

Permit Information:**HOBBS OCD**

Well Name: Opal 36 State No. 2H

MAY 05 2014

Location:**RECEIVED**

SL: 220' FSL & 319' FEL, Section 36, T-25-S, R-34-E, Lea Co., N.M.

BHL: 230' FNL & 880' FEL, Section 36, T-25-S, R-34-E, Lea Co., N.M.

Casing Program:

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0 - 1,035'	13.375"	54.5#	J55	STC	1.125	1.25	1.60
12.25"	0-4000'	9.625"	40#	J55	LTC	1.125	1.25	1.60
12.25"	4000' - 5100'	9.625"	40#	HCK-55	LTC	1.125	1.25	1.60
8.75"	0'-14,231'	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60

Cement Program:

Depth	No. Sacks	Wt. ppg	Yld Ft ³ /ft	Slurry Description
1,035'	500	13.5	1.73	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	200	14.8	1.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
5,100'	800	12.7	2.22	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
14,231'	375	10.8	3.67	60:40:0 Class C + 15.0 pps BA-90 + 4% MPA-5 + 3.0% SMS + 5.0% A-10 + 1.0% BA-10A + 0.80% ASA-301 + 2.55% R-21 + 8.0 pps LCM-1
	400	11.8	2.38	50:50:10 Class H + 0.80% FL-52 + 0.30% ASA-301 + 0.40% SMS + 2.0% Salt + 0.30% R-21 + 3.0 pps LCM-1 + 0.25 pps Celloflake
	1325	14.2	1.28	50:50:2 Class H + 0.65% FL-52 + 0.45% CD-32 + 0.10% SMS + 2.0% Salt

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 - 1035'	Fresh - Gel	8.6-8.8	28-34	N/c
1035' - 5,100'	Brine	10.0-10.2	28-34	N/c
5,100' - 8,994'	Cut Brine	8.4-9.0	28-34	N/c
KOP - 14,231' Lateral	Cut Brine	9.0-9.5	40-42	8-10

