



Read and Stevens Inc.

North Lea Prospect T20S-R34E

Section 4

North Lea 4 Federal Com #2H

North Lea 4 Federal Com #2

Plan: 131001 North Lea 4 Fed Com 2H

MOJO Standard Survey

01 October, 2013

HOBBS OCD

DEC 19 2016

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Company:	Read and Stevens Inc.	Local Co-ordinate Reference:	Well North Lea 4 Federal Com #2H
Project:	North Lea Prospect T20S-R34E	TVD Reference:	WELL (copy) @ 3676.0usft (Original Well Elev)
Site:	Section 4	MD Reference:	WELL (copy) @ 3676.0usft (Original Well Elev)
Well:	North Lea 4 Federal Com #2H	North Reference:	Grid
Wellbore:	North Lea 4 Federal Com #2	Survey Calculation Method:	Minimum Curvature
Design:	131001 North Lea 4 Fed Com 2H	Database:	EDM 5000.1 Single User Db

Project	North Lea Prospect T20S-R34E		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site	Section 4		
Site Position:		Northing:	583,662.16 usft
From:	Lat/Long	Easting:	777,897.65 usft
Position Uncertainty:	1.0 usft	Slot Radius:	16 "
		Latitude:	32° 36' 7.886 N
		Longitude:	103° 33' 54.552 W
		Grid Convergence:	0.41 °

Well	North Lea 4 Federal Com #2H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	1.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 36' 30.097 N
		Longitude:	103° 33' 40.385 W
		Ground Level:	3,654.0 usft

Wellbore	North Lea 4 Federal Com #2		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	28/12/2012	7.42
			Dip Angle (°)
			60.51
			Field Strength (nT)
			48,693

Design	131001 North Lea 4 Fed Com 2H		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			182.76

Survey Tool Program	Date 01/10/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
0.0	15,577.3	131001 North Lea 4 Fed Com 2H (North L	MWD
			Description
			MWD - Standard



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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	-3,676.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
100.0	0.00	0.00	100.0	-3,576.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
200.0	0.00	0.00	200.0	-3,476.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
300.0	0.00	0.00	300.0	-3,376.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
400.0	0.00	0.00	400.0	-3,276.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
500.0	0.00	0.00	500.0	-3,176.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
600.0	0.00	0.00	600.0	-3,076.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
700.0	0.00	0.00	700.0	-2,976.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
800.0	0.00	0.00	800.0	-2,876.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
900.0	0.00	0.00	900.0	-2,776.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
1,000.0	0.00	0.00	1,000.0	-2,676.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
1,100.0	0.00	0.00	1,100.0	-2,576.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
1,200.0	0.00	0.00	1,200.0	-2,476.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
1,300.0	0.00	0.00	1,300.0	-2,376.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
1,400.0	0.00	0.00	1,400.0	-2,276.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
1,500.0	0.00	0.00	1,500.0	-2,176.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
1,542.0	0.00	0.00	1,542.0	-2,134.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
Rustler										
1,567.0	0.00	0.00	1,567.0	-2,109.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
13 3/8"										
1,600.0	0.00	0.00	1,600.0	-2,076.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
1,627.0	0.00	0.00	1,627.0	-2,049.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
Top of Salt (geoprog)										
1,700.0	0.00	0.00	1,700.0	-1,976.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
1,800.0	0.00	0.00	1,800.0	-1,876.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
1,900.0	0.00	0.00	1,900.0	-1,776.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
2,000.0	0.00	0.00	2,000.0	-1,676.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
2,100.0	0.00	0.00	2,100.0	-1,576.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23



