

30025-42227

Read & Stevens INC

Lea County, NM (NAD 83)

SEC. 3, T20S-R34E

North Lea #3 Fed Com 2H

HUBBS OCD

NOV 29 2018

Wellbore #1

RECEIVED

Survey: MWD Surveys

Standard Survey Report

08 August, 2018

Survey Report

Company:	Read & Stevens INC	Local Co-ordinate Reference:	Well North Lea #3 Fed Com 2H
Project:	Lea County, NM (NAD 83)	TVD Reference:	KB=20' @ 3693.00ft
Site:	SEC. 3, T20S-R34E	MD Reference:	KB=20' @ 3693.00ft
Well:	North Lea #3 Fed Com 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Project	Lea County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	SEC. 3, T20S-R34E			
Site Position:		Northing:	586,163.01 usft	Latitude: 32.60894
From:	Lat/Long	Easting:	784,123.26 usft	Longitude: -103.54488
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence: 0.42 °

Well	North Lea #3 Fed Com 2H, ACTIVE			
Well Position	+N/-S	0.00 ft	Northing: 586,163.01 usft	Latitude: 32.60894
	+E/-W	0.00 ft	Easting: 784,123.26 usft	Longitude: -103.54488
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level: 3,673.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	HDGM	7/9/2018	(°) 6.63	(°) 60.57	(nT) 48,211

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	179.70	

Survey Program	Date 8/8/2018				
From	To	Survey (Wellbore)	Tool Name	Description	
(ft)	(ft)				
197.00	15,630.00	MWD Surveys (Wellbore #1)	MWD	Fixed:v2:standard declination	

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate	
(ft)			(ft)			(ft)	(°/100usft)	(°/100usft)	(°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
197.00	0.57	150.97	197.00	-0.86	0.48	0.86	0.29	0.29	0.00	
First MWD Survey @ 197'MD										
379.00	0.70	188.32	378.99	-2.75	0.75	2.75	0.23	0.07	20.52	
560.00	0.62	211.08	559.97	-4.68	0.09	4.68	0.15	-0.04	12.57	
740.00	0.70	231.56	739.96	-6.20	-1.28	6.19	0.14	0.04	11.38	
921.00	0.62	213.10	920.95	-7.71	-2.68	7.69	0.12	-0.04	-10.20	
1,101.00	0.79	204.93	1,100.94	-9.65	-3.73	9.63	0.11	0.09	-4.54	
1,282.00	0.97	181.29	1,281.92	-12.31	-4.29	12.29	0.22	0.10	-13.06	
1,466.00	1.05	198.60	1,465.89	-15.47	-4.86	15.44	0.17	0.04	9.41	
1,657.00	1.23	194.91	1,656.85	-19.11	-5.95	19.07	0.10	0.09	-1.93	