MAY 07 2014

HOBBS OCD

MAY 05 2014

Opal 36 State #2H
Red Hills
Lea County, New Mexico

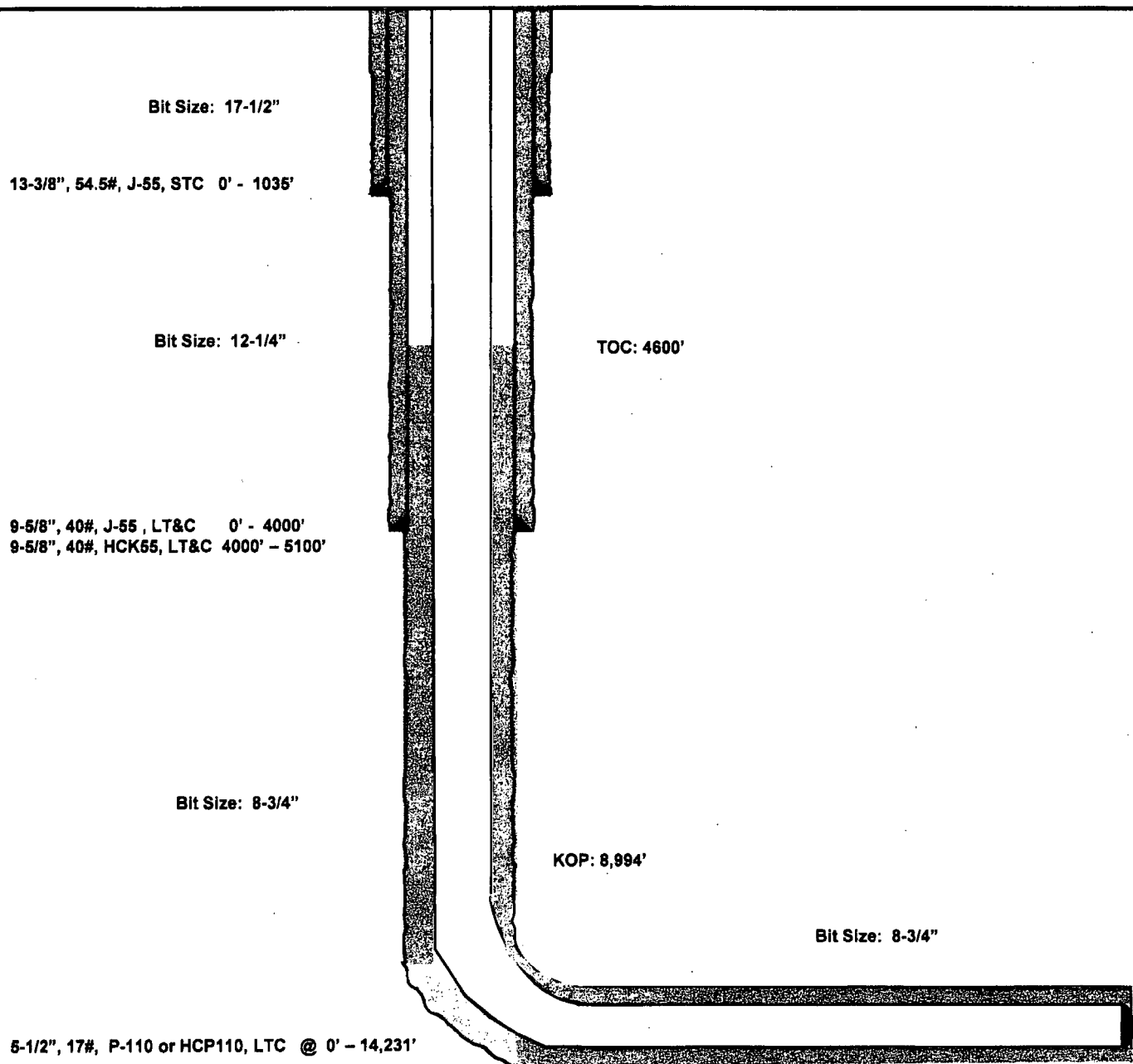
RECEIVED

220' FSL
319' FEL
Section 36
T-25-S, R-34-E

Proposed Wellbore

KB: 3,314'
GL: 3,284'

