

ANADARKO PETROLEUM CORP

WELD COUNTY (NAD 83)

SE SW SEC 35 T2N R66W 6th P.M.

BAJA BERG 35-8HZ

JOB # 2019-025-461

08 February, 2019

Survey: FINAL SURVEYS



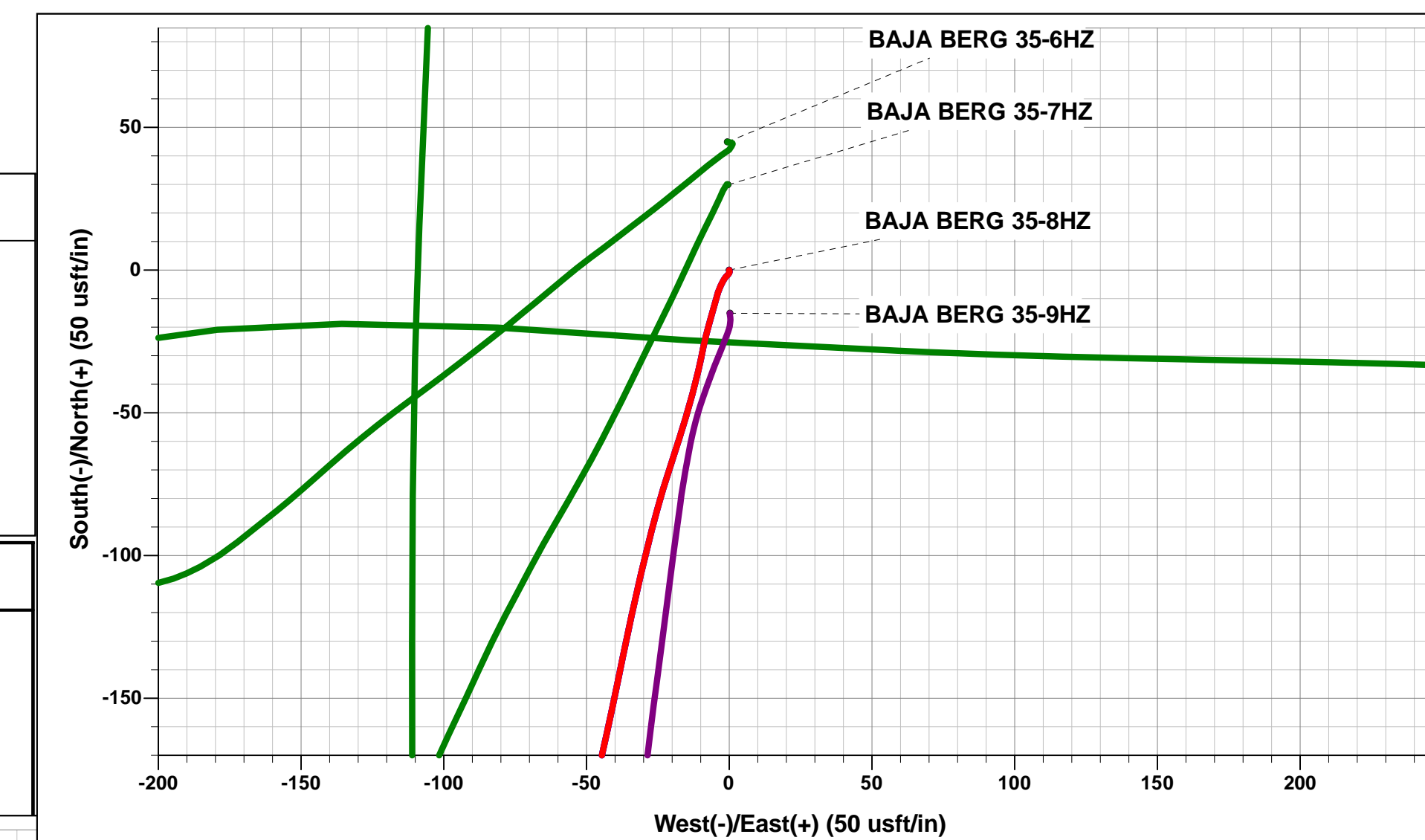


Project: WELD COUNTY (NAD 83)
Site: SE SW SEC 35 T2N R66W 6th P.M.
Well: BAJA BERG 35-8HZ
Wellbore: JOB # 2019-025-461
Design: FINAL SURVEYS



ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation		
3019.5	3118.0	13.22	204.84	-643.0	-235.2	-232.8	689.6	~ ENTER TGT BOX (3118' MD)		
6796.8	6905.0	2.60	115.58	-746.4	-314.7	-311.8	866.6	KOP		
7427.4	7605.0	48.92	90.06	-728.5	-44.6	-41.8	1140.0	~ ENTER RADIUS HEEL (7605' MD)		
7575.7	8165.0	86.43	92.78	-721.7	485.2	488.0	1668.1	~ EXIT RADIUS HEEL (8165' MD)		
7580.0	8265.0	89.01	92.01	-725.9	585.0	587.8	1768.0	HEEL:40.088543; -104.856827		
7533.6	16949.0	88.71	91.46	-783.6	9264.8	9267.8	10450.6	~ ENTER RADIUS TOE (16949' MD)		
7525.6	17487.0	91.03	89.31	-779.3	9802.6	9805.5	10988.5	~ EXIT RADIUS TOE (17487' MD)		
7527.3	17829.0	88.23	88.31	-776.5	10144.5	10147.4	11330.4	LAST SURVEY FEB 8, 2019		
7529.3	17892.0	88.23	88.31	-774.6	10207.5	10210.4	11393.4	PROJECTION TO TD; 40.088404; -104.822436		

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
BHL - BAJA BERG -35-8HZ (P3)	7543.0	-784.7	10207.9	40° 5' 18.153 N	104° 49' 20.765 W
HEEL - BAJA BERG -35-8HZ (P3)	7558.0	-747.1	440.0	40° 5' 18.545 N	104° 51' 26.441 W
KOP - BAJA BERG 35-8HZ (P4)	6921.5	-744.6	-197.5	40° 5' 18.569 N	104° 51' 34.643 W



AS DRILLED LOCAL COORDINATES:

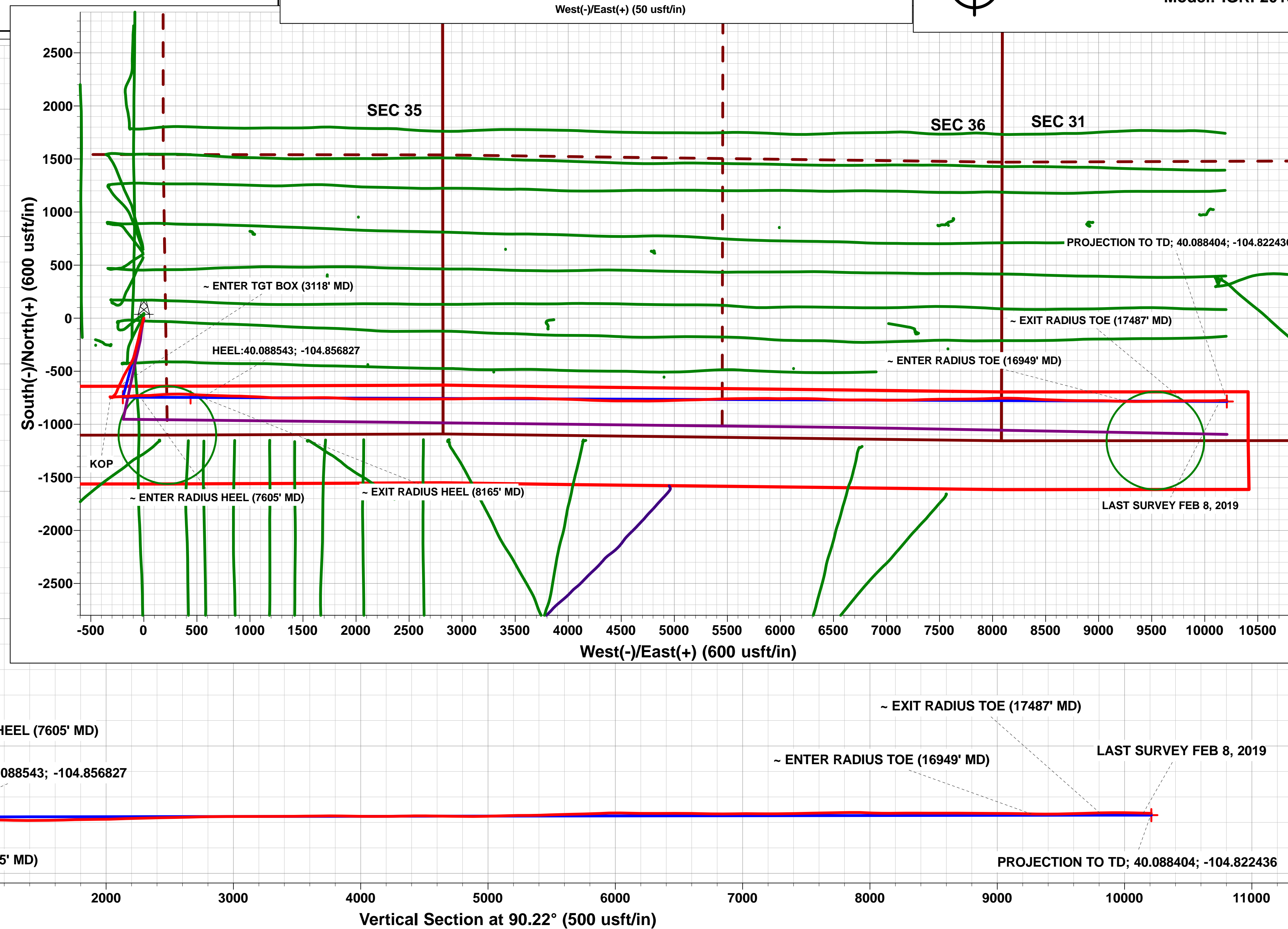
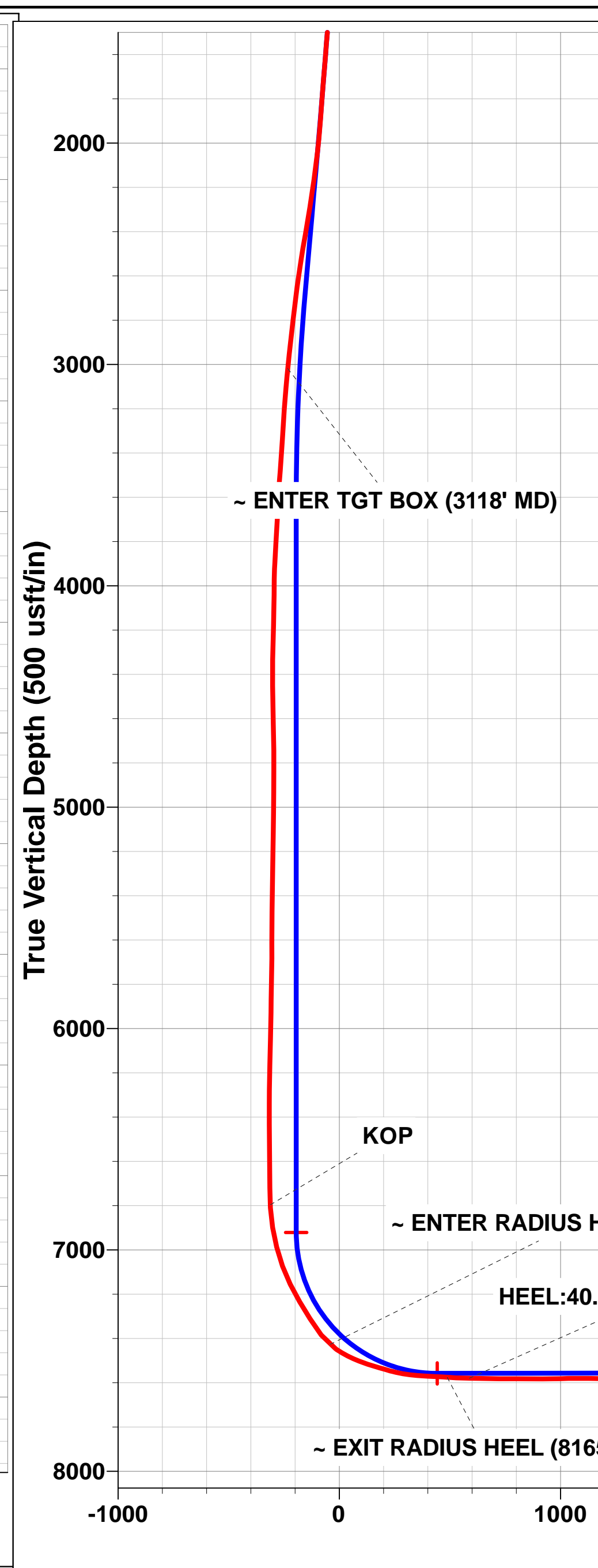
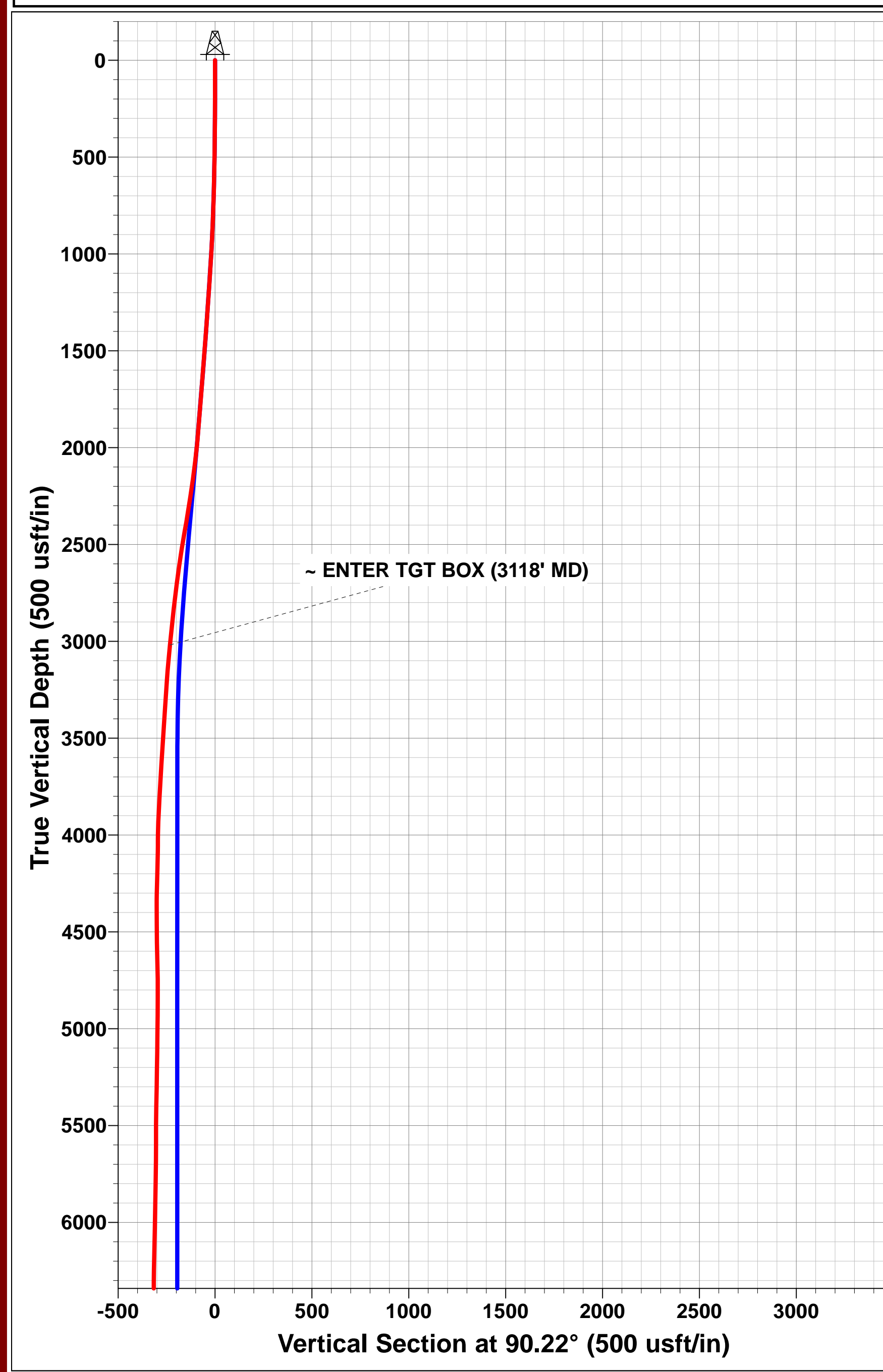
SHL: 1102ft FSL & 2450ft FWL of Sec 35

