

NABORS

NABORS DRILLING TECHNOLOGIES USA, INC.

515 West Greens Road

Houston, TX 77067

Phone: 281.874.0035

Fax: 281.872.5205

Monday, December 25, 2017

State of New Mexico

County of Lea

HOBBS OCD
MAY 11 2018
RECEIVED

Subject: Survey Certification Letter

Survey Company: NABORS DRILLING TECH USA, INC.

Job Number: T4039

Survey Job Type: Nabors MWD

Customer: Devon Energy Corporation

Well Name: Boundary Ralder 6-7 Fed Com 212H

Rig Name: Nabors X20

Surface: 32.339220, 103.7150733

A.P.I. No: 30-025-44146

Location: Lea, New Mexico

RKB Height: 33'

Distance to Bit: 69'

Surveyor Name	Surveyor Title	Borehole Number	Start Depth	End Depth	Start Date	End Date	Type of	TD Straight Line Projection
Brandon Fullingim	MWD Supervisor	OH	155'	20321'	12/09/17	12/25/17	MWD	20390'

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.



Brandon Fullingim

MWD Supervisor

NABORS DRILLING TECHNOLOGIES USA, INC.

30-025-44146



Devon Energy Corporation

Lea Co., NM

Boundary Raider

6-7 Fed 212H

OH

Survey: Survey #1 - NDS MWD

Standard Survey Report

02 February, 2018



devon

WELL DETAILS: 6-7 Fed 212H

Ground Elevation: 3630.89
RIG Elevation: KID-127 (Nabors X20) @ 3642.80ft (Nabors X20)
Rig Name: Nabors X20

+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.00	0.00	497892.430	732283.360	31° 20' 21.20288 N	103° 47' 54.26386 W

SECTION DETAILS

MD	In	An	TVD	+N-S	+E-W	Dip	Face	V-Set
6037.00	7.31	209.09	6032.07	330.82	-224.38	0.00	0.00	-230.93
6150.71	6.19	316.33	6115.13	238.23	-232.19	1.50	146.36	-238.73
6115.50	6.19	316.33	6082.33	471.88	-454.37	0.00	0.00	-470.88
6384.74	7.00	316.33	6361.00	483.41	-468.13	1.50	-180.00	-483.41
6763.83	3.00	316.33	6738.85	494.70	-477.00	0.00	0.00	-494.70
10669.89	88.16	180.00	10316.04	-48.68	-490.95	10.00	-134.33	63.68
10098.68	88.16	180.00	10281.50	-490.95	-490.95	0.00	0.00	-490.95
15121.42	88.33	180.00	10381.34	-4931.73	-490.95	2.00	-3.38	-4931.73
20317.77	89.59	180.00	10418.00	-4917.96	-493.63	0.00	0.00	-4917.96

6-7 Fed 212H_BHL

WELLSBORE TARGET DETAILS (MAP CO-ORDINATES)

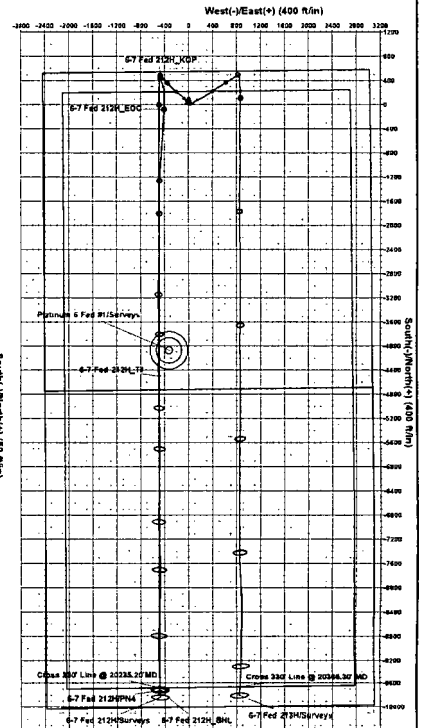
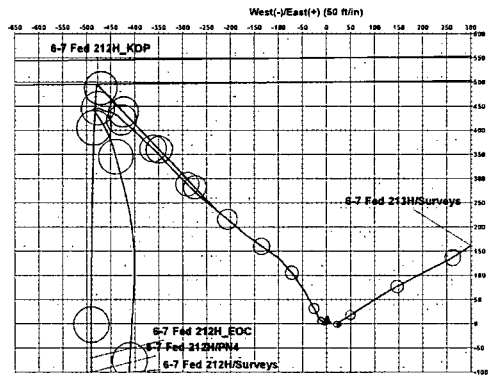
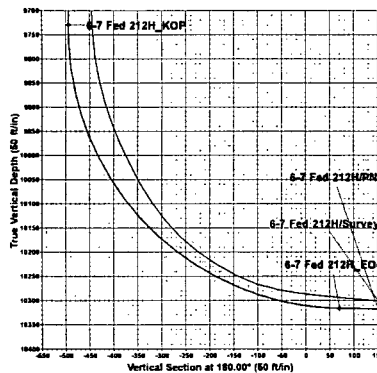
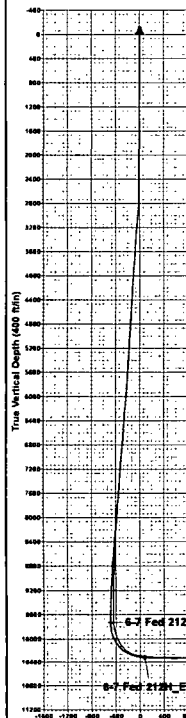
Name	TVD	+N-S	+E-W	Northing	Easting
6-7 Fed 212H_BHL 10418.00	-4917.96	-490.95	477874.485	731782.565	
6-7 Fed 212H_EOC 10316.04	-48.68	-490.95	487622.752	731782.387	
6-7 Fed 212H_KOP 9728.85	494.70	-477.00	488187.129	731864.351	
6-7 Fed 212H_T1 10381.00	-490.95	-490.95	483192.438	731792.401	



Azimuths to Grid North
True North: -0.33°
Magnetic North: 6.57°
Magnetic Field
Strength: 49200.8nT
Dip Angle: 60.13°
Date: 11/8/2017
Model: HDGM

PROJECT DETAILS: Lee 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

Project: Lee Co., NM
Site: Boundary Raider
Well: 6-7 Fed 212H
Wellbore: OH
Plan: PM4 (6-7 Fed 212H)OH



FOUNDATION TOP DETAILS
No formation data is available



Nabors Survey Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: Boundary Raider
Well: 6-7 Fed 212H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 6-7 Fed 212H
TVD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
MD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
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	Boundary Raider		
Site Position:		Northing:	482,895.110 usft
From:	Map	Easting:	734,450.880 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	32° 19' 33.60721 N
		Longitude:	103° 42' 29.32604 W
		Grid Convergence:	0.33 °

Well	6-7 Fed 212H		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	3,562.80 ft
		Latitude:	32° 20' 21.20266 N
		Longitude:	103° 42' 54.26396 W
		Ground Level:	3,530.80 ft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	HDGM	11/8/2017	6.90
		Dip Angle	60.13
		Field Strength	48,200.80000000

Design	Surveys		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			180.00

Survey Program	Date 2/2/2018		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
155.00	20,390.00	Survey #1 - NDS MWD (OH)	MWD+HRGM
			Description
			OWSG MWD + HRGM

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.00	0.38	237.20	155.00	-0.28	-0.43	0.28	0.25	0.25	0.00
341.00	0.38	273.05	341.00	-0.58	-1.57	0.58	0.13	0.00	19.27
431.00	0.38	270.24	430.99	-0.56	-2.16	0.56	0.02	0.00	-3.12
523.00	0.31	232.10	522.99	-0.71	-2.66	0.71	0.26	-0.08	-41.46
615.00	0.31	296.43	614.99	-0.76	-3.08	0.76	0.36	0.00	69.92
705.00	0.19	307.86	704.99	-0.56	-3.42	0.56	0.14	-0.13	12.70
797.00	0.38	285.89	796.99	-0.38	-3.83	0.38	0.23	0.21	-23.88
813.00	0.31	325.44	812.99	-0.33	-3.91	0.33	1.52	-0.44	247.19
978.00	0.38	346.18	977.99	0.57	-4.29	-0.57	0.09	0.04	12.57



