



NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 21 2015

RECEIVED

February 5, 2015

Devon Energy Production Co., L. P.
333 West Sheridan Ave
Oklahoma City, Oklahoma 73102-5010

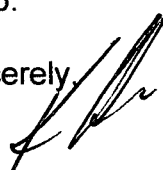
Attn: David Cook

Re: **Betelgeuse 19 Federal 7H**

Please find enclosed a copy of the survey from 0' to 4035.63' ran on the above referenced well.

If I can be of any further service please do not hesitate to call me at 800-606-4976.

Sincerely,

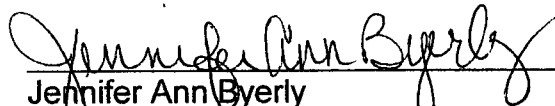

Keith Havelka
Operations

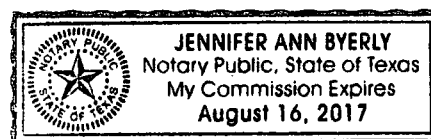
STATE OF TEXAS §

§

COUNTY OF NUECES §

This instrument was acknowledged before me on the 5 day of Feb,
A.D., 2015, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: Devon
Lease/Well: Betelgeuse 19 Federal/7H
Location: Sec20 T19S R31E
Rig Name: Scan Texas
State/County: New Mexico/Eddy
Latitude: 32.65, Longitude: -103.90
GRID North is 0.23 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB = 26 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 2/5/2015 / 11:24

VES Survey International

West Texas

(432) 563-5444

Surveyor: Noe Garza

Betelgeuse 19 Federal 7H / API 30-015-42032

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 21 2015

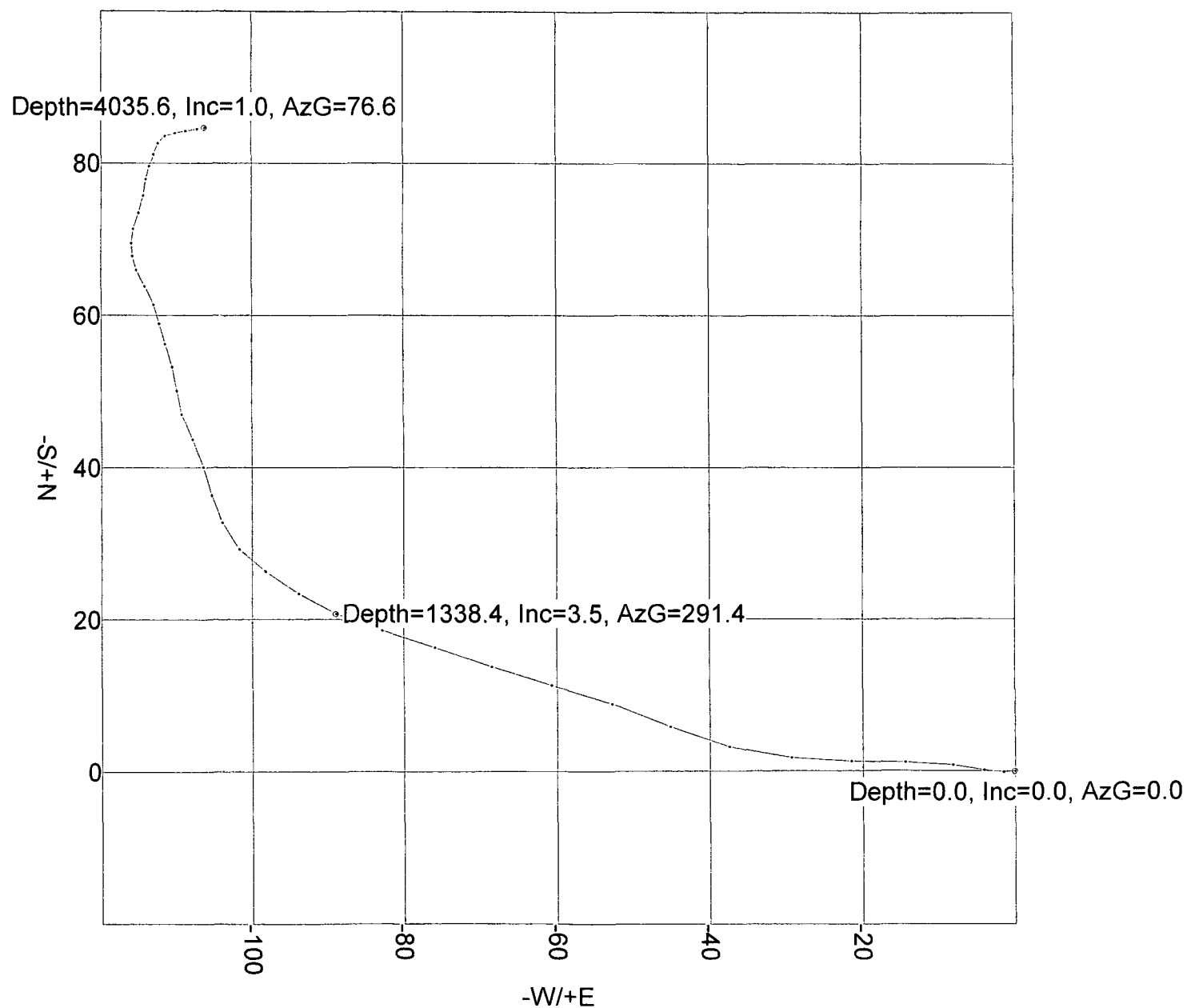
RECEIVED

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
114.06	1.52	264.70	114.05	-0.14	-1.50	-0.14	1.51	264.70	1.33
208.24	1.70	286.03	208.19	0.13	-4.09	0.13	4.09	271.83	0.66
302.42	3.36	275.82	302.28	0.80	-8.17	0.80	8.21	275.56	1.82
396.60	4.27	271.45	396.25	1.16	-14.42	1.16	14.47	274.62	1.01
490.78	4.38	270.45	490.16	1.28	-21.52	1.28	21.56	273.41	0.14
584.96	5.14	275.99	584.01	1.75	-29.31	1.75	29.36	273.42	0.94
679.14	4.98	284.79	677.83	3.23	-37.45	3.23	37.59	274.93	0.84
773.32	5.02	293.12	771.65	5.89	-45.19	5.89	45.57	277.43	0.77
867.50	4.99	289.56	865.47	8.88	-52.84	8.88	53.58	279.54	0.33
961.68	5.03	285.25	959.29	11.34	-60.68	11.34	61.73	280.58	0.40
1055.86	4.96	289.64	1053.12	13.79	-68.50	13.79	69.87	281.39	0.41
1150.04	4.56	287.79	1146.97	16.31	-75.90	16.31	77.63	282.13	0.45
1244.22	4.34	288.54	1240.87	18.58	-82.84	18.58	84.90	282.64	0.25
1338.40	3.53	291.42	1334.82	20.78	-88.92	20.78	91.32	283.15	0.88
1432.58	3.36	305.57	1428.84	23.44	-93.87	23.44	96.75	284.02	0.92
1526.76	2.99	301.65	1522.87	26.33	-98.20	26.33	101.67	285.01	0.46
1620.94	2.69	318.45	1616.94	29.28	-101.76	29.28	105.89	286.05	0.93
1715.12	2.41	336.76	1711.03	32.75	-104.01	32.75	109.04	287.48	0.91

