

AUG 05 2013 FORM C-102

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District IV
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Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources
Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised August 1, 2011
Submitted by to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025- 41311	² Pool Code 97900	³ Pool Name Red Hills; Upper Bone Spring Shale
⁴ Property Code 4052	⁵ Property Name DILLON 31	⁶ Well Number #4H
⁷ GRID No. 7377	⁸ Operator Name EOG RESOURCES, INC.	⁹ Elevation 3431'

¹⁰Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	31	24-S	34-E	-	220'	SOUTH	609'	EAST	LEA

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	31	24-S	34-E	-	230'	NORTH	850'	EAST	LEA

¹¹ Dedicated Acres	¹² Joint or Infill	¹³ Consolidation Code	¹⁴ Order No.
160			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

BOTTOM HOLE LOCATION NEW MEXICO EAST NAD 1927 X=756970 Y=430389 LAT.: N 32.1805297 LONG.: W 103.5027633 LOWER MOST PERF. NEW MEXICO EAST NAD 1927 X=756972 Y=430289 LAT.: N 32.1802548 LONG.: W 103.5027623 UPPER MOST PERF. NEW MEXICO EAST NAD 1927 X=757021 Y=425677 LAT.: N 32.1675759 LONG.: W 103.5027172 SURFACE LOCATION NEW MEXICO EAST NAD 1927 X=757263 Y=425569 LAT.: N 32.1672731 LONG.: W 103.5019383	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Stan Wagner</i> 8/5/13 Signature Date Stan Wagner Printed Name E-mail Address	
	18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true to the best of my belief. 6/25/2013 Date of Survey MICHAEL B. BROWN Signature and Professional Seal NEW MEXICO 18329 PROFESSIONAL SURVEYOR Certificate Number	
	Diagram showing well location, surface location, and various measurements (e.g., 330', 230', 850', 609', 467', 100.0', 4612.5', 265.0', 294.11').	
	Diagram showing well location, surface location, and various measurements (e.g., 330', 230', 850', 609', 467', 100.0', 4612.5', 265.0', 294.11').	

AUG 07 2013

Permit Information:

Well Name: Dillon 31 No. 4H

Location:

SHL: 220' FSL & 609' FEL, Section 31, T-24-S, R-34-E, Lea Co., N.M.

BHL: 230' FNL & 850' FEL, Section 31, T-24-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 - 1,220'	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' - 5,080'	9.625"	40#	HCK-55	LTC	1.125	1.25	1.60
8.75"	0'-14,116'	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
1,220'	550	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)
	250	14.8	1.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
5,080'	850	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 (TOC @ Surface)
	225	14.8	1.32	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
14,116'	300	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 (TOC @ 4,580')
	300	11.9	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
	1350	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 - 1,220'	Fresh - Gel	8.6-8.8	28-34	N/c
1,220' - 5,080'	Brine	10.0-10.2	28-34	N/c
5,080' - 8,987'	Cut Brine	8.4-9.0	28-34	N/c
8,987' - 14,116' Lateral	Cut Brine	9.0-9.5	40-42	8-10