Nabors
Survey Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: Boundary Raider
Well: 6-7 Fed 212H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 6-7 Fed 212H
TVD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
MD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,069.00	0.75	311.20	1,068.98	1.26	-4.81	-1.26	0.54	0.41	-38.44
1,160.00	0.69	323.15	1,159.97	2.09	-5.59	-2.09	0.18	-0.07	13.13
1,251.00	0.56	329.83	1,250.97	2.91	-6.14	-2.91	0.16	-0.14	7.34
1,434.00	0.56	301.18	1,433.96	4.15	-7.36	-4.15	0.15	0.00	-15.66
1,525.00	0.44	315.42	1,524.96	4.62	-7.98	-4.62	0.19	-0.13	15.65
1,616.00	0.44	301.36	1,615.95	5.05	-8.53	-5.05	0.12	0.00	-15.45
1,708.00	0.63	297.49	1,707.95	5.47	-9.28	-5.47	0.21	0.21	-4.21
1,802.00	0.63	299.77	1,801.94	5.97	-10.18	-5.97	0.03	0.00	2.43
1,897.00	0.38	309.79	1,896.94	6.43	-10.88	-6.43	0.28	-0.26	10.55
1,990.00	0.31	302.59	1,989.94	6.76	-11.33	-6.76	0.09	-0.08	-7.74
2,085.00	0.25	288.70	2,084.94	6.97	-11.74	-6.97	0.09	-0.06	-14.62
2,178.00	0.13	265.32	2,177.94	7.02	-12.04	-7.02	0.15	-0.13	-25.14
2,272.00	0.31	267.78	2,271.94	7.00	-12.40	-7.00	0.19	0.19	2.62
2,367.00	0.25	276.75	2,366.94	7.02	-12.86	-7.02	0.08	-0.06	9.44
2,460.00	0.25	283.78	2,459.93	7.09	-13.26	-7.09	0.03	0.00	7.56
2,554.00	0.19	301.88	2,553.93	7.22	-13.59	-7.22	0.10	-0.06	19.26
2,648.00	1.06	347.41	2,647.93	8.15	-13.91	-8.15	1.00	0.93	48.44
2,742.00	2.75	329.13	2,741.87	10.94	-15.26	-10.94	1.89	1.80	-19.45
2,837.00	4.31	333.35	2,836.69	16.08	-18.03	-16.08	1.66	1.64	4.44
2,931.00	5.69	334.23	2,930.33	23.44	-21.64	-23.44	1.47	1.47	0.94
3,025.00	6.25	331.06	3,023.82	32.11	-26.14	-32.11	0.69	0.60	-3.37
3,119.00	6.50	330.53	3,117.24	41.22	-31.24	-41.22	0.27	0.27	-0.56
3,213.00	6.19	332.82	3,210.66	50.36	-36.17	-50.36	0.43	-0.33	2.44
3,308.00	5.81	330.71	3,305.14	59.11	-40.86	-59.11	0.46	-0.40	-2.22
3,402.00	5.31	329.48	3,398.70	67.01	-45.40	-67.01	0.55	-0.53	-1.31
3,495.00	5.63	324.38	3,491.28	74.42	-50.24	-74.42	0.63	0.34	-5.48
3,589.00	5.63	323.86	3,584.82	81.90	-55.64	-81.90	0.05	0.00	-0.55
3,683.00	4.69	326.67	3,678.44	88.83	-60.47	-88.83	1.04	-1.00	2.99
3,776.00	3.88	327.55	3,771.18	94.66	-64.25	-94.66	0.87	-0.87	0.95
3,871.00	3.94	326.67	3,865.96	100.10	-67.77	-100.10	0.09	0.06	-0.93
3,964.00	4.94	318.93	3,958.68	105.79	-72.16	-105.79	1.25	1.08	-8.32
4,058.00	6.13	316.47	4,052.24	112.48	-78.27	-112.48	1.29	1.27	-2.62
4,152.00	5.31	318.05	4,145.77	119.35	-84.64	-119.35	0.89	-0.87	1.68
4,247.00	4.81	318.93	4,240.40	125.63	-90.19	-125.63	0.53	-0.53	0.93
4,341.00	4.19	322.80	4,334.11	131.33	-94.86	-131.33	0.73	-0.66	4.12
4,435.00	5.19	307.51	4,427.80	136.66	-100.31	-136.66	1.69	1.06	-16.27
4,529.00	5.94	302.59	4,521.36	141.87	-107.78	-141.87	0.94	0.80	-5.23
4,623.00	5.00	303.99	4,614.93	146.78	-115.27	-146.78	1.01	-1.00	1.49
4,717.00	4.81	303.46	4,708.58	151.24	-121.96	-151.24	0.21	-0.20	-0.56
4,811.00	4.69	306.28	4,802.26	155.69	-128.34	-155.69	0.28	-0.13	3.00
4,906.00	5.38	304.34	4,896.89	160.50	-135.15	-160.50	0.75	0.73	-2.04
5,000.00	5.56	305.93	4,990.46	165.65	-142.48	-165.65	0.25	0.19	1.69
5,094.00	5.31	306.28	5,084.04	170.90	-149.67	-170.90	0.27	-0.27	0.37
5,188.00	4.94	306.28	5,177.67	175.87	-156.44	-175.87	0.39	-0.39	0.00



Nabors
Survey Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: Boundary Raider
Well: 6-7 Fed 212H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 6-7 Fed 212H
TVD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
MD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,282.00	5.13	304.70	5,271.30	180.66	-163.16	-180.66	0.25	0.20	-1.68
5,376.00	4.94	308.91	5,364.94	185.59	-169.76	-185.59	0.44	-0.20	4.48
5,471.00	4.63	315.24	5,459.61	190.88	-175.64	-190.88	0.64	-0.33	6.66
5,565.00	5.50	311.73	5,553.24	196.58	-181.68	-196.58	0.98	0.93	-3.73
5,660.00	7.00	307.86	5,647.68	203.16	-189.65	-203.16	1.64	1.58	-4.07
5,754.00	6.50	309.62	5,741.02	210.07	-198.27	-210.07	0.58	-0.53	1.87
5,848.00	6.38	309.44	5,834.43	216.78	-206.40	-216.78	0.13	-0.13	-0.19
5,943.00	6.88	307.68	5,928.80	223.61	-214.98	-223.61	0.57	0.53	-1.85
6,037.00	7.31	309.09	6,022.08	230.82	-224.08	-230.82	0.49	0.46	1.50
6,129.00	7.50	308.74	6,113.31	238.27	-233.30	-238.27	0.21	0.21	-0.38
6,223.00	6.69	309.62	6,206.59	245.60	-242.30	-245.60	0.87	-0.86	0.94
6,317.00	6.44	309.79	6,299.97	252.47	-250.57	-252.47	0.27	-0.27	0.18
6,411.00	6.06	309.79	6,393.41	259.01	-258.44	-259.01	0.40	-0.40	0.00
6,505.00	5.50	311.37	6,486.93	265.17	-265.63	-265.17	0.62	-0.60	1.68
6,600.00	7.25	313.66	6,581.34	272.32	-273.38	-272.32	1.86	1.84	2.41
6,694.00	7.69	314.19	6,674.54	280.79	-282.18	-280.79	0.47	0.47	0.56
6,787.00	7.00	314.36	6,766.78	289.09	-290.70	-289.09	0.74	-0.74	0.18
6,882.00	6.69	313.66	6,861.10	296.96	-298.84	-296.96	0.34	-0.33	-0.74
6,976.00	6.00	314.54	6,954.53	304.19	-306.30	-304.19	0.74	-0.73	0.94
7,070.00	5.81	314.89	7,048.03	310.99	-313.18	-310.99	0.21	-0.20	0.37
7,163.00	7.00	316.30	7,140.45	318.41	-320.43	-318.41	1.29	1.28	1.52
7,257.00	7.13	317.35	7,233.73	326.84	-328.34	-326.84	0.19	0.14	1.12
7,352.00	6.13	317.35	7,328.10	334.91	-335.77	-334.91	1.05	-1.05	0.00
7,446.00	5.94	318.93	7,421.58	342.27	-342.36	-342.27	0.27	-0.20	1.68
7,540.00	5.94	316.47	7,515.07	349.46	-348.91	-349.46	0.27	0.00	-2.62
7,634.00	5.56	314.89	7,608.60	356.20	-355.48	-356.20	0.44	-0.40	-1.68
7,728.00	6.06	313.66	7,702.11	362.84	-362.30	-362.84	0.55	0.53	-1.31
7,823.00	5.94	308.21	7,796.60	369.34	-369.79	-369.34	0.61	-0.13	-5.74
7,917.00	6.13	314.01	7,890.07	375.84	-377.22	-375.84	0.68	0.20	6.17
8,011.00	5.81	316.47	7,983.57	382.78	-384.11	-382.78	0.44	-0.34	2.62
8,105.00	5.38	316.30	8,077.12	389.41	-390.43	-389.41	0.46	-0.46	-0.18
8,200.00	5.69	312.61	8,171.67	395.82	-396.97	-395.82	0.50	0.33	-3.88
8,293.00	5.75	311.20	8,264.21	402.01	-403.87	-402.01	0.16	0.06	-1.52
8,388.00	5.44	310.32	8,358.76	408.06	-410.88	-408.06	0.34	-0.33	-0.93
8,481.00	4.94	307.86	8,451.38	413.37	-417.41	-413.37	0.59	-0.54	-2.65
8,576.00	4.06	313.13	8,546.08	418.18	-423.09	-418.18	1.02	-0.93	5.55
8,670.00	3.44	314.19	8,639.88	422.42	-427.54	-422.42	0.66	-0.66	1.13
8,765.00	3.38	324.03	8,734.71	426.67	-431.23	-426.67	0.62	-0.06	10.36
8,859.00	4.63	305.05	8,828.49	431.09	-435.96	-431.09	1.92	1.33	-20.19
8,953.00	4.56	298.19	8,922.19	435.04	-442.36	-435.04	0.59	-0.07	-7.30
9,046.00	3.63	286.59	9,014.95	437.62	-448.44	-437.62	1.33	-1.00	-12.47
9,141.00	3.31	276.04	9,109.78	438.77	-454.05	-438.77	0.75	-0.34	-11.11
9,234.00	3.25	287.47	9,202.62	439.84	-459.24	-439.84	0.70	-0.06	12.29