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Well:	North Lea #3 Fed Com 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,749.00	1.14	200.89	1,748.83	-20.91	-6.53	20.88	0.17	-0.10	6.50
1,938.00	1.36	178.83	1,937.79	-24.91	-7.16	24.88	0.28	0.12	-11.67
2,127.00	1.49	193.59	2,126.73	-29.54	-7.69	29.50	0.21	0.07	7.81
2,314.00	0.62	158.52	2,313.70	-32.85	-7.89	32.81	0.56	-0.47	-18.75
2,503.00	0.70	186.65	2,502.69	-34.95	-7.65	34.91	0.17	0.04	14.88
2,691.00	0.31	120.56	2,690.68	-36.35	-7.34	36.31	0.34	-0.21	-35.15
2,880.00	0.53	109.04	2,879.67	-36.89	-6.08	36.86	0.12	0.12	-6.10
3,068.00	0.88	84.08	3,067.66	-37.03	-3.82	37.01	0.24	0.19	-13.28
3,257.00	0.57	87.33	3,256.64	-36.83	-1.43	36.83	0.17	-0.16	1.72
3,443.00	0.66	73.45	3,442.63	-36.48	0.52	36.49	0.09	0.05	-7.46
3,629.00	0.53	132.68	3,628.63	-36.76	2.18	36.77	0.32	-0.07	31.84
3,815.00	0.44	182.17	3,814.62	-38.06	2.78	38.07	0.22	-0.05	26.61
4,001.00	0.57	167.49	4,000.61	-39.68	2.95	39.69	0.10	0.07	-7.89
4,095.00	0.75	179.27	4,094.61	-40.75	3.06	40.76	0.24	0.19	12.53
4,188.00	0.62	206.34	4,187.60	-41.81	2.85	41.82	0.37	-0.14	29.11
4,282.00	0.92	235.43	4,281.59	-42.69	2.00	42.70	0.51	0.32	30.95
4,376.00	0.92	252.66	4,375.58	-43.34	0.66	43.35	0.29	0.00	18.33
4,471.00	1.54	317.17	4,470.56	-42.64	-0.94	42.63	1.49	0.65	67.91
4,565.00	2.29	332.99	4,564.51	-40.04	-2.65	40.02	0.97	0.80	16.83
4,659.00	1.93	346.87	4,658.44	-36.82	-3.86	36.80	0.66	-0.38	14.77
4,753.00	1.93	351.09	4,752.39	-33.72	-4.47	33.69	0.15	0.00	4.49
4,848.00	1.98	352.76	4,847.34	-30.51	-4.92	30.48	0.08	0.05	1.76
4,942.00	2.02	349.69	4,941.28	-27.27	-5.42	27.24	0.12	0.04	-3.27
5,036.00	1.85	346.79	5,035.23	-24.16	-6.06	24.13	0.21	-0.18	-3.09
5,131.00	1.93	336.85	5,130.17	-21.20	-7.04	21.16	0.35	0.08	-10.46
5,225.00	2.29	342.48	5,224.11	-17.95	-8.23	17.91	0.44	0.38	5.99
5,319.00	2.20	338.61	5,318.04	-14.48	-9.45	14.43	0.19	-0.10	-4.12
5,503.00	2.29	339.84	5,501.90	-7.74	-12.01	7.68	0.06	0.05	0.67
5,597.00	2.15	336.68	5,595.83	-4.36	-13.36	4.29	0.20	-0.15	-3.36
5,691.00	2.11	337.12	5,689.76	-1.14	-14.73	1.07	0.05	-0.04	0.47
5,786.00	2.02	344.15	5,784.70	2.08	-15.86	-2.16	0.28	-0.09	7.40
5,880.00	1.98	341.82	5,878.64	5.21	-16.82	-5.30	0.10	-0.04	-2.48
5,974.00	2.15	343.80	5,972.58	8.45	-17.82	-8.54	0.20	0.18	2.11
6,068.00	2.24	343.45	6,066.51	11.90	-18.84	-12.00	0.10	0.10	-0.37
6,163.00	1.93	349.60	6,161.45	15.26	-19.65	-15.36	0.40	-0.33	6.47
6,257.00	1.36	13.86	6,255.41	17.90	-19.67	-18.00	0.94	-0.61	25.81
6,351.00	1.32	18.59	6,349.39	20.01	-19.06	-20.11	0.13	-0.04	5.03
6,446.00	1.23	17.55	6,444.36	22.02	-18.40	-22.11	0.10	-0.09	-1.09
6,539.00	1.23	11.75	6,537.34	23.95	-17.90	-24.04	0.13	0.00	-6.24
6,634.00	1.01	5.16	6,632.32	25.78	-17.62	-25.87	0.27	-0.23	-6.94
6,727.00	1.19	2.96	6,725.31	27.56	-17.49	-27.65	0.20	0.19	-2.37
6,820.00	1.14	0.41	6,818.29	29.45	-17.44	-29.54	0.08	-0.05	-2.74
6,913.00	1.19	5.95	6,911.27	31.33	-17.33	-31.42	0.13	0.05	5.96

