



October 25, 2018

Devon Energy Production Company, LP
Well: Morab 29-20 Fed Com 3H
County/Parish: Lea County, NM

HOBBS OCD
DEC 05 2018
RECEIVED

LEAM MWD: (OH) from 317' MD – 17,990' MD
Projection; 18,045' MD

This Borehole Survey taken between 08/01/18 and 08/16/18 had been conducted and calculated according to the highest professional standards and complies with all known State and Federal requirements.

Reviewed and Approved:

Date: October 25, 2018



Survey Certification Form

State of New Mexico

Lea County

I, Randy W. Rakowitz, certify that; I am employed by LEAM Drilling Services, that I did on the day(s) of August 1, 2018 through August 16, 2018, conduct or supervise the taking of MWD Survey from a depth of 317' MD to 18,045' MD; that the data is true, correct, complete and within the limitations of the tools as set forth by LEAM Drilling Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of Devon Energy Production Company, LP for the Morab 29-20 Fed Com 3H in Lea County, New Mexico; and that I reviewed this report and find that it conforms to the principals and procedures as set forth by LEAM Drilling Services.

A handwritten signature in black ink, appearing to read 'Randy W. Rakowitz', is written over a horizontal line.

Randy W. Rakowitz
MWD Operations Coordinator

Devon Energy

Project: Lea County, NM (NAD-83)
Site: Morab 29-20 Fed Com
Well: Morab 29-20 Fed Com #3H
Wellbore: OH
Design: OH



Azimuths to Grid North
True North: -0.34°
Magnetic North: 6.45°

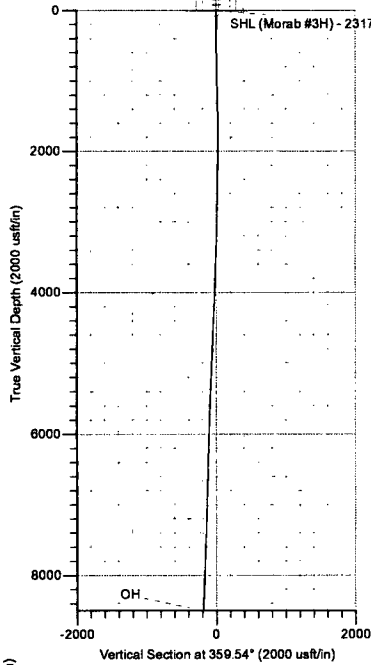
Magnetic Field
Strength: 47885.2anT
Dip Angle: 59.77°
Date: 6/4/2018
Model: HDGM

PROJECT DETAILS: Lea County, NM (NAD-83)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone



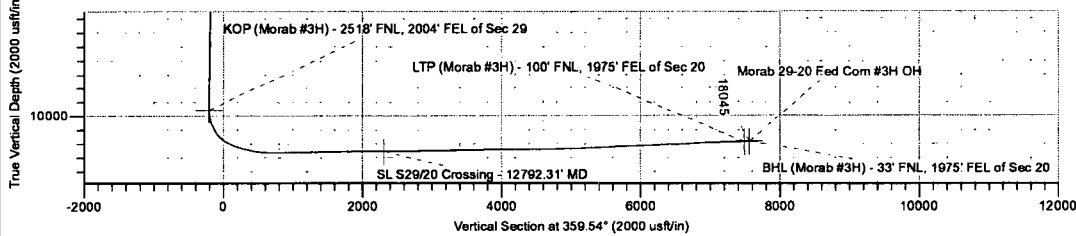
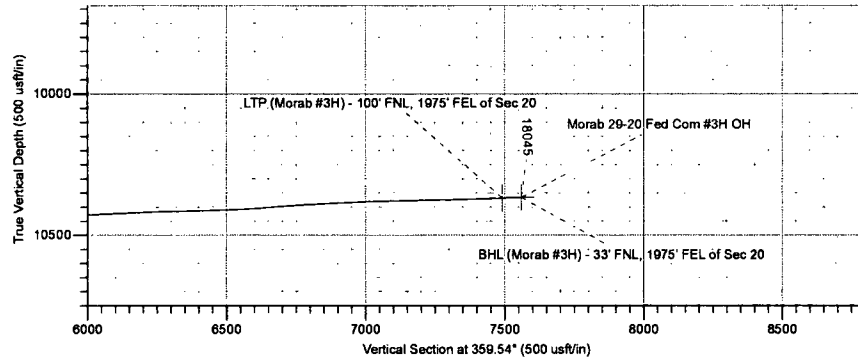
3362.4' GE +23.5' KB @ 3385.90usft
Ground Level: 3362.40



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
BHL	10365.79	7564.27	620.39	32° 7' 22.8879 N	103° 41' 42.2120 W
KOP	9911.65	-202.81	648.24	32° 6' 6.0262 N	103° 41' 42.4229 W
LTP	10368.59	7497.13	620.29	32° 7' 22.2235 N	103° 41' 42.2178 W
SHL	0.00	0.00	0.00	32° 6' 8.6710 N	103° 41' 49.9451 W
SL S29/20 Crossing	10511.96	2316.56	652.51	32° 6' 30.9567 N	103° 41' 42.1999 W

ACTUAL LINE CALLS
SHL: 2317' FNL, 2652' FEL of Sec 29
BHL: 33' FNL, 1975' FEL of Sec 20



LEAM DRILLING SYSTEMS LLC
2010 East Davis, Conroe, Texas 77301
Phone: 936/756-7577, Fax: 936/756-7595

Design: OH (Morab 29-20 Fed Com #3H/OH)
Created By: Dustin Ault
Date: 10/29, August 24 2018
Approved: _____ Date: _____

Devon Energy

Project: Lea County, NM (NAD-83)
Site: Morab 29-20 Fed Com
Well: Morab 29-20 Fed Com #3H
Wellbore: OH
Design: OH



Azimuths to Grid North
True North: -0.34°
Magnetic North: 6.45°

Magnetic Field
Strength: 47885.2aT
Dip Angle: 59.77°
Date: 6/4/2018
Model: HDGM

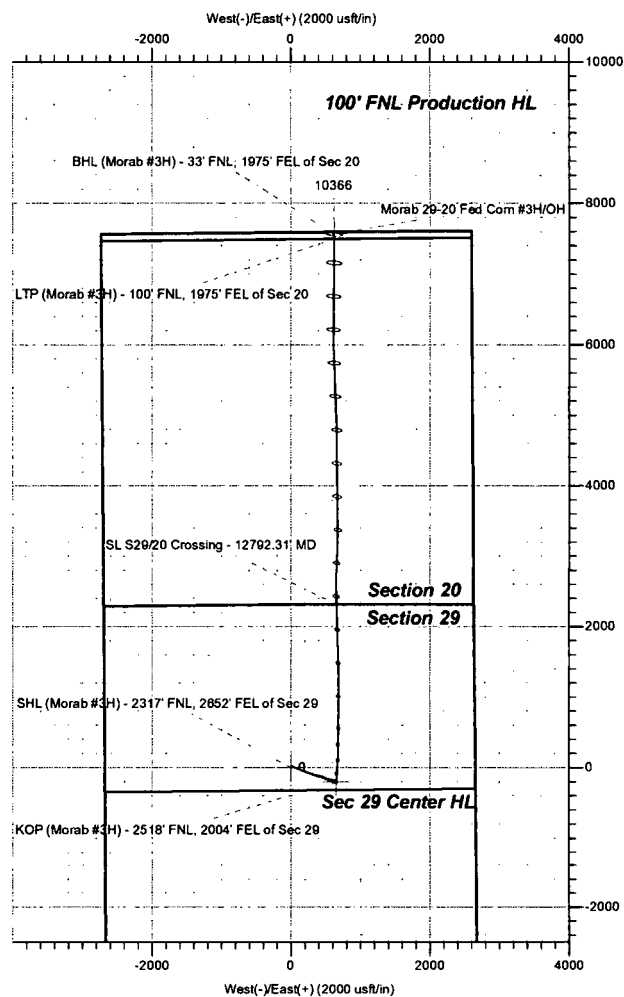
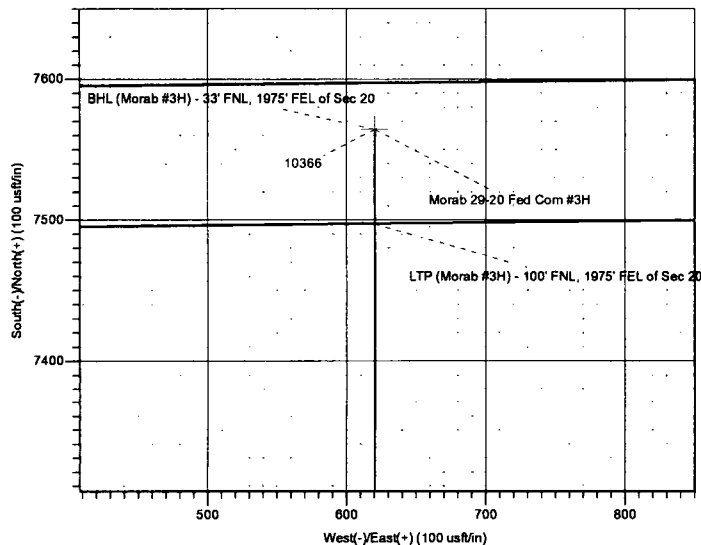


PROJECT DETAILS: Lea County, NM (NAD-83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL	10365.79	7564.27	620.39	409077.57	738932.11	32° 7' 22.8879 N	103° 41' 42.2120 W
KOP	9911.65	-202.81	048.24	401310.49	738959.96	32° 6' 6.0262 N	103° 41' 42.4229 W
LTP	10368.59	7497.13	620.29	409010.43	738932.01	32° 7' 22.2235 N	103° 41' 42.2178 W
SHL	0.00	0.00	0.00	401513.30	738311.72	32° 6' 8.0710 N	103° 41' 49.9451 W
SL S29/20 Crossing	10511.96	2316.56	652.51	403829.86	738984.23	32° 6' 30.9587 N	103° 41' 42.1999 W

