

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTNMOCD
HobbsFORM 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		5. Lease Serial No. 5 NMNM112943 <i>B-1/NM 45706</i>	
b. Type of Completion: ☐ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resrv., Other: _____		6. If Indian, Allottee or Tribe Name	
2. Name of Operator Endurance Resources LLC ✓		7. Unit or CA Agreement Name and No.	
3. Address 203 West Wall Suite 1000 Midland, Texas 79701		8. Lease Name and Well No. Coronado 35 Federal 1H ✓	
3a. Phone No. (include area code) 432-242-4680		9. API Well No. 30-025-42575 ✓	
4. Location of Well (Report location clearly and in accordance with Federal requirements)* 90' FNL & 710' FWL At surface ✓ At top prod. interval reported below At total depth 262.08 FSL & 363.83' FWL		10. Field and Pool or Exploratory WC025 G08 S2535240 Bone Spring 11. Sec., T., R., M., on Block and Survey or Area 35-25S-35E ✓	
14. Date Spudded 06/25/2015		15. Date T.D. Reached 08/31/2015	
16. Date Completed 10/02/2015 ☐ D & A ☒ Ready to Prod.		17. Elevations (DF, RKB, RT, GL)* 3186.2' GR	
18. Total Depth: MD 16,935 TVD 12,274		19. Plug Back T.D.: MD 16,837 TVD 12,274	
20. Depth Bridge Plug Set: MD TVD		21. Type Electric & Other Mechanical Logs Run (Submit copy of each) DLL GR/N/D	
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)	
24. Tubing Record		25. Producing Intervals	
26. Perforation Record		27. Acid, Fracture, Treatment, Cement Squeeze, etc.	
28. Production - Interval A		28a. Production - Interval B	

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cement Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17-1/2"	13-3/8"	54.5		1002		950 Class C	250	Surface	308 sacks
12-1/4"	9-5/8"	40		7605		1965 Class C	634	Surface	268 sacks
8-3/4"	7"	29		12407		755 Class C	285	6150	
6-1/8"	4-1/2"	13.5	8852	16930		390 Class H	159	9550	

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

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) Bone Spring	8958	12158	12,497-16,806	42"	876	Open
B)						
C)						
D)						

Depth Interval	Amount and Type of Material
12,497-16,806	A/1479 bbls. 15% HCl. F/125,561 bbls. gel water, 4,919,727# proppant

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
10-2-15	10-15	24	→	1166	967	2175	46	.81	Flowing
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
40/64"	480		→	1166	967	2175	829	Flowing	

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)

NMB/OCB 2/3/2014

FEB 03 2016

CN

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.

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
	0	769	Red Bed		
Rustler	769	1380	Anhydrite		
Top Salt	1380	2581	Salt		
Base of Salt	2581	5224	Limestone/Anhydrite		
Bell Canyon	5224	8990	Sand/Shale		
Bone Spring	8990	12158	Sand/Limestone/Shale		
Wolfcamp	12158	12370	Limestone/Shale		

31. Formation (Log) Markers

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. Sirgo, IIITitle EngineerSignature M. A. SirgoDate 10/15/2015

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)

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
311 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Branca Road, Aztec, NM 87410
Phone: (505) 334-6173 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
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

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-42575	² Pool Code 97088	³ Pool Name WC025 G08 S2535240 Bone Spring
⁴ Property Code 314826	⁵ Property Name CORONADO 35 FEDERAL	
⁶ OGRID No. 270329	⁷ Operator Name ENDURANCE RESOURCES, LLC	⁸ Well Number 1H
		⁹ Elevation 3186.2

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	35	25 S	35 E		90	NORTH	710	WEST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	35	25 S	35 E		262.08	SOUTH	363.83	WEST	LEA

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.