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2,200.0	0.00	0.00	2,200.0	-1,476.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
2,300.0	0.00	0.00	2,300.0	-1,376.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
2,400.0	0.00	0.00	2,400.0	-1,276.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
2,500.0	0.00	0.00	2,500.0	-1,176.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
2,600.0	0.00	0.00	2,600.0	-1,076.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
2,700.0	0.00	0.00	2,700.0	-976.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
2,800.0	0.00	0.00	2,800.0	-876.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
2,900.0	0.00	0.00	2,900.0	-776.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
3,000.0	0.00	0.00	3,000.0	-676.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
3,100.0	0.00	0.00	3,100.0	-576.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
3,200.0	0.00	0.00	3,200.0	-476.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
3,205.0	0.00	0.00	3,205.0	-471.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
Tansill (geoprog)										
3,300.0	0.00	0.00	3,300.0	-376.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
3,400.0	0.00	0.00	3,400.0	-276.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
Yates (geoprog)										
3,500.0	0.00	0.00	3,500.0	-176.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
3,570.0	0.00	0.00	3,570.0	-106.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
7 Rivers (geoprog)										
3,600.0	0.00	0.00	3,600.0	-76.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
3,700.0	0.00	0.00	3,700.0	24.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
3,800.0	0.00	0.00	3,800.0	124.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
3,900.0	0.00	0.00	3,900.0	224.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
4,000.0	0.00	0.00	4,000.0	324.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
4,100.0	0.00	0.00	4,100.0	424.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
4,200.0	0.00	0.00	4,200.0	524.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
4,300.0	0.00	0.00	4,300.0	624.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
4,400.0	0.00	0.00	4,400.0	724.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23



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4,500.0	0.00	0.00	4,500.0	824.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
4,600.0	0.00	0.00	4,600.0	924.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
4,665.0	0.00	0.00	4,665.0	989.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
Queen(geoprog)										
4,700.0	0.00	0.00	4,700.0	1,024.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
4,800.0	0.00	0.00	4,800.0	1,124.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
4,900.0	0.00	0.00	4,900.0	1,224.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
5,000.0	0.00	0.00	5,000.0	1,324.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
5,022.0	0.00	0.00	5,022.0	1,346.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
Penrose(geoprog)										
5,100.0	0.00	0.00	5,100.0	1,424.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
5,173.0	0.00	0.00	5,173.0	1,497.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
Grayburg(geoprog)										
5,200.0	0.00	0.00	5,200.0	1,524.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
5,300.0	0.00	0.00	5,300.0	1,624.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
5,400.0	0.00	0.00	5,400.0	1,724.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
5,500.0	0.00	0.00	5,500.0	1,824.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
5,525.0	0.00	0.00	5,525.0	1,849.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
9 5/8"										
5,545.0	0.00	0.00	5,545.0	1,869.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
Delaware/Bell Canyon (geoprog)										
5,600.0	0.00	0.00	5,600.0	1,924.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
5,700.0	0.00	0.00	5,700.0	2,024.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
5,800.0	0.00	0.00	5,800.0	2,124.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
5,900.0	0.00	0.00	5,900.0	2,224.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
5,986.0	0.00	0.00	5,986.0	2,310.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
Cherry Canyon (geoprog)										
6,000.0	0.00	0.00	6,000.0	2,324.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23



