

KERR-MCGEE OIL & GAS ONSHORE LP (WA)

c COLORADO Slot: SLOT#41 JAGUAR 36C-35HZ
Field: WELD COUNTY (UTM/TRUE NORTH) Well: JAGUAR 36C-35HZ
Facility: SEC.23-T1N-R67W Wellbore: JAGUAR 36C-35HZ PWB

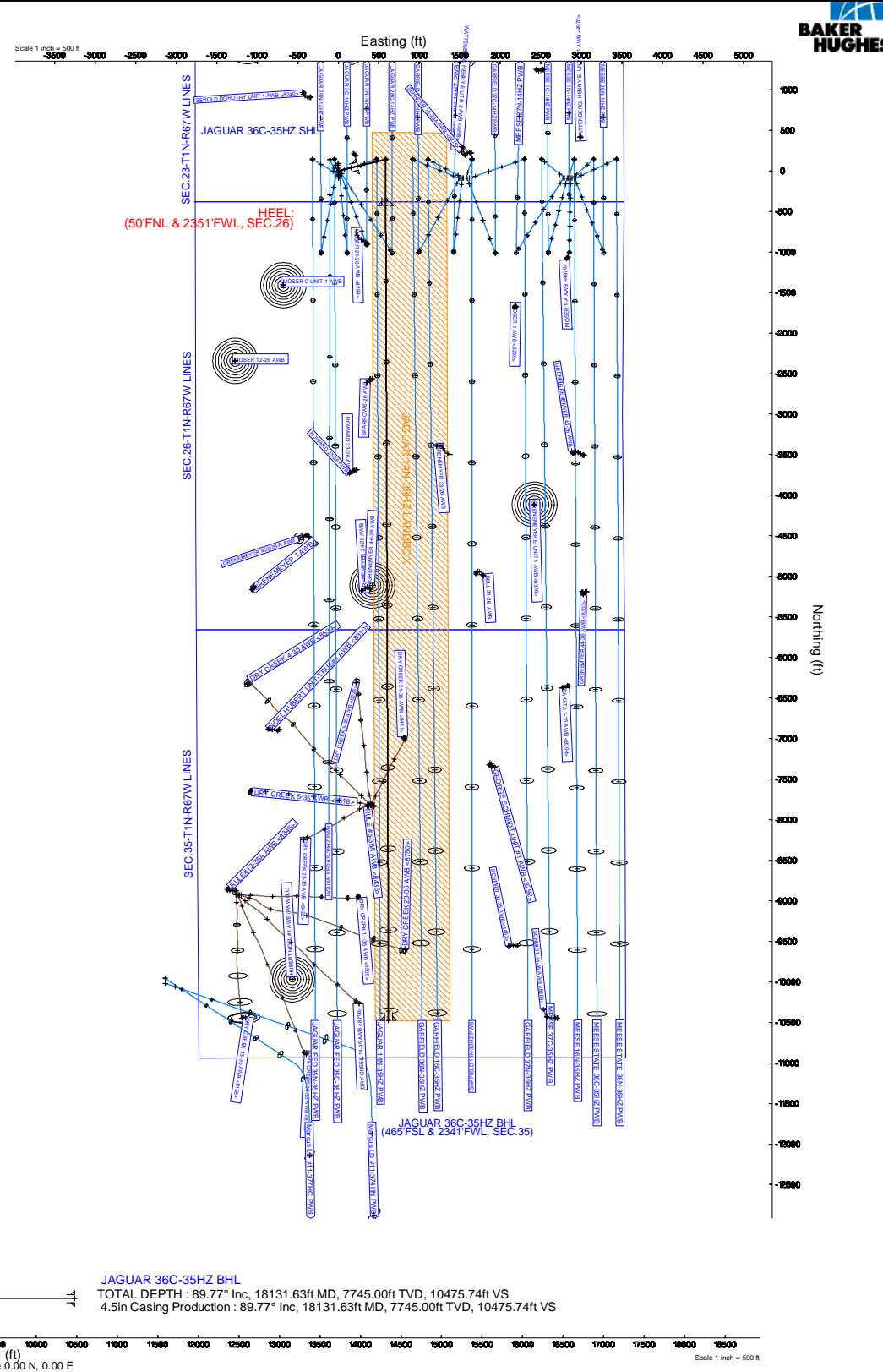
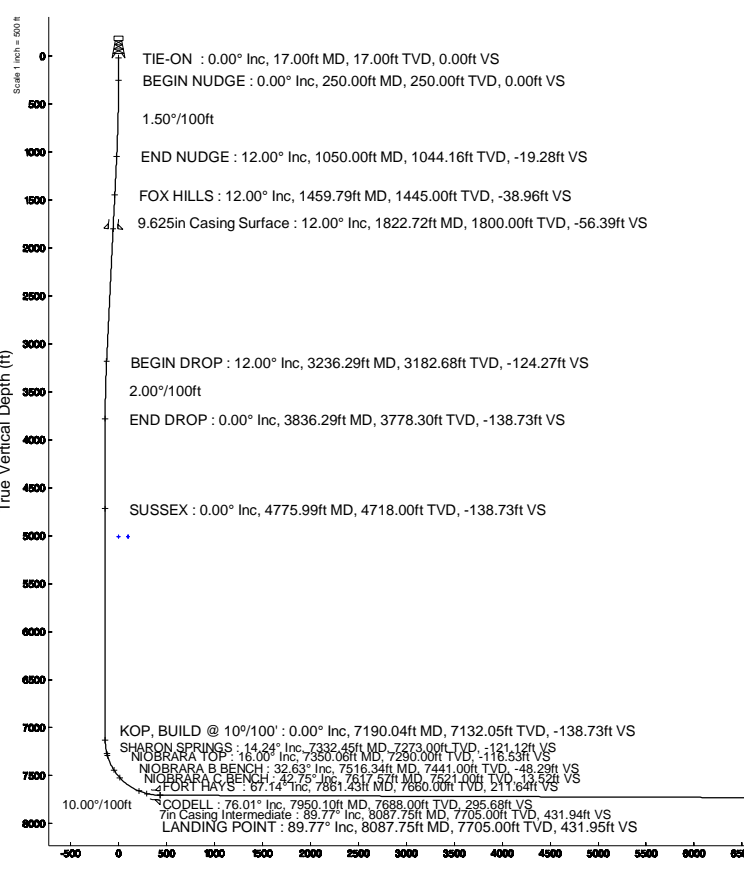
Plot reference wellpath is JAGUAR 36C-35HZ (PERMIT REV-1) PWP
True vertical depths are referenced to PERMIT (17KB) (RKB)
Measured depths are referenced to PERMIT (17KB) (RKB)
PERMIT (17KB) (RKB) to Mean Sea Level: 5009 feet
Mean Sea Level to Mud line (At Slot: SLOT#41 JAGUAR 36C-35HZ): 0 feet
Coordinates are in feet referenced to Slot
Created by: amarcar on 03/Aug/2015

