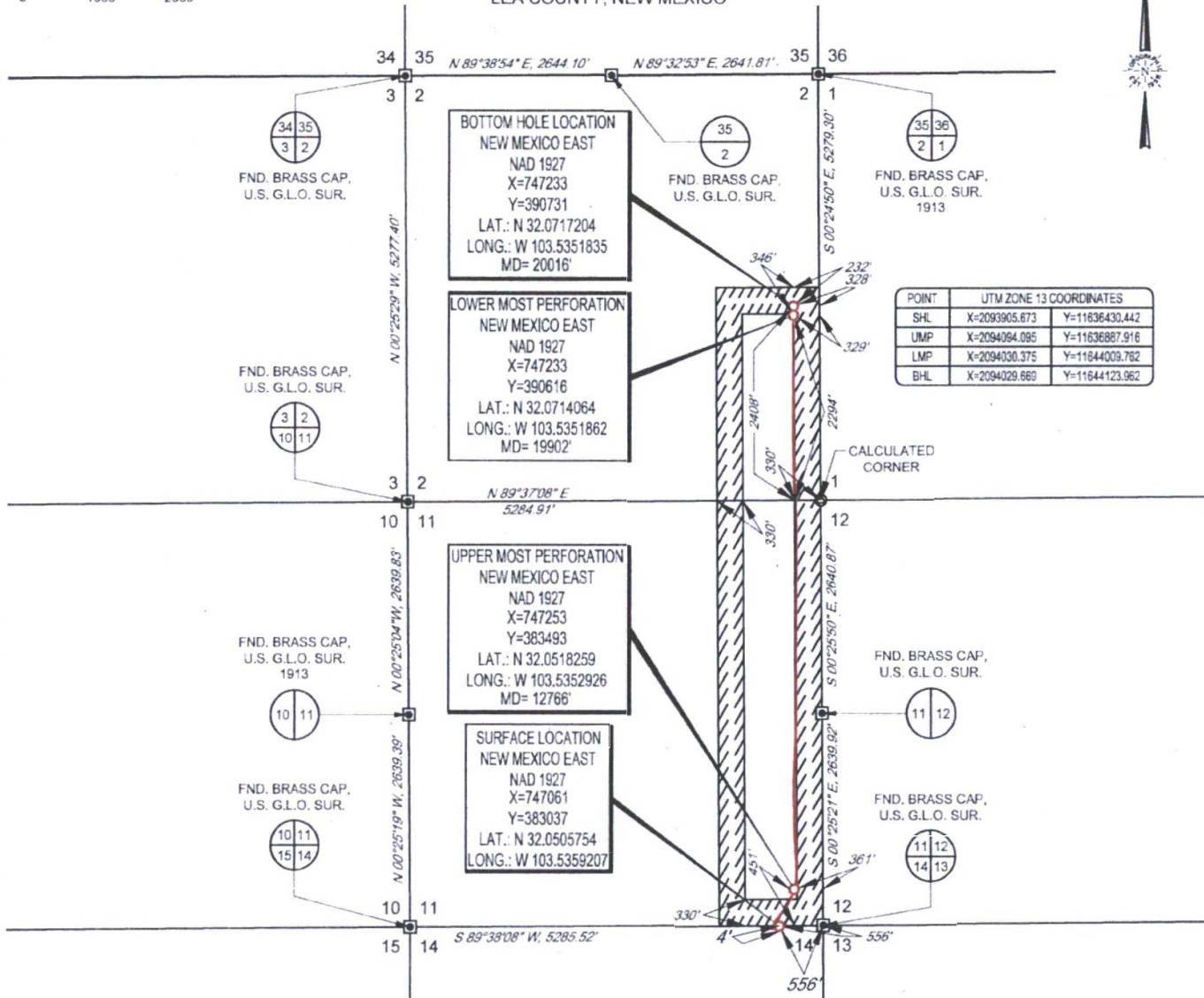


SCALE: 1" = 2000'

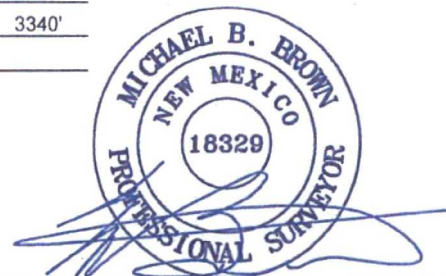
SECTION 14, TOWNSHIP 26-S, RANGE 33-E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: WHIRLING WIND 14 FED COM #701H
SECTION 14 TWP 26-S RGE 33-E SURVEY N.M.P.M.
COUNTY LEA STATE NM ELEVATION 3340'
DESCRIPTION 4' FNL & 556' FEL



1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7548
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM



Michael Blake Brown, P.S. No. 18329
FEBRUARY 1, 2017



WHIRLING WIND 14
FED COM #701H
AS-COMPLETED

REVISION:

NOTES:

1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1927.
3. THIS WELL LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

DATE: 02/01/17

FILE: AD_WHIRLINGWIND14FEDCOM_701H

DRAWN BY: A.C.C.