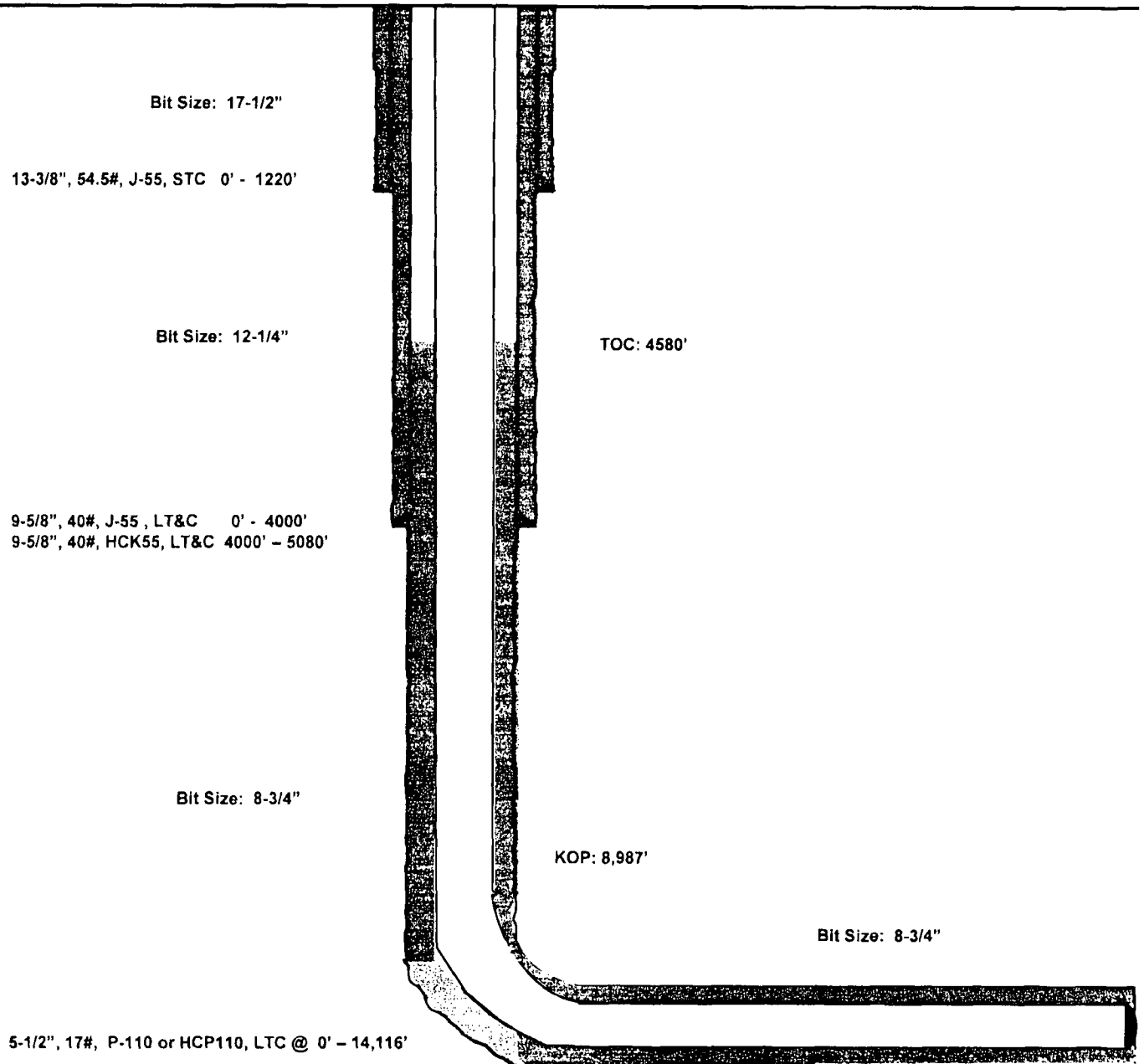
Dillon 31 #4H
Lea County, New Mexico

220' FSL
609' FEL
Section 31
T-24-S, R-34-E

Proposed Wellbore

API: 30-025-

KB: 3,458'
GL: 3,431'



Lateral: 14,116' MD, 9,503' TVD

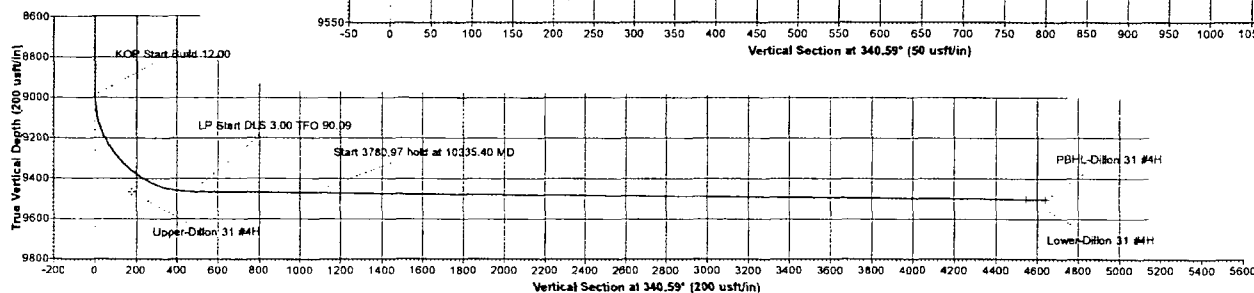
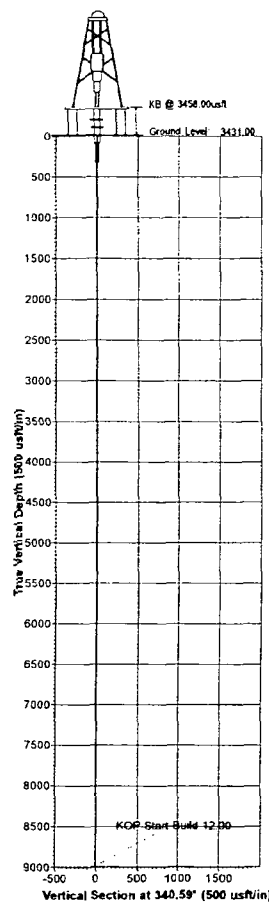
BH Location: 230' FNL & 850' FEL
Section 31
T-24-S, R-34-E