ACTUAL LINE CALLS
SHL: 2317' FNL, 2652' FEL of Sec 29
BHL: 33' FNL, 1975' FEL of Sec 20



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2010 East Davis, Conroe, Texas 77301
Phone: 936/756-7577, Fax: 936/756-7595

Design: OH (Morab 29-20 Fed Com #3H/OH)
Morab 29-20 Fed Com
Created By: Dustin Ault
Date: 10/16, August 24 2018
Approved: _____
Date: _____

Devon Energy

Lea County, NM (NAD-83)

Morab 29-20 Fed Com

Morab 29-20 Fed Com #3H

OH

Design: OH

Survey Report - Geographic

24 August, 2018

LEAM Drilling Services

Survey Report - Geographic

Company:	Devon Energy	Local Co-ordinate Reference:	Well Morab 29-20 Fed Com #3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3362.4' GE + 23.5' KB @ 3385.90usft
Site:	Morab 29-20 Fed Com	MD Reference:	3362.4' GE + 23.5' KB @ 3385.90usft
Well:	Morab 29-20 Fed Com #3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User Db

Project	Lea County, NM (NAD-83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Morab 29-20 Fed Com		
Site Position:		Northing:	401,513.30 usft
From:	Map	Easting:	738,311.72 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 6' 8.0710 N
		Longitude:	103° 41' 49.9451 W
		Grid Convergence:	0.34 °

Well	Morab 29-20 Fed Com #3H		
Well Position	+N/-S	0.00 usft	Northing: 401,513.30 usft
	+E/-W	0.00 usft	Easting: 738,311.72 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 6' 8.0710 N
		Longitude:	103° 41' 49.9451 W
		Ground Level:	3,362.40 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	HDGM	6/4/2018	6.78
		Dip Angle (°)	59.77
		Field Strength (nT)	47,885

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
		Direction (°)	359.54

Survey Program	Date 8/24/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
317.00	17,990.00	Survey #1 (OH)	LEAM MWD+HDGM
18,045.00	18,045.00	Survey #2 (OH)	Project
			Description
			MWD+HDGM Projection

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	401,513.30	738,311.72	32° 6' 8.0710 N	103° 41' 49.9451 W
SHL (Morab 29-20 Fed Com #3H) - SHL (Morab #3H) - 2317' FNL, 2652' FEL of Sec 29									
317.00	0.40	81.30	317.00	0.17	1.09	401,513.47	738,312.81	32° 6' 8.0726 N	103° 41' 49.9324 W
416.00	0.40	87.70	416.00	0.23	1.78	401,513.53	738,313.50	32° 6' 8.0732 N	103° 41' 49.9244 W
508.00	0.40	60.10	507.99	0.41	2.38	401,513.71	738,314.10	32° 6' 8.0749 N	103° 41' 49.9174 W
600.00	0.60	34.90	599.99	0.96	2.93	401,514.26	738,314.65	32° 6' 8.0804 N	103° 41' 49.9110 W
692.00	0.90	19.50	691.98	2.04	3.45	401,515.34	738,315.17	32° 6' 8.0910 N	103° 41' 49.9049 W
784.00	1.10	18.20	783.97	3.56	3.97	401,516.86	738,315.68	32° 6' 8.1060 N	103° 41' 49.8988 W
876.00	1.40	7.50	875.95	5.51	4.39	401,518.81	738,316.11	32° 6' 8.1253 N	103° 41' 49.8937 W
969.00	1.60	2.80	968.91	7.93	4.60	401,521.23	738,316.32	32° 6' 8.1493 N	103° 41' 49.8911 W
1,061.00	1.50	359.80	1,060.88	10.42	4.66	401,523.72	738,316.38	32° 6' 8.1739 N	103° 41' 49.8902 W

LEAM Drilling Services

Survey Report - Geographic

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Site: Morab 29-20 Fed Com
Well: Morab 29-20 Fed Com #3H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Morab 29-20 Fed Com #3H
TVD Reference: 3362.4' GE + 23.5' KB @ 3385.90usft
MD Reference: 3362.4' GE + 23.5' KB @ 3385.90usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,153.00	1.60	358.90	1,152.85	12.91	4.63	401,526.21	738,316.35	32° 6' 8.1985 N	103° 41' 49.8904 W
1,245.00	1.50	355.90	1,244.81	15.39	4.52	401,528.69	738,316.24	32° 6' 8.2231 N	103° 41' 49.8915 W
1,337.00	1.70	346.60	1,336.78	17.92	4.12	401,531.22	738,315.84	32° 6' 8.2482 N	103° 41' 49.8960 W
1,429.00	1.70	344.00	1,428.74	20.56	3.43	401,533.86	738,315.14	32° 6' 8.2743 N	103° 41' 49.9039 W
1,521.00	1.50	342.00	1,520.70	23.02	2.68	401,536.32	738,314.39	32° 6' 8.2987 N	103° 41' 49.9124 W
1,614.00	1.50	338.90	1,613.67	25.31	1.86	401,538.61	738,313.58	32° 6' 8.3214 N	103° 41' 49.9217 W
1,709.00	0.80	321.10	1,708.65	26.99	1.00	401,540.29	738,312.72	32° 6' 8.3380 N	103° 41' 49.9317 W
1,803.00	0.40	189.60	1,802.65	27.18	0.53	401,540.48	738,312.25	32° 6' 8.3399 N	103° 41' 49.9371 W
1,898.00	0.80	167.50	1,897.64	26.20	0.62	401,539.50	738,312.34	32° 6' 8.3303 N	103° 41' 49.9361 W
1,992.00	0.80	156.20	1,991.63	24.96	1.03	401,538.26	738,312.74	32° 6' 8.3180 N	103° 41' 49.9315 W
2,087.00	0.70	165.70	2,086.62	23.79	1.44	401,537.09	738,313.16	32° 6' 8.3064 N	103° 41' 49.9268 W
2,182.00	0.70	148.70	2,181.62	22.73	1.88	401,536.03	738,313.60	32° 6' 8.2959 N	103° 41' 49.9217 W
2,277.00	0.70	146.50	2,276.61	21.75	2.51	401,535.05	738,314.22	32° 6' 8.2862 N	103° 41' 49.9145 W
2,372.00	0.60	143.00	2,371.60	20.87	3.12	401,534.17	738,314.84	32° 6' 8.2774 N	103° 41' 49.9074 W
2,467.00	1.00	130.70	2,466.59	19.93	4.05	401,533.23	738,315.77	32° 6' 8.2681 N	103° 41' 49.8967 W
2,562.00	1.80	116.70	2,561.57	18.72	6.01	401,532.02	738,317.73	32° 6' 8.2560 N	103° 41' 49.8739 W
2,657.00	2.60	111.90	2,656.49	17.25	9.35	401,530.55	738,321.06	32° 6' 8.2412 N	103° 41' 49.8353 W
2,752.00	2.60	111.20	2,751.40	15.67	13.35	401,528.97	738,325.07	32° 6' 8.2253 N	103° 41' 49.7888 W
2,846.00	1.80	113.90	2,845.33	14.30	16.69	401,527.60	738,328.41	32° 6' 8.2115 N	103° 41' 49.7501 W
2,940.00	2.10	116.80	2,939.27	12.92	19.58	401,526.22	738,331.30	32° 6' 8.1978 N	103° 41' 49.7166 W
3,036.00	3.60	110.70	3,035.15	11.06	23.97	401,524.36	738,335.69	32° 6' 8.1791 N	103° 41' 49.6657 W
3,130.00	4.80	109.80	3,128.90	8.69	30.43	401,521.99	738,342.15	32° 6' 8.1552 N	103° 41' 49.5908 W
3,225.00	5.50	111.40	3,223.51	5.68	38.41	401,518.98	738,350.13	32° 6' 8.1250 N	103° 41' 49.4982 W
3,320.00	6.00	109.10	3,318.03	2.40	47.34	401,515.69	738,359.06	32° 6' 8.0920 N	103° 41' 49.3946 W
3,415.00	6.80	104.00	3,412.44	-0.59	57.49	401,512.71	738,369.20	32° 6' 8.0618 N	103° 41' 49.2768 W
3,510.00	6.90	103.10	3,506.76	-3.24	68.50	401,510.05	738,380.22	32° 6' 8.0349 N	103° 41' 49.1490 W
3,604.00	5.90	105.10	3,600.18	-5.78	78.67	401,507.52	738,390.38	32° 6' 8.0092 N	103° 41' 49.0310 W
3,698.00	5.70	107.90	3,693.70	-8.48	87.77	401,504.82	738,399.49	32° 6' 7.9820 N	103° 41' 48.9253 W
3,791.00	6.50	111.40	3,786.17	-11.82	97.07	401,501.48	738,408.79	32° 6' 7.9484 N	103° 41' 48.8174 W
3,887.00	7.20	114.60	3,881.48	-16.30	107.60	401,497.00	738,419.32	32° 6' 7.9034 N	103° 41' 48.6953 W
3,981.00	6.70	110.30	3,974.79	-20.66	118.10	401,492.64	738,429.82	32° 6' 7.8597 N	103° 41' 48.5736 W
4,076.00	6.40	107.90	4,069.17	-24.21	128.33	401,489.09	738,440.05	32° 6' 7.8240 N	103° 41' 48.4548 W
4,171.00	6.90	112.80	4,163.54	-28.05	138.63	401,485.25	738,450.35	32° 6' 7.7854 N	103° 41' 48.3354 W
4,265.00	7.20	118.40	4,256.83	-33.04	149.02	401,480.26	738,460.74	32° 6' 7.7354 N	103° 41' 48.2149 W
4,278.00	7.30	118.40	4,269.72	-33.82	150.46	401,479.48	738,462.18	32° 6' 7.7276 N	103° 41' 48.1822 W
4,363.00	7.20	117.70	4,354.04	-38.86	159.93	401,474.44	738,471.65	32° 6' 7.6771 N	103° 41' 48.0885 W
4,458.00	6.20	114.40	4,448.39	-43.75	169.87	401,469.55	738,481.59	32° 6' 7.6282 N	103° 41' 47.9733 W
4,552.00	5.50	107.90	4,541.90	-47.23	178.78	401,466.07	738,490.50	32° 6' 7.5932 N	103° 41' 47.8699 W
4,646.00	5.80	109.30	4,635.45	-50.18	187.55	401,463.12	738,499.27	32° 6' 7.5635 N	103° 41' 47.7682 W
4,741.00	6.70	110.70	4,729.88	-53.73	197.27	401,459.57	738,508.98	32° 6' 7.5278 N	103° 41' 47.6555 W
4,836.00	7.20	109.50	4,824.18	-57.68	208.06	401,455.62	738,519.78	32° 6' 7.4881 N	103° 41' 47.5302 W
4,931.00	6.90	111.40	4,918.46	-61.75	218.99	401,451.55	738,530.71	32° 6' 7.4472 N	103° 41' 47.4035 W
5,026.00	6.60	111.40	5,012.81	-65.82	229.38	401,447.48	738,541.10	32° 6' 7.4063 N	103° 41' 47.2829 W
5,121.00	6.60	110.70	5,107.18	-69.74	239.57	401,443.56	738,551.29	32° 6' 7.3669 N	103° 41' 47.1647 W
5,215.00	6.70	110.30	5,200.54	-73.55	249.77	401,439.75	738,561.49	32° 6' 7.3286 N	103° 41' 47.0465 W
5,309.00	6.70	110.90	5,293.90	-77.41	260.04	401,435.89	738,571.75	32° 6' 7.2898 N	103° 41' 46.9274 W
5,405.00	6.50	111.20	5,389.27	-81.37	270.33	401,431.92	738,582.05	32° 6' 7.2500 N	103° 41' 46.8079 W
5,498.00	6.20	110.50	5,481.70	-85.04	279.95	401,428.26	738,591.66	32° 6' 7.2132 N	103° 41' 46.6964 W
5,593.00	6.20	108.20	5,576.14	-88.44	289.62	401,424.86	738,601.34	32° 6' 7.1790 N	103° 41' 46.5842 W
5,688.00	6.10	107.70	5,670.59	-91.57	299.31	401,421.73	738,611.02	32° 6' 7.1474 N	103° 41' 46.4718 W
5,783.00	6.30	105.80	5,765.04	-94.53	309.13	401,418.77	738,620.85	32° 6' 7.1176 N	103° 41' 46.3578 W
5,877.00	6.40	105.10	5,858.46	-97.30	319.15	401,416.00	738,630.87	32° 6' 7.0896 N	103° 41' 46.2415 W
5,972.00	6.70	104.50	5,952.84	-100.06	329.63	401,413.24	738,641.35	32° 6' 7.0616 N	103° 41' 46.1199 W
6,066.00	6.80	103.10	6,046.19	-102.70	340.36	401,410.60	738,652.07	32° 6' 7.0349 N	103° 41' 45.9953 W
6,161.00	6.50	104.70	6,140.55	-105.34	351.04	401,407.96	738,662.75	32° 6' 7.0082 N	103° 41' 45.8714 W