SHEET: 1 OF 1



Lea County, NM (NAD 27 NME)

Whirling Wind 14 Fed Com #701H

H&P 659

Plan #5

PROJECT DETAILS: Lea County, NM (NAD 27 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



Azimuths to Grid North
True North: 4.42°
Magnetic North: 6.58°
Magnetic Field
Strength: 47810.15 nT
Dip Angle: 59.92°
Date: 10/8/2016
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.58°
To convert a Magnetic Direction to a True Direction, Add 7.00° East
To convert a True Direction to a Grid Direction, Subtract 6.42°

WELL DETAILS #701H

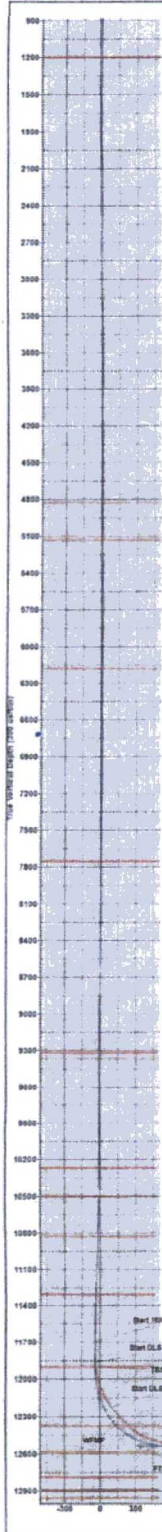
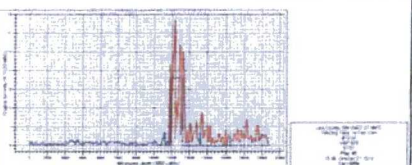
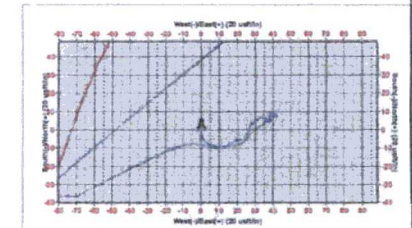
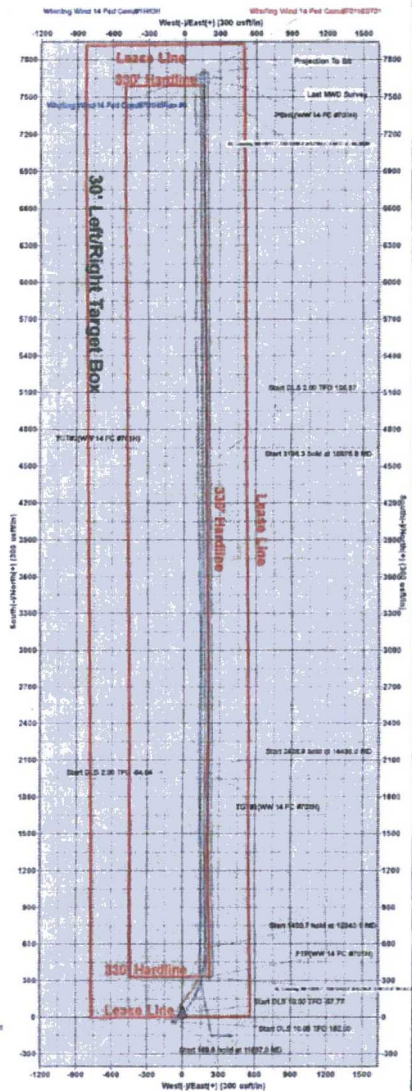
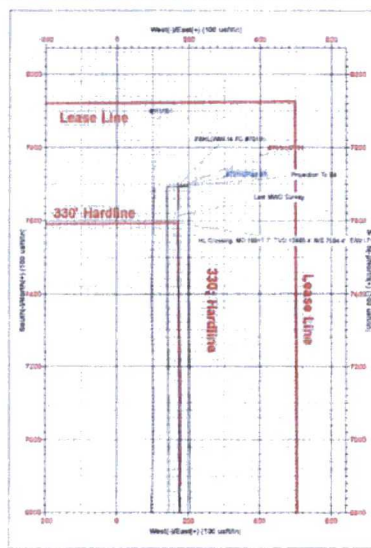
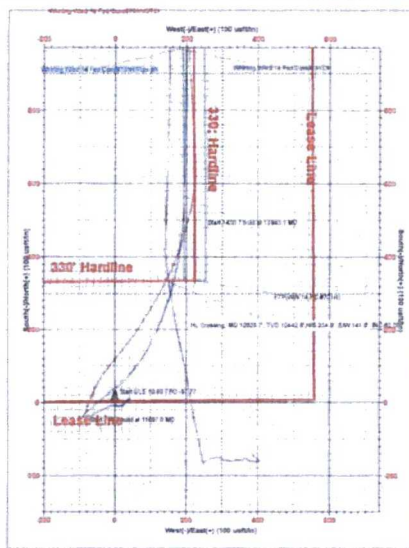
Ground Level: 3340.0
KB = 25 @ 2565 Depth (H&P 559)
+N: 0 +E: W Northing Easting Longitude Box
0.0 0.0 383037.00 747081.00 31° 32' 2.07" N 103° 32' 9.51" W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VFace	Target
1	11697.0	2.70	261.70	11693.6	-37.3	-82.9	0.00	0.00	-39.2	
2	11866.6	2.70	261.70	11863.0	-38.5	-90.8	0.00	0.00	-40.5	
3	12270.1	37.98	52.10	12239.2	39.6	1.6	10.00	152.00	39.7	
4	12943.1	89.93	0.80	12540.3	565.2	192.1	10.00	-57.77	569.3	
5	14373.8	89.93	0.80	12542.0	1995.8	212.1	0.00	0.00	2000.0	
6	14436.0	90.05	359.56	12542.0	2058.0	212.3	2.00	-84.64	2062.2	
7	16874.9	90.05	359.56	12540.0	4496.8	193.6	0.00	0.00	4500.0	TGT#1(WW 14 FC #701H)
8	16875.8	90.04	359.58	12540.0	4497.8	193.6	2.00	126.57	4500.9	TGT#2(WW 14 FC #701H)
9	20072.2	90.04	359.58	12538.0	7694.0	170.0	0.00	0.00	7695.9	PBHL(WW 14 FC #701H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting	Shape
PBHL(WW 14 FC #701H)	12538.0	7694.0	170.0	386771.00	747231.00	Rectangle (Sides: 1.0 0.980 0)
FTP(WW 14 FC #701H)	12540.0	335.0	224.8	383372.00	747285.00	Point
TGT#1(WW 14 FC #701H)	12540.0	4496.8	193.6	387633.00	747264.81	Point
TGT#2(WW 14 FC #701H)	12542.0	1995.8	212.1	386532.00	747273.08	Point





EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Whirling Wind 14 Fed Com

#701H

ST01

Design: ST01

PVA

31 October, 2016



EOG Resources, Inc.

PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3365.0usft (H&P 659)
Site:	Whirling Wind 14 Fed Com	MD Reference:	KB = 25 @ 3365.0usft (H&P 659)
Well:	#701H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM (NAD 27 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	Whirling Wind 14 Fed Com		
Site Position:		Northing:	383,037.00 usft
From:	Map	Easting:	747,061.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 3' 2.072 N
		Longitude:	103° 32' 9.319 W
		Grid Convergence:	0.42 °

Well	#701H					
Well Position	+N/-S	0.0 usft	Northing:	383,037.00 usft	Latitude:	32° 3' 2.072 N
	+E/-W	0.0 usft	Easting:	747,061.00 usft	Longitude:	103° 32' 9.319 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,340.0 usft

Wellbore	ST01				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/8/2016	7.00	59.92	47,910

Design	ST01			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 11,791.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	1.27



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Whirling Wind 14 Fed Com
 Well: #701H
 Wellbore: ST01
 Design: ST01

Local Co-ordinate Reference: Well #701H
 TVD Reference: KB = 25 @ 3365.0usft (H&P 659)
 MD Reference: KB = 25 @ 3365.0usft (H&P 659)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Survey Program Date 10/31/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
174.0	11,179.0	MWD (Pilot)	MWD	MWD - Standard
11,227.0	11,791.0	Int MWD #1 (Pilot)	MWD	MWD - Standard
11,860.0	20,017.0	Intrepid MWD #2 (ST01)	MWD	MWD - Standard

MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
174.0	0.80	174.70	174.0	-1.2	0.1	0.46	0.46	0.00	0.0	0.0
353.0	0.80	171.60	353.0	-3.7	0.4	0.02	0.00	-1.73	0.0	0.0
534.0	1.00	126.80	534.0	-5.9	1.9	-0.39	0.11	-24.75	0.0	0.0
714.0	1.20	123.50	713.9	-7.9	4.7	0.12	0.11	-1.83	0.0	0.0
897.0	1.30	108.40	896.9	-9.6	8.3	0.19	0.05	-8.25	0.0	0.0
1,039.0	1.00	86.00	1,038.9	-10.0	11.0	0.38	-0.21	-15.77	0.0	0.0
1,228.0	1.10	54.70	1,227.8	-8.8	14.1	0.30	0.05	-16.56	0.0	0.0
1,417.0	1.00	54.30	1,416.8	-6.8	17.0	0.05	-0.05	-0.21	0.0	0.0
1,606.0	0.80	74.80	1,605.8	-5.5	19.6	0.20	-0.11	10.85	0.0	0.0
1,794.0	0.50	99.70	1,793.8	-5.3	21.7	0.22	-0.16	13.24	0.0	0.0
1,983.0	0.30	65.60	1,982.8	-5.2	22.9	0.16	-0.11	-18.04	0.0	0.0
2,172.0	0.70	44.40	2,171.7	-4.2	24.2	0.23	0.21	-11.22	0.0	0.0
2,361.0	0.40	31.90	2,360.7	-2.8	25.3	0.17	-0.16	-6.61	0.0	0.0
2,550.0	0.30	355.10	2,549.7	-1.8	25.6	0.13	-0.05	-19.47	0.0	0.0
2,738.0	0.70	27.90	2,737.7	-0.3	26.1	0.25	0.21	17.45	0.0	0.0
2,928.0	0.60	6.50	2,927.7	1.7	26.8	0.14	-0.05	-11.26	0.0	0.0
3,117.0	0.80	55.00	3,116.7	3.5	28.0	0.32	0.11	25.66	0.0	0.0
3,306.0	1.40	61.30	3,305.7	5.3	31.1	0.32	0.32	3.33	0.0	0.0
3,494.0	0.30	333.10	3,493.6	6.9	32.9	0.76	-0.59	-46.91	0.0	0.0



EOG Resources, Inc.

PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3365.0usft (H&P 659)
Site:	Whirling Wind 14 Fed Com	MD Reference:	KB = 25 @ 3365.0usft (H&P 659)
Well:	#701H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
3,684.0	1.10	115.00	3,683.6	6.6	34.3	0.71	0.42	74.68	0.0	0.0	
3,873.0	1.10	92.80	3,872.6	5.7	37.8	0.22	0.00	-11.75	0.0	0.0	
4,062.0	0.50	313.50	4,061.6	6.2	39.0	0.80	-0.32	-73.70	0.0	0.0	
4,250.0	0.30	14.20	4,249.6	7.2	38.5	0.23	-0.11	32.29	0.0	0.0	
4,438.0	0.20	125.90	4,437.6	7.5	38.9	0.22	-0.05	59.41	0.0	0.0	
4,627.0	0.50	253.30	4,626.6	7.1	38.4	0.34	0.16	67.41	0.0	0.0	
4,816.0	0.40	8.60	4,815.6	7.5	37.7	0.40	-0.05	61.01	0.0	0.0	
5,004.0	0.70	90.30	5,003.6	8.1	38.9	0.40	0.16	43.46	0.0	0.0	
5,193.0	0.30	339.50	5,192.6	8.6	39.9	0.45	-0.21	-58.62	0.0	0.0	
5,382.0	0.10	183.90	5,381.6	8.9	39.7	0.21	-0.11	-82.33	0.0	0.0	
5,570.0	0.70	98.20	5,569.6	8.6	40.8	0.37	0.32	-45.59	0.0	0.0	
5,759.0	0.30	159.20	5,758.6	7.9	42.2	0.32	-0.21	32.28	0.0	0.0	
5,947.0	0.10	45.10	5,946.6	7.6	42.5	0.19	-0.11	-60.69	0.0	0.0	
6,136.0	0.90	247.80	6,135.5	7.1	41.2	0.53	0.42	-83.23	0.0	0.0	
6,323.0	0.40	20.20	6,322.5	7.2	40.1	0.65	-0.27	70.80	0.0	0.0	
6,512.0	0.30	44.50	6,511.5	8.2	40.6	0.09	-0.05	12.86	0.0	0.0	
6,700.0	0.70	312.10	6,699.5	9.3	40.1	0.41	0.21	-49.15	0.0	0.0	
6,888.0	1.00	244.40	6,887.5	9.4	37.8	0.52	0.16	-36.01	0.0	0.0	
7,077.0	1.10	186.60	7,076.5	6.8	36.1	0.54	0.05	-30.58	0.0	0.0	
7,265.0	0.50	145.60	7,264.5	4.4	36.4	0.42	-0.32	-21.81	0.0	0.0	
7,454.0	0.80	54.10	7,453.5	4.5	37.9	0.50	0.16	-48.41	0.0	0.0	
7,642.0	0.20	319.30	7,641.5	5.5	38.7	0.45	-0.32	-50.43	0.0	0.0	
7,811.0	0.40	263.40	7,810.5	5.6	38.0	0.20	0.12	-33.08	0.0	0.0	
7,999.0	1.00	230.20	7,998.4	4.5	36.1	0.37	0.32	-17.66	0.0	0.0	
8,188.0	1.20	239.00	8,187.4	2.4	33.1	0.14	0.11	4.66	0.0	0.0	
8,376.0	1.10	235.80	8,375.4	0.4	29.9	0.06	-0.05	-1.70	0.0	0.0	
8,563.0	1.70	218.10	8,562.3	-2.8	26.7	0.39	0.32	-9.47	0.0	0.0	



EOG Resources, Inc.

PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3365.0usft (H&P 659)
Site:	Whirling Wind 14 Fed Com	MD Reference:	KB = 25 @ 3365.0usft (H&P 659)
Well:	#701H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
8,751.0	1.50	226.00	8,750.2	-6.7	23.2	0.16	-0.11	4.20	0.0	0.0	
8,940.0	1.10	266.10	8,939.2	-8.5	19.6	0.51	-0.21	21.22	0.0	0.0	
9,128.0	1.40	265.90	9,127.1	-8.8	15.5	0.16	0.16	-0.11	0.0	0.0	
9,317.0	1.50	271.90	9,316.1	-8.9	10.8	0.10	0.05	3.17	0.0	0.0	
9,506.0	1.20	266.50	9,505.0	-8.9	6.3	0.17	-0.16	-2.86	0.0	0.0	
9,694.0	1.10	264.80	9,693.0	-8.6	2.6	0.20	-0.05	9.73	0.0	0.0	
9,883.0	1.00	282.00	9,882.0	-7.8	-0.8	0.06	-0.05	-1.48	0.0	0.0	
10,071.0	1.70	270.40	10,069.9	-7.4	-5.2	0.40	0.37	-6.17	0.0	0.0	
10,259.0	1.90	249.40	10,257.8	-8.5	-10.9	0.36	0.11	-11.17	0.0	0.0	
10,447.0	2.50	250.60	10,445.7	-11.0	-17.6	0.32	0.32	0.64	0.0	0.0	
10,635.0	3.60	244.20	10,633.4	-14.9	-26.8	0.61	0.59	-3.40	0.0	0.0	
10,824.0	3.60	244.70	10,822.0	-20.0	-37.5	0.02	0.00	0.26	0.0	0.0	
11,179.0	4.10	242.70	11,176.2	-30.6	-58.9	0.15	0.14	-0.56	0.0	0.0	
11,227.0	4.50	240.20	11,224.1	-32.3	-62.0	0.92	0.83	-5.21	0.0	0.0	
11,321.0	3.40	241.30	11,317.9	-35.5	-67.7	1.17	-1.17	1.17	0.0	0.0	
11,415.0	2.20	273.40	11,411.8	-36.7	-71.9	2.05	-1.28	34.15	0.0	0.0	
11,509.0	2.20	272.30	11,505.7	-36.5	-75.5	0.04	0.00	-1.17	0.0	0.0	
11,603.0	2.10	260.70	11,599.6	-36.7	-79.0	0.47	-0.11	-12.34	0.0	0.0	
11,697.0	2.70	261.70	11,693.6	-37.3	-82.9	0.64	0.64	1.06	0.0	0.0	
11,791.0	2.50	258.60	11,787.5	-38.1	-87.1	0.26	-0.21	-3.30	0.2	0.1	
11,860.0	6.50	25.20	11,856.3	-34.8	-86.9	11.94	5.80	183.48	-4.8	-1.7	
11,907.0	6.60	26.40	11,903.0	-30.0	-84.6	0.36	0.21	2.55	-10.2	-2.7	
11,955.0	11.40	23.20	11,950.4	-23.2	-81.5	10.05	10.00	-6.67	-14.1	-2.6	
12,002.0	15.20	20.10	11,996.1	-13.1	-77.6	8.22	8.09	-6.60	-18.1	-0.3	
12,050.0	19.10	18.80	12,042.0	0.2	-72.9	8.16	8.12	-2.71	-22.4	4.9	
12,097.0	24.70	20.50	12,085.6	16.7	-66.9	11.99	11.91	3.62	-26.6	13.4	
12,144.0	30.40	27.00	12,127.3	36.6	-58.1	13.70	12.13	13.83	-29.5	25.3	



EOG Resources, Inc.
PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Whirling Wind 14 Fed Com
Well: #701H
Wellbore: ST01
Design: ST01