Nabors
Survey Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: Boundary Raider
Well: 6-7 Fed 212H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 6-7 Fed 212H
TVD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
MD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,329.00	4.38	297.31	9,297.41	442.32	-465.03	-442.32	1.37	1.19	10.36
9,423.00	3.19	292.57	9,391.21	444.97	-470.64	-444.97	1.31	-1.27	-5.04
9,517.00	3.00	279.38	9,485.07	446.37	-475.48	-446.37	0.78	-0.20	-14.03
9,547.00	3.06	269.36	9,515.03	446.49	-477.05	-446.49	1.77	0.20	-33.40
9,641.00	2.44	271.12	9,608.92	446.50	-481.56	-446.50	0.67	-0.66	1.87
9,735.00	2.44	261.28	9,702.84	446.24	-485.54	-446.24	0.45	0.00	-10.47
9,759.10	2.34	198.67	9,726.92	445.70	-486.20	-445.70	10.31	-0.41	-259.76
6-7 Fed 212H_KOP									
9,780.00	3.88	169.70	9,747.79	444.60	-486.22	-444.60	10.31	7.37	-138.64
9,829.00	9.63	145.26	9,796.44	439.59	-483.58	-439.59	12.86	11.73	-49.88
9,874.00	14.94	142.98	9,840.39	431.86	-477.94	-431.86	11.85	11.80	-5.07
9,924.00	19.06	150.53	9,888.20	419.60	-470.04	-419.60	9.33	8.24	15.10
9,969.00	22.94	150.71	9,930.20	405.55	-462.13	-405.55	8.62	8.62	0.40
10,018.00	25.81	157.57	9,974.84	387.35	-453.38	-387.35	8.22	5.86	14.00
10,063.00	27.50	160.55	10,015.06	368.50	-446.19	-368.50	4.79	3.76	6.62
10,111.00	30.94	167.41	10,056.96	345.99	-439.80	-345.99	9.99	7.17	14.29
10,159.00	35.19	164.25	10,097.18	320.63	-433.35	-320.63	9.55	8.85	-6.58
10,206.00	40.13	164.60	10,134.37	292.97	-425.65	-292.97	10.52	10.51	0.74
10,253.00	47.38	167.23	10,168.30	261.46	-417.80	-261.46	15.90	15.43	5.60
10,299.00	54.00	169.52	10,197.43	226.62	-410.66	-226.62	14.90	14.39	4.98
10,346.00	57.69	173.21	10,223.82	188.18	-404.85	-188.18	10.19	7.85	7.85
10,394.00	63.44	177.43	10,247.41	146.54	-401.49	-146.54	14.21	11.98	8.79
10,442.00	71.19	182.35	10,265.91	102.30	-401.46	-102.30	18.71	16.15	10.25
10,488.00	79.13	182.88	10,277.68	57.92	-403.49	-57.92	17.30	17.26	1.15
10,529.00	82.88	183.41	10,284.09	17.49	-405.71	-17.49	9.23	9.15	1.29
10,622.00	84.56	183.23	10,294.27	-74.79	-411.06	74.79	1.82	1.81	-0.19
10,623.14	84.57	183.22	10,294.37	-75.92	-411.13	75.92	1.25	0.98	-0.78
6-7 Fed 212H_EOC									
10,667.00	85.00	182.88	10,298.36	-119.54	-413.45	119.54	1.25	0.98	-0.78
10,713.00	85.00	182.53	10,302.37	-165.31	-415.61	165.31	0.76	0.00	-0.76
10,761.00	85.13	182.88	10,306.50	-213.08	-417.87	213.08	0.78	0.27	0.73
10,805.00	84.31	182.53	10,310.55	-256.85	-419.94	256.85	2.02	-1.86	-0.80
10,850.00	84.06	182.88	10,315.11	-301.56	-422.05	301.56	0.95	-0.56	0.78
10,897.00	85.06	183.41	10,319.56	-348.28	-424.62	348.28	2.41	2.13	1.13
10,942.00	85.63	182.88	10,323.22	-393.06	-427.08	393.06	1.73	1.27	-1.18
10,989.00	85.69	183.58	10,326.77	-439.86	-429.72	439.86	1.49	0.13	1.49
11,034.00	85.50	183.41	10,330.23	-484.64	-432.45	484.64	0.57	-0.42	-0.38
11,080.00	87.75	183.05	10,332.94	-530.48	-435.04	530.48	4.95	4.89	-0.78
11,125.00	91.19	183.23	10,333.35	-575.41	-437.51	575.41	7.65	7.64	0.40
11,172.00	91.94	183.23	10,332.07	-622.31	-440.15	622.31	1.60	1.60	0.00
11,217.00	91.88	183.23	10,330.57	-667.22	-442.69	667.22	0.13	-0.13	0.00
11,262.00	91.94	183.76	10,329.07	-712.11	-445.43	712.11	1.18	0.13	1.18
11,354.00	91.50	183.76	10,326.31	-803.87	-451.46	803.87	0.48	-0.48	0.00
11,445.00	89.94	184.46	10,325.16	-894.62	-457.98	894.62	1.88	-1.71	0.77



Nabors
Survey Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: Boundary Raider
Well: 6-7 Fed 212H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 6-7 Fed 212H
TVD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
MD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,536.00	89.75	185.52	10,325.41	-985.28	-465.90	985.28	1.18	-0.21	1.16
11,628.00	88.44	184.46	10,326.86	-1,076.91	-473.90	1,076.91	1.83	-1.42	-1.15
11,719.00	88.19	184.11	10,329.54	-1,167.62	-480.69	1,167.62	0.47	-0.27	-0.38
11,810.00	88.13	183.58	10,332.46	-1,258.37	-486.79	1,258.37	0.59	-0.07	-0.58
11,902.00	88.31	183.93	10,335.32	-1,350.13	-492.81	1,350.13	0.43	0.20	0.38
11,996.00	88.50	182.53	10,337.94	-1,443.94	-498.11	1,443.94	1.50	0.20	-1.49
12,091.00	87.38	180.59	10,341.35	-1,538.84	-500.69	1,538.84	2.36	-1.18	-2.04
12,185.00	87.50	180.77	10,345.55	-1,632.74	-501.81	1,632.74	0.23	0.13	0.19
12,279.00	87.31	180.42	10,349.81	-1,726.63	-502.78	1,726.63	0.42	-0.20	-0.37
12,374.00	88.56	179.89	10,353.23	-1,821.57	-503.04	1,821.57	1.43	1.32	-0.56
12,468.00	89.38	180.24	10,354.92	-1,915.55	-503.15	1,915.55	0.95	0.87	0.37
12,562.00	91.06	178.84	10,354.56	-2,009.54	-502.39	2,009.54	2.33	1.79	-1.49
12,656.00	90.44	178.48	10,353.33	-2,103.51	-500.19	2,103.51	0.76	-0.66	-0.38
12,751.00	90.25	179.19	10,352.75	-2,198.49	-498.26	2,198.49	0.77	-0.20	0.75
12,846.00	89.69	180.59	10,352.80	-2,293.49	-498.08	2,293.49	1.59	-0.59	1.47
12,939.00	89.38	180.77	10,353.56	-2,386.48	-499.18	2,386.48	0.39	-0.33	0.19
13,034.00	89.88	180.07	10,354.17	-2,481.47	-499.88	2,481.47	0.91	0.53	-0.74
13,128.00	89.81	180.24	10,354.43	-2,575.47	-500.13	2,575.47	0.20	-0.07	0.18
13,222.00	89.75	180.59	10,354.79	-2,669.47	-500.82	2,669.47	0.38	-0.06	0.37
13,317.00	88.94	180.77	10,355.87	-2,764.45	-501.94	2,764.45	0.87	-0.85	0.19
13,411.00	88.50	181.65	10,357.97	-2,858.41	-503.93	2,858.41	1.05	-0.47	0.94
13,505.00	88.06	181.30	10,360.80	-2,952.33	-506.35	2,952.33	0.60	-0.47	-0.37
13,599.00	88.44	179.71	10,363.67	-3,046.28	-507.17	3,046.28	1.74	0.40	-1.69
13,694.00	89.69	179.36	10,365.22	-3,141.26	-506.40	3,141.26	1.37	1.32	-0.37
13,787.00	89.88	179.19	10,365.57	-3,234.26	-505.23	3,234.26	0.27	0.20	-0.18
13,882.00	89.69	179.54	10,365.92	-3,329.25	-504.17	3,329.25	0.42	-0.20	0.37
13,976.00	89.25	179.54	10,366.79	-3,423.24	-503.42	3,423.24	0.47	-0.47	0.00
14,071.00	88.56	180.59	10,368.61	-3,518.22	-503.53	3,518.22	1.32	-0.73	1.11
14,165.00	89.31	179.36	10,370.35	-3,612.20	-503.49	3,612.20	1.53	0.80	-1.31
14,259.00	89.13	179.36	10,371.63	-3,706.19	-502.44	3,706.19	0.19	-0.19	0.00
14,353.00	88.56	179.54	10,373.53	-3,800.17	-501.53	3,800.17	0.64	-0.61	0.19
14,447.00	90.25	179.54	10,374.50	-3,894.15	-500.78	3,894.15	1.80	1.80	0.00
14,542.00	90.25	180.07	10,374.09	-3,989.15	-500.46	3,989.15	0.56	0.00	0.56
14,636.00	90.13	180.07	10,373.78	-4,083.15	-500.57	4,083.15	0.13	-0.13	0.00
14,730.00	90.06	181.12	10,373.62	-4,177.15	-501.55	4,177.15	1.12	-0.07	1.12
14,824.00	89.88	181.82	10,373.67	-4,271.11	-503.96	4,271.11	0.77	-0.19	0.74
14,919.00	88.44	179.36	10,375.06	-4,366.09	-504.94	4,366.09	3.00	-1.52	-2.59
15,013.00	88.50	179.19	10,377.57	-4,460.05	-503.75	4,460.05	0.19	0.06	-0.18
15,053.13	88.53	179.49	10,378.62	-4,500.16	-503.28	4,500.16	0.75	0.06	0.74
6-7 Fed 212H_T1									
15,107.00	88.56	179.89	10,379.99	-4,554.01	-502.99	4,554.01	0.75	0.06	0.74
15,201.00	88.31	180.59	10,382.55	-4,647.98	-503.39	4,647.98	0.79	-0.27	0.74
15,295.00	88.75	178.48	10,384.96	-4,741.94	-502.62	4,741.94	2.29	0.47	-2.24

