1 01-04-14





EOG Resources

Lea County, NM (NAD27 NME)

Vaca 11 Federal

#2H

WB1/Job #1410036

Plan: Plan #1 01-04-14

Standard Planning Report

04 January, 2014





Phoenix Technology Services Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well #2H
Company:	EOG Resources	TVD Reference:	KB @ 3390.00usft (Patterson 452)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	KB @ 3390.00usft (Patterson 452)
Site:	Vaca 11 Federal	North Reference:	Grid
Well:	#2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1/Job #1410036		
Design:	Plan #1 01-04-14		

Project:	Lea County, NM (NAD27 NME)		
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:	Vaca 11 Federal		
Site Position:	Map	Northings:	414,888.00 usft
From:		Easting:	746,178.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 8' 17.32226 N
		Longitude:	103° 32' 16.84885 W
		Grid Convergence:	0.42 °

Well:	#2H					
Well Position	+N-S	0.00 usft	Northings:	414,888.00 usft	Latitude:	32° 8' 17.32226 N
	+E-W	0.00 usft	Easting:	746,178.00 usft	Longitude:	103° 32' 16.84885 W
Position Uncertainty	0.00 usft	Wellhead Elevation:		Ground Level:	3,363.00 usft	

Wellbore:	WB1/Job #1410036				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010_14	01/04/14	7.25	60.05	48,313

Design:	Plan #1 01-04-14			
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	179.56

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Bulld 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	
10,202.54	0.00	0.00	10,202.54	0.00	0.00	0.00	0.00	0.00	0.00	
10,952.54	90.00	179.56	10,680.00	-477.45	3.66	12.00	12.00	0.00	179.56	
15,695.22	90.00	179.56	10,680.00	-5,220.00	40.00	0.00	0.00	0.00	0.00	BHL-Vaca 11 Fed #2H



Phoenix Technology Services
Planning Report



Database: GCR DB
Company: EOG Resources
Project: Lea County, NM (NAD27 NME)
Site: Vaca 11 Federal
Well: #2H
Wellbore: VBI/Job #1410038
Design: Plan #1 01-04-14

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Well #2H
KB @ 3390.00usft (Patterson 452)
KB @ 3390.00usft (Patterson 452)
Grid
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
10,202.54	0.00	0.00	10,202.54	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 12°/100' Build									
10,300.00	11.70	179.56	10,299.32	-9.91	0.08	9.91	12.00	12.00	0.00
10,400.00	23.70	179.56	10,394.42	-40.25	-0.31	40.25	12.00	12.00	0.00
10,500.00	35.70	179.56	10,481.13	-89.70	0.69	89.70	12.00	12.00	0.00
10,600.00	47.70	179.56	10,555.66	-156.09	1.20	156.10	12.00	12.00	0.00
10,700.00	59.70	179.56	10,614.76	-236.53	1.81	236.54	12.00	12.00	0.00
10,800.00	71.70	179.56	10,655.84	-327.50	2.51	327.51	12.00	12.00	0.00
10,900.00	83.70	179.56	10,677.11	-425.02	3.26	425.04	12.00	12.00	0.00
10,952.54	90.00	179.56	10,680.00	-477.45	3.66	477.46	12.00	12.00	0.00
LP, Hold 90° Inc, 179.56° Azm									
10,975.09	90.00	179.56	10,680.00	-500.00	3.83	500.02	0.00	0.00	0.00
Upper-Vaca 11 Fed #2H									
11,000.00	90.00	179.56	10,680.00	-524.91	4.02	524.93	0.00	0.00	0.00
11,100.00	90.00	179.56	10,680.00	-624.91	4.79	624.93	0.00	0.00	0.00
11,200.00	90.00	179.56	10,680.00	-724.91	5.55	724.93	0.00	0.00	0.00
11,300.00	90.00	179.56	10,680.00	-824.91	6.32	824.93	0.00	0.00	0.00
11,400.00	90.00	179.56	10,680.00	-924.90	7.09	924.93	0.00	0.00	0.00
11,500.00	90.00	179.56	10,680.00	-1,024.90	7.85	1,024.93	0.00	0.00	0.00
11,600.00	90.00	179.56	10,680.00	-1,124.90	8.62	1,124.93	0.00	0.00	0.00
11,700.00	90.00	179.56	10,680.00	-1,224.89	9.39	1,224.93	0.00	0.00	0.00
11,800.00	90.00	179.56	10,680.00	-1,324.89	10.15	1,324.93	0.00	0.00	0.00
11,900.00	90.00	179.56	10,680.00	-1,424.89	10.92	1,424.93	0.00	0.00	0.00
12,000.00	90.00	179.56	10,680.00	-1,524.88	11.68	1,524.93	0.00	0.00	0.00
12,100.00	90.00	179.56	10,680.00	-1,624.88	12.45	1,624.93	0.00	0.00	0.00
12,200.00	90.00	179.56	10,680.00	-1,724.88	13.22	1,724.93	0.00	0.00	0.00
12,300.00	90.00	179.56	10,680.00	-1,824.88	13.98	1,824.93	0.00	0.00	0.00
12,400.00	90.00	179.56	10,680.00	-1,924.87	14.75	1,924.93	0.00	0.00	0.00
12,500.00	90.00	179.56	10,680.00	-2,024.87	15.52	2,024.93	0.00	0.00	0.00
12,600.00	90.00	179.56	10,680.00	-2,124.87	16.28	2,124.93	0.00	0.00	0.00
12,700.00	90.00	179.56	10,680.00	-2,224.86	17.05	2,224.93	0.00	0.00	0.00
12,800.00	90.00	179.56	10,680.00	-2,324.86	17.82	2,324.93	0.00	0.00	0.00
12,900.00	90.00	179.56	10,680.00	-2,424.86	18.58	2,424.93	0.00	0.00	0.00
13,000.00	90.00	179.56	10,680.00	-2,524.86	19.35	2,524.93	0.00	0.00	0.00
13,100.00	90.00	179.56	10,680.00	-2,624.85	20.11	2,624.93	0.00	0.00	0.00
13,200.00	90.00	179.56	10,680.00	-2,724.85	20.88	2,724.93	0.00	0.00	0.00
13,300.00	90.00	179.56	10,680.00	-2,824.85	21.65	2,824.93	0.00	0.00	0.00
13,400.00	90.00	179.56	10,680.00	-2,924.84	22.41	2,924.93	0.00	0.00	0.00
13,500.00	90.00	179.56	10,680.00	-3,024.84	23.18	3,024.93	0.00	0.00	0.00
13,600.00	90.00	179.56	10,680.00	-3,124.84	23.95	3,124.93	0.00	0.00	0.00
13,700.00	90.00	179.56	10,680.00	-3,224.84	24.71	3,224.93	0.00	0.00	0.00
13,800.00	90.00	179.56	10,680.00	-3,324.83	25.48	3,324.93	0.00	0.00	0.00
13,900.00	90.00	179.56	10,680.00	-3,424.83	26.24	3,424.93	0.00	0.00	0.00
14,000.00	90.00	179.56	10,680.00	-3,524.83	27.01	3,524.93	0.00	0.00	0.00
14,100.00	90.00	179.56	10,680.00	-3,624.82	27.78	3,624.93	0.00	0.00	0.00
14,200.00	90.00	179.56	10,680.00	-3,724.82	28.54	3,724.93	0.00	0.00	0.00
14,300.00	90.00	179.56	10,680.00	-3,824.82	29.31	3,824.93	0.00	0.00	0.00
14,400.00	90.00	179.56	10,680.00	-3,924.81	30.08	3,924.93	0.00	0.00	0.00
14,500.00	90.00	179.56	10,680.00	-4,024.81	30.84	4,024.93	0.00	0.00	0.00
14,600.00	90.00	179.56	10,680.00	-4,124.81	31.61	4,124.93	0.00	0.00	0.00
14,700.00	90.00	179.56	10,680.00	-4,224.81	32.37	4,224.93	0.00	0.00	0.00
14,800.00	90.00	179.56	10,680.00	-4,324.80	33.14	4,324.93	0.00	0.00	0.00