Project: Lea County, NM (NAD27 NME)
 Site: Dillon 31
 Well: #4H
 Wellbore: OH
 Design: Plan #1 08-01-13



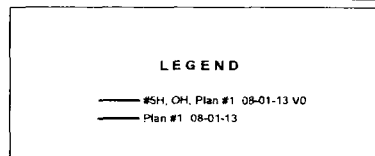
T G M
 Azimuths to Grid North
 True North: -0.44°
 Magnetic North: 6.85°
 Magnetic Field
 Strength: 48377.5 nT
 Dip Angle: 60.09°
 Date: 08/01/2013
 Model: IGRF 2010_14



WELL DETAILS						
N/S	E/W	Northing	Ground Level	3431.00	Latitude	Longitude
0.00	0.00	425569.00	757263.00	32° 10' 2.187303 N	103° 30' 5.977872 W	

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/S	+E/W	Diag	TFace	V-Sect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	8987.50	0.00	0.00	8987.50	0.00	0.00	0.00	0.00	0.00	KOP Start Build 12.00
3	8733.42	89.50	341.32	9445.00	448.42	-151.61	12.00	341.32	473.31	LP Start DLS 3.00 TFO 90.09
4	10335.40	89.50	350.38	9470.31	1039.40	-252.09	3.00	90.09	104.11	Start 3780.97 hold at 10335.40 MD
5	14115.38	89.50	359.38	9503.50	4820.00	-293.00	0.00	0.00	4643.51	PBHL-Dillon 31 #4H

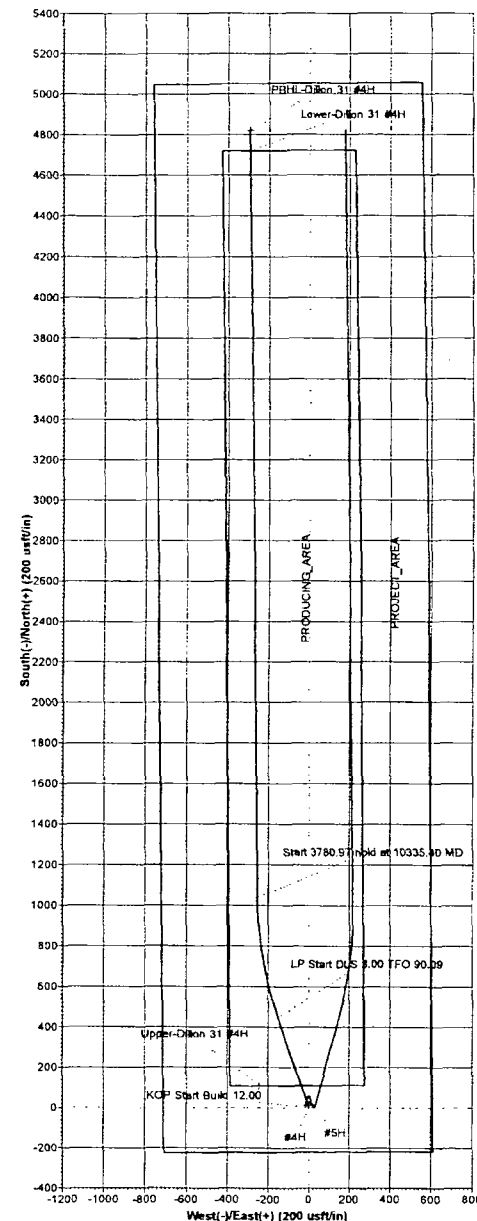
DESIGN TARGET DETAILS									
Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude	Shape	
Upper-Dillon 31 #4H	9465.00	108.00	-242.00	425677.00	757021.00	32° 10' 3.274502 N	103° 30' 9.783372 W	Point	
	- plan misses target center by 212.48usft at 9472.96usft MD (5283.55 TVD, 214.31 N, -72.46 E)								
Lower-Dillon 31 #4H	9502.62	4726.00	-291.00	430289.00	756972.00	32° 10' 48.915818 N	103° 30' 9.539220 W	Point	
	- plan misses target center by 0.92usft at 14016.34usft MD (9502.62 TVD, 4719.99 N, -291.92 E)								
PBHL-Dillon 31 #4H	9503.50	4820.00	-293.00	430389.00	756970.00	32° 10' 49.905613 N	103° 30' 9.953506 W	Point	
	- plan hits target center								