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1809.30	2.34	340.80	1805.12	36.39	-105.42	36.39	111.52	289.04	0.19
1903.48	2.34	345.99	1899.23	40.07	-106.52	40.07	113.80	290.61	0.22
1997.66	2.47	331.44	1993.32	43.72	-107.95	43.72	116.47	292.05	0.66
2091.84	1.91	344.94	2087.44	47.02	-109.33	47.02	119.01	293.27	0.81
2186.02	1.96	351.53	2181.56	50.12	-109.98	50.12	120.86	294.50	0.24
2280.20	1.95	345.62	2275.69	53.27	-110.61	53.27	122.77	295.72	0.21
2374.38	1.83	341.03	2369.82	56.25	-111.50	56.25	124.88	296.77	0.20
2468.56	1.60	346.14	2463.95	58.95	-112.30	58.95	126.83	297.69	0.30
2562.74	1.60	340.14	2558.10	61.46	-113.06	61.46	128.69	298.53	0.18
2656.92	1.64	329.06	2652.24	63.85	-114.20	63.85	130.84	299.21	0.33
2751.10	1.31	337.45	2746.39	65.99	-115.31	65.99	132.86	299.78	0.42
2845.28	1.04	352.93	2840.55	67.84	-115.82	67.84	134.23	300.36	0.43
2939.46	1.02	357.68	2934.71	69.52	-115.96	69.52	135.21	300.94	0.10
3033.64	1.35	14.72	3028.87	71.43	-115.71	71.43	135.98	301.69	0.51
3127.82	1.35	21.52	3123.03	73.53	-115.02	73.53	136.52	302.59	0.17
3222.00	1.51	10.30	3217.18	75.79	-114.39	75.79	137.22	303.53	0.34
3316.18	1.13	6.70	3311.33	77.93	-114.06	77.93	138.15	304.34	0.41
3410.36	1.03	23.52	3405.50	79.63	-113.62	79.63	138.75	305.03	0.35
3504.54	1.02	21.36	3499.66	81.19	-112.98	81.19	139.12	305.70	0.04
3598.72	0.88	22.51	3593.83	82.64	-112.39	82.64	139.50	306.33	0.16
3692.90	0.87	68.27	3688.00	83.57	-111.45	83.57	139.30	306.86	0.72
3787.08	0.83	78.28	3782.17	83.98	-110.12	83.98	138.48	307.33	0.16
3881.26	0.90	80.01	3876.34	84.24	-108.72	84.24	137.54	307.77	0.08
3975.44	0.96	82.04	3970.51	84.48	-107.21	84.48	136.49	308.24	0.07
4035.63	1.01	76.56	4030.69	84.67	-106.20	84.67	135.82	308.57	0.18



VES Survey International
West Texas
(432) 563-5444
Surveyor: Noe Garza
Betelgeuse 19 Federal 7H / API 30-015-42032



VES Survey Date: 1/27/2015



Weatherford

Evaluation, Drilling & Intervention
10000 West County Rd. 116
P.O. Box 61028
Midland, TX USA 79711
Tel. (432) 561-8892 Fax (432) 561-8895

Devon Energy
333 W. Sherridan Ave
Oklahoma City, OK, 73102

Date: February 12, 2015

Attention: Art Alarcon

Re: Devon Energy
Well: Betelgeuse 19 Federal 7H
Eddy County, New Mexico

Enclosed, please find the original survey performed on the referenced well by Precision Energy Services, Inc. (P-5 No. 676004), a Weatherford company. Other information required by your office is as follows:

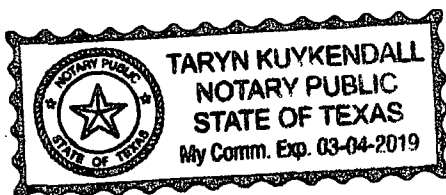
Name & Title Of Surveyor	Well Number	Surveyed Depths	Dates Performed	Type of Survey
Jeremy Orona MWD Supervisor	7H	4122 MD 12761 MD	1/27/2015 2/7/2015	Measurement While Drilling

A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Jesse Aguilar
MWD Ops Coordinator

On this, the 2nd day of March, 2015, before me a notary public, the undersigned officer, personally appeared Jesse Aguilar, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

Notary Public

5D Survey Report

Devon Energy

Field Name: *Eddy Co, NM (Nad 83 NME)*
Site Name: *Betelgeuse 19 Federal 7,8H Pad*
Well Name: *Betelgeuse 19 Federal 7H*
Survey: *Wft MWD Svy*

09 February 2015



Weatherford®

Betelgeuse 19 Federal 7H

Field Name
Eddy Co, NM
(Nad 83 NME)

Map Units : US ft **Company Name :** Devon Energy

Vertical Reference Datum (VRD) : Mean Sea Level

Projected Coordinate System : NAD83 / New Mexico East (ftUS)

Comment :

Site Name
Betelgeuse 19
Federal 7,8H
Pad

Units : US ft **North Reference :** Grid **Convergence Angle :** 0.23

Position
Northing : 598687.58 US ft **Latitude :** 32° 38' 42.32"
Easting : 674984.13 US ft **Longitude :** 103° 53' 56.88"

Elevation above Mean Sea Level: 3411.00 US ft

Comment :

Slot Name
Betelgeuse 19
Federal 7H

Position (Offsets relative to Site Centre)
+N / -S : 0.00 US ft **Northing :** 598687.58 US ft **Latitude :** 32° 38' 42.32"
+E / -W : 0.00 US ft **Easting :** 674984.13 US ft **Longitude :** 103° 53' 56.88"

Slot TVD Reference : Ground Elevation

Elevation above Mean Sea Level : 3411.00 US ft

Comment :

Well Name
Betelgeuse 19
Federal 7H

Type : Main well **UWI :**

Rig Height Kelly Bushing : 26.00 US ft **Comment :**
Relative to Mean Sea Level: 3437.00 US ft

Closure Distance : 5307.81 US ft **Closure Azimuth :** 263.196°

Vertical Section (Position of Origin Relative to Slot)
+N / -S : 0.00 US ft **+E / -W :** 0.00 US ft **Az :** 267.09°

Survey Name: Wft MWD Svy

Date : 31/Jan/2015 **Survey Tool :** MWD **Comment :** **Company :**

Magnetic Model

Model Name: BGGM **Date:** 30/Jan/2015 **Field Strength:** **Declination:** 7.50° **Dip:** 60.42°
48445.2 nT

Tie Point

MD: 4035.63 **Inclination:** 1.01 **Azimuth:** 76.56 **TVD:** 4030.68 **North Offset:** 84.67 **East Offset:** -106.2

