

Nexus Directional Solutions
3925 SCR 1285
Odessa, TX 79765

30-025-42025

I, Robert Paul Greene, certify that I am employed by Nexus Directional Solutions, and that on the dates of 9-January-15 through 8-February-15. I did conduct or supervise the taking of a MWD directional survey for the well from a depth of 8,822' to a depth of 14,783' MD. This data is true, correct, complete and within the limitations of the tools as set forth by Nexus Directional Solutions. I am authorized and qualified to make this report and this survey was conducted at the request of Endurance Resources, for the Starcaster 18 Fed # 4H well, in Lea County, New Mexico. I have reviewed this report and find that it conforms to the principles and procedures as set forth by Nexus Directional Solutions.

X

Paul Greene
Vice President

APR 07 2015

30-025-42025

Endurance Resources LLC

Lea County, NM
Starcaster 18 Fed
#4H

OH

Survey: MWD #1

Survey Report - Geographic

16 March, 2015

Wellplanning

Survey Report - Geographic

Company:	Endurance Resources LLC	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM	TVD Reference:	Well1 @ 3499.6usft
Site:	Starcaster 18 Fed	MD Reference:	Well1 @ 3499.6usft
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000:1 Single User Db

Project:		Lea County, NM	
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:		Starcaster 18 Fed			
Site Position:		Northing:	477,857.56 usft	Latitude:	32° 18' 39.495 N
From:	Map	Easting:	797,919.57 usft	Longitude:	103° 30' 10.133 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.44 °

Well:	#4H					
Well Position	+N/-S	0.0 usft	Northing:	477,857.56 usft	Latitude:	32° 18' 39.495 N
	+E/-W	0.0 usft	Easting:	797,919.57 usft	Longitude:	103° 30' 10.133 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,478.6 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/23/2014	7.14	60.19	48,331

Design:	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	175.99	

Survey Program		Date 3/16/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	9,740.0	GYRO (OH)	MWD	MWD - Standard
9,822.0	14,836.0	MWD #1 (OH)	MWD	MWD - Standard

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Map	Map			
Depth	(°)	(°)	Depth	(usft)	(usft)	Northing	Easting	Latitude	Longitude	
(usft)			(usft)			(usft)	(usft)			
9,740.0	1.10	211.68	9,737.8	-41.1	42.0	477,816.48	797,961.57	32° 18' 39.085 N	103° 30' 9.647 W	
9,822.0	2.00	194.90	9,819.8	-43.1	41.2	477,814.43	797,960.79	32° 18' 39.065 N	103° 30' 9.656 W	
9,838.0	2.80	189.60	9,835.8	-43.8	41.1	477,813.78	797,960.65	32° 18' 39.058 N	103° 30' 9.658 W	
9,854.0	4.10	187.80	9,851.8	-44.7	40.9	477,812.82	797,960.51	32° 18' 39.049 N	103° 30' 9.659 W	
9,885.0	6.50	179.90	9,882.6	-47.6	40.8	477,809.97	797,960.36	32° 18' 39.021 N	103° 30' 9.661 W	
9,917.0	9.70	178.70	9,914.3	-52.1	40.9	477,805.46	797,960.43	32° 18' 38.976 N	103° 30' 9.661 W	
9,948.0	12.60	178.40	9,944.7	-58.1	41.0	477,799.47	797,960.58	32° 18' 38.917 N	103° 30' 9.660 W	
9,980.0	15.30	177.60	9,975.8	-65.8	41.3	477,791.76	797,960.86	32° 18' 38.840 N	103° 30' 9.657 W	
10,011.0	18.10	177.80	10,005.5	-74.7	41.6	477,782.86	797,961.21	32° 18' 38.752 N	103° 30' 9.654 W	
10,043.0	21.30	177.80	10,035.6	-85.5	42.1	477,772.08	797,961.63	32° 18' 38.646 N	103° 30' 9.650 W	
10,074.0	25.30	179.80	10,064.1	-97.7	42.3	477,759.83	797,961.87	32° 18' 38.524 N	103° 30' 9.648 W	