Map System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone Name: New Mexico East 3001
 Local Origin: Well #4H, Grid North
 Latitude: 32° 10' 2.187303 N
 Longitude: 103° 30' 5.977872 W
 Grid East: 757263.00
 Grid North: 425569.00
 Scale Factor: 1.000
 Geomagnetic Model: IGRF 2010_14
 Sample Date: 01-Aug-13
 Magnetic Declination: 7.29°
 Dip Angle from Horizontal: 60.09°
 Magnetic Field Strength: 48377
 To convert a Magnetic Direction to a Grid Direction, Add 6.84°
 To convert a Magnetic Direction to a True Direction, Add 7.29° East
 To convert a True Direction to a Grid Direction, Subtract 0.44°

PROJECT DETAILS: Lea County, NM (NAD27 NME)
 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

SITE DETAILS: Dillon 31
 Site Centre Northing: 425560.00
 Easting: 756057.00
 Positional Uncertainty: 0.00
 Convergence: 0.44
 Local North: Grid





EOG Resources

Lea County, NM (NAD27 NME)

Dillon 31

#4H

OH

Plan: Plan #1 08-01-13

Standard Planning Report

01 August, 2013





Phoenix Technology Services Planning Report



Database: GCR DB
Company: EOG Resources
Project: Lea County, NM (NAD27 NME)
Site: Dillon 31
Well: #4H
Wellbore: OH
Design: Plan #1 08-01-13

Local Co-ordinate Reference: Well #4H
TVD Reference: KB @ 3458.00usft
MD Reference: KB @ 3458.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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 Dillon 31

Site Position: Northing: 425,560.00 usft Latitude: 32° 10' 2.190228 N
From: Map Easting: 756,057.00 usft Longitude: 103° 30' 21.008137 W
Position Uncertainty: 0.00 usft Slot Radius: 13-3/16" Grid Convergence: 0.44 °

Well #4H

Well Position +N/-S 9.00 usft Northing: 425,569.00 usft Latitude: 32° 10' 2.187303 N
+E/-W 1,206.00 usft Easting: 757,263.00 usft Longitude: 103° 30' 6.977872 W
Position Uncertainty 0.00 usft Wellhead Elevation: Ground Level: 3,431.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	08/01/13	7.29	60.09	48,377

Design Plan #1 08-01-13

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	340.59

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Built Rate (°/100usft)	Turn Rate (°/100usft)	TPO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,987.50	0.00	0.00	8,987.50	0.00	0.00	0.00	0.00	0.00	0.00	
9,733.42	89.50	341.32	9,465.00	448.42	-151.61	12.00	12.00	0.00	341.32	
10,335.40	89.50	359.38	9,470.31	1,039.40	-252.09	3.00	0.00	3.00	90.09	
14,116.36	89.50	359.38	9,503.50	4,820.00	-293.00	0.00	0.00	0.00	0.00	PBHL-Dillon 31 #4H



Phoenix Technology Services
Planning Report



Database: GCR DB
Company: EOG Resources
Project: Lea County, NM (NAD27 NME)
Site: Dillon 31
Well: #4H
Wellbore: OH
Design: Plan #1 08-01-13