	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 undivided 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. Signature: <u>M. A. Sirgo, III</u> Date: <u>10-16-2015</u> Printed Name: <u>M. A. Sirgo, III</u> E-mail Address: <u>nanny@enduranceresourcesllc.com</u>	
	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 and correct to the best of my belief. Signature and Seal of Registered Surveyor: <u>[Signature]</u> Certificate Number: <u>PILTON P. JARAMILLO, PLS 12797</u> Survey No.: <u>3116A</u>	
	Date of Survey: <u>AUGUST 22, 2014</u>	
	DATE OF SURVEY: <u>12797</u>	

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1625 N. French Dr., Hobbs, NM 88240
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811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Form C-104
Revised August 1, 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Endurance Resources LLC 203 West Wall Street Suite 1000 Midland TX 79701		² OGRID Number 270329
		³ Reason for Filing Code/ Effective Date NW
⁴ API Number 30 - 025-42575	⁵ Pool Name WC-025 G-08 S2535340; Bone Spring	⁶ Pool Code 97088
⁷ Property Code 314826	⁸ Property Name Coronado 35 Federal	⁹ Well Number 1H

II. ¹⁰ Surface Location

Ul or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line North	Feet from the	East/West line	County
O	35	25S	35E		90		710	West	Lea

¹¹ Bottom Hole Location

UL or lot no. M	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	35	25S	35E		262.08	South	363.83	West	Lea
¹² Lse Code F	¹³ Producing Method Code F		¹⁴ Gas Connection Date 10-2-2015		¹⁵ C-129 Permit Number		¹⁶ C-129 Effective Date		¹⁷ C-129 Expiration Date

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
34053	Plains Marketing LP 10 Desta Dr Ste 200 East Midland Tx 79705	O
24650	Targa Midstream Services LLC 1000 Louisiana Suite 4300 Houston Texas 77002	G

IV. Well Completion Data

²¹ Spud Date 6-25-2015	²² Ready Date 10-2-15	²³ TD 16,935'	²⁴ PBDT 16,837'	²⁵ Perforations 12,497-16,806'	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size		²⁹ Depth Set	³⁰ Sacks Cement

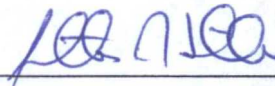
HALLIBURTON

3950 Interwood South Parkway • Houston, TX 77032

PHONE 281.986.4400 • FAX 281.986.4499

State of New Mexico, Lea County

I, Stephen Hatcher, certify that I am employed by Halliburton Energy Services, Inc. (AKA Sperry Drilling) and that on the dates of July 10, 2015 through September 02, 2015, I did conduct or supervise the taking of MWD Directional surveys for the well Coronado 35 Federal #1H ST02 from 11559' MD to 16873' MD. This data is true, correct, complete and within the limitations of the tools as set forth by Halliburton Energy Services, Inc. (AKA Sperry Drilling). I am authorized and qualified to make this report and this survey was conducted at the request of Endurance Resources LLC. for the Coronado 35 Federal #1H ST02 well, API No. 30-025-42575-0200 in Lea County, New Mexico. I have reviewed this report and find that it conforms to the principles and procedures as set forth by Halliburton Energy Services, Inc. (AKA Sperry Drilling).



Stephen Hatcher
MWD Field Engineer

Endurance Resources, LLC.

Coronado 35 Federal #1H ST02

Lea County, New Mexico

H&P 490

API# 30-025-42575-0200

July 10, 2015 – September 02, 2015

MO-XX-0902542471

Sperry Drilling MWD Survey Report

Submitted by Stephen Hatcher

3950 Interwood South Parkway

Houston, TX 77032

Ph: 281.986.4400

HALLIBURTON

**Drilling and Formation
Evaluation**



Survey Report for Endurance Resources

Rig	:	H&P 490
Well Name	:	Coronado 35 Federal #1H ST02
Field Name	:	Bone Spring
Country	:	USA
Job Number	:	MO-XX-0902542471
Job Start Date	:	10-Jul-15
API Number	:	30-025-42575-0000/0100/0200