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6,100.0	0.00	0.00	6,100.0	2,424.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
6,180.0	0.00	0.00	6,180.0	2,504.0	0.0	0.0	0.0	0.00	585,915.57	779,093.23
6,200.0	0.60	325.00	6,200.0	2,524.0	0.1	-0.1	-0.1	3.00	585,915.66	779,093.17
6,300.0	3.60	325.00	6,299.9	2,623.9	3.1	-2.2	-3.0	3.00	585,918.66	779,091.07
6,380.0	6.00	325.00	6,379.6	2,703.6	8.6	-6.0	-8.3	3.00	585,924.14	779,087.23
6,400.0	6.00	325.00	6,399.5	2,723.5	10.3	-7.2	-9.9	0.00	585,925.85	779,086.03
6,500.0	6.00	325.00	6,499.0	2,823.0	18.8	-13.2	-18.2	0.00	585,934.42	779,080.04
6,600.0	6.00	325.00	6,598.4	2,922.4	27.4	-19.2	-26.5	0.00	585,942.98	779,074.04
6,700.0	6.00	325.00	6,697.9	3,021.9	36.0	-25.2	-34.7	0.00	585,951.54	779,068.05
6,800.0	6.00	325.00	6,797.3	3,121.3	44.5	-31.2	-43.0	0.00	585,960.10	779,062.05
6,900.0	6.00	325.00	6,896.8	3,220.8	53.1	-37.2	-51.2	0.00	585,968.66	779,056.06
7,000.0	6.00	325.00	6,996.2	3,320.2	61.7	-43.2	-59.5	0.00	585,977.23	779,050.06
7,100.0	6.00	325.00	7,095.7	3,419.7	70.2	-49.2	-67.8	0.00	585,985.79	779,044.07
7,200.0	6.00	325.00	7,195.1	3,519.1	78.8	-55.2	-76.0	0.00	585,994.35	779,038.07
7,295.4	6.00	325.00	7,290.0	3,614.0	86.9	-60.9	-83.9	0.00	586,002.52	779,032.35
Brushy Canyon(geoprog)										
7,300.0	6.00	325.00	7,294.6	3,618.6	87.3	-61.2	-84.3	0.00	586,002.91	779,032.08
7,400.0	6.00	325.00	7,394.0	3,718.0	95.9	-67.2	-92.6	0.00	586,011.48	779,026.08
7,500.0	6.00	325.00	7,493.5	3,817.5	104.5	-73.2	-100.8	0.00	586,020.04	779,020.08
7,600.0	6.00	325.00	7,593.0	3,917.0	113.0	-79.1	-109.1	0.00	586,028.60	779,014.09
7,700.0	6.00	325.00	7,692.4	4,016.4	121.6	-85.1	-117.4	0.00	586,037.16	779,008.09
7,800.0	6.00	325.00	7,791.9	4,115.9	130.2	-91.1	-125.6	0.00	586,045.72	779,002.10
7,900.0	6.00	325.00	7,891.3	4,215.3	138.7	-97.1	-133.9	0.00	586,054.29	778,996.10
8,000.0	6.00	325.00	7,990.8	4,314.8	147.3	-103.1	-142.1	0.00	586,062.85	778,990.11
8,100.0	6.00	325.00	8,090.2	4,414.2	155.8	-109.1	-150.4	0.00	586,071.41	778,984.11
8,200.0	6.00	325.00	8,189.7	4,513.7	164.4	-115.1	-158.7	0.00	586,079.97	778,978.12



