



NABORS DRILLING TECHNOLOGIES USA, INC.
515 West Greens Road
Houston, TX 77067
Phone: 281.874.0035
Fax: 281.872.5205

Wednesday, October 18, 2017

State of New Mexico
County of Lea

HOBBS OCD

SEP 19 2018

RECEIVED

Subject: **Survey Certification Letter**

Survey Company: **NABORS DRILLING TECH USA, INC.**
Job Number: **T3707**
Survey Job Type: **Nabors MWD**
Customer: **Devon Energy Production Company LP**
Well Name: **SeaWolf 1-12 102H**
Rig Name: **Nabors X04**

Surface: **32.079186 N, 103.533527 W**
A.P.I. No: **30-025-43791**
Location: **Lea, NM**
RKB Height: **32'**
Distance to Bit: **63'**

Surveyor Name	Surveyor Title	Borehole Number	Start Depth	End Depth	Start Date	End Date	Type of	TD Straight
								Line Projection
Scott Dunbar	MWD Supervisor	OH	1152'	12544'	10/10/17	10/18/17	MWD	12607'

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.



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Friday, March 30, 2018

State of New Mexico

County of LEA

Subject: **Survey Certification Letter**

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

Job Number: **T3707**

Survey Job Type: **Nabors MWD**

Customer: **Devon Energy Production Co LP**

Well Name: **Seawolf 1-12 102H**

Rig Name: **Nabors X04**

Surface: **32.079186 N , 103.533236 W**

A.P.I. No: **30-025-43791**

Location: **LEA, NM**

RKB Height: **3351'**

Distance to Bit: **57'**

Surveyor Name	Surveyor Title	Borehole Number	Start Depth	End Depth	Start Date	End Date	Type of	TD Straight
								Line Projection
Scott Dunbar	MWD Supervisor	OH	12632'	22853'	03/04/18	03/30/18	MWD	22910'

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.



devon

Devon Energy Corporation

**Lea Co., NM
SeaWolf 1-12
Fed 102H
OH**

Design: Surveys

Completion Report

04 April, 2018





WELL DETAILS: Fed 102H

Ground Elevation: 3319.00
RKB Elevation: RT-32 @ 3351.00ft (Nabors X-04)
Rig Name: Nabors X-04

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	393464.180	789148.190	32.079188	-103.533238

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	TFace	Vsect
17572.00	85.86	175.82	12870.61	-4801.90	640.75	0.00	0.00	4801.90
17669.38	89.23	180.50	12861.82	-5098.86	647.88	2.00	38.28	5098.86
19769.85	89.23	180.50	12873.75	-5098.35	631.88	0.00	0.00	5098.35
19800.61	89.88	180.00	12873.72	-7030.01	630.95	3.00	-128.32	7030.01
22800.61	89.88	180.00	12880.00	-10030.00	630.95	0.00	0.00	10030.00

Fed 102H_BHL

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Fed 102H_BHL	12880.00	-10030.00	630.95	383434.200	789779.139
Fed 102H_EOC	12811.00	-341.27	620.11	383102.814	789768.303
Fed 102H_KOP	11938.06	134.48	611.40	383088.840	789769.589
Fed 102H_T1	12816.00	-3000.00	674.16	380484.186	789722.330
Fed 102H_T2	12891.01	-6000.00	631.23	384484.190	789779.419

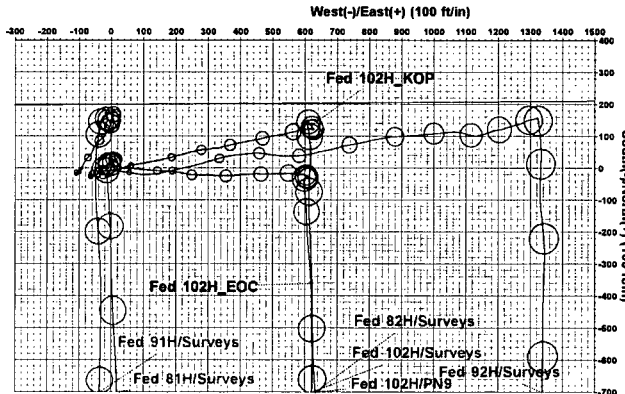
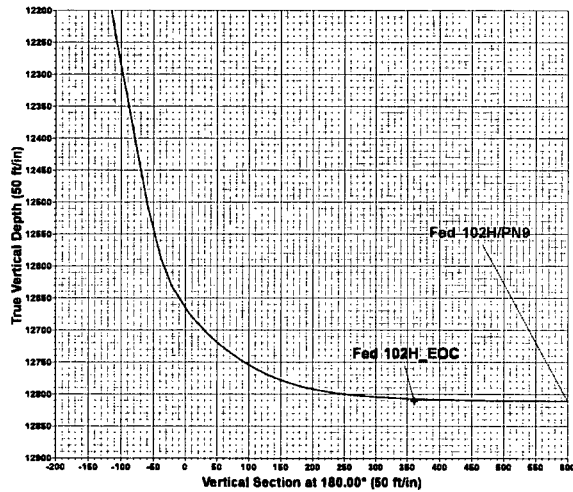
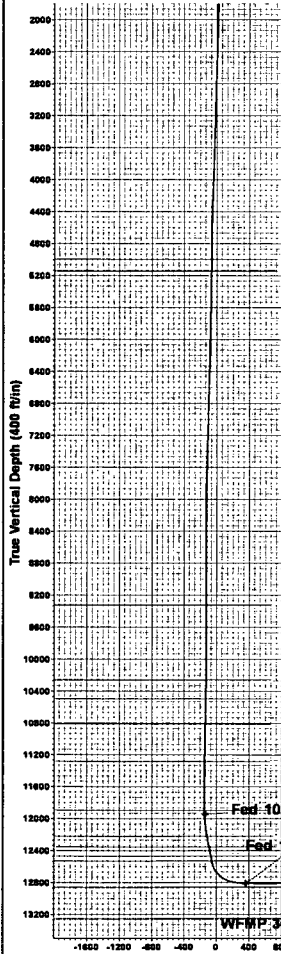


Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.31°

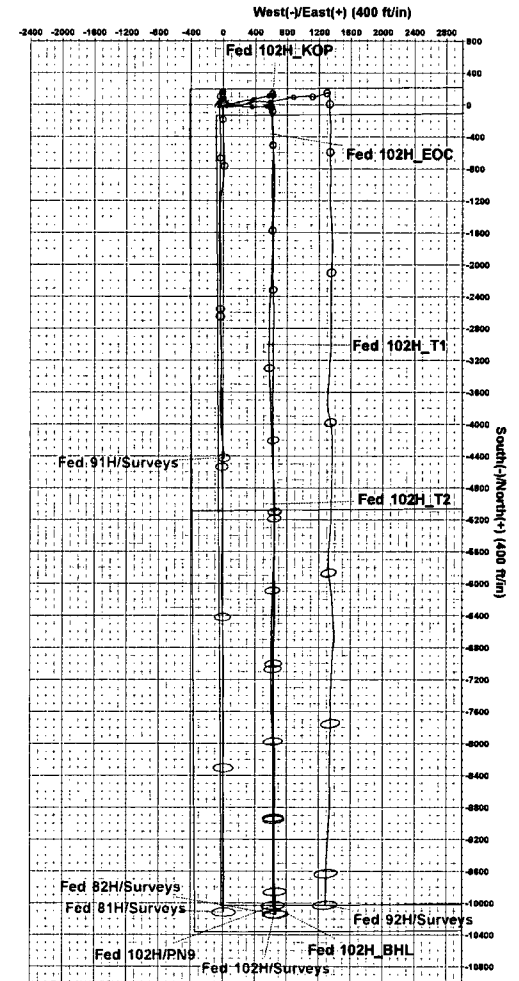
Magnetic Field
Strength: 47872.1nT
Dip Angle: 59.80°
Date: 3/1/2018
Model: HDGM

PROJECT DETAILS: Lea Co., NM
Site: SealWolf 1-12
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

Project: Lea Co., NM
Well: Fed 102H
Wellbore: OH
Plan: P99 (Fed 102H/OH)



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
983.00	983.12	Rustler
1388.00	1388.18	Salsado
4093.00	5011.32	Base of Salt
5143.00	5161.82	Delaware
9218.00	9302.46	18SLM
10267.00	10291.50	18SSS
10496.00	10530.61	26SLM
10812.00	10848.69	26SSS
11284.00	11318.59	38SLM
11894.00	11920.01	38SSS
12219.00	12256.43	38SSS L
12360.00	12389.63	WFMP
12467.00	12508.57	WFMP Y
12529.80	12571.77	WFMP 100
12857.00	17355.61	WFMP 200





Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 102H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 102H
TVD Reference: RT=32 @ 3351.00ft (Nabors X-04)
MD Reference: RT=32 @ 3351.00ft (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	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	SeaWolf 1-12		
Site Position:		Northing:	393,463.690 usft
From:	Map	Easting:	789,088.210 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	32.079186
		Longitude:	-103.533430
		Grid Convergence:	0.42 °

Well		Fed 102H				
Well Position	+N-S	0.00 ft	Northing:	393,464.180 usft	Latitude:	32.079186
	+E-W	0.00 ft	Easting:	789,148.190 usft	Longitude:	-103.533236
Position Uncertainty	2.00 ft	Wellhead Elevation:	ft	Ground Level:	3,319.00 ft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	3/1/2018	6.73	59.80	47,872.10000000

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	

Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 102H
Wellbore: OH
Design: Surveys

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

Survey Program		Date	4/4/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
159.50	1,024.50	Survey #1 - Invictus (OH)	MWD+HRGM	OWSG MWD + HRGM	
1,152.00	22,910.00	Survey #2 - NDS (OH)	MWD+HRGM	OWSG MWD + HRGM	