Local Co-ordinate Reference: Well #701H
TVD Reference: KB = 25 @ 3365.0usft (H&P 659)
MD Reference: KB = 25 @ 3365.0usft (H&P 659)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,191.0	36.70	30.00	12,166.4	59.3	-45.7	13.86	13.40	6.38	-33.4	35.9	
12,238.0	43.90	37.50	12,202.2	84.5	-28.7	18.45	15.32	15.96	-34.8	48.2	
12,285.0	47.20	40.80	12,235.2	110.5	-7.5	8.62	7.02	7.02	-39.2	56.2	
12,331.0	46.90	40.20	12,266.5	136.1	14.4	1.16	-0.65	-1.30	-45.2	58.4	
12,379.0	49.10	37.10	12,298.6	163.9	36.6	6.64	4.58	-6.46	-50.8	57.2	
12,437.0	51.60	34.60	12,335.6	200.1	62.8	5.44	4.31	-4.31	-54.7	53.7	
12,481.0	52.60	32.90	12,362.7	229.0	82.0	3.80	2.27	-3.86	-55.5	49.3	
12,528.0	54.90	30.20	12,390.5	261.3	101.9	6.74	4.89	-5.74	-54.7	42.7	
12,575.0	57.30	28.50	12,416.7	295.3	121.0	5.92	5.11	-3.62	-52.0	35.2	
12,623.0	62.20	27.00	12,440.8	332.0	140.3	10.56	10.21	-3.12	-48.6	25.9	
12,626.7	62.70	26.88	12,442.6	334.9	141.8	13.92	13.60	-3.35	-48.3	25.1	
HL Crossing, MD:12626.7', TVD:12442.6', N/S:334.9', E/W:141.8', INC:62.70											
12,670.0	68.60	25.50	12,460.4	370.3	159.1	13.92	13.62	-3.18	-46.2	15.4	
12,717.0	73.90	20.80	12,475.5	411.2	176.6	14.72	11.28	-10.00	-44.9	4.5	
12,764.0	74.30	15.50	12,488.4	454.1	190.7	10.88	0.85	-11.28	-42.1	-4.6	
12,811.0	74.50	14.70	12,501.0	497.8	202.5	1.69	0.43	-1.70	-36.0	-12.5	
12,859.0	74.70	12.30	12,513.8	542.8	213.3	4.84	0.42	-5.00	-26.5	-21.2	
12,906.0	78.30	6.80	12,524.8	587.9	220.8	13.71	7.66	-11.70	-15.8	-28.2	
12,954.0	81.60	1.10	12,533.1	635.0	224.1	13.56	6.87	-11.87	-7.2	-31.0	
13,049.0	86.30	355.80	12,541.5	729.5	221.5	8.98	7.05	-5.58	1.1	-27.1	
13,142.0	89.60	356.60	12,543.2	822.3	215.3	1.64	1.40	0.86	2.6	-19.6	
13,238.0	89.20	356.60	12,544.2	918.1	209.6	0.42	-0.42	0.00	3.5	-12.6	
13,333.0	91.30	356.60	12,543.8	1,012.9	204.0	2.21	2.21	0.00	3.0	-5.6	
13,428.0	91.50	356.30	12,541.5	1,107.7	198.1	0.38	0.21	-0.32	0.6	1.6	
13,522.0	91.90	357.40	12,538.7	1,201.5	193.0	1.24	0.43	1.17	-2.3	8.0	
13,617.0	89.70	359.50	12,537.4	1,296.5	190.4	3.20	-2.32	2.21	-3.8	11.9	
13,712.0	89.20	359.30	12,538.3	1,391.5	189.4	0.57	-0.53	-0.21	-3.0	14.2	