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8,220.4	6.00	325.00	8,210.0	4,534.0	166.2	-116.3	-160.4	0.00	586,081.72	778,976.89
Bone Spring(geoprog)										
8,300.0	6.00	325.00	8,289.1	4,613.1	173.0	-121.1	-166.9	0.00	586,088.54	778,972.12
8,400.0	6.00	325.00	8,388.6	4,712.6	181.5	-127.1	-175.2	0.00	586,097.10	778,966.13
8,500.0	6.00	325.00	8,488.0	4,812.0	190.1	-133.1	-183.5	0.00	586,105.66	778,960.13
8,600.0	6.00	325.00	8,587.5	4,911.5	198.7	-139.1	-191.7	0.00	586,114.22	778,954.14
8,700.0	6.00	325.00	8,686.9	5,010.9	207.2	-145.1	-200.0	0.00	586,122.78	778,948.14
8,713.1	6.00	325.00	8,700.0	5,024.0	208.3	-145.9	-201.1	0.00	586,123.91	778,947.35
Avalon Shale(geoprog)										
8,800.0	6.00	325.00	8,786.4	5,110.4	215.8	-151.1	-208.3	0.00	586,131.35	778,942.15
8,900.0	6.00	325.00	8,885.8	5,209.8	224.3	-157.1	-216.5	0.00	586,139.91	778,936.15
9,000.0	6.00	325.00	8,985.3	5,309.3	232.9	-163.1	-224.8	0.00	586,148.47	778,930.15
9,100.0	6.00	325.00	9,084.7	5,408.7	241.5	-169.1	-233.0	0.00	586,157.03	778,924.16
9,200.0	6.00	325.00	9,184.2	5,508.2	250.0	-175.1	-241.3	0.00	586,165.60	778,918.16
9,300.0	6.00	325.00	9,283.6	5,607.6	258.6	-181.1	-249.6	0.00	586,174.16	778,912.17
9,400.0	6.00	325.00	9,383.1	5,707.1	267.2	-187.1	-257.8	0.00	586,182.72	778,906.17
9,500.0	6.00	325.00	9,482.5	5,806.5	275.7	-193.1	-266.1	0.00	586,191.28	778,900.18
9,600.0	6.00	325.00	9,582.0	5,906.0	284.3	-199.1	-274.4	0.00	586,199.84	778,894.18
9,675.4	6.00	325.00	9,657.0	5,981.0	290.7	-203.6	-280.6	0.00	586,206.30	778,889.66
1st Bone Spring Sand (geoprog)										
9,700.0	6.00	325.00	9,681.4	6,005.4	292.8	-205.1	-282.6	0.00	586,208.41	778,888.19
9,800.0	6.00	325.00	9,780.9	6,104.9	301.4	-211.0	-290.9	0.00	586,216.97	778,882.19
9,900.0	6.00	325.00	9,880.4	6,204.4	310.0	-217.0	-299.2	0.00	586,225.53	778,876.20
9,960.0	6.00	325.00	9,940.0	6,264.0	315.1	-220.6	-304.1	0.00	586,230.67	778,872.60
2nd Bone Spring (geoprog)										
10,000.0	6.00	325.00	9,979.8	6,303.8	318.5	-223.0	-307.4	0.00	586,234.09	778,870.20
10,100.0	6.00	325.00	10,079.3	6,403.3	327.1	-229.0	-315.7	0.00	586,242.66	778,864.21



MOJO Standard Survey



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 Design: 131001 North Lea 4 Fed Com 2H

Local Co-ordinate Reference: Well North Lea 4 Federal Com #2H
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 MD Reference: WELL (copy) @ 3676.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
10,200.0	6.00	325.00	10,178.7	6,502.7	335.7	-235.0	-323.9	0.00	586,251.22	778,858.21
10,300.0	6.00	325.00	10,278.2	6,602.2	344.2	-241.0	-332.2	0.00	586,259.78	778,852.22
10,380.0	6.00	325.00	10,357.7	6,681.7	351.1	-245.8	-338.8	0.00	586,266.63	778,847.42
10,400.0	4.04	301.50	10,377.6	6,701.6	352.3	-247.0	-340.0	14.00	586,267.86	778,846.22
10,425.0	3.72	248.07	10,402.6	6,726.6	352.5	-248.5	-340.1	14.00	586,268.01	778,844.71
10,450.0	5.98	215.13	10,427.5	6,751.5	351.1	-250.0	-338.6	14.00	586,266.64	778,843.21
10,475.0	9.07	202.20	10,452.3	6,776.3	348.2	-251.5	-335.7	14.00	586,263.76	778,841.72
10,500.0	12.37	195.95	10,476.9	6,800.9	343.8	-253.0	-331.2	14.00	586,259.36	778,840.24
10,525.0	15.76	192.33	10,501.1	6,825.1	337.9	-254.5	-325.3	14.00	586,253.46	778,838.78
10,550.0	19.19	189.98	10,524.9	6,848.9	330.5	-255.9	-317.8	14.00	586,246.10	778,837.34
10,566.1	21.40	188.85	10,540.0	6,864.0	325.0	-256.8	-312.3	14.00	586,240.60	778,836.43
3rd Bone Spring (geoprog)										
10,575.0	22.64	188.31	10,548.3	6,872.3	321.7	-257.3	-309.0	14.00	586,237.29	778,835.93
10,600.0	26.10	187.07	10,571.1	6,895.1	311.5	-258.7	-298.7	14.00	586,227.07	778,834.56
10,625.0	29.57	186.10	10,593.2	6,917.2	299.9	-260.0	-287.0	14.00	586,215.47	778,833.23
10,650.0	33.05	185.32	10,614.5	6,938.5	287.0	-261.3	-274.1	14.00	586,202.54	778,831.94
10,675.0	36.53	184.67	10,635.1	6,959.1	272.8	-262.5	-259.8	14.00	586,188.34	778,830.70
10,700.0	40.01	184.12	10,654.7	6,978.7	257.3	-263.7	-244.3	14.00	586,172.90	778,829.52
10,725.0	43.50	183.64	10,673.3	6,997.3	240.7	-264.8	-227.7	14.00	586,156.29	778,828.39
10,750.0	46.99	183.22	10,690.9	7,014.9	223.0	-265.9	-209.9	14.00	586,138.58	778,827.33
10,775.0	50.47	182.85	10,707.4	7,031.4	204.3	-266.9	-191.2	14.00	586,119.82	778,826.34
10,800.0	53.96	182.51	10,722.7	7,046.7	184.5	-267.8	-171.4	14.00	586,100.08	778,825.42
10,825.0	57.45	182.20	10,736.8	7,060.8	163.9	-268.7	-150.8	14.00	586,079.45	778,824.57
10,850.0	60.95	181.92	10,749.6	7,073.6	142.4	-269.4	-129.3	14.00	586,057.99	778,823.79
10,875.0	64.44	181.65	10,761.1	7,085.1	120.2	-270.1	-107.1	14.00	586,035.79	778,823.10
10,900.0	67.93	181.40	10,771.2	7,095.2	97.4	-270.7	-84.2	14.00	586,012.94	778,822.49
10,925.0	71.42	181.16	10,779.9	7,103.9	73.9	-271.3	-60.8	14.00	585,989.50	778,821.97