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
159.50	0.60	208.37	159.50	0.73	-0.73	-0.40	0.84	208.37	0.38
249.70	0.70	212.37	249.69	1.62	-1.62	-0.92	1.86	209.56	0.12
344.60	0.60	166.37	344.59	2.59	-2.59	-1.11	2.82	203.20	0.54
439.10	0.40	199.37	439.08	3.38	-3.38	-1.10	3.56	198.06	0.36
564.90	0.80	250.37	564.88	4.09	-4.09	-2.08	4.59	206.90	0.50
658.50	1.30	226.37	658.46	5.04	-5.04	-3.46	6.11	214.45	0.70
753.50	1.20	209.37	753.44	6.65	-6.65	-4.73	8.16	215.40	0.40
847.90	1.40	204.37	847.81	8.56	-8.56	-5.69	10.28	213.59	0.24
942.30	1.10	204.37	942.19	10.44	-10.44	-6.54	12.32	212.05	0.32
1,024.50	0.80	233.37	1,024.38	11.50	-11.50	-7.32	13.63	212.49	0.68
1,152.00	0.94	213.97	1,151.87	12.90	-12.90	-8.62	15.52	213.76	0.25
1,243.00	0.94	226.45	1,242.85	14.03	-14.03	-9.58	16.99	214.32	0.22
1,335.00	0.94	218.19	1,334.84	15.15	-15.15	-10.59	18.48	214.97	0.15
1,426.00	1.06	215.20	1,425.83	16.42	-16.42	-11.54	20.07	215.10	0.14
1,521.00	1.06	221.57	1,520.81	17.80	-17.80	-12.63	21.82	215.36	0.12
1,615.00	1.00	212.03	1,614.80	19.14	-19.14	-13.64	23.51	215.48	0.19
1,710.00	0.50	165.28	1,709.79	20.25	-20.25	-13.98	24.60	214.62	0.79
1,804.00	0.75	97.95	1,803.78	20.73	-20.73	-13.26	24.61	212.61	0.77
1,898.00	1.19	67.37	1,897.77	20.44	-20.44	-11.75	23.58	209.90	0.71
1,992.00	1.69	80.37	1,991.74	19.83	-19.83	-9.49	21.98	205.56	0.63



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 102H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 102H
TVD Reference: RT=32 @ 3351.00ft (Nabors X-04)
MD Reference: RT=32 @ 3351.00ft (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)
2,087.00	2.44	78.79	2,086.68	19.20	-19.20	-6.12	20.15	197.68	0.79
2,182.00	3.19	66.84	2,181.56	17.77	-17.77	-1.71	17.85	185.48	1.00
2,276.00	3.81	65.26	2,275.39	15.43	-15.43	3.53	15.83	167.10	0.67
2,372.00	4.56	58.75	2,371.13	12.12	-12.12	9.69	15.52	141.34	0.92
2,466.00	4.94	62.44	2,464.81	8.31	-8.31	16.48	18.45	116.76	0.52
2,560.00	5.56	65.61	2,558.41	4.55	-4.55	24.21	24.64	100.65	0.73
2,654.00	5.44	70.00	2,651.98	1.15	-1.15	32.55	32.57	92.02	0.47
2,748.00	5.88	69.65	2,745.52	-2.05	2.05	41.25	41.30	87.16	0.47
2,843.00	6.44	71.06	2,839.98	-5.47	5.47	50.85	51.14	83.86	0.61
2,938.00	7.00	75.45	2,934.32	-8.65	8.65	61.49	62.10	81.99	0.80
3,032.00	7.38	81.43	3,027.58	-10.99	10.99	73.01	73.83	81.44	0.89
3,128.00	7.38	81.78	3,122.79	-12.79	12.79	85.21	86.16	81.46	0.05
3,223.00	8.00	80.02	3,216.93	-14.81	14.81	97.76	98.87	81.38	0.70
3,317.00	8.19	78.26	3,310.00	-17.31	17.31	110.75	112.10	81.12	0.33
3,411.00	8.19	79.50	3,403.04	-19.89	19.89	123.89	125.48	80.88	0.19
3,506.00	8.25	77.56	3,497.06	-22.59	22.59	137.20	139.05	80.65	0.30
3,600.00	7.69	77.74	3,590.16	-25.38	25.38	149.93	152.06	80.39	0.60
3,695.00	7.56	77.03	3,684.32	-28.13	28.13	162.23	164.65	80.16	0.17
3,789.00	8.00	76.16	3,777.45	-31.08	31.08	174.61	177.36	79.91	0.48
3,882.00	7.69	75.63	3,869.58	-34.18	34.18	186.92	190.02	79.64	0.34
3,976.00	7.19	74.75	3,962.79	-37.28	37.28	198.69	202.16	79.37	0.55
4,071.00	7.38	76.86	4,057.02	-40.23	40.23	210.37	214.18	79.17	0.35
4,165.00	6.44	74.75	4,150.34	-42.99	42.99	221.33	225.47	79.01	1.04
4,260.00	5.56	72.99	4,244.82	-45.74	45.74	230.87	235.36	78.79	0.95
4,354.00	5.13	73.34	4,338.41	-48.28	48.28	239.25	244.08	78.59	0.46
4,449.00	5.00	74.92	4,433.04	-50.57	50.57	247.32	252.44	78.44	0.20
4,543.00	5.06	79.67	4,526.67	-52.38	52.38	255.35	260.67	78.41	0.45



