

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED
OMB NO. 1004-0137
Expires: October 31, 2014

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other
b. Type of Completion: ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.,
Other: _____

2. Name of Operator
Endurance Resources LLC

3. Address
203 West Wall Street Suite 1000 Midland TX 79701

3a. Phone No. (include area code)
432-242-4680

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

At surface 330' FNL & 660' FEL

At top prod. interval reported below

At total depth 227.8' FSL & 361.2' FEL

14. Date Spudded
01/13/2015

15. Date T.D. Reached
02/09/2015

16. Date Completed 02/28/2015
☐ D & A ☒ Ready to Prod.

5. Lease Serial No.
NMLC065194

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

8. Lease Name and Well No.
Starcaster 18 Federal Corn 4H

9. API Well No.
30-025-42025

10. Field and Pool or Exploratory
Bell Lake; Bone Spring North

11. Sec., T., R., M., on Block and
Survey or Area Sec. 18 T23S R34E

12. County or Parish

13. State

Lea

NM

17. Elevations (DF, RKB, RT, GL)*
3478.6' GR

18. Total Depth: MD 14,836'
TVD 10,394'

19. Plug Back T.D.: MD 14,826'
TVD 10,394'

20. Depth Bridge Plug Set: MD
TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
RCBL and CNL

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit report)
Directional Survey? ☐ No ☒ Yes (Submit copy)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17-1/2"	13-3/8" J55	54.5			1123	1050 Class C	279	Surface	
12-1/4"	9-5/8" L80	40			4998	1310 Class C	396	Surface	
8-3/4"	5-1/2" P110	20			14826	2475 Class C	995	3950'	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) 2nd Bone Spring	10653	14727	10653-14727	0.42"	258	Open
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, etc.

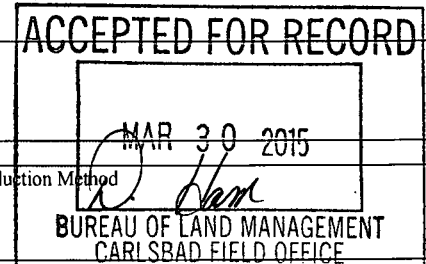
Depth Interval	Amount and Type of Material
10653-14727	Frac w/41,680 gals 15% HCl, 82,633 bbls. gel water, 3,699,899# synthetic proppant

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
2/28/15	3/6/15	24	→	2026	3221	3659	45.0	0.70	Flowing
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
48/64"		1050	→	2026	3221	3659	1589	POW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→						



*(See instructions and spaces for additional data on page 2)

Reclamation Date: 9/6/15

Com Agreement Needed

'APR 14 2015'

in

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→						

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→						

29. Disposition of Gas (Solid, used for fuel, vented, etc.)

Sold

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
Rustler	0 967	967 1825	Redbed Anhydrite	Rustler Top Salt	967 1825
Top Salt Base Salt	1825 2762	2762 4947	Salt Anhydrite/Limestone	Base Salt Lamar Limestone	2762 4947
Delaware Bone Spring	4947 8502	8502 9587	Sandstone/Shale Sandstone/Shale/Limestone	Bell Canyon Cherry Canyon	5040 6066
1st Bone Spring 2nd Bone Spring	9587 10147	10147 10394	Limestone/Sandstone/Shale Sandstone/Limestone/Shale	Brushy Canyon Bone Spring Limestone	7275 8502
				1st Bone Spring Sand 2nd Bone Spring Sand	9587 10147

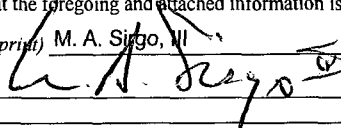
32. Additional remarks (include plugging procedure):

33. Indicate which items have been attached by placing a check in the appropriate boxes:

- ☒ Electrical/Mechanical Logs (1 full set req'd.)
 ☐ Geologic Report
 ☐ DST Report
 ☒ Directional Survey
- ☐ Sundry Notice for plugging and cement verification
 ☐ Core Analysis
 ☐ Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name (please print) M. A. Singo, III