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10,950.0	74.92	180.93	10,787.1	7,111.1	50.0	-271.7	-36.9	14.00	585,965.58	778,821.54	
10,975.0	78.41	180.71	10,792.9	7,116.9	25.7	-272.1	-12.6	14.00	585,941.26	778,821.19	
11,000.0	81.90	180.49	10,797.1	7,121.1	1.1	-272.3	12.0	14.00	585,916.64	778,820.93	
11,025.0	85.40	180.28	10,799.9	7,123.9	-23.8	-272.5	36.9	14.00	585,891.79	778,820.76	
11,050.0	88.89	180.07	10,801.1	7,125.1	-48.7	-272.6	61.8	14.00	585,866.83	778,820.69	
11,057.9	90.00	180.00	10,801.2	7,125.2	-56.7	-272.6	69.7	14.00	585,858.89	778,820.68	
11,100.0	89.96	179.98	10,801.2	7,125.2	-98.7	-272.5	111.8	0.12	585,816.83	778,820.69	
11,200.0	89.85	179.92	10,801.4	7,125.4	-198.7	-272.5	211.6	0.12	585,716.83	778,820.79	
11,300.0	89.74	179.86	10,801.8	7,125.8	-298.7	-272.3	311.5	0.12	585,616.84	778,820.98	
11,400.0	89.63	179.80	10,802.3	7,126.3	-398.7	-272.0	411.4	0.12	585,516.84	778,821.28	
11,500.0	89.53	179.74	10,803.0	7,127.0	-498.7	-271.6	511.2	0.12	585,416.85	778,821.68	
11,600.0	89.42	179.68	10,804.0	7,128.0	-598.7	-271.1	611.1	0.12	585,316.86	778,822.19	
11,700.0	89.31	179.62	10,805.1	7,129.1	-698.7	-270.4	710.9	0.12	585,216.87	778,822.79	
11,800.0	89.21	179.57	10,806.3	7,130.3	-798.7	-269.7	810.8	0.12	585,116.88	778,823.50	
11,900.0	89.10	179.51	10,807.8	7,131.8	-898.7	-268.9	910.6	0.12	585,016.90	778,824.31	
12,000.0	88.99	179.45	10,809.5	7,133.5	-998.7	-268.0	1,010.4	0.12	584,916.92	778,825.22	
12,100.0	88.89	179.39	10,811.3	7,135.3	-1,098.7	-267.0	1,110.2	0.12	584,816.94	778,826.24	
12,200.0	88.78	179.33	10,813.4	7,137.4	-1,198.6	-265.9	1,210.0	0.12	584,716.97	778,827.35	
12,300.0	88.67	179.27	10,815.6	7,139.6	-1,298.6	-264.7	1,309.8	0.12	584,617.01	778,828.57	
12,375.2	88.59	179.23	10,817.4	7,141.4	-1,373.8	-263.7	1,384.9	0.12	584,541.80	778,829.56	
12,400.0	88.59	179.23	10,818.0	7,142.0	-1,398.6	-263.3	1,409.6	0.00	584,517.05	778,829.89	
12,500.0	88.59	179.23	10,820.4	7,144.4	-1,498.5	-262.0	1,509.4	0.00	584,417.09	778,831.24	
12,600.0	88.59	179.23	10,822.9	7,146.9	-1,598.5	-260.7	1,609.2	0.00	584,317.13	778,832.59	
12,700.0	88.59	179.23	10,825.4	7,149.4	-1,698.4	-259.3	1,709.0	0.00	584,217.17	778,833.93	
12,800.0	88.59	179.23	10,827.8	7,151.8	-1,798.4	-258.0	1,808.7	0.00	584,117.22	778,835.28	
12,900.0	88.59	179.23	10,830.3	7,154.3	-1,898.4	-256.6	1,908.5	0.00	584,017.26	778,836.63	
13,000.0	88.59	179.23	10,832.7	7,156.7	-1,998.3	-255.3	2,008.3	0.00	583,917.30	778,837.97	



