

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#01 VOGEL STATE 39N-36HZ (645'FSL & 721'FWL, SEC.36)
Field: WELD COUNTY (KERR MCGEE) Well: VOGEL STATE 39N-36HZ
Facility: SEC.36-T3N-R68W Wellbore: VOGEL STATE 39N-36HZ PWB

Plot reference wellpath is VOGEL STATE 39N-36HZ (PERMIT REV-1)

True vertical depths are referenced to PERMIT (17 KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to PERMIT (17 KB) (RKB)	North Reference: True north
PERMIT (17 KB) (RKB) to Mean Sea Level: 4835 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#01 VOGEL STATE 39N-36HZ (645'FSL & 721'FWL, SEC.36)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: robate01 on 01/Oct/2013

Location Information

Facility Name				Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.36-T3N-R68W				3151422.828	1307760.543	40°10'36.942"N	104°57'29.129"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
SLOT#01 VOGEL STATE 39N-36HZ (645FSL & 721FWL, SEC.36)	0.00	0.00	3151422.828	1307760.543	40°10'36.942"N	104°57'29.129"W	
PERMIT (17 KB) (RKB) to Mud line (At Slot: SLOT#01 VOGEL STATE 39N-36HZ (645FSL & 721FWL, SEC.36))						4835ft	
Mean Sea Level to Mud line (At Slot: SLOT#01 VOGEL STATE 39N-36HZ (645FSL & 721FWL, SEC.36))						0ft	
PERMIT (17 KB) (RKB) to Mean Sea Level						4835ft	

Survey Program

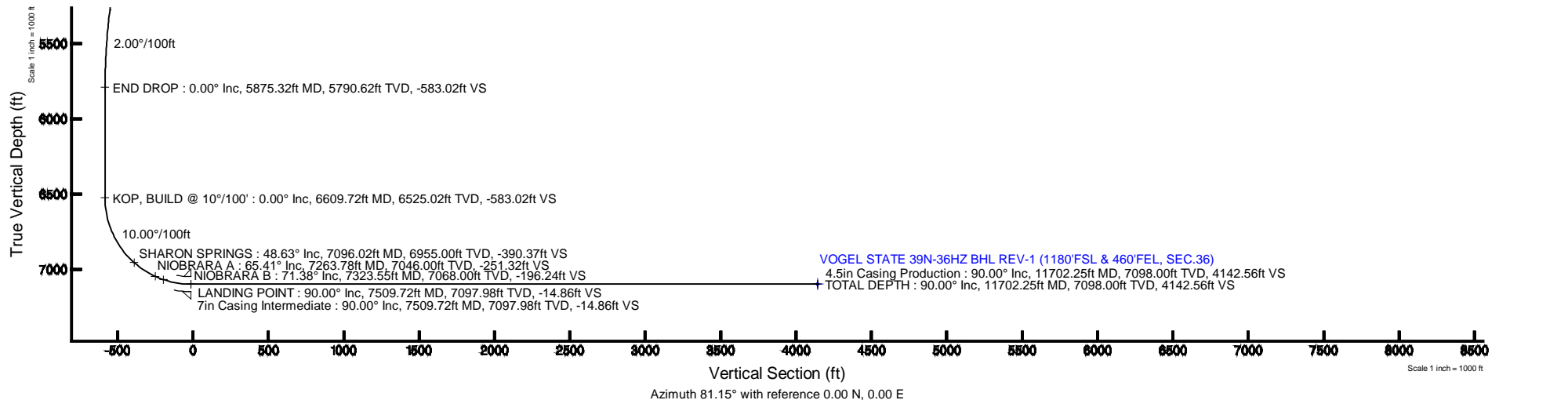
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	7509.72	NaviTrak	NaviTrak (Standard)		VOGEL STATE 39N-36HZ PWB
7509.72	11702.25	OnTrak	OnTrak (Standard)		VOGEL STATE 39N-36HZ PWB

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE ON	17.00	0.000	307.700	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1200.00	0.000	307.700	1200.00	0.00	0.00	0.00	0.00
END NUDGE	1800.00	12.000	307.700	1795.62	38.28	-49.53	2.00	-43.05
BEGIN DROP	5275.32	12.000	307.700	5195.00	480.15	-621.24	0.00	-539.97
END DROP	5875.32	0.000	88.570	5790.62	518.43	-670.77	2.00	-583.02
KOP, BUILD @ 10°/100'	6609.72	0.000	88.570	6525.02	518.43	-670.77	0.00	-583.02
LANDING POINT	7509.72	90.000	88.570	7097.98	532.73	-97.99	10.00	-14.86
TOTAL DEPTH	11702.25	90.000	88.570	7098.00	637.37	4093.23	0.00	4142.56

