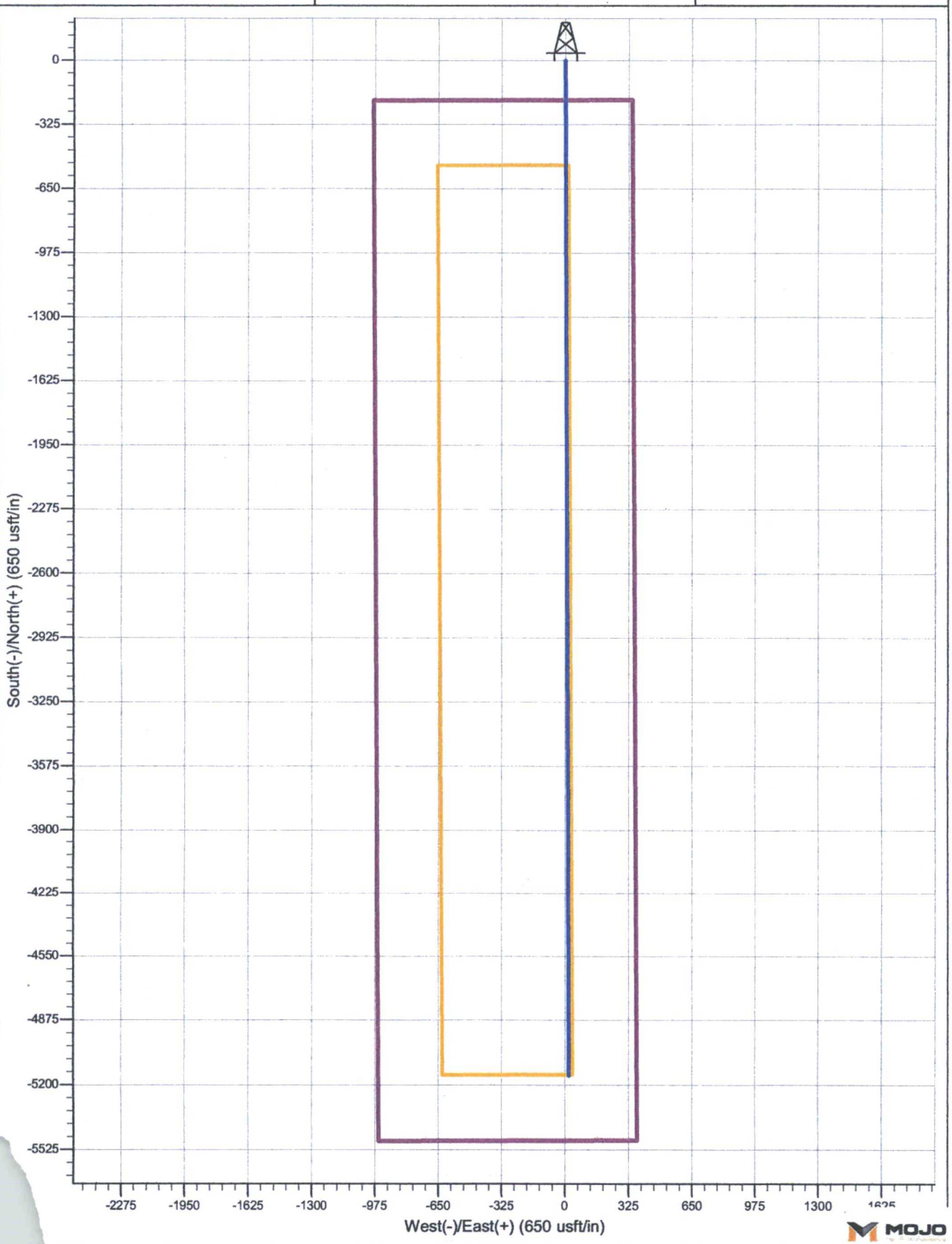
Project:	North Lea Prospect
Site:	Section 9
Well:	North Lea 9 Federal#2H
Wellbore:	North Lea 9 Federal #2H
Design:	North Lea 9 Fed 2H