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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
13,100.0	88.59	179.23	10,835.2	7,159.2	-2,098.3	-253.9	2,108.1	0.00	583,817.34	778,839.32
13,200.0	88.59	179.23	10,837.6	7,161.6	-2,198.2	-252.6	2,207.9	0.00	583,717.38	778,840.67
13,300.0	88.59	179.23	10,840.1	7,164.1	-2,298.2	-251.2	2,307.6	0.00	583,617.42	778,842.02
13,400.0	88.59	179.23	10,842.5	7,166.5	-2,398.2	-249.9	2,407.4	0.00	583,517.47	778,843.36
13,500.0	88.59	179.23	10,845.0	7,169.0	-2,498.1	-248.5	2,507.2	0.00	583,417.51	778,844.71
13,600.0	88.59	179.23	10,847.5	7,171.5	-2,598.1	-247.2	2,607.0	0.00	583,317.55	778,846.06
13,700.0	88.59	179.23	10,849.9	7,173.9	-2,698.0	-245.8	2,706.8	0.00	583,217.59	778,847.41
13,800.0	88.59	179.23	10,852.4	7,176.4	-2,798.0	-244.5	2,806.5	0.00	583,117.63	778,848.75
13,900.0	88.59	179.23	10,854.8	7,178.8	-2,898.0	-243.1	2,906.3	0.00	583,017.68	778,850.10
14,000.0	88.59	179.23	10,857.3	7,181.3	-2,997.9	-241.8	3,006.1	0.00	582,917.72	778,851.45
14,100.0	88.59	179.23	10,859.7	7,183.7	-3,097.9	-240.4	3,105.9	0.00	582,817.76	778,852.79
14,200.0	88.59	179.23	10,862.2	7,186.2	-3,197.9	-239.1	3,205.7	0.00	582,717.80	778,854.14
14,300.0	88.59	179.23	10,864.6	7,188.6	-3,297.8	-237.8	3,305.4	0.00	582,617.84	778,855.49
14,400.0	88.59	179.23	10,867.1	7,191.1	-3,397.8	-236.4	3,405.2	0.00	582,517.88	778,856.84
14,500.0	88.59	179.23	10,869.6	7,193.6	-3,497.7	-235.1	3,505.0	0.00	582,417.93	778,858.18
14,600.0	88.59	179.23	10,872.0	7,196.0	-3,597.7	-233.7	3,604.8	0.00	582,317.97	778,859.53
14,700.0	88.59	179.23	10,874.5	7,198.5	-3,697.7	-232.4	3,704.6	0.00	582,218.01	778,860.88
14,800.0	88.59	179.23	10,876.9	7,200.9	-3,797.6	-231.0	3,804.3	0.00	582,118.05	778,862.22
14,900.0	88.59	179.23	10,879.4	7,203.4	-3,897.6	-229.7	3,904.1	0.00	582,018.09	778,863.57
15,000.0	88.59	179.23	10,881.8	7,205.8	-3,997.5	-228.3	4,003.9	0.00	581,918.14	778,864.92
15,100.0	88.59	179.23	10,884.3	7,208.3	-4,097.5	-227.0	4,103.7	0.00	581,818.18	778,866.27
15,200.0	88.59	179.23	10,886.7	7,210.7	-4,197.5	-225.6	4,203.5	0.00	581,718.22	778,867.61
15,300.0	88.59	179.23	10,889.2	7,213.2	-4,297.4	-224.3	4,303.2	0.00	581,618.26	778,868.96
15,400.0	88.59	179.23	10,891.6	7,215.6	-4,397.4	-222.9	4,403.0	0.00	581,518.30	778,870.31
15,500.0	88.59	179.23	10,894.1	7,218.1	-4,497.3	-221.6	4,502.8	0.00	581,418.34	778,871.66
15,574.1	88.59	179.23	10,895.9	7,219.9	-4,571.5	-220.6	4,576.8	0.00	581,344.24	778,872.65