DIRECTIONAL SURVEY DATA

Tie-in

0.00

0.00

0.00

0.00

0.00 N

0.00 E

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (%/100')
100.00	0.87	351.41	100.00	0.75 N	0.11 W	-0.75	0.87
200.00	0.87	345.70	199.98	2.24 N	0.41 W	-2.24	0.09
300.00	0.86	343.26	299.97	3.69 N	0.82 W	-3.69	0.04
400.00	1.02	350.79	399.96	5.29 N	1.18 W	-5.29	0.20
500.00	0.78	3.25	499.95	6.85 N	1.28 W	-6.84	0.31
600.00	0.65	355.22	599.94	8.09 N	1.29 W	-8.09	0.16
700.00	0.52	332.87	699.93	9.06 N	1.54 W	-9.06	0.26
800.00	0.57	323.69	799.93	9.87 N	2.04 W	-9.86	0.10
900.00	0.52	317.55	899.93	10.60 N	2.65 W	-10.60	0.08
1000.00	0.80	305.31	999.92	11.34 N	3.52 W	-11.33	0.31
1100.00	1.18	292.23	1,099.90	12.13 N	5.04 W	-12.12	0.44
1200.00	0.85	312.29	1,199.89	13.02 N	6.55 W	-13.01	0.48
1300.00	0.54	294.86	1,299.88	13.72 N	7.52 W	-13.71	0.37
1400.00	0.27	287.08	1,399.88	13.99 N	8.18 W	-13.97	0.27
1500.00	0.46	278.96	1,499.88	14.12 N	8.80 W	-14.10	0.20
1600.00	0.37	274.00	1,599.87	14.20 N	9.52 W	-14.19	0.10
1700.00	0.24	322.80	1,699.87	14.39 N	9.96 W	-14.37	0.28
1800.00	0.58	63.49	1,799.87	14.78 N	9.64 W	-14.77	0.67
1900.00	0.88	94.42	1,899.86	14.95 N	8.42 W	-14.94	0.48
2000.00	0.52	90.65	1,999.86	14.89 N	7.20 W	-14.87	0.36
2100.00	1.13	80.15	2,099.84	15.05 N	5.77 W	-15.04	0.63
2200.00	1.17	73.38	2,199.82	15.51 N	3.83 W	-15.50	0.14
2300.00	1.17	82.02	2,299.80	15.94 N	1.84 W	-15.94	0.18
2400.00	1.75	79.38	2,399.77	16.37 N	0.68 E	-16.37	0.58
2500.00	1.68	77.23	2,499.73	16.97 N	3.61 E	-16.98	0.10
2600.00	1.75	91.50	2,599.68	17.26 N	6.56 E	-17.27	0.43
2700.00	2.04	80.78	2,699.63	17.50 N	9.85 E	-17.52	0.46
2800.00	2.24	88.00	2,799.56	17.86 N	13.56 E	-17.88	0.34
2900.00	2.19	84.13	2,899.48	18.12 N	17.41 E	-18.15	0.16
3000.00	1.27	86.42	2,999.44	18.38 N	20.42 E	-18.42	0.92
3100.00	0.28	86.39	3,099.43	18.47 N	21.77 E	-18.51	0.99
3200.00	0.69	58.70	3,199.42	18.80 N	22.52 E	-18.84	0.46
3300.00	0.62	62.74	3,299.42	19.36 N	23.52 E	-19.40	0.08
3400.00	0.64	53.31	3,399.41	19.94 N	24.45 E	-19.98	0.11
3500.00	0.67	50.61	3,499.40	20.64 N	25.35 E	-20.69	0.04
3600.00	0.86	35.73	3,599.39	21.62 N	26.24 E	-21.67	0.27
3700.00	0.72	44.09	3,699.38	22.68 N	27.11 E	-22.73	0.18
3800.00	0.31	67.14	3,799.38	23.24 N	27.80 E	-23.29	0.45
3900.00	0.98	83.73	3,899.37	23.44 N	28.90 E	-23.49	0.69
4000.00	3.39	81.79	3,999.29	23.96 N	32.68 E	-24.01	2.41
4100.00	3.37	71.38	4,099.12	25.32 N	38.39 E	-25.38	0.61