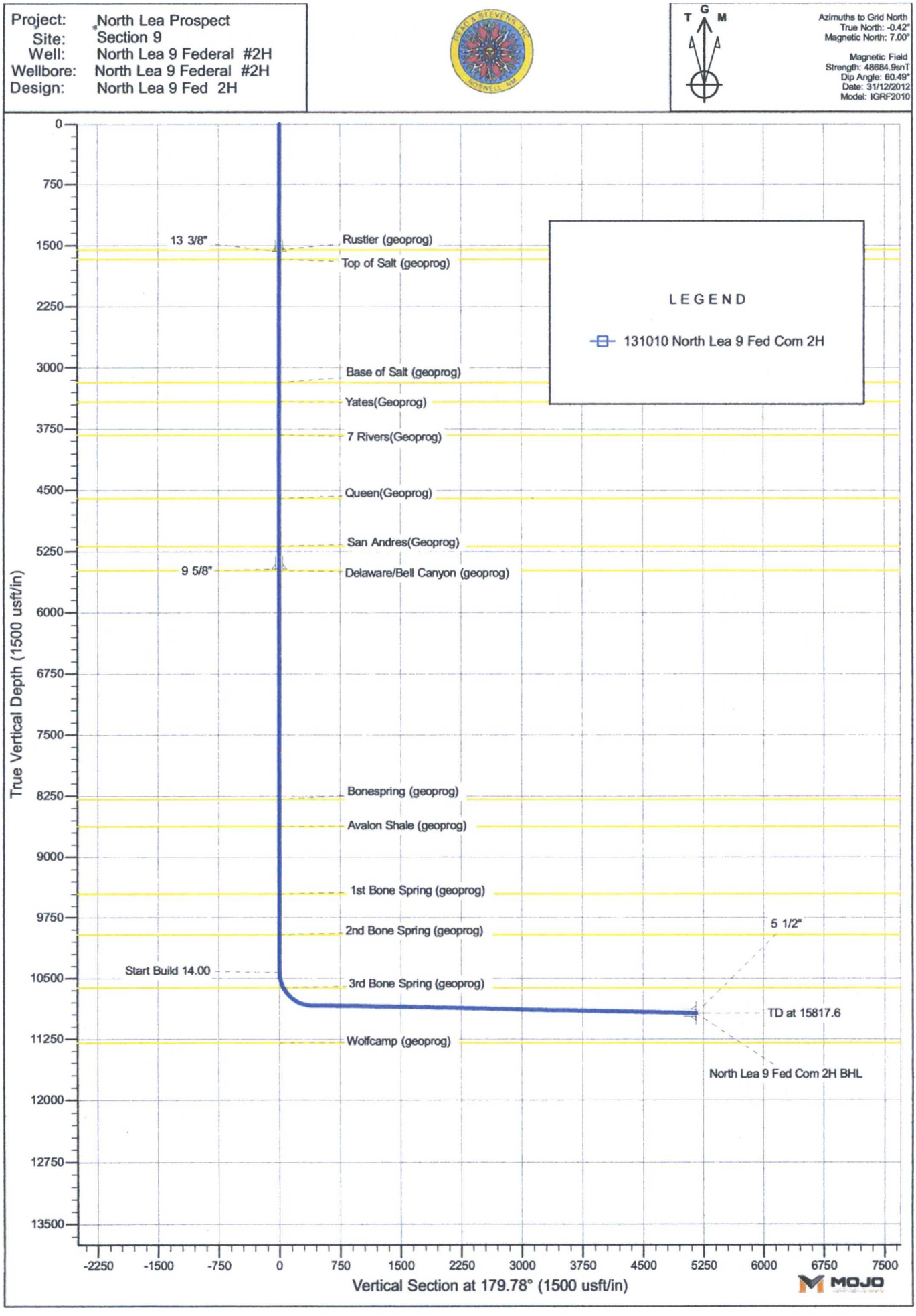
T G M

Azimuths to Grid North
True North: -0.42°
Magnetic North: 7.00°

Magnetic Field
Strength: 48684.9snT
Dip Angle: 60.49°
Date: 31/12/2012
Model: IGRF2010



MOJO


Project: North Lea Prospect
Site: Section 9
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Azimuths to Grid North
True North: -0.42°
Magnetic North: 7.00°
Magnetic Field
Strength: 48684.9snT
Dip Angle: 60.49°
Date: 31/12/2012
Model: IGRF2010
13 3/8"
9 5/8"
5 1/2"
Rustler (geoprog)
Top of Salt (geoprog)
Base of Salt (geoprog)
Yates(Geoprog)
7 Rivers(Geoprog)
Queen(Geoprog)
San Andres(Geoprog)
Delaware/Bell Canyon (geoprog)
Bonespring (geoprog)
Avalon Shale (geoprog)
1st Bone Spring (geoprog)
2nd Bone Spring (geoprog)
3rd Bone Spring (geoprog)
Wolfcamp (geoprog)
Start Build 14.00
TD at 15817.6
North Lea 9 Fed Com 2H BHL
LEGEND
131010 North Lea 9 Fed Com 2H
True Vertical Depth (1500 usft/in)
Vertical Section at 179.78° (1500 usft/in)
0
750
1500
2250
3000
3750
4500
5250
6000
6750
7500
8250
9000
9750
10500
11250
12000
12750
13500
-2250
-1500
-750
0
750
1500
2250
3000
3750
4500
5250
6000
6750
7500
MOJO

MOJO
DIRECTIONAL CORPORATION

Read and Stevens Inc.