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
VOGEL STATE 13-36HZ HARDLINES (460' SETBACK)		7098.00	0.00	0.00	3151422.83	1307760.54	40°10'36.942"N	104°57'29.129"W
VOGEL STATE 39N-36HZ BHL REV-1 (1180'FSL & 460'FEL, SEC.36)	11702.25	7098.00	637.37	4093.23	3155511.90	1308422.89	40°10'43.237"N	104°56'36.395"W
VOGEL STATE 39N-36HZ LANDBOX		7098.00	0.00	0.00	3151422.83	1307760.54	40°10'36.942"N	104°57'29.129"W
VOGEL STATE 13-36HZ SECTION 36		7302.00	0.00	0.00	3151422.83	1307760.54	40°10'36.942"N	104°57'29.129"W





Planned Wellpath Report

VOGEL STATE 39N-36HZ (PERMIT REV-1)

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 VOGEL STATE 39N-36HZ (645'FSL & 721'FWL, SEC.36)
Area	COLORADO	Well	VOGEL STATE 39N-36HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOGEL STATE 39N-36HZ PWB
Facility	SEC.36-T3N-R68W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Robiale01
Scale	0.999958	Report Generated	01/Oct/2013 at 09:31
Convergence at slot	n/a	Database/Source file	WA_ANADARKO/VOGEL_STATE_39N-36HZ_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	3151422.83	1307760.54	40°10'36.942"N	104°57'29.129"W
Facility Reference Pt			3151422.83	1307760.54	40°10'36.942"N	104°57'29.129"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	PERMIT (17' KB) (RKB) to Facility Vertical Datum	4835.00ft
Horizontal Reference Pt	Slot	PERMIT (17' KB) (RKB) to Mean Sea Level	4835.00ft
Vertical Reference Pt	PERMIT (17' KB) (RKB)	PERMIT (17' KB) (RKB) to Mud Line at Slot (SLOT#01 VOGEL STATE 39N-36HZ (645'FSL & 721'FWL, SEC.36))	4835.00ft
MD Reference Pt	PERMIT (17' KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	81.15°



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Area	COLORADO	Well	VOGEL STATE 39N-36HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOGEL STATE 39N-36HZ PWB
Facility	SEC.36-T3N-R68W		