Wellplanning

Survey Report - Geographic

Company:	Endurance Resources LLC	Local Co-ordinate Reference:	Well: #4H:
Project:	Lea County, NM	TVD Reference:	Well 1: @ 3499.6usft
Site:	Starcaster: 18 Fed	MD Reference:	Well 1: @ 3499.6usft
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,106.0	29.40	181.20	10,092.5	-112.4	42.2	477,745.13	797,961.73	32° 18' 38.379 N	103° 30' 9.651 W
10,137.0	33.10	182.70	10,119.0	-128.5	41.6	477,729.06	797,961.17	32° 18' 38.220 N	103° 30' 9.659 W
10,168.0	36.20	183.10	10,144.5	-146.1	40.7	477,711.46	797,960.27	32° 18' 38.046 N	103° 30' 9.671 W
10,200.0	39.00	182.20	10,169.8	-165.6	39.8	477,691.96	797,959.38	32° 18' 37.853 N	103° 30' 9.684 W
10,231.0	41.00	181.30	10,193.6	-185.5	39.2	477,672.05	797,958.77	32° 18' 37.656 N	103° 30' 9.692 W
10,263.0	43.30	180.60	10,217.3	-207.0	38.8	477,650.58	797,958.42	32° 18' 37.443 N	103° 30' 9.699 W
10,294.0	45.90	180.30	10,239.4	-228.7	38.7	477,628.81	797,958.25	32° 18' 37.228 N	103° 30' 9.702 W
10,326.0	49.90	179.90	10,260.8	-252.5	38.6	477,605.07	797,958.21	32° 18' 36.993 N	103° 30' 9.705 W
10,350.0	53.00	179.10	10,275.8	-271.3	38.8	477,586.31	797,958.38	32° 18' 36.808 N	103° 30' 9.705 W
10,382.0	57.20	178.40	10,294.1	-297.5	39.4	477,560.08	797,958.95	32° 18' 36.548 N	103° 30' 9.700 W
10,414.0	61.00	178.00	10,310.5	-324.9	40.2	477,532.64	797,959.82	32° 18' 36.276 N	103° 30' 9.693 W
10,445.0	64.70	177.30	10,324.6	-352.5	41.4	477,505.08	797,960.95	32° 18' 36.004 N	103° 30' 9.682 W
10,477.0	68.50	177.50	10,337.4	-381.8	42.7	477,475.75	797,962.28	32° 18' 35.713 N	103° 30' 9.669 W
10,508.0	70.80	178.20	10,348.1	-410.9	43.8	477,446.70	797,963.37	32° 18' 35.426 N	103° 30' 9.659 W
10,540.0	72.30	178.50	10,358.3	-441.2	44.7	477,416.36	797,964.24	32° 18' 35.126 N	103° 30' 9.652 W
10,571.0	74.10	177.50	10,367.2	-470.9	45.7	477,386.71	797,965.28	32° 18' 34.832 N	103° 30' 9.642 W
10,603.0	75.70	177.30	10,375.6	-501.7	47.1	477,355.84	797,966.68	32° 18' 34.527 N	103° 30' 9.629 W
10,634.0	77.10	176.60	10,382.8	-531.8	48.7	477,325.76	797,968.29	32° 18' 34.229 N	103° 30' 9.613 W
10,666.0	78.30	176.10	10,389.7	-563.0	50.7	477,294.56	797,970.28	32° 18' 33.920 N	103° 30' 9.593 W
10,697.0	80.30	176.20	10,395.4	-593.4	52.8	477,264.16	797,972.32	32° 18' 33.619 N	103° 30' 9.571 W
10,728.0	81.20	176.40	10,400.4	-623.9	54.7	477,233.63	797,974.30	32° 18' 33.317 N	103° 30' 9.551 W
10,760.0	82.80	176.80	10,404.9	-655.6	56.6	477,202.00	797,976.18	32° 18' 33.004 N	103° 30' 9.532 W
10,791.0	85.10	177.30	10,408.1	-686.3	58.2	477,171.22	797,977.76	32° 18' 32.699 N	103° 30' 9.516 W
10,823.0	87.20	177.50	10,410.3	-718.2	59.6	477,139.32	797,979.21	32° 18' 32.383 N	103° 30' 9.502 W
10,886.0	89.50	176.20	10,412.1	-781.1	63.1	477,076.45	797,982.67	32° 18' 31.761 N	103° 30' 9.468 W
10,917.0	90.30	175.50	10,412.1	-812.0	65.3	477,045.53	797,984.91	32° 18' 31.455 N	103° 30' 9.444 W