Company: Devon Energy Corporation
Project: Lea Co., NM
Site: Boundary Raider
Well: 6-7 Fed 212H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 6-7 Fed 212H
TVD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
MD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,389.00	89.00	179.01	10,386.81	-4,835.90	-500.57	4,835.90	0.62	0.27	0.56
15,484.00	88.69	178.84	10,388.73	-4,930.86	-498.78	4,930.86	0.37	-0.33	-0.18
15,578.00	88.50	178.84	10,391.03	-5,024.81	-496.88	5,024.81	0.20	-0.20	0.00
15,673.00	90.56	178.13	10,391.81	-5,119.77	-494.37	5,119.77	2.29	2.17	-0.75
15,767.00	91.13	178.13	10,390.42	-5,213.71	-491.30	5,213.71	0.61	0.61	0.00
15,861.00	91.00	178.13	10,388.68	-5,307.64	-488.24	5,307.64	0.14	-0.14	0.00
15,955.00	90.31	178.48	10,387.60	-5,401.59	-485.46	5,401.59	0.82	-0.73	0.37
16,049.00	90.25	179.01	10,387.14	-5,495.57	-483.40	5,495.57	0.57	-0.06	0.56
16,143.00	90.44	179.71	10,386.58	-5,589.56	-482.35	5,589.56	0.77	0.20	0.74
16,237.00	90.50	180.24	10,385.80	-5,683.56	-482.31	5,683.56	0.57	0.06	0.56
16,332.00	90.44	180.59	10,385.03	-5,778.55	-482.99	5,778.55	0.37	-0.06	0.37
16,426.00	90.25	180.59	10,384.46	-5,872.55	-483.96	5,872.55	0.20	-0.20	0.00
16,521.00	90.31	181.30	10,384.00	-5,967.53	-485.53	5,967.53	0.75	0.06	0.75
16,615.00	88.94	180.95	10,384.61	-6,061.51	-487.37	6,061.51	1.50	-1.46	-0.37
16,710.00	88.94	181.30	10,386.37	-6,156.47	-489.24	6,156.47	0.37	0.00	0.37
16,803.00	89.13	181.82	10,387.93	-6,249.43	-491.77	6,249.43	0.60	0.20	0.56
16,897.00	89.63	182.18	10,388.95	-6,343.36	-495.05	6,343.36	0.66	0.53	0.38
16,991.00	88.88	180.77	10,390.17	-6,437.32	-497.47	6,437.32	1.70	-0.80	-1.50
17,085.00	88.75	180.59	10,392.12	-6,531.29	-498.59	6,531.29	0.24	-0.14	-0.19
17,179.00	88.81	180.77	10,394.12	-6,625.27	-499.70	6,625.27	0.20	0.06	0.19
17,274.00	88.19	180.59	10,396.61	-6,720.23	-500.83	6,720.23	0.68	-0.65	-0.19
17,368.00	88.00	180.24	10,399.73	-6,814.17	-501.51	6,814.17	0.42	-0.20	-0.37
17,462.00	88.25	180.95	10,402.81	-6,908.12	-502.48	6,908.12	0.80	0.27	0.76
17,556.00	87.81	179.54	10,406.04	-7,002.06	-502.89	7,002.06	1.57	-0.47	-1.50
17,651.00	89.25	177.08	10,408.47	-7,096.97	-500.08	7,096.97	3.00	1.52	-2.59
17,745.00	91.06	176.90	10,408.22	-7,190.84	-495.15	7,190.84	1.94	1.93	-0.19
17,840.00	91.19	177.08	10,406.36	-7,285.69	-490.16	7,285.69	0.23	0.14	0.19
17,934.00	91.44	176.73	10,404.20	-7,379.53	-485.09	7,379.53	0.46	0.27	-0.37
18,028.00	91.56	176.55	10,401.74	-7,473.34	-479.58	7,473.34	0.23	0.13	-0.19
18,122.00	91.50	178.84	10,399.23	-7,567.22	-475.80	7,567.22	2.44	-0.06	2.44
18,216.00	91.31	179.01	10,396.92	-7,661.17	-474.04	7,661.17	0.27	-0.20	0.18
18,310.00	90.38	180.24	10,395.54	-7,755.16	-473.42	7,755.16	1.64	-0.99	1.31
18,405.00	90.69	180.77	10,394.65	-7,850.15	-474.26	7,850.15	0.65	0.33	0.56
18,499.00	89.44	181.47	10,394.54	-7,944.13	-476.10	7,944.13	1.52	-1.33	0.74
18,593.00	89.13	181.30	10,395.72	-8,038.10	-478.37	8,038.10	0.38	-0.33	-0.18
18,687.00	87.81	182.00	10,398.23	-8,132.02	-481.07	8,132.02	1.59	-1.40	0.74
18,782.00	87.94	182.70	10,401.75	-8,226.88	-484.97	8,226.88	0.75	0.14	0.74
18,875.00	88.06	182.18	10,404.99	-8,319.73	-488.92	8,319.73	0.57	0.13	-0.56
18,969.00	88.25	182.88	10,408.02	-8,413.59	-493.07	8,413.59	0.77	0.20	0.74
19,063.00	87.94	183.23	10,411.15	-8,507.41	-498.08	8,507.41	0.50	-0.33	0.37
19,157.00	88.38	181.82	10,414.16	-8,601.27	-502.22	8,601.27	1.57	0.47	-1.50
19,251.00	88.56	181.30	10,416.67	-8,695.20	-504.78	8,695.20	0.59	0.19	-0.55
19,346.00	89.63	180.59	10,418.17	-8,790.17	-506.34	8,790.17	1.35	1.13	-0.75
19,440.00	89.94	179.71	10,418.53	-8,884.17	-506.59	8,884.17	0.99	0.33	-0.94



Nabors
Survey Report



Company: Devon Energy Corporation
Project: Lea Co., NM
Site: Boundary Raider
Well: 6-7 Fed 212H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 6-7 Fed 212H
TVD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
MD Reference: KB=32' (Nabors X20) @ 3562.80ft (Nabors X20)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: RyanUSA_ODBC_32Bit

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
19,534.00	90.00	180.07	10,418.58	-8,978.17	-506.41	8,978.17	0.39	0.06	0.38
19,629.00	90.31	180.42	10,418.32	-9,073.17	-506.81	9,073.17	0.49	0.33	0.37
19,723.00	88.94	179.19	10,418.93	-9,167.16	-506.49	9,167.16	1.96	-1.46	-1.31
19,816.00	88.69	178.48	10,420.86	-9,260.12	-504.60	9,260.12	0.81	-0.27	-0.76
19,911.00	89.00	178.48	10,422.77	-9,355.07	-502.08	9,355.07	0.33	0.33	0.00
20,005.00	89.44	178.31	10,424.05	-9,449.02	-499.45	9,449.02	0.50	0.47	-0.18
20,100.00	90.88	177.61	10,423.79	-9,543.96	-496.07	9,543.96	1.69	1.52	-0.74
20,194.00	91.31	177.43	10,421.99	-9,637.85	-492.00	9,637.85	0.50	0.46	-0.19
20,235.20	91.48	177.58	10,420.99	-9,679.00	-490.21	9,679.00	0.55	0.40	0.37
Cross 330' Line @ 20235.20'MD									
20,274.18	91.63	177.73	10,419.93	-9,717.93	-488.62	9,717.93	0.55	0.40	0.37
6-7 Fed 212H_BHL									
20,288.00	91.69	177.78	10,419.53	-9,731.74	-488.08	9,731.74	0.55	0.40	0.37
20,321.00	91.69	177.08	10,418.56	-9,764.69	-486.60	9,764.69	2.12	0.00	-2.12
20,390.00	91.69	177.08	10,416.52	-9,833.57	-483.08	9,833.57	0.00	0.00	0.00
PTB									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
20,235.20	10,420.99	-9,679.00	-490.21	Cross 330' Line @ 20235.20'MD
20,390.00	10,416.52	-9,833.57	-483.08	PTB

Checked By: _____ Approved By: _____ Date: _____

HEADER INFORMATION
Company: Devon Energy Corporation
Field: Lea Co., NM
Site Name: Boundary
Well Name: 6-7 Fed 212H
Wellpath: OH
Survey Name: Survey
Survey Date: 12/11/2017
Survey Type: H 155 - 20390 SURVEY #1 - NDS MWD: MWD+HRGM
Depth Unit: ft

SURFACE LOCATION
Site North: 482895.1
Site Easting: 734450.9

BOTTOM HOLE LOCATION
BHL MWD: 20390
BHL TVD: 10416.52

WELL INFORMATION
Well North: 487692.4
Well Easting: 732283.4
Rig K.B.: 3562.8
Vsec Angle: 180
Vsec North: 0
Vsec East: 0