LEAM Drilling Services

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Company: Devon Energy
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Site: Morab 29-20 Fed Com
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Wellbore: OH
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TVD Reference: 3362.4' GE + 23.5' KB @ 3385.90usft
MD Reference: 3362.4' GE + 23.5' KB @ 3385.90usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,257.00	6.20	104.40	6,235.96	-108.00	361.31	401,405.30	738,673.03	32° 6' 6.9811 N	103° 41' 45.7521 W
6,351.00	6.00	106.50	6,329.43	-110.66	370.94	401,402.64	738,682.66	32° 6' 6.9543 N	103° 41' 45.6403 W
6,446.00	6.10	105.80	6,423.90	-113.45	380.56	401,399.85	738,692.27	32° 6' 6.9262 N	103° 41' 45.5287 W
6,540.00	6.00	103.70	6,517.38	-115.97	390.14	401,397.33	738,701.85	32° 6' 6.9006 N	103° 41' 45.4175 W
6,635.00	6.10	104.40	6,611.85	-118.40	399.85	401,394.90	738,711.57	32° 6' 6.8760 N	103° 41' 45.3048 W
6,730.00	6.30	105.60	6,706.29	-121.06	409.76	401,392.24	738,721.48	32° 6' 6.8491 N	103° 41' 45.1898 W
6,824.00	6.10	107.70	6,799.74	-123.96	419.48	401,389.34	738,731.20	32° 6' 6.8198 N	103° 41' 45.0769 W
6,919.00	5.70	108.40	6,894.24	-126.99	428.77	401,386.31	738,740.49	32° 6' 6.7894 N	103° 41' 44.9692 W
7,014.00	5.40	105.90	6,988.79	-129.70	437.55	401,383.60	738,749.26	32° 6' 6.7620 N	103° 41' 44.8673 W
7,108.00	5.00	106.60	7,082.41	-132.08	445.73	401,381.22	738,757.44	32° 6' 6.7379 N	103° 41' 44.7724 W
7,203.00	5.00	107.30	7,177.04	-134.50	453.65	401,378.80	738,765.36	32° 6' 6.7136 N	103° 41' 44.6805 W
7,298.00	5.50	107.00	7,271.65	-137.06	461.95	401,376.24	738,773.67	32° 6' 6.6877 N	103° 41' 44.5841 W
7,393.00	5.90	110.50	7,366.18	-140.10	470.88	401,373.20	738,782.60	32° 6' 6.6571 N	103° 41' 44.4805 W
7,488.00	7.20	114.40	7,460.55	-144.27	480.87	401,369.03	738,792.59	32° 6' 6.6153 N	103° 41' 44.3646 W
7,583.00	7.00	112.40	7,554.83	-148.93	491.65	401,364.36	738,803.36	32° 6' 6.5685 N	103° 41' 44.2397 W
7,678.00	6.20	113.30	7,649.20	-153.17	501.71	401,360.13	738,813.43	32° 6' 6.5260 N	103° 41' 44.1230 W
7,772.00	6.20	110.50	7,742.65	-156.96	511.13	401,356.34	738,822.84	32° 6' 6.4880 N	103° 41' 44.0138 W
7,866.00	6.40	110.20	7,836.08	-160.54	520.80	401,352.76	738,832.52	32° 6' 6.4519 N	103° 41' 43.9016 W
7,961.00	5.80	109.60	7,930.54	-163.98	530.29	401,349.32	738,842.01	32° 6' 6.4173 N	103° 41' 43.7915 W
8,056.00	5.20	107.90	8,025.10	-166.91	538.91	401,346.39	738,850.63	32° 6' 6.3878 N	103° 41' 43.6915 W
8,150.00	5.30	108.90	8,118.71	-169.63	547.07	401,343.67	738,858.79	32° 6' 6.3605 N	103° 41' 43.5968 W
8,245.00	5.40	106.60	8,213.29	-172.33	555.51	401,340.97	738,867.22	32° 6' 6.3333 N	103° 41' 43.4989 W
8,339.00	5.70	102.60	8,306.85	-174.61	564.30	401,338.69	738,876.02	32° 6' 6.3102 N	103° 41' 43.3969 W
8,434.00	4.70	101.70	8,401.46	-176.43	572.72	401,336.87	738,884.43	32° 6' 6.2917 N	103° 41' 43.2991 W
8,529.00	5.50	105.60	8,496.08	-178.44	580.91	401,334.86	738,892.63	32° 6' 6.2713 N	103° 41' 43.2040 W
8,623.00	5.50	107.00	8,589.65	-180.97	589.56	401,332.33	738,901.27	32° 6' 6.2457 N	103° 41' 43.1036 W
8,717.00	4.40	103.30	8,683.30	-183.12	597.38	401,330.18	738,909.09	32° 6' 6.2240 N	103° 41' 43.0129 W
8,811.00	4.20	106.10	8,777.04	-184.90	604.19	401,328.40	738,915.91	32° 6' 6.2060 N	103° 41' 42.9338 W
8,906.00	4.70	103.50	8,871.75	-186.77	611.32	401,326.52	738,923.04	32° 6' 6.1870 N	103° 41' 42.8511 W
9,001.00	4.30	95.60	8,966.46	-188.63	618.65	401,325.27	738,930.36	32° 6' 6.1742 N	103° 41' 42.7659 W
9,096.00	2.60	97.30	9,061.28	-188.65	624.33	401,324.65	738,936.05	32° 6' 6.1677 N	103° 41' 42.6999 W
9,190.00	2.50	104.40	9,155.19	-189.43	628.43	401,323.87	738,940.15	32° 6' 6.1597 N	103° 41' 42.6523 W
9,285.00	3.20	116.70	9,250.07	-191.14	632.81	401,322.16	738,944.52	32° 6' 6.1426 N	103° 41' 42.6016 W
9,380.00	3.70	115.60	9,344.90	-193.65	637.94	401,319.64	738,949.66	32° 6' 6.1174 N	103° 41' 42.5421 W
9,474.00	2.40	120.40	9,438.76	-195.96	642.37	401,317.34	738,954.09	32° 6' 6.0943 N	103° 41' 42.4907 W
9,568.00	1.80	150.40	9,532.70	-198.24	644.80	401,315.06	738,956.52	32° 6' 6.0716 N	103° 41' 42.4626 W
9,663.00	0.90	138.80	9,627.68	-200.10	646.03	401,313.20	738,957.74	32° 6' 6.0531 N	103° 41' 42.4485 W
9,757.00	0.50	150.90	9,721.67	-201.01	646.71	401,312.29	738,958.43	32° 6' 6.0441 N	103° 41' 42.4406 W
9,851.00	0.60	149.40	9,815.66	-201.80	647.16	401,311.50	738,958.88	32° 6' 6.0363 N	103° 41' 42.4354 W
9,909.00	1.00	134.10	9,873.66	-202.41	647.68	401,310.89	738,959.40	32° 6' 6.0302 N	103° 41' 42.4294 W
9,947.00	1.10	118.10	9,911.65	-202.81	648.24	401,310.49	738,959.96	32° 6' 6.0262 N	103° 41' 42.4229 W
KOP (Morab #3H) - 2518' FNL, 2004' FEL of Sec 29									
10,042.00	9.80	6.10	10,006.20	-195.18	649.91	401,318.12	738,961.63	32° 6' 6.1016 N	103° 41' 42.4030 W
10,136.00	19.20	5.60	10,097.11	-171.79	652.27	401,341.51	738,963.99	32° 6' 6.3329 N	103° 41' 42.3739 W
10,231.00	28.60	2.80	10,183.87	-133.45	654.91	401,379.85	738,966.63	32° 6' 6.7122 N	103° 41' 42.3406 W
10,278.00	33.70	0.50	10,224.08	-109.16	655.58	401,404.14	738,967.29	32° 6' 6.9525 N	103° 41' 42.3312 W
10,326.00	38.90	2.10	10,262.75	-80.76	656.25	401,432.54	738,967.96	32° 6' 7.2335 N	103° 41' 42.3215 W
10,373.00	45.10	4.50	10,297.66	-49.38	658.10	401,463.91	738,969.81	32° 6' 7.5439 N	103° 41' 42.2978 W
10,420.00	51.80	6.60	10,328.82	-14.40	661.53	401,498.90	738,973.25	32° 6' 7.8898 N	103° 41' 42.2555 W
10,467.00	57.10	7.70	10,356.14	23.52	666.30	401,536.82	738,978.01	32° 6' 8.2648 N	103° 41' 42.1974 W
10,515.00	60.70	4.00	10,380.93	64.40	670.46	401,577.69	738,982.18	32° 6' 8.6691 N	103° 41' 42.1462 W
10,562.00	63.60	2.40	10,402.89	105.88	672.77	401,619.18	738,984.49	32° 6' 9.0794 N	103° 41' 42.1165 W
10,610.00	66.40	359.20	10,423.18	149.37	673.37	401,662.67	738,985.08	32° 6' 9.5097 N	103° 41' 42.1066 W
10,657.00	69.10	359.90	10,440.97	192.86	673.03	401,706.16	738,984.74	32° 6' 9.9402 N	103° 41' 42.1076 W
10,704.00	70.80	1.90	10,457.09	237.00	673.72	401,750.30	738,985.44	32° 6' 10.3769 N	103° 41' 42.0964 W