HEEL: 373ft FSL & 2235ft FEL of Sec 35

BHL: 380ft FSL & 2123ft FWL of Sec 31

Azimuths to True North
Magnetic North: 8.07°

Magnetic Field
Strength: 52041.3snT
Dip Angle: 66.55°
Date: 12/01/2019
Model: IGRF2015



Survey Report



Company:	ANADARKO PETROLEUM CORP	Local Co-ordinate Reference:	Well BAJA BERG 35-8HZ
Project:	WELD COUNTY (NAD 83)	TVD Reference:	KB 20' @ 4955.0usft (PD461)
Site:	SE SW SEC 35 T2N R66W 6th P.M.	MD Reference:	KB 20' @ 4955.0usft (PD461)
Well:	BAJA BERG 35-8HZ	North Reference:	True
Wellbore:	JOB # 2019-025-461	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Project	WELD COUNTY (NAD 83)		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)	Using geodetic scale factor	

Site	SE SW SEC 35 T2N R66W 6th P.M.				
Site Position:		Northing:	14,559,777.58 usft	Latitude:	40° 5' 26.372 N
From:	Lat/Long	Easting:	1,679,874.12 usft	Longitude:	104° 51' 32.110 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.09 °

Well	BAJA BERG 35-8HZ					
Well Position	+N/-S	0.0 usft	Northing:	14,559,732.67 usft	Latitude:	40° 5' 25.928 N
	+E/-W	0.0 usft	Easting:	1,679,874.81 usft	Longitude:	104° 51' 32.102 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,935.0 usft

Wellbore	JOB # 2019-025-461				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/01/2019	8.07	66.55	52,041

Design	FINAL SURVEYS				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	90.22	

Survey Program	Date	08/02/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
131.0	17,892.0	FINAL SURVEYS (JOB # 2019-025-461)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	4,955.0	0.0	0.0	0.0	0.00	0.00	0.00
131.0	0.31	167.81	131.0	4,824.0	-0.3	0.1	0.1	0.24	0.24	0.00
163.0	0.22	148.03	163.0	4,792.0	-0.5	0.1	0.1	0.40	-0.28	-61.81
194.0	0.35	205.86	194.0	4,761.0	-0.6	0.1	0.1	0.96	0.42	186.55
226.0	0.40	197.34	226.0	4,729.0	-0.8	0.0	0.0	0.23	0.16	-26.62
258.0	0.26	193.82	258.0	4,697.0	-1.0	0.0	0.0	0.44	-0.44	-11.00
290.0	0.48	204.63	290.0	4,665.0	-1.2	-0.1	-0.1	0.72	0.69	33.78
321.0	0.53	233.64	321.0	4,634.0	-1.4	-0.3	-0.2	0.83	0.16	93.58
353.0	0.70	217.47	353.0	4,602.0	-1.6	-0.5	-0.5	0.75	0.53	-50.53
385.0	0.79	236.45	385.0	4,570.0	-1.9	-0.8	-0.8	0.82	0.28	59.31
417.0	1.19	219.75	417.0	4,538.0	-2.3	-1.2	-1.2	1.53	1.25	-52.19
449.0	1.67	210.70	449.0	4,506.0	-2.9	-1.6	-1.6	1.65	1.50	-28.28
481.0	2.11	209.99	481.0	4,474.0	-3.9	-2.2	-2.2	1.38	1.37	-2.22

