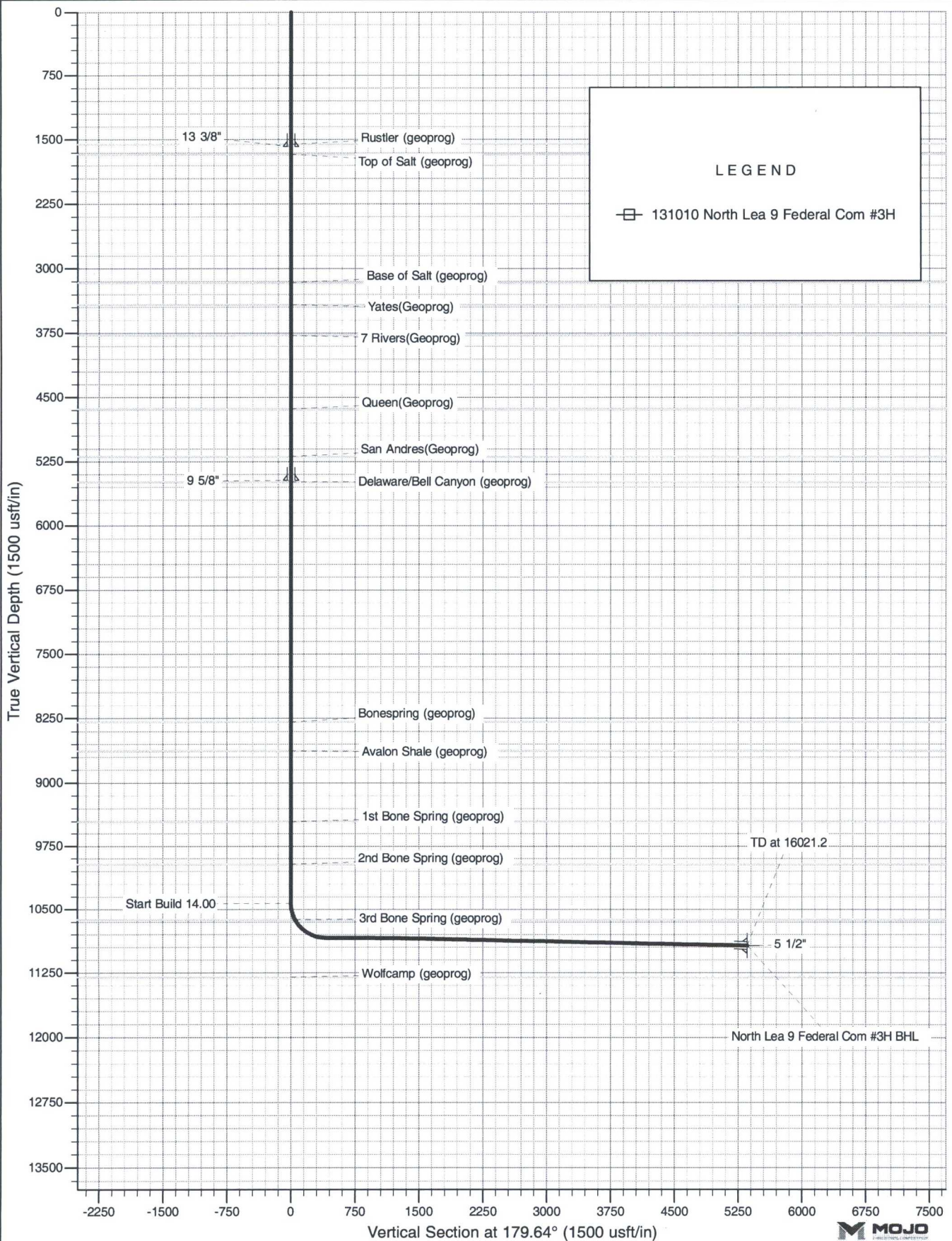


Project: North Lea Prospect
 Site: Section 9
 Well: North Lea 9 Federal Com #3H
 Wellbore: North Lea 9 Federal Com #3H
 Design: North Lea 9 Federal Com #3H



Azimuths to Grid North
 True North: -0.41°
 Magnetic North: 7.01°
 Magnetic Field
 Strength: 48664.8nT
 Dip Angle: 60.49°
 Date: 31/12/2012
 Model: IGRF2010





HOEBS OCD
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Read and Stevens Inc.