SURVEY LIST

4717	0	0	0	0	0	0	0	0	-3562.8	4797.33	-2167.53	487692.4	732283.4	32° 20' 2"	103° 42' 55.26 W
155	0.38	227.2	155	-0.28	-0.43	0.28	0.25	0	-3407.8	4797.05	-2167.97	487692.2	732282.9	32° 20' 2"	103° 42' 54.27 W
341	0.38	273.05	341	-0.58	-1.57	0.58	0.13	-3221.8	4796.75	-2169.1	487691.9	732281.8	732281.2	32° 20' 2"	103° 42' 54.28 W
431	0.38	270.24	430.99	-0.56	-2.16	0.56	0.02	-3131.81	4796.77	-2169.7	487691.9	732281.2	732280.3	32° 20' 2"	103° 42' 54.29 W
523	0.31	232.1	522.99	-0.71	-2.66	0.71	0.26	-3039.81	4796.62	-2170.2	487691.7	732280.7	732280.0	32° 20' 2"	103° 42' 54.30 W
615	0.31	296.43	614.99	-0.76	-3.08	0.76	0.36	-2947.81	4796.57	-2170.62	487691.7	732280.3	732280.3	32° 20' 2"	103° 42' 54.30 W
705	0.19	307.86	704.99	-0.56	-3.42	0.56	0.14	-2857.81	4796.77	-2170.95	487691.9	732279.9	732279.9	32° 20' 2"	103° 42' 54.30 W
797	0.38	285.89	796.99	-0.38	-3.83	0.38	0.23	-2765.81	4796.95	-2171.37	487692.1	732279.5	732279.5	32° 20' 2"	103° 42' 54.31 W
813	0.31	325.44	812.99	-0.33	-3.91	0.33	1.52	-2749.81	4797	-2171.44	487692.1	732279.4	732279.4	32° 20' 2"	103° 42' 54.31 W
978	0.38	346.18	977.99	-0.57	-4.29	0.57	0.09	-2584.81	4797.9	-2171.83	487693.7	732279.1	732279.1	32° 20' 2"	103° 42' 54.31 W
1069	0.75	311.2	1068.98	-1.26	-4.81	1.26	0.54	-2493.82	4798.58	-2172.35	487693.7	732278.5	732278.5	32° 20' 2"	103° 42' 54.32 W
1160	0.69	323.15	1159.97	-2.09	-5.59	2.09	0.18	-2402.83	4799.42	-2173.12	487694.5	732277.8	732277.8	32° 20' 2"	103° 42' 54.33 W
1251	0.56	329.83	1250.97	-2.91	-6.14	2.91	0.16	-2311.83	4800.24	-2173.68	487695.3	732277.2	732277.2	32° 20' 2"	103° 42' 54.34 W
1434	0.56	301.18	1433.96	-4.15	-7.36	4.15	0.15	-2128.84	4801.47	-2174.89	487696.6	732276	732276	32° 20' 2"	103° 42' 54.35 W
1616	0.44	301.36	1615.95	-5.05	-8.53	5.05	0.12	-1946.85	4802.38	-2176.06	487697.5	732274.8	732274.8	32° 20' 2"	103° 42' 54.36 W
1708	0.63	297.49	1707.95	-5.47	-9.28	5.47	0.21	-1854.85	4802.8	-2176.81	487697.9	732274.1	732274.1	32° 20' 2"	103° 42' 54.37 W
1802	0.63	299.77	1801.94	-5.97	-10.18	5.97	0.03	-1760.86	4803.3	-2177.72	487698.4	732273.2	732273.2	32° 20' 2"	103° 42' 54.38 W
1897	0.38	309.79	1896.94	-6.43	-10.88	6.43	0.28	-1665.86	4803.76	-2178.41	487698.9	732272.5	732272.5	32° 20' 2"	103° 42' 54.39 W
1990	0.31	302.59	1989.94	-6.76	-11.33	6.76	0.09	-1577.86	4804.09	-2178.86	487699.2	732272	732272	32° 20' 2"	103° 42' 54.40 W
2085	0.25	288.7	2084.94	-6.97	-11.74	6.97	0.09	-1477.86	4804.3	-2179.27	487699.4	732271.6	732271.6	32° 20' 2"	103° 42' 54.40 W
2178	0.25	265.32	2177.94	-7.02	-12.04	7.02	0.15	-1384.86	4804.35	-2179.57	487699.5	732271.3	732271.3	32° 20' 2"	103° 42' 54.40 W
2272	0.31	267.78	2271.94	-7	-12.4	7	0.19	-1290.86	4804.33	-2179.93	487699.4	732271	732271	32° 20' 2"	103° 42' 54.41 W
2367	0.25	276.75	2366.94	-7.02	-12.86	7.02	0.08	-1195.86	4804.35	-2180.39	487699.5	732270.5	732270.5	32° 20' 2"	103° 42' 54.41 W
2460	0.25	283.78	2459.93	-7.09	-13.26	7.09	0.03	-1102.87	4804.42	-2180.79	487699.5	732270.1	732270.1	32° 20' 2"	103° 42' 54.42 W
2554	0.19	301.88	2553.93	-7.22	-13.59	7.22	0.1	-1008.87	4804.55	-2181.13	487699.7	732269.8	732269.8	32° 20' 2"	103° 42' 54.42 W
2648	1.06	347.41	2647.93	-8.15	-13.91	8.15	1	-914.87	4805.48	-2181.45	487700.6	732269.4	732269.4	32° 20' 2"	103° 42' 54.43 W
2742	2.75	330.54	2741.87	-10.94	-15.26	10.94	1.89	-820.93	4808.27	-2182.79	487703.4	732268.1	732268.1	32° 20' 2"	103° 42' 54.44 W
2837	4.31	333.35	2836.69	-16.08	-18.03	16.08	1.66	-726.11	4813.41	-2185.56	487708.5	732265.3	732265.3	32° 20' 2"	103° 42' 54.47 W
2931	5.69	334.23	2930.33	-23.44	-21.64	23.44	1.47	-632.47	4820.77	-2189.17	487713.9	732261.7	732261.7	32° 20' 2"	103° 42' 54.51 W
3025	6.25	331.06	3023.82	-32.11	-26.14	32.11	0.69	-538.98	4829.44	-2193.68	487724.5	732257.2	732257.2	32° 20' 2"	103° 42' 54.57 W
3119	6.5	330.53	3117.24	-41.22	-31.24	41.22	0.27	-445.56	4838.55	-2198.77	487733.7	732252.1	732252.1	32° 20' 2"	103° 42' 54.63 W
3213	6.19	332.82	3210.66	-50.36	-36.17	50.36	0.43	-352.14	4847.69	-2203.7	487742.8	732247.2	732247.2	32° 20' 2"	103° 42' 54.66 W
3308	5.81	330.71	3305.14	-59.11	-40.86	59.11	0.46	-257.66	4856.44	-2208.39	487751.5	732242.5	732242.5	32° 20' 2"	103° 42' 54.74 W
3402	5.31	329.48	3398.7	-67.01	-45.4	67.01	0.55	-164.1	4864.34	-2212.93	487759.4	732238	732238	32° 20' 2"	103° 42' 54.79 W
3495	5.63	324.38	3491.28	-74.42	-50.24	74.42	0.63	-71.52	4871.75	-2217.77	487766.9	732233.1	732233.1	32° 20' 2"	103° 42' 54.84 W
3589	5.63	323.86	3584.82	-81.9	-55.64	81.9	0.05	22.02	4879.23	-2223.18	487774.3	732227.7	732227.7	32° 20' 2"	103° 42' 54.91 W
3683	4.69	326.67	3678.44	-88.83	-60.47	88.83	1.04	115.64	4886.16	-2228.01	487781.3	732222.9	732222.9	32° 20' 2"	103° 42' 55.01 W
376	3.88	327.55	3771.18	-94.66	-64.25	94.66	0.87	208.38	4891.99	-2231.79	487787.1	732219.1	732219.1	32° 20' 2"	103° 42' 55.01 W
3871	3.94	326.67	3865.96	-100.1	-67.77	100.1	0.09	303.16	4897.43	-2235.3	487792.5	732215.6	732215.6	32° 20' 2"	103° 42' 55.05 W
3964	4.94	318.93	3958.68	-105.79	-72.16	105.79	1.25	395.88	4903.12	-2239.69	487798.2	732211.2	732211.2	32° 20' 2"	103° 42' 55.10 W
4058	6.13	316.47	4052.24	-112.48	-78.27	112.48	1.29	489.44	4909.81	-2245.81	487804.9	732205.1	732205.1	32° 20' 2"	103° 42' 55.17 W
4152	5.31	318.05	4145.77	-119.35	-84.64	119.35	0.89	582.97	4916.68	-2252.17	487811.8	732198.7	732198.7	32° 20' 2"	103° 42' 55.24 W
4247	4.81	318.93	4240.4	-125.63	-90.19	125.63	0.53	677.6	4922.96	-2257.73	487818.1	732193.2	732193.2	32° 20' 2"	103° 42' 55.31 W
4341	4.19	322.8	4334.11	-131.33	-94.86	131.33	0.73	771.31	4928.66	-2262.39	487823.8	732188.5	732188.5	32° 20' 2"	103° 42' 55.36 W
4435	5.19	307.51	4427.8	-136.66	-100.31	136.66	1.69	865	4933.99	-2267.84	487829.1	732183	732183	32° 20' 2"	103° 42' 55.42 W
4529	5.94	302.59	4521.36	-141.87	-107.78	141.87	0.94	958.56	4939.2	-2275.31	487834.3	732175.6	732175.6	32° 20' 2"	103° 42' 55.51 W
4623	5	303.99	4614.93	-146.78	-115.27	146.78	1.01	1052.13	4944.11	-2282.81	487839.2	732168.1	732168.1	32° 20' 2"	103° 42' 55.60 W
4717	4.81	303.46	4708.58	-151.24	-121.96	151.24	0.21	1145.78	4948.57	-2289.49	487843.7	732161.4	732161.4	32° 20' 2"	103° 42' 55.68 W