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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
15,577.3	88.59	179.23	10,896.0	7,220.0	-4,574.6	-220.5	4,579.9	0.12	581,341.08	778,872.70
5 1/2"										

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
5,525.0	5,525.0	9 5/8"	9-5/8	12-1/4
1,567.0	1,567.0	13 3/8"	13-3/8	17-1/2
15,577.3	10,896.0	5 1/2"	5-1/2	6

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Dip (°)
10,566.1	10,540.0	3rd Bone Spring (geoprog)	0.00
1,542.0	1,542.0	Rustler	0.00
1,627.0	1,627.0	Top of Salt (geoprog)	0.00
9,675.4	9,657.0	1st Bone Spring Sand (geoprog)	0.00
5,022.0	5,022.0	Penrose(geoprog)	0.00
8,220.4	8,210.0	Bone Spring(geoprog)	0.00
3,400.0	3,400.0	Yates (geoprog)	0.00
3,205.0	3,205.0	Tansill (geoprog)	0.00
5,986.0	5,986.0	Cherry Canyon (geoprog)	0.00
5,545.0	5,545.0	Delaware/Bell Canyon (geoprog)	0.00
4,665.0	4,665.0	Queen(geoprog)	0.00
7,295.4	7,290.0	Brushy Canyon(geoprog)	0.00
8,713.1	8,700.0	Avalon Shale(geoprog)	0.00
3,570.0	3,570.0	7 Rivers (geoprog)	0.00
9,960.0	9,940.0	2nd Bone Spring (geoprog)	0.00
5,173.0	5,173.0	Grayburg(geoprog)	0.00