LEAM Drilling Services

Survey Report - Geographic

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Site: Morab 29-20 Fed Com
Well: Morab 29-20 Fed Com #3H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Morab 29-20 Fed Com #3H
TVD Reference: 3362.4' GE + 23.5' KB @ 3385.90usft
MD Reference: 3362.4' GE + 23.5' KB @ 3385.90usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,751.00	74.30	358.20	10,471.18	281.82	673.75	401,795.12	738,985.47	32° 6' 10.8205 N	103° 41' 42.0930 W
10,799.00	76.10	2.10	10,483.45	328.22	673.88	401,841.52	738,985.59	32° 6' 11.2796 N	103° 41' 42.0883 W
10,846.00	77.00	358.70	10,494.38	373.92	674.19	401,887.22	738,985.91	32° 6' 11.7318 N	103° 41' 42.0815 W
10,894.00	78.10	2.80	10,504.74	420.78	674.81	401,934.08	738,986.53	32° 6' 12.1954 N	103° 41' 42.0711 W
10,941.00	81.10	0.30	10,513.22	466.98	676.06	401,980.28	738,987.77	32° 6' 12.6525 N	103° 41' 42.0535 W
10,989.00	82.70	1.20	10,519.98	514.49	676.68	402,027.79	738,988.40	32° 6' 13.1227 N	103° 41' 42.0430 W
11,036.00	84.40	2.90	10,525.26	561.16	678.35	402,074.46	738,990.07	32° 6' 13.5844 N	103° 41' 42.0203 W
11,112.00	87.90	0.60	10,530.37	636.94	680.66	402,150.24	738,992.38	32° 6' 14.3341 N	103° 41' 41.9882 W
11,207.00	91.10	0.80	10,531.20	731.92	681.82	402,245.22	738,993.54	32° 6' 15.2739 N	103° 41' 41.9682 W
11,300.00	90.80	0.50	10,529.65	824.90	682.88	402,338.20	738,994.59	32° 6' 16.1940 N	103° 41' 41.9495 W
11,395.00	90.70	359.10	10,528.41	919.89	682.55	402,433.19	738,994.26	32° 6' 17.1340 N	103° 41' 41.9468 W
11,491.00	90.60	359.90	10,527.32	1,015.88	681.71	402,529.17	738,993.43	32° 6' 18.0839 N	103° 41' 41.9500 W
11,585.00	90.90	0.80	10,526.09	1,109.86	682.28	402,623.16	738,994.00	32° 6' 19.0139 N	103° 41' 41.9368 W
11,679.00	91.50	359.60	10,524.12	1,203.84	682.61	402,717.14	738,994.33	32° 6' 19.9439 N	103° 41' 41.9265 W
11,774.00	91.20	358.50	10,521.88	1,298.80	681.04	402,812.10	738,992.75	32° 6' 20.8837 N	103° 41' 41.9383 W
11,869.00	90.90	358.40	10,520.14	1,393.75	678.47	402,907.05	738,990.18	32° 6' 21.8234 N	103° 41' 41.9616 W
11,963.00	91.40	358.90	10,518.26	1,487.70	676.25	403,001.00	738,987.97	32° 6' 22.7533 N	103° 41' 41.9809 W
12,058.00	91.60	359.10	10,515.77	1,582.66	674.60	403,095.96	738,986.31	32° 6' 23.6930 N	103° 41' 41.9936 W
12,152.00	90.40	357.80	10,514.13	1,676.60	672.05	403,189.90	738,983.77	32° 6' 24.6228 N	103° 41' 42.0167 W
12,247.00	90.90	358.50	10,513.05	1,771.55	668.99	403,284.85	738,980.70	32° 6' 25.5625 N	103° 41' 42.0458 W
12,341.00	91.40	358.70	10,511.16	1,865.50	666.69	403,378.80	738,978.41	32° 6' 26.4924 N	103° 41' 42.0661 W
12,436.00	90.20	358.20	10,509.84	1,960.45	664.12	403,473.75	738,975.84	32° 6' 27.4321 N	103° 41' 42.0894 W
12,530.00	90.00	357.50	10,509.67	2,054.39	660.59	403,567.69	738,972.31	32° 6' 28.3619 N	103° 41' 42.1239 W
12,624.00	89.60	358.20	10,510.00	2,148.32	657.07	403,661.62	738,968.78	32° 6' 29.2916 N	103° 41' 42.1585 W
12,719.00	89.30	358.50	10,510.91	2,243.28	654.33	403,756.58	738,966.05	32° 6' 30.2314 N	103° 41' 42.1837 W
12,792.31	89.07	358.66	10,511.96	2,316.56	652.51	403,829.86	738,964.23	32° 6' 30.9567 N	103° 41' 42.1998 W
SL S29/20 Crossing - 12792.31' MD									
12,813.00	89.00	358.70	10,512.31	2,337.24	652.04	403,850.54	738,963.75	32° 6' 31.1613 N	103° 41' 42.2040 W
12,908.00	89.80	358.40	10,513.30	2,432.20	649.63	403,945.50	738,961.35	32° 6' 32.1012 N	103° 41' 42.2254 W
13,003.00	89.80	0.10	10,513.64	2,527.19	648.39	404,040.49	738,960.11	32° 6' 33.0413 N	103° 41' 42.2333 W
13,097.00	91.40	359.80	10,512.65	2,621.18	648.31	404,134.48	738,960.02	32° 6' 33.9714 N	103° 41' 42.2278 W
13,191.00	92.40	1.20	10,509.53	2,715.12	649.13	404,228.42	738,960.84	32° 6' 34.9009 N	103° 41' 42.2118 W
13,285.00	91.50	2.10	10,506.34	2,809.03	651.83	404,322.33	738,963.55	32° 6' 35.8300 N	103° 41' 42.1739 W
13,380.00	89.90	1.70	10,505.17	2,903.96	654.98	404,417.26	738,966.70	32° 6' 36.7693 N	103° 41' 42.1307 W
13,474.00	90.20	2.60	10,505.09	2,997.90	658.51	404,511.20	738,970.22	32° 6' 37.6986 N	103° 41' 42.0832 W
13,568.00	89.50	2.80	10,505.34	3,091.79	662.94	404,605.09	738,974.65	32° 6' 38.6275 N	103° 41' 42.0253 W
13,663.00	91.00	2.40	10,504.92	3,186.69	667.24	404,699.99	738,978.96	32° 6' 39.5663 N	103° 41' 41.9687 W
13,757.00	91.70	0.30	10,502.71	3,280.63	669.46	404,793.93	738,981.18	32° 6' 40.4958 N	103° 41' 41.9365 W
13,852.00	92.20	1.00	10,499.48	3,375.57	670.54	404,888.87	738,982.25	32° 6' 41.4352 N	103° 41' 41.9174 W
13,947.00	92.60	358.70	10,495.50	3,470.48	670.29	404,983.78	738,982.00	32° 6' 42.3744 N	103° 41' 41.9137 W
14,042.00	91.90	358.90	10,491.77	3,565.38	668.30	405,078.68	738,980.02	32° 6' 43.3137 N	103° 41' 41.9303 W
14,135.00	91.30	359.60	10,489.17	3,658.34	667.08	405,171.64	738,978.80	32° 6' 44.2336 N	103° 41' 41.9381 W
14,229.00	91.00	359.60	10,487.29	3,752.32	666.43	405,265.62	738,978.14	32° 6' 45.1636 N	103° 41' 41.9392 W
14,324.00	91.70	359.20	10,485.05	3,847.29	665.43	405,360.58	738,977.15	32° 6' 46.1034 N	103° 41' 41.9442 W
14,418.00	90.50	358.70	10,483.24	3,941.25	663.71	405,454.55	738,975.43	32° 6' 47.0334 N	103° 41' 41.9578 W
14,513.00	90.70	359.20	10,482.25	4,036.23	661.97	405,549.53	738,973.69	32° 6' 47.9734 N	103° 41' 41.9715 W
14,607.00	90.00	358.50	10,481.67	4,130.21	660.08	405,643.51	738,971.80	32° 6' 48.9034 N	103° 41' 41.9870 W
14,702.00	89.20	359.20	10,482.34	4,225.18	658.18	405,738.48	738,969.89	32° 6' 49.8434 N	103° 41' 42.0026 W
14,797.00	89.20	0.30	10,483.66	4,320.17	657.76	405,833.47	738,969.48	32° 6' 50.7834 N	103° 41' 42.0009 W
14,892.00	88.80	0.50	10,485.32	4,415.16	658.43	405,928.45	738,970.14	32° 6' 51.7233 N	103° 41' 41.9866 W
14,987.00	89.50	1.40	10,486.73	4,510.13	660.00	406,023.43	738,971.72	32° 6' 52.6630 N	103° 41' 41.9618 W
15,082.00	90.10	0.80	10,487.06	4,605.11	661.82	406,118.41	738,973.54	32° 6' 53.6028 N	103° 41' 41.9340 W
15,177.00	91.90	358.70	10,485.40	4,700.09	661.41	406,213.39	738,973.13	32° 6' 54.5427 N	103° 41' 41.9323 W
15,271.00	92.30	358.50	10,481.96	4,794.00	659.11	406,307.29	738,970.83	32° 6' 55.4721 N	103° 41' 41.9525 W
15,366.00	91.70	358.40	10,478.64	4,888.90	656.55	406,402.20	738,968.26	32° 6' 56.4114 N	103° 41' 41.9758 W