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Well #4H
KB @ 3458.00usft
KB @ 3458.00usft
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
8,987.50	0.00	0.00	8,987.50	0.00	0.00	0.00	0.00	0.00	0.00
KOP Start Build 12.00									
9,000.00	1.50	341.32	9,000.00	0.15	-0.05	0.16	12.00	12.00	0.00
9,100.00	13.50	341.32	9,098.96	12.50	-4.22	13.19	12.00	12.00	0.00
9,200.00	25.50	341.32	9,193.06	44.06	-14.90	46.50	12.00	12.00	0.00
9,300.00	37.50	341.32	9,278.17	93.46	-31.60	98.65	12.00	12.00	0.00
9,400.00	49.49	341.32	9,350.58	158.54	-53.60	167.35	12.00	12.00	0.00
9,475.22	58.52	341.32	9,394.74	216.14	-73.08	228.14	12.00	12.00	0.00
Upper-Dillon 31 #4H									
9,500.00	61.49	341.32	9,407.12	236.47	-79.95	249.60	12.00	12.00	0.00
9,600.00	73.49	341.32	9,445.33	323.82	-109.48	341.80	12.00	12.00	0.00
9,700.00	85.49	341.32	9,463.54	416.80	-140.92	439.94	12.00	12.00	0.00
9,733.42	89.50	341.32	9,465.00	448.42	-151.61	473.31	12.00	12.00	0.00
LP Start DLS 3.00 TFO 90.09									
9,800.00	89.50	343.32	9,465.58	511.85	-171.83	539.86	3.00	0.00	3.00
9,900.00	89.49	346.32	9,466.46	608.34	-198.01	639.57	3.00	0.00	3.00
10,000.00	89.49	349.32	9,467.35	706.08	-219.11	738.78	3.00	0.00	3.00
10,100.00	89.49	352.32	9,468.23	804.78	-235.07	837.16	3.00	0.00	3.00
10,200.00	89.49	355.32	9,469.12	904.18	-245.83	934.49	3.00	0.00	3.00
10,300.00	89.50	358.32	9,470.00	1,004.01	-251.38	1,030.50	3.00	0.00	3.00
10,335.40	89.50	359.38	9,470.31	1,039.40	-252.09	1,064.11	3.00	0.00	3.00
Start 3780.97 hold at 10335.40 MD									
10,400.00	89.50	359.38	9,470.88	1,104.00	-252.79	1,125.27	0.00	0.00	0.00
10,500.00	89.50	359.38	9,471.76	1,203.99	-253.87	1,219.94	0.00	0.00	0.00
10,600.00	89.50	359.38	9,472.64	1,303.98	-254.96	1,314.61	0.00	0.00	0.00
10,700.00	89.50	359.38	9,473.51	1,403.97	-256.04	1,409.28	0.00	0.00	0.00
10,800.00	89.50	359.38	9,474.39	1,503.96	-257.12	1,503.95	0.00	0.00	0.00
10,900.00	89.50	359.38	9,475.27	1,603.95	-258.20	1,598.62	0.00	0.00	0.00
11,000.00	89.50	359.38	9,476.15	1,703.94	-259.28	1,693.28	0.00	0.00	0.00
11,100.00	89.50	359.38	9,477.02	1,803.93	-260.37	1,787.95	0.00	0.00	0.00
11,200.00	89.50	359.38	9,477.90	1,903.92	-261.45	1,882.62	0.00	0.00	0.00
11,300.00	89.50	359.38	9,478.78	2,003.91	-262.53	1,977.29	0.00	0.00	0.00
11,400.00	89.50	359.38	9,479.66	2,103.90	-263.61	2,071.96	0.00	0.00	0.00
11,500.00	89.50	359.38	9,480.54	2,203.89	-264.69	2,166.63	0.00	0.00	0.00
11,600.00	89.50	359.38	9,481.41	2,303.88	-265.78	2,261.30	0.00	0.00	0.00
11,700.00	89.50	359.38	9,482.29	2,403.87	-266.86	2,355.97	0.00	0.00	0.00
11,800.00	89.50	359.38	9,483.17	2,503.86	-267.94	2,450.64	0.00	0.00	0.00
11,900.00	89.50	359.38	9,484.05	2,603.85	-269.02	2,545.31	0.00	0.00	0.00
12,000.00	89.50	359.38	9,484.92	2,703.84	-270.10	2,639.97	0.00	0.00	0.00
12,100.00	89.50	359.38	9,485.80	2,803.83	-271.18	2,734.64	0.00	0.00	0.00
12,200.00	89.50	359.38	9,486.68	2,903.82	-272.27	2,829.31	0.00	0.00	0.00
12,300.00	89.50	359.38	9,487.56	3,003.81	-273.35	2,923.98	0.00	0.00	0.00
12,400.00	89.50	359.38	9,488.43	3,103.80	-274.43	3,018.65	0.00	0.00	0.00
12,500.00	89.50	359.38	9,489.31	3,203.79	-275.51	3,113.32	0.00	0.00	0.00
12,600.00	89.50	359.38	9,490.19	3,303.78	-276.59	3,207.99	0.00	0.00	0.00
12,700.00	89.50	359.38	9,491.07	3,403.78	-277.68	3,302.66	0.00	0.00	0.00
12,800.00	89.50	359.38	9,491.95	3,503.77	-278.76	3,397.33	0.00	0.00	0.00
12,900.00	89.50	359.38	9,492.82	3,603.76	-279.84	3,492.00	0.00	0.00	0.00
13,000.00	89.50	359.38	9,493.70	3,703.75	-280.92	3,586.66	0.00	0.00	0.00
13,100.00	89.50	359.38	9,494.58	3,803.74	-282.00	3,681.33	0.00	0.00	0.00
13,200.00	89.50	359.38	9,495.46	3,903.73	-283.09	3,776.00	0.00	0.00	0.00
13,300.00	89.50	359.38	9,496.33	4,003.72	-284.17	3,870.67	0.00	0.00	0.00
13,400.00	89.50	359.38	9,497.21	4,103.71	-285.25	3,965.34	0.00	0.00	0.00