Well path created using minimum curvature

Survey Points (Relative to Slot centre, TVD relative to Kelly Bushing)										
MD (US ft)	Incl (°)	Az (°)	TVD (US ft)	N Offset (US ft)	E Offset (US ft)	VS (US ft)	CLS (%/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
4122.00	1.07	71.82	4117.04	85.10	-104.69	100.24	0.00	598772.68	674879.44	First Wft Svy
4152.00	1.09	69.22	4147.04	85.29	-104.16	99.70	0.18	598772.87	674879.97	
4246.00	0.99	149.85	4241.02	84.90	-102.92	98.47	1.43	598772.48	674881.21	
4340.00	1.79	166.71	4335.00	82.77	-102.17	97.84	0.95	598770.35	674881.96	
4434.00	2.59	169.65	4428.93	79.25	-101.45	97.30	0.86	598766.83	674882.68	
4529.00	3.26	176.33	4523.80	74.45	-100.89	96.98	0.79	598762.03	674883.24	
4623.00	4.21	184.95	4617.60	68.34	-101.02	97.42	1.17	598755.92	674883.11	
4718.00	5.29	191.51	4712.28	60.58	-102.20	98.99	1.27	598748.16	674881.93	
4813.00	6.38	192.63	4806.78	51.13	-104.22	101.49	1.15	598738.71	674879.91	
4907.00	7.37	190.26	4900.11	40.10	-106.44	104.27	1.10	598727.68	674877.69	
5001.00	7.80	189.97	4993.28	27.89	-108.62	107.06	0.46	598715.47	674875.51	
5096.00	7.84	197.06	5087.40	15.35	-111.63	110.71	1.02	598702.93	674872.50	

5D Survey Report

Survey Points (Relative to Slot centre, TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N Offset (US ft)	E Offset (US ft)	VS (US ft)	DLS (%/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
5189.00	7.31	195.59	5179.59	3.58	-115.09	114.75	0.61	598691.16	674869.04	
5284.00	6.54	194.73	5273.90	-7.47	-118.09	118.31	0.82	598680.11	674866.04	
5378.00	6.53	191.42	5367.29	-17.89	-120.50	121.26	0.40	598669.69	674863.63	
5472.00	7.15	191.98	5460.62	-28.85	-122.78	124.08	0.66	598658.73	674861.35	
5567.00	7.28	193.55	5554.86	-40.48	-125.41	127.31	0.25	598647.10	674858.72	
5661.00	8.45	198.04	5647.98	-52.84	-128.95	131.47	1.40	598634.74	674855.18	
5755.00	8.46	198.88	5740.96	-65.95	-133.33	136.50	0.13	598621.63	674850.80	
5850.00	8.04	201.73	5834.97	-78.74	-138.05	141.87	0.62	598608.84	674846.08	
5944.00	7.66	202.31	5928.09	-90.64	-142.86	147.28	0.41	598596.94	674841.27	
6039.00	8.30	202.36	6022.17	-102.84	-147.87	152.90	0.67	598584.74	674836.26	
6133.00	8.19	206.01	6115.20	-115.13	-153.39	159.03	0.57	598572.45	674830.74	
6227.00	8.03	198.56	6208.26	-127.37	-158.41	164.68	1.13	598560.21	674825.72	
6322.00	7.87	197.33	6302.35	-139.87	-162.46	169.35	0.25	598547.71	674821.67	
6416.00	7.41	196.90	6395.52	-151.81	-166.14	173.64	0.49	598535.77	674817.99	
6511.00	6.81	198.25	6489.79	-163.02	-169.69	177.74	0.66	598524.56	674814.44	
6605.00	7.18	193.16	6583.09	-174.04	-172.77	181.38	0.77	598513.54	674811.36	
6699.00	8.33	188.30	6676.23	-186.50	-175.09	184.33	1.41	598501.08	674809.04	
6793.00	9.31	185.46	6769.11	-200.80	-176.80	186.76	1.14	598486.78	674807.33	
6888.00	8.57	185.31	6862.96	-215.50	-178.18	188.89	0.78	598472.08	674805.95	
6982.00	7.38	185.17	6956.05	-228.49	-179.38	190.74	1.27	598459.09	674804.75	
7077.00	8.26	187.03	7050.16	-241.34	-180.76	192.78	0.96	598446.24	674803.37	
7171.00	9.78	193.21	7143.00	-255.81	-183.41	196.16	1.92	598431.77	674800.72	
7265.00	9.24	194.00	7235.71	-270.91	-187.06	200.57	0.59	598416.67	674797.07	
7346.00	8.45	193.17	7315.75	-283.01	-189.99	204.11	0.99	598404.57	674794.14	
7388.00	8.03	194.65	7357.31	-288.85	-191.44	205.85	1.12	598398.73	674792.69	
7420.00	9.25	206.20	7388.95	-293.33	-193.14	207.78	6.61	598394.25	674790.99	
7451.00	11.96	216.36	7419.42	-298.15	-196.14	211.03	10.59	598389.43	674787.99	
7482.00	14.63	222.95	7449.59	-303.60	-200.71	215.87	9.89	598383.98	674783.42	
7513.00	17.69	225.97	7479.36	-309.74	-206.77	222.23	10.23	598377.84	674777.36	
7545.00	20.84	229.02	7509.57	-316.86	-214.56	230.37	10.33	598370.72	674769.57	
7576.00	23.82	232.15	7538.24	-324.32	-223.67	239.85	10.35	598363.26	674760.46	
7608.00	26.09	235.90	7567.25	-332.23	-234.60	251.17	8.64	598355.35	674749.53	
7639.00	29.06	238.80	7594.73	-339.95	-246.69	263.63	10.51	598347.63	674737.44	
7671.00	32.43	240.03	7622.23	-348.27	-260.78	278.12	10.71	598339.31	674723.35	
7702.00	35.16	241.08	7647.99	-356.74	-275.79	293.55	9.01	598330.84	674708.34	
7733.00	39.13	242.81	7672.69	-365.53	-292.31	310.49	13.24	598322.05	674691.82	
7765.00	41.36	245.86	7697.12	-374.47	-310.95	329.56	9.30	598313.11	674673.18	
7796.00	43.48	249.95	7720.01	-382.31	-330.32	349.30	11.22	598305.27	674653.81	
7828.00	45.30	255.04	7742.88	-389.03	-351.66	370.95	12.49	598298.55	674632.47	
7859.00	47.07	258.93	7764.35	-394.05	-373.45	392.97	10.70	598293.53	674610.68	
7891.00	48.13	260.26	7785.92	-398.32	-396.69	416.40	4.52	598289.26	674587.44	
7922.00	49.81	260.59	7806.27	-402.21	-419.75	439.62	5.48	598285.37	674564.38	
7954.00	52.11	261.77	7826.43	-406.01	-444.30	464.34	7.74	598281.57	674539.83	
7985.00	54.64	263.33	7844.92	-409.23	-468.97	489.14	9.11	598278.35	674515.16	
8016.00	57.59	264.89	7862.20	-411.87	-494.57	514.84	10.39	598275.71	674489.56	
8048.00	60.11	266.49	7878.76	-413.92	-521.87	542.21	8.96	598273.66	674462.26	
8079.00	63.16	267.52	7893.48	-415.34	-549.11	569.49	10.26	598272.24	674435.02	
8111.00	65.72	268.31	7907.29	-416.39	-577.96	598.35	8.30	598271.19	674406.17	
8143.00	68.52	269.93	7919.73	-416.84	-607.43	627.81	9.92	598270.74	674376.70	
8174.00	71.43	270.02	7930.34	-416.85	-636.55	656.89	9.39	598270.72	674347.58	
8205.00	74.06	270.03	7939.54	-416.84	-666.16	686.46	8.48	598270.74	674317.97	
8237.00	77.04	270.06	7947.52	-416.81	-697.14	717.40	9.31	598270.77	674286.99	
8268.00	80.24	269.16	7953.63	-417.02	-727.53	747.76	10.71	598270.56	674256.60	
8300.00	83.90	268.01	7958.04	-417.80	-759.21	779.44	11.98	598269.78	674224.92	
8385.00	91.47	267.23	7961.47	-421.33	-844.00	864.30	8.95	598266.25	674140.13	
8479.00	90.21	267.36	7960.09	-425.77	-937.88	958.29	1.35	598261.81	674046.25	
8573.00	90.49	268.51	7959.52	-429.15	-1031.82	1052.28	1.26	598258.43	673952.31	
8668.00	88.46	269.27	7960.39	-430.99	-1126.79	1147.22	2.28	598256.59	673857.34	
8762.00	87.83	269.84	7963.43	-431.72	-1220.74	1241.08	0.90	598255.86	673763.39	