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,007.00	1.36	7.00	7,005.24	33.41	-17.09	-33.50	0.18	0.18	1.12
7,100.00	1.19	19.04	7,098.22	35.42	-16.64	-35.51	0.34	-0.18	12.95
7,193.00	1.10	15.26	7,191.20	37.19	-16.09	-37.28	0.13	-0.10	-4.06
7,286.00	1.01	28.62	7,284.19	38.77	-15.47	-38.86	0.28	-0.10	14.37
7,379.00	1.19	54.47	7,377.17	40.05	-14.29	-40.13	0.56	0.19	27.80
7,473.00	1.23	50.07	7,471.15	41.27	-12.72	-41.34	0.11	0.04	-4.68
7,565.00	1.14	45.58	7,563.13	42.54	-11.31	-42.60	0.14	-0.10	-4.88
7,658.00	1.27	46.38	7,656.11	43.90	-9.90	-43.95	0.14	0.14	0.86
7,752.00	1.05	53.28	7,750.09	45.14	-8.46	-45.18	0.28	-0.23	7.34
7,846.00	1.27	58.42	7,844.07	46.20	-6.88	-46.23	0.26	0.23	5.47
7,939.00	1.01	58.24	7,937.05	47.17	-5.30	-47.20	0.28	-0.28	-0.19
8,032.00	0.53	75.38	8,030.04	47.71	-4.19	-47.73	0.57	-0.52	18.43
8,125.00	0.48	110.27	8,123.04	47.68	-3.41	-47.70	0.33	-0.05	37.52
8,219.00	0.40	122.40	8,217.04	47.37	-2.76	-47.38	0.13	-0.09	12.90
8,312.00	0.31	134.70	8,310.04	47.02	-2.31	-47.03	0.13	-0.10	13.23
8,405.00	0.35	146.57	8,403.03	46.60	-1.97	-46.61	0.08	0.04	12.76
8,498.00	0.18	150.88	8,496.03	46.24	-1.75	-46.25	0.18	-0.18	4.63
8,591.00	0.22	160.72	8,589.03	45.94	-1.62	-45.95	0.06	0.04	10.58
8,684.00	0.26	169.60	8,682.03	45.57	-1.52	-45.57	0.06	0.04	9.55
8,778.00	0.35	190.08	8,776.03	45.07	-1.53	-45.08	0.15	0.10	21.79
8,871.00	0.62	140.77	8,869.03	44.41	-1.26	-44.41	0.51	0.29	-53.02
8,964.00	0.84	156.15	8,962.02	43.39	-0.67	-43.40	0.31	0.24	16.54
9,057.00	1.01	152.46	9,055.01	42.04	-0.01	-42.04	0.19	0.18	-3.97
9,150.00	1.05	149.82	9,147.99	40.58	0.79	-40.57	0.07	0.04	-2.84
9,244.00	1.36	143.14	9,241.97	38.94	1.89	-38.93	0.36	0.33	-7.11
9,337.00	1.19	142.79	9,334.95	37.29	3.14	-37.27	0.18	-0.18	-0.38
9,430.00	0.97	145.52	9,427.93	35.87	4.17	-35.85	0.24	-0.24	2.94
9,523.00	0.97	148.33	9,520.92	34.55	5.03	-34.53	0.05	0.00	3.02
9,616.00	0.84	148.50	9,613.91	33.30	5.80	-33.27	0.14	-0.14	0.18
9,709.00	0.97	145.78	9,706.90	32.07	6.60	-32.03	0.15	0.14	-2.92
9,802.00	1.05	166.26	9,799.88	30.59	7.24	-30.55	0.40	0.09	22.02
9,895.00	0.92	197.20	9,892.87	29.05	7.22	-29.01	0.58	-0.14	33.27
9,988.00	1.14	203.52	9,985.85	27.49	6.63	-27.45	0.27	0.24	6.80
10,082.00	1.23	212.75	10,079.83	25.78	5.72	-25.75	0.22	0.10	9.82
10,175.00	1.63	225.94	10,172.80	24.02	4.23	-24.00	0.55	0.43	14.18
10,299.00	5.01	182.69	10,296.59	17.39	2.70	-17.37	3.21	2.73	-34.88
10,345.00	10.68	173.29	10,342.14	11.14	3.11	-11.12	12.60	12.33	-20.43
10,392.00	15.38	170.13	10,387.92	0.67	4.69	-0.64	10.11	10.00	-6.72
10,438.00	19.43	169.07	10,431.81	-12.86	7.18	12.90	8.83	8.80	-2.30
10,485.00	21.67	173.64	10,475.82	-29.16	9.63	29.21	5.86	4.77	9.72
10,531.00	26.29	178.12	10,517.84	-47.80	10.90	47.85	10.79	10.04	9.74
10,578.00	30.59	180.32	10,559.16	-70.17	11.18	70.23	9.42	9.15	4.68
10,624.00	31.16	177.68	10,598.64	-93.77	11.59	93.83	3.19	1.24	-5.74