North Lea Prospect T20S-R34E

Section 9

North Lea 9 Federal Com #3H

Plan: 131010 North Lea 9 Federal Com #3H

MOJO Standard Survey

10 October, 2013



Company:	Read and Stevens Inc.	Local Co-ordinate Reference:	Well North Lea 9 Federal Com #3H
Project:	North Lea Prospect T20S-R34E	TVD Reference:	WELL (copy) @ 3654.4usft (Original Well Elev)
Site:	Section 9	MD Reference:	WELL (copy) @ 3654.4usft (Original Well Elev)
Well:	North Lea 9 Federal Com #3H	North Reference:	Grid
Wellbore:	North Lea 9 Federal Com #3H	Survey Calculation Method:	Minimum Curvature
Design:	131010 North Lea 9 Federal Com #3H	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 9		
Site Position:		Northing:	578,376.34 usft
From:	Lat/Long	Easting:	777,939.62 usft
Position Uncertainty:	1.0 usft	Slot Radius:	16 "
		Latitude:	32° 35' 15.582 N
		Longitude:	103° 33' 54.508 W
		Grid Convergence:	0.41 °

Well	North Lea 9 Federal Com #3H		
Well Position	+N/-S	0.0 usft	Northing: 581,411.74 usft
	+E/-W	0.0 usft	Easting: 777,521.80 usft
Position Uncertainty		1.0 usft	Wellhead Elevation: usft
			Latitude: 32° 35' 45.646 N
			Longitude: 103° 33' 59.135 W
			Ground Level: 3,632.4 usft

Wellbore	North Lea 9 Federal Com #3H		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	31/12/2012	7.42
			Dip Angle (°)
			60.49
			Field Strength (nT)
			48,685

Design	131010 North Lea 9 Federal Com #3H		
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 (°)
			179.64

Survey Tool Program	Date 10/10/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
0.0	16,021.2	131010 North Lea 9 Federal Com #3H (No	MWD
			Description
			MWD - Standard

Company: Read and Stevens Inc.
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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)
0.0	0.00	0.00	0.0	-3,654.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
100.0	0.00	0.00	100.0	-3,554.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
200.0	0.00	0.00	200.0	-3,454.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
300.0	0.00	0.00	300.0	-3,354.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
400.0	0.00	0.00	400.0	-3,254.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
500.0	0.00	0.00	500.0	-3,154.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
600.0	0.00	0.00	600.0	-3,054.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
700.0	0.00	0.00	700.0	-2,954.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
800.0	0.00	0.00	800.0	-2,854.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
900.0	0.00	0.00	900.0	-2,754.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
1,000.0	0.00	0.00	1,000.0	-2,654.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
1,100.0	0.00	0.00	1,100.0	-2,554.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
1,200.0	0.00	0.00	1,200.0	-2,454.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
1,300.0	0.00	0.00	1,300.0	-2,354.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
1,400.0	0.00	0.00	1,400.0	-2,254.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
1,500.0	0.00	0.00	1,500.0	-2,154.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
1,554.4	0.00	0.00	1,554.4	-2,100.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
Rustler (geoprog)										
1,579.4	0.00	0.00	1,579.4	-2,075.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
13 3/8"										
1,600.0	0.00	0.00	1,600.0	-2,054.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
1,670.4	0.00	0.00	1,670.4	-1,984.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
Top of Salt (geoprog)										
1,700.0	0.00	0.00	1,700.0	-1,954.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
1,800.0	0.00	0.00	1,800.0	-1,854.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
1,900.0	0.00	0.00	1,900.0	-1,754.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
2,000.0	0.00	0.00	2,000.0	-1,654.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
2,100.0	0.00	0.00	2,100.0	-1,554.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80

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Wellbore: North Lea 9 Federal Com #3H
Design: 131010 North Lea 9 Federal Com #3H