LEAM Drilling Services

Survey Report - Geographic

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Site: Morab 29-20 Fed Com
Well: Morab 29-20 Fed Com #3H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Morab 29-20 Fed Com #3H
TVD Reference: 3362.4' GE + 23.5' KB @ 3385.90usft
MD Reference: 3362.4' GE + 23.5' KB @ 3385.90usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,462.00	93.00	357.30	10,474.71	4,984.75	652.95	406,498.05	738,964.67	32° 6' 57.3601 N	103° 41' 42.0111 W
15,557.00	92.40	356.60	10,470.23	5,079.51	647.90	406,592.81	738,959.62	32° 6' 58.2981 N	103° 41' 42.0632 W
15,652.00	92.00	356.30	10,466.59	5,174.26	642.02	406,687.56	738,953.74	32° 6' 59.2360 N	103° 41' 42.1251 W
15,747.00	93.10	357.80	10,462.36	5,269.03	637.14	406,782.33	738,948.85	32° 7' 0.1742 N	103° 41' 42.1753 W
15,842.00	93.10	358.20	10,457.22	5,363.84	633.83	406,877.14	738,945.54	32° 7' 1.1125 N	103° 41' 42.2073 W
15,937.00	93.00	358.40	10,452.17	5,458.66	631.01	406,971.96	738,942.73	32° 7' 2.0510 N	103° 41' 42.2335 W
16,031.00	92.90	358.00	10,447.33	5,552.49	628.06	407,065.79	738,939.78	32° 7' 2.9797 N	103° 41' 42.2613 W
16,125.00	93.00	358.00	10,442.49	5,646.31	624.79	407,159.61	738,936.50	32° 7' 3.9083 N	103° 41' 42.2929 W
16,219.00	92.10	357.80	10,438.31	5,740.15	621.35	407,253.45	738,933.06	32° 7' 4.8371 N	103° 41' 42.3265 W
16,314.00	92.20	358.40	10,434.75	5,835.03	618.20	407,348.33	738,929.91	32° 7' 5.7762 N	103° 41' 42.3566 W
16,409.00	92.10	358.50	10,431.18	5,929.93	615.63	407,443.23	738,927.35	32° 7' 6.7154 N	103° 41' 42.3799 W
16,504.00	92.90	359.60	10,427.04	6,024.82	614.06	407,538.12	738,925.77	32° 7' 7.6545 N	103° 41' 42.3916 W
16,599.00	92.40	359.10	10,422.64	6,119.72	612.98	407,633.01	738,924.70	32° 7' 8.5936 N	103° 41' 42.3976 W
16,694.00	92.30	359.80	10,418.75	6,214.63	612.07	407,727.93	738,923.79	32° 7' 9.5329 N	103° 41' 42.4017 W
16,789.00	91.90	359.90	10,415.27	6,309.57	611.82	407,822.86	738,923.54	32° 7' 10.4724 N	103° 41' 42.3980 W
16,884.00	90.50	359.20	10,413.28	6,404.54	611.07	407,917.84	738,922.79	32° 7' 11.4122 N	103° 41' 42.4002 W
16,979.00	92.10	0.10	10,411.12	6,499.51	610.49	408,012.81	738,922.21	32° 7' 12.3520 N	103° 41' 42.4004 W
17,074.00	94.00	1.00	10,406.07	6,594.36	611.40	408,107.66	738,923.12	32° 7' 13.2906 N	103° 41' 42.3833 W
17,169.00	94.60	1.00	10,398.95	6,689.08	613.06	408,202.38	738,924.77	32° 7' 14.2278 N	103° 41' 42.3575 W
17,263.00	93.70	1.40	10,392.14	6,782.81	615.02	408,296.11	738,926.74	32° 7' 15.1553 N	103° 41' 42.3282 W
17,358.00	92.30	0.60	10,387.17	6,877.67	616.68	408,390.97	738,928.39	32° 7' 16.0938 N	103° 41' 42.3025 W
17,453.00	92.90	1.00	10,382.86	6,972.56	618.00	408,485.86	738,929.72	32° 7' 17.0327 N	103° 41' 42.2805 W
17,547.00	91.40	0.50	10,379.34	7,066.48	619.23	408,579.78	738,930.95	32° 7' 17.9621 N	103° 41' 42.2598 W
17,642.00	91.10	0.50	10,377.26	7,161.46	620.06	408,674.75	738,931.78	32° 7' 18.9018 N	103° 41' 42.2436 W
17,736.00	90.80	359.90	10,375.70	7,255.44	620.39	408,768.74	738,932.10	32° 7' 19.8319 N	103° 41' 42.2333 W
17,830.00	91.70	0.30	10,373.65	7,349.42	620.55	408,862.72	738,932.27	32° 7' 20.7618 N	103° 41' 42.2249 W
17,925.00	92.00	359.60	10,370.59	7,444.37	620.47	408,957.67	738,932.18	32° 7' 21.7014 N	103° 41' 42.2193 W
17,977.80	92.32	0.01	10,368.59	7,497.13	620.29	409,010.43	738,932.00	32° 7' 22.2235 N	103° 41' 42.2178 W
LTP (Morab #3H) - 100' FNL, 1975' FEL of Sec 20									
17,990.00	92.40	0.10	10,368.09	7,509.32	620.30	409,022.62	738,932.01	32° 7' 22.3441 N	103° 41' 42.2168 W
18,045.00	92.40	0.10	10,365.79	7,564.27	620.39	409,077.57	738,932.11	32° 7' 22.8879 N	103° 41' 42.2119 W
PBHL (Morab 29-20 Fed Com #3H) - BHL (Morab #3H) - 33' FNL, 1975' FEL of Sec 20									

LEAM Drilling Services

Survey Report - Geographic

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Site: Morab 29-20 Fed Com
Well: Morab 29-20 Fed Com #3H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Morab 29-20 Fed Com #3H
TVD Reference: 3362.4' GE + 23.5' KB @ 3385.90usft
MD Reference: 3362.4' GE + 23.5' KB @ 3385.90usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (Morab #3H) - 2317	0.00	0.00	0.00	0.00	0.00	401,513.30	738,311.72	32° 6' 8.0710 N	103° 41' 49.9451 W
- actual wellpath hits target center									
- Point									
KOP (Morab #3H) - 2511	0.00	0.00	9,911.65	-202.81	648.24	401,310.49	738,959.96	32° 6' 6.0262 N	103° 41' 42.4229 W
- actual wellpath hits target center									
- Point									
BHL (Morab #3H) - 33' F	0.00	0.00	10,365.7 9	7,564.27	620.39	409,077.57	738,932.11	32° 7' 22.8879 N	103° 41' 42.2120 W
- actual wellpath hits target center									
- Point									
LTP (Morab #3H) - 100' I	0.00	0.00	10,368.5 9	7,497.13	620.29	409,010.43	738,932.01	32° 7' 22.2235 N	103° 41' 42.2178 W
- actual wellpath misses target center by 0.01usft at 17977.80usft MD (10368.59 TVD, 7497.13 N, 620.29 E)									
- Point									
SL S29/20 Crossing - 12	0.00	0.00	10,511.96	2,316.56	652.51	403,829.86	738,964.23	32° 6' 30.9567 N	103° 41' 42.1999 W
- actual wellpath hits target center									
- Point									

Checked By: _____ Approved By: _____ Date: _____

COMPANY Devon Energy
FIELD Lea County, NM (NAD-83)
SITE Morab 29-20 Fed Com
WELL Morab 29-20 Fed Com #3H
WELLPATH OH
DESIGN OH
DEPTHUNT (uoft)

WELL INFO

MAP DATUM North American Datum 1983
MAP SYSTEM US State Plane 1983
MAP ZONE New Mexico Eastern Zone
WELL LAT 32.102242
WELL LON -103.697207
WELL EW MAI 738311.72
WELL NS MAP 401513.3
CONVERGENC 0.34
MAGMODEL HDGM
DECLINATION 6.78
NORTH REF Grid
GROUND ELEV 3362.4
KB ELEV 3385.9
VS AZI 359.54