Survey Report

Company: Read & Stevens INC
Project: Lea County, NM (NAD 83)
Site: SEC. 3, T20S-R34E
Well: North Lea #3 Fed Com 2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well North Lea #3 Fed Com 2H
TVD Reference: KB=20' @ 3693.00ft
MD Reference: KB=20' @ 3693.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,671.00	35.30	177.33	10,637.95	-119.49	12.72	119.56	8.82	8.81	-0.74	
10,688.50	37.36	177.79	10,652.04	-129.85	13.16	129.92	11.88	11.78	2.64	
FTP @ 10688'MD (300'FNL)										
10,718.00	40.84	178.48	10,674.93	-148.44	13.76	148.51	11.88	11.79	2.33	
10,764.00	43.43	181.38	10,709.05	-179.29	13.78	179.36	7.04	5.63	6.30	
10,810.00	46.95	182.61	10,741.46	-211.90	12.63	211.96	7.88	7.65	2.67	
10,858.00	52.00	180.41	10,772.64	-248.36	11.70	248.42	11.08	10.52	-4.58	
10,905.00	57.80	178.65	10,799.66	-286.79	12.03	286.85	12.71	12.34	-3.74	
10,951.00	61.89	178.83	10,822.76	-326.55	12.91	326.61	8.90	8.89	0.39	
10,998.00	64.66	179.35	10,843.89	-368.52	13.57	368.58	5.98	5.89	1.11	
11,044.00	70.24	179.88	10,861.53	-410.98	13.85	411.05	12.18	12.13	1.15	
11,088.00	76.70	180.23	10,874.04	-453.14	13.81	453.21	14.70	14.68	0.80	
11,137.00	81.63	180.67	10,883.25	-501.25	13.43	501.32	10.10	10.06	0.90	
11,183.00	82.15	181.02	10,889.74	-546.79	12.76	546.85	1.36	1.13	0.76	
11,230.00	82.55	181.82	10,895.99	-593.35	11.60	593.41	1.89	0.85	1.70	
11,261.00	83.30	182.17	10,899.81	-624.10	10.53	624.15	2.67	2.42	1.13	
11,292.00	84.18	182.78	10,903.19	-654.88	9.20	654.92	3.45	2.84	1.97	
11,323.00	85.41	182.61	10,906.01	-685.72	7.75	685.75	4.01	3.97	-0.55	
11,354.00	86.07	182.52	10,908.31	-716.61	6.37	716.63	2.15	2.13	-0.29	
11,385.00	87.43	182.87	10,910.07	-747.52	4.91	747.54	4.53	4.39	1.13	