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MD Reference: WELL (copy) @ 3654.4usft (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)
2,200.0	0.00	0.00	2,200.0	-1,454.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
2,300.0	0.00	0.00	2,300.0	-1,354.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
2,400.0	0.00	0.00	2,400.0	-1,254.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
2,500.0	0.00	0.00	2,500.0	-1,154.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
2,600.0	0.00	0.00	2,600.0	-1,054.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
2,700.0	0.00	0.00	2,700.0	-954.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
2,800.0	0.00	0.00	2,800.0	-854.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
2,900.0	0.00	0.00	2,900.0	-754.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
3,000.0	0.00	0.00	3,000.0	-654.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
3,100.0	0.00	0.00	3,100.0	-554.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
3,164.4	0.00	0.00	3,164.4	-490.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
Base of Salt (geoprog)										
3,200.0	0.00	0.00	3,200.0	-454.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
3,300.0	0.00	0.00	3,300.0	-354.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
3,400.0	0.00	0.00	3,400.0	-254.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
3,419.4	0.00	0.00	3,419.4	-235.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
Yates(Geoprog)										
3,500.0	0.00	0.00	3,500.0	-154.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
3,600.0	0.00	0.00	3,600.0	-54.4	0.0	0.0	0.0	0.00	581,411.74	777,521.80
3,700.0	0.00	0.00	3,700.0	45.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
3,776.4	0.00	0.00	3,776.4	122.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
7 Rivers(Geoprog)										
3,800.0	0.00	0.00	3,800.0	145.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
3,900.0	0.00	0.00	3,900.0	245.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
4,000.0	0.00	0.00	4,000.0	345.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
4,100.0	0.00	0.00	4,100.0	445.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
4,200.0	0.00	0.00	4,200.0	545.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
4,300.0	0.00	0.00	4,300.0	645.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80

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 Design: 131010 North Lea 9 Federal Com #3H

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:
 Database:

Well North Lea 9 Federal Com #3H
 WELL (copy) @ 3654.4usft (Original Well Elev)
 WELL (copy) @ 3654.4usft (Original Well Elev)
 Grid
 Minimum Curvature
 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)
4,400.0	0.00	0.00	4,400.0	745.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
4,500.0	0.00	0.00	4,500.0	845.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
4,600.0	0.00	0.00	4,600.0	945.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
4,635.4	0.00	0.00	4,635.4	981.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
Queen(Geoprog)										
4,700.0	0.00	0.00	4,700.0	1,045.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
4,800.0	0.00	0.00	4,800.0	1,145.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
4,900.0	0.00	0.00	4,900.0	1,245.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
5,000.0	0.00	0.00	5,000.0	1,345.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
5,100.0	0.00	0.00	5,100.0	1,445.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
5,190.4	0.00	0.00	5,190.4	1,536.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
San Andres(Geoprog)										
5,200.0	0.00	0.00	5,200.0	1,545.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
5,300.0	0.00	0.00	5,300.0	1,645.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
5,400.0	0.00	0.00	5,400.0	1,745.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
5,468.4	0.00	0.00	5,468.4	1,814.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
9 5/8"										
5,488.4	0.00	0.00	5,488.4	1,834.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
Delaware/Bell Canyon (geoprog)										
5,500.0	0.00	0.00	5,500.0	1,845.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
5,600.0	0.00	0.00	5,600.0	1,945.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
5,700.0	0.00	0.00	5,700.0	2,045.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
5,800.0	0.00	0.00	5,800.0	2,145.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
5,900.0	0.00	0.00	5,900.0	2,245.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
6,000.0	0.00	0.00	6,000.0	2,345.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
6,100.0	0.00	0.00	6,100.0	2,445.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
6,200.0	0.00	0.00	6,200.0	2,545.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
6,300.0	0.00	0.00	6,300.0	2,645.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80

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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)
6,400.0	0.00	0.00	6,400.0	2,745.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
6,500.0	0.00	0.00	6,500.0	2,845.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
6,600.0	0.00	0.00	6,600.0	2,945.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
6,700.0	0.00	0.00	6,700.0	3,045.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
6,800.0	0.00	0.00	6,800.0	3,145.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
6,900.0	0.00	0.00	6,900.0	3,245.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
7,000.0	0.00	0.00	7,000.0	3,345.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
7,100.0	0.00	0.00	7,100.0	3,445.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
7,200.0	0.00	0.00	7,200.0	3,545.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
7,300.0	0.00	0.00	7,300.0	3,645.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
7,400.0	0.00	0.00	7,400.0	3,745.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
7,500.0	0.00	0.00	7,500.0	3,845.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
7,600.0	0.00	0.00	7,600.0	3,945.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
7,700.0	0.00	0.00	7,700.0	4,045.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
7,800.0	0.00	0.00	7,800.0	4,145.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
7,900.0	0.00	0.00	7,900.0	4,245.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
8,000.0	0.00	0.00	8,000.0	4,345.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
8,100.0	0.00	0.00	8,100.0	4,445.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
8,200.0	0.00	0.00	8,200.0	4,545.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
8,295.4	0.00	0.00	8,295.4	4,641.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
Bonespring (geoprog)										
8,300.0	0.00	0.00	8,300.0	4,645.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
8,400.0	0.00	0.00	8,400.0	4,745.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
8,500.0	0.00	0.00	8,500.0	4,845.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
8,600.0	0.00	0.00	8,600.0	4,945.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
8,630.4	0.00	0.00	8,630.4	4,976.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
Avalon Shale (geoprog)										