4811	4.69	306.28	4802.26	155.69	-128.34	-155.69	0.28	1239.46	4953.02	-2295.88	487848.1	732155	32°20'Z	103°42'55.75W
4906	5.38	304.34	4896.89	160.5	-135.15	-160.5	0.75	1334.09	4957.83	-2302.68	487852.9	732148.2	32°20'Z	103°42'55.83W
5000	5.56	305.93	4990.46	165.65	-142.48	-165.65	0.25	1427.66	4962.98	-2310.01	487858.1	732140.9	32°20'Z	103°42'55.91W
5094	5.31	306.28	5084.04	175.87	-149.67	-175.87	0.27	1512.24	4968.23	-2317.2	487863.3	732133.7	32°20'Z	103°42'56.00W
5188	4.94	306.28	5177.67	175.87	-156.44	-175.87	0.39	1614.87	4973.2	-2323.97	487868.3	732126.9	32°20'Z	103°42'56.08W
5282	5.13	304.7	5271.3	180.66	-163.16	-180.66	0.25	1708.5	4977.99	-2330.69	487873.1	732120.2	32°20'Z	103°42'56.13W
5376	4.94	308.91	5364.94	185.59	-169.76	-185.59	0.44	1802.14	4982.92	-2337.3	487878.2	732113.6	32°20'Z	103°42'56.23W
5471	4.63	315.24	5459.61	190.88	-175.64	-190.88	0.64	1896.81	4988.21	-2343.18	487883.3	732107.7	32°20'Z	103°42'56.30W
5565	5.5	311.73	5553.24	196.58	-181.68	-196.58	0.98	1990.44	4993.9	-2349.21	487889.3	732101.7	32°20'Z	103°42'56.37W
5660	7	307.86	5647.68	203.16	-189.65	-203.16	1.64	2084.88	5000.49	-2357.18	487895.6	732093.7	32°20'Z	103°42'56.46W
5754	6.5	309.62	5741.02	210.07	-198.27	-210.07	0.58	2218.22	5007.4	-2365.8	487902.5	732085.1	32°20'Z	103°42'56.56W
5848	6.38	309.44	5834.43	216.78	-206.4	-216.78	0.13	2271.63	5014.11	-2373.93	487909.2	732077.7	32°20'Z	103°42'56.66W
5943	6.88	307.68	5928.79	223.61	-214.98	-223.61	0.57	2365.99	5020.94	-2382.51	487916.7	732068.4	32°20'Z	103°42'56.75W
6037	7.1	309.09	6022.07	230.82	-220.87	-230.82	0.49	2459.27	5028.15	-2391.61	487923.3	732059.3	32°20'Z	103°42'56.86W
6129	6.79	308.74	6113.31	238.27	-233.3	-238.27	0.21	2550.51	5035.6	-2400.84	487930.7	732050.1	32°20'Z	103°42'56.97W
6223	6.69	309.62	6206.59	245.6	-242.3	-245.6	0.87	2643.79	5042.93	-2409.84	487938	732041.1	32°20'Z	103°42'57.07W
6317	7.5	308.74	6308.74	253.82	-253.3	-253.82	0.21	2750.51	5053.6	-2400.84	487930.7	732050.1	32°20'Z	103°42'57.07W
6411	6.06	309.79	6393.41	259.01	-258.44	-259.01	0.4	2830.61	5056.34	-2425.97	487951.4	732024.9	32°20'Z	103°42'57.26W
6411	6.06	309.79	6393.41	259.01	-258.44	-259.01	0.4	2830.61	5056.34	-2425.97	487951.4	732024.9	32°20'Z	103°42'57.26W
6517	6.44	309.79	6393.41	259.01	-258.44	-259.01	0.4	2830.61	5056.34	-2425.97	487951.4	732024.9	32°20'Z	103°42'57.26W
6600	7.25	313.66	6581.34	272.32	-273.38	-272.32	1.86	3018.54	5069.64	-2440.92	487964.7	732010	32°20'Z	103°42'57.43W
6694	7.69	314.19	6674.54	280.79	-282.18	-280.79	0.47	3111.74	5078.12	-2449.72	487973.2	732001.2	32°20'Z	103°42'57.53W
6787	7	314.36	6766.78	289.09	-290.7	-289.09	0.74	3203.88	5086.42	-2458.23	487981.5	731992.7	32°20'Z	103°42'57.63W
6882	6.69	313.66	6861.1	296.96	-298.84	-296.96	0.34	3298.3	5094.29	-2466.37	487989.4	731984.5	32°20'Z	103°42'57.73W
6976	6	314.54	6954.53	304.19	-306.3	-304.19	0.21	3349.73	5101.52	-2473.84	487996.6	731977.1	32°20'Z	103°42'57.81W
7070	5.81	314.89	7048.03	310.99	-313.18	-310.99	0.21	3485.23	5108.32	-2480.71	488003.4	731970.2	32°20'Z	103°42'57.89W
7163	7	316.3	7140.45	318.41	-320.43	-318.41	1.29	3577.65	5115.74	-2487.96	488010.8	731962.9	32°20'Z	103°42'57.98W
7257	7.13	317.35	7233.73	326.84	-328.34	-326.84	0.19	3670.39	5124.17	-2495.87	488019.3	731955	32°20'Z	103°42'58.07W
7352	6.13	317.35	7328.1	334.91	-335.77	-334.91	1.05	3765.3	5132.24	-2503.3	488027.3	731947.6	32°20'Z	103°42'58.16W
7446	5.94	318.93	7421.58	342.27	-342.36	-342.27	0.27	3858.78	5139.6	-2509.9	488034.7	731941	32°20'Z	103°42'58.23W
7540	5.94	318.47	7515.07	349.46	-348.91	-349.46	0.27	3952.77	5146.79	-2516.44	488041.9	731934.8	32°20'Z	103°42'58.31W
7634	5.56	314.89	7608.6	356.2	-355.48	-356.2	0.44	4045.8	5153.53	-2523.02	488048.6	731927.9	32°20'Z	103°42'58.38W
7728	6.06	313.66	7702.11	362.84	-362.3	-362.84	0.55	4139.31	5160.17	-2529.83	488055.3	731921.1	32°20'Z	103°42'58.46W
7823	5.94	318.01	7796.59	369.34	-369.34	-369.34	0.61	4232.77	5166.76	-2537.32	488061.8	731913.6	32°20'Z	103°42'58.55W
7917	6.13	314.01	7890.07	375.84	-377.22	-375.84	0.68	4420.76	5180.1	-2551.64	488075.2	731899.2	32°20'Z	103°42'58.72W
8011	5.81	316.3	7983.56	382.78	-384.11	-382.78	0.44	4420.76	5180.1	-2551.64	488075.2	731899.2	32°20'Z	103°42'58.72W
8105	5.38	316.3	8077.12	389.41	-390.43	-389.41	0.46	4514.32	5186.74	-2557.96	488081.8	731892.9	32°20'Z	103°42'58.79W
8200	5.69	312.61	8171.67	395.82	-396.97	-395.82	0.5	4608.47	5193.15	-2564.51	488088.3	731884.6	32°20'Z	103°42'58.86W
8293	5.75	311.2	8264.21	402.01	-403.87	-402.01	0.16	4701.41	5199.34	-2571.41	488094.4	731878.5	32°20'Z	103°42'58.94W
8388	5.44	310.32	8358.76	408.06	-410.88	-408.06	0.34	4795.96	5205.39	-2578.42	488100.5	731872.5	32°20'Z	103°42'59.03W
8476	4.94	307.86	8451.38	413.37	-413.37	-413.37	0.59	4888.58	5210.7	-2584.94	488105.8	731866.3	32°20'Z	103°42'59.10W
8570	3.44	314.19	8569.88	422.42	-427.54	-422.42	0.66	5077.08	5219.75	-2595.08	488114.9	731855.8	32°20'Z	103°42'59.22W
8670	4.06	313.13	8546.08	418.18	-423.09	-418.18	1.02	4983.28	5215.51	-2590.63	488110.6	731860.3	32°20'Z	103°42'59.27W
8761	4.94	307.86	8651.38	413.37	-413.37	-413.37	0.59	4888.58	5210.7	-2584.94	488105.8	731866.3	32°20'Z	103°42'59.10W
8859	4.63	305.05	8828.49	431.09	-435.96	-431.09	1.92	5215.61	5228.42	-2603.5	488123.5	731847.4	32°20'Z	103°42'59.32W
8953	4.56	298.19	8922.19	435.04	-442.36	-435.04	0.59	5359.99	5232.37	-2609.9	488127.5	731841	32°20'Z	103°42'59.39W
9046	3.63	298.59	9014.95	437.62	-448.44	-437.62	1.33	5452.15	5234.95	-2615.98	488130.1	731834.9	32°20'Z	103°42'59.45W
9141	3.31	276.04	9109.78	438.77	-454.05	-438.77	0.75	5546.98	5236.1	-2621.59	488131.2	731829.3	32°20'Z	103°42'59.55W
9234	3.25	287.47	9202.62	439.84	-459.24	-439.84	0.7	5639.82	5237.17	-2626.77	488132.3	731824.1	32°20'Z	103°42'59.59W
9329	4.38	297.31	9297.41	442.32	-465.03	-442.32	1.37	5734.61	5239.65	-2632.56	488134.8	731818.3	32°20'Z	103°42'59.65W
9423	3.19	292.57	9391.21	444.97	-470.63	-444.97	1.31	5828.41	5242.3	-2638.17	488137.4	731812.7	32°20'Z	103°42'59.72W
9517	3	279.38	9485.07	446.37	-475.48	-446.37	0.78	5922.27	5243.7	-2643.01	488138.8	731807.9	32°20'Z	103°42'59.78W
9547	3.06	269.36	9515.03	446.49	-477.05	-446.49	1.77	5952.23	5243.82	-2644.59	488138.9	731806.3	32°20'Z	103°42'59.79W
9641	2.44	271.12	9608.92	446.5	-481.56	-446.5	0.67	6046.12	5243.83	-2649.1	488138.9	731801.8	32°20'Z	103°42'59.85W
9735	2.44	261.28	9702.84	446.24	-485.54	-446.24	0.45	6140.04	5243.57	-2653.07	488138.7	731797.8	32°20'Z	103°42'59.89W
9829	3.88	169.7	9747.79	444.6	-486.22	-444.6	10.31	6184.99	5241.92	-2653.75	488137	731797.1	32°20'Z	103°42'59.90W
9929	3.88	169.7	9747.79	444.6	-486.22	-444.6	10.31	6184.99	5241.92	-2653.75	488137	731797.1	32°20'Z	103°42'59.90W
10018	25.81	157.57	10015.06	368.5	-446.19	-368.5	4.79	6412.04	5184.68	-2620.92	488079.8	731830	32°20'Z	103°42'59.52W
10063	27.5	160.55	10056.96	345.99	-439.8	-345.99	9.99	6494.16	5143.32	-2607.34	488038.4	731843.6	32°20'Z	103°42'59.37W
10111	30.94	167.41	10056.96	345.99	-439.8	-345.99	9.99	6494.16	5143.32	-2607.34	488038.4	731843.6	32°20'Z	103°42'59.37W
10159	35.19	164.25	10097.18	320.63	-433.35	-320.63	65.34	6571.37	5117.96	-2600.89	488013.1	731850	32°20'Z	103°42'59.22W
10206	40.13	164.6	10134.37	292.97	-425.65	-292.97	10.52	6634.63	5023.95	-2578.2	487919.1	731872.7	32°20'Z	103°42'59.04W
10262	47.38	167.23	10168.3	261.46	-417.8	-261.46	15.9	6605.5	5058.79	-2585.33	487953.9	731865.6	32°20'Z	103°42'59.12W
10299	54	169.52	10197.43	226.62	-410.66	-226.62	14.9	6634.63	5023.95	-2578.2	487919.1	731872.7	32°20'Z	103°42'59.04W
10346	57.69	173.21	10223.82	188.18	-404.85	-188.18	10.19	6661.02	4985.51	-2572.39	487880.6	731878.5	32°20'Z	103°42'58.97W
10394	63.44	177.43	10247.4	146.54	-401.49	-146.54	14.21	6684.6	4943.87	-2569.02	487839	731881.9	32°20'Z	103°42'58.93W
10442	71.19	182.35	10265.91	102.3	-401.46	-102.3	18.71	6703.11	4899.63	-2568.99	487794.7	731881.9	32°20'Z	103°42'58.94W
10488	79.13	182.88	10277.68	57.92	-403.49	-57.92	17.3	6714.88	4855.25	-2571.02	487750.4	731879.9	32°20'Z	103°42'58.96W
10529	82.88	183.41	10284.09	17.49	-405.71	-17.49	9.23	6721.29	4814.82	-2573.24	487709.9	731877.6	32°20'Z	103°42'58.99W
10622	84.56	183.23	10294.27	-74.79	-411.06	-74.79	1.82							