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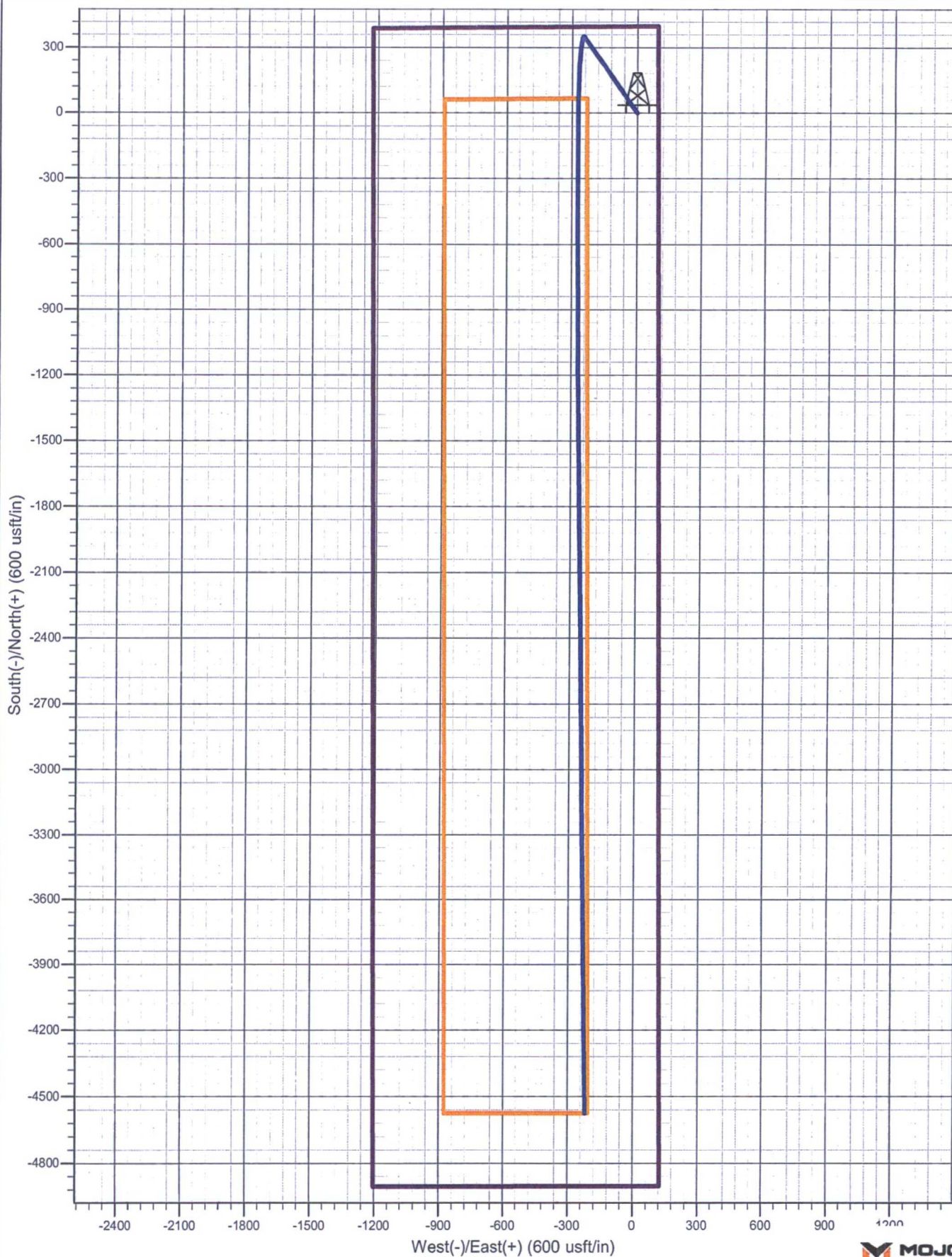
Checked By: _____ Approved By: _____ Date: _____

Project: North Lea Prospect T20S-R34E
Site: Section 4
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Azimuths to Grid North
True North: -0.42°
Magnetic North: 7.00°

Magnetic Field
Strength: 48693.4snT
Dip Angle: 60.51°
Date: 28/12/2012
Model: IGRF2010



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 True North: -0.42°
 Magnetic North: 7.00°

Magnetic Field
 Strength: 48693.4nT
 Dip Angle: 60.51°
 Date: 28/12/2012
 Model: IGRF2010