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8,700.0	0.00	0.00	8,700.0	5,045.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
8,800.0	0.00	0.00	8,800.0	5,145.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
8,900.0	0.00	0.00	8,900.0	5,245.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
9,000.0	0.00	0.00	9,000.0	5,345.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
9,100.0	0.00	0.00	9,100.0	5,445.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
9,200.0	0.00	0.00	9,200.0	5,545.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
9,300.0	0.00	0.00	9,300.0	5,645.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
9,400.0	0.00	0.00	9,400.0	5,745.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
9,453.4	0.00	0.00	9,453.4	5,799.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
1st Bone Spring (geoprog)										
9,500.0	0.00	0.00	9,500.0	5,845.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
9,600.0	0.00	0.00	9,600.0	5,945.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
9,700.0	0.00	0.00	9,700.0	6,045.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
9,800.0	0.00	0.00	9,800.0	6,145.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
9,900.0	0.00	0.00	9,900.0	6,245.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
9,965.4	0.00	0.00	9,965.4	6,311.0	0.0	0.0	0.0	0.00	581,411.74	777,521.80
2nd Bone Spring (geoprog)										
10,000.0	0.00	0.00	10,000.0	6,345.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
10,100.0	0.00	0.00	10,100.0	6,445.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
10,200.0	0.00	0.00	10,200.0	6,545.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
10,300.0	0.00	0.00	10,300.0	6,645.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
10,400.0	0.00	0.00	10,400.0	6,745.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
10,430.0	0.00	0.00	10,430.0	6,775.6	0.0	0.0	0.0	0.00	581,411.74	777,521.80
10,450.0	2.80	179.64	10,450.0	6,795.6	-0.5	0.0	0.5	14.00	581,411.25	777,521.81
10,475.0	6.30	179.64	10,474.9	6,820.5	-2.5	0.0	2.5	14.00	581,409.26	777,521.82
10,500.0	9.80	179.64	10,499.7	6,845.3	-6.0	0.0	6.0	14.00	581,405.76	777,521.84
10,525.0	13.30	179.64	10,524.1	6,869.7	-11.0	0.1	11.0	14.00	581,400.76	777,521.87

Company: Read and Stevens Inc.
Project: North Lea Prospect T20S-R34E
Site: Section 9
Well: North Lea 9 Federal Com #3H
Wellbore: North Lea 9 Federal Com #3H
Design: 131010 North Lea 9 Federal Com #3H