WELLPATH DATA (130 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	307.700	0.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	
17.00	0.000	307.700	17.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	TIE ON
117.00†	0.000	307.700	117.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	
217.00†	0.000	307.700	217.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	
317.00†	0.000	307.700	317.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	
417.00†	0.000	307.700	417.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	
517.00†	0.000	307.700	517.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	
617.00†	0.000	307.700	617.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	
717.00†	0.000	307.700	717.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	
817.00†	0.000	307.700	817.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	
917.00†	0.000	307.700	917.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	
1017.00†	0.000	307.700	1017.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	FOX HILLS BASE
1117.00†	0.000	307.700	1117.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	
1200.00	0.000	307.700	1200.00	0.00	0.00	0.00	40°10'36.942"N	104°57'29.129"W	0.00	BEGIN NUDGE
1217.00†	0.340	307.700	1217.00	-0.03	0.03	-0.04	40°10'36.942"N	104°57'29.130"W	2.00	
1317.00†	2.340	307.700	1316.97	-1.64	1.46	-1.89	40°10'36.956"N	104°57'29.153"W	2.00	
1417.00†	4.340	307.700	1416.79	-5.65	5.02	-6.50	40°10'36.992"N	104°57'29.213"W	2.00	
1517.00†	6.340	307.700	1516.35	-12.05	10.71	-13.86	40°10'37.048"N	104°57'29.308"W	2.00	
1617.00†	8.340	307.700	1615.53	-20.83	18.53	-23.97	40°10'37.125"N	104°57'29.438"W	2.00	
1717.00†	10.340	307.700	1714.20	-32.00	28.45	-36.81	40°10'37.223"N	104°57'29.603"W	2.00	
1800.00	12.000	307.700	1795.62	-43.05	38.28	-49.53	40°10'37.320"N	104°57'29.767"W	2.00	END NUDGE
1817.00†	12.000	307.700	1812.25	-45.48	40.44	-52.33	40°10'37.342"N	104°57'29.803"W	0.00	
1917.00†	12.000	307.700	1910.07	-59.78	53.16	-68.78	40°10'37.467"N	104°57'30.015"W	0.00	
2017.00†	12.000	307.700	2007.88	-74.08	65.87	-85.23	40°10'37.593"N	104°57'30.227"W	0.00	
2117.00†	12.000	307.700	2105.70	-88.38	78.59	-101.68	40°10'37.719"N	104°57'30.439"W	0.00	
2217.00†	12.000	307.700	2203.51	-102.68	91.30	-118.13	40°10'37.844"N	104°57'30.651"W	0.00	
2317.00†	12.000	307.700	2301.33	-116.97	104.02	-134.58	40°10'37.970"N	104°57'30.863"W	0.00	
2417.00†	12.000	307.700	2399.14	-131.27	116.73	-151.03	40°10'38.096"N	104°57'31.075"W	0.00	
2517.00†	12.000	307.700	2496.95	-145.57	129.45	-167.48	40°10'38.221"N	104°57'31.287"W	0.00	
2617.00†	12.000	307.700	2594.77	-159.87	142.16	-183.93	40°10'38.347"N	104°57'31.499"W	0.00	
2717.00†	12.000	307.700	2692.58	-174.17	154.87	-200.38	40°10'38.472"N	104°57'31.711"W	0.00	
2817.00†	12.000	307.700	2790.40	-188.47	167.59	-216.83	40°10'38.598"N	104°57'31.922"W	0.00	
2917.00†	12.000	307.700	2888.21	-202.77	180.30	-233.28	40°10'38.724"N	104°57'32.134"W	0.00	
3017.00†	12.000	307.700	2986.03	-217.06	193.02	-249.73	40°10'38.849"N	104°57'32.346"W	0.00	
3117.00†	12.000	307.700	3083.84	-231.36	205.73	-266.19	40°10'38.975"N	104°57'32.558"W	0.00	
3217.00†	12.000	307.700	3181.66	-245.66	218.45	-282.64	40°10'39.101"N	104°57'32.770"W	0.00	
3317.00†	12.000	307.700	3279.47	-259.96	231.16	-299.09	40°10'39.226"N	104°57'32.982"W	0.00	
3417.00†	12.000	307.700	3377.29	-274.26	243.87	-315.54	40°10'39.352"N	104°57'33.194"W	0.00	
3517.00†	12.000	307.700	3475.10	-288.56	256.59	-331.99	40°10'39.478"N	104°57'33.406"W	0.00	
3617.00†	12.000	307.700	3572.92	-302.85	269.30	-348.44	40°10'39.603"N	104°57'33.618"W	0.00	
3717.00†	12.000	307.700	3670.73	-317.15	282.02	-364.89	40°10'39.729"N	104°57'33.830"W	0.00	
3817.00†	12.000	307.700	3768.55	-331.45	294.73	-381.34	40°10'39.855"N	104°57'34.042"W	0.00	
3917.00†	12.000	307.700	3866.36	-345.75	307.45	-397.79	40°10'39.980"N	104°57'34.254"W	0.00	
4017.00†	12.000	307.700	3964.18	-360.05	320.16	-414.24	40°10'40.106"N	104°57'34.466"W	0.00	
4096.56†	12.000	307.700	4042.00	-371.42	330.28	-427.33	40°10'40.206"N	104°57'34.634"W	0.00	SUSSEX



Planned Wellpath Report

VOGEL STATE 39N-36HZ (PERMIT REV-1)

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 VOGEL STATE 39N-36HZ (645'FSL & 721'FWL, SEC.36)
Area	COLORADO	Well	VOGEL STATE 39N-36HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOGEL STATE 39N-36HZ PWB
Facility	SEC.36-T3N-R68W		