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 102H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 102H
TVD Reference: RT=32 @ 3351.00ft (Nabors X-04)
MD Reference: RT=32 @ 3351.00ft (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)
4,638.00	4.63	79.67	4,621.34	-53.82	53.82	263.25	268.69	78.45	0.45
4,733.00	4.88	75.63	4,716.01	-55.51	55.51	270.93	276.56	78.42	0.44
4,827.00	5.69	80.55	4,809.61	-57.27	57.27	279.40	285.21	78.42	0.99
4,922.00	6.06	89.69	4,904.11	-58.07	58.07	289.06	294.84	78.64	1.06
5,016.00	5.19	79.85	4,997.66	-58.85	58.85	298.21	303.96	78.84	1.38
5,111.00	4.50	78.79	5,092.32	-60.33	60.33	306.10	311.99	78.85	0.73
5,205.00	3.81	78.44	5,186.07	-61.67	61.67	312.77	318.80	78.85	0.73
5,298.00	4.63	85.30	5,278.82	-62.60	62.60	319.54	325.62	78.92	1.03
5,393.00	5.13	86.53	5,373.48	-63.17	63.17	327.60	333.64	79.09	0.54
5,488.00	5.69	79.32	5,468.05	-64.30	64.30	336.47	342.56	79.18	0.93
5,581.00	6.50	73.17	5,560.53	-66.68	66.68	346.04	352.40	79.09	1.12
5,675.00	7.25	75.80	5,653.85	-69.67	69.67	356.88	363.62	78.95	0.87
5,771.00	7.00	75.98	5,749.11	-72.57	72.57	368.43	375.51	78.86	0.26
5,865.00	6.88	78.09	5,842.42	-75.12	75.12	379.50	386.86	78.80	0.30
5,960.00	6.63	79.67	5,936.76	-77.28	77.28	390.46	398.03	78.80	0.33
6,054.00	6.44	78.26	6,030.15	-79.33	79.33	400.96	408.73	78.81	0.26
6,149.00	6.06	78.62	6,124.59	-81.40	81.40	411.09	419.07	78.80	0.40
6,244.00	5.88	77.56	6,219.07	-83.44	83.44	420.76	428.95	78.78	0.22
6,338.00	5.63	78.09	6,312.60	-85.43	85.43	429.97	438.38	78.76	0.27
6,432.00	5.31	80.20	6,406.17	-87.12	87.12	438.77	447.34	78.77	0.40
6,526.00	5.75	79.14	6,499.73	-88.75	88.75	447.68	456.39	78.79	0.48
6,621.00	6.88	75.28	6,594.15	-91.09	91.09	457.86	466.83	78.75	1.27
6,715.00	6.75	75.98	6,687.49	-93.86	93.86	468.66	477.97	78.68	0.16
6,809.00	6.50	77.74	6,780.86	-96.33	96.33	479.22	488.81	78.63	0.34
6,904.00	6.38	78.97	6,875.26	-98.48	98.48	489.66	499.46	78.63	0.19
6,996.00	6.00	78.62	6,966.73	-100.41	100.41	499.39	509.38	78.63	0.42
7,089.00	5.88	80.02	7,059.23	-102.19	102.19	508.85	519.01	78.64	0.20



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 102H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 102H
TVD Reference: RT=32 @ 3351.00ft (Nabors X-04)
MD Reference: RT=32 @ 3351.00ft (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)
7,184.00	5.50	80.20	7,153.76	-103.81	103.81	518.12	528.42	78.67	0.40
7,279.00	5.13	80.02	7,248.35	-105.32	105.32	526.79	537.22	78.69	0.39
7,374.00	5.31	79.85	7,342.96	-106.83	106.83	535.30	545.86	78.71	0.19
7,469.00	6.06	75.63	7,437.49	-108.85	108.85	544.49	555.26	78.69	0.90
7,563.00	6.06	74.40	7,530.96	-111.41	111.41	554.07	565.17	78.63	0.14
7,659.00	5.44	75.45	7,626.48	-113.92	113.92	563.36	574.76	78.57	0.66
7,752.00	5.13	75.10	7,719.08	-116.10	116.10	571.65	583.32	78.52	0.34
7,846.00	4.50	78.97	7,812.75	-117.88	117.88	579.33	591.20	78.50	0.75
7,942.00	4.00	79.32	7,908.49	-119.22	119.22	586.31	598.31	78.51	0.52
8,036.00	3.56	80.02	8,002.28	-120.34	120.34	592.41	604.51	78.52	0.47
8,130.00	3.13	78.97	8,096.12	-121.33	121.33	597.80	609.99	78.53	0.46
8,225.00	2.88	77.03	8,190.99	-122.37	122.37	602.67	614.97	78.52	0.28
8,320.00	2.63	83.89	8,285.88	-123.13	123.13	607.17	619.53	78.54	0.44
8,414.00	2.56	86.70	8,379.79	-123.48	123.48	611.41	623.75	78.58	0.15
8,509.00	2.31	91.62	8,474.70	-123.55	123.55	615.44	627.72	78.65	0.34
8,602.00	1.88	96.02	8,567.64	-123.34	123.34	618.83	631.00	78.73	0.49
8,675.00	1.69	99.01	8,640.60	-123.05	123.05	621.08	633.15	78.79	0.29
8,786.00	1.38	104.81	8,751.56	-122.45	122.45	623.99	635.89	78.90	0.31
8,881.00	1.19	75.10	8,846.54	-122.41	122.41	626.05	637.91	78.94	0.72
8,975.00	0.69	79.14	8,940.53	-122.77	122.77	627.55	639.45	78.93	0.54
9,069.00	0.44	80.55	9,034.52	-122.93	122.93	628.46	640.37	78.93	0.27
9,164.00	0.19	97.25	9,129.52	-122.97	122.97	628.98	640.89	78.94	0.28
9,258.00	0.19	244.91	9,223.52	-122.89	122.89	628.99	640.88	78.95	0.39
9,353.00	0.38	244.38	9,318.52	-122.68	122.68	628.56	640.43	78.96	0.20
9,447.00	0.63	239.63	9,412.52	-122.29	122.29	627.84	639.64	78.98	0.27
9,542.00	0.94	230.14	9,507.51	-121.52	121.52	626.79	638.46	79.03	0.35
9,637.00	1.31	231.55	9,602.49	-120.35	120.35	625.34	636.82	79.11	0.39