North Lea Prospect T20S-R34E
Section 9
North Lea 9 Federal #2H

Plan: 131010 North Lea 9 Fed 2H

MOJO Standard Survey

10 October, 2013

MOJO
DIRECTIONAL CORPORATION

Company:	Read and Stevens Inc.	**Local Co-ordinate Reference:**	Well North Lea 9 Federal Com #2H
Project:	North Lea Prospect T20S-R34E	**TVD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Site:	Section 9	**MD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Well:	North Lea 9 Federal #2H	**North Reference:**	Grid
Wellbore:	North Lea 9 Federal #2H	**Survey Calculation Method:**	Minimum Curvature
Design:	131010 North Lea 9 Fed 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 9

Site Position:		**Northing:**	578,376.34 usft	**Latitude:**	32° 35' 15.582 N
From:	Lat/Long	**Easting:**	777,939.62 usft	**Longitude:**	103° 33' 54.508 W
Position Uncertainty:	1.0 usft	**Slot Radius:**	16 "	**Grid Convergence:**	0.41 °

Well North Lea 9 Federal Com #2H

Well Position	**+N/-S**	0.0 usft	**Northing:**	581,214.04 usft	**Latitude:**	32° 35' 43.593 N
	+E/-W	0.0 usft	**Easting:**	778,876.18 usft	**Longitude:**	103° 33' 43.321 W
Position Uncertainty		1.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,630.4 usft

Wellbore North Lea 9 Federal Com #2H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	31/12/2012	7.42	60.49	48,685

Design 131010 North Lea 9 Fed 2H

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	179.78

Survey Tool Program **Date** 10/10/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	15,817.6	131010 North Lea 9 Fed 2H (North L	MWD	MWD - Standard

Company:	Read and Stevens Inc.	**Local Co-ordinate Reference:**	Well North Lea 9 Federal Com #2H
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Site:	Section 9	**MD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Well:	North Lea 9 Federall #2H	**North Reference:**	Grid
Wellbore:	North Lea 9 Federal #2H	**Survey Calculation Method:**	Minimum Curvature
Design:	131010 North Lea 9 Fed 2H	**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	-3,652.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
100.0	0.00	0.00	100.0	-3,552.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
200.0	0.00	0.00	200.0	-3,452.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
300.0	0.00	0.00	300.0	-3,352.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
400.0	0.00	0.00	400.0	-3,252.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
500.0	0.00	0.00	500.0	-3,152.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
600.0	0.00	0.00	600.0	-3,052.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
700.0	0.00	0.00	700.0	-2,952.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
800.0	0.00	0.00	800.0	-2,852.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
900.0	0.00	0.00	900.0	-2,752.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
1,000.0	0.00	0.00	1,000.0	-2,652.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
1,100.0	0.00	0.00	1,100.0	-2,552.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
1,200.0	0.00	0.00	1,200.0	-2,452.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
1,300.0	0.00	0.00	1,300.0	-2,352.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
1,400.0	0.00	0.00	1,400.0	-2,252.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
1,500.0	0.00	0.00	1,500.0	-2,152.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
1,549.4	0.00	0.00	1,549.4	-2,103.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
Rustler (geoprog)										
1,574.4	0.00	0.00	1,574.4	-2,078.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
13 3/8"										
1,600.0	0.00	0.00	1,600.0	-2,052.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
1,670.4	0.00	0.00	1,670.4	-1,982.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
Top of Salt (geoprog)										
1,700.0	0.00	0.00	1,700.0	-1,952.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
1,800.0	0.00	0.00	1,800.0	-1,852.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
1,900.0	0.00	0.00	1,900.0	-1,752.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
2,000.0	0.00	0.00	2,000.0	-1,652.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
2,100.0	0.00	0.00	2,100.0	-1,552.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18