11,012.0	90.00	175.40	10,411.9	-906.7	72.9	476,950.83	797,992.45	32° 18' 30.517 N	103° 30' 9.365 W
11,106.0	90.60	175.50	10,411.4	-1,000.4	80.3	476,857.13	797,999.91	32° 18' 29.589 N	103° 30' 9.287 W
11,201.0	90.00	176.60	10,410.9	-1,095.2	86.9	476,762.36	798,006.45	32° 18' 28.651 N	103° 30' 9.219 W
11,295.0	91.40	176.80	10,409.7	-1,189.0	92.3	476,668.52	798,011.86	32° 18' 27.722 N	103° 30' 9.165 W
11,390.0	90.10	176.90	10,408.5	-1,283.9	97.5	476,573.68	798,017.08	32° 18' 26.783 N	103° 30' 9.112 W
11,484.0	89.40	176.60	10,408.9	-1,377.7	102.8	476,479.83	798,022.41	32° 18' 25.854 N	103° 30' 9.059 W
11,579.0	90.60	177.10	10,408.9	-1,472.6	108.1	476,384.97	798,027.63	32° 18' 24.915 N	103° 30' 9.006 W
11,673.0	90.00	175.20	10,408.4	-1,566.4	114.4	476,291.19	798,033.94	32° 18' 23.987 N	103° 30' 8.941 W
11,767.0	91.20	175.40	10,407.4	-1,660.0	122.1	476,197.52	798,041.64	32° 18' 23.059 N	103° 30' 8.860 W
11,862.0	89.70	174.80	10,406.7	-1,754.7	130.2	476,102.87	798,049.76	32° 18' 22.122 N	103° 30' 8.774 W
11,956.0	90.50	175.00	10,406.5	-1,848.3	138.5	476,009.24	798,058.11	32° 18' 21.195 N	103° 30' 8.685 W
12,050.0	89.20	175.40	10,406.8	-1,942.0	146.4	475,915.57	798,065.98	32° 18' 20.268 N	103° 30' 8.602 W
12,145.0	90.60	175.00	10,406.9	-2,036.7	154.4	475,820.91	798,073.93	32° 18' 19.330 N	103° 30' 8.518 W
12,239.0	91.50	174.80	10,405.2	-2,130.3	162.7	475,727.30	798,082.28	32° 18' 18.403 N	103° 30' 8.429 W
12,334.0	91.00	175.70	10,403.1	-2,224.9	170.6	475,632.65	798,090.15	32° 18' 17.466 N	103° 30' 8.346 W
12,428.0	90.20	176.60	10,402.2	-2,318.7	176.9	475,538.87	798,096.46	32° 18' 16.538 N	103° 30' 8.281 W
12,523.0	88.50	176.60	10,403.2	-2,413.5	182.5	475,444.05	798,102.09	32° 18' 15.599 N	103° 30' 8.224 W
12,617.0	89.50	176.60	10,404.9	-2,507.3	188.1	475,350.23	798,107.67	32° 18' 14.670 N	103° 30' 8.167 W
12,711.0	90.70	176.40	10,404.7	-2,601.2	193.8	475,256.40	798,113.40	32° 18' 13.742 N	103° 30' 8.109 W
12,806.0	88.90	177.50	10,405.0	-2,696.0	198.9	475,161.54	798,118.46	32° 18' 12.803 N	103° 30' 8.059 W
12,900.0	90.20	177.30	10,405.8	-2,789.9	203.2	475,067.65	798,122.72	32° 18' 11.873 N	103° 30' 8.017 W
12,994.0	89.00	177.10	10,406.4	-2,883.8	207.7	474,973.76	798,127.31	32° 18' 10.944 N	103° 30' 7.972 W
13,089.0	90.40	177.30	10,406.9	-2,978.7	212.4	474,878.88	798,131.95	32° 18' 10.005 N	103° 30' 7.927 W
13,183.0	92.10	177.30	10,404.9	-3,072.6	216.8	474,785.01	798,136.38	32° 18' 9.075 N	103° 30' 7.884 W
13,278.0	91.10	176.80	10,402.2	-3,167.4	221.7	474,690.17	798,141.27	32° 18' 8.137 N	103° 30' 7.835 W
13,372.0	90.20	175.70	10,401.2	-3,261.2	227.8	474,596.38	798,147.42	32° 18' 7.208 N	103° 30' 7.772 W
13,467.0	89.10	175.20	10,401.7	-3,355.9	235.4	474,501.69	798,154.95	32° 18' 6.270 N	103° 30' 7.693 W
13,561.0	90.70	175.40	10,401.9	-3,449.6	243.1	474,408.01	798,162.65	32° 18' 5.343 N	103° 30' 7.612 W
13,656.0	89.90	175.00	10,401.4	-3,544.2	251.0	474,313.34	798,170.60	32° 18' 4.406 N	103° 30' 7.528 W