DIRECTIONAL SURVEY DATA

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (°/100')
4200.00	2.22	78.12	4,199.00	26.65 N	43.07 E	-26.73	1.19
4300.00	1.38	77.30	4,298.95	27.32 N	46.14 E	-27.40	0.84
4400.00	1.78	74.96	4,398.91	27.98 N	48.81 E	-28.07	0.41
4500.00	3.81	74.32	4,498.79	29.29 N	53.51 E	-29.38	2.03
4600.00	4.44	65.95	4,598.53	31.76 N	60.25 E	-31.87	0.87
4700.00	4.09	62.84	4,698.25	34.97 N	66.95 E	-35.08	0.42
4800.00	2.76	50.25	4,798.07	38.13 N	71.98 E	-38.26	1.52
4900.00	1.09	38.50	4,898.01	40.42 N	74.42 E	-40.55	1.71
5000.00	0.80	44.29	4,998.00	41.66 N	75.50 E	-41.79	0.30
5100.00	0.87	38.12	5,097.99	42.76 N	76.46 E	-42.89	0.11
5200.00	1.11	49.70	5,197.97	43.98 N	77.67 E	-44.12	0.31
5300.00	0.95	38.97	5,297.96	45.25 N	78.93 E	-45.39	0.25
5400.00	0.45	56.81	5,397.95	46.11 N	79.78 E	-46.25	0.54
5500.00	0.25	319.16	5,497.95	46.49 N	79.96 E	-46.63	0.54
5600.00	0.33	319.68	5,597.95	46.88 N	79.63 E	-47.02	0.08
5700.00	0.34	301.31	5,697.95	47.25 N	79.19 E	-47.39	0.11
5800.00	0.24	302.83	5,797.94	47.52 N	78.76 E	-47.66	0.10
5900.00	0.42	320.90	5,897.94	47.92 N	78.36 E	-48.05	0.21
6000.00	0.04	332.02	5,997.94	48.23 N	78.11 E	-48.37	0.38
6100.00	0.12	19.02	6,097.94	48.36 N	78.13 E	-48.50	0.10
6200.00	0.09	53.49	6,197.94	48.51 N	78.22 E	-48.64	0.07
6300.00	0.17	98.04	6,297.94	48.53 N	78.43 E	-48.67	0.12
6400.00	0.09	140.99	6,397.94	48.45 N	78.63 E	-48.59	0.12
6500.00	0.08	197.98	6,497.94	48.32 N	78.66 E	-48.46	0.08
6600.00	0.20	163.16	6,597.94	48.09 N	78.69 E	-48.23	0.14
6700.00	0.22	149.85	6,697.94	47.76 N	78.83 E	-47.90	0.05
6800.00	0.17	60.32	6,797.94	47.67 N	79.06 E	-47.80	0.28
6900.00	0.20	59.78	6,897.94	47.83 N	79.34 E	-47.97	0.03
7000.00	0.25	357.61	6,997.94	48.13 N	79.48 E	-48.27	0.24
7100.00	0.30	330.86	7,097.94	48.58 N	79.34 E	-48.72	0.14
7200.00	0.23	234.46	7,197.94	48.69 N	79.05 E	-48.83	0.40
7300.00	0.23	182.70	7,297.94	48.37 N	78.88 E	-48.51	0.20
7400.00	0.24	126.89	7,397.94	48.05 N	79.04 E	-48.19	0.22
7500.00	0.26	114.50	7,497.93	47.83 N	79.41 E	-47.97	0.06
7600.00	0.28	107.03	7,597.93	47.66 N	79.85 E	-47.80	0.04
7700.00	0.30	97.91	7,697.93	47.56 N	80.35 E	-47.70	0.05
7800.00	0.46	81.63	7,797.93	47.58 N	81.00 E	-47.72	0.19
7900.00	0.44	97.14	7,897.93	47.59 N	81.78 E	-47.73	0.12
8000.00	0.32	90.46	7,997.92	47.54 N	82.44 E	-47.68	0.13
8100.00	0.55	101.08	8,097.92	47.44 N	83.19 E	-47.59	0.24
8200.00	0.38	100.74	8,197.92	47.29 N	83.99 E	-47.44	0.17
8300.00	0.31	129.52	8,297.92	47.06 N	84.52 E	-47.20	0.18
8400.00	0.35	148.64	8,397.91	46.62 N	84.89 E	-46.77	0.12
8500.00	0.36	149.19	8,497.91	46.09 N	85.21 E	-46.24	0.01
8600.00	0.38	146.36	8,597.91	45.55 N	85.55 E	-45.70	0.03