SD Survey Report

Survey Points (Relative to Slot centre, TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N Offset (US ft)	E Offset (US ft)	VS (US ft)	dLS (%/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
8857.00	86.78	269.63	7967.90	-432.16	-1315.63	1335.87	1.13	598255.42	673668.50	
8951.00	86.85	269.08	7973.12	-433.22	-1409.48	1429.66	0.59	598254.36	673574.65	
9045.00	87.13	269.07	7978.06	-434.73	-1503.34	1523.47	0.30	598252.85	673480.79	
9140.00	88.60	268.19	7981.60	-437.00	-1598.24	1618.37	1.80	598250.58	673385.89	
9234.00	90.07	267.41	7982.69	-440.61	-1692.16	1712.35	1.77	598246.97	673291.97	
9328.00	90.28	267.15	7982.40	-445.07	-1786.06	1806.35	0.36	598242.51	673198.07	
9422.00	90.00	266.97	7982.17	-449.89	-1879.93	1900.35	0.35	598237.69	673104.20	
9517.00	90.28	266.63	7981.94	-455.20	-1974.78	1995.35	0.46	598232.38	673009.35	
9611.00	90.70	266.19	7981.14	-461.08	-2068.59	2089.34	0.65	598226.50	672915.54	
9706.00	90.35	266.10	7980.27	-467.47	-2163.38	2184.32	0.38	598220.11	672820.75	
9800.00	89.72	266.13	7980.21	-473.84	-2257.16	2278.30	0.67	598213.74	672726.97	
9895.00	90.56	266.27	7979.98	-480.13	-2351.95	2373.29	0.90	598207.45	672632.18	
9989.00	91.40	266.60	7978.37	-485.98	-2445.75	2467.27	0.96	598201.60	672538.38	
10083.00	91.68	267.10	7975.84	-491.14	-2539.58	2561.24	0.61	598196.44	672444.55	
10178.00	90.42	267.07	7974.10	-495.97	-2634.44	2656.22	1.33	598191.61	672349.69	
10272.00	89.65	267.19	7974.04	-500.68	-2728.32	2750.22	0.83	598186.90	672255.81	
10367.00	89.30	267.76	7974.91	-504.86	-2823.22	2845.21	0.70	598182.72	672160.91	
10461.00	89.30	267.60	7976.06	-508.67	-2917.14	2939.20	0.17	598178.91	672066.99	
10555.00	89.79	267.45	7976.81	-512.73	-3011.05	3033.19	0.55	598174.85	671973.08	
10649.00	91.33	265.63	7975.89	-518.40	-3104.86	3127.18	2.54	598169.18	671879.27	
10744.00	91.26	265.16	7973.74	-526.03	-3199.53	3222.11	0.50	598161.55	671784.60	
10838.00	91.12	265.44	7971.79	-533.73	-3293.19	3316.04	0.33	598153.85	671690.94	
10933.00	91.12	265.93	7969.93	-540.87	-3387.91	3411.00	0.52	598146.71	671596.22	
11027.00	90.77	265.97	7968.38	-547.51	-3481.66	3504.97	0.37	598140.07	671502.47	
11121.00	90.42	266.53	7967.41	-553.66	-3575.45	3598.95	0.70	598133.92	671408.68	
11215.00	89.79	266.76	7967.24	-559.16	-3669.29	3692.95	0.71	598128.42	671314.84	
11309.00	89.58	267.22	7967.75	-564.09	-3763.16	3786.94	0.54	598123.49	671220.97	
11404.00	90.35	267.09	7967.81	-568.81	-3858.04	3881.94	0.82	598118.77	671126.09	
11499.00	90.84	266.75	7966.82	-573.91	-3952.90	3976.94	0.63	598113.67	671031.23	
11594.00	90.56	266.94	7965.66	-579.14	-4047.75	4071.93	0.36	598108.44	670936.38	
11688.00	93.15	266.17	7962.62	-584.79	-4141.52	4165.87	2.87	598102.79	670842.61	
11782.00	93.71	266.49	7957.00	-590.79	-4235.16	4259.69	0.69	598096.79	670748.97	
11876.00	93.57	267.09	7951.03	-596.05	-4328.82	4353.50	0.65	598091.53	670655.31	
11970.00	93.50	267.65	7945.23	-600.35	-4422.54	4447.32	0.60	598087.23	670561.59	
12065.00	93.71	267.87	7939.26	-604.06	-4517.28	4542.12	0.32	598083.52	670466.85	
12159.00	92.87	267.70	7933.87	-607.68	-4611.06	4635.96	0.91	598079.90	670373.07	
12253.00	92.45	267.80	7929.50	-611.37	-4704.88	4729.85	0.46	598076.21	670279.25	
12348.00	91.75	267.56	7926.02	-615.21	-4799.74	4824.78	0.78	598072.37	670184.39	
12442.00	91.54	267.68	7923.32	-619.11	-4893.62	4918.74	0.26	598068.47	670090.51	
12536.00	91.05	268.33	7921.20	-622.39	-4987.54	5012.70	0.87	598065.19	669996.59	
12631.00	90.91	268.58	7919.57	-624.95	-5082.49	5107.66	0.30	598062.63	669901.64	
12670.00	90.77	268.84	7919.00	-625.83	-5121.48	5146.64	0.76	598061.75	669862.65	
12761.00	90.77	268.84	7917.78	-627.67	-5212.45	5237.59	0.00	598059.91	669771.68	Last Wft Svy 7H
12819.00	90.92	268.84	7916.92	-628.84	-5270.43	5295.56	0.26	598058.74	669713.70	Proj. To Bit 7H

devon

Betelgeuse 19 Federal 7H
Eddy Co, NM



Weatherford

Plan Data for Betelgeuse 19 Federal 7H

Plan Point Information:

Dogleg Severity Unit: %/100.00ft										Position offsets from Slot centre			
MD	Inc	Az	TVD	+N/-S	+E/-W	Northing	Easting	VSec	DLS				
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(DLSU)				
11499.00	90.84	266.85	7966.82	-573.83	-3952.93	598113.75	671031.20	3976.97	0.57				
11590.00	90.84	266.85	7965.49	-578.82	-4043.79	598108.76	670940.34	4067.96	0.00				
11687.12	92.77	267.07	7962.43	-583.97	-4140.72	598103.61	670843.41	4165.03	2.00				
12087.12	92.77	267.07	7943.10	-604.40	-4539.73	598083.18	670444.40	4564.56	0.00				
12175.77	91.00	267.08	7940.19	-608.92	-4628.21	598078.66	670355.92	4653.15	2.00				
12761.16	91.00	267.08	7930.00	-638.75	-5212.75	598048.83	669771.38	5238.46	0.00				

Plan Data for Betelgeuse 19 Federal 7H

Target Set Information:
Name: Betelgeuse 19 Federal 7
Position offsets from Slot centre

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape	Comment
(USft)	(USft)	(USft)	(USft)	(USft)	(USft)		
PBHL 7H	7930.00	-638.75	-5212.75	598048.83	669771.38	Cuboid	

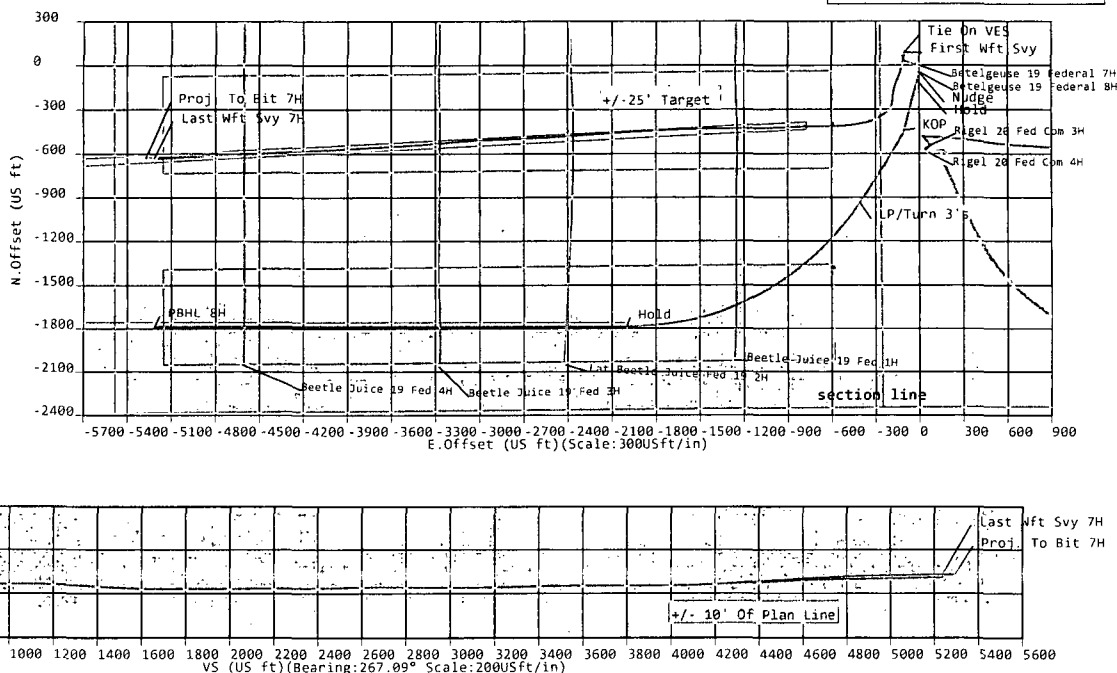
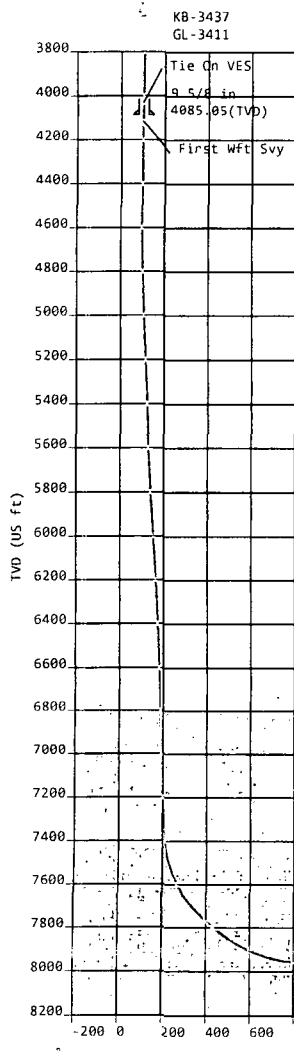
Plan Data for Betelgeuse 19 Federal 7H

Slot: Betelgeuse 19 Federal 7H
Position:
Offset is from Site centre
Northing: 598687.58USft Latitude: 32°38'42.3"
+E/-W: 0.00USft Easting: 674984.13USft Longitude: -103°53'56.9"
Elevation Above VRO: 3411.00USft

Plan Data for Betelgeuse 19 Federal 7H

Well: Betelgeuse 19 Federal 7H
Type: Main-Well
File Number:
Plan Folder: PS Plan: PS:V1
Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USft Azimuth: 267.09°
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
BGM 48445(nT) 7.50° 60.42° 2015-01-30

Betelgeuse 19 Federal 7H	-----
Rigel 20 Fed Com 3H	-----
Rigel 20 Fed Com 4H	-----
Beetle Juice 19 Fed 1H	-----
Lat Beetle Juice Fed 19 2H	-----
Beetle Juice 19 Fed 3H	-----
Beetle Juice 19 Fed 4H	-----
Betelgeuse 19 Federal 8H	-----
Betelgeuse 19 Federal 7H	-----