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 102H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 102H
TVD Reference: RT=32 @ 3351.00ft (Nabors X-04)
MD Reference: RT=32 @ 3351.00ft (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)
9,732.00	1.25	319.96	9,697.47	-120.47	120.47	623.82	635.35	79.07	1.88
9,826.00	1.19	349.67	9,791.45	-122.21	122.21	622.99	634.86	78.90	0.67
9,920.00	1.19	18.85	9,885.43	-124.10	124.10	623.13	635.37	78.74	0.64
10,015.00	1.19	17.09	9,980.41	-125.97	125.97	623.74	636.33	78.58	0.04
10,109.00	0.25	301.68	10,074.40	-127.01	127.01	623.85	636.65	78.49	1.23
10,204.00	0.13	285.33	10,169.40	-127.15	127.15	623.57	636.40	78.47	0.14
10,298.00	0.63	250.18	10,263.40	-127.00	127.00	622.98	635.79	78.48	0.56
10,393.00	0.50	313.46	10,358.40	-127.11	127.11	622.19	635.04	78.45	0.63
10,488.00	0.81	338.60	10,453.39	-128.02	128.02	621.64	634.69	78.36	0.44
10,582.00	0.81	10.06	10,547.38	-129.30	129.30	621.52	634.82	78.25	0.47
10,676.00	1.38	349.85	10,641.37	-131.06	131.06	621.43	635.10	78.09	0.72
10,771.00	1.31	344.40	10,736.34	-133.24	133.24	620.94	635.07	77.89	0.15
10,865.00	1.69	333.15	10,830.31	-135.51	135.51	620.02	634.66	77.67	0.51
10,959.00	1.81	315.04	10,924.26	-137.79	137.79	618.35	633.52	77.44	0.60
11,054.00	1.81	303.26	11,019.22	-139.68	139.68	616.03	631.67	77.22	0.39
11,149.00	2.06	267.93	11,114.17	-140.44	140.44	613.07	628.95	77.10	1.26
11,243.00	1.13	331.39	11,208.13	-141.19	141.19	610.94	627.04	76.99	1.97
11,338.00	1.25	15.16	11,303.12	-143.02	143.02	610.76	627.28	76.82	0.94
11,433.00	1.31	349.67	11,398.09	-145.08	145.08	610.84	627.83	76.64	0.60
11,527.00	1.88	322.42	11,492.06	-147.36	147.36	609.71	627.26	76.41	0.99
11,622.00	1.06	297.64	11,587.03	-149.01	149.01	607.98	625.97	76.23	1.07
11,717.00	0.94	283.93	11,682.01	-149.60	149.60	606.44	624.62	76.14	0.28
11,811.00	0.44	195.16	11,776.01	-149.44	149.44	605.60	623.77	76.14	1.09
11,906.00	1.25	189.89	11,871.00	-148.07	148.07	605.33	623.17	76.26	0.86
11,974.64	2.76	167.19	11,939.59	-145.72	145.72	605.56	622.85	76.47	2.44
Fed 102H_KOP 12,001.00	3.38	164.05	11,965.91	-144.35	144.35	605.92	622.88	76.60	2.44



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 102H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 102H
TVD Reference: RT=32 @ 3351.00ft (Nabors X-04)
MD Reference: RT=32 @ 3351.00ft (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)
12,095.00	7.44	164.92	12,059.48	-135.81	135.81	608.26	623.24	77.41	4.32
12,190.00	9.19	170.37	12,153.48	-122.39	122.39	611.13	623.27	78.68	2.02
12,284.00	10.06	173.01	12,246.15	-106.84	106.84	613.39	622.62	80.12	1.04
12,329.00	10.75	174.07	12,290.41	-98.76	98.76	614.30	622.19	80.87	1.59
12,378.00	10.56	175.30	12,338.57	-89.74	89.74	615.14	621.65	81.70	0.60
12,423.00	10.06	174.42	12,382.84	-81.72	81.72	615.86	621.26	82.44	1.16
12,472.00	10.69	176.53	12,431.04	-72.92	72.92	616.55	620.85	83.25	1.50
12,517.00	10.25	176.88	12,475.29	-64.76	64.76	617.02	620.41	84.01	0.99
12,544.00	10.94	177.23	12,501.83	-59.80	59.80	617.28	620.17	84.47	2.57
12,632.00	16.81	179.81	12,587.22	-38.72	38.72	617.72	618.94	86.41	6.71
12,680.00	26.75	182.27	12,631.74	-20.94	20.94	617.32	617.67	88.06	20.79
12,728.00	38.44	184.02	12,672.11	4.83	-4.83	615.84	615.86	90.45	24.43
12,775.00	46.94	182.97	12,706.63	36.61	-36.61	613.92	615.01	93.41	18.15
12,823.00	54.50	180.86	12,737.00	73.71	-73.71	612.72	617.14	96.86	16.11
12,871.00	62.94	178.75	12,761.90	114.69	-114.69	612.89	623.53	100.60	17.98
12,919.00	71.63	177.17	12,780.42	158.90	-158.90	614.48	634.70	104.50	18.36
12,947.00	75.69	177.87	12,788.30	185.74	-185.74	615.65	643.05	106.79	14.70
12,992.00	81.94	178.05	12,797.02	229.83	-229.83	617.22	658.62	110.42	13.89
13,043.00	85.50	177.52	12,802.60	280.48	-280.48	619.17	679.74	114.37	7.06
13,088.00	87.13	177.17	12,805.49	325.34	-325.34	621.26	701.29	117.64	3.70
13,124.06	88.10	178.54	12,806.99	361.34	-361.34	622.61	719.86	120.13	4.64
Fed 102H_EOC									
13,139.00	88.50	179.10	12,807.43	376.27	-376.27	622.91	727.74	121.13	4.64
13,233.00	89.13	179.28	12,809.38	470.24	-470.24	624.24	781.54	126.99	0.70
13,327.00	89.81	180.33	12,810.25	564.23	-564.23	624.56	841.69	132.09	1.33
13,422.00	90.00	180.86	12,810.41	659.23	-659.23	623.58	907.43	136.59	0.59
13,516.00	91.44	182.44	12,809.22	753.18	-753.18	620.87	976.09	140.50	2.27