Location Information					
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.23-T1N-R67W		1682294.967	14541905.318	40°02'29.645"N	104°51'01.336"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
SLOT#41 JAGUAR 36C-35HZ	-4066.30	-2966.94	1679336.048	14537835.666	40°01'49.459"N
PERMIT (17KB) (RKB) to Mud line (At Slot: SLOT#41 JAGUAR 36C-35HZ)				5009ft	
Mean Sea Level to Mud line (At Slot: SLOT#41 JAGUAR 36C-35HZ)				0ft	
PERMIT (17KB) (RKB) to Mean Sea Level				5009ft	

Survey Program					
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	8087.75	ISOWSA MWD, Rev. 2, axial magnetic correction	Custom APC, ISOWSA REV 2 MWD+FR1+SC (approximation)		JAGUAR 36C-35HZ PWB
8087.75	18131.63	ISOWSA MWD, Rev. 2, axial magnetic correction	Custom APC, ISOWSA REV 2 MWD+FR1+SC (approximation)		JAGUAR 36C-35HZ PWB

Targets					
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)
JAGUAR 14N-35HZ LANDBOX	5009.00	0.00	0.00	0.00	1679336.05
JAGUAR 36C-35HZ SHL	5009.00	0.00	0.00	0.00	1679336.05
SEC.14-T1N-R67W LINES	5009.00	-88.08	2778.78	1682113.85	14537751.95
SEC.23-T1N-R67W LINES	5009.00	-88.08	2778.78	1682113.85	14537751.95
SEC.26-T1N-R67W LINES	5009.00	-88.08	2778.78	1682113.85	14537751.95
SEC.35-T1N-R67W LINES	5009.00	-88.08	2778.78	1682113.85	14537751.95
JAGUAR 36C-35HZ BHL	18131.63	7745.00	-10473.68	620.19	1679972.33

Well Profile Data							
Design Comment	MD (ft)	Inc. (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)
TIE-ON	17.00	0.00	76.450	17.00	0.00	0.00	0.00
BEGIN NUDGE	250.00	0.00	76.450	250.00	0.00	0.00	0.00
END NUDGE	1050.00	12.00	76.450	1044.16	19.56	81.15	1.50
BEGIN DROP	3236.29	12.00	76.450	3182.68	126.06	523.05	0.00
END DROP	3836.29	0.00	179.804	3778.30	140.73	583.91	2.00
KOP, BUILD @ 10°/100'	7190.04	0.00	179.804	7132.05	140.73	583.91	0.00
LANDING POINT	8087.75	89.77	179.804	7705.00	-429.95	585.86	10.00
TOTAL DEPTH	18131.63	89.77	179.804	7745.00	-10473.68	620.19	0.00



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JAGUAR 36C-35HZ
Area	COLORADO	Well	JAGUAR 36C-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JAGUAR 36C-35HZ PWB
Facility	SEC.23-T1N-R67W		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Amarcar
Scale	0.999602	Report Generated	03/Aug/2015 at 11:54
Convergence at slot	0.09° East	Database/Source file	KERR MCGEE UTM/JAGUAR_36C-35HZ_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-4066.30	-2966.94	1679336.05	14537835.67	40°01'49.459"N	104°51'39.477"W
Facility Reference Pt			1682294.97	14541905.32	40°02'29.645"N	104°51'01.336"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	PERMIT (17'KB) (RKB) to Facility Vertical Datum	5009.00ft
Horizontal Reference Pt	Slot	PERMIT (17'KB) (RKB) to Mean Sea Level	5009.00ft
Vertical Reference Pt	PERMIT (17'KB) (RKB)	PERMIT (17'KB) (RKB) to Mud Line at Slot (SLOT#41 JAGUAR 36C-35HZ)	5009.00ft
MD Reference Pt	PERMIT (17'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.80°