DIRECTIONAL SURVEY DATA

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (%/100')
8700.00	0.49	158.60	8,697.91	44.87 N	85.89 E	-45.02	0.14
8800.00	0.57	148.75	8,797.90	44.05 N	86.31 E	-44.20	0.12
8900.00	0.20	131.70	8,897.90	43.51 N	86.70 E	-43.66	0.38
9000.00	0.42	101.71	8,997.90	43.32 N	87.18 E	-43.47	0.27
9100.00	0.79	110.79	9,097.89	43.00 N	88.19 E	-43.15	0.38
9200.00	1.01	116.36	9,197.88	42.36 N	89.62 E	-42.52	0.24
9300.00	0.68	125.09	9,297.87	41.63 N	90.90 E	-41.79	0.35
9400.00	0.43	124.47	9,397.87	41.08 N	91.69 E	-41.24	0.25
9500.00	0.44	125.24	9,497.86	40.64 N	92.32 E	-40.80	0.01
9600.00	0.39	224.69	9,597.86	40.18 N	92.39 E	-40.34	0.63
9700.00	0.66	284.58	9,697.86	40.08 N	91.59 E	-40.24	0.57
9800.00	3.07	313.03	9,797.80	42.05 N	89.08 E	-42.21	2.51
9900.00	2.55	295.59	9,897.68	44.84 N	85.11 E	-44.99	0.99
10000.00	1.87	291.54	9,997.60	46.40 N	81.59 E	-46.54	0.70
10100.00	1.41	303.89	10,097.56	47.69 N	79.05 E	-47.83	0.58
10200.00	0.84	356.82	10,197.55	49.11 N	77.99 E	-49.24	1.13
10300.00	2.90	24.20	10,297.49	52.14 N	78.99 E	-52.28	2.19
10400.00	2.03	24.14	10,397.40	56.07 N	80.75 E	-56.21	0.87
10500.00	0.96	66.81	10,497.36	58.01 N	82.24 E	-58.16	1.48
10600.00	0.29	70.02	10,597.36	58.43 N	83.25 E	-58.58	0.67
10700.00	0.42	203.33	10,697.36	58.18 N	83.34 E	-58.33	0.65
10800.00	1.21	220.40	10,797.34	57.04 N	82.51 E	-57.18	0.82
10900.00	1.64	245.71	10,897.31	55.65 N	80.52 E	-55.79	0.75
11000.00	1.35	271.50	10,997.28	55.09 N	78.04 E	-55.23	0.72
11100.00	0.95	266.96	11,097.26	55.08 N	76.04 E	-55.21	0.41
11200.00	1.05	300.32	11,197.25	55.50 N	74.42 E	-55.63	0.58
11300.00	2.71	310.99	11,297.19	57.51 N	71.84 E	-57.63	1.69
11400.00	2.17	311.02	11,397.10	60.30 N	68.63 E	-60.42	0.54
11500.00	1.12	283.34	11,497.06	61.77 N	66.25 E	-61.89	1.29
11559.00	1.28	166.54	11,556.05	61.26 N	65.84 E	-61.38	3.47
11682.00	14.76	192.53	11,677.58	44.55 N	62.75 E	-44.66	11.07
11713.00	17.51	191.92	11,707.36	36.13 N	60.93 E	-36.24	8.89
11744.00	19.92	191.27	11,736.71	26.39 N	58.93 E	-26.49	7.81
11776.00	21.90	190.98	11,766.61	15.18 N	56.73 E	-15.28	6.19
11806.00	24.36	190.02	11,794.19	3.60 N	54.59 E	-3.69	8.30
11838.00	27.29	191.37	11,822.99	10.10 S	51.99 E	10.00	9.33
11870.00	30.64	192.28	11,850.99	25.26 S	48.81 E	25.17	10.56
11901.00	34.51	193.76	11,877.11	41.51 S	45.04 E	41.43	12.75
11932.00	37.26	195.23	11,902.22	59.10 S	40.48 E	59.03	9.30
11964.00	39.24	197.77	11,927.35	78.09 S	34.85 E	78.03	7.89
11995.00	41.37	200.12	11,950.99	97.04 S	28.33 E	97.00	8.45
12027.00	43.76	202.80	11,974.56	117.18 S	20.40 E	117.14	9.39
12058.00	45.93	203.94	11,996.54	137.24 S	11.73 E	137.22	7.44
12089.00	47.86	203.44	12,017.72	157.97 S	2.64 E	157.96	6.35
12120.00	51.29	201.30	12,037.83	179.79 S	6.33 W	179.80	12.26