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 102H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 102H
TVD Reference: RT=32 @ 3351.00ft (Nabors X-04)
MD Reference: RT=32 @ 3351.00ft (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)
13,610.00	91.31	180.68	12,806.97	847.11	-847.11	618.31	1,048.76	143.87	1.88
13,705.00	90.56	180.68	12,805.42	942.09	-942.09	617.18	1,126.25	146.77	0.79
13,799.00	89.69	181.21	12,805.21	1,036.08	-1,036.08	615.63	1,205.18	149.28	1.08
13,893.00	90.88	178.40	12,804.75	1,130.06	-1,130.06	615.95	1,287.03	151.41	3.25
13,987.00	88.69	178.75	12,805.10	1,224.03	-1,224.03	618.29	1,371.32	153.20	2.36
14,082.00	94.75	179.45	12,802.25	1,318.93	-1,318.93	619.78	1,457.29	154.83	6.42
14,176.00	89.56	182.62	12,798.71	1,412.80	-1,412.80	618.08	1,542.09	156.37	6.47
14,270.00	81.13	180.33	12,806.34	1,506.37	-1,506.37	615.66	1,627.33	157.77	9.29
14,333.00	83.19	179.10	12,814.93	1,568.77	-1,568.77	615.97	1,685.37	158.56	3.80
14,365.00	83.94	178.05	12,818.52	1,600.56	-1,600.56	616.76	1,715.28	158.93	4.02
14,407.00	86.00	177.35	12,822.20	1,642.36	-1,642.36	618.44	1,754.95	159.37	5.18
14,459.00	89.06	177.52	12,824.44	1,694.26	-1,694.26	620.77	1,804.40	159.88	5.89
14,553.00	91.13	180.16	12,824.28	1,788.23	-1,788.23	622.67	1,893.53	160.80	3.57
14,648.00	91.50	181.39	12,822.10	1,883.19	-1,883.19	621.39	1,983.06	161.74	1.35
14,742.00	91.25	183.32	12,819.85	1,977.08	-1,977.08	617.53	2,071.27	162.65	2.07
14,836.00	89.31	182.97	12,819.39	2,070.93	-2,070.93	612.37	2,159.57	163.53	2.10
14,931.00	90.88	184.02	12,819.23	2,165.75	-2,165.75	606.58	2,249.09	164.35	1.99
15,025.00	91.69	185.43	12,817.12	2,259.40	-2,259.40	598.84	2,337.42	165.16	1.73
15,120.00	92.81	184.55	12,813.39	2,353.97	-2,353.97	590.58	2,426.92	165.92	1.50
15,214.00	91.13	183.50	12,810.16	2,447.68	-2,447.68	583.99	2,516.38	166.58	2.11
15,308.00	88.69	182.79	12,810.31	2,541.53	-2,541.53	578.83	2,606.61	167.17	2.70
15,403.00	90.06	180.51	12,811.35	2,636.47	-2,636.47	576.09	2,698.68	167.67	2.80
15,497.00	88.94	179.63	12,812.17	2,730.47	-2,730.47	575.98	2,790.56	168.09	1.52
15,591.00	90.75	179.98	12,812.42	2,824.46	-2,824.46	576.30	2,882.66	168.47	1.96
15,685.00	90.94	181.04	12,811.03	2,918.45	-2,918.45	575.46	2,974.64	168.85	1.15
15,766.45	91.21	182.24	12,809.51	2,999.85	-2,999.85	573.13	3,054.10	169.18	1.51