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JAGUAR 36C-35HZ
Area	COLORADO	Well	JAGUAR 36C-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JAGUAR 36C-35HZ PWB
Facility	SEC.23-T1N-R67W		

WELLPATH DATA (198 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	76.450	0.00	0.00	0.00	0.00	40°01'49.459"N	104°51'39.477"W	0.00	
17.00	0.000	76.450	17.00	0.00	0.00	0.00	40°01'49.459"N	104°51'39.477"W	0.00	TIE-ON
117.00†	0.000	76.450	117.00	0.00	0.00	0.00	40°01'49.459"N	104°51'39.477"W	0.00	
217.00†	0.000	76.450	217.00	0.00	0.00	0.00	40°01'49.459"N	104°51'39.477"W	0.00	
250.00	0.000	76.450	250.00	0.00	0.00	0.00	40°01'49.459"N	104°51'39.477"W	0.00	BEGIN NUDGE
317.00†	1.005	76.450	317.00	-0.14	0.14	0.57	40°01'49.460"N	104°51'39.470"W	1.50	
417.00†	2.505	76.450	416.95	-0.84	0.86	3.55	40°01'49.467"N	104°51'39.431"W	1.50	
517.00†	4.005	76.450	516.78	-2.15	2.19	9.07	40°01'49.481"N	104°51'39.360"W	1.50	
617.00†	5.505	76.450	616.44	-4.07	4.13	17.13	40°01'49.500"N	104°51'39.257"W	1.50	
717.00†	7.005	76.450	715.84	-6.59	6.68	27.72	40°01'49.525"N	104°51'39.121"W	1.50	
817.00†	8.505	76.450	814.92	-9.70	9.84	40.84	40°01'49.556"N	104°51'38.952"W	1.50	
917.00†	10.005	76.450	913.62	-13.42	13.61	56.47	40°01'49.593"N	104°51'38.751"W	1.50	
1017.00†	11.505	76.450	1011.86	-17.73	17.98	74.61	40°01'49.637"N	104°51'38.518"W	1.50	
1050.00	12.000	76.450	1044.16	-19.28	19.56	81.15	40°01'49.652"N	104°51'38.434"W	1.50	END NUDGE
1117.00†	12.000	76.450	1109.70	-22.50	22.82	94.69	40°01'49.685"N	104°51'38.260"W	0.00	
1217.00†	12.000	76.450	1207.51	-27.30	27.69	114.90	40°01'49.733"N	104°51'38.000"W	0.00	
1317.00†	12.000	76.450	1305.33	-32.10	32.56	135.11	40°01'49.781"N	104°51'37.740"W	0.00	
1417.00†	12.000	76.450	1403.14	-36.90	37.43	155.33	40°01'49.829"N	104°51'37.480"W	0.00	
1459.79†	12.000	76.450	1445.00	-38.96	39.52	163.98	40°01'49.850"N	104°51'37.369"W	0.00	FOX HILLS
1517.00†	12.000	76.450	1500.96	-41.71	42.31	175.54	40°01'49.877"N	104°51'37.220"W	0.00	
1617.00†	12.000	76.450	1598.77	-46.51	47.18	195.75	40°01'49.925"N	104°51'36.961"W	0.00	
1717.00†	12.000	76.450	1696.59	-51.31	52.05	215.96	40°01'49.973"N	104°51'36.701"W	0.00	
1817.00†	12.000	76.450	1794.40	-56.11	56.92	236.18	40°01'50.021"N	104°51'36.441"W	0.00	
1917.00†	12.000	76.450	1892.22	-60.91	61.79	256.39	40°01'50.070"N	104°51'36.181"W	0.00	
2017.00†	12.000	76.450	1990.03	-65.72	66.66	276.60	40°01'50.118"N	104°51'35.921"W	0.00	
2117.00†	12.000	76.450	2087.85	-70.52	71.53	296.81	40°01'50.166"N	104°51'35.661"W	0.00	
2217.00†	12.000	76.450	2185.66	-75.32	76.41	317.03	40°01'50.214"N	104°51'35.402"W	0.00	
2317.00†	12.000	76.450	2283.48	-80.12	81.28	337.24	40°01'50.262"N	104°51'35.142"W	0.00	
2417.00†	12.000	76.450	2381.29	-84.93	86.15	357.45	40°01'50.310"N	104°51'34.882"W	0.00	
2517.00†	12.000	76.450	2479.11	-89.73	91.02	377.66	40°01'50.358"N	104°51'34.622"W	0.00	
2617.00†	12.000	76.450	2576.92	-94.53	95.89	397.88	40°01'50.407"N	104°51'34.362"W	0.00	
2717.00†	12.000	76.450	2674.74	-99.33	100.76	418.09	40°01'50.455"N	104°51'34.102"W	0.00	
2817.00†	12.000	76.450	2772.55	-104.13	105.63	438.30	40°01'50.503"N	104°51'33.842"W	0.00	
2917.00†	12.000	76.450	2870.37	-108.94	110.51	458.51	40°01'50.551"N	104°51'33.583"W	0.00	
3017.00†	12.000	76.450	2968.18	-113.74	115.38	478.73	40°01'50.599"N	104°51'33.323"W	0.00	
3117.00†	12.000	76.450	3066.00	-118.54	120.25	498.94	40°01'50.647"N	104°51'33.063"W	0.00	
3217.00†	12.000	76.450	3163.81	-123.34	125.12	519.15	40°01'50.695"N	104°51'32.803"W	0.00	
3236.29	12.000	76.450	3182.68	-124.27	126.06	523.05	40°01'50.705"N	104°51'32.753"W	0.00	BEGIN DROP
3317.00†	10.386	76.450	3261.85	-127.89	129.73	538.28	40°01'50.741"N	104°51'32.557"W	2.00	
3417.00†	8.386	76.450	3360.51	-131.65	133.55	554.13	40°01'50.779"N	104°51'32.353"W	2.00	
3517.00†	6.386	76.450	3459.67	-134.62	136.56	566.63	40°01'50.808"N	104°51'32.193"W	2.00	
3617.00†	4.386	76.450	3559.23	-136.79	138.76	575.75	40°01'50.830"N	104°51'32.075"W	2.00	
3717.00†	2.386	76.450	3659.05	-138.16	140.15	581.50	40°01'50.844"N	104°51'32.002"W	2.00	
3817.00†	0.386	76.450	3759.01	-138.71	140.71	583.85	40°01'50.849"N	104°51'31.971"W	2.00	
3836.29	0.000	179.804	3778.30	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	2.00	END DROP