Wellplanning

Survey Report - Geographic

Company:	Endurance Resources LLC	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM	TVD Reference:	Well1 @ 3499.6usft
Site:	Starcaster 18 Fed	MD Reference:	Well1 @ 3499.6usft
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,750.0	91.40	175.00	10,400.3	-3,637.9	259.2	474,219.71	798,178.79	32° 18' 3.479 N	103° 30' 7.441 W
13,845.0	89.80	175.70	10,399.4	-3,732.5	266.9	474,125.03	798,186.50	32° 18' 2.541 N	103° 30' 7.360 W
13,939.0	89.40	175.40	10,400.0	-3,826.2	274.2	474,031.31	798,193.79	32° 18' 1.613 N	103° 30' 7.283 W
14,034.0	90.80	176.10	10,399.8	-3,921.0	281.3	473,936.58	798,200.83	32° 18' 0.675 N	103° 30' 7.210 W
14,128.0	89.80	175.90	10,399.4	-4,014.7	287.8	473,842.81	798,207.39	32° 17' 59.747 N	103° 30' 7.142 W
14,222.0	90.90	176.10	10,398.8	-4,108.5	294.4	473,749.04	798,213.94	32° 17' 58.819 N	103° 30' 7.074 W
14,317.0	89.90	175.40	10,398.1	-4,203.3	301.4	473,654.31	798,220.98	32° 17' 57.881 N	103° 30' 7.000 W
14,411.0	89.10	176.20	10,398.9	-4,297.0	308.3	473,560.57	798,227.87	32° 17' 56.953 N	103° 30' 6.929 W
14,506.0	90.10	175.90	10,399.6	-4,391.8	314.8	473,465.79	798,234.41	32° 17' 56.014 N	103° 30' 6.861 W
14,600.0	90.00	175.70	10,399.5	-4,485.5	321.7	473,372.05	798,241.30	32° 17' 55.086 N	103° 30' 6.789 W
14,695.0	91.00	175.20	10,398.7	-4,580.2	329.3	473,277.35	798,248.83	32° 17' 54.149 N	103° 30' 6.710 W
14,731.7	91.54	175.12	10,397.9	-4,616.8	332.4	473,240.76	798,251.93	32° 17' 53.786 N	103° 30' 6.677 W
PBHL(SF#4H)									
14,783.0	92.30	175.00	10,396.2	-4,667.8	336.8	473,189.71	798,256.34	32° 17' 53.281 N	103° 30' 6.630 W
14,836.0	92.30	175.00	10,394.0	-4,720.6	341.4	473,136.96	798,260.96	32° 17' 52.758 N	103° 30' 6.581 W
BHL @ 14836'MD 227.8' FSL, 361.2' FEL of S18 T23S R34E									

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates	+N/-S (usft)	+E/-W (usft)	Comment
14,836.0	10,394.0	-4,720.6	341.4		BHL @ 14836'MD 227.8' FSL, 361.2' FEL of S18 T23S R34E

Checked By: _____ Approved By: _____ Date: _____

Endurance Resources LLC

Lea County, NM
Starcaster 18 Fed
#4H

OH

Survey: MWD #1

Standard Survey Report

16 March, 2015

Wellplanning

Survey Report

Company:	Endurance Resources LLC	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM	TVD Reference:	Well 1 @ 3499.6usft
Site:	Starcaster 18 Fed	MD Reference:	Well 1 @ 3499.6usft
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Starcaster 18 Fed		
Site Position:		Northing:	477,857.56 usft
From:	Map	Easting:	797,919.57 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 18' 39.495 N
		Longitude:	103° 30' 10.133 W
		Grid Convergence:	0.44 °

Well	#4H		
Well Position	+N/-S	0.0 usft	Northing: 477,857.56 usft
	+E/-W	0.0 usft	Easting: 797,919.57 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 18' 39.495 N
		Longitude:	103° 30' 10.133 W
		Ground Level:	3,478.6 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	11/23/2014	(°)
			7.14
			(°)
			60.19
			(nT)
			48,331

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			175.99
			(°)

Survey Program	Date 3/16/2015		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.0	9,740.0	GYRO (OH)	MWD
9,822.0	14,836.0	MWD #1 (OH)	MWD
			MWD - Standard
			MWD - Standard