Phoenix Technology Services Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well #2H
Company:	EOG Resources	TVD Reference:	KB @ 3390.00usft (Patterson 452)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	KB @ 3390.00usft (Patterson 452)
Site:	Vaca 11 Federal	North Reference:	Grid
Well:	#2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1/Job #1410038		
Design:	Plan #1 01-04-14		

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)
14,900.00	90.00	179.56	10,680.00	-4,424.80	33.91	4,424.93	0.00	0.00	0.00
15,000.00	90.00	179.56	10,680.00	-4,524.80	34.67	4,524.93	0.00	0.00	0.00
15,100.00	90.00	179.56	10,680.00	-4,624.79	35.44	4,624.93	0.00	0.00	0.00
15,200.00	90.00	179.56	10,680.00	-4,724.79	36.21	4,724.93	0.00	0.00	0.00
15,300.00	90.00	179.56	10,680.00	-4,824.79	36.97	4,824.93	0.00	0.00	0.00
15,400.00	90.00	179.56	10,680.00	-4,924.79	37.74	4,924.93	0.00	0.00	0.00
15,500.00	90.00	179.56	10,680.00	-5,024.78	38.50	5,024.93	0.00	0.00	0.00
15,595.22	90.00	179.56	10,680.00	-5,120.00	39.23	5,120.15	0.00	0.00	0.00
Lower Vaca 11 Fed #2H									
15,600.00	90.00	179.56	10,680.00	-5,124.78	39.27	5,124.93	0.00	0.00	0.00
15,695.22	90.00	179.56	10,680.00	-5,220.00	40.00	5,220.15	0.00	0.00	0.00
TD at 15695.22 - BHL Vaca 11 Fed #2H									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
hit/miss target									
Shape									
Upper Vaca 11 Fed #2H	0.00	0.00	10,680.00	-500.00	4.00	414,388.00	746,182.00	32° 8' 12.37418 N	103° 32' 16.84527 W
- plan misses target center by 0.17usft at 10975.09usft MD (10680.00 TVD, -500.00 N, 3.83 E)									
- Point									
BHL Vaca 11 Fed #2H	0.00	0.00	10,680.00	-5,220.00	40.00	409,668.00	746,218.00	32° 7' 25.66444 N	103° 32' 16.83187 W
- plan hits target center									
- Point									
Lower Vaca 11 Fed #2H	0.00	0.00	10,680.00	-5,120.00	39.00	409,768.00	746,217.00	32° 7' 26.65407 N	103° 32' 16.83492 W
- plan misses target center by 0.23usft at 15595.22usft MD (10680.00 TVD, -5120.00 N, 39.23 E)									
- Point									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,202.54	10,202.54	0.00	0.00	KOP, 12°/100' Build
10,952.54	10,680.00	-477.45	3.66	LP, Hold 90° Inc, 179.56° Azm
15,695.22	10,680.00	-5,220.00	40.00	TD at 15695.22