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JAGUAR 36C-35HZ
Area	COLORADO	Well	JAGUAR 36C-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JAGUAR 36C-35HZ PWB
Facility	SEC.23-T1N-R67W		

WELLPATH DATA (198 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3917.00†	0.000	179.804	3859.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
4017.00†	0.000	179.804	3959.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
4117.00†	0.000	179.804	4059.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
4217.00†	0.000	179.804	4159.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
4317.00†	0.000	179.804	4259.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
4417.00†	0.000	179.804	4359.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
4517.00†	0.000	179.804	4459.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
4617.00†	0.000	179.804	4559.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
4717.00†	0.000	179.804	4659.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
4775.99†	0.000	179.804	4718.00	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	SUSSEX
4817.00†	0.000	179.804	4759.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
4917.00†	0.000	179.804	4859.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
5017.00†	0.000	179.804	4959.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
5117.00†	0.000	179.804	5059.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
5217.00†	0.000	179.804	5159.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
5317.00†	0.000	179.804	5259.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
5417.00†	0.000	179.804	5359.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
5517.00†	0.000	179.804	5459.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
5617.00†	0.000	179.804	5559.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
5717.00†	0.000	179.804	5659.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
5817.00†	0.000	179.804	5759.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
5917.00†	0.000	179.804	5859.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
6017.00†	0.000	179.804	5959.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
6117.00†	0.000	179.804	6059.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
6217.00†	0.000	179.804	6159.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
6317.00†	0.000	179.804	6259.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
6417.00†	0.000	179.804	6359.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
6517.00†	0.000	179.804	6459.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
6617.00†	0.000	179.804	6559.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
6717.00†	0.000	179.804	6659.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
6817.00†	0.000	179.804	6759.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
6917.00†	0.000	179.804	6859.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
7017.00†	0.000	179.804	6959.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
7117.00†	0.000	179.804	7059.01	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	
7190.04	0.000	179.804	7132.05	-138.73	140.73	583.91	40°01'50.850"N	104°51'31.971"W	0.00	KOP, BUILD @ 10°/100'
7217.00†	2.696	179.804	7159.00	-138.09	140.09	583.91	40°01'50.843"N	104°51'31.971"W	10.00	
7317.00†	12.696	179.804	7257.97	-124.72	126.72	583.96	40°01'50.711"N	104°51'31.970"W	10.00	
7332.45†	14.242	179.804	7273.00	-121.12	123.12	583.97	40°01'50.676"N	104°51'31.970"W	10.00	SHARON SPRINGS
7350.06†	16.003	179.804	7290.00	-116.53	118.52	583.99	40°01'50.630"N	104°51'31.970"W	10.00	NIOBRARA TOP
7417.00†	22.696	179.804	7353.12	-94.36	96.36	584.06	40°01'50.411"N	104°51'31.969"W	10.00	
7516.34†	32.631	179.804	7441.00	-48.29	50.29	584.22	40°01'49.956"N	104°51'31.967"W	10.00	NIOBRARA B BENCH
7517.00†	32.696	179.804	7441.55	-47.94	49.94	584.22	40°01'49.952"N	104°51'31.967"W	10.00	
7617.00†	42.696	179.804	7520.58	13.13	-11.13	584.43	40°01'49.349"N	104°51'31.964"W	10.00	
7617.57†	42.754	179.804	7521.00	13.52	-11.52	584.43	40°01'49.345"N	104°51'31.964"W	10.00	NIOBRARA C BENCH
7717.00†	52.696	179.804	7587.80	86.99	-85.00	584.68	40°01'48.619"N	104°51'31.961"W	10.00	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JAGUAR 36C-35HZ
Area	COLORADO	Well	JAGUAR 36C-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JAGUAR 36C-35HZ PWB
Facility	SEC.23-T1N-R67W		