Sign Off: Russell Joyner



Directional Survey

Well Name: BETELGEUSE 19 FEDERAL 7H

Sub-Division DELAWARE BASIN		Region DELAWARE SLOPE EAST		Field Name HACKBERRY		County EDDY		State/Province NM					
Surface Legal Location SEC20.T19S.R31E		API/UWI 3001542032		Latitude (°) 32° 38' 42.321" N		Longitude (°) 103° 53' 56.878" W		Orig KB Elevation (ft) 3,437.20		Ground Elev MSL (ft) 3,411.20		KB - GL (ft) 26.00	
Wellbores													
Wellbore Name OH		Parent Wellbore				SAP Well ID 37648				Vertical Section Direction (°) 267.09			
Kick Offs & Key Depths													
Date 2/1/2015				Type Kick Off				Top Depth (ftKB) 7,408.0					
Actual Deviation Survey GYRO / MWD; Proposed? Yes				Definitive? No		Proposed? Yes		Proposed Deviation Survey					
Deviation Survey													
Date 1/28/2015		Description GYRO / MWD											
MD Tie In (ftKB)		TVD Tie In (ftKB)		Inclination Tie In (°)		Azimuth Tie In (°)		NSTie In (ft)		EWTie In (ft)			
Survey Data													
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company			
1/28/2015	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	114.06	1.52	264.70	114.05	1.51	-0.14	-1.51	1.33	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	208.24	1.70	286.03	208.19	4.08	-0.13	-4.09	0.66	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	302.42	3.36	275.82	302.28	8.13	0.80	-8.18	1.82	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	396.60	4.27	271.45	396.25	14.35	1.16	-14.43	1.01	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	490.78	4.38	270.45	490.16	21.44	1.28	-21.53	0.14	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	584.96	5.14	275.99	584.01	29.20	1.75	-29.33	0.94	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	679.14	4.98	284.79	677.83	37.26	3.23	-37.47	0.84	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	773.32	5.02	293.12	771.65	44.86	5.90	-45.22	0.77	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	867.50	4.99	289.56	865.47	52.35	8.88	-52.87	0.33	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	961.68	5.03	285.25	959.29	60.05	11.34	-60.71	0.40	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	1,055.86	4.96	289.64	1,053.11	67.74	13.80	-68.53	0.41	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	1,150.04	4.56	287.79	1,146.97	75.00	16.31	-75.93	0.45	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	1,244.22	4.34	288.54	1,240.87	81.82	18.59	-82.87	0.24	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	1,338.40	3.53	291.42	1,334.82	87.78	20.78	-88.95	0.89	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	1,432.58	3.36	305.57	1,428.83	92.58	23.44	-93.89	0.92	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	1,526.76	2.99	301.65	1,522.87	96.76	26.34	-98.23	0.46	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	1,620.94	2.69	318.45	1,616.94	100.17	29.28	-101.78	0.94	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	1,715.12	2.41	336.76	1,711.02	102.23	32.75	-104.03	0.91	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	1,809.30	2.34	340.80	1,805.12	103.46	36.39	-105.44	0.19	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	1,903.48	2.34	345.99	1,899.22	104.37	40.07	-106.54	0.22	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	1,997.66	2.47	331.44	1,993.32	105.62	43.72	-107.98	0.66	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	2,091.84	1.91	344.94	2,087.43	106.83	47.02	-109.36	0.80	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	2,186.02	1.96	351.53	2,181.56	107.31	50.12	-110.00	0.24	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	2,280.20	1.95	345.62	2,275.69	107.79	53.27	-110.64	0.21	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	2,374.38	1.83	341.03	2,369.81	108.52	56.24	-111.52	0.21	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	2,468.56	1.60	346.14	2,463.95	109.19	58.94	-112.33	0.29	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	2,562.74	1.60	340.14	2,558.10	109.82	61.46	-113.09	0.18	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	2,656.92	1.64	329.06	2,652.24	110.84	63.85	-114.23	0.33	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	2,751.10	1.31	337.45	2,746.39	111.83	66.00	-115.33	0.42	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	2,845.28	1.04	352.93	2,840.55	112.26	67.84	-115.85	0.44	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	2,939.46	1.02	357.68	2,934.71	112.31	69.53	-115.99	0.09	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	3,033.64	1.35	14.72	3,028.87	111.97	71.44	-115.74	0.51	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	3,127.82	1.35	21.52	3,123.03	111.17	73.54	-115.05	0.17	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	3,222.00	1.51	10.30	3,217.18	110.43	75.79	-114.43	0.34	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	3,316.18	1.13	6.70	3,311.33	109.99	77.94	-114.10	0.41	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	3,410.36	1.03	23.52	3,405.50	109.46	79.64	-113.65	0.35	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	3,504.54	1.02	21.36	3,499.66	108.74	81.19	-113.01	0.04	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	3,598.72	0.88	22.51	3,593.83	108.08	82.64	-112.42	0.15	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	3,692.90	0.87	68.27	3,688.00	107.10	83.58	-111.48	0.72	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	3,787.08	0.83	78.28	3,782.17	105.74	83.98	-110.15	0.16	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	3,881.26	0.90	80.01	3,876.34	104.34	84.25	-108.75	0.08	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	3,975.44	0.96	82.04	3,970.50	102.82	84.48	-107.24	0.07	GYRO	VAUHG N ENERGY SERVICES			
1/28/2015	4,035.63	1.01	76.56	4,030.68	101.79	84.68	-106.23	0.18	GYRO	VAUHG N ENERGY SERVICES			
1/30/2015	4,122.00	1.07	71.82	4,117.04	100.27	85.10	-104.72	0.12	MWD	WEATHERFORD			
1/30/2015	4,152.00	1.09	69.22	4,147.04	99.72	85.29	-104.19	0.18	MWD	WEATHERFORD			
1/30/2015	4,246.00	0.99	149.85	4,241.02	98.50	84.91	-102.95	1.43	MWD	WEATHERFORD			
1/30/2015	4,340.00	1.79	166.71	4,335.00	97.87	82.78	-102.20	0.95	MWD	WEATHERFORD			
1/30/2015	4,434.00	2.59	169.65	4,428.93	97.33	79.26	-101.48	0.86	MWD	WEATHERFORD			
1/30/2015	4,529.00	3.26	176.33	4,523.80	97.01	74.45	-100.92	0.79	MWD	WEATHERFORD			
1/30/2015	4,623.00	4.21	184.95	4,617.60	97.45	68.35	-101.05	1.17	MWD	WEATHERFORD			
1/30/2015	4,718.00	5.29	191.51	4,712.28	99.02	60.58	-102.22	1.27	MWD	WEATHERFORD			
1/30/2015	4,813.00	6.38	192.63	4,806.78	101.52	51.14	-104.25	1.15	MWD	WEATHERFORD			
1/30/2015	4,907.00	7.37	190.26	4,900.11	104.29	40.11	-106.47	1.10	MWD	WEATHERFORD			
1/30/2015	5,001.00	7.80	189.97	4,993.28	107.09	27.89	-108.65	0.46	MWD	WEATHERFORD			
1/30/2015	5,096.00	7.84	197.06	5,087.40	110.74	15.35	-111.66	1.02	MWD	WEATHERFORD			
1/30/2015	5,186.00	7.31	195.59	5,176.62	114.65	3.97	-115.00	0.63	MWD	WEATHERFORD			
1/30/2015	5,284.00	6.54	194.73	5,273.90	118.32	-7.44	-118.10	0.79	MWD	WEATHERFORD			
1/30/2015	5,378.00	6.53	191.42	5,367.29	121.27	-17.85	-120.52	0.40	MWD	WEATHERFORD			
1/30/2015	5,472.00	7.15	191.98	5,460.62	124.09	-28.81	-122.79	0.66	MWD	WEATHERFORD			
1/30/2015	5,567.00	7.28	193.55	5,554.87	127.32	-40.45	-125.43	0.25	MWD	WEATHERFORD			
1/31/2015	5,661.00	8.45	198.04	5,647.98	131.48	-52.81	-128.96	1.40	MWD	WEATHERFORD			
1/31/2015	5,755.00	8.46	198.88	5,740.96	136.51	-65.92	-133.34	0.13	MWD	WEATHERFORD			
1/31/2015	5,850.00	8.04	201.73	5,834.98	141.88	-78.70	-138.06	0.62	MWD	WEATHERFORD			
1/31/2015	5,944.00	7.66	202.31	5,928.10	147.29	-90.60	-142.87	0.41	MWD	WEATHERFORD			
1/31/2015	6,039.00	8.30	202.36	6,022.18	152.91	-102.80	-147.88	0.67	MWD	WEATHERFORD			