DIRECTIONAL SURVEY DATA

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (°/100')
12152.00	54.50	202.16	12,057.13	203.49 S	15.78 W	203.52	10.24
12183.00	57.65	201.55	12,074.43	227.37 S	25.35 W	227.41	10.30
12215.00	60.94	200.36	12,090.77	253.06 S	35.19 W	253.12	10.76
12246.00	64.86	199.26	12,104.88	279.02 S	44.53 W	279.09	13.04
12278.00	68.90	198.83	12,117.45	306.83 S	54.14 W	306.92	12.69
12309.00	73.10	199.48	12,127.54	334.51 S	63.75 W	334.62	13.66
12340.00	75.84	199.69	12,135.84	362.65 S	73.76 W	362.78	8.88
12372.00	78.09	200.05	12,143.05	391.97 S	84.36 W	392.11	7.13
12403.00	80.87	200.15	12,148.71	420.59 S	94.83 W	420.75	8.96
12435.00	84.35	200.46	12,152.83	450.34 S	105.84 W	450.53	10.92
12450.00	78.96	201.86	12,155.00	464.18 S	111.20 W	464.37	37.07
12471.00	79.19	202.09	12,158.98	483.30 S	118.91 W	483.51	1.52
12516.00	81.61	201.02	12,166.48	524.56 S	135.21 W	524.80	5.87
12561.00	85.74	198.50	12,171.44	566.65 S	150.33 W	566.91	10.72
12606.00	87.69	194.71	12,174.01	609.69 S	163.16 W	609.97	9.46
12651.00	88.65	192.80	12,175.45	653.37 S	173.85 W	653.68	4.75
12695.00	89.17	192.42	12,176.29	696.30 S	183.46 W	696.62	1.47
12740.00	89.72	191.84	12,176.73	740.30 S	192.91 W	740.63	1.77
12785.00	88.86	192.35	12,177.29	784.29 S	202.34 W	784.65	2.22
12830.00	89.17	192.12	12,178.06	828.27 S	211.87 W	828.63	0.84
12875.00	89.48	192.61	12,178.59	872.22 S	221.51 W	872.60	1.28
12920.00	89.82	192.37	12,178.87	916.15 S	231.24 W	916.55	0.91
12965.00	89.88	191.66	12,178.99	960.17 S	240.61 W	960.58	1.59
13010.00	89.11	190.19	12,179.39	1,004.35 S	249.14 W	1004.78	3.69
13055.00	87.81	189.46	12,180.60	1,048.67 S	256.82 W	1049.12	3.31
13099.00	88.46	189.16	12,182.04	1,092.07 S	263.93 W	1092.53	1.61
13144.00	88.27	188.22	12,183.32	1,136.53 S	270.73 W	1137.00	2.13
13189.00	88.55	186.77	12,184.57	1,181.13 S	276.60 W	1181.61	3.28
13234.00	88.95	185.86	12,185.55	1,225.84 S	281.54 W	1226.33	2.21
13279.00	88.92	184.69	12,186.38	1,270.64 S	285.68 W	1271.14	2.59
13324.00	88.64	183.43	12,187.34	1,315.52 S	288.87 W	1316.02	2.87
13369.00	88.49	181.74	12,188.46	1,360.46 S	290.89 W	1360.96	3.77
13459.00	89.14	181.31	12,190.33	1,450.41 S	293.29 W	1450.92	0.86
13549.00	87.29	180.61	12,193.14	1,540.35 S	294.79 W	1540.86	2.20
13638.00	88.21	180.83	12,196.63	1,629.27 S	295.91 W	1629.78	1.07
13729.00	88.89	180.82	12,198.94	1,720.23 S	297.21 W	1720.75	0.74
13819.00	89.44	181.52	12,200.25	1,810.20 S	299.04 W	1810.72	1.00
13909.00	89.69	181.43	12,200.92	1,900.17 S	301.36 W	1900.69	0.29
14000.00	89.41	180.36	12,201.63	1,991.15 S	302.78 W	1991.68	1.21
14090.00	88.49	181.53	12,203.28	2,081.12 S	304.27 W	2081.65	1.66
14180.00	88.77	181.18	12,205.43	2,171.07 S	306.40 W	2171.60	0.49
14270.00	88.65	180.91	12,207.46	2,261.03 S	308.05 W	2261.57	0.33
14360.00	89.41	180.12	12,208.98	2,351.02 S	308.86 W	2351.55	1.22
14450.00	89.85	179.99	12,209.57	2,441.01 S	308.95 W	2441.55	0.50
14540.00	89.48	179.35	12,210.10	2,531.01 S	308.44 W	2531.55	0.82