WELLPATH DATA (198 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7817.00†	62.696	179.804	7641.17	171.41	-169.41	584.97	40°01'47.785"N	104°51'31.957"W	10.00	
7861.43†	67.139	179.804	7660.00	211.64	-209.64	585.11	40°01'47.387"N	104°51'31.955"W	10.00	FORT HAYS
7917.00†	72.696	179.804	7679.07	263.81	-261.81	585.29	40°01'46.872"N	104°51'31.953"W	10.00	
7950.10†	76.006	179.804	7688.00	295.68	-293.68	585.39	40°01'46.557"N	104°51'31.952"W	10.00	CODELL
8017.00†	82.696	179.804	7700.36	361.39	-359.39	585.62	40°01'45.907"N	104°51'31.949"W	10.00	
8087.75	89.772	179.804	7705.00	431.95	-429.95	585.86	40°01'45.210"N	104°51'31.946"W	10.00	LANDING POINT
8117.00†	89.772	179.804	7705.12	461.19	-459.19	585.96	40°01'44.921"N	104°51'31.944"W	0.00	
8217.00†	89.772	179.804	7705.51	561.19	-559.19	586.30	40°01'43.933"N	104°51'31.940"W	0.00	
8317.00†	89.772	179.804	7705.91	661.19	-659.19	586.64	40°01'42.945"N	104°51'31.936"W	0.00	
8417.00†	89.772	179.804	7706.31	761.19	-759.19	586.99	40°01'41.956"N	104°51'31.931"W	0.00	
8517.00†	89.772	179.804	7706.71	861.19	-859.19	587.33	40°01'40.968"N	104°51'31.927"W	0.00	
8617.00†	89.772	179.804	7707.11	961.19	-959.19	587.67	40°01'39.980"N	104°51'31.923"W	0.00	
8717.00†	89.772	179.804	7707.51	1061.19	-1059.18	588.01	40°01'38.992"N	104°51'31.918"W	0.00	
8817.00†	89.772	179.804	7707.90	1161.19	-1159.18	588.35	40°01'38.004"N	104°51'31.914"W	0.00	
8917.00†	89.772	179.804	7708.30	1261.19	-1259.18	588.69	40°01'37.015"N	104°51'31.910"W	0.00	
9017.00†	89.772	179.804	7708.70	1361.19	-1359.18	589.04	40°01'36.027"N	104°51'31.905"W	0.00	
9117.00†	89.772	179.804	7709.10	1461.19	-1459.18	589.38	40°01'35.039"N	104°51'31.901"W	0.00	
9217.00†	89.772	179.804	7709.50	1561.18	-1559.18	589.72	40°01'34.051"N	104°51'31.896"W	0.00	
9317.00†	89.772	179.804	7709.90	1661.18	-1659.17	590.06	40°01'33.063"N	104°51'31.892"W	0.00	
9417.00†	89.772	179.804	7710.29	1761.18	-1759.17	590.40	40°01'32.074"N	104°51'31.888"W	0.00	
9517.00†	89.772	179.804	7710.69	1861.18	-1859.17	590.74	40°01'31.086"N	104°51'31.883"W	0.00	
9617.00†	89.772	179.804	7711.09	1961.18	-1959.17	591.09	40°01'30.098"N	104°51'31.879"W	0.00	
9717.00†	89.772	179.804	7711.49	2061.18	-2059.17	591.43	40°01'29.110"N	104°51'31.875"W	0.00	
9817.00†	89.772	179.804	7711.89	2161.18	-2159.17	591.77	40°01'28.121"N	104°51'31.870"W	0.00	
9917.00†	89.772	179.804	7712.29	2261.18	-2259.17	592.11	40°01'27.133"N	104°51'31.866"W	0.00	
10017.00†	89.772	179.804	7712.68	2361.18	-2359.17	592.45	40°01'26.145"N	104°51'31.862"W	0.00	
10117.00†	89.772	179.804	7713.08	2461.18	-2459.16	592.80	40°01'25.157"N	104°51'31.857"W	0.00	
10217.00†	89.772	179.804	7713.48	2561.18	-2559.16	593.14	40°01'24.169"N	104°51'31.853"W	0.00	
10317.00†	89.772	179.804	7713.88	2661.18	-2659.16	593.48	40°01'23.180"N	104°51'31.848"W	0.00	
10417.00†	89.772	179.804	7714.28	2761.18	-2759.16	593.82	40°01'22.192"N	104°51'31.844"W	0.00	
10517.00†	89.772	179.804	7714.67	2861.17	-2859.16	594.16	40°01'21.204"N	104°51'31.840"W	0.00	
10617.00†	89.772	179.804	7715.07	2961.17	-2959.16	594.50	40°01'20.216"N	104°51'31.835"W	0.00	
10717.00†	89.772	179.804	7715.47	3061.17	-3059.16	594.85	40°01'19.228"N	104°51'31.831"W	0.00	
10817.00†	89.772	179.804	7715.87	3161.17	-3159.15	595.19	40°01'18.239"N	104°51'31.827"W	0.00	
10917.00†	89.772	179.804	7716.27	3261.17	-3259.15	595.53	40°01'17.251"N	104°51'31.822"W	0.00	
11017.00†	89.772	179.804	7716.67	3361.17	-3359.15	595.87	40°01'16.263"N	104°51'31.818"W	0.00	
11117.00†	89.772	179.804	7717.06	3461.17	-3459.15	596.21	40°01'15.275"N	104°51'31.814"W	0.00	
11217.00†	89.772	179.804	7717.46	3561.17	-3559.15	596.56	40°01'14.286"N	104°51'31.809"W	0.00	
11317.00†	89.772	179.804	7717.86	3661.17	-3659.15	596.90	40°01'13.298"N	104°51'31.805"W	0.00	
11417.00†	89.772	179.804	7718.26	3761.17	-3759.15	597.24	40°01'12.310"N	104°51'31.800"W	0.00	
11517.00†	89.772	179.804	7718.66	3861.17	-3859.14	597.58	40°01'11.322"N	104°51'31.796"W	0.00	
11617.00†	89.772	179.804	7719.06	3961.17	-3959.14	597.92	40°01'10.334"N	104°51'31.792"W	0.00	
11717.00†	89.772	179.804	7719.45	4061.16	-4059.14	598.26	40°01'09.345"N	104°51'31.787"W	0.00	
11817.00†	89.772	179.804	7719.85	4161.16	-4159.14	598.61	40°01'08.357"N	104°51'31.783"W	0.00	
11917.00†	89.772	179.804	7720.25	4261.16	-4259.14	598.95	40°01'07.369"N	104°51'31.779"W	0.00	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JAGUAR 36C-35HZ
Area	COLORADO	Well	JAGUAR 36C-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JAGUAR 36C-35HZ PWB
Facility	SEC.23-T1N-R67W		