Survey Report



Company:	ANADARKO PETROLEUM CORP	Local Co-ordinate Reference:	Well BAJA BERG 35-8HZ
Project:	WELD COUNTY (NAD 83)	TVD Reference:	KB 20' @ 4955.0usft (PD461)
Site:	SE SW SEC 35 T2N R66W 6th P.M.	KB Reference:	KB 20' @ 4955.0usft (PD461)
Well:	BAJA BERG 35-8HZ	North Reference:	True
Wellbore:	JOB # 2019-025-461	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
512.0	2.72	206.22	511.9	4,443.1	-5.0	-2.8	-2.8	2.03	1.97	-12.16
544.0	3.21	202.79	543.9	4,411.1	-6.5	-3.5	-3.4	1.63	1.53	-10.72
576.0	3.96	196.28	575.8	4,379.2	-8.4	-4.1	-4.1	2.66	2.34	-20.34
607.0	4.66	194.79	606.7	4,348.3	-10.6	-4.7	-4.7	2.29	2.26	-4.81
639.0	5.14	195.49	638.6	4,316.4	-13.3	-5.5	-5.4	1.51	1.50	2.19
671.0	5.49	196.37	670.5	4,284.5	-16.1	-6.3	-6.2	1.12	1.09	2.75
702.0	6.11	195.14	701.3	4,253.7	-19.1	-7.1	-7.0	2.04	2.00	-3.97
734.0	7.16	194.44	733.1	4,221.9	-22.7	-8.1	-8.0	3.29	3.28	-2.19
766.0	7.87	192.42	764.8	4,190.2	-26.8	-9.0	-8.9	2.37	2.22	-6.31
798.0	8.00	191.45	796.5	4,158.5	-31.1	-9.9	-9.8	0.58	0.41	-3.03
829.0	9.01	193.65	827.2	4,127.8	-35.6	-10.9	-10.8	3.42	3.26	7.10
861.0	10.02	194.35	858.7	4,096.3	-40.7	-12.2	-12.1	3.18	3.16	2.19
893.0	10.63	194.97	890.2	4,064.8	-46.3	-13.7	-13.5	1.94	1.91	1.94
925.0	10.63	197.34	921.7	4,033.3	-51.9	-15.3	-15.1	1.37	0.00	7.41
956.0	10.77	197.51	952.1	4,002.9	-57.4	-17.0	-16.8	0.46	0.45	0.55
988.0	11.51	197.78	983.5	3,971.5	-63.3	-18.9	-18.7	2.32	2.31	0.84
1,052.0	13.54	197.51	1,046.0	3,909.0	-76.5	-23.1	-22.8	3.17	3.17	-0.42
1,083.0	14.19	194.53	1,076.1	3,878.9	-83.7	-25.2	-24.8	3.11	2.10	-9.61
1,115.0	15.21	194.79	1,107.1	3,847.9	-91.5	-27.2	-26.9	3.19	3.19	0.81
1,147.0	14.94	193.65	1,138.0	3,817.0	-99.6	-29.3	-28.9	1.25	-0.84	-3.56
1,179.0	15.47	193.21	1,168.8	3,786.2	-107.8	-31.2	-30.8	1.70	1.66	-1.37
1,210.0	16.44	192.50	1,198.6	3,756.4	-116.1	-33.1	-32.7	3.19	3.13	-2.29
1,242.0	16.79	192.07	1,229.3	3,725.7	-125.0	-35.1	-34.6	1.16	1.09	-1.34
1,274.0	17.18	191.71	1,259.9	3,695.1	-134.2	-37.0	-36.5	1.26	1.22	-1.12
1,305.0	17.67	191.63	1,289.5	3,665.5	-143.3	-38.9	-38.3	1.58	1.58	-0.26
1,337.0	18.02	192.15	1,319.9	3,635.1	-152.9	-40.9	-40.3	1.20	1.09	1.62
1,368.0	18.63	192.07	1,349.4	3,605.6	-162.4	-42.9	-42.3	1.97	1.97	-0.26
1,400.0	19.20	192.15	1,379.6	3,575.4	-172.5	-45.1	-44.4	1.78	1.78	0.25
1,432.0	18.98	192.94	1,409.9	3,545.1	-182.7	-47.4	-46.7	1.06	-0.69	2.47
1,463.0	18.54	193.73	1,439.2	3,515.8	-192.4	-49.7	-48.9	1.64	-1.42	2.55
1,495.0	18.85	193.82	1,469.6	3,485.4	-202.4	-52.1	-51.3	0.97	0.97	0.28
1,527.0	18.68	194.17	1,499.9	3,455.1	-212.4	-54.6	-53.8	0.64	-0.53	1.09
1,558.0	18.41	194.44	1,529.2	3,425.8	-221.9	-57.0	-56.2	0.91	-0.87	0.87
1,589.0	17.49	194.61	1,558.7	3,396.3	-231.2	-59.4	-58.6	2.97	-2.97	0.55
1,621.0	17.05	195.40	1,589.3	3,365.7	-240.4	-61.9	-61.0	1.56	-1.37	2.47
1,653.0	17.45	195.49	1,619.9	3,335.1	-249.5	-64.4	-63.5	1.25	1.25	0.28
1,685.0	17.62	194.97	1,650.4	3,304.6	-258.8	-67.0	-66.0	0.72	0.53	-1.62
1,716.0	17.89	194.44	1,679.9	3,275.1	-268.0	-69.4	-68.3	1.02	0.87	-1.71
1,748.0	18.11	194.44	1,710.3	3,244.7	-277.5	-71.8	-70.8	0.69	0.69	0.00
1,780.0	18.24	194.17	1,740.7	3,214.3	-287.2	-74.3	-73.2	0.48	0.41	-0.84
1,812.0	18.54	194.26	1,771.1	3,183.9	-297.0	-76.8	-75.6	0.94	0.94	0.28
1,843.0	18.68	193.65	1,800.5	3,154.5	-306.6	-79.2	-78.0	0.77	0.45	-1.97
1,939.0	18.09	192.65	1,891.6	3,063.4	-336.1	-86.0	-84.8	0.70	-0.61	-1.04
2,033.0	17.30	198.43	1,981.1	2,973.9	-363.6	-93.7	-92.3	2.05	-0.84	6.15
2,128.0	17.01	203.80	2,071.9	2,883.1	-389.7	-103.7	-102.2	1.69	-0.31	5.65
2,221.0	16.67	207.25	2,160.9	2,794.1	-414.0	-115.3	-113.7	1.13	-0.37	3.71
2,316.0	17.37	210.05	2,251.8	2,703.2	-438.4	-128.7	-127.0	1.13	0.74	2.95
2,410.0	17.74	210.15	2,341.4	2,613.6	-462.9	-142.9	-141.1	0.39	0.39	0.11
2,504.0	19.37	211.37	2,430.5	2,524.5	-488.6	-158.2	-156.3	1.78	1.73	1.30
2,598.0	18.07	208.56	2,519.5	2,435.5	-514.7	-173.3	-171.3	1.68	-1.38	-2.99
2,691.0	17.73	207.14	2,608.0	2,347.0	-540.0	-186.6	-184.6	0.59	-0.37	-1.53
2,784.0	16.21	203.79	2,697.0	2,258.0	-564.5	-198.3	-196.2	1.94	-1.63	-3.60
2,878.0	15.82	206.25	2,787.3	2,167.7	-588.0	-209.3	-207.0	0.83	-0.41	2.62