Fed 102H_T1



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 102H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 102H
TVD Reference: RT=32 @ 3351.00ft (Nabors X-04)
MD Reference: RT=32 @ 3351.00ft (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)
15,780.00	91.25	182.44	12,809.22	3,013.38	-3,013.38	572.58	3,067.30	169.24	1.51
15,874.00	87.25	178.58	12,810.45	3,107.34	-3,107.34	571.74	3,159.50	169.57	5.91
15,968.00	87.50	179.28	12,814.75	3,201.22	-3,201.22	573.50	3,252.18	169.84	0.79
16,063.00	86.00	178.22	12,820.14	3,296.04	-3,296.04	575.56	3,345.92	170.09	1.93
16,157.00	86.56	178.05	12,826.24	3,389.79	-3,389.79	578.62	3,438.82	170.31	0.62
16,252.00	93.13	176.64	12,826.50	3,484.64	-3,484.64	583.01	3,533.07	170.50	7.07
16,346.00	88.81	177.52	12,824.90	3,578.48	-3,578.48	587.80	3,626.43	170.67	4.69
16,440.00	85.38	178.40	12,829.67	3,672.28	-3,672.28	591.14	3,719.56	170.86	3.77
16,534.00	88.06	177.70	12,835.05	3,766.06	-3,766.06	594.34	3,812.67	171.03	2.95
16,629.00	89.25	178.05	12,837.28	3,860.97	-3,860.97	597.86	3,906.98	171.20	1.31
16,723.00	87.00	178.05	12,840.35	3,954.86	-3,954.86	601.05	4,000.27	171.36	2.39
16,817.00	85.56	177.87	12,846.45	4,048.60	-4,048.60	604.39	4,093.46	171.51	1.54
16,912.00	87.94	176.29	12,851.84	4,143.31	-4,143.31	609.23	4,187.86	171.64	3.01
17,006.00	91.13	176.82	12,852.60	4,237.13	-4,237.13	614.87	4,281.51	171.74	3.44
17,100.00	90.94	178.58	12,850.90	4,331.03	-4,331.03	618.65	4,374.99	171.87	1.88
17,195.00	89.13	178.22	12,850.84	4,425.99	-4,425.99	621.30	4,469.39	172.01	1.94
17,289.00	87.50	177.70	12,853.61	4,519.89	-4,519.89	624.64	4,562.85	172.13	1.82
17,384.00	86.44	176.64	12,858.63	4,614.64	-4,614.64	629.33	4,657.35	172.23	1.58
17,478.00	86.69	176.29	12,864.26	4,708.29	-4,708.29	635.11	4,750.93	172.32	0.46
17,572.00	85.56	176.82	12,870.61	4,801.90	-4,801.90	640.75	4,844.46	172.40	1.33
17,667.00	88.56	178.58	12,875.48	4,896.69	-4,896.69	644.55	4,938.93	172.50	3.66
17,761.00	88.31	180.16	12,878.05	4,990.64	-4,990.64	645.59	5,032.23	172.63	1.70
17,770.80	88.35	180.21	12,878.34	5,000.44	-5,000.44	645.55	5,041.93	172.64	0.68
Fed 102H_T2									
17,856.00	88.69	180.68	12,880.54	5,085.61	-5,085.61	644.89	5,126.33	172.77	0.68
17,950.00	88.25	181.04	12,883.05	5,179.56	-5,179.56	643.48	5,219.38	172.92	0.60
18,044.00	88.69	180.68	12,885.56	5,273.52	-5,273.52	642.07	5,312.46	173.06	0.60

Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 102H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 102H
TVD Reference: RT=32 @ 3351.00ft (Nabors X-04)
MD Reference: RT=32 @ 3351.00ft (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)
18,139.00	89.56	180.33	12,887.01	5,368.50	-5,368.50	641.23	5,406.66	173.19	0.99
18,233.00	89.31	180.51	12,887.94	5,462.50	-5,462.50	640.54	5,499.92	173.31	0.33
18,328.00	90.50	178.93	12,888.09	5,557.49	-5,557.49	641.01	5,594.34	173.42	2.08
18,422.00	93.06	179.81	12,885.17	5,651.43	-5,651.43	642.04	5,687.78	173.52	2.88
18,516.00	92.00	179.98	12,881.02	5,745.34	-5,745.34	642.21	5,781.12	173.62	1.14
18,611.00	90.19	178.58	12,879.21	5,840.31	-5,840.31	643.41	5,875.64	173.71	2.41
18,705.00	90.56	177.70	12,878.59	5,934.25	-5,934.25	646.46	5,969.36	173.78	1.02
18,799.00	91.06	178.05	12,877.27	6,028.18	-6,028.18	649.94	6,063.12	173.85	0.65
18,894.00	92.44	179.10	12,874.36	6,123.10	-6,123.10	652.30	6,157.75	173.92	1.82
18,988.00	92.00	180.16	12,870.72	6,217.03	-6,217.03	652.91	6,251.22	174.00	1.22
19,082.00	90.38	181.56	12,868.77	6,310.99	-6,310.99	651.50	6,344.53	174.11	2.28
19,176.00	90.25	181.21	12,868.25	6,404.96	-6,404.96	649.23	6,437.78	174.21	0.40
19,271.00	91.50	181.74	12,866.80	6,499.92	-6,499.92	646.78	6,532.02	174.32	1.43
19,365.00	89.75	182.79	12,865.78	6,593.83	-6,593.83	643.07	6,625.12	174.43	2.17
19,459.00	88.38	182.79	12,867.31	6,687.71	-6,687.71	638.49	6,718.12	174.55	1.46
19,554.00	87.38	182.09	12,870.83	6,782.55	-6,782.55	634.45	6,812.16	174.66	1.28
19,648.00	88.63	181.74	12,874.10	6,876.44	-6,876.44	631.31	6,905.36	174.75	1.38
19,742.00	87.94	181.21	12,876.91	6,970.37	-6,970.37	628.89	6,998.68	174.84	0.93
19,836.00	87.88	180.68	12,880.34	7,064.29	-7,064.29	627.34	7,092.09	174.93	0.57
19,931.00	88.50	179.98	12,883.34	7,159.24	-7,159.24	626.80	7,186.63	175.00	0.98
20,025.00	93.00	179.63	12,882.11	7,253.21	-7,253.21	627.12	7,280.27	175.06	4.80
20,119.00	90.13	181.04	12,879.54	7,347.16	-7,347.16	626.57	7,373.83	175.13	3.40
20,214.00	89.31	180.68	12,880.01	7,442.15	-7,442.15	625.14	7,468.36	175.20	0.94
20,308.00	87.81	179.81	12,882.37	7,536.11	-7,536.11	624.74	7,561.97	175.26	1.84
20,402.00	88.25	179.28	12,885.60	7,630.06	-7,630.06	625.48	7,655.65	175.31	0.73
20,497.00	89.56	177.70	12,887.42	7,725.00	-7,725.00	627.99	7,750.48	175.35	2.16
20,591.00	87.69	176.82	12,889.67	7,818.86	-7,818.86	632.48	7,844.40	175.38	2.20