Survey										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate	
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
9,740.0	1.10	211.68	9,737.8	-41.1	42.0	43.9	0.00	0.00	0.00	
9,822.0	2.00	194.90	9,819.8	-43.1	41.2	45.9	1.22	1.10	-20.46	
9,838.0	2.80	189.60	9,835.8	-43.8	41.1	46.6	5.18	5.00	-33.13	
9,854.0	4.10	187.80	9,851.8	-44.7	40.9	47.5	8.15	8.13	-11.25	
9,885.0	6.50	179.90	9,882.6	-47.6	40.8	50.3	8.07	7.74	-25.48	
9,917.0	9.70	178.70	9,914.3	-52.1	40.9	54.8	10.01	10.00	-3.75	
9,948.0	12.60	178.40	9,944.7	-58.1	41.0	60.8	9.36	9.35	-0.97	
9,980.0	15.30	177.60	9,975.8	-65.8	41.3	68.5	8.46	8.44	-2.50	
10,011.0	18.10	177.80	10,005.5	-74.7	41.6	77.4	9.03	9.03	0.65	
10,043.0	21.30	177.80	10,035.6	-85.5	42.1	88.2	10.00	10.00	0.00	

Wellplanning

Survey Report

Company:	Endurance Resources LLC	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM	TVD Reference:	Well 1 @ 3499.6usft
Site:	Starcaster-18 Fed	MD Reference:	Well 1 @ 3499.6usft
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)
10,074.0	25.30	179.80	10,064.1	-97.7	42.3	100.5	13.15	12.90	6.45
10,106.0	29.40	181.20	10,092.5	-112.4	42.2	115.1	12.97	12.81	4.38
10,137.0	33.10	182.70	10,119.0	-128.5	41.6	131.1	12.20	11.94	4.84
10,168.0	36.20	183.10	10,144.5	-146.1	40.7	148.6	10.03	10.00	1.29
10,200.0	39.00	182.20	10,169.8	-165.6	39.8	168.0	8.92	8.75	-2.81
10,231.0	41.00	181.30	10,193.6	-185.5	39.2	187.8	6.72	6.45	-2.90
10,263.0	43.30	180.60	10,217.3	-207.0	38.8	209.2	7.34	7.19	-2.19
10,294.0	45.90	180.30	10,239.4	-228.7	38.7	230.9	8.41	8.39	-0.97
10,326.0	49.90	179.90	10,260.8	-252.5	38.6	254.6	12.53	12.50	-1.25
10,350.0	53.00	179.10	10,275.8	-271.3	38.8	273.3	13.18	12.92	-3.33
10,382.0	57.20	178.40	10,294.1	-297.5	39.4	299.5	13.25	13.13	-2.19
10,414.0	61.00	178.00	10,310.5	-324.9	40.2	326.9	11.92	11.88	-1.25
10,445.0	64.70	177.30	10,324.6	-352.5	41.4	354.5	12.10	11.94	-2.26
10,477.0	68.50	177.50	10,337.4	-381.8	42.7	383.9	11.89	11.88	0.63
10,508.0	70.80	178.20	10,348.1	-410.9	43.8	412.9	7.72	7.42	2.26
10,540.0	72.30	178.50	10,358.3	-441.2	44.7	443.2	4.77	4.69	0.94
10,571.0	74.10	177.50	10,367.2	-470.9	45.7	472.9	6.58	5.81	-3.23
10,603.0	75.70	177.30	10,375.6	-501.7	47.1	503.8	5.04	5.00	-0.63
10,634.0	77.10	176.60	10,382.8	-531.8	48.7	533.9	5.02	4.52	-2.26
10,666.0	78.30	176.10	10,389.7	-563.0	50.7	565.2	4.05	3.75	-1.56
10,697.0	80.30	176.20	10,395.4	-593.4	52.8	595.6	6.46	6.45	0.32
10,728.0	81.20	176.40	10,400.4	-623.9	54.7	626.2	2.97	2.90	0.65
10,760.0	82.80	176.80	10,404.9	-655.6	56.6	657.9	5.15	5.00	1.25
10,791.0	85.10	177.30	10,408.1	-686.3	58.2	688.7	7.59	7.42	1.61
10,823.0	87.20	177.50	10,410.3	-718.2	59.6	720.7	6.59	6.56	0.63
10,886.0	89.50	176.20	10,412.1	-781.1	63.1	783.6	4.19	3.65	-2.06
10,917.0	90.30	175.50	10,412.1	-812.0	65.3	814.6	3.43	2.58	-2.26
11,012.0	90.00	175.40	10,411.9	-906.7	72.9	909.6	0.33	-0.32	-0.11
11,106.0	90.60	175.50	10,411.4	-1,000.4	80.3	1,003.6	0.65	0.64	0.11
11,201.0	90.00	176.60	10,410.9	-1,095.2	86.9	1,098.6	1.32	-0.63	1.16
11,295.0	91.40	176.80	10,409.7	-1,189.0	92.3	1,192.6	1.50	1.49	0.21
11,390.0	90.10	176.90	10,408.5	-1,283.9	97.5	1,287.6	1.37	-1.37	0.11
11,484.0	89.40	176.60	10,408.9	-1,377.7	102.8	1,381.6	0.81	-0.74	-0.32
11,579.0	90.60	177.10	10,408.9	-1,472.6	108.1	1,476.5	1.37	1.26	0.53
11,673.0	90.00	175.20	10,408.4	-1,566.4	114.4	1,570.5	2.12	-0.64	-2.02
11,767.0	91.20	175.40	10,407.4	-1,660.0	122.1	1,664.5	1.29	1.28	0.21
11,862.0	89.70	174.80	10,406.7	-1,754.7	130.2	1,759.5	1.70	-1.58	-0.63
11,956.0	90.50	175.00	10,406.5	-1,848.3	138.5	1,853.5	0.88	0.85	0.21
12,050.0	89.20	175.40	10,406.8	-1,942.0	146.4	1,947.5	1.45	-1.38	0.43
12,145.0	90.60	175.00	10,406.9	-2,036.7	154.4	2,042.5	1.53	1.47	-0.42
12,239.0	91.50	174.80	10,405.2	-2,130.3	162.7	2,136.4	0.98	0.96	-0.21
12,334.0	91.00	175.70	10,403.1	-2,224.9	170.6	2,231.4	1.08	-0.53	0.95
12,428.0	90.20	176.60	10,402.2	-2,318.7	176.9	2,325.4	1.28	-0.85	0.96