WELLPATH DATA (130 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4117.00†	12.000	307.700	4061.99	-374.35	332.87	-430.69	40°10'40.231"N	104°57'34.678"W	0.00	
4217.00†	12.000	307.700	4159.81	-388.64	345.59	-447.14	40°10'40.357"N	104°57'34.890"W	0.00	
4317.00†	12.000	307.700	4257.62	-402.94	358.30	-463.59	40°10'40.483"N	104°57'35.102"W	0.00	
4417.00†	12.000	307.700	4355.44	-417.24	371.02	-480.04	40°10'40.608"N	104°57'35.313"W	0.00	
4517.00†	12.000	307.700	4453.25	-431.54	383.73	-496.49	40°10'40.734"N	104°57'35.525"W	0.00	
4617.00†	12.000	307.700	4551.06	-445.84	396.45	-512.94	40°10'40.860"N	104°57'35.737"W	0.00	
4695.65†	12.000	307.700	4628.00	-457.08	406.45	-525.88	40°10'40.958"N	104°57'35.904"W	0.00	SHANNON
4717.00†	12.000	307.700	4648.88	-460.14	409.16	-529.39	40°10'40.985"N	104°57'35.949"W	0.00	
4817.00†	12.000	307.700	4746.69	-474.43	421.88	-545.84	40°10'41.111"N	104°57'36.161"W	0.00	
4917.00†	12.000	307.700	4844.51	-488.73	434.59	-562.29	40°10'41.237"N	104°57'36.373"W	0.00	
5017.00†	12.000	307.700	4942.32	-503.03	447.30	-578.74	40°10'41.362"N	104°57'36.585"W	0.00	
5117.00†	12.000	307.700	5040.14	-517.33	460.02	-595.19	40°10'41.488"N	104°57'36.797"W	0.00	
5217.00†	12.000	307.700	5137.95	-531.63	472.73	-611.64	40°10'41.613"N	104°57'37.009"W	0.00	
5275.32	12.000	307.700	5195.00	-539.97	480.15	-621.24	40°10'41.687"N	104°57'37.133"W	0.00	BEGIN DROP
5317.00†	11.166	307.700	5235.83	-545.72	485.27	-627.86	40°10'41.737"N	104°57'37.218"W	2.00	
5417.00†	9.166	307.700	5334.25	-557.86	496.06	-641.83	40°10'41.844"N	104°57'37.398"W	2.00	
5517.00†	7.166	307.700	5433.24	-567.63	504.75	-653.06	40°10'41.930"N	104°57'37.543"W	2.00	
5617.00†	5.166	307.700	5532.65	-575.01	511.31	-661.56	40°10'41.995"N	104°57'37.652"W	2.00	
5717.00†	3.166	307.700	5632.38	-580.01	515.76	-667.31	40°10'42.039"N	104°57'37.726"W	2.00	
5817.00†	1.166	307.700	5732.31	-582.61	518.07	-670.30	40°10'42.061"N	104°57'37.765"W	2.00	
5875.32	0.000	88.570	5790.62	-583.02	518.43	-670.77	40°10'42.065"N	104°57'37.771"W	2.00	END DROP
5917.00†	0.000	88.570	5832.30	-583.02	518.43	-670.77	40°10'42.065"N	104°57'37.771"W	0.00	
6017.00†	0.000	88.570	5932.30	-583.02	518.43	-670.77	40°10'42.065"N	104°57'37.771"W	0.00	
6117.00†	0.000	88.570	6032.30	-583.02	518.43	-670.77	40°10'42.065"N	104°57'37.771"W	0.00	
6217.00†	0.000	88.570	6132.30	-583.02	518.43	-670.77	40°10'42.065"N	104°57'37.771"W	0.00	
6317.00†	0.000	88.570	6232.30	-583.02	518.43	-670.77	40°10'42.065"N	104°57'37.771"W	0.00	
6417.00†	0.000	88.570	6332.30	-583.02	518.43	-670.77	40°10'42.065"N	104°57'37.771"W	0.00	
6517.00†	0.000	88.570	6432.30	-583.02	518.43	-670.77	40°10'42.065"N	104°57'37.771"W	0.00	
6609.72	0.000	88.570	6525.02	-583.02	518.43	-670.77	40°10'42.065"N	104°57'37.771"W	0.00	KOP, BUILD @ 10°/100'
6617.00†	0.728	88.570	6532.30	-582.97	518.43	-670.73	40°10'42.065"N	104°57'37.770"W	10.00	
6717.00†	10.728	88.570	6631.68	-573.09	518.68	-660.76	40°10'42.068"N	104°57'37.642"W	10.00	
6817.00†	20.728	88.570	6727.81	-546.24	519.36	-633.70	40°10'42.074"N	104°57'37.293"W	10.00	
6917.00†	30.728	88.570	6817.78	-503.25	520.44	-590.36	40°10'42.085"N	104°57'36.735"W	10.00	
7017.00†	40.728	88.570	6898.86	-445.42	521.89	-532.05	40°10'42.099"N	104°57'35.984"W	10.00	
7096.02†	48.629	88.570	6955.00	-390.37	523.28	-476.56	40°10'42.113"N	104°57'35.269"W	10.00	SHARON SPRINGS
7117.00†	50.728	88.570	6968.58	-374.51	523.68	-460.56	40°10'42.117"N	104°57'35.063"W	10.00	
7217.00†	60.728	88.570	7024.82	-292.67	525.74	-378.06	40°10'42.137"N	104°57'34.000"W	10.00	
7263.78†	65.406	88.570	7046.00	-251.32	526.78	-336.38	40°10'42.148"N	104°57'33.463"W	10.00	NIOBRARA A
7317.00†	70.728	88.570	7065.87	-202.38	528.01	-287.04	40°10'42.160"N	104°57'32.827"W	10.00	
7323.55†	71.383	88.570	7068.00	-196.24	528.17	-280.85	40°10'42.161"N	104°57'32.747"W	10.00	NIOBRARA B
7417.00†	80.728	88.570	7090.49	-106.40	530.43	-190.28	40°10'42.184"N	104°57'31.580"W	10.00	
7509.72	90.000	88.570	7097.98	-14.86	532.73	-97.99	40°10'42.206"N	104°57'30.391"W	10.00	LANDING POINT
7517.00†	90.000	88.570	7097.98	-7.64	532.91	-90.72	40°10'42.208"N	104°57'30.298"W	0.00	
7617.00†	90.000	88.570	7097.98	91.52	535.41	9.25	40°10'42.233"N	104°57'29.010"W	0.00	
7717.00†	90.000	88.570	7097.98	190.68	537.91	109.22	40°10'42.258"N	104°57'27.722"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