WELLPATH DATA (198 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12017.00†	89.772	179.804	7720.65	4361.16	-4359.14	599.29	40°01'06.381"N	104°51'31.774"W	0.00	
12117.00†	89.772	179.804	7721.05	4461.16	-4459.14	599.63	40°01'05.392"N	104°51'31.770"W	0.00	
12217.00†	89.772	179.804	7721.44	4561.16	-4559.14	599.97	40°01'04.404"N	104°51'31.766"W	0.00	
12317.00†	89.772	179.804	7721.84	4661.16	-4659.13	600.31	40°01'03.416"N	104°51'31.761"W	0.00	
12417.00†	89.772	179.804	7722.24	4761.16	-4759.13	600.66	40°01'02.428"N	104°51'31.757"W	0.00	
12517.00†	89.772	179.804	7722.64	4861.16	-4859.13	601.00	40°01'01.440"N	104°51'31.752"W	0.00	
12617.00†	89.772	179.804	7723.04	4961.16	-4959.13	601.34	40°01'00.451"N	104°51'31.748"W	0.00	
12717.00†	89.772	179.804	7723.44	5061.16	-5059.13	601.68	40°00'59.463"N	104°51'31.744"W	0.00	
12817.00†	89.772	179.804	7723.83	5161.16	-5159.13	602.02	40°00'58.475"N	104°51'31.739"W	0.00	
12917.00†	89.772	179.804	7724.23	5261.16	-5259.13	602.37	40°00'57.487"N	104°51'31.735"W	0.00	
13017.00†	89.772	179.804	7724.63	5361.15	-5359.12	602.71	40°00'56.499"N	104°51'31.731"W	0.00	
13117.00†	89.772	179.804	7725.03	5461.15	-5459.12	603.05	40°00'55.510"N	104°51'31.726"W	0.00	
13217.00†	89.772	179.804	7725.43	5561.15	-5559.12	603.39	40°00'54.522"N	104°51'31.722"W	0.00	
13317.00†	89.772	179.804	7725.83	5661.15	-5659.12	603.73	40°00'53.534"N	104°51'31.718"W	0.00	
13417.00†	89.772	179.804	7726.22	5761.15	-5759.12	604.07	40°00'52.546"N	104°51'31.713"W	0.00	
13517.00†	89.772	179.804	7726.62	5861.15	-5859.12	604.42	40°00'51.557"N	104°51'31.709"W	0.00	
13617.00†	89.772	179.804	7727.02	5961.15	-5959.12	604.76	40°00'50.569"N	104°51'31.704"W	0.00	
13717.00†	89.772	179.804	7727.42	6061.15	-6059.11	605.10	40°00'49.581"N	104°51'31.700"W	0.00	
13817.00†	89.772	179.804	7727.82	6161.15	-6159.11	605.44	40°00'48.593"N	104°51'31.696"W	0.00	
13917.00†	89.772	179.804	7728.22	6261.15	-6259.11	605.78	40°00'47.605"N	104°51'31.691"W	0.00	
14017.00†	89.772	179.804	7728.61	6361.15	-6359.11	606.12	40°00'46.616"N	104°51'31.687"W	0.00	
14117.00†	89.772	179.804	7729.01	6461.15	-6459.11	606.47	40°00'45.628"N	104°51'31.683"W	0.00	
14217.00†	89.772	179.804	7729.41	6561.14	-6559.11	606.81	40°00'44.640"N	104°51'31.678"W	0.00	
14317.00†	89.772	179.804	7729.81	6661.14	-6659.11	607.15	40°00'43.652"N	104°51'31.674"W	0.00	
14417.00†	89.772	179.804	7730.21	6761.14	-6759.10	607.49	40°00'42.664"N	104°51'31.670"W	0.00	
14517.00†	89.772	179.804	7730.60	6861.14	-6859.10	607.83	40°00'41.675"N	104°51'31.665"W	0.00	
14617.00†	89.772	179.804	7731.00	6961.14	-6959.10	608.18	40°00'40.687"N	104°51'31.661"W	0.00	
14717.00†	89.772	179.804	7731.40	7061.14	-7059.10	608.52	40°00'39.699"N	104°51'31.656"W	0.00	
14817.00†	89.772	179.804	7731.80	7161.14	-7159.10	608.86	40°00'38.711"N	104°51'31.652"W	0.00	
14917.00†	89.772	179.804	7732.20	7261.14	-7259.10	609.20	40°00'37.722"N	104°51'31.648"W	0.00	
15017.00†	89.772	179.804	7732.60	7361.14	-7359.10	609.54	40°00'36.734"N	104°51'31.643"W	0.00	
15117.00†	89.772	179.804	7732.99	7461.14	-7459.10	609.88	40°00'35.746"N	104°51'31.639"W	0.00	
15217.00†	89.772	179.804	7733.39	7561.14	-7559.09	610.23	40°00'34.758"N	104°51'31.635"W	0.00	
15317.00†	89.772	179.804	7733.79	7661.14	-7659.09	610.57	40°00'33.770"N	104°51'31.630"W	0.00	
15417.00†	89.772	179.804	7734.19	7761.14	-7759.09	610.91	40°00'32.781"N	104°51'31.626"W	0.00	
15517.00†	89.772	179.804	7734.59	7861.13	-7859.09	611.25	40°00'31.793"N	104°51'31.622"W	0.00	
15617.00†	89.772	179.804	7734.99	7961.13	-7959.09	611.59	40°00'30.805"N	104°51'31.617"W	0.00	
15717.00†	89.772	179.804	7735.38	8061.13	-8059.09	611.93	40°00'29.817"N	104°51'31.613"W	0.00	
15817.00†	89.772	179.804	7735.78	8161.13	-8159.09	612.28	40°00'28.828"N	104°51'31.609"W	0.00	
15917.00†	89.772	179.804	7736.18	8261.13	-8259.08	612.62	40°00'27.840"N	104°51'31.604"W	0.00	
16017.00†	89.772	179.804	7736.58	8361.13	-8359.08	612.96	40°00'26.852"N	104°51'31.600"W	0.00	
16117.00†	89.772	179.804	7736.98	8461.13	-8459.08	613.30	40°00'25.864"N	104°51'31.595"W	0.00	
16217.00†	89.772	179.804	7737.37	8561.13	-8559.08	613.64	40°00'24.876"N	104°51'31.591"W	0.00	
16317.00†	89.772	179.804	7737.77	8661.13	-8659.08	613.99	40°00'23.887"N	104°51'31.587"W	0.00	
16417.00†	89.772	179.804	7738.17	8761.13	-8759.08	614.33	40°00'22.899"N	104°51'31.582"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JAGUAR 36C-35HZ
Area	COLORADO	Well	JAGUAR 36C-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JAGUAR 36C-35HZ PWB
Facility	SEC.23-T1N-R67W		