10897	85.06	183.41	10319.56	-348.28	-424.62	308.28	7096.97	2.41	6756.76	4449.05	-2592.15	487344.2	731858.7	32° 20' 1"	103° 42' 59.24 W
10942	85.63	182.88	10323.21	-393.06	-427.08	393.06	6760.41	1.73	6760.41	4404.26	-2594.61	487299.4	731856.3	32° 20' 1"	103° 42' 59.27 W
10989	85.69	183.58	10326.77	-439.86	-429.72	439.86	6763.97	1.49	6763.97	4357.47	-2597.25	487252.6	731853.6	32° 20' 1"	103° 42' 59.30 W
11034	85.5	183.05	10330.23	-484.64	-432.45	484.64	6770.13	0.57	6770.13	4312.69	-2599.99	487207.8	731850.3	32° 20' 1"	103° 42' 59.34 W
11080	87.75	183.05	10332.94	-530.48	-435.04	530.48	6770.43	4.95	6770.43	4266.58	-2602.58	487162	731848.3	32° 20' 1"	103° 42' 59.37 W
11125	91.19	183.23	10333.35	-575.41	-437.51	575.41	6770.55	7.65	6770.55	4221.92	-2605.04	487117	731845.8	32° 20' 1"	103° 42' 59.40 W
11172	91.94	183.23	10332.07	-622.31	-440.15	622.31	6769.27	1.6	6769.27	4175.02	-2607.69	487070.1	731843.2	32° 20' 1"	103° 42' 59.44 W
11217	91.88	183.76	10330.57	-667.22	-442.69	667.22	6767.77	0.13	6767.77	4130.22	-2610.22	487025.2	731840.7	32° 20' 1"	103° 42' 59.47 W
11262	91.94	183.76	10329.07	-712.11	-445.43	712.11	6766.27	1.18	6766.27	4085.12	-2612.96	486980.3	731837.9	32° 20' 1"	103° 42' 59.50 W
11354	91.5	183.76	10326.31	-803.87	-451.46	803.87	6763.51	0.48	6763.51	3993.46	-2618.99	486888.6	731831.9	32° 20' 1"	103° 42' 59.58 W
11445	89.94	184.46	10325.16	-894.62	-457.98	894.62	6762.36	1.88	6762.36	3902.7	-2625.52	486797.8	731825.5	32° 20' 1"	103° 42' 59.66 W
11536	89.75	185.52	10325.41	-985.28	-465.9	985.28	6762.61	1.18	6762.61	3812.05	-2633.43	486707.2	731817.5	32° 20' 1"	103° 42' 59.76 W
11628	88.44	184.46	10326.86	-1076.91	-473.9	1076.91	6764.06	1.83	6764.06	3720.41	-2641.43	486615.5	731809.5	32° 20' 1"	103° 42' 59.86 W
11719	88.19	184.11	10329.54	-1167.62	-480.69	1167.62	6767.64	0.47	6767.64	3629.71	-2648.23	486524.8	731802.7	32° 20' 1"	103° 42' 59.95 W
11810	88.13	183.58	10332.46	-1258.37	-486.79	1258.37	6769.66	0.59	6769.66	3538.96	-2654.33	486434.1	731796.6	32° 20' 1"	103° 43' 0.02 W
11902	88.31	183.93	10335.32	-1350.13	-492.81	1350.13	6772.52	0.43	6772.52	3447.2	-2660.35	486342.3	731790.5	32° 20' 1"	103° 43' 0.10 W
11996	88.5	182.53	10337.94	-1443.94	-498.11	1443.94	6775.14	1.5	6775.14	3353.39	-2665.64	486248.5	731785.2	32° 20' 1"	103° 43' 0.17 W
12091	87.38	180.59	10341.35	-1538.84	-500.69	1538.84	6778.55	2.36	6778.55	3258.49	-2668.23	486153.6	731782.7	32° 20' 1"	103° 43' 0.20 W
12185	87.5	180.77	10345.55	-1632.74	-501.81	1632.74	6782.75	0.23	6782.75	3164.59	-2669.34	486059.7	731781.5	32° 20' 1"	103° 43' 0.22 W
12279	87.31	180.42	10349.8	-1726.63	-502.78	1726.63	6787	0.42	6787	3070.7	-2670.32	485965.8	731780.6	32° 20' 1"	103° 43' 0.24 W
12374	88.56	179.89	10353.23	-1821.57	-503.04	1821.57	6790.43	1.43	6790.43	2975.76	-2670.57	485870.3	731780.3	32° 20' 1"	103° 43' 0.25 W
12468	89.38	180.24	10354.92	-1915.55	-503.15	1915.55	6792.12	0.95	6792.12	2881.78	-2670.88	485776.9	731780.2	32° 20' 1"	103° 43' 0.26 W
12562	91.06	178.84	10354.56	-2009.54	-502.39	2009.54	6791.76	2.33	6791.76	2787.79	-2669.93	485682.9	731781	32° 20' 1"	103° 43' 0.25 W
12656	90.44	178.48	10353.33	-2103.51	-500.19	2103.51	6790.93	0.76	6790.93	2693.82	-2667.73	485588.9	731783.2	32° 20' 1"	103° 43' 0.24 W
12751	90.25	179.19	10352.75	-2198.49	-498.26	2198.49	6790.43	0.77	6790.43	2598.84	-2665.84	485494	731785.1	32° 19' 5"	103° 43' 0.22 W
12846	89.69	180.59	10352.8	-2293.49	-498.08	2293.49	6790	1.59	6790	2503.84	-2665.61	485399	731785.3	32° 19' 5"	103° 43' 0.22 W
12938	89.38	180.77	10353.56	-2386.48	-499.18	2386.48	6790.76	0.39	6790.76	2410.85	-2666.72	485306	731784.5	32° 19' 5"	103° 43' 0.24 W
13034	89.88	180.07	10354.17	-2481.47	-499.88	2481.47	6791.37	0.91	6791.37	2315.86	-2667.41	485211	731783.5	32° 19' 5"	103° 43' 0.26 W
13128	89.81	180.24	10354.43	-2575.47	-500.13	2575.47	6791.63	0.2	6791.63	2221.86	-2667.67	485117	731783.2	32° 19' 5"	103° 43' 0.27 W
13222	89.75	180.54	10354.79	-2669.47	-500.82	2669.47	6793.99	0.38	6793.99	2127.86	-2668.35	485023	731782.5	32° 19' 5"	103° 43' 0.28 W
13317	88.94	180.77	10355.87	-2764.45	-501.94	2764.45	6793.07	0.87	6793.07	2032.88	-2669.48	484928	731781.4	32° 19' 5"	103° 43' 0.30 W
13411	88.5	181.65	10357.97	-2858.41	-503.93	2858.41	6795.17	1.05	6795.17	1938.92	-2671.46	484834	731779.4	32° 19' 5"	103° 43' 0.33 W
13505	88.06	181.3	10360.79	-2952.33	-506.35	2952.33	6797.99	0.6	6797.99	1845	-2673.88	484740.1	731777	32° 19' 5"	103° 43' 0.36 W
13599	88.44	179.71	10363.67	-3046.28	-507.17	3046.28	6800.42	1.74	6800.42	1751.05	-2674.71	484646.2	731776.2	32° 19' 5"	103° 43' 0.38 W
13694	89.69	179.36	10365.22	-3141.26	-506.4	3141.26	6802.87	1.37	6802.87	1656.07	-2673.94	484551.2	731777	32° 19' 5"	103° 43' 0.38 W
13787	89.88	179.19	10365.56	-3234.26	-505.23	3234.26	6802.76	0.27	6802.76	1563.07	-2672.76	484458.2	731778.1	32° 19' 4"	103° 43' 0.37 W
13882	89.69	179.54	10365.92	-3329.25	-504.17	3329.25	6803.99	0.42	6803.99	1468.08	-2671.71	484363.2	731779.2	32° 19' 4"	103° 43' 0.36 W
13976	89.25	179.54	10366.79	-3423.24	-503.42	3423.24	6803.92	0.47	6803.92	1374.09	-2670.95	484269.2	731779.9	32° 19' 4"	103° 43' 0.36 W
14071	88.56	180.59	10368.61	-3518.22	-503.53	3518.22	6805.81	1.32	6805.81	1279.11	-2671.06	484174.2	731779.8	32° 19' 4"	103° 43' 0.37 W
14165	89.31	179.36	10370.35	-3612.2	-503.49	3612.2	6807.55	1.53	6807.55	1185.13	-2671.02	484080.2	731779.9	32° 19' 4"	103° 43' 0.37 W
14259	89.13	179.36	10371.63	-3706.19	-502.44	3706.19	6808.83	0.19	6808.83	1091.14	-2669.97	483986.3	731780.9	32° 19' 4"	103° 43' 0.37 W
14353	88.56	179.54	10373.53	-3800.17	-501.53	3800.17	6810.73	0.64	6810.73	997.16	-2669.07	483892.3	731781.8	32° 19' 4"	103° 43' 0.36 W
14447	90.25	179.54	10374.09	-3989.15	-500.78	3989.15	6811.29	0.56	6811.29	908.18	-2667.99	483703.3	731782.6	32° 19' 4"	103° 43' 0.36 W
14542	90.25	180.07	10374.09	-3989.15	-500.78	3989.15	6811.29	0.56	6811.29	908.18	-2667.99	483703.3	731782.6	32° 19' 4"	103° 43' 0.36 W
14636	90.13	180.07	10373.78	-4083.15	-500.57	4083.15	6810.86	0.13	6810.86	714.18	-2668.1	483609.3	731782.8	32° 19' 4"	103° 43' 0.37 W
14730	90.06	181.12	10373.62	-4177.15	-501.55	4177.15	6810.82	1.12	6810.82	620.18	-2669.08	483515.3	731781.8	32° 19' 3"	103° 43' 0.39 W
14824	89.88	181.82	10373.67	-4271.11	-503.96	4271.11	6810.77	0.77	6810.77	526.22	-2671.49	483421.3	731779.4	32° 19' 3"	103° 43' 0.42 W
14919	88.44	179.36	10375.06	-4366.09	-504.94	4366.09	6812.26	3	6812.26	431.24	-2672.47	483326.4	731778.4	32° 19' 3"	103° 43' 0.44 W
15013	88.5	179.19	10377.57	-4460.05	-503.75	4460.05	6814.77	0.19	6814.77	337.28	-2671.28	483232.4	731779.6	32° 19' 3"	103° 43' 0.43 W
15107	88.56	180.59	10379.99	-4554.01	-502.99	4554.01	6817.19	0.75	6817.19	243.3	-2670.53	483138.4	731780.4	32° 19' 3"	103° 43' 0.43 W
15201	88.31	180.59	10382.55	-4647.98	-503.39	4647.98	6819.75	0.79	6819.75	149.35	-2670.92	483044.5	731780	32° 19' 3"	103° 43' 0.44 W
15295	88.75	178.48	10384.96	-4741.94	-502.62	4741.94	6822.16	2.29	6822.16	55.39	-2670.16	482950.5	731780.7	32° 19' 3"	103° 43' 0.44 W
15389	89	179.01	10386.81	-4835.9	-500.57	4835.9	6823.92	0.62	6823.92	-38.37	-2668.1	482856.5	731780.8	32° 19' 3"	103° 43' 0.42 W
15484	88.69	178.84	10388.72	-4930.86	-498.78	4930.86	6825.91	0.37	6825.91	-133.53	-2666.32	482761.6	731784.6	32° 19' 3"	103° 43' 0.41 W
15578	88.5	178.84	10391.03	-5024.81	-496.88	5024.81	6828.23	0.2	6828.23	-227.48	-2664.42	482667.6	731786.5	32° 19' 3"	103° 43' 0.39 W
15673	90.56	178.13	10391.81	-5119.77	-494.37	5119.77	6829.01	2.29	6829.01	-322.44	-2661.49	482572.7	731789	32° 19' 2"	103° 43' 0.37 W
15767	91.13	178.13	10390.42	-5213.71	-491.3	5213.71	6827.62	0.61	6827.62	-416.38	-2658.84	482478.7	731792.1	32° 19' 2"	103° 43' 0.34 W
15861	91	178.13	10388.68	-5307.64	-488.24	5307.64	6825.88	0.14	6825.88	-510.31	-2655.77	482384.8	731795.1	32° 19' 2"	103° 43' 0.31 W
15955	90.31	178.48	10387.6	-5401.59	-485.46	5401.59	6824.24	0.82	6824.24	-604.27	-2652.99	482290.9	731797.9	32° 19' 2"	103° 43' 0.28 W
16049	90.25	179.01	10387.14	-5495.57	-483.4	5495.57	6824.34	0.57	6824.34	-698.24	-2650.93	482196.9	731800	32° 19' 2"	103° 43' 0.27 W
16143	90.44	179.71	10386.58	-5589.56	-482.35	5589.56	6823.78	0.77	6823.78	-792.23	-2649.88	482102.9	731802	32° 19' 2"	103° 43' 0.26 W
16237	90.5	180.24	10385.8	-5683.56	-482.31	5683.56	6823	0.57	6823	-886.23	-2649.84	482008.9	731801.1	32° 19' 2"	103° 43' 0.27 W
16326	90.25	180.59	10384.46	-5772.55	-483.96	5772.55	6821.66	0.2	6821.66	-1075.22	-2651.5	481819.3			

