

Permit Information:

Well Name: Gem 36 State Com No. 1H

Location:

SL: 220' FSL & 632' FEL, Section 36, T-25-S, R-32-E, Lea Co., N.M.

BHL: 230' FNL & 380' FEL, Section 36, T-25-S, R-32-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 - 770'	13.375"	54.5#	J55	STC	1.125	1.25	1.60
12.25"	0-3700'	9.625"	40#	J55	LTC	1.125	1.25	1.60
12.25"	3700' - 4700'	9.625"	40#	HCK-55	LTC	1.125	1.25	1.60
8.75"	0'-13,889'	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
770'	300	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
4,700'	700	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
13,889'	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
	1300	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 - 770'	Fresh - Gel	8.6-8.8	28-34	N/c
770' - 4,700'	Brine	10.0-10.2	28-34	N/c
4,700' - 8,752'	Cut Brine	8.4-9.0	28-34	N/c
KOP - 13,889' Lateral	Cut Brine	9.0-9.5	40-42	8-10

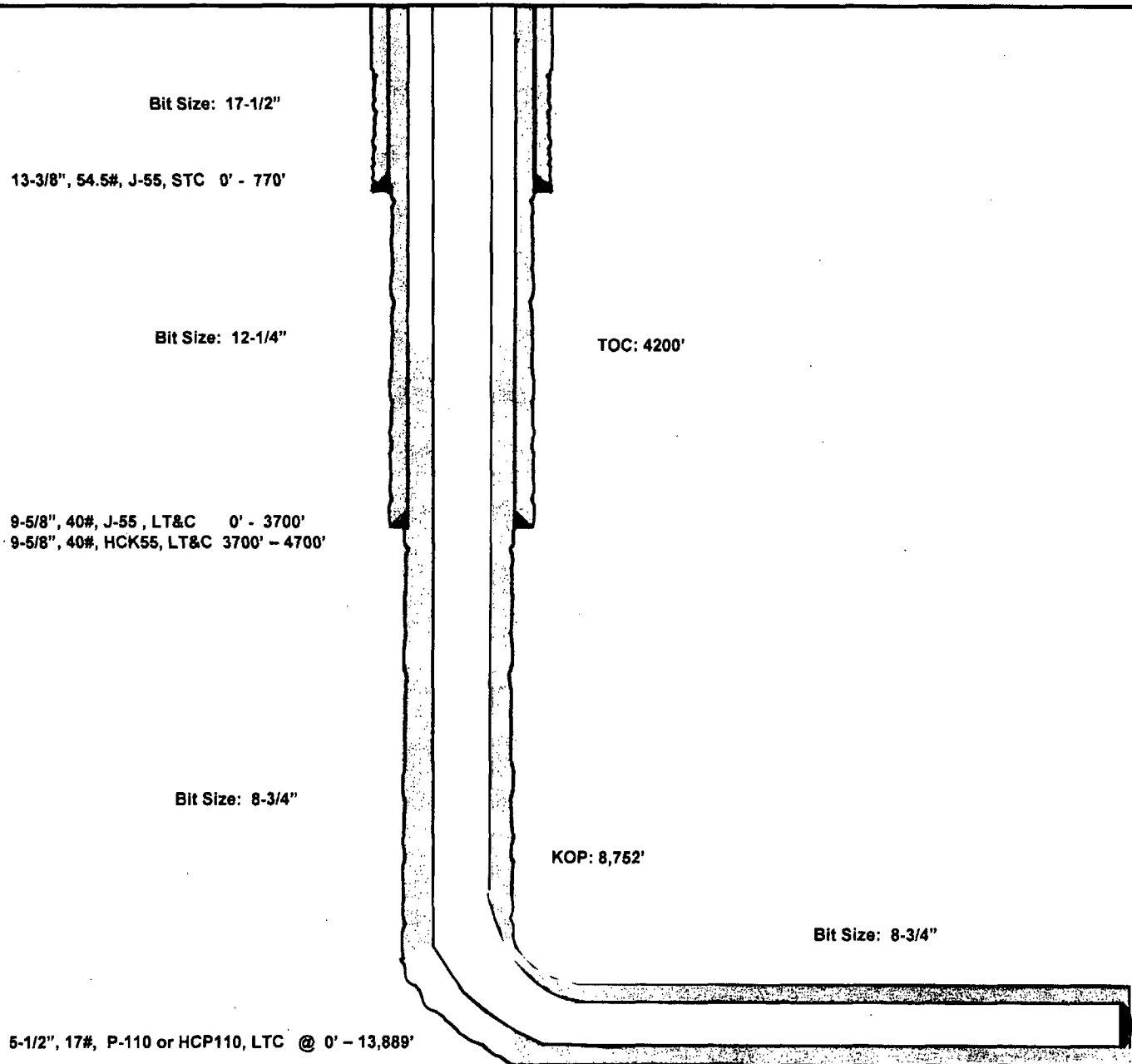
Gem 36 State Com #1H
Red Hills
Lea County, New Mexico