Nabors
Completion Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: SeaWolf 1-12
Well: Fed 102H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well Fed 102H
TVD Reference: RT=32 @ 3351.00ft (Nabors X-04)
MD Reference: RT=32 @ 3351.00ft (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)
20,686.00	89.75	176.11	12,891.79	7,913.65	-7,913.65	638.34	7,939.35	175.39	2.29
20,781.00	91.81	175.06	12,890.50	8,008.35	-8,008.35	645.65	8,034.34	175.39	2.43
20,875.00	92.19	177.17	12,887.22	8,102.07	-8,102.07	652.01	8,128.27	175.40	2.28
20,969.00	92.75	179.28	12,883.17	8,195.94	-8,195.94	654.92	8,222.06	175.43	2.32
21,064.00	92.19	181.92	12,879.07	8,290.83	-8,290.83	653.93	8,316.58	175.49	2.84
21,158.00	89.13	181.74	12,877.99	8,384.77	-8,384.77	650.93	8,410.00	175.56	3.26
21,253.00	90.69	182.09	12,878.14	8,479.71	-8,479.71	647.75	8,504.42	175.63	1.68
21,347.00	91.25	181.74	12,876.55	8,573.65	-8,573.65	644.61	8,597.84	175.70	0.70
21,441.00	90.75	181.56	12,874.91	8,667.59	-8,667.59	641.90	8,691.33	175.76	0.57
21,536.00	89.44	180.68	12,874.75	8,762.57	-8,762.57	640.05	8,785.92	175.82	1.66
21,630.00	89.63	180.68	12,875.51	8,856.56	-8,856.56	638.93	8,879.58	175.87	0.20
21,724.00	89.50	180.86	12,876.23	8,950.55	-8,950.55	637.67	8,973.24	175.92	0.24
21,819.00	90.00	180.33	12,876.64	9,045.54	-9,045.54	636.68	9,067.92	175.97	0.77
21,913.00	86.75	180.51	12,879.31	9,139.49	-9,139.49	635.99	9,161.59	176.02	3.46
22,007.00	88.25	180.33	12,883.41	9,233.40	-9,233.40	635.31	9,255.23	176.06	1.61
22,102.00	90.50	179.98	12,884.44	9,328.38	-9,328.38	635.05	9,349.97	176.11	2.40
22,196.00	90.94	179.63	12,883.26	9,422.38	-9,422.38	635.37	9,443.77	176.14	0.60
22,290.00	91.25	179.28	12,881.47	9,516.35	-9,516.35	636.26	9,537.60	176.17	0.50
22,385.00	92.44	179.45	12,878.41	9,611.30	-9,611.30	637.31	9,632.40	176.21	1.27
22,479.00	92.00	179.28	12,874.77	9,705.22	-9,705.22	638.36	9,726.19	176.24	0.50
22,573.00	93.25	178.75	12,870.46	9,799.11	-9,799.11	639.97	9,819.98	176.26	1.44
22,668.00	92.25	178.75	12,865.90	9,893.97	-9,893.97	642.04	9,914.78	176.29	1.05
22,762.00	89.56	178.05	12,864.42	9,987.91	-9,987.91	644.66	10,008.70	176.31	2.96
22,804.31	87.24	177.89	12,865.60	10,030.17	-10,030.17	646.16	10,050.97	176.31	5.51
Fed 102H_BHL									
22,853.00	84.56	177.70	12,869.08	10,078.70	-10,078.70	648.03	10,099.52	176.32	5.51

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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)
22,910.00	84.56	177.70	12,874.49	10,135.40	-10,135.40	650.31	10,156.24	176.33	0.00
PTB									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
22,910.00	12,874.49	-10,135.40	650.31	PTB

Checked By: _____ Approved By: _____ Date: _____