Company:	Read and Stevens Inc.	**Local Co-ordinate Reference:**	Well North Lea 9 Federal Com #2H
Project:	North Lea Prospect T20S-R34E	**TVD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Site:	Section 9	**MD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Well:	North Lea 9 Federal #2H	**North Reference:**	Grid
Wellbore:	North Lea 9 Federal #2H	**Survey Calculation Method:**	Minimum Curvature
Design:	131010 North Lea 9 Fed 2H	**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	-1,452.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
2,300.0	0.00	0.00	2,300.0	-1,352.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
2,400.0	0.00	0.00	2,400.0	-1,252.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
2,500.0	0.00	0.00	2,500.0	-1,152.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
2,600.0	0.00	0.00	2,600.0	-1,052.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
2,700.0	0.00	0.00	2,700.0	-952.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
2,800.0	0.00	0.00	2,800.0	-852.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
2,900.0	0.00	0.00	2,900.0	-752.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
3,000.0	0.00	0.00	3,000.0	-652.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
3,100.0	0.00	0.00	3,100.0	-552.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
3,177.4	0.00	0.00	3,177.4	-475.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
Base of Salt (geoprog)										
3,200.0	0.00	0.00	3,200.0	-452.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
3,300.0	0.00	0.00	3,300.0	-352.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
3,400.0	0.00	0.00	3,400.0	-252.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
3,413.4	0.00	0.00	3,413.4	-239.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
Yates(Geoprog)										
3,500.0	0.00	0.00	3,500.0	-152.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
3,600.0	0.00	0.00	3,600.0	-52.4	0.0	0.0	0.0	0.00	581,214.04	778,876.18
3,700.0	0.00	0.00	3,700.0	47.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
3,800.0	0.00	0.00	3,800.0	147.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
3,825.4	0.00	0.00	3,825.4	173.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
7 Rivers(Geoprog)										
3,900.0	0.00	0.00	3,900.0	247.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
4,000.0	0.00	0.00	4,000.0	347.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
4,100.0	0.00	0.00	4,100.0	447.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
4,200.0	0.00	0.00	4,200.0	547.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
4,300.0	0.00	0.00	4,300.0	647.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18

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Site:	Section 9	**MD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Well:	North Lea 9 Federal #2H	**North Reference:**	Grid
Wellbore:	North Lea 9 Federal #2H	**Survey Calculation Method:**	Minimum Curvature
Design:	131010 North Lea 9 Fed 2H	**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)
4,400.0	0.00	0.00	4,400.0	747.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
4,500.0	0.00	0.00	4,500.0	847.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
4,600.0	0.00	0.00	4,600.0	947.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
4,601.4	0.00	0.00	4,601.4	949.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
Queen(Geoprog)										
4,700.0	0.00	0.00	4,700.0	1,047.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
4,800.0	0.00	0.00	4,800.0	1,147.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
4,900.0	0.00	0.00	4,900.0	1,247.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
5,000.0	0.00	0.00	5,000.0	1,347.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
5,100.0	0.00	0.00	5,100.0	1,447.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
5,183.4	0.00	0.00	5,183.4	1,531.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
San Andres(Geoprog)										
5,200.0	0.00	0.00	5,200.0	1,547.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
5,300.0	0.00	0.00	5,300.0	1,647.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
5,400.0	0.00	0.00	5,400.0	1,747.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
5,461.4	0.00	0.00	5,461.4	1,809.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
9 5/8"										
5,481.4	0.00	0.00	5,481.4	1,829.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
Delaware/Bell Canyon (geoprog)										
5,500.0	0.00	0.00	5,500.0	1,847.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
5,600.0	0.00	0.00	5,600.0	1,947.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
5,700.0	0.00	0.00	5,700.0	2,047.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
5,800.0	0.00	0.00	5,800.0	2,147.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
5,900.0	0.00	0.00	5,900.0	2,247.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
6,000.0	0.00	0.00	6,000.0	2,347.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
6,100.0	0.00	0.00	6,100.0	2,447.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
6,200.0	0.00	0.00	6,200.0	2,547.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
6,300.0	0.00	0.00	6,300.0	2,647.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18