220' FSL
632' FEL
Section 36
T-25-S, R-32-E

Proposed Wellbore

API: 30-025-

KB: 3,406'
GL: 3,376'



Lateral: 13,889' MD, 9,230' TVD

BH Location: 230' FNL & 380' FEL
Section 36
T-25-S, R-32-E

MAY 07 2014



Lea County, NM
Gem 36 State Com #1H
3376' 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 1886
Zone: New Mexico East 3001
System Datum: Mean Sea Level

WELL DETAILS: Gem 36 State Com #1H

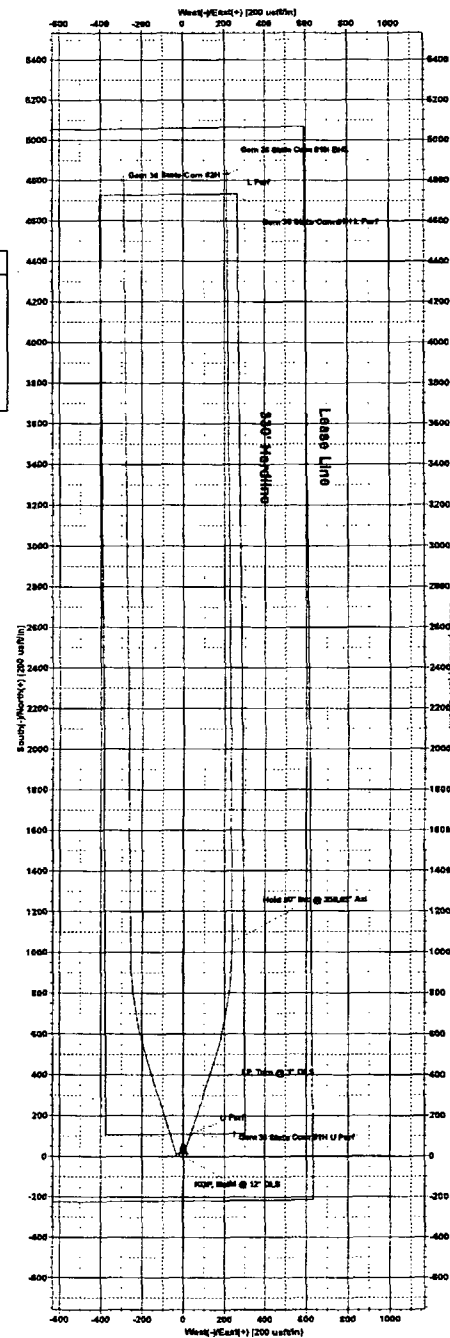
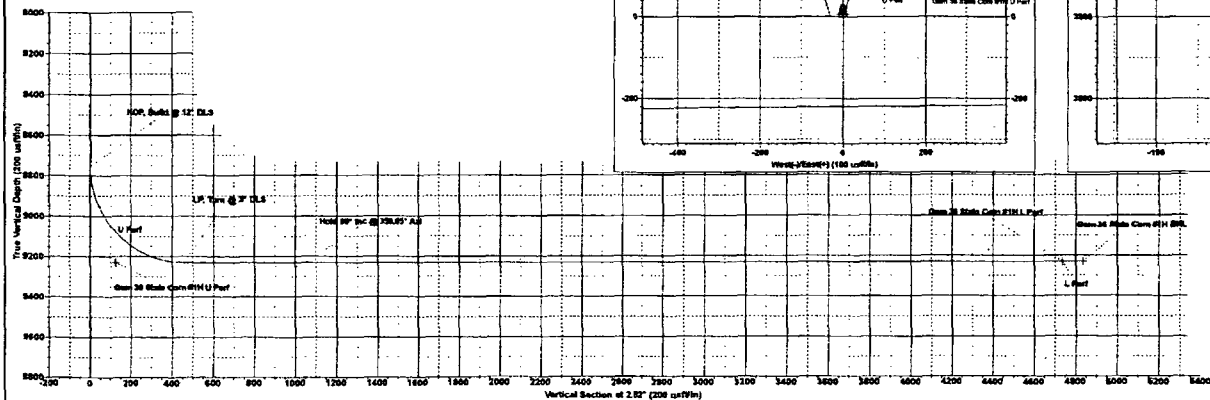
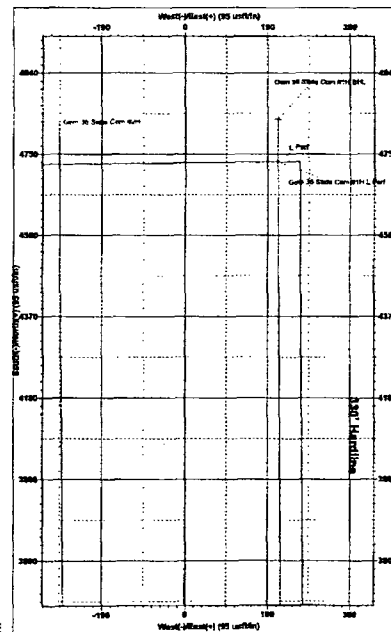
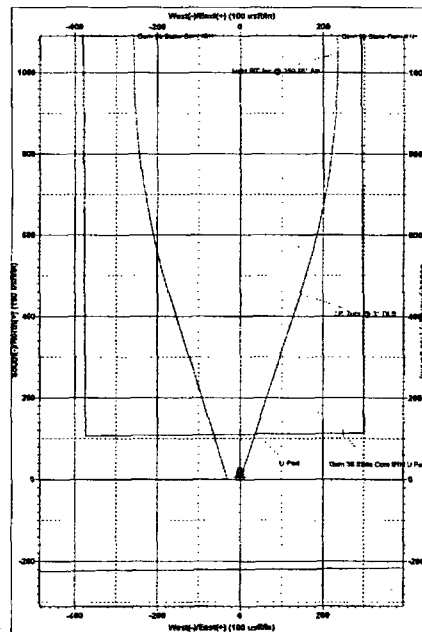
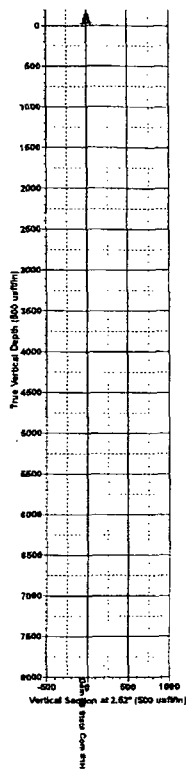
Ground Level: 3378.00
Northing: 393854.00 Easting: 720485.00 Latitude: 32° 4' 48.974 N Longitude: 103° 37' 17.267 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSecl	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	8752.54	0.00	0.00	8752.54	0.00	0.00	0.00	0.00	0.00		KOP, Build @ 12° DLS
3	8802.84	90.00	17.72	9230.00	454.81	143.32	12.00	17.72	460.77		LP, Turn @ 3° DLS
4	10194.76	90.00	359.85	9230.00	1047.84	235.80	3.00	-80.00	1047.04		Hold 90° Inc @ 359.85° Azi
5	13899.17	90.00	359.85	9230.00	4632.00	213.00	0.00	0.00	4634.99	Gem 36 State Com #1H BHL	TD at 13899.17

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting	Shape
Gem 36 State Com #1H BHL	9230.00	4632.00	213.00	396448.00	720485.00	Point
Gem 36 State Com #1H L Part	9230.00	4732.00	213.00	396384.00	720489.00	Point
Gem 36 State Com #1H U Part	9230.00	113.00	250.00	393787.00	720734.00	Point





EOG Resources - Midland

Lea County, NM

Gem 36 State Com

Gem 36 State Com #1H

OH

Plan: Plan #1

Standard Survey Report

02 May, 2014



EOG Resources, Inc.