SURVEY PROGRAM

1 317.00 - 17990.00 SURVEY #1 : LEAM MWD+HDGM
2 18045.00 - 18045.00 SURVEY #2 : PROJECT

SURVEY LIST

Measured	Day	Inclination	Azimuth	Course Length	True Vertical	Subsea TVD	Local N/S	Local E/W	Easting	Northing	Latitude	Longitude	Dogleg	Severity	Build Rate	Turn Rate	Vertical Section
MD	INC	MD	MD	CL	TVD	SSTVD	NS	EW	X	Y	LAT	LON	DLS	BLD	TRN	VS	
0.00	0.00	0.00	0.00	0.00	0.00	3385.90	0.00	0.00	738311.72	401513.30	32.102242	-103.697207	0.00	0.00	0.00	0.00	
317.00	0.40	81.30	317.00	317.00	3068.90	0.17	1.09	738312.81	401513.47	32.102242	-103.697203	0.13	0.13	0.00	0.00	0.16	
416.00	0.40	87.70	99.00	416.00	2969.91	0.23	1.78	738313.50	401513.53	32.102243	-103.697201	0.05	0.00	0.00	6.46	0.22	
508.00	0.40	60.10	92.00	507.99	2877.91	0.41	2.38	738314.10	401513.71	32.102243	-103.697199	0.21	0.00	-30.00	0.00	0.39	
600.00	0.60	34.90	92.00	599.99	2785.91	0.96	2.93	738314.65	401514.26	32.102245	-103.697197	0.32	0.22	-27.39	0.94	0.94	
692.00	0.90	19.50	92.00	691.98	2693.92	2.04	3.45	738315.17	401515.34	32.102247	-103.697196	0.39	0.33	-16.74	2.01	2.01	
784.00	1.10	18.20	92.00	783.97	2601.93	3.56	3.97	738315.69	401516.86	32.102252	-103.697194	0.22	0.22	-1.41	3.53	3.53	
876.00	1.40	7.50	92.00	875.95	2509.95	5.51	4.39	738316.11	401518.81	32.102257	-103.697193	0.41	0.33	-11.63	5.48	5.48	
969.00	1.60	2.80	93.00	968.91	2416.99	7.93	4.60	738316.32	401521.23	32.102264	-103.697192	0.25	0.22	-5.05	7.90	7.90	
1061.00	1.50	359.80	92.00	1060.88	2325.02	10.42	4.66	738316.38	401523.72	32.102271	-103.697192	0.14	-0.11	-3.26	10.38	10.38	
1153.00	1.60	358.90	92.00	1152.85	2233.05	12.91	4.63	738316.35	401526.21	32.102277	-103.697192	0.11	0.11	-0.98	12.87	12.87	
1245.00	1.50	355.90	92.00	1244.81	2141.09	15.40	4.52	738316.24	401528.70	32.102284	-103.697192	0.14	-0.11	-3.26	15.36	15.36	
1337.00	1.70	346.60	92.00	1336.78	2049.12	17.92	4.12	738315.84	401531.22	32.102291	-103.697193	0.36	0.22	-10.11	17.89	17.89	
1429.00	1.70	344.00	92.00	1428.74	1957.16	20.56	3.43	738315.15	401533.86	32.102298	-103.697196	0.08	0.00	-2.83	20.53	20.53	
1521.00	1.50	342.00	92.00	1520.70	1865.20	23.02	2.68	738314.40	401536.32	32.102305	-103.697198	0.23	-0.22	-2.17	23.00	23.00	
1614.00	1.50	338.90	93.00	1613.67	1772.23	25.31	1.86	738313.58	401538.61	32.102312	-103.697200	0.09	0.00	-3.33	25.30	25.30	
1709.00	0.80	321.10	95.00	1708.65	1677.25	26.99	1.00	738312.72	401540.29	32.102316	-103.697203	0.82	-0.74	-18.74	26.98	26.98	
1803.00	0.40	189.60	94.00	1802.65	1583.25	27.18	0.53	738312.25	401540.48	32.102317	-103.697205	1.18	-0.43	-139.89	27.17	27.17	
1898.00	0.80	167.50	95.00	1897.64	1488.26	26.20	0.62	738312.34	401539.50	32.102314	-103.697204	0.48	0.42	-23.26	26.20	26.20	
1992.00	0.80	156.20	94.00	1991.63	1394.27	24.96	1.03	738312.75	401538.26	32.102311	-103.697203	0.17	0.00	-12.02	24.95	24.95	
2087.00	0.70	165.70	95.00	2086.62	1299.28	23.79	1.44	738313.16	401537.09	32.102307	-103.697202	0.17	-0.11	10.00	23.78	23.78	
2182.00	0.70	148.70	95.00	2181.62	1204.28	22.73	1.88	738313.60	401536.03	32.102304	-103.697200	0.22	0.00	-17.89	22.72	22.72	
2277.00	0.70	146.50	95.00	2276.61	1109.29	21.75	2.51	738314.23	401535.05	32.102302	-103.697198	0.03	0.00	-2.32	21.73	21.73	
2372.00	0.60	143.00	95.00	2371.60	1014.30	20.87	3.13	738314.85	401534.17	32.102299	-103.697196	0.11	-0.11	-3.68	20.85	20.85	
2467.00	1.00	130.70	95.00	2466.59	919.31	19.94	4.05	738315.77	401533.24	32.102297	-103.697194	0.46	0.42	-12.95	19.90	19.90	
2562.00	1.80	116.70	95.00	2561.57	824.33	18.72	6.01	738317.73	401532.02	32.102293	-103.697187	0.91	0.84	-14.74	18.68	18.68	
2657.00	2.60	111.90	95.00	2656.50	729.41	17.25	9.35	738321.07	401530.55	32.102289	-103.697176	0.86	0.84	-5.05	17.17	17.17	
2752.00	2.60	111.20	95.00	2751.40	634.50	15.67	13.36	738325.08	401528.97	32.102285	-103.697164	0.03	0.00	-0.74	15.56	15.56	
2846.00	1.80	113.90	94.00	2845.33	540.57	14.30	16.69	738328.41	401527.60	32.102281	-103.697153	0.86	-0.85	2.87	14.16	14.16	
2940.00	2.10	116.80	94.00	2939.27	446.63	12.92	19.58	738331.30	401526.22	32.102277	-103.697144	0.34	0.32	3.09	12.77	12.77	
3036.00	3.60	110.70	96.00	3035.15	350.75	11.06	23.97	738335.69	401524.36	32.102272	-103.697129	1.59	1.56	-6.35	10.87	10.87	
3130.00	4.80	109.80	94.00	3128.90	257.00	8.69	30.43	738342.15	401521.99	32.102265	-103.697109	1.28	1.28	-0.96	8.44	8.44	
3225.00	5.50	111.40	95.00	3223.51	162.39	5.68	38.41	738350.13	401518.98	32.102257	-103.697083	0.75	0.74	1.68	5.37	5.37	
3320.00	6.00	109.10	95.00	3318.04	67.87	2.40	47.34	738359.06	401515.70	32.102248	-103.697054	0.58	0.53	-2.42	2.02	2.02	
3415.00	6.80	104.00	95.00	3412.44	-26.54	-0.59	57.49	738369.21	401512.71	32.102239	-103.697021	1.03	0.84	-5.37	-1.05	-1.05	
3510.00	6.90	103.10	95.00	3506.77	-120.87	-3.24	68.50	738380.22	401510.06	32.102232	-103.696994	0.15	0.11	-0.95	-3.79	-3.79	
3604.00	5.90	105.10	94.00	3600.18	-214.28	-5.78	78.67	738390.39	401507.52	32.102225	-103.696953	1.09	-1.06	2.13	-6.41	-6.41	
3698.00	5.70	107.90	94.00	3693.70	-307.80	-8.48	87.77	738399.49	401504.82	32.102217	-103.696924	0.37	-0.21	2.98	-9.18	-9.18	
3791.00	6.50	111.40	93.00	3786.17	-400.27	-11.82	97.07	738408.79	401501.48	32.102208	-103.696894	0.95	0.86	3.76	-12.60	-12.60	
3887.00	7.20	114.60	96.00	3881.48	-495.58	-16.30	107.60	738419.32	401497.00	32.102195	-103.696860	0.83	0.73	3.33	-17.17	-17.17	
3981.00	6.70	110.30	94.00	3974.79	-588.89	-20.66	118.10	738429.82	401492.64	32.102183	-103.696826	0.77	-0.53	-4.57	-21.61	-21.61	
4076.00	6.40	107.90	95.00	4069.17	-683.27	-24.21	128.34	738440.06	401489.09	32.102173	-103.696793	0.43	-0.32	-2.53	-25.24	-25.24	
4171.00	6.90	112.80	95.00	4163.54	-777.64	-28.05	138.63	738450.35	401485.25	32.102163	-103.696760	0.80	0.53	5.16	-29.16	-29.16	
4265.00	7.20	118.40	94.00	4256.83	-870.93	-33.04	149.02	738460.74	401480.26	32.102149	-103.696726	0.80	0.32	5.96	-34.23	-34.23	
4278.00	7.30	118.40	13.00	4269.72	-883.82	-33.82	150.46	738462.18	401479.48	32.102147	-103.696722	0.77	0.77	0.00	-35.02	-35.02	
4363.00	7.20	117.70	85.00	4354.04	-968.14	-38.86	159.93	738471.65	401474.44	32.102133	-103.696691	0.16	-0.12	-0.82	-40.14	-40.14	
4458.00	6.20	114.40	95.00	4448.39	-1062.49	-43.75	169.87	738481.59	401469.55	32.102119	-103.696659	1.13	-1.05	-3.47	-45.11	-45.11	
4552.00	5.50	107.90	94.00	4541.90	-1156.00	-47.23	178.78	738490.50	401466.07	32.102109	-103.696631	1.02	-0.74	-6.91	-48.66	-48.66	
4646.00	5.80	109.30	94.00	4635.45	-1249.55	-50.18	187.55	738499.27	401463.12	32.102101	-103.696602	0.35	0.32	1.49	-51.69	-51.69	
4741.00	6.70	110.70	95.00	4729.88	-1343.98	-53.73	197.27	738508.99	401459.57	32.102091	-103.696571	0.96	0.95	1.47	-55.31	-55.31	
4836.00	7.20	109.50	95.00	4824.18	-1438.28	-57.68	208.06	738519.78	401455.62	32.102080	-103.696536	0.55	0.53	-1.26	-59.34	-59.34	
4931.00	6.90	111.40	95.00	4918.46	-1532.56	-61.75	218.99	738530.31	401451.56	32.102069	-103.696501	0.40	-0.32	2.00	-63.50	-63.50	
5026.00	6.60	111.40	95.00	5012.81	-1626.91	-65.82	229.39	738541.11	401447.48	32.102057	-103.696467	0.32	-0.32	0.00	-67.66	-67.66	
5121.00	6.60	110.70	95.00	5107.18	-1721.28	-69.74	239.58	738551.30	401443.56	32.102046	-103.696435	0.09	0.00	-0.74	-71.66	-71.66	
5215.00	6.70	110.30	94.00	5200.54	-1814.64	-73.55	249.77	738561.49	401439.75	32.102036	-103.696402	0.12	0.11	-0.43	-75.56	-75.56	
5309.00	6.70	110.90	94.00	5293.90	-1908.00	-77.41	260.04	738571.76	401435.89	32.102025	-103.696369	0.07	0.00	0.64	-79.50	-79.50	
5405.00	6.50	111.20	96.00	5389.27	-2003.37	-81.38	270.34	738582.06	401431.93	32.102014	-103.696336	0.21	-0.21	0.31	-83.54	-83.54	
5498.00	6.20	110.50	93.00	5481.70	-2095.80	-85.04	279.95	738591.67	401428.26	32.102004	-103.696305	0.33	-0.32	-0.75	-87.28	-87.28	
5593.00	6.20	108.20	95.00	5576.14	-2190.24	-88.44	289.63	738601.35	401424.86	32.101994	-103.696273	0.26	0.00	-2.42	-90.76	-90.76	
5688.00	6.10	107.70	95.00	5670.59	-2284.69	-91.57	299.31	738611.03	401421.73	32.101985	-103.696242	0.12	-0.11	-0.53	-93.97	-93.97	
5783.00	6.30	105.80	95.00	5765.04	-23												