Signature 

Title Engineer

Date 03/18/2015

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

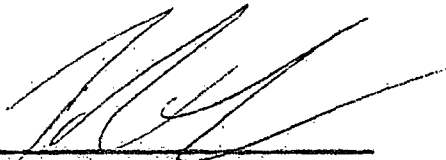
(Continued on page 3)

(Form 3160-4, page 2)

Nexus Directional Solutions
3925 SCR 1285
Odessa, TX 79765

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

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
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:
	+E/-W	0.0 usft	Easting:
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
			Dip Angle
			(°)
			Field Strength
			(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
			Direction
			(°)
			175.99

Survey Program	Date	3/16/2015		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
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	Latitude	Longitude
Depth	(°)	(°)	Depth	(usft)	(usft)	Northing	Easting		
(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

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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)	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:	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)	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										

Survey Annotations					
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:	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
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:
	+E/-W	0.0 usft	Easting:
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
			Dip Angle
			60.19
			Field Strength
			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
			Direction
			(°)
			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
			Description
			MWD - Standard
			MWD - Standard

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(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:	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

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:	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

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

WELL DETAILS: #4H

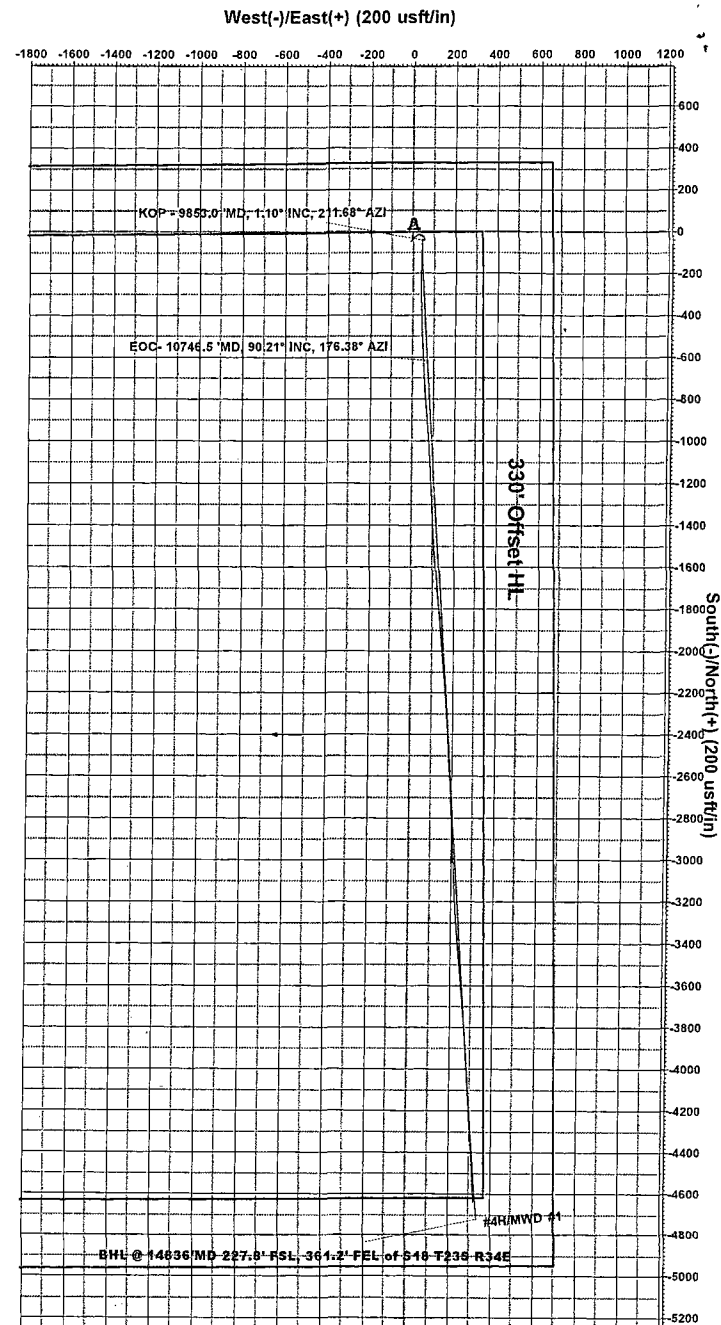
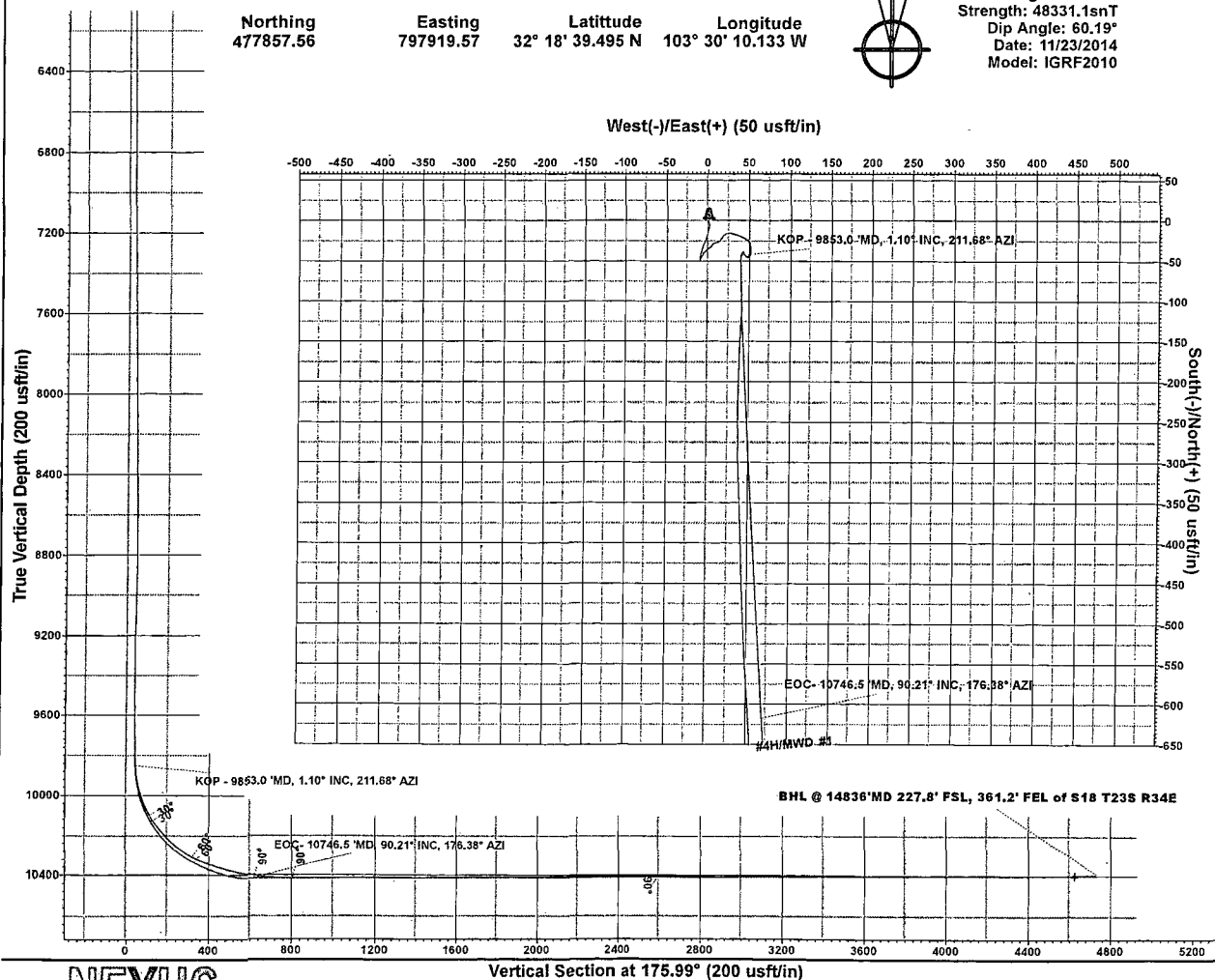
Ground Elevation:: 3478.6
 RKB Elevation: Well1 @ 3499.6usft
 Rig Name:

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: 48331.1snT
 Dip Angle: 60.19°
 Date: 11/23/2014
 Model: IGRF2010



NEXUS
 DIRECTIONAL SOLUTIONS, L.P.

Nexus Directional Solutions

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