EOG Resources, Inc.
PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3365.0usft (H&P 659)
Site:	Whirling Wind 14 Fed Com	MD Reference:	KB = 25 @ 3365.0usft (H&P 659)
Well:	#701H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
13,807.0	90.80	0.00	12,538.3	1,486.5	188.8	1.84	1.68	0.74	-3.1	16.2
13,901.0	90.30	358.20	12,537.4	1,580.5	187.3	1.99	-0.53	-1.91	-4.1	18.9
13,996.0	92.20	358.40	12,535.3	1,675.4	184.5	2.01	2.00	0.21	-6.3	23.1
14,091.0	92.10	1.70	12,531.7	1,770.3	184.6	3.47	-0.11	3.47	-10.0	24.3
14,185.0	90.80	1.90	12,529.4	1,864.2	187.6	1.40	-1.38	0.21	-12.5	22.7
14,280.0	90.20	1.60	12,528.5	1,959.2	190.5	0.71	-0.63	-0.32	-13.4	21.1
14,374.0	89.80	1.10	12,528.5	2,053.2	192.7	0.68	-0.43	-0.53	-13.5	19.6
14,469.0	92.00	2.50	12,527.0	2,148.1	195.7	2.74	2.32	1.47	-14.9	15.9
14,564.0	87.40	2.20	12,527.5	2,243.0	199.5	4.85	-4.84	-0.32	-14.3	11.3
14,659.0	88.40	2.60	12,531.0	2,337.8	203.5	1.13	1.05	0.42	-10.8	6.6
14,753.0	89.50	1.70	12,532.7	2,431.7	207.0	1.51	1.17	-0.96	-9.0	2.4
14,848.0	91.30	0.50	12,532.1	2,526.7	208.9	2.28	1.89	-1.26	-9.5	-0.2
14,943.0	89.30	359.70	12,531.6	2,621.7	209.0	2.27	-2.11	-0.84	-10.0	-1.1
15,038.0	91.80	0.80	12,530.7	2,716.7	209.5	2.87	2.83	1.16	-10.8	-2.2
15,133.0	91.30	0.70	12,528.1	2,811.7	210.7	0.54	-0.53	-0.11	-13.3	-4.2
15,227.0	88.80	359.50	12,528.0	2,905.6	210.9	2.95	-2.66	-1.28	-13.3	-5.1
15,322.0	88.90	359.60	12,529.9	3,000.6	210.1	0.15	0.11	0.11	-11.3	-5.1
15,417.0	89.90	359.70	12,530.9	3,095.6	209.5	1.06	1.05	0.11	-10.2	-5.2
15,512.0	89.50	359.50	12,531.4	3,190.6	208.9	0.47	-0.42	-0.21	-9.7	-5.3
15,606.0	89.80	359.50	12,532.0	3,284.6	208.1	0.32	0.32	0.00	-9.0	-5.2
15,701.0	90.00	0.20	12,532.2	3,379.6	207.8	0.77	0.21	0.74	-8.8	-5.6
15,796.0	90.00	0.70	12,532.2	3,474.6	208.5	0.53	0.00	0.53	-8.7	-7.1
15,891.0	91.30	1.20	12,531.1	3,569.6	210.1	1.47	1.37	0.53	-9.7	-9.4
15,985.0	90.50	359.80	12,529.6	3,663.6	210.9	1.72	-0.85	-1.49	-11.1	-11.0
16,080.0	90.30	0.20	12,528.9	3,758.6	210.9	0.47	-0.21	0.42	-11.7	-11.7
16,174.0	91.40	0.40	12,527.5	3,852.5	211.4	1.19	1.17	0.21	-13.0	-12.9
16,268.0	90.50	359.70	12,526.0	3,946.5	211.5	1.21	-0.96	-0.74	-14.5	-13.7



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Whirling Wind 14 Fed Com
 Well: #701H
 Wellbore: ST01
 Design: ST01

Local Co-ordinate Reference: Well #701H
 TVD Reference: KB = 25 @ 3365.0usft (H&P 659)
 MD Reference: KB = 25 @ 3365.0usft (H&P 659)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
16,362.0	90.50	359.70	12,525.2	4,040.5	211.0	0.00	0.00	0.00	-15.2	-13.9	
16,456.0	92.30	0.40	12,522.9	4,134.5	211.1	2.05	1.91	0.74	-17.4	-14.7	
16,551.0	92.30	0.40	12,519.1	4,229.4	211.8	0.00	0.00	0.00	-21.2	-16.1	
16,645.0	90.80	0.20	12,516.5	4,323.4	212.3	1.61	-1.60	-0.21	-23.6	-17.3	
16,740.0	89.70	0.00	12,516.1	4,418.4	212.4	1.18	-1.16	-0.21	-24.0	-18.2	
16,834.0	90.60	0.30	12,515.9	4,512.4	212.7	1.01	0.96	0.32	-24.1	-19.2	
16,928.0	89.90	0.30	12,515.4	4,606.4	213.2	0.74	-0.74	0.00	-24.5	-20.4	
17,015.0	90.50	0.40	12,515.1	4,693.4	213.7	0.70	0.69	0.11	-24.7	-21.5	
17,108.0	91.40	0.60	12,513.6	4,786.4	214.5	0.99	0.97	0.22	-26.2	-23.0	
17,202.0	90.50	359.20	12,512.0	4,880.3	214.3	1.77	-0.96	-1.49	-27.7	-23.6	
17,297.0	91.40	359.40	12,510.5	4,975.3	213.2	0.97	0.95	0.21	-29.2	-23.1	
17,391.0	92.10	359.10	12,507.6	5,069.3	212.0	0.81	0.74	-0.32	-32.0	-22.6	
17,485.0	90.50	357.40	12,505.5	5,163.2	209.1	2.48	-1.70	-1.81	-34.1	-20.4	
17,580.0	91.10	356.90	12,504.1	5,258.1	204.4	0.82	0.63	-0.53	-35.4	-16.4	
17,674.0	91.60	357.10	12,501.9	5,351.9	199.4	0.57	0.53	0.21	-37.6	-12.1	
17,769.0	89.40	356.60	12,501.1	5,446.8	194.2	2.37	-2.32	-0.53	-38.3	-7.6	
17,863.0	90.50	356.50	12,501.2	5,540.6	188.6	1.18	1.17	-0.11	-38.2	-2.7	
17,957.0	91.80	356.60	12,499.3	5,634.4	182.9	1.39	1.38	0.11	-40.0	2.3	
18,052.0	92.50	357.80	12,495.7	5,729.2	178.3	1.46	0.74	1.26	-43.5	6.2	
18,146.0	92.20	358.80	12,491.9	5,823.1	175.5	1.11	-0.32	1.06	-47.3	8.3	
18,241.0	88.50	358.90	12,491.3	5,918.0	173.6	3.90	-3.89	0.11	-47.8	9.5	
18,335.0	89.60	359.60	12,492.8	6,012.0	172.4	1.39	1.17	0.74	-46.2	10.1	
18,429.0	90.30	359.20	12,492.9	6,106.0	171.4	0.86	0.74	-0.43	-46.1	10.4	
18,523.0	91.50	359.50	12,491.4	6,200.0	170.3	1.32	1.28	0.32	-47.5	10.7	
18,618.0	91.00	0.80	12,489.4	6,295.0	170.5	1.47	-0.53	1.37	-49.5	9.8	
18,712.0	90.70	1.00	12,488.0	6,389.0	172.0	0.38	-0.32	0.21	-50.8	7.6	
18,807.0	89.80	0.70	12,487.6	6,483.9	173.4	1.00	-0.95	-0.32	-51.2	5.5	