6540.00	6.00	103.70	94.00	6517.38	-3131.48	-115.97	390.14	738701.86	401397.33	32.101917	-103.695949	0.26	-0.11	-2.23	-119.10
6635.00	6.10	104.40	95.00	6611.85	-3225.95	-118.40	399.85	738711.57	401394.90	32.101910	-103.695918	0.13	0.11	0.74	-121.61
6730.00	6.30	105.60	95.00	6706.29	-3320.39	-121.06	409.76	738721.48	401392.24	32.101903	-103.695886	0.25	0.21	1.26	-124.34
6824.00	6.10	107.70	94.00	6799.74	-3413.84	-123.96	419.49	738731.21	401389.34	32.101894	-103.695855	0.32	-0.21	2.23	-127.33
6919.00	5.70	108.40	95.00	6894.24	-3508.34	-126.99	428.77	738740.49	401386.31	32.101886	-103.695825	0.43	-0.42	0.74	-130.43
7014.00	5.40	105.90	95.00	6988.79	-3602.89	-129.70	437.55	738749.27	401383.60	32.101878	-103.695796	0.41	-0.32	-2.63	-133.21
7108.00	5.00	106.60	94.00	7082.41	-3696.51	-132.08	445.73	738757.45	401381.22	32.101872	-103.695770	0.43	-0.43	0.74	-135.66
7203.00	5.00	107.30	95.00	7177.04	-3791.14	-134.50	453.65	738765.37	401378.80	32.101865	-103.695745	0.06	0.00	0.74	-138.13
7298.00	5.50	107.00	95.00	7271.65	-3885.75	-137.06	461.95	738773.67	401376.24	32.101858	-103.695718	0.53	0.53	-0.32	-140.76
7393.00	5.90	110.30	95.00	7366.18	-3980.28	-140.10	470.88	738782.60	401373.20	32.101849	-103.695689	0.56	0.42	3.68	-143.88
7488.00	7.20	114.40	95.00	7460.55	-4074.65	-144.27	480.87	738792.59	401369.03	32.101838	-103.695657	1.45	1.37	4.11	-148.13
7583.00	7.00	112.40	95.00	7554.83	-4168.93	-148.94	491.65	738803.37	401364.37	32.101825	-103.695622	0.34	-0.21	-2.11	-152.88
7678.00	6.20	113.30	95.00	7649.20	-4263.30	-153.17	501.71	738813.43	401360.13	32.101813	-103.695590	0.85	-0.84	0.95	-157.19
7772.00	6.20	110.50	94.00	7742.65	-4356.75	-156.96	511.13	738822.85	401356.35	32.101802	-103.695559	0.32	0.00	-2.98	-161.05
7866.00	6.40	110.20	94.00	7836.08	-4450.18	-160.54	520.80	738832.52	401352.76	32.101792	-103.695528	0.22	0.21	-0.32	-164.72
7961.00	5.80	109.60	95.00	7930.54	-4544.64	-163.98	530.29	738842.01	401349.32	32.101783	-103.695498	0.64	-0.63	-0.63	-168.23
8056.00	5.20	107.90	95.00	8025.10	-4639.20	-166.91	538.91	738850.63	401346.39	32.101774	-103.695470	0.65	-0.63	-1.79	-171.24
8150.00	5.30	108.90	94.00	8118.71	-4732.81	-169.63	547.07	738858.79	401343.67	32.101767	-103.695444	0.14	0.11	1.06	-174.02
8245.00	5.40	106.60	95.00	8213.29	-4827.39	-172.33	555.51	738867.23	401340.97	32.101759	-103.695416	0.25	0.11	-2.42	-176.78
8339.00	5.70	102.60	94.00	8306.85	-4920.95	-174.61	564.30	738876.02	401338.69	32.101753	-103.695388	0.52	0.32	-4.26	-179.13
8434.00	4.70	101.70	95.00	8401.46	-5015.56	-176.43	572.72	738884.44	401336.87	32.101748	-103.695361	1.06	-1.05	-0.95	-181.02
8529.00	5.50	105.60	95.00	8496.09	-5110.19	-178.44	580.91	738892.63	401334.86	32.101742	-103.695334	0.92	0.84	4.11	-183.10
8623.00	5.50	107.00	94.00	8589.65	-5203.75	-180.97	589.56	738901.28	401332.33	32.101735	-103.695307	0.14	0.00	1.49	-185.70
8717.00	4.40	103.30	94.00	8683.30	-5297.40	-183.12	597.38	738909.10	401330.18	32.101729	-103.695281	1.22	-1.17	-3.94	-187.91
8811.00	4.20	106.10	94.00	8777.04	-5391.14	-184.90	604.19	738915.91	401328.40	32.101724	-103.695259	0.31	-0.21	2.98	-189.75
8906.00	4.70	103.50	95.00	8871.75	-5485.85	-186.77	611.32	738923.04	401326.53	32.101719	-103.695236	0.57	0.53	-2.74	-191.68
9001.00	4.30	95.60	95.00	8966.46	-5580.56	-188.03	618.65	738930.37	401325.27	32.101715	-103.695213	0.78	-0.42	-8.32	-192.99
9096.00	2.60	97.30	95.00	9061.28	-5675.38	-188.65	624.33	738936.05	401324.65	32.101713	-103.695194	1.79	-1.79	1.79	-193.66
9190.00	2.50	104.40	94.00	9155.19	-5769.29	-189.43	628.43	738940.15	401323.87	32.101711	-103.695181	0.35	-0.11	7.55	-194.47
9285.00	3.20	116.70	95.00	9250.07	-5864.17	-191.14	632.81	738944.53	401322.16	32.101706	-103.695167	0.97	0.74	12.95	-196.21
9380.00	3.70	115.60	95.00	9344.90	-5959.00	-193.66	637.94	738949.66	401319.65	32.101699	-103.695151	0.53	0.53	-1.16	-198.77
9474.00	2.40	120.40	94.00	9438.76	-6052.86	-195.96	642.37	738954.09	401317.34	32.101693	-103.695136	1.41	-1.38	5.11	-201.11
9568.00	1.80	150.40	94.00	9532.70	-6146.80	-198.24	644.80	738956.52	401315.06	32.101687	-103.695129	1.31	-0.64	31.91	-203.41
9663.00	0.90	138.80	95.00	9627.68	-6241.78	-200.10	646.03	738957.75	401313.20	32.101681	-103.695125	0.99	-0.95	-12.21	-205.28
9757.00	0.50	150.90	94.00	9721.67	-6335.77	-201.01	646.71	738958.43	401312.29	32.101679	-103.695122	0.45	-0.43	12.87	-206.20
9851.00	0.60	149.40	94.00	9815.66	-6429.76	-201.80	647.16	738958.88	401311.50	32.101677	-103.695121	0.11	0.11	-1.60	-206.99
9909.00	1.00	134.10	58.00	9873.66	-6487.76	-202.41	647.68	738959.40	401310.89	32.101675	-103.695119	0.78	0.69	-26.38	-207.60
9947.00	1.10	118.10	38.00	9911.65	-6525.75	-202.81	648.24	738959.96	401310.49	32.101674	-103.695117	0.81	0.26	-42.11	-208.01
10042.00	9.80	6.10	95.00	10006.20	-6620.30	-195.18	649.91	738961.63	401318.12	32.101695	-103.695112	10.80	9.16	-117.89	-200.39
10136.00	19.20	5.60	94.00	10097.11	-6711.21	-171.79	652.27	738963.99	401341.51	32.101759	-103.695104	10.00	10.00	-0.53	-177.02
10231.00	28.60	2.80	95.00	10183.87	-6797.97	-133.45	654.91	738966.63	401379.85	32.101864	-103.695095	9.96	9.89	-2.95	-138.70
10278.00	33.70	0.50	47.00	10224.08	-6838.18	-109.16	655.58	738967.30	401404.14	32.101931	-103.695092	11.14	10.85	-4.89	-114.42
10326.00	38.90	2.10	48.00	10262.75	-6876.85	-80.76	656.25	738967.97	401432.54	32.102009	-103.695089	11.01	10.83	3.33	-86.03
10373.00	45.10	4.50	47.00	10297.66	-6911.76	-49.39	658.10	738969.82	401463.92	32.102096	-103.695083	13.63	13.19	5.11	-54.67
10420.00	51.80	6.60	47.00	10328.82	-6942.92	-14.40	661.53	738973.25	401498.90	32.102192	-103.695071	14.64	14.26	4.47	-19.71
10467.00	57.10	7.70	47.00	10356.14	-6970.24	23.52	666.30	738978.02	401536.82	32.102296	-103.695055	11.44	11.28	2.34	18.17
10515.00	60.70	4.00	48.00	10380.93	-6995.03	64.40	670.46	738982.18	401577.70	32.102408	-103.695041	9.99	7.50	-7.71	59.01
10562.00	63.60	2.40	47.00	10402.89	-7016.99	105.88	672.77	738984.49	401619.18	32.102522	-103.695032	6.87	6.17	-3.40	100.48
10610.00	66.40	359.20	48.00	10423.18	-7037.28	149.37	673.37	738985.09	401662.67	32.102642	-103.695030	8.40	5.83	-6.67	143.96
10657.00	69.10	359.90	47.00	10440.97	-7055.07	192.86	673.03	738984.75	401706.16	32.102761	-103.695030	5.91	5.74	1.49	187.45
10704.00	70.80	1.90	47.00	10457.09	-7071.19	237.00	673.72	738985.44	401750.30	32.102882	-103.695027	5.39	3.62	4.26	231.59
10751.00	74.30	358.20	47.00	10471.18	-7085.28	281.82	673.75	738985.47	401795.12	32.103006	-103.695026	10.58	7.45	-7.87	276.41
10799.00	76.10	2.10	48.00	10483.45	-7097.55	328.22	673.88	738985.80	401841.52	32.103133	-103.695025	8.70	3.75	8.12	322.80
10846.00	77.00	358.70	47.00	10494.38	-7108.48	373.92	674.19	738985.91	401887.22	32.103259	-103.695023	7.29	1.91	-7.23	368.50
10894.00	78.10	2.80	48.00	10504.74	-7118.84	420.78	674.81	738986.53	401934.08	32.103388	-103.695020	8.65	2.29	8.54	415.35
10941.00	81.10	0.30	47.00	10513.22	-7127.32	466.98	676.06	738987.78	401980.28	32.103515	-103.695015	8.25	6.38	-5.32	461.54
10989.00	82.70	1.20	48.00	10519.98	-7134.08	514.49	676.68	738988.40	402027.79	32.103645	-103.695012	3.82	3.33	1.87	509.05
11036.00	84.40	2.90	47.00	10525.26	-7139.36	561.16	678.35	738990.07	402074.46	32.103773	-103.695006	5.10	3.62	3.62	555.70
11112.00	87.90	0.60	76.00	10530.37	-7144.47	636.94	680.66	738992.38	402150.24	32.103982	-103.694997	5.51	4.61	-3.03	631.45
11207.00	91.10	0.80	95.00	10531.20	-7145.30	731.92	681.82	738993.54	402245.22	32.104243	-103.694991	3.38	3.37	0.21	726.42
11300.00	90.80	0.50	93.00	10529.65	-7143.75	824.90	682.58	738994.60	402338.20	32.104498	-103.694986	0.46	-0.32	-0.32	819.39
11395.00	90.70	359.10	95.00	10528.41	-7142.51	919.89	682.55	738994.27	402433.19	32.104759	-103.694985	1.48	-0.11	-1.47	914.38
11491.00	90.60	359.90	96.00	10527.32	-7141.42	1015.88	681.71	738993.43	402529.18	32.105023	-103.694986	0.84	-0.10	0.83	1010.37
11585.00	90.90	0.80	94.00	10526.09	-7140.19	1109.87	682.28	738994.00	402623.17	32.105282	-103.694982	1.01	0.32	0.96	1104.35
11679.00	91.50	359.60	94.00	10524.12	-7138.22	1203.84	681.61	738994.33	402717.14	32.105540	-103.694983	1.43	0.64	-1.28	1198.32
11774.00	91.20	358.50	95.00	10521.88	-7135.98	1298.80	682.04	738992.76	402812.10	32.105801	-103.694				