Local Co-ordinate Reference: Well North Lea 9 Federal Com #3H
TVD Reference: WELL (copy) @ 3654.4usft (Original Well Elev)
MD Reference: WELL (copy) @ 3654.4usft (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)
10,550.0	16.80	179.64	10,548.3	6,893.9	-17.5	0.1	17.5	14.00	581,394.27	777,521.91
10,575.0	20.30	179.64	10,572.0	6,917.6	-25.4	0.2	25.4	14.00	581,386.32	777,521.96
10,600.0	23.80	179.64	10,595.2	6,940.8	-34.8	0.2	34.8	14.00	581,376.93	777,522.02
10,625.0	27.30	179.64	10,617.7	6,963.3	-45.6	0.3	45.6	14.00	581,366.15	777,522.09
10,631.4	28.20	179.64	10,623.4	6,969.0	-48.6	0.3	48.6	14.00	581,363.16	777,522.11
3rd Bone Spring (geoprog)										
10,650.0	30.80	179.64	10,639.6	6,985.2	-57.7	0.4	57.7	14.00	581,354.02	777,522.16
10,675.0	34.30	179.64	10,660.6	7,006.2	-71.2	0.4	71.2	14.00	581,340.57	777,522.25
10,700.0	37.80	179.64	10,680.8	7,026.4	-85.9	0.5	85.9	14.00	581,325.86	777,522.34
10,725.0	41.30	179.64	10,700.1	7,045.7	-101.8	0.6	101.8	14.00	581,309.94	777,522.44
10,750.0	44.80	179.64	10,718.4	7,064.0	-118.9	0.7	118.9	14.00	581,292.88	777,522.55
10,775.0	48.30	179.64	10,735.6	7,081.2	-137.0	0.9	137.0	14.00	581,274.74	777,522.66
10,800.0	51.80	179.64	10,751.6	7,097.2	-156.2	1.0	156.2	14.00	581,255.58	777,522.78
10,825.0	55.30	179.64	10,766.5	7,112.1	-176.3	1.1	176.3	14.00	581,235.47	777,522.91
10,850.0	58.80	179.64	10,780.1	7,125.7	-197.2	1.2	197.3	14.00	581,214.50	777,523.04
10,875.0	62.30	179.64	10,792.4	7,138.0	-219.0	1.4	219.0	14.00	581,192.73	777,523.18
10,900.0	65.80	179.64	10,803.3	7,148.9	-241.5	1.5	241.5	14.00	581,170.26	777,523.32
10,925.0	69.30	179.64	10,812.8	7,158.4	-264.6	1.7	264.6	14.00	581,147.15	777,523.46
10,950.0	72.80	179.64	10,821.0	7,166.6	-288.2	1.8	288.2	14.00	581,123.51	777,523.61
10,975.0	76.30	179.64	10,827.6	7,173.2	-312.3	2.0	312.3	14.00	581,099.42	777,523.76
11,000.0	79.80	179.64	10,832.8	7,178.4	-336.8	2.1	336.8	14.00	581,074.97	777,523.92
11,025.0	83.30	179.64	10,836.5	7,182.1	-361.5	2.3	361.5	14.00	581,050.25	777,524.07
11,050.0	86.80	179.64	10,838.6	7,184.2	-386.4	2.4	386.4	14.00	581,025.34	777,524.23
11,072.9	90.00	179.64	10,839.3	7,184.9	-409.2	2.6	409.3	14.00	581,002.50	777,524.37
11,100.0	89.98	179.64	10,839.3	7,184.9	-436.4	2.7	436.4	0.09	580,975.36	777,524.54
11,200.0	89.88	179.64	10,839.4	7,185.0	-536.4	3.4	536.4	0.09	580,875.36	777,525.17
11,300.0	89.79	179.64	10,839.7	7,185.3	-636.4	4.0	636.4	0.09	580,775.37	777,525.80

Company: Read and Stevens Inc.
Project: North Lea Prospect T20S-R34E
Site: Section 9
Well: North Lea 9 Federal Com #3H
Wellbore: North Lea 9 Federal Com #3H
Design: 131010 North Lea 9 Federal Com #3H