11,416.00	88.53	182.96	10,911.16	-778.46	3.34	778.47	3.56	3.55	0.29	
11,447.00	89.41	183.13	10,911.72	-809.41	1.69	809.41	2.89	2.84	0.55	
11,478.00	89.89	182.34	10,911.90	-840.38	0.21	840.36	2.98	1.55	-2.55	
11,509.00	89.32	181.29	10,912.12	-871.36	-0.77	871.34	3.85	-1.84	-3.39	
11,540.00	89.01	180.32	10,912.57	-902.35	-1.21	902.33	3.28	-1.00	-3.13	
11,571.00	89.93	180.85	10,912.86	-933.35	-1.52	933.33	3.42	2.97	1.71	
11,602.00	91.30	180.94	10,912.52	-964.34	-2.01	964.32	4.43	4.42	0.29	
11,633.00	92.40	180.67	10,911.52	-995.32	-2.44	995.30	3.65	3.55	-0.87	
11,695.00	92.44	181.46	10,908.91	-1,057.26	-3.59	1,057.22	1.27	0.06	1.27	
11,789.00	92.00	180.15	10,905.26	-1,151.17	-4.91	1,151.13	1.47	-0.47	-1.39	
11,882.00	92.13	179.09	10,901.91	-1,244.11	-4.30	1,244.07	1.15	0.14	-1.14	
11,975.00	89.85	179.44	10,900.31	-1,337.08	-3.10	1,337.05	2.48	-2.45	0.38	
12,068.00	91.03	180.23	10,899.59	-1,430.08	-2.84	1,430.04	1.53	1.27	0.85	
12,162.00	90.11	179.97	10,898.66	-1,524.07	-3.00	1,524.03	1.02	-0.98	-0.28	
12,255.00	89.41	179.18	10,899.05	-1,617.07	-2.31	1,617.03	1.13	-0.75	-0.85	
12,348.00	89.41	180.41	10,900.00	-1,710.06	-1.98	1,710.02	1.32	0.00	1.32	
12,441.00	89.01	179.27	10,901.29	-1,803.05	-1.72	1,803.01	1.30	-0.43	-1.23	
12,534.00	88.97	180.15	10,902.93	-1,896.03	-1.25	1,896.00	0.95	-0.04	0.95	
12,629.00	88.97	179.27	10,904.63	-1,991.01	-0.77	1,990.98	0.93	0.00	-0.93	
12,723.00	89.41	180.85	10,905.96	-2,085.00	-0.87	2,084.97	1.74	0.47	1.68	
12,817.00	89.41	180.32	10,906.93	-2,178.99	-1.83	2,178.95	0.56	0.00	-0.56	
12,911.00	89.89	181.02	10,907.50	-2,272.98	-2.92	2,272.93	0.90	0.51	0.74	
13,005.00	88.97	179.97	10,908.44	-2,366.97	-3.74	2,366.92	1.49	-0.98	-1.12	
13,100.00	88.62	178.48	10,910.44	-2,461.94	-2.45	2,461.89	1.61	-0.37	-1.57	