Survey Report



Company:	ANADARKO PETROLEUM CORP	Local Co-ordinate Reference:	Well BAJA BERG 35-8HZ
Project:	WELD COUNTY (NAD 83)	TVD Reference:	KB 20' @ 4955.0usft (PD461)
Site:	SE SW SEC 35 T2N R66W 6th P.M.	MD Reference:	KB 20' @ 4955.0usft (PD461)
Well:	BAJA BERG 35-8HZ	North Reference:	True
Wellbore:	JOB # 2019-025-461	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,973.0	15.03	204.70	2,878.9	2,076.1	-610.8	-220.2	-217.8	0.94	-0.83	-1.63
3,066.0	14.03	205.38	2,968.9	1,986.1	-631.9	-230.0	-227.6	1.09	-1.08	0.73
~ ENTER TGT BOX (3118' MD)										
3,118.0	13.22	204.84	3,019.5	1,935.5	-643.0	-235.2	-232.8	1.57	-1.55	-1.03
3,160.0	12.57	204.36	3,060.4	1,894.6	-651.5	-239.1	-236.6	1.57	-1.55	-1.15
3,255.0	11.46	203.56	3,153.3	1,801.7	-669.6	-247.2	-244.6	1.18	-1.17	-0.84
3,350.0	10.19	201.25	3,246.6	1,708.4	-686.1	-254.0	-251.4	1.41	-1.34	-2.43
3,444.0	9.02	202.44	3,339.3	1,615.7	-700.7	-259.8	-257.1	1.26	-1.24	1.27
3,539.0	7.24	217.31	3,433.4	1,521.6	-712.3	-266.3	-263.6	2.89	-1.87	15.65
3,632.0	5.78	221.39	3,525.8	1,429.2	-720.5	-273.0	-270.2	1.65	-1.57	4.39
3,724.0	4.59	222.70	3,617.4	1,337.6	-726.7	-278.5	-275.7	1.30	-1.29	1.42
3,819.0	4.27	227.63	3,712.1	1,242.9	-731.8	-283.7	-280.9	0.52	-0.34	5.19
3,913.0	4.34	231.81	3,805.8	1,149.2	-736.4	-289.1	-286.3	0.34	0.07	4.45
4,007.0	4.30	220.82	3,899.6	1,055.4	-741.3	-294.2	-291.3	0.88	-0.04	-11.69
4,101.0	2.69	194.79	3,993.4	961.6	-746.1	-297.0	-294.2	2.36	-1.71	-27.69
4,195.0	0.84	274.92	4,087.4	867.6	-748.1	-298.3	-295.4	2.85	-1.97	85.24
4,288.0	1.34	271.19	4,180.3	774.7	-748.1	-300.1	-297.2	0.54	0.54	-4.01
4,383.0	2.00	269.48	4,275.3	679.7	-748.0	-302.8	-300.0	0.70	0.69	-1.80
4,476.0	0.94	14.13	4,368.3	586.7	-747.3	-304.3	-301.4	2.60	-1.14	112.53
4,569.0	1.07	15.67	4,461.3	493.7	-745.7	-303.8	-301.0	0.14	0.14	1.66
4,664.0	1.53	45.30	4,556.2	398.8	-744.0	-302.7	-299.8	0.84	0.48	31.19
4,758.0	1.79	98.93	4,650.2	304.8	-743.3	-300.4	-297.5	1.61	0.28	57.05
4,852.0	0.57	143.50	4,744.2	210.8	-743.9	-298.6	-295.8	1.53	-1.30	47.41
4,946.0	0.13	201.07	4,838.2	116.8	-744.4	-298.4	-295.5	0.54	-0.47	61.24
5,040.0	0.54	274.35	4,932.2	22.8	-744.5	-298.9	-296.0	0.55	0.44	77.96
5,134.0	0.86	269.76	5,026.2	-71.2	-744.5	-300.0	-297.2	0.35	0.34	-4.88
5,227.0	0.65	302.12	5,119.2	-164.2	-744.2	-301.2	-298.3	0.50	-0.23	34.80
5,321.0	0.98	284.20	5,213.2	-258.2	-743.7	-302.4	-299.5	0.44	0.35	-19.06
5,415.0	1.17	304.28	5,307.1	-352.1	-743.0	-304.0	-301.1	0.45	0.20	21.36
5,510.0	1.54	293.32	5,402.1	-447.1	-741.9	-305.9	-303.1	0.47	0.39	-11.54
5,603.0	1.46	172.23	5,495.1	-540.1	-742.6	-306.9	-304.1	2.81	-0.09	-130.20
5,698.0	0.90	195.27	5,590.1	-635.1	-744.5	-307.0	-304.1	0.76	-0.59	24.25
5,791.0	0.77	242.79	5,683.1	-728.1	-745.5	-307.7	-304.8	0.73	-0.14	51.10
5,884.0	0.91	275.12	5,776.1	-821.1	-745.7	-309.0	-306.1	0.52	0.15	34.76
5,978.0	1.03	290.99	5,870.0	-915.0	-745.3	-310.5	-307.7	0.31	0.13	16.88
6,072.0	1.17	288.17	5,964.0	-1,009.0	-744.7	-312.2	-309.4	0.16	0.15	-3.00
6,165.0	1.23	291.46	6,057.0	-1,102.0	-744.1	-314.1	-311.2	0.10	0.06	3.54
6,258.0	1.53	315.20	6,150.0	-1,195.0	-742.8	-315.9	-313.0	0.69	0.32	25.53
6,353.0	1.85	306.76	6,244.9	-1,289.9	-741.0	-318.0	-315.1	0.43	0.34	-8.88
6,446.0	0.81	182.53	6,337.9	-1,382.9	-740.8	-319.2	-316.4	2.58	-1.12	-133.58
6,540.0	0.64	162.21	6,431.9	-1,476.9	-741.9	-319.1	-316.2	0.33	-0.18	-21.62
6,739.0	0.85	138.98	6,630.9	-1,675.9	-744.1	-317.8	-314.9	0.18	0.11	-11.67
6,829.0	1.05	131.81	6,720.9	-1,765.9	-745.2	-316.7	-313.9	0.26	0.22	-7.97
KOP										
6,905.0	2.60	115.58	6,796.8	-1,841.8	-746.4	-314.7	-311.8	2.13	2.04	-21.35
6,918.0	2.87	114.58	6,809.8	-1,854.8	-746.6	-314.1	-311.2	2.13	2.09	-7.71
7,008.0	10.27	87.28	6,899.2	-1,944.2	-747.2	-304.0	-301.2	8.70	8.22	-30.33
7,098.0	13.82	79.43	6,987.2	-2,032.2	-744.8	-285.4	-282.6	4.34	3.94	-8.72
7,188.0	20.04	85.01	7,073.3	-2,118.3	-741.5	-259.5	-256.6	7.14	6.91	6.20
7,277.0	26.40	85.97	7,155.0	-2,200.0	-738.8	-224.5	-221.7	7.16	7.15	1.08
7,367.0	30.21	89.20	7,234.2	-2,279.2	-737.1	-181.9	-179.1	4.56	4.23	3.59
7,457.0	32.72	85.07	7,311.0	-2,356.0	-734.7	-135.0	-132.2	3.67	2.79	-4.59
7,547.0	36.84	84.65	7,384.9	-2,429.9	-730.1	-83.9	-81.1	4.59	4.58	-0.47