Directional Survey

Well Name: BETELGEUSE 19 FEDERAL 7H

Sub-Division		Region		Field Name		County		State/Province		
DELAWARE BASIN		DELAWARE SLOPE EAST		HACKBERRY		EDDY		NM		
Surface Legal Location		API/UWI		Latitude (°)		Longitude (°)		Orig KB Elevation (ft)		
SEC20 T19S R31E		3001542032		32° 38' 42.321" N		103° 53' 56.878" W		3,437.20		
								Ground Elev MSL (ft)		
								3,411.20		
								KB - GL (ft)		
								26.00		
Survey Data										
Date	MD (NKB)	Incl (°)	Azm (°)	TVD (NKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tools	Survey Company
1/31/2015	6,133.00	8.19	206.01	6,115.21	159.05	115.09	153.40	0.57	MWD	WEATHERFORD
1/31/2015	6,227.00	8.03	198.56	6,208.27	164.69	127.33	158.43	1.13	MWD	WEATHERFORD
1/31/2015	6,322.00	7.87	197.33	6,302.36	169.36	139.83	162.48	0.25	MWD	WEATHERFORD
1/31/2015	6,416.00	7.41	196.90	6,395.52	173.65	151.78	166.15	0.49	MWD	WEATHERFORD
1/31/2015	6,511.00	6.81	198.25	6,489.79	177.75	162.99	169.70	0.66	MWD	WEATHERFORD
1/31/2015	6,605.00	7.18	193.16	6,583.09	181.39	174.00	172.78	0.77	MWD	WEATHERFORD
1/31/2015	6,699.00	8.33	188.30	6,676.23	184.34	186.46	175.10	1.41	MWD	WEATHERFORD
1/31/2015	6,793.00	9.31	185.46	6,769.12	186.77	200.77	176.81	1.14	MWD	WEATHERFORD
1/31/2015	6,888.00	8.57	185.31	6,862.96	188.90	215.46	178.20	0.78	MWD	WEATHERFORD
1/31/2015	6,982.00	7.38	185.17	6,956.05	190.75	228.45	179.39	1.27	MWD	WEATHERFORD
1/31/2015	7,077.00	8.26	187.03	7,050.17	192.79	241.30	180.77	0.96	MWD	WEATHERFORD
1/31/2015	7,171.00	9.78	193.21	7,143.01	196.17	255.78	183.42	1.92	MWD	WEATHERFORD
1/31/2015	7,265.00	9.24	194.00	7,235.71	200.58	270.87	187.07	0.59	MWD	WEATHERFORD
1/31/2015	7,346.00	8.45	193.17	7,315.75	204.12	282.98	190.00	0.99	MWD	WEATHERFORD
2/1/2015	7,388.00	8.03	194.65	7,357.32	205.86	288.82	191.45	1.12	MWD	WEATHERFORD
2/1/2015	7,420.00	9.25	206.20	7,388.95	207.79	293.29	193.15	6.61	MWD	WEATHERFORD
2/1/2015	7,451.00	11.96	216.36	7,419.43	211.04	298.11	196.15	10.59	MWD	WEATHERFORD
2/1/2015	7,482.00	14.63	222.95	7,449.59	215.88	303.57	200.73	9.89	MWD	WEATHERFORD
2/1/2015	7,513.00	17.69	225.97	7,479.37	222.24	309.71	206.78	10.23	MWD	WEATHERFORD
2/1/2015	7,545.00	20.84	229.02	7,509.57	230.38	316.82	214.58	10.33	MWD	WEATHERFORD
2/1/2015	7,576.00	23.82	232.15	7,538.24	239.86	324.28	223.69	10.35	MWD	WEATHERFORD
2/1/2015	7,608.00	26.09	235.90	7,567.26	251.18	332.19	234.62	8.64	MWD	WEATHERFORD
2/1/2015	7,639.00	29.06	238.80	7,594.73	263.64	339.92	246.70	10.51	MWD	WEATHERFORD
2/1/2015	7,671.00	32.43	240.03	7,622.23	278.13	348.23	260.79	10.71	MWD	WEATHERFORD
2/1/2015	7,702.00	35.16	241.08	7,647.99	293.56	356.70	275.81	9.01	MWD	WEATHERFORD
2/2/2015	7,733.00	39.13	242.81	7,672.70	310.50	365.49	292.33	13.24	MWD	WEATHERFORD
2/2/2015	7,765.00	41.36	245.86	7,697.12	329.57	374.43	310.96	9.30	MWD	WEATHERFORD
2/2/2015	7,796.00	43.48	249.95	7,720.01	349.31	382.28	330.33	11.22	MWD	WEATHERFORD
2/2/2015	7,828.00	45.30	255.04	7,742.88	370.96	388.99	351.67	12.49	MWD	WEATHERFORD
2/2/2015	7,859.00	47.07	258.93	7,764.35	392.98	394.02	373.46	10.70	MWD	WEATHERFORD
2/2/2015	7,891.00	48.13	260.26	7,785.93	416.41	398.28	396.70	4.52	MWD	WEATHERFORD
2/2/2015	7,922.00	49.81	260.59	7,806.28	439.63	402.17	419.76	5.48	MWD	WEATHERFORD
2/2/2015	7,954.00	52.11	261.77	7,826.43	464.35	405.98	444.32	7.74	MWD	WEATHERFORD
2/2/2015	7,985.00	54.64	263.33	7,844.93	489.15	409.20	468.98	9.11	MWD	WEATHERFORD
2/2/2015	8,016.00	57.59	264.89	7,862.21	514.85	411.83	494.58	10.39	MWD	WEATHERFORD
2/2/2015	8,048.00	60.11	266.49	7,878.76	542.22	413.88	521.88	8.96	MWD	WEATHERFORD
2/2/2015	8,079.00	63.16	267.52	7,893.49	569.50	415.30	549.12	10.26	MWD	WEATHERFORD
2/2/2015	8,111.00	65.72	268.31	7,907.29	598.36	416.35	577.97	8.30	MWD	WEATHERFORD
2/2/2015	8,143.00	68.52	269.93	7,919.73	627.82	416.80	607.44	9.92	MWD	WEATHERFORD
2/2/2015	8,174.00	71.43	270.02	7,930.35	656.91	416.81	636.57	9.39	MWD	WEATHERFORD
2/2/2015	8,205.00	74.05	270.03	7,939.54	686.47	416.80	666.17	8.45	MWD	WEATHERFORD
2/2/2015	8,237.00	77.04	270.07	7,947.53	717.41	416.77	697.15	9.34	MWD	WEATHERFORD
2/2/2015	8,268.00	80.24	269.16	7,953.64	747.77	416.98	727.54	10.72	MWD	WEATHERFORD
2/2/2015	8,300.00	83.90	268.01	7,958.05	779.45	417.76	759.22	11.98	MWD	WEATHERFORD
2/3/2015	8,385.00	91.45	267.47	7,961.50	864.31	421.11	844.02	8.90	MWD	WEATHERFORD
2/3/2015	8,479.00	90.21	267.36	7,960.14	958.30	425.35	937.91	1.32	MWD	WEATHERFORD
2/3/2015	8,573.00	90.49	268.51	7,959.56	1,052.28	428.74	1,031.85	1.26	MWD	WEATHERFORD
2/3/2015	8,668.00	88.46	269.27	7,960.43	1,147.23	430.58	1,126.82	2.28	MWD	WEATHERFORD
2/3/2015	8,762.00	87.83	269.84	7,963.47	1,241.09	431.31	1,220.77	0.90	MWD	WEATHERFORD
2/3/2015	8,857.00	86.78	269.63	7,967.94	1,335.88	431.75	1,315.66	1.13	MWD	WEATHERFORD
2/3/2015	8,951.00	86.85	269.08	7,973.16	1,429.66	432.80	1,409.51	0.59	MWD	WEATHERFORD
2/4/2015	9,045.00	87.13	269.07	7,978.10	1,523.48	434.32	1,503.37	0.30	MWD	WEATHERFORD
2/4/2015	9,140.00	88.60	268.19	7,981.64	1,618.37	436.59	1,598.27	1.80	MWD	WEATHERFORD
2/4/2015	9,234.00	90.07	267.41	7,982.73	1,712.36	440.20	1,692.19	1.77	MWD	WEATHERFORD
2/4/2015	9,328.00	90.28	267.15	7,982.44	1,806.35	444.66	1,786.08	0.36	MWD	WEATHERFORD
2/4/2015	9,422.00	90.00	266.97	7,982.21	1,900.35	449.48	1,879.96	0.35	MWD	WEATHERFORD
2/4/2015	9,517.00	90.28	266.63	7,981.98	1,995.35	454.78	1,974.81	0.46	MWD	WEATHERFORD
2/4/2015	9,611.00	90.70	266.19	7,981.18	2,089.34	460.67	2,068.62	0.65	MWD	WEATHERFORD
2/4/2015	9,706.00	90.35	266.10	7,980.31	2,184.32	467.05	2,163.40	0.38	MWD	WEATHERFORD
2/4/2015	9,800.00	89.72	266.13	7,980.25	2,278.31	473.42	2,257.19	0.67	MWD	WEATHERFORD
2/4/2015	9,895.00	90.56	266.27	7,980.02	2,373.30	479.72	2,351.98	0.90	MWD	WEATHERFORD
2/4/2015	9,989.00	91.40	266.60	7,978.41	2,467.28	485.56	2,445.78	0.96	MWD	WEATHERFORD
2/4/2015	10,083.00	91.68	267.10	7,975.88	2,561.24	490.73	2,539.60	0.61	MWD	WEATHERFORD
2/4/2015	10,178.00	90.42	267.07	7,974.14	2,656.22	495.56	2,634.46	1.33	MWD	WEATHERFORD
2/4/2015	10,272.00	89.65	267.19	7,974.08	2,750.22	500.26	2,728.34	0.83	MWD	WEATHERFORD
2/4/2015	10,367.00	89.30	267.76	7,974.96	2,845.22	504.45	2,823.25	0.70	MWD	WEATHERFORD
2/4/2015	10,461.00	89.30	267.60	7,976.10	2,939.20	508.25	2,917.16	0.17	MWD	WEATHERFORD
2/4/2015	10,555.00	89.79	267.45	7,976.85	3,033.20	512.31	3,011.07	0.55	MWD	WEATHERFORD
2/5/2015	10,649.00	91.33	265.63	7,975.93	3,127.18	517.98	3,104.89	2.54	MWD	WEATHERFORD
2/5/2015	10,744.00	91.26	265.16	7,973.78	3,222.12	525.61	3,199.56	0.50	MWD	WEATHERFORD
2/5/2015	10,838.00	91.12	265.44	7,971.83	3,316.05	533.31	3,293.22	0.33	MWD	WEATHERFORD
2/5/2015	10,933.00	91.12	265.93	7,969.98	3,411.00	540.46	3,387.93	0.52	MWD	WEATHERFORD
2/5/2015	11,027.00	90.77	265.97	7,968.43	3,504.97	547.09	3,481.69	0.37	MWD	WEATHERFORD
2/5/2015	11,121.00	90.42	266.53	7,967.45	3,598.96	553.24	3,575.48	0.70	MWD	WEATHERFORD
2/5/2015	11,215.00	89.79	266.76	7,967.28	3,692.95	558.74	3,669.32	0.71	MWD	WEATHERFORD
2/5/2015	11,309.00	89.58	267.22	7,967.79	3,786.95	563.68	3,763.19	0.54	MWD	WEATHERFORD
2/5/2015	11,404.00	90.35	267.09	7,967.85	3,881.95	568.39	3,858.07	0.82	MWD	WEATHERFORD
Page 2/3										
Report Printed: 8/19/2015										