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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)
6,400.0	0.00	0.00	6,400.0	2,747.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
6,500.0	0.00	0.00	6,500.0	2,847.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
6,600.0	0.00	0.00	6,600.0	2,947.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
6,700.0	0.00	0.00	6,700.0	3,047.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
6,800.0	0.00	0.00	6,800.0	3,147.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
6,900.0	0.00	0.00	6,900.0	3,247.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
7,000.0	0.00	0.00	7,000.0	3,347.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
7,100.0	0.00	0.00	7,100.0	3,447.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
7,200.0	0.00	0.00	7,200.0	3,547.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
7,300.0	0.00	0.00	7,300.0	3,647.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
7,400.0	0.00	0.00	7,400.0	3,747.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
7,500.0	0.00	0.00	7,500.0	3,847.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
7,600.0	0.00	0.00	7,600.0	3,947.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
7,700.0	0.00	0.00	7,700.0	4,047.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
7,800.0	0.00	0.00	7,800.0	4,147.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
7,900.0	0.00	0.00	7,900.0	4,247.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
8,000.0	0.00	0.00	8,000.0	4,347.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
8,100.0	0.00	0.00	8,100.0	4,447.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
8,200.0	0.00	0.00	8,200.0	4,547.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
8,289.4	0.00	0.00	8,289.4	4,637.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
Bonespring (geoprog)										
8,300.0	0.00	0.00	8,300.0	4,647.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
8,400.0	0.00	0.00	8,400.0	4,747.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
8,500.0	0.00	0.00	8,500.0	4,847.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
8,600.0	0.00	0.00	8,600.0	4,947.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
8,624.4	0.00	0.00	8,624.4	4,972.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
Avalon Shale (geoprog)										

Company:	Read and Stevens Inc.	**Local Co-ordinate Reference:**	Well North Lea 9 Federal Com #2H
Project:	North Lea Prospect T20S-R34E	**TVD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Site:	Section 9	**MD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Well:	North Lea 9 Federal #2H	**North Reference:**	Grid
Wellbore:	North Lea 9 Federal #2H	**Survey Calculation Method:**	Minimum Curvature
Design:	131010 North Lea 9 Fed 2H	**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)
8,700.0	0.00	0.00	8,700.0	5,047.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
8,800.0	0.00	0.00	8,800.0	5,147.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
8,900.0	0.00	0.00	8,900.0	5,247.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
9,000.0	0.00	0.00	9,000.0	5,347.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
9,100.0	0.00	0.00	9,100.0	5,447.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
9,200.0	0.00	0.00	9,200.0	5,547.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
9,300.0	0.00	0.00	9,300.0	5,647.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
9,400.0	0.00	0.00	9,400.0	5,747.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
9,447.4	0.00	0.00	9,447.4	5,795.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
1st Bone Spring (geoprog)										
9,500.0	0.00	0.00	9,500.0	5,847.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
9,600.0	0.00	0.00	9,600.0	5,947.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
9,700.0	0.00	0.00	9,700.0	6,047.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
9,800.0	0.00	0.00	9,800.0	6,147.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
9,900.0	0.00	0.00	9,900.0	6,247.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
9,959.4	0.00	0.00	9,959.4	6,307.0	0.0	0.0	0.0	0.00	581,214.04	778,876.18
2nd Bone Spring (geoprog)										
10,000.0	0.00	0.00	10,000.0	6,347.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
10,100.0	0.00	0.00	10,100.0	6,447.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
10,200.0	0.00	0.00	10,200.0	6,547.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
10,300.0	0.00	0.00	10,300.0	6,647.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
10,400.0	0.00	0.00	10,400.0	6,747.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
10,429.0	0.00	0.00	10,429.0	6,776.6	0.0	0.0	0.0	0.00	581,214.04	778,876.18
10,450.0	2.94	179.78	10,450.0	6,797.6	-0.5	0.0	0.5	14.00	581,213.50	778,876.19
10,475.0	6.44	179.78	10,474.9	6,822.5	-2.6	0.0	2.6	14.00	581,211.46	778,876.19
10,500.0	9.94	179.78	10,499.6	6,847.2	-6.1	0.0	6.1	14.00	581,207.90	778,876.21
10,525.0	13.44	179.78	10,524.1	6,871.7	-11.2	0.0	11.2	14.00	581,202.84	778,876.23