Survey Report



Company:	ANADARKO PETROLEUM CORP	Local Co-ordinate Reference:	Well BAJA BERG 35-8HZ
Project:	WELD COUNTY (NAD 83)	TVD Reference:	KB 20' @ 4955.0usft (PD461)
Site:	SE SW SEC 35 T2N R66W 6th P.M.	MD Reference:	KB 20' @ 4955.0usft (PD461)
Well:	BAJA BERG 35-8HZ	North Reference:	True
Wellbore:	JOB # 2019-025-461	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
~ ENTER RADIUS HEEL (7605' MD)										
7,605.0	48.92	90.06	7,427.4	-2,472.4	-728.5	-44.6	-41.8	21.76	20.83	9.33
7,636.0	55.46	92.18	7,446.4	-2,491.4	-729.0	-20.1	-17.3	21.76	21.09	6.83
7,726.0	65.81	86.54	7,490.5	-2,535.5	-727.9	58.2	61.0	12.72	11.50	-6.27
7,816.0	73.20	85.40	7,521.9	-2,566.9	-722.0	142.2	145.0	8.30	8.21	-1.27
7,906.0	74.41	88.40	7,547.1	-2,592.1	-717.3	228.5	231.3	3.47	1.34	3.33
7,996.0	83.48	89.69	7,564.3	-2,609.3	-715.8	316.7	319.5	10.18	10.08	1.43
8,085.0	87.39	92.81	7,571.4	-2,616.4	-717.8	405.4	408.2	5.61	4.39	3.51
~ EXIT RADIUS HEEL (8165' MD)										
8,165.0	86.43	92.78	7,575.7	-2,620.7	-721.7	485.2	488.0	1.20	-1.20	-0.03
8,175.0	86.31	92.78	7,576.3	-2,621.3	-722.2	495.2	497.9	1.20	-1.20	-0.03
HEEL:40.088543; -104.856827										
8,265.0	89.01	92.01	7,580.0	-2,625.0	-725.9	585.0	587.8	3.12	3.00	-0.86
8,355.0	88.78	91.95	7,581.7	-2,626.7	-729.0	674.9	677.7	0.26	-0.26	-0.07
8,445.0	90.30	91.78	7,582.5	-2,627.5	-732.0	764.9	767.7	1.70	1.69	-0.19
8,534.0	89.14	90.77	7,582.9	-2,627.9	-733.9	853.8	856.7	1.73	-1.30	-1.13
8,624.0	91.32	92.18	7,582.5	-2,627.5	-736.2	943.8	946.6	2.88	2.42	1.57
8,714.0	91.16	92.36	7,580.6	-2,625.6	-739.8	1,033.7	1,036.6	0.27	-0.18	0.20
8,804.0	88.90	93.53	7,580.5	-2,625.5	-744.4	1,123.6	1,126.4	2.83	-2.51	1.30
8,894.0	88.81	93.24	7,582.3	-2,627.3	-749.7	1,213.4	1,216.3	0.34	-0.10	-0.32
8,983.0	88.52	90.29	7,584.4	-2,629.4	-752.5	1,302.3	1,305.2	3.33	-0.33	-3.31
9,073.0	90.39	89.98	7,585.3	-2,630.3	-752.7	1,392.3	1,395.2	2.11	2.08	-0.34
9,163.0	90.80	89.09	7,584.3	-2,629.3	-752.0	1,482.3	1,485.2	1.09	0.46	-0.99
9,253.0	90.07	88.53	7,583.6	-2,628.6	-750.1	1,572.3	1,575.2	1.02	-0.81	-0.62
9,343.0	92.21	89.82	7,581.9	-2,626.9	-748.8	1,662.3	1,665.1	2.78	2.38	1.43
9,432.0	91.64	91.47	7,578.9	-2,623.9	-749.8	1,751.2	1,754.1	1.96	-0.64	1.85
9,522.0	90.59	92.80	7,577.1	-2,622.1	-753.2	1,841.1	1,844.0	1.88	-1.17	1.48
9,612.0	90.35	92.95	7,576.4	-2,621.4	-757.7	1,931.0	1,933.9	0.31	-0.27	0.17
9,702.0	90.97	90.99	7,575.3	-2,620.3	-760.8	2,020.9	2,023.9	2.28	0.69	-2.18
9,791.0	92.21	90.27	7,572.9	-2,617.9	-761.7	2,109.9	2,112.8	1.61	1.39	-0.81
9,881.0	92.57	90.49	7,569.1	-2,614.1	-762.3	2,199.8	2,202.7	0.47	0.40	0.24
9,971.0	91.03	89.56	7,566.3	-2,611.3	-762.4	2,289.8	2,292.7	2.00	-1.71	-1.03
10,061.0	90.95	90.17	7,564.7	-2,609.7	-762.2	2,379.8	2,382.7	0.68	-0.09	0.68
10,151.0	91.14	89.81	7,563.1	-2,608.1	-762.2	2,469.7	2,472.7	0.45	0.21	-0.40
10,240.0	91.24	90.05	7,561.2	-2,606.2	-762.0	2,558.7	2,561.6	0.29	0.11	0.27
10,330.0	91.26	89.78	7,559.3	-2,604.3	-761.9	2,648.7	2,651.6	0.30	0.02	-0.30
10,420.0	91.72	89.42	7,556.9	-2,601.9	-761.3	2,738.7	2,741.6	0.65	0.51	-0.40
10,510.0	90.72	90.45	7,555.0	-2,600.0	-761.2	2,828.6	2,831.5	1.59	-1.11	1.14
10,599.0	90.15	89.22	7,554.3	-2,599.3	-760.9	2,917.6	2,920.5	1.52	-0.64	-1.38
10,689.0	90.29	89.15	7,554.0	-2,599.0	-759.6	3,007.6	3,010.5	0.17	0.16	-0.08
10,779.0	90.21	89.22	7,553.6	-2,598.6	-758.4	3,097.6	3,100.5	0.12	-0.09	0.08
10,869.0	89.90	88.64	7,553.5	-2,598.5	-756.7	3,187.6	3,190.5	0.73	-0.34	-0.64
10,963.0	90.30	89.96	7,553.4	-2,598.4	-755.5	3,281.6	3,284.5	1.47	0.43	1.40
11,058.0	90.17	89.42	7,553.0	-2,598.0	-755.0	3,376.6	3,379.5	0.58	-0.14	-0.57
11,152.0	90.70	90.34	7,552.3	-2,597.3	-754.8	3,470.6	3,473.5	1.13	0.56	0.98
11,246.0	90.41	89.85	7,551.3	-2,596.3	-755.0	3,564.6	3,567.5	0.61	-0.31	-0.52
11,341.0	91.01	90.90	7,550.2	-2,595.2	-755.6	3,659.6	3,662.4	1.27	0.63	1.11
11,435.0	90.02	91.83	7,549.3	-2,594.3	-757.8	3,753.5	3,756.4	1.44	-1.05	0.99
11,529.0	89.19	91.66	7,550.0	-2,595.0	-760.7	3,847.5	3,850.4	0.90	-0.88	-0.18
11,624.0	88.76	90.81	7,551.7	-2,596.7	-762.7	3,942.5	3,945.4	1.00	-0.45	-0.89
11,718.0	89.98	92.26	7,552.7	-2,597.7	-765.3	4,036.4	4,039.3	2.02	1.30	1.54
11,812.0	90.19	93.07	7,552.6	-2,597.6	-769.6	4,130.3	4,133.2	0.89	0.22	0.86
11,907.0	89.84	91.50	7,552.5	-2,597.5	-773.4	4,225.2	4,228.2	1.69	-0.37	-1.65