17745	91.06	176.9	10408.22	-7190.84	-495.15	7190.84	1.94	6845.42	-2393.51	-2662.68	480501.6	731788.2	32° 19' 11"	103° 43' 0.52 W
17934	91.44	176.73	10404.2	-7379.53	-485.09	7379.53	0.46	6841.4	-2582.62	-2652.62	480312.9	731798.3	32° 19' 11"	103° 43' 0.41 W
18028	91.56	176.55	10401.74	-7473.34	-479.58	7473.34	0.23	6888.94	-2676.01	-2647.11	480219.1	731803.8	32° 19' 11"	103° 43' 0.36 W
18122	91.5	178.84	10399.23	-7567.22	-475.8	7567.22	2.44	6836.43	-2769.89	-2643.34	480125.2	731807.6	32° 19' 11"	103° 43' 0.32 W
18405	90.69	180.77	10394.65	-7850.15	-474.26	7850.15	0.65	6831.85	-3052.82	-2641.79	479842.3	731809.1	32° 19' 11"	103° 43' 0.22 W
18593	89.13	181.3	10395.72	-8038.1	-478.37	8038.1	0.38	6832.92	-3240.77	-2645.9	479654.4	731805	32° 19' 11"	103° 43' 0.38 W
18687	87.81	182	10398.23	-8132.02	-481.07	8132.02	1.59	6835.43	-3334.69	-2648.61	479560.4	731802.3	32° 19' 11"	103° 43' 0.42 W
18782	87.94	182.7	10401.75	-8226.88	-484.97	8226.88	0.75	6838.95	-3429.55	-2652.5	479465.6	731798.4	32° 18' 55"	103° 43' 0.47 W
18875	88.06	182.18	10404.99	-8319.73	-488.92	8319.73	0.57	6842.19	-3522.4	-2656.46	479372.7	731794.4	32° 18' 55"	103° 43' 0.52 W
18969	88.25	182.88	10408.02	-8413.59	-493.07	8413.59	0.77	6845.22	-3616.26	-2660.61	479278.9	731790.3	32° 18' 55"	103° 43' 0.58 W
19063	87.94	183.23	10411.14	-8507.41	-498.08	8507.41	0.5	6848.34	-3710.08	-2665.61	479185	731785.3	32° 18' 55"	103° 43' 0.64 W
19157	88.38	181.82	10414.16	-8601.26	-502.22	8601.26	1.57	6851.36	-3803.94	-2669.75	479091.2	731781.1	32° 18' 55"	103° 43' 0.69 W
19251	88.56	181.3	10416.67	-8695.2	-504.78	8695.2	0.59	6853.87	-3897.87	-2672.31	478997.3	731778.6	32° 18' 55"	103° 43' 0.73 W
19346	89.63	180.59	10418.17	-8790.17	-506.34	8790.17	1.35	6855.37	-3992.84	-2673.88	478902.3	731777	32° 18' 55"	103° 43' 0.76 W
19440	89.94	179.71	10418.53	-8884.17	-506.59	8884.17	0.99	6855.73	-4086.84	-2674.12	478808.3	731776.8	32° 18' 55"	103° 43' 0.76 W
19534	90	180.07	10418.58	-8978.17	-506.41	8978.17	0.39	6855.78	-4180.84	-2673.94	478714.3	731776.9	32° 18' 55"	103° 43' 0.77 W
19629	90.31	180.42	10418.32	-9073.17	-506.81	9073.17	0.49	6855.52	-4275.84	-2674.35	478619.3	731776.5	32° 18' 55"	103° 43' 0.78 W
19723	88.94	179.19	10418.93	-9167.16	-506.49	9167.16	1.96	6856.13	-4369.83	-2674.03	478525.3	731776.9	32° 18' 55"	103° 43' 0.78 W
19816	88.69	178.48	10420.86	-9260.12	-504.6	9260.12	0.81	6858.06	-4462.79	-2672.14	478432.3	731778.8	32° 18' 44"	103° 43' 0.77 W
19911	89	178.48	10422.77	-9355.07	-502.08	9355.07	0.33	6859.97	-4557.74	-2669.62	478337.4	731781.3	32° 18' 44"	103° 43' 0.74 W
20005	89.44	178.31	10424.05	-9449.02	-499.45	9449.02	0.5	6861.25	-4651.69	-2666.99	478243.4	731783.9	32° 18' 44"	103° 43' 0.72 W
20100	90.88	177.61	10423.79	-9543.96	-496.07	9543.96	1.69	6860.99	-4746.63	-2663.6	478148.5	731787.3	32° 18' 44"	103° 43' 0.69 W
20194	91.31	177.43	10421.99	-9637.85	-492	9637.85	0.5	6859.19	-4840.52	-2659.54	478054.6	731791.4	32° 18' 44"	103° 43' 0.64 W
20288	91.69	177.78	10419.53	-9731.74	-488.08	9731.74	0.55	6856.73	-4934.41	-2655.61	477960.7	731795.3	32° 18' 44"	103° 43' 0.61 W
20321	91.69	177.08	10418.56	-9764.69	-486.6	9764.69	2.12	6855.76	-4967.36	-2654.13	477927.8	731796.8	32° 18' 44"	103° 43' 0.59 W
20390	91.69	177.08	10416.52	-9833.57	-483.08	9833.57	0	6853.72	-5036.24	-2650.62	477858.9	731800.3	32° 18' 44"	103° 43' 0.55 W