Database: GCR DB
Company: EOG Resources
Project: Lea County, NM (NAD27 NME)
Site: Dillon 31
Well: #4H
Wellbore: OH
Design: Plan #1 08-01-13

Local Co-ordinate Reference: Well #4H
TVD Reference: KB @ 3458.00usft
MD Reference: KB @ 3458.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,500.00	89.50	359.38	9,498.09	4,203.70	-286.33	4,060.01	0.00	0.00	0.00
13,600.00	89.50	359.38	9,498.97	4,303.69	-287.41	4,154.68	0.00	0.00	0.00
13,700.00	89.50	359.38	9,499.85	4,403.68	-288.50	4,249.35	0.00	0.00	0.00
13,800.00	89.50	359.38	9,500.72	4,503.67	-289.58	4,344.02	0.00	0.00	0.00
13,900.00	89.50	359.38	9,501.60	4,603.66	-290.66	4,438.69	0.00	0.00	0.00
14,000.00	89.50	359.38	9,502.48	4,703.65	-291.74	4,533.35	0.00	0.00	0.00
14,016.34	89.50	359.38	9,502.62	4,719.99	-291.92	4,548.83	0.00	0.00	0.00
Lower-Dillon 31 #4H									
14,100.00	89.50	359.38	9,503.36	4,803.64	-292.82	4,628.02	0.00	0.00	0.00
14,116.36	89.50	359.38	9,503.50	4,820.00	-293.00	4,643.51	0.00	0.00	0.00
TD at 14116.36 - PBHL-Dillon 31 #4H									

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
Upper-Dillon 31 #4H - plan misses target center by 212.52usft at 9475.22usft MD (9394.74 TVD, 216.14 N, -73.08 E) - Point	0.00	0.00	9,465.00	108.00	-242.00	425,677.00	757,021.00	32° 10' 3.274502 N	103° 30' 9.783372 W
Lower-Dillon 31 #4H - plan misses target center by 0.92usft at 14016.34usft MD (9502.62 TVD, 4719.99 N, -291.92 E) - Point	0.00	0.00	9,502.62	4,720.00	-291.00	430,289.00	756,972.00	32° 10' 48.915919 N	103° 30' 9.939220 W
PBHL-Dillon 31 #4H - plan hits target center - Point	0.00	0.00	9,503.50	4,820.00	-293.00	430,389.00	756,970.00	32° 10' 49.905613 N	103° 30' 9.953506 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
8,987.50	8,987.50	0.00	0.00	KOP Start Build 12.00
9,733.42	9,465.00	448.42	-151.61	LP Start DLS 3.00 TFO 90.09
10,335.40	9,470.31	1,039.40	-252.09	Start 3780.97 hold at 10335.40 MD
14,116.36	9,503.50	4,820.00	-293.00	TD at 14116.36