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Area	COLORADO	Well	VOGEL STATE 39N-36HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOGEL STATE 39N-36HZ PWB
Facility	SEC.36-T3N-R68W		

WELLPATH DATA (130 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7817.00†	90.000	88.570	7097.98	289.85	540.40	209.19	40°10'42.282"N	104°57'26.434"W	0.00	
7917.00†	90.000	88.570	7097.98	389.01	542.90	309.16	40°10'42.307"N	104°57'25.146"W	0.00	
8017.00†	90.000	88.570	7097.98	488.17	545.39	409.13	40°10'42.332"N	104°57'23.858"W	0.00	
8117.00†	90.000	88.570	7097.98	587.33	547.89	509.10	40°10'42.356"N	104°57'22.570"W	0.00	
8217.00†	90.000	88.570	7097.98	686.50	550.38	609.07	40°10'42.381"N	104°57'21.282"W	0.00	
8317.00†	90.000	88.570	7097.98	785.66	552.88	709.04	40°10'42.405"N	104°57'19.994"W	0.00	
8417.00†	90.000	88.570	7097.99	884.82	555.38	809.00	40°10'42.430"N	104°57'18.706"W	0.00	
8517.00†	90.000	88.570	7097.99	983.98	557.87	908.97	40°10'42.455"N	104°57'17.418"W	0.00	
8617.00†	90.000	88.570	7097.99	1083.15	560.37	1008.94	40°10'42.479"N	104°57'16.131"W	0.00	
8717.00†	90.000	88.570	7097.99	1182.31	562.86	1108.91	40°10'42.504"N	104°57'14.843"W	0.00	
8817.00†	90.000	88.570	7097.99	1281.47	565.36	1208.88	40°10'42.529"N	104°57'13.555"W	0.00	
8917.00†	90.000	88.570	7097.99	1380.63	567.86	1308.85	40°10'42.553"N	104°57'12.267"W	0.00	
9017.00†	90.000	88.570	7097.99	1479.80	570.35	1408.82	40°10'42.578"N	104°57'10.979"W	0.00	
9117.00†	90.000	88.570	7097.99	1578.96	572.85	1508.79	40°10'42.602"N	104°57'09.691"W	0.00	
9217.00†	90.000	88.570	7097.99	1678.12	575.34	1608.75	40°10'42.627"N	104°57'08.403"W	0.00	
9317.00†	90.000	88.570	7097.99	1777.28	577.84	1708.72	40°10'42.652"N	104°57'07.115"W	0.00	
9417.00†	90.000	88.570	7097.99	1876.45	580.34	1808.69	40°10'42.676"N	104°57'05.827"W	0.00	
9517.00†	90.000	88.570	7097.99	1975.61	582.83	1908.66	40°10'42.701"N	104°57'04.539"W	0.00	
9617.00†	90.000	88.570	7097.99	2074.77	585.33	2008.63	40°10'42.725"N	104°57'03.251"W	0.00	
9717.00†	90.000	88.570	7097.99	2173.93	587.82	2108.60	40°10'42.750"N	104°57'01.963"W	0.00	
9817.00†	90.000	88.570	7097.99	2273.10	590.32	2208.57	40°10'42.775"N	104°57'00.675"W	0.00	
9917.00†	90.000	88.570	7097.99	2372.26	592.82	2308.54	40°10'42.799"N	104°56'59.388"W	0.00	
10017.00†	90.000	88.570	7097.99	2471.42	595.31	2408.51	40°10'42.824"N	104°56'58.100"W	0.00	
10117.00†	90.000	88.570	7097.99	2570.58	597.81	2508.47	40°10'42.848"N	104°56'56.812"W	0.00	