Company:	Read and Stevens Inc.	**Local Co-ordinate Reference:**	Well North Lea 9 Federal Com #2H
Project:	North Lea Prospect T20S-R34E	**TVD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Site:	Section 9	**MD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Well:	North Lea 9 Federal #2H	**North Reference:**	Grid
Wellbore:	North Lea 9 Federal #2H	**Survey Calculation Method:**	Minimum Curvature
Design:	131010 North Lea 9 Fed 2H	**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	16.94	179.78	10,548.2	6,895.8	-17.8	0.1	17.8	14.00	581,196.29	778,876.25
10,575.0	20.44	179.78	10,571.9	6,919.5	-25.8	0.1	25.8	14.00	581,188.28	778,876.28
10,600.0	23.94	179.78	10,595.1	6,942.7	-35.2	0.1	35.2	14.00	581,178.84	778,876.32
10,624.8	27.41	179.78	10,617.4	6,965.0	-45.9	0.2	45.9	14.00	581,168.10	778,876.36
3rd Bone Spring (geoprog)										
10,625.0	27.44	179.78	10,617.6	6,965.2	-46.0	0.2	46.0	14.00	581,168.00	778,876.36
10,650.0	30.94	179.78	10,639.4	6,987.0	-58.2	0.2	58.2	14.00	581,155.81	778,876.41
10,675.0	34.44	179.78	10,660.5	7,008.1	-71.7	0.3	71.7	14.00	581,142.31	778,876.46
10,700.0	37.94	179.78	10,680.6	7,028.2	-86.5	0.3	86.5	14.00	581,127.55	778,876.52
10,725.0	41.44	179.78	10,699.9	7,047.5	-102.5	0.4	102.5	14.00	581,111.59	778,876.58
10,750.0	44.94	179.78	10,718.1	7,065.7	-119.6	0.5	119.6	14.00	581,094.48	778,876.64
10,775.0	48.44	179.78	10,735.2	7,082.8	-137.8	0.5	137.8	14.00	581,076.29	778,876.71
10,800.0	51.94	179.78	10,751.2	7,098.8	-157.0	0.6	157.0	14.00	581,057.09	778,876.79
10,825.0	55.44	179.78	10,766.0	7,113.6	-177.1	0.7	177.1	14.00	581,036.95	778,876.86
10,850.0	58.94	179.78	10,779.6	7,127.2	-198.1	0.8	198.1	14.00	581,015.94	778,876.95
10,875.0	62.44	179.78	10,791.8	7,139.4	-219.9	0.8	219.9	14.00	580,994.15	778,877.03
10,900.0	65.94	179.78	10,802.7	7,150.3	-242.4	0.9	242.4	14.00	580,971.65	778,877.12
10,925.0	69.44	179.78	10,812.2	7,159.8	-265.5	1.0	265.5	14.00	580,948.52	778,877.20
10,950.0	72.94	179.78	10,820.2	7,167.8	-289.2	1.1	289.2	14.00	580,924.86	778,877.30
10,975.0	76.44	179.78	10,826.8	7,174.4	-313.3	1.2	313.3	14.00	580,900.75	778,877.39
11,000.0	79.94	179.78	10,832.0	7,179.6	-337.8	1.3	337.8	14.00	580,876.29	778,877.48
11,025.0	83.44	179.78	10,835.6	7,183.2	-362.5	1.4	362.5	14.00	580,851.56	778,877.58
11,050.0	86.94	179.78	10,837.7	7,185.3	-387.4	1.5	387.4	14.00	580,826.65	778,877.67
11,071.9	90.00	179.78	10,838.3	7,185.9	-409.3	1.6	409.3	14.00	580,804.80	778,877.76
11,100.0	89.96	179.78	10,838.3	7,185.9	-437.4	1.7	437.4	0.15	580,776.66	778,877.86
11,200.0	89.81	179.78	10,838.5	7,186.1	-537.4	2.1	537.4	0.15	580,676.66	778,878.25
11,300.0	89.66	179.78	10,838.9	7,186.5	-637.4	2.4	637.4	0.15	580,576.67	778,878.63

Company:	Read and Stevens Inc.	**Local Co-ordinate Reference:**	Well North Lea 9 Federal Com #2H
Project:	North Lea Prospect T20S-R34E	**TVD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Site:	Section 9	**MD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Well:	North Lea 9 Federal #2H	**North Reference:**	Grid
Wellbore:	North Lea 9 Federal #2H	**Survey Calculation Method:**	Minimum Curvature
Design:	131010 North Lea 9 Fed 2H	**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	89.51	179.78	10,839.7	7,187.3	-737.4	2.8	737.4	0.15	580,476.67	778,879.02
11,500.0	89.36	179.78	10,840.7	7,188.3	-837.4	3.2	837.4	0.15	580,376.68	778,879.40
11,600.0	89.21	179.78	10,841.9	7,189.5	-937.4	3.6	937.4	0.15	580,276.69	778,879.78
11,700.0	89.06	179.78	10,843.4	7,191.0	-1,037.4	4.0	1,037.4	0.15	580,176.71	778,880.17
11,800.0	88.91	179.78	10,845.2	7,192.8	-1,137.3	4.4	1,137.4	0.15	580,076.73	778,880.55
11,882.8	88.78	179.78	10,846.9	7,194.5	-1,220.2	4.7	1,220.2	0.15	579,993.90	778,880.87
11,900.0	88.78	179.78	10,847.2	7,194.8	-1,237.3	4.7	1,237.3	0.00	579,976.75	778,880.93
12,000.0	88.78	179.78	10,849.4	7,197.0	-1,337.3	5.1	1,337.3	0.00	579,876.78	778,881.31
12,100.0	88.78	179.78	10,851.5	7,199.1	-1,437.3	5.5	1,437.3	0.00	579,776.80	778,881.70
12,200.0	88.78	179.78	10,853.6	7,201.2	-1,537.3	5.9	1,537.3	0.00	579,676.83	778,882.08
12,300.0	88.78	179.78	10,855.7	7,203.3	-1,637.2	6.3	1,637.2	0.00	579,576.86	778,882.46
12,400.0	88.78	179.78	10,857.8	7,205.4	-1,737.2	6.7	1,737.2	0.00	579,476.88	778,882.85
12,500.0	88.78	179.78	10,860.0	7,207.6	-1,837.2	7.0	1,837.2	0.00	579,376.91	778,883.23
12,600.0	88.78	179.78	10,862.1	7,209.7	-1,937.2	7.4	1,937.2	0.00	579,276.93	778,883.61
12,700.0	88.78	179.78	10,864.2	7,211.8	-2,037.1	7.8	2,037.2	0.00	579,176.96	778,883.99
12,800.0	88.78	179.78	10,866.3	7,213.9	-2,137.1	8.2	2,137.1	0.00	579,076.98	778,884.38
12,900.0	88.78	179.78	10,868.5	7,216.1	-2,237.1	8.6	2,237.1	0.00	578,977.01	778,884.76
13,000.0	88.78	179.78	10,870.6	7,218.2	-2,337.1	9.0	2,337.1	0.00	578,877.04	778,885.14
13,100.0	88.78	179.78	10,872.7	7,220.3	-2,437.0	9.3	2,437.1	0.00	578,777.06	778,885.52
13,200.0	88.78	179.78	10,874.8	7,222.4	-2,537.0	9.7	2,537.0	0.00	578,677.09	778,885.91
13,300.0	88.78	179.78	10,877.0	7,224.6	-2,637.0	10.1	2,637.0	0.00	578,577.11	778,886.29
13,400.0	88.78	179.78	10,879.1	7,226.7	-2,737.0	10.5	2,737.0	0.00	578,477.14	778,886.67
13,500.0	88.78	179.78	10,881.2	7,228.8	-2,837.0	10.9	2,837.0	0.00	578,377.17	778,887.06
13,600.0	88.78	179.78	10,883.3	7,230.9	-2,936.9	11.3	2,937.0	0.00	578,277.19	778,887.44
13,700.0	88.78	179.78	10,885.4	7,233.0	-3,036.9	11.6	3,036.9	0.00	578,177.22	778,887.82
13,800.0	88.78	179.78	10,887.6	7,235.2	-3,136.9	12.0	3,136.9	0.00	578,077.24	778,888.20
13,900.0	88.78	179.78	10,889.7	7,237.3	-3,236.9	12.4	3,236.9	0.00	577,977.27	778,888.59

Company:	Read and Stevens Inc.	**Local Co-ordinate Reference:**	Well North Lea 9 Federal Com #2H
Project:	North Lea Prospect T20S-R34E	**TVD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Site:	Section 9	**MD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Well:	North Lea 9 Federal #2H	**North Reference:**	Grid
Wellbore:	North Lea 9 Federal #2H	**Survey Calculation Method:**	Minimum Curvature
Design:	131010 North Lea 9 Fed 2H	**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)
14,000.0	88.78	179.78	10,891.8	7,239.4	-3,336.8	12.8	3,336.9	0.00	577,877.30	778,888.97
14,100.0	88.78	179.78	10,893.9	7,241.5	-3,436.8	13.2	3,436.8	0.00	577,777.32	778,889.35
14,200.0	88.78	179.78	10,896.1	7,243.7	-3,536.8	13.6	3,536.8	0.00	577,677.35	778,889.74
14,300.0	88.78	179.78	10,898.2	7,245.8	-3,636.8	13.9	3,636.8	0.00	577,577.37	778,890.12
14,400.0	88.78	179.78	10,900.3	7,247.9	-3,736.7	14.3	3,736.8	0.00	577,477.40	778,890.50
14,500.0	88.78	179.78	10,902.4	7,250.0	-3,836.7	14.7	3,836.7	0.00	577,377.43	778,890.88
14,600.0	88.78	179.78	10,904.5	7,252.1	-3,936.7	15.1	3,936.7	0.00	577,277.45	778,891.27
14,700.0	88.78	179.78	10,906.7	7,254.3	-4,036.7	15.5	4,036.7	0.00	577,177.48	778,891.65
14,800.0	88.78	179.78	10,908.8	7,256.4	-4,136.6	15.8	4,136.7	0.00	577,077.50	778,892.03
14,900.0	88.78	179.78	10,910.9	7,258.5	-4,236.6	16.2	4,236.7	0.00	576,977.53	778,892.42
15,000.0	88.78	179.78	10,913.0	7,260.6	-4,336.6	16.6	4,336.6	0.00	576,877.55	778,892.80
15,100.0	88.78	179.78	10,915.2	7,262.8	-4,436.6	17.0	4,436.6	0.00	576,777.58	778,893.18
15,200.0	88.78	179.78	10,917.3	7,264.9	-4,536.6	17.4	4,536.6	0.00	576,677.61	778,893.56
15,300.0	88.78	179.78	10,919.4	7,267.0	-4,636.5	17.8	4,636.6	0.00	576,577.63	778,893.95
15,400.0	88.78	179.78	10,921.5	7,269.1	-4,736.5	18.1	4,736.5	0.00	576,477.66	778,894.33
15,500.0	88.78	179.78	10,923.7	7,271.3	-4,836.5	18.5	4,836.5	0.00	576,377.68	778,894.71
15,600.0	88.78	179.78	10,925.8	7,273.4	-4,936.5	18.9	4,936.5	0.00	576,277.71	778,895.10
15,700.0	88.78	179.78	10,927.9	7,275.5	-5,036.4	19.3	5,036.5	0.00	576,177.74	778,895.48
15,800.0	88.78	179.78	10,930.0	7,277.6	-5,136.4	19.7	5,136.5	0.00	576,077.76	778,895.86
15,813.6	88.78	179.78	10,930.3	7,277.9	-5,150.1	19.7	5,150.1	0.00	576,064.12	778,895.91
15,817.6	88.78	179.78	10,930.4	7,278.0	-5,154.0	19.7	5,154.1	0.09	576,060.17	778,895.93
5 1/2"										

Company:	Read and Stevens Inc.	**Local Co-ordinate Reference:**	Well North Lea 9 Federal Com #2H
Project:	North Lea Prospect T20S-R34E	**TVD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Site:	Section 9	**MD Reference:**	WELL @ 3652.4usft (Original Well Elev)
Well:	North Lea 9 Federal #2H	**North Reference:**	Grid
Wellbore:	North Lea 9 Federal #2H	**Survey Calculation Method:**	Minimum Curvature
Design:	131010 North Lea 9 Fed 2H	**Database:**	EDM 5000.1 Single User Db

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,574.4	1,574.4	13 3/8"	13-3/8	17-1/2
5,461.4	5,461.4	9 5/8"	9-5/8	12-1/4
15,817.6	10,930.4	5 1/2"	5-1/2	6

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Dip (°)
8,624.4	8,624.4	Avalon Shale (geoprog)	0.00
1,549.4	1,549.4	Rustler (geoprog)	0.00
9,959.4	9,959.4	2nd Bone Spring (geoprog)	0.00
5,183.4	5,183.4	San Andres(Geoprog)	0.00
3,413.4	3,413.4	Yates(Geoprog)	0.00
4,601.4	4,601.4	Queen(Geoprog)	0.00
5,481.4	5,481.4	Delaware/Bell Canyon (geoprog)	0.00
10,624.8	10,617.4	3rd Bone Spring (geoprog)	0.00
1,670.4	1,670.4	Top of Salt (geoprog)	0.00
9,447.4	9,447.4	1st Bone Spring (geoprog)	0.00
8,289.4	8,289.4	Bonespring (geoprog)	0.00
3,177.4	3,177.4	Base of Salt (geoprog)	0.00
3,825.4	3,825.4	7 Rivers(Geoprog)	0.00

Checked By: _____ Approved By: _____ Date: _____

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

POD Search:

POD Basin: Lea County

PLSS Search:

Section(s): 9 **Township:** 20S **Range:** 34E