Survey Report

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

Local Co-ordinate Reference: Well Gem 36 State Com #1H
TVD Reference: WELL @ 3406.00usft (3376' GL + 30' KB)
MD Reference: WELL @ 3406.00usft (3376' 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		Gem 36 State Com			
Site Position:		Northing:	393,654.00 usft	Latitude:	32° 4' 48.974 N
From:	Map	Easting:	720,486.00 usft	Longitude:	103° 37' 17.267 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16. "	Grid Convergence:	0.38 °

Well	Gem 36 State Com #1H					
Well Position	+N/-S	0.00 usft	Northing:	393,654.00 usft	Latitude:	32° 4' 48.974 N
	+E/-W	0.00 usft	Easting:	720,486.00 usft	Longitude:	103° 37' 17.267 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:	3,376.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF201014	5/2/2014	7.24	59.97	48,237

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	2.52

Survey Tool Program		Date	5/2/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	13,888.66	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)	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
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: Gem 36 State Corn
Well: Gem 36 State Corn #1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Gem 36 State Corn #1H
TVD Reference: WELL @ 3406.00usft (3378' GL + 30' KB)
MD Reference: WELL @ 3406.00usft (3378' 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)	Bulld 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
8,752.54	0.00	0.00	8,752.54	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Build @ 12° DLS									
8,775.00	2.70	17.72	8,774.99	0.50	0.16	0.51	12.00	12.00	0.00
8,800.00	5.70	17.72	8,799.92	2.25	0.72	2.27	12.00	12.00	0.00
8,825.00	8.70	17.72	8,824.72	5.23	1.67	5.30	12.00	12.00	0.00
8,850.00	11.70	17.72	8,849.32	9.44	3.02	9.57	12.00	12.00	0.00
8,875.00	14.70	17.72	8,873.66	14.88	4.75	15.07	12.00	12.00	0.00
8,900.00	17.70	17.72	8,897.67	21.52	6.88	21.80	12.00	12.00	0.00
8,925.00	20.70	17.72	8,921.27	29.35	9.38	29.73	12.00	12.00	0.00



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Well: Gem 36 State Com #1H
Wellbore: OH
Design: Plan #1