Wellplanning

Survey Report

Company:	Endurance Resources LLC	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM	TVD Reference:	Well 1 @ 3499.6usft
Site:	Starcaster 18 Fed	MD Reference:	Well 1 @ 3499.6usft
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)	
12,523.0	88.50	176.60	10,403.2	-2,413.5	182.5	2,420.4	1.79	-1.79	0.00	
12,617.0	89.50	176.60	10,404.9	-2,507.3	188.1	2,514.3	1.06	1.06	0.00	
12,711.0	90.70	176.40	10,404.7	-2,601.2	193.8	2,608.3	1.29	1.28	-0.21	
12,806.0	88.90	177.50	10,405.0	-2,696.0	198.9	2,703.3	2.22	-1.89	1.16	
12,900.0	90.20	177.30	10,405.8	-2,789.9	203.2	2,797.3	1.40	1.38	-0.21	
12,994.0	89.00	177.10	10,406.4	-2,883.8	207.7	2,891.3	1.29	-1.28	-0.21	
13,089.0	90.40	177.30	10,406.9	-2,978.7	212.4	2,986.2	1.49	1.47	0.21	
13,183.0	92.10	177.30	10,404.9	-3,072.6	216.8	3,080.2	1.81	1.81	0.00	
13,278.0	91.10	176.80	10,402.2	-3,167.4	221.7	3,175.1	1.18	-1.05	-0.53	
13,372.0	90.20	175.70	10,401.2	-3,261.2	227.8	3,269.1	1.51	-0.96	-1.17	
13,467.0	89.10	175.20	10,401.7	-3,355.9	235.4	3,364.1	1.27	-1.16	-0.53	
13,561.0	90.70	175.40	10,401.9	-3,449.6	243.1	3,458.1	1.72	1.70	0.21	
13,656.0	89.90	175.00	10,401.4	-3,544.2	251.0	3,553.1	0.94	-0.84	-0.42	
13,750.0	91.40	175.00	10,400.3	-3,637.9	259.2	3,647.1	1.60	1.60	0.00	
13,845.0	89.80	175.70	10,399.4	-3,732.5	266.9	3,742.1	1.84	-1.68	0.74	
13,939.0	89.40	175.40	10,400.0	-3,826.2	274.2	3,836.1	0.53	-0.43	-0.32	
14,034.0	90.80	176.10	10,399.8	-3,921.0	281.3	3,931.1	1.65	1.47	0.74	
14,128.0	89.80	175.90	10,399.4	-4,014.7	287.8	4,025.0	1.08	-1.06	-0.21	
14,222.0	90.90	176.10	10,398.8	-4,108.5	294.4	4,119.0	1.19	1.17	0.21	
14,317.0	89.90	175.40	10,398.1	-4,203.3	301.4	4,214.0	1.28	-1.05	-0.74	
14,411.0	89.10	176.20	10,398.9	-4,297.0	308.3	4,308.0	1.20	-0.85	0.85	
14,506.0	90.10	175.90	10,399.6	-4,391.8	314.8	4,403.0	1.10	1.05	-0.32	
14,600.0	90.00	175.70	10,399.5	-4,485.5	321.7	4,497.0	0.24	-0.11	-0.21	
14,695.0	91.00	175.20	10,398.7	-4,580.2	329.3	4,592.0	1.18	1.05	-0.53	
14,731.7	91.54	175.12	10,397.9	-4,616.8	332.4	4,628.7	1.49	1.48	-0.23	
PBHL(SF#4H)										
14,783.0	92.30	175.00	10,396.2	-4,667.8	336.8	4,680.0	1.49	1.48	-0.23	
14,836.0	92.30	175.00	10,394.0	-4,720.6	341.4	4,732.9	0.00	0.00	0.00	
BHL @ 14836'MD 227.8' FSL, 361.2' FEL of S18 T23S R34E										