API: 30-025-



Lateral: 14,231' MD, 9,472' TVD

BH Location: 230' FNL & 880' FEL
Section 36
T-25-S, R-34-E



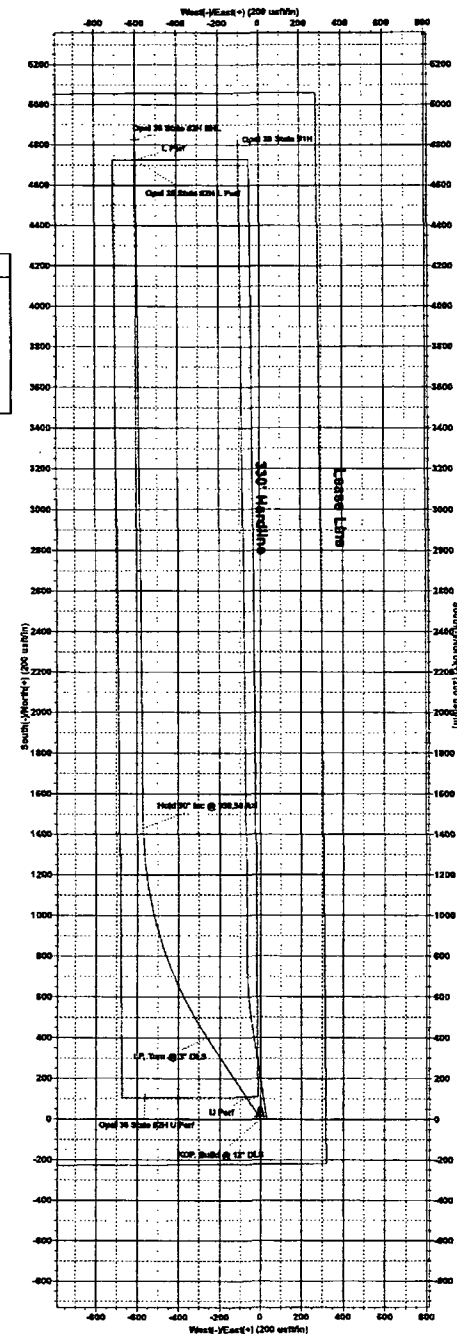
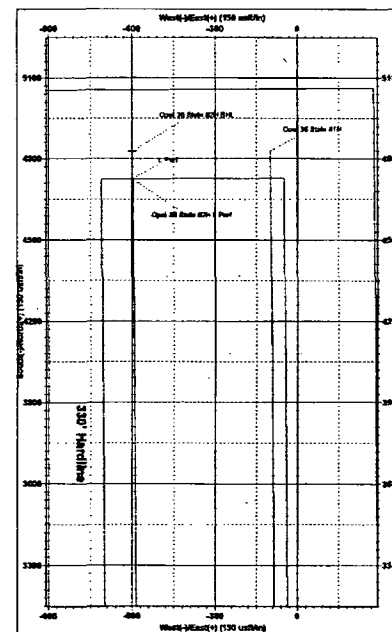
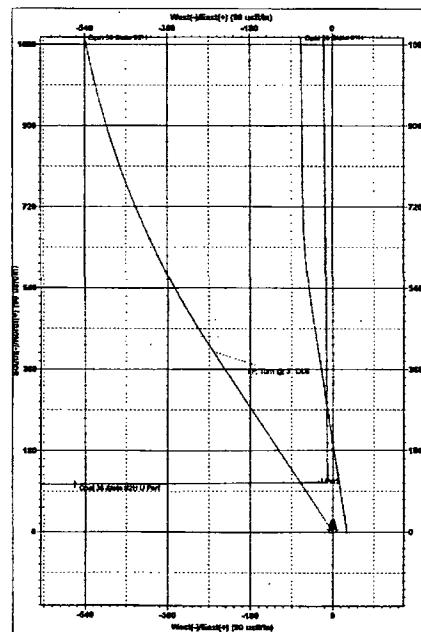
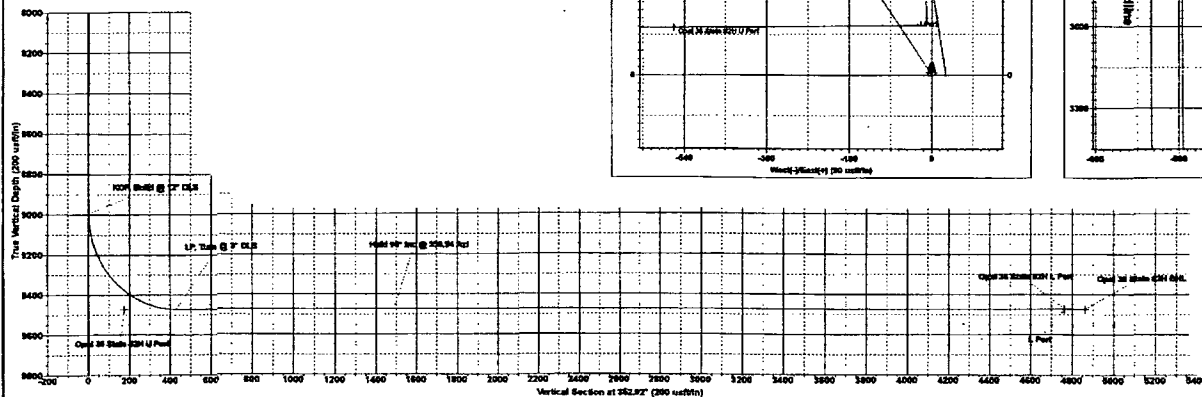
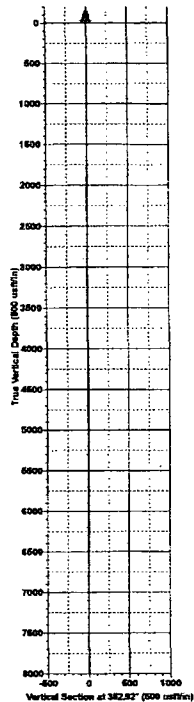
Lea County, NM
Opal 36 State #2H
3284' GL + 30' KB
Plan #1