Local Co-ordinate Reference: Well North Lea 9 Federal Com #3H
TVD Reference: WELL (copy) @ 3654.4usft (Original Well Elev)
MD Reference: WELL (copy) @ 3654.4usft (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)
11,400.0	89.70	179.64	10,840.1	7,185.7	-736.4	4.6	736.4	0.09	580,675.37	777,526.42
11,500.0	89.61	179.64	10,840.7	7,186.3	-836.4	5.2	836.4	0.09	580,575.38	777,527.05
11,600.0	89.52	179.64	10,841.5	7,187.1	-936.4	5.9	936.4	0.09	580,475.39	777,527.68
11,700.0	89.42	179.64	10,842.4	7,188.0	-1,036.4	6.5	1,036.4	0.09	580,375.40	777,528.30
11,800.0	89.33	179.64	10,843.5	7,189.1	-1,136.4	7.1	1,136.4	0.09	580,275.41	777,528.92
11,900.0	89.24	179.64	10,844.7	7,190.3	-1,236.3	7.7	1,236.4	0.09	580,175.42	777,529.54
12,000.0	89.15	179.64	10,846.1	7,191.7	-1,336.3	8.4	1,336.4	0.09	580,075.43	777,530.17
12,100.0	89.06	179.64	10,847.7	7,193.3	-1,436.3	9.0	1,436.4	0.09	579,975.45	777,530.79
12,200.0	88.96	179.64	10,849.4	7,195.0	-1,536.3	9.6	1,536.3	0.09	579,875.47	777,531.41
12,300.0	88.87	179.65	10,851.3	7,196.9	-1,636.3	10.2	1,636.3	0.09	579,775.49	777,532.03
12,400.0	88.78	179.65	10,853.4	7,199.0	-1,736.3	10.8	1,736.3	0.09	579,675.52	777,532.65
12,417.3	88.77	179.65	10,853.7	7,199.3	-1,753.5	11.0	1,753.6	0.09	579,658.27	777,532.75
12,500.0	88.77	179.65	10,855.5	7,201.1	-1,836.2	11.5	1,836.3	0.00	579,575.55	777,533.26
12,600.0	88.77	179.65	10,857.7	7,203.3	-1,936.2	12.1	1,936.3	0.00	579,475.57	777,533.88
12,700.0	88.77	179.65	10,859.8	7,205.4	-2,036.2	12.7	2,036.2	0.00	579,375.60	777,534.50
12,800.0	88.77	179.65	10,862.0	7,207.6	-2,136.2	13.3	2,136.2	0.00	579,275.63	777,535.12
12,900.0	88.77	179.65	10,864.1	7,209.7	-2,236.1	13.9	2,236.2	0.00	579,175.66	777,535.74
13,000.0	88.77	179.65	10,866.3	7,211.9	-2,336.1	14.6	2,336.2	0.00	579,075.69	777,536.35
13,100.0	88.77	179.65	10,868.5	7,214.1	-2,436.1	15.2	2,436.1	0.00	578,975.71	777,536.97
13,200.0	88.77	179.65	10,870.6	7,216.2	-2,536.1	15.8	2,536.1	0.00	578,875.74	777,537.59
13,300.0	88.77	179.65	10,872.8	7,218.4	-2,636.0	16.4	2,636.1	0.00	578,775.77	777,538.21
13,400.0	88.77	179.65	10,874.9	7,220.5	-2,736.0	17.0	2,736.1	0.00	578,675.80	777,538.83
13,500.0	88.77	179.65	10,877.1	7,222.7	-2,836.0	17.6	2,836.0	0.00	578,575.82	777,539.45
13,600.0	88.77	179.65	10,879.2	7,224.8	-2,936.0	18.3	2,936.0	0.00	578,475.85	777,540.06
13,700.0	88.77	179.65	10,881.4	7,227.0	-3,035.9	18.9	3,036.0	0.00	578,375.88	777,540.68
13,800.0	88.77	179.65	10,883.5	7,229.1	-3,135.9	19.5	3,136.0	0.00	578,275.91	777,541.30
13,900.0	88.77	179.65	10,885.7	7,231.3	-3,235.9	20.1	3,236.0	0.00	578,175.94	777,541.92

Company: Read and Stevens Inc.
Project: North Lea Prospect T20S-R34E
Site: Section 9
Well: North Lea 9 Federal Com #3H
Wellbore: North Lea 9 Federal Com #3H
Design: 131010 North Lea 9 Federal Com #3H