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
14,836.0	10,394.0	-4,720.6	341.4	BHL @ 14836'MD 227.8' FSL, 361.2' FEL of S18 T23S R34E

Checked By: _____ Approved By: _____ Date: _____

Endurance Resources LLC
Project: Lea County, NM
Site: Starcaster 18 Fed
Well: #4H
Wellbore: OH
Plan: Plan #4 (#4H/OH)

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
1	9740.0	1.10	211.68	9737.8	-41.1	42.0	0.00	0.00	43.9	
2	9853.0	1.10	211.68	9850.8	-42.9	40.9	0.00	0.00	45.7	
3	10746.5	90.21	176.38	10415.0	-617.4	70.9	10.00	-35.30	620.8	
4	14754.7	90.21	176.38	10400.3	-4617.6	324.0	0.00	0.00	4628.9	PBHL(SF#4H)

WELL DETAILS: #4H

Ground Elevation:: 3478.6
RKB Elevation: Well1 @ 3499.6usft
Rig Name:

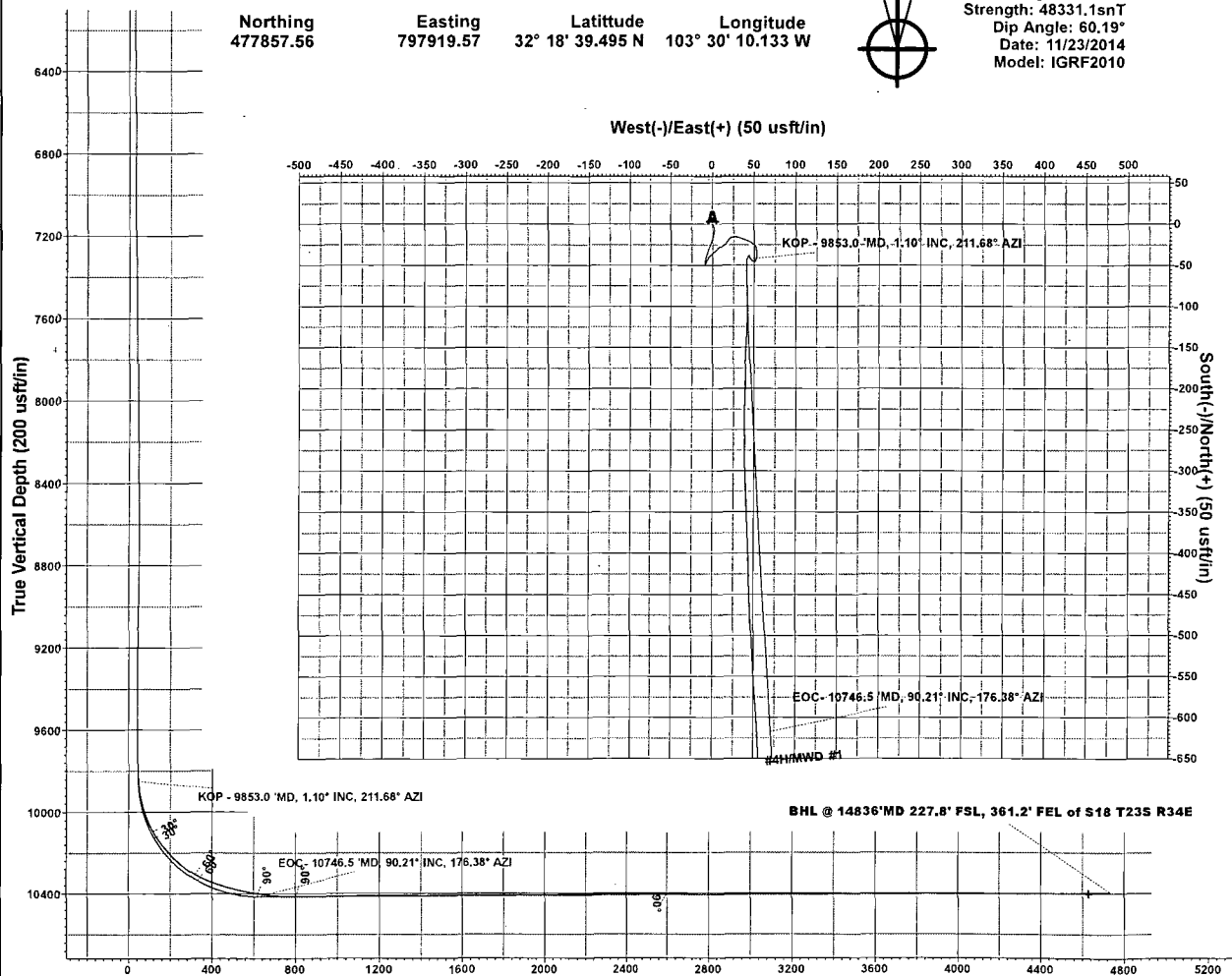
Northing 477857.56 Easting 797919.57 Latitude 32° 18' 39.495 N Longitude 103° 30' 10.133 W