DIRECTIONAL SURVEY DATA

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (°/100')
14629.00	89.20	178.57	12,211.13	2,619.99 S	306.82 W	2620.52	0.93
14719.00	88.80	179.35	12,212.70	2,709.96 S	305.18 W	2710.49	0.98
14809.00	89.41	179.58	12,214.10	2,799.94 S	304.35 W	2800.47	0.73
14899.00	88.68	179.54	12,215.60	2,889.93 S	303.66 W	2890.45	0.82
14989.00	88.40	179.47	12,217.90	2,979.90 S	302.88 W	2980.42	0.32
15079.00	87.72	179.62	12,220.95	3,069.84 S	302.16 W	3070.36	0.78
15169.00	88.64	179.73	12,223.81	3,159.79 S	301.65 W	3160.31	1.04
15259.00	87.35	179.83	12,226.96	3,249.74 S	301.31 W	3250.26	1.45
15349.00	88.34	180.15	12,230.35	3,339.67 S	301.29 W	3340.19	1.16
15439.00	88.46	181.28	12,232.87	3,429.63 S	302.41 W	3430.15	1.26
15529.00	89.08	181.48	12,234.80	3,519.58 S	304.58 W	3520.11	0.72
15618.00	87.87	180.62	12,237.17	3,608.53 S	306.21 W	3609.06	1.66
15708.00	88.61	180.54	12,239.93	3,698.48 S	307.12 W	3699.01	0.83
15798.00	87.97	180.39	12,242.62	3,788.44 S	307.85 W	3788.97	0.74
15887.00	88.74	180.40	12,245.18	3,877.40 S	308.46 W	3877.93	0.87
15977.00	88.30	180.28	12,247.50	3,967.37 S	308.99 W	3967.90	0.50
16066.00	88.83	180.09	12,249.73	4,056.34 S	309.28 W	4056.87	0.62
16156.00	88.92	179.96	12,251.50	4,146.32 S	309.32 W	4146.85	0.19
16246.00	88.58	180.36	12,253.46	4,236.30 S	309.57 W	4236.83	0.58
16335.00	88.68	179.61	12,255.58	4,325.27 S	309.54 W	4325.81	0.85
16425.00	87.53	179.81	12,258.56	4,415.22 S	309.09 W	4415.75	1.29
16514.00	88.21	179.46	12,261.87	4,504.16 S	308.52 W	4504.69	0.86
16604.00	88.61	179.16	12,264.36	4,594.12 S	307.44 W	4594.65	0.56
16694.00	88.18	178.87	12,266.88	4,684.07 S	305.89 W	4684.59	0.57
16784.00	88.49	179.50	12,269.49	4,774.02 S	304.61 W	4774.54	0.77
16873.00	88.02	179.64	12,272.20	4,862.98 S	303.94 W	4863.50	0.55
16935.00	88.02	179.64	12,274.34	4,924.94 S	303.55 W	4925.46	0.01

SURVEY FOOTER

SURVEYS CALCULATED USING THE SHORT COLLAR METHOD.

WELL ASSUMED VERTICAL AT SURFACE.

SURVEYS FROM 100' MD TO 11500' MD PROVIDED BY VAUGHN ENERGY SERVICES.

SURVEYS FROM 11559' MD TO 16873' MD PROVIDED BY SPERRY DRILLING SERVICES.

SURVEY AT 16873' MD IS PROJECTED TO TD AT 16935' MD.

SPERRY DRILLING ENGINEERS: STEPHEN HATCHER, YISA AJANAKU

DIRECTIONAL SURVEY DATA NOTES

- Calculation based on minimum curvature method.
- Survey coordinates relative to well system reference point.
- TVD values given relative to drilling measurement point.
- Vertical section relative to well head.
- Vertical section is computed along a direction of 180.10 degrees (Grid)
- A total correction of 6.61 deg from Magnetic north to Grid north has been applied
- Horizontal displacement is relative to the well head.
- Horizontal displacement (closure) at 16,935.00 feet is 4,934.28 feet along 183.53 degrees (Grid)

WARRANTY

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