WELLPATH DATA (198 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16517.00†	89.772	179.804	7738.57	8861.13	-8859.08	614.67	40°00'21.911"N	104°51'31.578"W	0.00	
16617.00†	89.772	179.804	7738.97	8961.13	-8959.07	615.01	40°00'20.923"N	104°51'31.574"W	0.00	
16717.00†	89.772	179.804	7739.37	9061.13	-9059.07	615.35	40°00'19.935"N	104°51'31.569"W	0.00	
16817.00†	89.772	179.804	7739.76	9161.12	-9159.07	615.69	40°00'18.946"N	104°51'31.565"W	0.00	
16917.00†	89.772	179.804	7740.16	9261.12	-9259.07	616.04	40°00'17.958"N	104°51'31.561"W	0.00	
17017.00†	89.772	179.804	7740.56	9361.12	-9359.07	616.38	40°00'16.970"N	104°51'31.556"W	0.00	
17117.00†	89.772	179.804	7740.96	9461.12	-9459.07	616.72	40°00'15.982"N	104°51'31.552"W	0.00	
17217.00†	89.772	179.804	7741.36	9561.12	-9559.07	617.06	40°00'14.993"N	104°51'31.547"W	0.00	
17317.00†	89.772	179.804	7741.76	9661.12	-9659.06	617.40	40°00'14.005"N	104°51'31.543"W	0.00	
17417.00†	89.772	179.804	7742.15	9761.12	-9759.06	617.75	40°00'13.017"N	104°51'31.539"W	0.00	
17517.00†	89.772	179.804	7742.55	9861.12	-9859.06	618.09	40°00'12.029"N	104°51'31.534"W	0.00	
17617.00†	89.772	179.804	7742.95	9961.12	-9959.06	618.43	40°00'11.041"N	104°51'31.530"W	0.00	
17717.00†	89.772	179.804	7743.35	10061.12	-10059.06	618.77	40°00'10.052"N	104°51'31.526"W	0.00	
17817.00†	89.772	179.804	7743.75	10161.12	-10159.06	619.11	40°00'09.064"N	104°51'31.521"W	0.00	
17917.00†	89.772	179.804	7744.15	10261.12	-10259.06	619.45	40°00'08.076"N	104°51'31.517"W	0.00	
18017.00†	89.772	179.804	7744.54	10361.11	-10359.06	619.80	40°00'07.088"N	104°51'31.513"W	0.00	
18117.00†	89.772	179.804	7744.94	10461.11	-10459.05	620.14	40°00'06.099"N	104°51'31.508"W	0.00	
18131.63	89.772	179.804	7745.00†	10475.74	-10473.68	620.19	40°00'05.955"N	104°51'31.508"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: JAGUAR 36C-35HZ PWB Ref Wellpath: JAGUAR 36C-35HZ (PERMIT REV-1) PWP									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.5in Open Hole	17.00	1822.72	1805.72	17.00	1800.00	0.00	0.00	57.20	237.33
9.625in Casing Surface	17.00	1822.72	1805.72	17.00	1800.00	0.00	0.00	57.20	237.33
8.75in Open Hole	1822.72	8087.75	6265.03	1800.00	7705.00	57.20	237.33	-429.94	585.86
7in Casing Intermediate	17.00	8087.75	8070.75	17.00	7705.00	0.00	0.00	-429.94	585.86
6.125in Open Hole	8087.75	18131.63	10043.88	7705.00	7745.00	-429.94	585.86	-10473.68	620.19
4.5in Casing Production	17.00	18131.63	18114.63	17.00	7745.00	0.00	0.00	-10473.68	620.19

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JAGUAR 36C-35HZ
Area	COLORADO	Well	JAGUAR 36C-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JAGUAR 36C-35HZ PWB
Facility	SEC.23-T1N-R67W		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
JAGUAR 14N-35HZ LANDBOX		5009.00	0.00	0.00	1679336.05	14537835.67	40°01'49.459"N	104°51'39.477"W	polygon
JAGUAR 36C-35HZ SHL		5009.00	0.00	0.00	1679336.05	14537835.67	40°01'49.459"N	104°51'39.477"W	point
SEC.14-T1N-R67W LINES		5009.00	-88.08	2778.78	1682113.85	14537751.95	40°01'48.587"N	104°51'03.755"W	polygon
SEC.23-T1N-R67W LINES		5009.00	-88.08	2778.78	1682113.85	14537751.95	40°01'48.587"N	104°51'03.755"W	polygon
SEC.26-T1N-R67W LINES		5009.00	-88.08	2778.78	1682113.85	14537751.95	40°01'48.587"N	104°51'03.755"W	polygon
SEC.35-T1N-R67W LINES		5009.00	-88.08	2778.78	1682113.85	14537751.95	40°01'48.587"N	104°51'03.755"W	polygon
1) JAGUAR 36C-35HZ BHL	18131.63	7745.00	-10473.68	620.19	1679972.33	14527367.16	40°00'05.955"N	104°51'31.508"W	point

SURVEY PROGRAM - Ref Wellbore: JAGUAR 36C-35HZ PWB Ref Wellpath: JAGUAR 36C-35HZ (PERMIT REV-1) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	8087.75	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)		JAGUAR 36C-35HZ PWB
8087.75	18131.63	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)		JAGUAR 36C-35HZ PWB

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JAGUAR 36C-35HZ
Area	COLORADO	Well	JAGUAR 36C-35HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JAGUAR 36C-35HZ PWB
Facility	SEC.23-T1N-R67W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1459.79	12.000	76.450	1445.00	FOX HILLS
4775.99	0.000	179.804	4718.00	SUSSEX
7332.45	14.242	179.804	7273.00	SHARON SPRINGS
7350.06	16.003	179.804	7290.00	NIOBRARA TOP
7516.34	32.631	179.804	7441.00	NIOBRARA B BENCH
7617.57	42.754	179.804	7521.00	NIOBRARA C BENCH
7861.43	67.139	179.804	7660.00	FORT HAYS
7950.10	76.006	179.804	7688.00	CODELL

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	76.450	17.00	TIE-ON
250.00	0.000	76.450	250.00	BEGIN NUDGE
1050.00	12.000	76.450	1044.16	END NUDGE
3236.29	12.000	76.450	3182.68	BEGIN DROP
3836.29	0.000	179.804	3778.30	END DROP
7190.04	0.000	179.804	7132.05	KOP, BUILD @ 10°/100'
8087.75	89.772	179.804	7705.00	LANDING POINT
18131.63	89.772	179.804	7745.00	TOTAL DEPTH