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8,950.00	23.70	17.72	8,944.42	38.34	12.25	38.84	12.00	12.00	0.00
8,975.00	26.70	17.72	8,967.04	46.48	15.49	49.11	12.00	12.00	0.00
9,000.00	29.70	17.72	8,989.07	59.73	19.08	60.51	12.00	12.00	0.00
9,025.00	32.70	17.72	9,010.45	72.06	23.03	73.01	12.00	12.00	0.00
9,050.00	35.70	17.72	9,031.13	85.44	27.30	86.56	12.00	12.00	0.00
9,075.00	38.70	17.72	9,051.04	99.84	31.90	101.15	12.00	12.00	0.00
9,096.50	41.28	17.72	9,067.51	113.00	36.11	114.48	12.00	12.00	0.00
U Perf									
9,100.00	41.70	17.72	9,070.13	115.21	36.81	116.72	12.00	12.00	0.00
9,125.00	44.70	17.72	9,088.36	131.50	42.02	133.23	12.00	12.00	0.00
9,150.00	47.70	17.72	9,105.66	148.89	47.51	150.64	12.00	12.00	0.00
9,175.00	50.70	17.72	9,122.00	166.71	53.27	168.90	12.00	12.00	0.00
9,200.00	53.70	17.72	9,137.32	185.53	59.28	187.96	12.00	12.00	0.00
9,225.00	56.70	17.72	9,151.59	205.08	65.53	207.76	12.00	12.00	0.00
9,250.00	59.70	17.72	9,164.76	225.31	71.99	228.27	12.00	12.00	0.00
9,275.00	62.70	17.72	9,176.81	246.18	78.66	249.40	12.00	12.00	0.00
9,300.00	65.70	17.72	9,187.69	267.62	85.51	271.12	12.00	12.00	0.00
9,325.00	68.70	17.72	9,197.38	289.57	92.52	293.36	12.00	12.00	0.00
9,350.00	71.70	17.72	9,205.84	311.97	99.68	318.06	12.00	12.00	0.00
9,375.00	74.70	17.72	9,213.07	334.76	106.97	339.15	12.00	12.00	0.00
9,400.00	77.70	17.72	9,219.04	357.89	114.35	362.57	12.00	12.00	0.00
9,425.00	80.70	17.72	9,223.72	381.27	121.83	386.27	12.00	12.00	0.00
9,450.00	83.70	17.72	9,227.12	404.87	129.36	410.17	12.00	12.00	0.00
9,475.00	86.70	17.72	9,229.21	428.59	136.95	434.21	12.00	12.00	0.00
9,500.00	89.70	17.72	9,230.00	452.39	144.55	458.32	12.00	12.00	0.00
9,502.54	90.00	17.72	9,230.01	454.81	145.32	460.77	12.00	12.00	0.00
LP, Turn @ 3° DLS									
9,600.00	90.00	14.80	9,230.01	548.36	172.61	555.43	3.00	0.00	-3.00
9,700.00	90.00	11.80	9,230.00	645.67	195.60	653.66	3.00	0.00	-3.00
9,800.00	90.00	8.80	9,230.00	744.05	213.47	752.73	3.00	0.00	-3.00
9,900.00	90.00	5.80	9,230.00	843.23	226.17	852.37	3.00	0.00	-3.00
10,000.00	90.00	2.80	9,230.00	942.84	233.66	952.31	3.00	0.00	-3.00
10,104.76	90.00	359.65	9,230.00	1,047.66	235.90	1,057.04	3.00	0.00	-3.00
Hold 90° Inc @ 359.65° Azi									
10,200.00	90.00	359.65	9,230.00	1,142.90	235.33	1,152.15	0.00	0.00	0.00
10,300.00	90.00	359.65	9,230.00	1,242.90	234.72	1,252.03	0.00	0.00	0.00
10,400.00	90.00	359.65	9,230.00	1,342.89	234.11	1,351.90	0.00	0.00	0.00
10,500.00	90.00	359.65	9,230.00	1,442.89	233.51	1,451.78	0.00	0.00	0.00
10,600.00	90.00	359.65	9,230.00	1,542.89	232.90	1,551.65	0.00	0.00	0.00
10,700.00	90.00	359.65	9,230.00	1,642.89	232.30	1,651.53	0.00	0.00	0.00
10,800.00	90.00	359.65	9,230.00	1,742.89	231.69	1,751.40	0.00	0.00	0.00
10,900.00	90.00	359.65	9,230.00	1,842.89	231.09	1,851.27	0.00	0.00	0.00
11,000.00	90.00	359.65	9,230.00	1,942.88	230.48	1,951.15	0.00	0.00	0.00
11,100.00	90.00	359.65	9,230.00	2,042.88	229.88	2,051.02	0.00	0.00	0.00



EOG Resources, Inc.