14987.00	89.50	1.40	95.00	10486.73	-7100.83	4510.13	660.00	738971.72	406023.43	32.114629	-103.694989	1.20	0.74	0.95	4504.69
15082.00	90.10	0.80	95.00	10487.06	-7101.16	4605.11	661.82	738973.54	406118.41	32.114890	-103.694982	0.89	0.63	-0.63	4599.65
15177.00	91.90	358.70	95.00	10485.40	-7099.50	4700.09	661.41	738973.13	406213.39	32.115151	-103.694981	2.91	1.89	-2.21	4694.63
15271.00	92.30	358.50	94.00	10481.96	-7096.06	4794.00	659.12	738970.84	406307.30	32.115409	-103.694987	0.48	0.43	-0.21	4788.55
15366.00	91.70	358.40	95.00	10478.64	-7092.74	4888.90	656.55	738968.27	406401.20	32.115670	-103.694993	0.64	-0.63	-0.11	4883.47
15462.00	93.00	357.30	96.00	10474.71	-7088.81	4984.75	652.95	738964.67	406498.05	32.115933	-103.695003	1.77	1.35	-1.15	4979.35
15557.00	92.40	356.60	95.00	10470.23	-7084.33	5079.51	647.90	738959.62	406592.81	32.116194	-103.695018	0.97	-0.63	-0.74	5074.15
15652.00	92.00	356.30	95.00	10466.59	-7080.69	5174.26	642.02	738953.74	406687.56	32.116454	-103.695035	0.53	-0.42	-0.32	5168.94
15747.00	93.10	357.80	95.00	10462.36	-7076.46	5269.03	637.14	738948.86	406782.33	32.116715	-103.695049	1.96	1.16	1.58	5263.75
15842.00	93.10	358.20	95.00	10457.22	-7071.32	5363.84	633.83	738945.55	406877.14	32.116976	-103.695058	0.42	0.00	0.42	5358.58
15937.00	93.00	358.40	95.00	10452.17	-7066.27	5458.66	631.01	738942.73	406971.96	32.117236	-103.695065	0.24	-0.11	0.21	5453.42
16031.00	92.90	358.00	94.00	10447.33	-7061.43	5552.49	628.06	738939.78	407065.79	32.117494	-103.695073	0.44	-0.11	-0.43	5547.27
16125.00	93.00	358.00	94.00	10442.49	-7056.59	5646.31	624.79	738936.51	407159.61	32.117752	-103.695081	0.11	0.11	0.00	5641.11
16219.00	92.10	357.80	94.00	10438.31	-7052.41	5740.15	621.35	738933.07	407253.45	32.118010	-103.695091	0.98	-0.96	-0.21	5734.98
16314.00	92.20	358.40	95.00	10434.75	-7048.85	5835.03	618.20	738929.92	407348.33	32.118271	-103.695099	0.64	0.11	0.63	5829.88
16409.00	92.10	358.50	95.00	10431.18	-7045.28	5929.93	615.63	738927.35	407443.23	32.118532	-103.695106	0.15	-0.11	0.11	5924.80
16504.00	92.90	359.60	95.00	10427.04	-7041.14	6024.82	614.06	738925.78	407538.12	32.118793	-103.695109	1.43	0.84	1.16	6019.70
16599.00	92.40	359.10	95.00	10422.65	-7036.75	6119.72	612.98	738924.70	407633.02	32.119054	-103.695110	0.74	-0.53	-0.53	6114.60
16694.00	92.30	359.80	95.00	10418.75	-7032.85	6214.63	612.07	738923.79	407727.93	32.119315	-103.695112	0.74	-0.11	0.74	6209.52
16789.00	91.90	359.90	95.00	10415.27	-7029.37	6309.57	611.82	738923.54	407822.87	32.119576	-103.695111	0.43	-0.42	0.11	6304.45
16884.00	90.50	359.20	95.00	10413.28	-7027.38	6404.54	611.07	738922.79	407917.84	32.119837	-103.695111	1.65	-1.47	-0.74	6399.43
16979.00	92.10	0.10	95.00	10411.12	-7025.22	6499.51	610.49	738922.21	408012.81	32.120098	-103.695111	1.93	1.68	0.95	6494.40
17074.00	94.00	1.00	95.00	10406.07	-7020.17	6594.36	611.40	738923.12	408107.66	32.120359	-103.695106	2.21	2.00	0.95	6589.24
17169.00	94.60	1.00	95.00	10398.95	-7013.05	6689.08	613.06	738924.78	408202.38	32.120619	-103.695099	0.63	0.63	0.00	6683.95
17263.00	93.70	1.40	94.00	10392.14	-7006.24	6782.81	615.02	738926.74	408296.11	32.120876	-103.695091	1.05	-0.96	0.43	6777.66
17358.00	92.30	0.60	95.00	10387.17	-7001.27	6877.67	616.68	738928.40	408390.97	32.121137	-103.695084	1.70	-1.47	-0.84	6872.49
17453.00	92.90	1.00	95.00	10382.86	-6996.96	6972.56	618.00	738929.72	408485.86	32.121398	-103.695078	0.76	0.63	0.42	6967.37
17547.00	91.40	0.50	94.00	10379.34	-6993.44	7066.48	619.23	738930.95	408579.78	32.121656	-103.695072	1.68	-1.60	-0.53	7061.28
17642.00	91.10	0.50	95.00	10377.26	-6991.36	7161.46	620.06	738931.78	408674.76	32.121917	-103.695068	0.32	-0.32	0.00	7156.25
17736.00	90.80	359.90	94.00	10375.71	-6989.81	7255.44	620.39	738932.11	408768.74	32.122176	-103.695065	0.71	-0.32	-0.64	7250.23
17830.00	91.70	0.30	94.00	10373.65	-6987.75	7349.42	620.55	738932.27	408862.72	32.122434	-103.695062	1.05	0.96	0.43	7344.20
17925.00	92.00	359.60	95.00	10370.59	-6984.69	7444.37	620.47	738932.19	408957.67	32.122695	-103.695061	0.80	0.32	-0.74	7439.15
17990.00	92.40	0.10	65.00	10368.09	-6982.19	7509.32	620.30	738932.02	409022.62	32.122873	-103.695060	0.99	0.62	0.77	7504.10
18045.00	92.40	0.10	55.00	10365.79	-6979.89	7564.27	620.39	738932.11	409077.57	32.123024	-103.695059	0.00	0.00	0.00	7559.05

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