Survey Report

Company: Read & Stevens INC
Project: Lea County, NM (NAD 83)
Site: SEC. 3, T20S-R34E
Well: North Lea #3 Fed Com 2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well North Lea #3 Fed Com 2H
TVD Reference: KB=20' @ 3693.00ft
MD Reference: KB=20' @ 3693.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,194.00	89.54	177.77	10,911.95	-2,555.87	0.62	2,555.84	1.24	0.98	-0.76	
13,289.00	89.58	178.74	10,912.68	-2,650.83	3.52	2,650.81	1.02	0.04	1.02	
13,384.00	89.85	177.95	10,913.15	-2,745.78	6.26	2,745.78	0.88	0.28	-0.83	
13,478.00	91.03	179.44	10,912.43	-2,839.75	8.40	2,839.76	2.02	1.26	1.59	
13,572.00	90.55	179.27	10,911.13	-2,933.74	9.46	2,933.75	0.54	-0.51	-0.18	
13,666.00	90.86	180.06	10,909.97	-3,027.73	10.01	3,027.74	0.90	0.33	0.84	
13,761.00	89.05	179.53	10,910.05	-3,122.72	10.35	3,122.73	1.99	-1.91	-0.56	
13,855.00	90.90	178.92	10,910.09	-3,216.71	11.62	3,216.73	2.07	1.97	-0.65	
13,950.00	91.91	180.32	10,907.76	-3,311.68	12.25	3,311.69	1.82	1.06	1.47	
14,043.00	89.76	179.88	10,906.41	-3,404.66	12.09	3,404.68	2.36	-2.31	-0.47	
14,138.00	89.41	180.15	10,907.09	-3,499.66	12.06	3,499.67	0.47	-0.37	0.28	
14,232.00	89.49	180.50	10,908.00	-3,593.65	11.53	3,593.66	0.38	0.09	0.37	
14,326.00	88.88	180.41	10,909.33	-3,687.64	10.78	3,687.64	0.66	-0.65	-0.10	
14,420.00	88.57	179.53	10,911.42	-3,781.61	10.83	3,781.62	0.99	-0.33	-0.94	
14,515.00	88.66	179.35	10,913.72	-3,876.58	11.76	3,876.59	0.21	0.09	-0.19	
14,608.00	88.18	179.79	10,916.29	-3,969.54	12.46	3,969.55	0.70	-0.52	0.47	
14,703.00	88.62	179.44	10,918.94	-4,064.50	13.10	4,064.52	0.59	0.46	-0.37	
14,797.00	90.77	179.53	10,919.44	-4,158.49	13.94	4,158.51	2.29	2.29	0.10	
14,892.00	90.68	180.32	10,918.24	-4,253.49	14.07	4,253.50	0.84	-0.09	0.83	
14,986.00	90.73	181.38	10,917.08	-4,347.47	12.67	4,347.47	1.13	0.05	1.13	
15,080.00	89.32	180.23	10,917.04	-4,441.45	11.35	4,441.45	1.94	-1.50	-1.22	
15,174.00	88.97	179.00	10,918.44	-4,535.44	11.98	4,535.44	1.36	-0.37	-1.31	
15,269.00	89.10	180.36	10,920.04	-4,630.42	12.51	4,630.42	1.44	0.14	1.43	
15,364.00	91.03	181.20	10,919.93	-4,725.41	11.22	4,725.40	2.22	2.03	0.88	
15,413.64	90.99	181.85	10,919.06	-4,775.02	9.90	4,775.01	1.31	-0.08	1.31	
LTP @ 15413'MD (300'FSL)										
15,458.00	90.95	182.43	10,918.31	-4,819.34	8.24	4,819.32	1.31	-0.09	1.31	
15,552.00	90.46	183.05	10,917.15	-4,913.23	3.75	4,913.18	0.84	-0.52	0.66	
15,575.00	90.46	183.05	10,916.97	-4,936.20	2.53	4,936.14	0.00	0.00	0.00	
Last MWD Survey @ 15575'MD										
15,630.00	90.46	183.05	10,916.53	-4,991.12	-0.40	4,991.04	0.00	0.00	0.00	
PTB @ TD @ 15630'MD										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
197.00	197.00	-0.86	0.48	First MWD Survey @ 197'MD	
10,688.50	10,652.04	-129.85	13.16	FTP @ 10688'MD (300'FNL)	
15,413.64	10,919.06	-4,775.02	9.90	LTP @ 15413'MD (300'FSL)	
15,575.00	10,916.97	-4,936.20	2.53	Last MWD Survey @ 15575'MD	
15,630.00	10,916.53	-4,991.12	-0.40	PTB @ TD @ 15630'MD	

Survey Report

Company:	Read & Stevens INC	Local Co-ordinate Reference:	Well North Lea #3 Fed Com 2H
Project:	Lea County, NM (NAD 83)	TVD Reference:	KB=20' @ 3693.00ft
Site:	SEC. 3, T20S-R34E	MD Reference:	KB=20' @ 3693.00ft
Well:	North Lea #3 Fed Com 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Checked By: _____	Approved By: _____	Date: _____
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