Survey Report

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

Local Co-ordinate Reference: Well Gem 36 State Com #1H
TVD Reference: WELL @ 3406.00usft (3376' GL + 30' KB)
MD Reference: WELL @ 3406.00usft (3376' 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)
11,200.00	90.00	359.65	9,230.00	2,142.88	229.27	2,150.90	0.00	0.00	0.00
11,300.00	90.00	359.65	9,230.00	2,242.88	228.67	2,250.77	0.00	0.00	0.00
11,400.00	90.00	359.65	9,230.00	2,342.88	228.06	2,350.65	0.00	0.00	0.00
11,500.00	90.00	359.65	9,230.00	2,442.87	227.46	2,450.52	0.00	0.00	0.00
11,600.00	90.00	359.65	9,230.00	2,542.87	226.85	2,550.40	0.00	0.00	0.00
11,700.00	90.00	359.65	9,230.00	2,642.87	226.25	2,650.27	0.00	0.00	0.00
11,800.00	90.00	359.65	9,230.00	2,742.87	225.64	2,750.15	0.00	0.00	0.00
11,900.00	90.00	359.65	9,230.00	2,842.87	225.04	2,850.02	0.00	0.00	0.00
12,000.00	90.00	359.65	9,230.00	2,942.87	224.43	2,949.89	0.00	0.00	0.00
12,100.00	90.00	359.65	9,230.00	3,042.86	223.83	3,049.77	0.00	0.00	0.00
12,200.00	90.00	359.65	9,230.00	3,142.86	223.22	3,149.64	0.00	0.00	0.00
12,300.00	90.00	359.65	9,230.00	3,242.86	222.62	3,249.52	0.00	0.00	0.00
12,400.00	90.00	359.65	9,230.00	3,342.86	222.01	3,349.39	0.00	0.00	0.00
12,500.00	90.00	359.65	9,230.00	3,442.86	221.41	3,449.27	0.00	0.00	0.00
12,600.00	90.00	359.65	9,230.00	3,542.85	220.80	3,549.14	0.00	0.00	0.00
12,700.00	90.00	359.65	9,230.00	3,642.85	220.20	3,649.02	0.00	0.00	0.00
12,800.00	90.00	359.65	9,230.00	3,742.85	219.59	3,748.89	0.00	0.00	0.00
12,900.00	90.00	359.65	9,230.00	3,842.85	218.99	3,848.76	0.00	0.00	0.00
13,000.00	90.00	359.65	9,230.00	3,942.85	218.38	3,948.64	0.00	0.00	0.00
13,100.00	90.00	359.65	9,230.00	4,042.85	217.78	4,048.51	0.00	0.00	0.00
13,200.00	90.00	359.65	9,230.00	4,142.84	217.17	4,148.39	0.00	0.00	0.00
13,300.00	90.00	359.65	9,230.00	4,242.84	216.57	4,248.26	0.00	0.00	0.00
13,400.00	90.00	359.65	9,230.00	4,342.84	215.96	4,348.14	0.00	0.00	0.00
13,500.00	90.00	359.65	9,230.00	4,442.84	215.36	4,448.01	0.00	0.00	0.00
13,600.00	90.00	359.65	9,230.00	4,542.84	214.75	4,547.89	0.00	0.00	0.00
13,700.00	90.00	359.65	9,230.00	4,642.83	214.14	4,647.76	0.00	0.00	0.00
13,789.17	90.00	359.65	9,230.00	4,732.00	213.61	4,736.82	0.00	0.00	0.00
L Perf									
13,800.00	90.00	359.65	9,230.00	4,742.83	213.54	4,747.64	0.00	0.00	0.00
13,889.17	90.00	359.65	9,230.00	4,832.00	213.00	4,836.69	0.00	0.00	0.00
TD at 13889.17									



EOG Resources, Inc.

Survey Report

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Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Gem 36 State Com #1H
TVD Reference: WELL @ 3406.00usft (3376' GL + 30' KB)
MD Reference: WELL @ 3406.00usft (3376' GL + 30' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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									
Gem 36 State Com #1H	0.00	0.00	9,230.00	113.00	250.00	393,767.00	720,736.00	32° 4' 50.076 N	103° 37' 14.353 W
- plan misses target center by 220.05usft at 9239.50usft MD (9159.37 TVD, 218.74 N, 69.25 E)									
- Point									
Gem 36 State Com #1H	0.00	0.00	9,230.00	4,732.00	213.00	398,386.00	720,699.00	32° 5' 35.788 N	103° 37' 14.428 W
- plan misses target center by 0.61usft at 13789.17usft MD (9230.00 TVD, 4732.00 N, 213.61 E)									
- Point									
Gem 36 State Com #1H	0.00	0.00	9,230.00	4,832.00	213.00	398,486.00	720,699.00	32° 5' 36.777 N	103° 37' 14.421 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
8753	8753	0	0	KOP, Build @ 12° DLS
9097	9068	113	36	U Perf
9503	9230	455	145	LP, Turn @ 3° DLS
10,105	9230	1048	236	Hold 90° Inc @ 359.65° Azi
13,789	9230	4732	214	L Perf
13,889	9230	4832	213	TD at 13889.17

Checked By: _____ Approved By: _____ Date: _____