Well Name: BETELGEUSE 19 FEDERAL 7H

Sub-Division	Region	Field Name	County	State/Province		
DELAWARE BASIN	DELAWARE SLOPE EAST	HACKBERRY	EDDY	NM		
Surface Legal Location	API/UW	Latitude (°)	Longitude (°)	Orig KB Elevation (ft)	Ground Elev MSL (ft)	KB - GL (ft)
SEC20 T.19S R31E	3001542032	32° 38' 42.321" N	103° 53' 56.878" W	3,437.20	3,411.20	26.00

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
2/5/2015	11,499.00	90.84	266.75	7,966.86	3,976.94	-573.50	-3,952.93	0.63	MWD	WEATHERFORD
2/5/2015	11,594.00	90.56	266.94	7,965.70	4,071.94	-578.73	-4,047.78	0.36	MWD	WEATHERFORD
2/5/2015	11,688.00	93.15	266.17	7,962.66	4,165.87	-584.37	-4,141.55	2.87	MWD	WEATHERFORD
2/5/2015	11,782.00	93.71	266.49	7,957.04	4,259.70	-590.38	-4,235.19	0.69	MWD	WEATHERFORD
2/6/2015	11,876.00	93.57	267.09	7,951.07	4,353.51	-595.63	-4,328.85	0.65	MWD	WEATHERFORD
2/6/2015	11,970.00	93.50	267.65	7,945.27	4,447.33	-599.93	-4,422.57	0.60	MWD	WEATHERFORD
2/6/2015	12,065.00	93.71	267.87	7,939.30	4,542.13	-603.64	-4,517.31	0.32	MWD	WEATHERFORD
2/6/2015	12,159.00	92.87	267.70	7,933.91	4,635.97	-607.27	-4,611.08	0.91	MWD	WEATHERFORD
2/6/2015	12,253.00	92.45	267.80	7,929.54	4,729.86	-610.95	-4,704.91	0.46	MWD	WEATHERFORD
2/6/2015	12,348.00	91.75	267.56	7,926.06	4,824.79	-614.80	-4,799.77	0.78	MWD	WEATHERFORD
2/6/2015	12,442.00	91.54	267.68	7,923.36	4,918.75	-618.70	-4,893.65	0.26	MWD	WEATHERFORD
2/6/2015	12,536.00	91.05	268.33	7,921.24	5,012.71	-621.97	-4,987.57	0.87	MWD	WEATHERFORD
2/6/2015	12,631.00	90.91	268.58	7,919.61	5,107.67	-624.53	-5,082.52	0.30	MWD	WEATHERFORD
2/6/2015	12,670.00	90.77	268.84	7,919.04	5,146.65	-625.41	-5,121.50	0.76	MWD	WEATHERFORD
2/6/2015	12,761.00	90.77	268.84	7,917.82	5,237.60	-627.25	-5,212.48	0.00	BIT	WEATHERFORD