PROJECT DETAILS: Lea County, NM
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

WELL DETAILS: Opal 36 State #2H
Ground Level: 3284.00
Northing: 394083.00 Easting: 784220.00
Latitude: 32° 4' 48.456 N Longitude: 103° 24' 56.510 W

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dog	TFace	VSeal	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	894.54	0.00	0.00	894.54	0.00	0.00	0.00	0.00	0.00	
3	974.54	0.00	328.88	9472.00	396.75	-261.09	12.00	328.88	428.87	KOP Build @ 12° DLS
4	10834.29	0.00	359.84	9472.00	1428.88	-871.88	3.00	90.00	1488.44	LP Turn @ 3° DLS
5	14231.82	0.00	359.84	9472.00	4828.00	-899.00	0.00	0.00	4883.03	Hold 90° Inc @ 389.84 Azi TD at 14231.82

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)					
Name	TVD	+N-S	+E-W	Northing	Easting
Opal 36 State #2H BHL	9472.00	4828.00	-899.00	394089.00	783621.00
Opal 36 State #2H U Perf	9472.00	4728.00	-899.00	394089.00	783621.00
Opal 36 State #2H U Perf	9472.00	108.00	-662.00	394189.00	783654.00





EOG Resources - Midland

Lea County, NM

Opal 36 State

Opal 36 State #2H

OH

Plan: Plan #1

Standard Survey Report

30 April, 2014



EOG Resources, Inc.

Survey Report

Company: EOG Resources - Midland
Project: Lea County, NM
Site: Opal 36 State
Well: Opal 36 State #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Opal 36 State #2H
TVD Reference: WELL @ 3314.00usft (3284' GL + 30' KB)
MD Reference: WELL @ 3314.00usft (3284' GL + 30' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project	Lea County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Opal 36 State			
Site Position:		Northing:		394,083.00 usft	
From:		Easting:		784,250.00 usft	
Position Uncertainty:		Slot Radius:		Grid Convergence:	
Map		0.00 usft		13-3/16 "	
				32° 4' 48.454 N	
				103° 24' 56.161 W	
				0.49 °	

Well	Opal 36 State #2H					
Well Position	+N/-S	0.00 usft	Northing:	394,083.00 usft	Latitude:	32° 4' 48.456 N
	+E/-W	0.00 usft	Easting:	784,220.00 usft	Longitude:	103° 24' 56.510 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,284.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF201014	4/30/2014	7.15	60.01	48,260

Design	Plan #1			
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	352.92

Survey Tool Program		Date 4/30/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	14,231.33	Plan #1 (OH)	MWD	MWD - Standard

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld 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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00



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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)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00



EOG Resources, Inc.

Survey Report

Company: EOG Resources - Midland
Project: Lea County, NM
Site: Opal 36 State
Well: Opal 36 State #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Opal 36 State #2H
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MD Reference: WELL @ 3314.00usft (3284' GL + 30' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,994.54	0.00	0.00	8,994.54	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Build @ 12° DLS									
9,000.00	0.66	326.85	9,000.00	0.03	-0.02	0.03	12.00	12.00	0.00
9,025.00	3.66	326.85	9,024.98	0.81	-0.53	0.87	12.00	12.00	0.00
9,050.00	6.66	326.85	9,049.88	2.69	-1.76	2.89	12.00	12.00	0.00
9,075.00	9.66	326.85	9,074.62	5.66	-3.70	6.07	12.00	12.00	0.00
9,100.00	12.66	326.85	9,099.14	9.71	-6.34	10.42	12.00	12.00	0.00



EOG Resources, Inc.

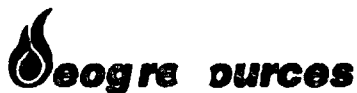
Survey Report

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Project: Lea County, NM
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Well: Opal 36 State #2H
Wellbore: OH
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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)
9,125.00	15.66	326.85	9,123.38	14.83	-9.69	15.91	12.00	12.00	0.00
9,150.00	18.66	326.85	9,147.27	21.00	-13.72	22.53	12.00	12.00	0.00
9,175.00	21.66	326.85	9,170.73	28.21	-18.43	30.27	12.00	12.00	0.00
9,200.00	24.66	326.85	9,193.72	36.44	-23.80	39.10	12.00	12.00	0.00
9,225.00	27.66	326.85	9,216.16	45.67	-29.83	49.00	12.00	12.00	0.00
9,250.00	30.66	326.85	9,237.99	55.87	-36.49	59.93	12.00	12.00	0.00
9,275.00	33.66	326.85	9,259.15	67.00	-43.76	71.88	12.00	12.00	0.00
9,300.00	36.66	326.85	9,279.59	79.05	-51.63	84.81	12.00	12.00	0.00
9,325.00	39.66	326.85	9,299.24	91.98	-60.08	98.68	12.00	12.00	0.00
9,350.00	42.66	326.85	9,318.06	105.76	-69.07	113.46	12.00	12.00	0.00
9,350.43	42.71	326.85	9,318.38	106.00	-69.23	113.72	12.00	12.00	0.00
U Perf									
9,375.00	45.66	326.85	9,336.00	120.34	-78.60	129.10	12.00	12.00	0.00
9,400.00	48.66	326.85	9,353.00	135.68	-88.62	145.56	12.00	12.00	0.00
9,425.00	51.66	326.85	9,369.01	151.75	-99.11	162.80	12.00	12.00	0.00
9,450.00	54.66	326.85	9,384.00	168.50	-110.05	180.77	12.00	12.00	0.00
9,475.00	57.66	326.85	9,397.92	185.88	-121.41	199.42	12.00	12.00	0.00
9,500.00	60.66	326.85	9,410.74	203.85	-133.14	218.70	12.00	12.00	0.00
9,525.00	63.66	326.85	9,422.42	222.35	-145.23	238.55	12.00	12.00	0.00
9,550.00	66.66	326.85	9,432.92	241.35	-157.63	258.92	12.00	12.00	0.00
9,575.00	69.66	326.85	9,442.22	260.77	-170.32	279.76	12.00	12.00	0.00
9,600.00	72.66	326.85	9,450.29	280.58	-183.26	301.01	12.00	12.00	0.00
9,625.00	75.66	326.85	9,457.12	300.71	-196.41	322.61	12.00	12.00	0.00
9,650.00	78.66	326.85	9,462.68	321.12	-209.73	344.51	12.00	12.00	0.00
9,675.00	81.66	326.85	9,466.95	341.74	-223.20	366.63	12.00	12.00	0.00
9,700.00	84.66	326.85	9,469.93	362.52	-236.77	388.92	12.00	12.00	0.00
9,725.00	87.66	326.85	9,471.61	383.40	-250.41	411.32	12.00	12.00	0.00
9,744.54	90.00	326.85	9,472.01	399.75	-261.09	428.87	12.00	12.00	0.00
LP, Turn @ 3° DLS									
9,800.00	90.00	328.51	9,472.01	446.62	-290.74	479.03	3.00	0.00	3.00
9,900.00	90.00	331.51	9,472.01	533.23	-340.72	571.13	3.00	0.00	3.00
10,000.00	90.00	334.51	9,472.01	622.33	-388.09	665.14	3.00	0.00	3.00
10,100.00	90.00	337.51	9,472.00	713.68	-426.74	760.81	3.00	0.00	3.00
10,200.00	90.00	340.51	9,472.00	807.04	-462.55	857.86	3.00	0.00	3.00
10,300.00	90.00	343.51	9,472.00	902.14	-493.42	956.05	3.00	0.00	3.00
10,400.00	90.00	346.51	9,472.00	998.73	-519.28	1,055.08	3.00	0.00	3.00
10,500.00	90.00	349.51	9,472.00	1,096.54	-540.04	1,154.70	3.00	0.00	3.00
10,600.00	90.00	352.51	9,472.00	1,195.30	-555.66	1,254.84	3.00	0.00	3.00
10,700.00	90.00	355.51	9,472.00	1,294.74	-566.09	1,354.61	3.00	0.00	3.00
10,800.00	90.00	358.51	9,472.00	1,394.59	-571.30	1,454.34	3.00	0.00	3.00
10,834.29	90.00	359.54	9,472.00	1,428.88	-571.88	1,488.44	3.00	0.00	3.00
Hold 90° Inc @ 359.54 Azi									
10,900.00	90.00	359.54	9,472.00	1,494.59	-572.40	1,553.71	0.00	0.00	0.00
11,000.00	90.00	359.54	9,472.00	1,594.58	-573.20	1,653.04	0.00	0.00	0.00



EOG Resources, Inc.

Survey Report

Company: EOG Resources - Midland
Project: Lea County, NM
Site: Opal 36 State
Well: Opal 36 State #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Opal 36 State #2H
TVD Reference: WELL @ 3314.00usft (3284' GL + 30' KB)
MD Reference: WELL @ 3314.00usft (3284' GL + 30' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
11,100.00	90.00	359.54	9,472.00	1,694.58	-574.00	1,752.38	0.00	0.00	0.00
11,200.00	90.00	359.54	9,472.00	1,794.58	-574.80	1,851.71	0.00	0.00	0.00
11,300.00	90.00	359.54	9,472.00	1,894.57	-575.80	1,951.04	0.00	0.00	0.00
11,400.00	90.00	359.54	9,472.00	1,994.57	-576.39	2,050.38	0.00	0.00	0.00
11,500.00	90.00	359.54	9,472.00	2,094.57	-577.19	2,149.71	0.00	0.00	0.00
11,600.00	90.00	359.54	9,472.00	2,194.56	-577.99	2,249.05	0.00	0.00	0.00
11,700.00	90.00	359.54	9,472.00	2,294.56	-578.79	2,348.38	0.00	0.00	0.00
11,800.00	90.00	359.54	9,472.00	2,394.56	-579.59	2,447.71	0.00	0.00	0.00
11,900.00	90.00	359.54	9,472.00	2,494.55	-580.39	2,547.05	0.00	0.00	0.00
12,000.00	90.00	359.54	9,472.00	2,594.55	-581.18	2,646.38	0.00	0.00	0.00
12,100.00	90.00	359.54	9,472.00	2,694.55	-581.98	2,745.71	0.00	0.00	0.00
12,200.00	90.00	359.54	9,472.00	2,794.54	-582.78	2,845.05	0.00	0.00	0.00
12,300.00	90.00	359.54	9,472.00	2,894.54	-583.58	2,944.38	0.00	0.00	0.00
12,400.00	90.00	359.54	9,472.00	2,994.54	-584.38	3,043.71	0.00	0.00	0.00
12,500.00	90.00	359.54	9,472.00	3,094.53	-585.18	3,143.05	0.00	0.00	0.00
12,600.00	90.00	359.54	9,472.00	3,194.53	-585.97	3,242.38	0.00	0.00	0.00
12,700.00	90.00	359.54	9,472.00	3,294.53	-586.77	3,341.72	0.00	0.00	0.00
12,800.00	90.00	359.54	9,472.00	3,394.52	-587.57	3,441.05	0.00	0.00	0.00
12,900.00	90.00	359.54	9,472.00	3,494.52	-588.37	3,540.38	0.00	0.00	0.00
13,000.00	90.00	359.54	9,472.00	3,594.52	-589.17	3,639.72	0.00	0.00	0.00
13,100.00	90.00	359.54	9,472.00	3,694.52	-589.97	3,739.05	0.00	0.00	0.00
13,200.00	90.00	359.54	9,472.00	3,794.51	-590.76	3,838.38	0.00	0.00	0.00
13,300.00	90.00	359.54	9,472.00	3,894.51	-591.56	3,937.72	0.00	0.00	0.00