Azimuths to Grid North
True North: -0.44°
Magnetic North: 6.69°

Magnetic Field
Strength: 48331.1nT
Dip Angle: 60.19°
Date: 11/23/2014
Model: IGRF2010

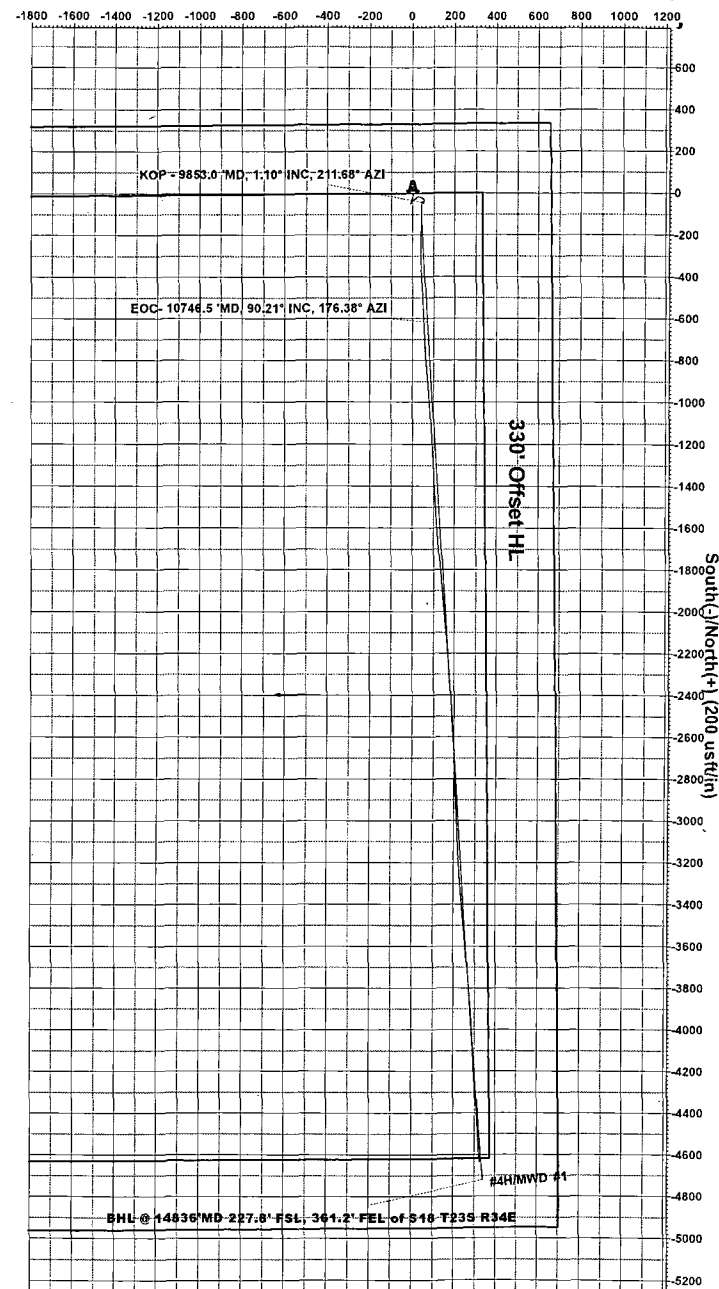
West(-)/East(+) (50 usft/in)



Vertical Section at 175.99° (200 usft/in)

Nexus Directional Solutions

West(-)/East(+) (200 usft/in)



PROJECT DETAILS: Lea County, NM

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid