



NABORS DRILLING TECHNOLOGIES USA, INC.

515 West Greens Road

Houston, TX 77067

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HOBBS OCD

AUG 23 2018

RECEIVED

Monday, December 24, 2018

State of New Mexico

County of LEA

Subject: **Survey Certification Letter**

Survey Company: **NABORS DRILLING TECH USA, INC.**

Job Number: **T3694**

Survey Job Type: **Nabors MWD**

Customer: **Devon Energy Production Company LP**

Well Name: **SeaWolf 1-12 92H(LATERAL)**

Rig Name: **Nabors X04**

Surface: **32.07918641, -103.53331394**

A.P.I. No: **30-025-43769-0000**

Location: **LEA, NM**

RKB Height: **32'**

Distance to Bit: **60'**

										<i>TD Straight</i>
<i>Surveyor Name</i>	<i>Surveyor Title</i>	<i>Borehole</i>	<i>Start</i>	<i>End</i>	<i>Start</i>	<i>End</i>	<i>Type</i>	<i>of</i>	<i>Line</i>	
		<i>Number</i>	<i>Depth</i>	<i>Depth</i>	<i>Date</i>	<i>Date</i>				<i>Projection</i>
Scott Dunbar	MWD Supervisor	OH	1152'	22514'	10/21/17	12/24/17	MWD			22574'

The data and calculations for this survey have been checked by me and conform to the calibration standards and operational procedures set forth by NABORS DRILLING TECHNOLOGIES USA, INC. I am authorized and qualified to review the data, calculations and these reports; the reports represents true and correct Directional Surveys of this well based on the original data, the minimum curvature method, corrected to Grid North and obtained at the well site.

Scott Dunbar

MWD Supervisor

NABORS DRILLING TECHNOLOGIES USA, INC.

The logo for Devon Energy Corporation, featuring the word "devon" in a white, lowercase, sans-serif font on a black rectangular background.

Devon Energy Corporation

**Lea Co., NM
SeaWolf 1-12
Fed 92H
OH**

Survey: Survey #1

Completion Report

27 December, 2017

HOBBS OCD

AUG 23 2018

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devon

WELL DETAILS: Fed 92H

Ground Elevation: 3318.50
RKB Elevation: RT=32 @ 3350.50ft (Nabors X-04)
Rig Name: Nabors X-04

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	393484.380	789178.180	32° 4' 45.071071 N	103° 31' 59.301924 W

SECTION DETAILS

No plan data is available



Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.34°

Magnetic Field
Strength: 47899.7aT
Dip Angle: 59.80°
Date: 11/30/2017
Model: HDGM



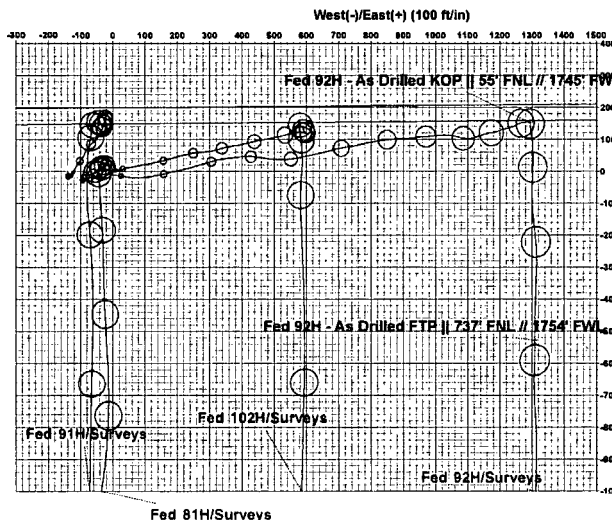
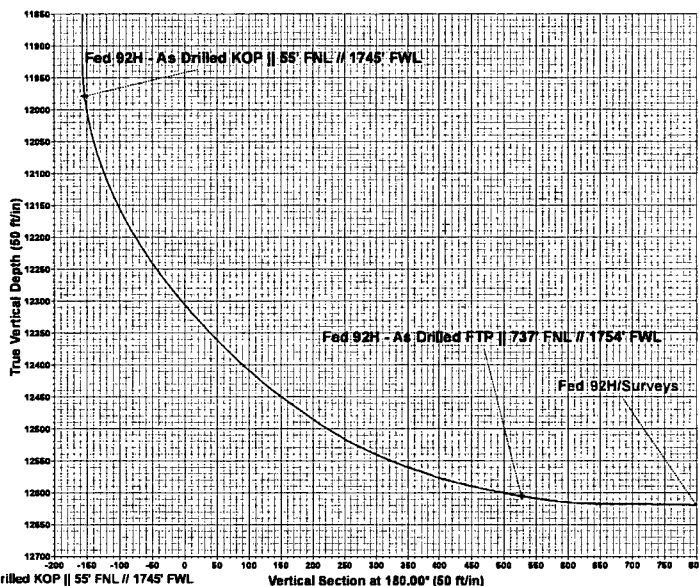
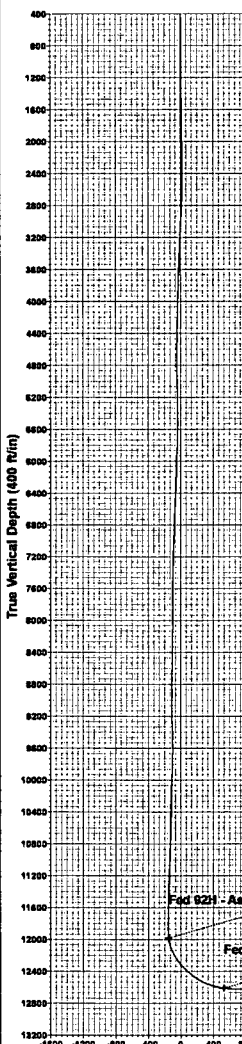
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 92H
Wellbore: OH
Design: Surveys (Fed 92H/OH)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Fed 92H - As Drilled FTP // 737' FNL // 1754' FWL	12805.25	-527.48	1309.18	392938.898	789487.383
Fed 92H - As Drilled KOP // 55' FNL // 1745' FWL	11878.76	153.35	1293.74	393817.812	790471.913
Fed 92H - As Drilled LTP // 479' FSL // 1639' FWL	12525.54	-4973.71	1280.98	383590.595	790429.138

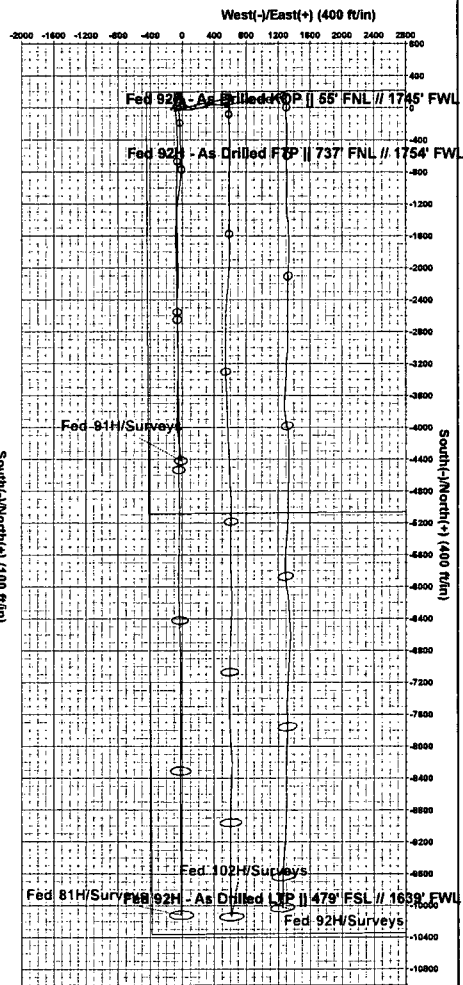
PROJECT DETAILS: Lea Co., NM
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level
Local North: Grid



FORMATION TOP DETAILS

No formation data is available



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 92H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 92H
TVD Reference: RT=32 @ 3350.50ft (Nabors X-04)
MD Reference: RT=32 @ 3350.50ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Project Lea Co., NM
Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site SeaWolf 1-12

Site Position:	Northing:	393,463.690 usft	Latitude:	32° 4' 45.07085 N
From: Map	Easting:	789,088.210 usft	Longitude:	103° 32' 0.34763 W
Position Uncertainty:	Slot Radius:	13-3/16 "	Grid Convergence:	0.42 °

Well Fed 92H

Well Position	+N/-S	0.00 ft	Northing:	393,464.380 usft	Latitude:	32° 4' 45.07107 N
	+E/-W	0.00 ft	Easting:	789,178.180 usft	Longitude:	103° 31' 59.30192 W
Position Uncertainty		2.00 ft	Wellhead Elevation:	ft	Ground Level:	3,318.50 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/30/2017	6.77	59.80	47,899.70000000

Design Surveys

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	180.00	

Survey Program Date 12/27/2017

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
159.90	22,574.00	Survey #1 (OH)	MWD+HRGM	OWSG MWD + HRGM



Nabors
Completion Report



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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

MD (ft)	Inc (")	Azi (azimuth) (")	TVD (ft)	V. Sec (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (")	DLeg ("/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159.90	0.40	230.37	159.90	0.36	-0.36	-0.43	0.56	230.37	0.25
251.90	0.30	145.37	251.90	0.76	-0.76	-0.54	0.93	215.45	0.52
346.70	0.50	182.37	346.70	1.38	-1.38	-0.42	1.44	196.83	0.33
441.10	0.30	232.37	441.09	1.94	-1.94	-0.63	2.04	197.98	0.41
535.20	0.80	245.37	535.19	2.36	-2.36	-1.42	2.76	211.03	0.54
629.50	0.40	239.37	629.48	2.81	-2.81	-2.30	3.63	219.39	0.43
754.90	1.10	236.37	754.87	3.69	-3.69	-3.68	5.22	224.90	0.56
849.80	0.80	221.37	849.76	4.70	-4.70	-4.88	6.77	226.09	0.41
944.20	0.60	202.37	944.15	5.65	-5.65	-5.50	7.89	224.25	0.32
1,007.70	1.00	215.37	1,007.65	6.41	-6.41	-5.95	8.74	222.88	0.69
1,152.00	0.44	223.28	1,151.93	7.84	-7.84	-7.06	10.55	222.00	0.39
1,243.00	0.56	219.07	1,242.93	8.44	-8.44	-7.58	11.34	221.93	0.14
1,335.00	0.44	218.19	1,334.93	9.06	-9.06	-8.08	12.14	221.71	0.13
1,426.00	0.69	108.50	1,425.92	9.51	-9.51	-7.78	12.29	219.26	1.03
1,521.00	1.88	97.07	1,520.90	9.89	-9.89	-5.69	11.40	209.91	1.28
1,615.00	2.63	97.78	1,614.82	10.37	-10.37	-2.02	10.56	191.03	0.80
1,710.00	3.63	99.01	1,709.68	11.13	-11.13	3.11	11.56	164.39	1.05
1,804.00	4.50	96.19	1,803.44	12.00	-12.00	9.72	15.44	141.00	0.95
1,898.00	5.06	94.26	1,897.12	12.70	-12.70	17.52	21.64	125.95	0.62
1,992.00	5.25	99.71	1,990.74	13.74	-13.74	25.89	29.31	117.95	0.56
2,086.00	5.88	101.12	2,086.28	15.43	-15.43	35.04	38.29	113.76	0.67
2,182.00	6.56	102.00	2,179.73	17.47	-17.47	45.02	48.29	111.21	0.73
2,277.00	6.88	98.30	2,274.08	19.42	-19.42	55.96	59.23	109.14	0.57
2,372.00	7.69	92.33	2,368.31	20.50	-20.50	67.94	70.96	106.79	1.17
2,466.00	8.63	87.58	2,461.36	20.46	-20.46	81.27	83.81	104.13	1.23
2,560.00	9.44	82.31	2,554.20	19.13	-19.13	95.96	97.84	101.27	1.23



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 92H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 92H
TVD Reference: RT=32 @ 3350.50ft (Nabors X-04)
MD Reference: RT=32 @ 3350.50ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	V. Sec (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)	DLeg (°/100ft)
2,654.00	9.88	80.90	2,646.86	16.82	-16.82	111.56	112.82	98.57	0.53
2,748.00	9.69	79.67	2,739.49	14.13	-14.13	127.30	128.09	96.33	0.30
2,843.00	9.69	79.14	2,833.14	11.19	-11.19	143.02	143.46	94.47	0.09
2,938.00	9.69	77.56	2,926.78	7.96	-7.96	158.68	158.88	92.87	0.28
3,032.00	9.81	76.86	3,019.43	4.43	-4.43	174.20	174.26	91.46	0.18
3,128.00	10.19	76.51	3,113.97	0.59	-0.59	190.43	190.43	90.18	0.40
3,223.00	10.50	78.09	3,207.42	-3.15	3.15	207.07	207.09	89.13	0.44
3,317.00	9.75	74.57	3,299.96	-7.04	7.04	223.12	223.23	88.19	1.03
3,411.00	9.69	75.45	3,392.61	-11.14	11.14	238.45	238.71	87.32	0.17
3,506.00	8.88	73.87	3,486.37	-15.19	15.19	253.23	253.69	86.57	0.89
3,600.00	8.13	72.11	3,579.33	-19.25	19.25	266.53	267.22	85.87	0.84
3,695.00	7.69	71.94	3,673.43	-23.28	23.28	278.96	279.93	85.23	0.46
3,789.00	8.50	75.45	3,766.49	-26.98	26.98	291.67	292.91	84.72	1.01
3,883.00	8.44	76.68	3,859.47	-30.31	30.31	305.11	306.61	84.33	0.20
3,976.00	7.94	72.82	3,951.52	-33.78	33.78	317.88	319.67	83.93	0.80
4,071.00	8.19	80.55	4,045.58	-36.83	36.83	330.83	332.87	83.65	1.17
4,165.00	7.81	82.31	4,138.67	-38.78	38.78	343.76	345.94	83.56	0.48
4,260.00	8.31	81.25	4,232.73	-40.69	40.69	356.94	359.26	83.50	0.55
4,355.00	8.19	83.01	4,326.74	-42.56	42.56	370.45	372.88	83.45	0.29
4,449.00	7.31	82.13	4,419.88	-44.19	44.19	383.01	385.56	83.42	0.94
4,544.00	7.44	83.89	4,514.10	-45.67	45.67	395.12	397.75	83.41	0.27
4,638.00	6.81	86.35	4,607.37	-46.68	46.68	406.73	409.40	83.45	0.74
4,733.00	6.06	89.34	4,701.77	-47.09	47.09	417.37	420.01	83.56	0.86
4,828.00	7.25	96.02	4,796.13	-46.52	46.52	428.34	430.86	83.80	1.49
4,922.00	9.44	94.96	4,889.13	-45.23	45.23	441.92	444.23	84.16	2.34
5,016.00	8.63	97.42	4,981.97	-43.66	43.66	456.60	458.68	84.54	0.95
5,111.00	7.31	99.53	5,076.05	-41.74	41.74	469.62	471.48	84.92	1.42



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 92H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 92H
TVD Reference: RT=32 @ 3350.50ft (Nabors X-04)
MD Reference: RT=32 @ 3350.50ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	V. Sec (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)	DLeg (°/100ft)
5,205.00	6.00	98.83	5,169.41	-39.99	39.99	480.38	482.04	85.24	1.40
5,299.00	6.31	96.37	5,262.87	-38.66	38.66	490.37	491.89	85.49	0.43
5,393.00	6.69	94.61	5,356.26	-37.65	37.65	500.96	502.37	85.70	0.46
5,488.00	7.19	92.15	5,450.57	-36.98	36.98	512.41	513.75	85.87	0.61
5,581.00	7.88	88.28	5,542.77	-36.96	36.96	524.60	525.90	85.97	0.92
5,676.00	8.31	87.41	5,636.82	-37.46	37.46	537.97	539.27	86.02	0.47
5,771.00	8.81	83.01	5,730.76	-38.66	38.66	552.05	553.40	85.99	0.87
5,866.00	9.69	80.02	5,824.53	-40.93	40.93	567.14	568.62	85.87	1.06
5,960.00	9.94	78.97	5,917.15	-43.85	43.85	582.90	584.55	85.70	0.33
6,054.00	9.44	77.56	6,009.81	-47.06	47.06	598.39	600.24	85.50	0.59
6,149.00	9.25	75.80	6,103.55	-50.62	50.62	613.40	615.48	85.28	0.36
6,244.00	9.25	79.32	6,197.31	-53.90	53.90	628.31	630.61	85.10	0.60
6,339.00	10.00	76.86	6,290.98	-57.19	57.19	643.84	646.38	84.92	0.90
6,432.00	10.38	75.28	6,382.51	-61.16	61.16	659.81	662.64	84.70	0.51
6,526.00	10.19	73.87	6,475.00	-65.62	65.62	675.99	679.16	84.46	0.34
6,621.00	10.00	78.62	6,568.53	-69.58	69.58	692.14	695.63	84.26	0.90
6,715.00	10.19	80.02	6,661.07	-72.63	72.63	708.33	712.05	84.15	0.33
6,809.00	10.31	79.85	6,753.57	-75.56	75.56	724.80	728.73	84.05	0.13
6,904.00	10.38	78.44	6,847.03	-78.77	78.77	741.56	745.73	83.94	0.28
6,997.00	10.38	76.68	6,938.51	-82.38	82.38	757.92	762.38	83.80	0.34
7,089.00	9.56	74.22	7,029.12	-86.37	86.37	773.33	778.14	83.63	1.00
7,184.00	9.25	79.85	7,122.84	-89.86	89.86	788.44	793.55	83.50	1.02
7,279.00	8.13	80.90	7,216.75	-92.27	92.27	802.59	807.88	83.44	1.19
7,374.00	7.75	80.55	7,310.84	-94.38	94.38	815.54	820.99	83.40	0.40
7,469.00	7.00	80.55	7,405.05	-96.38	96.38	827.57	833.17	83.36	0.79
7,564.00	6.56	83.71	7,499.39	-97.93	97.93	838.68	844.37	83.34	0.61
7,659.00	6.88	84.07	7,593.74	-99.11	99.11	849.73	855.49	83.35	0.34



Nabors
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Wellbore: OH
Design: Surveys

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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	V. Sec (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)	DLeg (°/100ft)
7,752.00	6.88	85.82	7,686.07	-100.09	100.09	860.83	866.62	83.37	0.23
7,847.00	6.44	86.70	7,780.43	-100.81	100.81	871.82	877.63	83.40	0.48
7,942.00	5.88	88.46	7,874.88	-101.25	101.25	882.00	887.80	83.45	0.62
8,036.00	5.75	88.11	7,968.39	-101.53	101.53	891.52	897.29	83.50	0.14
8,130.00	6.13	87.58	8,061.89	-101.90	101.90	901.24	906.99	83.55	0.41
8,225.00	7.63	82.66	8,156.20	-102.92	102.92	912.57	918.35	83.57	1.70
8,320.00	8.31	84.42	8,250.28	-104.39	104.39	925.65	931.52	83.57	0.76
8,414.00	9.75	84.24	8,343.12	-105.85	105.85	940.34	946.27	83.58	1.53
8,509.00	9.38	83.71	8,436.80	-107.51	107.51	956.03	962.06	83.58	0.40
8,602.00	8.44	84.59	8,528.67	-108.98	108.98	970.36	976.46	83.59	1.02
8,697.00	8.63	85.12	8,622.62	-110.25	110.25	984.40	990.56	83.61	0.22
8,792.00	8.56	85.30	8,716.55	-111.43	111.43	998.55	1,004.75	83.63	0.08
8,886.00	8.69	85.30	8,809.49	-112.59	112.59	1,012.60	1,018.84	83.66	0.14
8,981.00	7.75	87.93	8,903.51	-113.41	113.41	1,026.16	1,032.40	83.69	1.07
9,075.00	6.38	93.38	8,996.80	-113.33	113.33	1,037.70	1,043.87	83.77	1.62
9,169.00	5.56	94.96	9,090.29	-112.63	112.63	1,047.45	1,053.49	83.86	0.89
9,264.00	6.31	100.24	9,184.78	-111.30	111.30	1,057.18	1,063.02	83.99	0.98
9,358.00	6.06	108.15	9,278.23	-108.84	108.84	1,066.98	1,072.51	84.18	0.94
9,452.00	5.94	106.04	9,371.72	-105.95	105.95	1,076.36	1,081.57	84.38	0.27
9,547.00	6.44	102.52	9,466.16	-103.43	103.43	1,086.29	1,091.20	84.56	0.66
9,642.00	6.13	99.53	9,560.59	-101.44	101.44	1,096.49	1,101.18	84.71	0.47
9,737.00	5.94	79.14	9,655.08	-101.53	101.53	1,106.32	1,110.97	84.76	2.25
9,831.00	4.81	72.99	9,748.66	-103.60	103.60	1,114.87	1,119.67	84.69	1.35
9,925.00	5.44	72.82	9,842.29	-106.06	106.06	1,122.90	1,127.89	84.60	0.67
10,020.00	5.25	67.01	9,936.88	-109.09	109.09	1,131.20	1,136.45	84.49	0.60
10,114.00	6.00	73.87	10,030.42	-112.14	112.14	1,139.88	1,145.38	84.38	1.07
10,209.00	4.94	74.22	10,124.99	-114.63	114.63	1,148.58	1,154.29	84.30	1.12



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 92H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 92H
TVD Reference: RT=32 @ 3350.50ft (Nabors X-04)
MD Reference: RT=32 @ 3350.50ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	V. Sec (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)	DLeg (°/100ft)
10,303.00	4.00	74.57	10,218.70	-116.60	116.60	1,155.64	1,161.51	84.24	1.00
10,398.00	6.00	76.86	10,313.34	-118.61	118.61	1,163.67	1,169.70	84.18	2.12
10,493.00	6.63	77.21	10,407.76	-120.95	120.95	1,173.85	1,180.07	84.12	0.66
10,587.00	5.19	81.08	10,501.26	-122.82	122.82	1,183.35	1,189.70	84.07	1.59
10,681.00	4.94	68.25	10,594.89	-124.97	124.97	1,191.30	1,197.84	84.01	1.23
10,776.00	4.88	67.19	10,689.55	-128.06	128.06	1,198.83	1,205.65	83.90	0.11
10,870.00	6.69	76.16	10,783.06	-130.92	130.92	1,207.83	1,214.91	83.81	2.15
10,964.00	7.38	73.69	10,876.36	-133.92	133.92	1,218.94	1,226.28	83.73	0.80
11,059.00	6.81	76.68	10,970.63	-136.93	136.93	1,230.28	1,237.88	83.65	0.71
11,154.00	5.13	72.29	11,065.11	-139.52	139.52	1,239.81	1,247.63	83.58	1.83
11,248.00	6.19	58.58	11,158.66	-143.44	143.44	1,248.14	1,256.35	83.44	1.82
11,343.00	6.31	70.00	11,253.09	-147.90	147.90	1,257.41	1,266.08	83.29	1.31
11,438.00	4.94	75.63	11,347.64	-150.70	150.70	1,266.28	1,275.22	83.21	1.55
11,532.00	4.00	75.63	11,441.35	-152.52	152.52	1,273.38	1,282.48	83.17	1.00
11,627.00	3.00	80.55	11,536.17	-153.75	153.75	1,279.04	1,288.25	83.15	1.10
11,722.00	2.44	75.80	11,631.06	-154.65	154.65	1,283.45	1,292.74	83.13	0.63
11,817.00	1.88	72.46	11,726.00	-155.62	155.62	1,286.90	1,296.27	83.10	0.60
11,912.00	1.44	75.80	11,820.96	-156.38	156.38	1,289.54	1,298.99	83.09	0.47
11,952.00	1.63	73.52	11,860.94	-156.67	156.67	1,290.58	1,300.05	83.08	0.50
12,007.00	1.50	94.44	11,915.92	-156.83	156.83	1,292.04	1,301.53	83.08	1.06
12,038.00	3.44	152.44	11,946.89	-155.98	155.98	1,292.88	1,302.25	83.12	9.47
12,048.94	4.58	160.14	11,957.80	-155.27	155.27	1,293.18	1,302.47	83.15	11.47
Fed 92H_KOP									
12,070.00	6.88	167.56	11,978.76	-153.25	153.25	1,293.74	1,302.78	83.24	11.47
12,101.00	10.69	172.31	12,009.39	-148.59	148.59	1,294.52	1,303.02	83.45	12.50
12,133.00	14.13	174.07	12,040.64	-141.76	141.76	1,295.32	1,303.06	83.75	10.81
12,164.00	17.44	172.48	12,070.47	-133.39	133.39	1,296.32	1,303.16	84.13	10.77



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 92H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 92H
TVD Reference: RT=32 @ 3350.50ft (Nabors X-04)
MD Reference: RT=32 @ 3350.50ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	V. Sec (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)	DLeg ("/100ft)
12,196.00	20.94	172.31	12,100.68	-122.96	122.96	1,297.71	1,303.53	84.59	10.94
12,227.00	23.75	172.66	12,129.35	-111.28	111.28	1,299.25	1,304.01	85.10	9.07
12,259.00	26.44	173.19	12,158.33	-97.81	97.81	1,300.92	1,304.59	85.70	8.44
12,290.00	29.06	175.12	12,185.76	-83.46	83.46	1,302.38	1,305.05	86.33	8.93
12,322.00	32.06	178.28	12,213.32	-67.22	67.22	1,303.30	1,305.03	87.05	10.63
12,353.00	34.31	179.34	12,239.26	-50.26	50.26	1,303.64	1,304.61	87.79	7.50
12,384.00	36.69	181.45	12,264.50	-32.26	32.26	1,303.51	1,303.91	88.58	8.63
12,416.00	38.50	182.15	12,289.85	-12.75	12.75	1,302.89	1,302.96	89.44	5.81
12,447.00	40.44	181.80	12,313.78	6.95	-6.95	1,302.22	1,302.24	90.31	6.30
12,478.00	42.44	182.15	12,337.02	27.45	-27.45	1,301.51	1,301.80	91.21	6.49
12,510.00	44.75	181.27	12,360.19	49.50	-49.50	1,300.85	1,301.80	92.18	7.46
12,542.00	46.31	179.51	12,382.61	72.34	-72.34	1,300.70	1,302.71	93.18	6.26
12,573.00	47.81	178.11	12,403.73	95.02	-95.02	1,301.18	1,304.64	94.18	5.86
12,605.00	50.31	176.17	12,424.70	119.16	-119.16	1,302.39	1,307.83	95.23	9.06
12,637.00	52.88	174.07	12,444.57	144.14	-144.14	1,304.53	1,312.47	96.31	9.54
12,669.00	54.94	174.07	12,463.42	169.86	-169.86	1,307.20	1,318.19	97.40	6.44
12,700.00	55.56	173.89	12,481.09	195.19	-195.19	1,309.88	1,324.34	98.48	2.06
12,731.00	57.56	174.77	12,498.17	220.93	-220.93	1,312.43	1,330.89	99.56	6.87
12,763.00	60.63	177.05	12,514.61	248.31	-248.31	1,314.38	1,337.63	100.70	11.38
12,794.00	64.31	180.74	12,528.94	275.79	-275.79	1,314.89	1,343.50	101.85	15.88
12,834.00	67.50	181.80	12,545.27	312.29	-312.29	1,314.08	1,350.68	103.37	8.33
12,933.00	73.50	182.12	12,578.30	405.51	-405.51	1,310.88	1,372.17	107.19	6.07
12,964.00	76.06	181.24	12,586.44	435.41	-435.41	1,310.01	1,380.47	108.39	8.70
12,996.00	78.25	180.89	12,593.55	466.60	-466.60	1,309.43	1,390.08	109.61	6.93
13,027.00	79.00	180.01	12,599.67	496.99	-496.99	1,309.19	1,400.35	110.79	3.69
13,058.00	80.25	180.01	12,605.25	527.48	-527.48	1,309.19	1,411.45	111.94	4.03
13,090.00	81.81	180.54	12,610.24	559.09	-559.09	1,309.03	1,423.43	113.13	5.14



Nabors Completion Report



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Wellbore: OH
Design: Surveys

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MD Reference: RT=32 @ 3350.50ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	V. Sec (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)	DLeg (°/100ft)
13,121.00	84.00	180.54	12,614.07	589.85	-589.85	1,308.74	1,435.53	114.26	7.06
13,153.00	86.88	181.77	12,616.61	621.74	-621.74	1,308.10	1,448.34	115.42	9.78
13,184.00	89.19	180.71	12,617.67	652.71	-652.71	1,307.43	1,461.30	116.53	8.20
13,210.48	90.48	179.40	12,617.75	679.19	-679.19	1,307.40	1,473.30	117.45	6.94
Fed 92H_EOC									
13,216.00	90.75	179.13	12,617.69	684.71	-684.71	1,307.47	1,475.91	117.64	6.94
13,263.00	89.31	176.32	12,617.67	731.66	-731.66	1,309.34	1,499.90	119.20	6.72
13,310.00	87.81	176.67	12,618.85	778.56	-778.56	1,312.21	1,525.80	120.68	3.28
13,357.00	87.94	178.43	12,620.59	825.48	-825.48	1,314.22	1,551.97	122.13	3.75
13,405.00	90.88	180.89	12,621.08	873.47	-873.47	1,314.50	1,578.25	123.60	7.99
13,499.00	89.38	180.89	12,620.87	967.46	-967.46	1,313.04	1,630.97	126.38	1.60
13,593.00	89.69	181.42	12,621.63	1,061.43	-1,061.43	1,311.15	1,686.94	128.99	0.65
13,687.00	90.56	180.71	12,621.43	1,155.42	-1,155.42	1,309.40	1,746.29	131.43	1.19
13,782.00	89.00	178.25	12,621.79	1,250.40	-1,250.40	1,310.26	1,811.16	133.66	3.07
13,876.00	87.31	174.04	12,624.82	1,344.12	-1,344.12	1,316.58	1,881.50	135.59	4.82
13,970.00	89.81	175.09	12,627.18	1,437.65	-1,437.65	1,325.48	1,955.44	137.32	2.88
14,065.00	91.69	178.08	12,625.94	1,532.46	-1,532.46	1,331.14	2,029.87	139.02	3.72
14,159.00	90.25	177.90	12,624.35	1,626.39	-1,626.39	1,334.43	2,103.77	140.63	1.54
14,253.00	88.00	178.78	12,625.78	1,720.33	-1,720.33	1,337.15	2,178.88	142.14	2.57
14,347.00	90.19	182.30	12,627.27	1,814.30	-1,814.30	1,336.27	2,253.28	143.63	4.41
14,442.00	88.31	181.59	12,628.51	1,909.23	-1,909.23	1,333.04	2,328.55	145.08	2.12
14,536.00	88.81	182.65	12,630.87	2,003.13	-2,003.13	1,329.57	2,404.22	146.43	1.25
14,630.00	89.38	183.35	12,632.36	2,096.99	-2,096.99	1,324.65	2,480.34	147.72	0.96
14,725.00	85.63	178.96	12,636.50	2,191.84	-2,191.84	1,322.73	2,560.04	148.89	6.07
14,819.00	87.56	179.84	12,642.08	2,285.66	-2,285.66	1,323.71	2,641.30	149.92	2.26
14,913.00	91.13	180.89	12,643.15	2,379.64	-2,379.64	1,323.11	2,722.74	150.93	3.96
15,008.00	90.06	181.77	12,642.17	2,474.61	-2,474.61	1,320.91	2,805.08	151.91	1.46



Nabors Completion Report



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Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 92H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 92H
TVD Reference: RT=32 @ 3350.50ft (Nabors X-04)
MD Reference: RT=32 @ 3350.50ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	V. Sec (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)	DLeg ("/100ft)
15,102.00	88.81	179.84	12,643.09	2,568.59	-2,568.59	1,319.59	2,887.72	152.81	2.45
15,196.00	89.06	178.08	12,644.84	2,662.55	-2,662.55	1,321.29	2,972.37	153.61	1.89
15,290.00	88.69	178.61	12,646.69	2,756.49	-2,756.49	1,324.01	3,057.98	154.34	0.69
15,384.00	94.38	181.42	12,644.17	2,850.41	-2,850.41	1,323.99	3,142.89	155.09	6.75
15,479.00	90.19	180.01	12,640.38	2,945.30	-2,945.30	1,322.80	3,228.72	155.81	4.65
15,573.00	89.81	183.18	12,640.38	3,039.26	-3,039.26	1,320.19	3,313.60	156.52	3.40
15,667.00	88.38	185.29	12,641.87	3,132.98	-3,132.98	1,313.25	3,397.09	157.26	2.71
15,761.00	88.81	184.05	12,644.17	3,226.64	-3,226.64	1,305.60	3,480.77	157.97	1.40
15,856.00	87.00	180.71	12,647.65	3,321.48	-3,321.48	1,301.65	3,567.42	158.60	4.00
15,950.00	88.06	183.70	12,651.70	3,415.31	-3,415.31	1,298.04	3,653.66	159.19	3.37
16,045.00	89.81	184.05	12,653.46	3,510.07	-3,510.07	1,291.62	3,740.17	159.80	1.88
16,139.00	91.19	184.76	12,652.64	3,603.78	-3,603.78	1,284.40	3,825.83	160.38	1.65
16,233.00	87.19	181.95	12,653.97	3,697.59	-3,697.59	1,278.90	3,912.51	160.92	5.20
16,328.00	88.00	174.04	12,657.96	3,792.37	-3,792.37	1,282.22	4,003.27	161.32	8.36
16,422.00	87.56	168.23	12,661.61	3,885.13	-3,885.13	1,296.69	4,095.81	161.54	6.19
16,516.00	87.44	168.41	12,665.71	3,977.10	-3,977.10	1,315.70	4,189.08	161.69	0.23
16,611.00	91.00	175.44	12,667.00	4,071.08	-4,071.08	1,329.03	4,282.52	161.92	8.29
16,705.00	88.25	178.96	12,667.62	4,164.94	-4,164.94	1,333.62	4,373.24	162.24	4.75
16,799.00	88.69	178.25	12,670.13	4,258.88	-4,258.88	1,335.91	4,463.48	162.58	0.89
16,898.00	88.81	178.96	12,672.29	4,357.82	-4,357.82	1,338.32	4,558.70	162.93	0.73
16,992.00	87.94	180.89	12,674.95	4,451.78	-4,451.78	1,338.44	4,648.63	163.27	2.25
17,086.00	91.44	181.77	12,675.46	4,545.74	-4,545.74	1,336.26	4,738.07	163.62	3.84
17,180.00	90.81	180.54	12,673.62	4,639.70	-4,639.70	1,334.37	4,827.77	163.95	1.47
17,275.00	91.31	182.12	12,671.86	4,734.65	-4,734.65	1,332.16	4,918.50	164.29	1.74
17,369.00	92.00	181.21	12,669.14	4,828.57	-4,828.57	1,329.43	5,008.24	164.61	1.21
17,463.00	91.19	179.84	12,666.53	4,922.53	-4,922.53	1,328.57	5,098.67	164.90	1.69
17,557.00	92.19	181.59	12,663.76	5,016.48	-5,016.48	1,327.40	5,189.13	165.18	2.14



Nabors
Completion Report



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Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 92H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 92H
TVD Reference: RT=32 @ 3350.50ft (Nabors X-04)
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Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	V. Sec (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)	DLeg (°/100ft)
17,652.00	89.81	181.24	12,662.10	5,111.43	-5,111.43	1,325.06	5,280.38	165.47	2.53
17,746.00	88.50	179.66	12,663.48	5,205.41	-5,205.41	1,324.32	5,371.23	165.73	2.18
17,841.00	90.75	185.81	12,664.11	5,300.25	-5,300.25	1,319.79	5,462.09	166.02	6.89
17,935.00	87.88	185.11	12,665.23	5,393.80	-5,393.80	1,310.84	5,550.80	166.34	3.14
18,029.00	88.69	184.93	12,668.04	5,487.40	-5,487.40	1,302.62	5,639.89	166.65	0.88
18,124.00	88.88	183.53	12,670.06	5,582.12	-5,582.12	1,295.62	5,730.50	166.93	1.49
18,142.00	89.14	183.23	12,670.37	5,600.08	-5,600.08	1,294.56	5,747.77	166.98	2.22
Fed 92H_T1									
18,218.00	90.25	181.95	12,670.77	5,676.00	-5,676.00	1,291.12	5,820.99	167.18	2.22
18,313.00	87.94	177.20	12,672.27	5,770.95	-5,770.95	1,291.83	5,913.77	167.38	5.56
18,407.00	89.25	177.73	12,674.58	5,864.83	-5,864.83	1,295.98	6,006.31	167.54	1.50
18,501.00	89.31	171.93	12,675.76	5,958.40	-5,958.40	1,304.45	6,099.52	167.65	6.17
18,595.00	88.19	169.82	12,677.81	6,051.18	-6,051.18	1,319.35	6,193.34	167.70	2.54
18,689.00	88.75	175.44	12,680.32	6,144.33	-6,144.33	1,331.40	6,286.93	167.77	6.01
18,784.00	90.38	177.38	12,681.04	6,239.14	-6,239.14	1,337.35	6,380.86	167.90	2.67
18,878.00	90.13	176.32	12,680.63	6,332.99	-6,332.99	1,342.51	6,473.73	168.03	1.16
18,973.00	88.69	175.27	12,681.60	6,427.73	-6,427.73	1,349.48	6,567.86	168.14	1.88
19,067.00	91.31	177.90	12,681.60	6,521.54	-6,521.54	1,355.08	6,660.84	168.26	3.95
19,161.00	90.69	178.61	12,679.96	6,615.49	-6,615.49	1,357.94	6,753.42	168.40	1.00
19,256.00	89.94	183.18	12,679.44	6,710.45	-6,710.45	1,356.45	6,846.17	168.57	4.87
19,350.00	91.38	185.64	12,678.36	6,804.15	-6,804.15	1,349.23	6,936.64	168.78	3.03
19,444.00	89.38	182.47	12,677.73	6,897.90	-6,897.90	1,342.58	7,027.34	168.99	3.99
19,539.00	89.25	182.82	12,678.87	6,992.79	-6,992.79	1,338.20	7,119.68	169.17	0.39
19,633.00	90.06	184.58	12,679.44	7,086.59	-7,086.59	1,332.13	7,210.71	169.35	2.06
19,728.00	89.25	183.18	12,680.01	7,181.37	-7,181.37	1,325.71	7,302.71	169.54	1.70
19,822.00	89.69	180.89	12,680.88	7,275.30	-7,275.30	1,322.37	7,394.50	169.70	2.48
19,916.00	89.56	182.65	12,681.49	7,369.25	-7,369.25	1,319.46	7,486.44	169.85	1.88



Nabors
Completion Report



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Database: RyanUSA_ODBC_32Bit

Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	V. Sec (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)	DLeg (°/100ft)
20,010.00	90.56	181.07	12,681.39	7,463.19	-7,483.19	1,316.41	7,578.40	170.00	1.99
20,105.00	89.69	177.55	12,681.19	7,558.17	-7,558.17	1,317.56	7,672.15	170.11	3.82
20,199.00	90.75	180.01	12,680.83	7,652.14	-7,652.14	1,319.56	7,765.08	170.22	2.85
20,294.00	91.44	180.01	12,679.01	7,747.12	-7,747.12	1,319.54	7,858.69	170.33	0.73
20,388.00	89.31	181.59	12,678.40	7,841.10	-7,841.10	1,318.23	7,951.14	170.46	2.82
20,482.00	89.13	181.24	12,679.67	7,935.06	-7,935.06	1,315.91	8,043.43	170.58	0.42
20,576.00	91.25	181.95	12,679.36	8,029.02	-8,029.02	1,313.29	8,135.72	170.71	2.38
20,671.00	89.44	180.89	12,678.79	8,123.98	-8,123.98	1,310.94	8,229.08	170.83	2.21
20,761.00	89.50	181.07	12,679.62	8,213.97	-8,213.97	1,309.40	8,317.68	170.94	0.21
20,856.00	91.81	181.95	12,678.54	8,308.92	-8,308.92	1,306.90	8,411.07	171.06	2.60
20,950.00	92.13	178.96	12,675.31	8,402.85	-8,402.85	1,306.15	8,503.76	171.16	3.20
21,044.00	91.44	178.96	12,672.38	8,496.79	-8,496.79	1,307.86	8,596.86	171.25	0.73
21,139.00	91.06	179.66	12,670.31	8,591.76	-8,591.76	1,309.00	8,690.90	171.34	0.84
21,233.00	92.31	179.84	12,667.54	8,685.72	-8,685.72	1,309.41	8,783.86	171.43	1.34
21,327.00	93.44	181.42	12,662.83	8,779.59	-8,779.59	1,308.38	8,876.54	171.52	2.06
21,422.00	92.44	183.00	12,657.95	8,874.39	-8,874.39	1,304.72	8,969.79	171.64	1.97
21,516.00	87.88	182.82	12,657.69	8,968.24	-8,968.24	1,299.95	9,061.97	171.75	4.85
21,610.00	88.69	183.35	12,660.50	9,062.06	-9,062.06	1,294.89	9,154.11	171.87	1.03
21,705.00	89.56	183.53	12,661.96	9,156.88	-9,156.88	1,289.19	9,247.19	171.99	0.94
21,799.00	89.31	183.53	12,662.88	9,250.70	-9,250.70	1,283.40	9,339.30	172.10	0.27
21,893.00	92.00	185.11	12,661.81	9,344.41	-9,344.41	1,276.33	9,431.17	172.22	3.32
21,988.00	91.75	182.12	12,658.70	9,439.16	-9,439.16	1,270.34	9,524.26	172.34	3.16
22,082.00	92.19	181.59	12,655.47	9,533.05	-9,533.05	1,267.30	9,616.92	172.43	0.73
22,176.00	94.56	181.42	12,649.93	9,626.85	-9,626.85	1,264.83	9,709.59	172.52	2.53
22,271.00	96.06	181.07	12,641.14	9,721.42	-9,721.42	1,262.78	9,803.09	172.60	1.62
22,365.00	94.75	180.36	12,632.29	9,814.99	-9,814.99	1,261.61	9,895.74	172.68	1.58
22,459.00	97.44	181.24	12,622.31	9,908.44	-9,908.44	1,260.31	9,988.27	172.75	3.01



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 92H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 92H
TVD Reference: RT=32 @ 3350.50ft (Nabors X-04)
MD Reference: RT=32 @ 3350.50ft (Nabors X-04)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	V. Sec (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)	DLeg (°/100ft)
22,514.00	98.75	181.59	12,614.56	9,962.88	-9,962.88	1,258.96	10,042.11	172.80	2.46
22,564.47	98.75	181.59	12,606.88	10,012.74	-10,012.74	1,257.58	10,091.41	172.84	0.00
Fed 92H_BHL									
22,574.00	98.75	181.59	12,605.44	10,022.16	-10,022.16	1,257.32	10,100.71	172.85	0.00
PTB									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
22,574.00	12,605.44	-10,022.16	1,257.32	PTB

Checked By: _____ Approved By: _____ Date: _____