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well North Lea 9 Federal Com #3H
 WELL (copy) @ 3654.4usft (Original Well Elev)
 WELL (copy) @ 3654.4usft (Original Well Elev)
 Grid
 Minimum Curvature
 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)
14,000.0	88.77	179.65	10,887.8	7,233.4	-3,335.9	20.7	3,335.9	0.00	578,075.96	777,542.54
14,100.0	88.77	179.65	10,890.0	7,235.6	-3,435.8	21.4	3,435.9	0.00	577,975.99	777,543.15
14,200.0	88.77	179.65	10,892.2	7,237.8	-3,535.8	22.0	3,535.9	0.00	577,876.02	777,543.77
14,300.0	88.77	179.65	10,894.3	7,239.9	-3,635.8	22.6	3,635.9	0.00	577,776.05	777,544.39
14,400.0	88.77	179.65	10,896.5	7,242.1	-3,735.8	23.2	3,735.8	0.00	577,676.08	777,545.01
14,500.0	88.77	179.65	10,898.6	7,244.2	-3,835.7	23.8	3,835.8	0.00	577,576.10	777,545.63
14,600.0	88.77	179.65	10,900.8	7,246.4	-3,935.7	24.4	3,935.8	0.00	577,476.13	777,546.24
14,700.0	88.77	179.65	10,902.9	7,248.5	-4,035.7	25.1	4,035.8	0.00	577,376.16	777,546.86
14,800.0	88.77	179.65	10,905.1	7,250.7	-4,135.7	25.7	4,135.7	0.00	577,276.19	777,547.48
14,900.0	88.77	179.65	10,907.2	7,252.8	-4,235.6	26.3	4,235.7	0.00	577,176.21	777,548.10
15,000.0	88.77	179.65	10,909.4	7,255.0	-4,335.6	26.9	4,335.7	0.00	577,076.24	777,548.72
15,100.0	88.77	179.65	10,911.5	7,257.1	-4,435.6	27.5	4,435.7	0.00	576,976.27	777,549.34
15,200.0	88.77	179.65	10,913.7	7,259.3	-4,535.6	28.2	4,535.6	0.00	576,876.30	777,549.95
15,300.0	88.77	179.65	10,915.9	7,261.5	-4,635.5	28.8	4,635.6	0.00	576,776.33	777,550.57
15,400.0	88.77	179.65	10,918.0	7,263.6	-4,735.5	29.4	4,735.6	0.00	576,676.35	777,551.19
15,500.0	88.77	179.65	10,920.2	7,265.8	-4,835.5	30.0	4,835.6	0.00	576,576.38	777,551.81
15,600.0	88.77	179.65	10,922.3	7,267.9	-4,935.5	30.6	4,935.6	0.00	576,476.41	777,552.43
15,700.0	88.77	179.65	10,924.5	7,270.1	-5,035.4	31.2	5,035.5	0.00	576,376.44	777,553.04
15,800.0	88.77	179.65	10,926.6	7,272.2	-5,135.4	31.9	5,135.5	0.00	576,276.46	777,553.66
15,900.0	88.77	179.65	10,928.8	7,274.4	-5,235.4	32.5	5,235.5	0.00	576,176.49	777,554.28
16,000.0	88.77	179.65	10,930.9	7,276.5	-5,335.4	33.1	5,335.5	0.00	576,076.52	777,554.90
16,014.3	88.77	179.65	10,931.3	7,276.9	-5,349.6	33.2	5,349.7	0.00	576,062.24	777,554.99
16,021.2	88.77	179.65	10,931.4	7,277.0	-5,356.6	33.2	5,356.7	0.09	576,055.33	777,555.03

5 1/2"

Company: Read and Stevens Inc.
 Project: North Lea Prospect T20S-R34E
 Site: Section 9
 Well: North Lea 9 Federal Com #3H
 Wellbore: North Lea 9 Federal Com #3H
 Design: 131010 North Lea 9 Federal Com #3H

Local Co-ordinate Reference: Well North Lea 9 Federal Com #3H
 TVD Reference: WELL (copy) @ 3654.4usft (Original Well Elev)
 MD Reference: WELL (copy) @ 3654.4usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,579.4	1,579.4	13 3/8"	13-3/8	17-1/2
5,468.4	5,468.4	9 5/8"	9-5/8	12-1/4
16,021.2	10,931.4	5 1/2"	5-1/2	6

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Dip (")
3,164.4	3,164.4	Base of Salt (geoprog)	0.00
5,190.4	5,190.4	San Andres(Geoprog)	0.00
10,631.4	10,623.4	3rd Bone Spring (geoprog)	0.00
3,776.4	3,776.4	7 Rivers(Geoprog)	0.00
9,965.4	9,965.4	2nd Bone Spring (geoprog)	0.00
1,670.4	1,670.4	Top of Salt (geoprog)	0.00
8,295.4	8,295.4	Bonespring (geoprog)	0.00
1,554.4	1,554.4	Rustler (geoprog)	0.00
9,453.4	9,453.4	1st Bone Spring (geoprog)	0.00
4,635.4	4,635.4	Queen(Geoprog)	0.00
8,630.4	8,630.4	Avalon Shale (geoprog)	0.00
5,488.4	5,488.4	Delaware/Bell Canyon (geoprog)	0.00
3,419.4	3,419.4	Yates(Geoprog)	0.00

Checked By: _____ Approved By: _____ Date: _____

Project: North Lea Prospect
Site: Section 9
Well: North Lea 9 Federal Com #3H
Wellbore: North Lea 9 Federal Com #3H
Design: North Lea 9 Federal Com #3H



Azimuths to Grid North
True North: -0.41°
Magnetic North: 7.01°

Magnetic Field
Strength: 48684.8nT
Dip Angle: 60.49°
Date: 31/12/2012
Model: IGRF2010