EOG Resources, Inc.
PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Whirling Wind 14 Fed Com
Well: #701H
Wellbore: ST01
Design: ST01

Local Co-ordinate Reference: Well #701H
TVD Reference: KB = 25 @ 3365.0usft (H&P 659)
MD Reference: KB = 25 @ 3365.0usft (H&P 659)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
18,901.0	89.50	359.80	12,488.1	6,577.9	173.8	1.01	-0.32	-0.96	-50.6	4.4	
18,996.0	89.30	0.40	12,489.1	6,672.9	174.0	0.67	-0.21	0.63	-49.5	3.5	
19,090.0	92.10	0.60	12,488.0	6,766.9	174.8	2.99	2.98	0.21	-50.6	2.0	
19,184.0	89.70	0.80	12,486.5	6,860.9	176.0	2.56	-2.55	0.21	-52.0	0.2	
19,278.0	90.00	1.40	12,486.8	6,954.9	177.8	0.71	0.32	0.64	-51.7	-2.3	
19,373.0	89.30	0.40	12,487.3	7,049.9	179.3	1.28	-0.74	-1.05	-51.1	-4.5	
19,467.0	90.20	359.20	12,487.7	7,143.8	178.9	1.60	0.96	-1.28	-50.6	-4.9	
19,562.0	89.10	358.30	12,488.3	7,238.8	176.9	1.50	-1.16	-0.95	-50.0	-3.5	
19,655.0	90.50	358.40	12,488.7	7,331.8	174.2	1.51	1.51	0.11	-49.6	-1.5	
19,750.0	91.30	359.20	12,487.2	7,426.7	172.2	1.19	0.84	0.84	-51.0	-0.2	
19,844.0	90.10	0.00	12,486.0	7,520.7	171.6	1.53	-1.28	0.85	-52.1	-0.3	
19,917.7	90.88	0.00	12,485.4	7,594.4	171.6	1.06	1.06	0.00	-52.7	-0.8	
HL Crossing, MD:19917.7', TVD:12485.4', N/S:7594.4', E/W:171.6', INC:90.88											
19,938.0	91.10	0.00	12,485.0	7,614.7	171.6	1.06	1.06	0.00	-53.0	-1.0	
Last MWD Survey											
20,017.0	91.10	0.00	12,483.5	7,693.7	171.6	0.00	0.00	0.00	-54.5	-1.5	
Projection To Bit											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,626.7	12,442.6	334.9	141.8	HL Crossing, MD:12626.7', TVD:12442.6', N/S:334.9', E/W:141.8', INC:62.70
19,917.7	12,485.4	7,594.4	171.6	HL Crossing, MD:19917.7', TVD:12485.4', N/S:7594.4', E/W:171.6', INC:90.88
19,938.0	12,485.0	7,614.7	171.6	Last MWD Survey
20,017.0	12,483.5	7,693.7	171.6	Projection To Bit

Checked By: _____ Approved By: _____ Date: _____