Survey Report



Company:	ANADARKO PETROLEUM CORP	Local Co-ordinate Reference:	Well BAJA BERG 35-8HZ
Project:	WELD COUNTY (NAD 83)	TVD Reference:	KB 20' @ 4955.0usft (PD461)
Site:	SE SW SEC 35 T2N R66W 6th P.M.	MD Reference:	KB 20' @ 4955.0usft (PD461)
Well:	BAJA BERG 35-8HZ	North Reference:	True
Wellbore:	JOB # 2019-025-461	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,001.0	91.69	92.01	7,551.3	-2,596.3	-776.3	4,319.2	4,322.1	2.04	1.97	0.54
12,095.0	90.82	91.00	7,549.2	-2,594.2	-778.8	4,413.1	4,416.1	1.42	-0.93	-1.07
12,190.0	89.18	89.94	7,549.2	-2,594.2	-779.6	4,508.1	4,511.1	2.06	-1.73	-1.12
12,284.0	89.11	90.30	7,550.6	-2,595.6	-779.7	4,602.1	4,605.1	0.39	-0.07	0.38
12,374.0	89.29	90.09	7,551.9	-2,596.9	-780.1	4,692.1	4,695.1	0.31	0.20	-0.23
12,464.0	89.12	90.05	7,553.1	-2,598.1	-780.2	4,782.1	4,785.0	0.19	-0.19	-0.04
12,554.0	90.23	88.19	7,553.6	-2,598.6	-778.8	4,872.1	4,875.0	2.41	1.23	-2.07
12,644.0	91.36	87.48	7,552.4	-2,597.4	-775.4	4,962.0	4,964.9	1.48	1.26	-0.79
12,733.0	91.79	89.26	7,549.9	-2,594.9	-772.9	5,050.9	5,053.8	2.06	0.48	2.00
12,823.0	91.24	88.43	7,547.6	-2,592.6	-771.0	5,140.9	5,143.8	1.11	-0.61	-0.92
12,913.0	90.82	88.56	7,545.9	-2,590.9	-768.7	5,230.8	5,233.7	0.49	-0.47	0.14
13,003.0	90.04	87.31	7,545.3	-2,590.3	-765.4	5,320.8	5,323.7	1.64	-0.87	-1.39
13,092.0	91.88	88.84	7,543.8	-2,588.8	-762.4	5,409.7	5,412.6	2.69	2.07	1.72
13,182.0	91.89	88.60	7,540.8	-2,585.8	-760.4	5,499.6	5,502.5	0.27	0.01	-0.27
13,272.0	91.84	88.13	7,537.9	-2,582.9	-757.9	5,589.5	5,592.4	0.52	-0.06	-0.52
13,361.0	91.30	90.65	7,535.5	-2,580.5	-756.9	5,678.5	5,681.3	2.89	-0.61	2.83
13,451.0	90.80	89.76	7,533.8	-2,578.8	-757.2	5,768.5	5,771.3	1.13	-0.56	-0.99
13,541.0	93.05	89.73	7,530.8	-2,575.8	-756.8	5,858.4	5,861.3	2.50	2.50	-0.03
13,631.0	91.95	91.43	7,526.9	-2,571.9	-757.8	5,948.3	5,951.2	2.25	-1.22	1.89
13,721.0	88.79	89.55	7,526.3	-2,571.3	-758.5	6,038.3	6,041.2	4.09	-3.51	-2.09
13,810.0	88.70	89.07	7,528.2	-2,573.2	-757.4	6,127.3	6,130.1	0.55	-0.10	-0.54
13,900.0	89.65	91.10	7,529.5	-2,574.5	-757.6	6,217.3	6,220.1	2.49	1.06	2.26
13,990.0	90.04	91.37	7,529.8	-2,574.8	-759.5	6,307.2	6,310.1	0.53	0.43	0.30
14,080.0	90.39	92.76	7,529.4	-2,574.4	-762.8	6,397.2	6,400.0	1.59	0.39	1.54
14,259.0	89.04	91.71	7,530.3	-2,575.3	-769.7	6,576.0	6,578.9	0.96	-0.75	-0.59
14,349.0	88.97	89.61	7,531.9	-2,576.9	-770.8	6,666.0	6,668.9	2.33	-0.08	-2.33
14,439.0	89.17	89.32	7,533.3	-2,578.3	-769.9	6,756.0	6,758.9	0.39	0.22	-0.32
14,528.0	90.33	90.45	7,533.7	-2,578.7	-769.8	6,845.0	6,847.9	1.82	1.30	1.27
14,618.0	91.08	92.27	7,532.6	-2,577.6	-771.9	6,934.9	6,937.9	2.19	0.83	2.02
14,708.0	89.73	89.61	7,532.0	-2,577.0	-773.4	7,024.9	7,027.8	3.31	-1.50	-2.96
14,798.0	89.71	89.71	7,532.4	-2,577.4	-772.8	7,114.9	7,117.8	0.11	-0.02	0.11
14,887.0	90.10	89.54	7,532.6	-2,577.6	-772.3	7,203.9	7,206.8	0.48	0.44	-0.19
14,977.0	90.07	87.78	7,532.4	-2,577.4	-770.2	7,293.9	7,296.8	1.96	-0.03	-1.96
15,067.0	91.21	87.61	7,531.4	-2,576.4	-766.5	7,383.8	7,386.7	1.28	1.27	-0.19
15,157.0	91.77	89.06	7,529.1	-2,574.1	-763.9	7,473.7	7,476.6	1.73	0.62	1.61
15,247.0	90.86	90.08	7,527.0	-2,572.0	-763.2	7,563.7	7,566.6	1.52	-1.01	1.13
15,336.0	90.88	89.97	7,525.7	-2,570.7	-763.3	7,652.7	7,655.6	0.13	0.02	-0.12
15,426.0	90.64	88.51	7,524.5	-2,569.5	-762.1	7,742.7	7,745.5	1.64	-0.27	-1.62
15,516.0	92.05	90.38	7,522.4	-2,567.4	-761.2	7,832.6	7,835.5	2.60	1.57	2.08
15,606.0	87.90	87.54	7,522.4	-2,567.4	-759.6	7,922.6	7,925.5	5.59	-4.61	-3.16
15,695.0	87.35	87.92	7,526.1	-2,571.1	-756.1	8,011.5	8,014.3	0.75	-0.62	0.43
15,785.0	89.76	89.85	7,528.4	-2,573.4	-754.3	8,101.4	8,104.2	3.43	2.68	2.14
15,875.0	90.38	90.49	7,528.3	-2,573.3	-754.6	8,191.4	8,194.2	0.99	0.69	0.71
15,964.0	90.92	92.95	7,527.2	-2,572.2	-757.3	8,280.3	8,283.2	2.83	0.61	2.76
16,054.0	89.26	93.01	7,527.1	-2,572.1	-761.9	8,370.2	8,373.1	1.85	-1.84	0.07
16,144.0	89.97	92.90	7,527.7	-2,572.7	-766.6	8,460.1	8,463.0	0.80	0.79	-0.12
16,234.0	89.88	91.61	7,527.8	-2,572.8	-770.1	8,550.0	8,552.9	1.44	-0.10	-1.43
16,324.0	90.08	92.14	7,527.9	-2,572.9	-773.1	8,640.0	8,642.9	0.63	0.22	0.59
16,413.0	89.74	91.42	7,528.0	-2,573.0	-775.8	8,728.9	8,731.8	0.89	-0.38	-0.81
16,503.0	89.47	90.37	7,528.6	-2,573.6	-777.2	8,818.9	8,821.8	1.20	-0.30	-1.17
16,593.0	89.56	89.97	7,529.4	-2,574.4	-777.5	8,908.9	8,911.8	0.46	0.10	-0.44
16,683.0	89.90	90.61	7,529.8	-2,574.8	-777.9	8,998.9	9,001.8	0.81	0.38	0.71
16,775.0	89.56	91.47	7,530.2	-2,575.2	-779.6	9,090.9	9,093.8	1.01	-0.37	0.93