13,400.00	90.00	359.54	9,472.00	3,994.51	-592.36	4,037.05	0.00	0.00	0.00
13,500.00	90.00	359.54	9,472.00	4,094.50	-593.16	4,136.39	0.00	0.00	0.00
13,600.00	90.00	359.54	9,472.00	4,194.50	-593.96	4,235.72	0.00	0.00	0.00
13,700.00	90.00	359.54	9,472.00	4,294.50	-594.76	4,335.05	0.00	0.00	0.00
13,800.00	90.00	359.54	9,472.00	4,394.49	-595.55	4,434.39	0.00	0.00	0.00
13,900.00	90.00	359.54	9,472.00	4,494.49	-596.35	4,533.72	0.00	0.00	0.00
14,000.00	90.00	359.54	9,472.00	4,594.49	-597.15	4,633.05	0.00	0.00	0.00
14,100.00	90.00	359.54	9,472.00	4,694.48	-597.95	4,732.39	0.00	0.00	0.00
14,131.52	90.00	359.54	9,472.00	4,726.00	-598.20	4,763.70	0.00	0.00	0.00
L Perf									
14,200.00	90.00	359.54	9,472.00	4,794.48	-598.75	4,831.72	0.00	0.00	0.00
14,231.52	90.00	359.54	9,472.00	4,826.00	-599.00	4,863.03	0.00	0.00	0.00
TD at 14231.52									



EOG Resources, Inc.

Survey Report

Company: EOG Resources - Midland
Project: Lea County, NM
Site: Opal 36 State
Well: Opal 36 State #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Opal 36 State #2H
TVD Reference: WELL @ 3314.00usft (3284' GL + 30' KB)
MD Reference: WELL @ 3314.00usft (3284' GL + 30' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Opal 36 State #2H U Pe - plan misses target center by 412.62usft at 9663.94usft MD (9485.22 TVD, 332.59 N, -217.23 E) - Point	0.00	0.00	9,472.00	106.00	-562.00	394,189.00	783,658.00	32° 4' 48.552 N	103° 25' 3.031 W
Opal 36 State #2H BHL - plan hits target center - Point	0.00	0.00	9,472.00	4,826.00	-599.00	398,908.00	783,621.00	32° 5' 36.261 N	103° 25' 2.995 W
Opal 36 State #2H L Per - plan misses target center by 0.80usft at 14131.52usft MD (9472.00 TVD, 4726.01 N, -598.20 E) - Point	0.00	0.00	9,472.00	4,726.00	-599.00	398,809.00	783,621.00	32° 5' 35.272 N	103° 25' 3.005 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8995	8995	0	0	KOP, Build @ 12° DLS
9350	9318	106	-69	U Perf
9745	9472	400	-261	LP, Turn @ 3° DLS
10,834	9472	1429	-572	Hold 90° Inc @ 359.54 Azi
14,132	9472	4726	-598	L Perf
14,232	9472	4826	-599	TD at 14231.52

Checked By: _____ Approved By: _____ Date: _____