Survey Report



Company:	ANADARKO PETROLEUM CORP	Local Co-ordinate Reference:	Well BAJA BERG 35-8HZ
Project:	WELD COUNTY (NAD 83)	TVD Reference:	KB 20' @ 4955.0usft (PD461)
Site:	SE SW SEC 35 T2N R66W 6th P.M.	MD Reference:	KB 20' @ 4955.0usft (PD461)
Well:	BAJA BERG 35-8HZ	North Reference:	True
Wellbore:	JOB # 2019-025-461	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,865.0	88.63	91.14	7,531.7	-2,576.7	-781.7	9,180.9	9,183.8	1.10	-1.03	-0.37
~ ENTER RADIUS TOE (16949' MD)										
16,949.0	88.71	91.46	7,533.6	-2,578.6	-783.6	9,264.8	9,267.8	0.40	0.10	0.38
16,954.0	88.72	91.48	7,533.7	-2,578.7	-783.7	9,269.8	9,272.7	0.40	0.10	0.38
17,044.0	89.62	89.57	7,535.0	-2,580.0	-784.5	9,359.8	9,362.7	2.35	1.00	-2.12
17,133.0	91.26	89.76	7,534.3	-2,579.3	-784.0	9,448.8	9,451.7	1.86	1.84	0.21
17,223.0	90.40	88.22	7,533.0	-2,578.0	-782.4	9,538.8	9,541.7	1.96	-0.96	-1.71
17,313.0	92.26	89.68	7,530.9	-2,575.9	-780.8	9,628.7	9,631.6	2.63	2.07	1.62
17,403.0	91.88	89.52	7,527.7	-2,572.7	-780.1	9,718.6	9,721.6	0.46	-0.42	-0.18
~ EXIT RADIUS TOE (17487' MD)										
17,487.0	91.03	89.31	7,525.6	-2,570.6	-779.3	9,802.6	9,805.5	1.04	-1.01	-0.26
17,493.0	90.97	89.29	7,525.5	-2,570.5	-779.2	9,808.6	9,811.5	1.04	-1.01	-0.26
17,582.0	90.77	89.82	7,524.1	-2,569.1	-778.5	9,897.6	9,900.5	0.64	-0.22	0.60
17,672.0	89.21	90.41	7,524.1	-2,569.1	-778.7	9,987.6	9,990.5	1.85	-1.73	0.66
17,762.0	88.88	88.86	7,525.6	-2,570.6	-778.1	10,077.6	10,080.5	1.76	-0.37	-1.72
LAST SURVEY FEB 8, 2019										
17,829.0	88.23	88.31	7,527.3	-2,572.3	-776.5	10,144.5	10,147.4	1.27	-0.97	-0.82
PROJECTION TO TD; 40.088404; -104.822436										
17,892.0	88.23	88.31	7,529.3	-2,574.3	-774.6	10,207.5	10,210.4	0.00	0.00	0.00

Survey Report



Company:	ANADARKO PETROLEUM CORP	Local Co-ordinate Reference:	Well BAJA BERG 35-8HZ
Project:	WELD COUNTY (NAD 83)	TVD Reference:	KB 20' @ 4955.0usft (PD461)
Site:	SE SW SEC 35 T2N R66W 6th P.M.	MD Reference:	KB 20' @ 4955.0usft (PD461)
Well:	BAJA BERG 35-8HZ	North Reference:	True
Wellbore:	JOB # 2019-025-461	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

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
KOP - BAJA BERG -35- - survey misses target center by 34.5usft at 6953.9usft MD (6845.6 TVD, -747.2 N, -311.5 E) - Point	0.00	0.00	6,841.8	-744.4	-277.3	14,558,988.14	1,679,598.77	40° 5' 18.572 N	104° 51' 35.670 W
KOP - BAJA BERG -35- - survey misses target center by 100.5usft at 7050.8usft MD (6941.2 TVD, -746.5 N, -295.8 E) - Point	0.00	0.00	6,920.4	-744.8	-197.5	14,558,987.86	1,679,678.56	40° 5' 18.568 N	104° 51' 34.643 W
HEEL - BAJA BERG -35 - survey misses target center by 32.0usft at 8120.1usft MD (7573.1 TVD, -719.5 N, 440.5 E) - Point	0.00	0.00	7,557.0	-747.1	440.0	14,558,986.53	1,680,315.81	40° 5' 18.545 N	104° 51' 26.441 W
BHL - BAJA BERG -35- - survey misses target center by 17.0usft at 17892.0usft MD (7529.3 TVD, -774.6 N, 10207.5 E) - Point	0.00	0.00	7,543.0	-784.7	10,207.9	14,558,964.51	1,690,079.88	40° 5' 18.153 N	104° 49' 20.765 W
HEEL - BAJA BERG -35 - survey misses target center by 31.5usft at 8120.2usft MD (7573.1 TVD, -719.5 N, 440.5 E) - Point	0.00	0.00	7,558.0	-747.1	440.0	14,558,986.53	1,680,315.81	40° 5' 18.545 N	104° 51' 26.441 W
KOP - BAJA BERG 35-8 - survey misses target center by 100.3usft at 7051.9usft MD (6942.3 TVD, -746.4 N, -295.6 E) - Point	0.00	0.00	6,921.5	-744.6	-197.5	14,558,988.01	1,679,678.56	40° 5' 18.569 N	104° 51' 34.643 W
BHL - BAJA BERG -35- - survey misses target center by 17.0usft at 17892.0usft MD (7529.3 TVD, -774.6 N, 10207.5 E) - Point	0.00	0.00	7,543.0	-784.7	10,207.9	14,558,964.51	1,690,079.88	40° 5' 18.153 N	104° 49' 20.765 W

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,118.0	3,019.5	-643.0	-235.2	~ ENTER TGT BOX (3118' MD)
6,905.0	6,796.8	-746.4	-314.7	KOP
7,605.0	7,427.4	-728.5	-44.6	~ ENTER RADIUS HEEL (7605' MD)
8,165.0	7,575.7	-721.7	485.2	~ EXIT RADIUS HEEL (8165' MD)
8,265.0	7,580.0	-725.9	585.0	HEEL:40.088543; -104.856827
16,949.0	7,533.6	-783.6	9,264.8	~ ENTER RADIUS TOE (16949' MD)
17,487.0	7,525.6	-779.3	9,802.6	~ EXIT RADIUS TOE (17487' MD)
17,829.0	7,527.3	-776.5	10,144.5	LAST SURVEY FEB 8, 2019
17,892.0	7,529.3	-774.6	10,207.5	PROJECTION TO TD; 40.088404; -104.822436

Checked By: _____	Approved By: _____	Date: _____
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