10217.00†	90.000	88.570	7097.99	2669.75	600.30	2608.44	40°10'42.873"N	104°56'55.524"W	0.00	
10317.00†	90.000	88.570	7097.99	2768.91	602.80	2708.41	40°10'42.897"N	104°56'54.236"W	0.00	
10417.00†	90.000	88.570	7097.99	2868.07	605.30	2808.38	40°10'42.922"N	104°56'52.948"W	0.00	
10517.00†	90.000	88.570	7097.99	2967.23	607.79	2908.35	40°10'42.947"N	104°56'51.660"W	0.00	
10617.00†	90.000	88.570	7098.00	3066.40	610.29	3008.32	40°10'42.971"N	104°56'50.372"W	0.00	
10717.00†	90.000	88.570	7098.00	3165.56	612.78	3108.29	40°10'42.996"N	104°56'49.084"W	0.00	
10817.00†	90.000	88.570	7098.00	3264.72	615.28	3208.26	40°10'43.020"N	104°56'47.796"W	0.00	
10917.00†	90.000	88.570	7098.00	3363.88	617.77	3308.23	40°10'43.045"N	104°56'46.508"W	0.00	
11017.00†	90.000	88.570	7098.00	3463.05	620.27	3408.19	40°10'43.069"N	104°56'45.220"W	0.00	
11117.00†	90.000	88.570	7098.00	3562.21	622.77	3508.16	40°10'43.094"N	104°56'43.932"W	0.00	
11217.00†	90.000	88.570	7098.00	3661.37	625.26	3608.13	40°10'43.118"N	104°56'42.644"W	0.00	
11317.00†	90.000	88.570	7098.00	3760.53	627.76	3708.10	40°10'43.143"N	104°56'41.357"W	0.00	
11417.00†	90.000	88.570	7098.00	3859.70	630.25	3808.07	40°10'43.167"N	104°56'40.069"W	0.00	
11517.00†	90.000	88.570	7098.00	3958.86	632.75	3908.04	40°10'43.192"N	104°56'38.781"W	0.00	
11617.00†	90.000	88.570	7098.00	4058.02	635.25	4008.01	40°10'43.216"N	104°56'37.493"W	0.00	
11702.25	90.000	88.570	7098.00 ¹	4142.56	637.37	4093.23	40°10'43.237"N	104°56'36.395"W	0.00	TOTAL DEPTH



Planned Wellpath Report

VOGEL STATE 39N-36HZ (PERMIT REV-1)

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 VOGEL STATE 39N-36HZ (645'FSL & 721'FWL, SEC.36)
Area	COLORADO	Well	VOGEL STATE 39N-36HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOGEL STATE 39N-36HZ PWB
Facility	SEC.36-T3N-R68W		

HOLE & CASING SECTIONS -

Ref Wellbore: VOGEL STATE 39N-36HZ PWB Ref Wellpath: VOGEL STATE 39N-36HZ (PERMIT REV-1)

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	1067.00	1050.00	17.00	1067.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1067.00	1050.00	17.00	1067.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1067.00	7509.72	6442.72	1067.00	7097.98	0.00	0.00	532.73	-97.99
7in Casing Intermediate	17.00	7509.72	7492.72	17.00	7097.98	0.00	0.00	532.73	-97.99
6.125in Open Hole	7509.72	11702.25	4192.53	7097.98	7098.00	532.73	-97.99	637.37	4093.23
4.5in Casing Production	17.00	11702.25	11685.25	17.00	7098.00	0.00	0.00	637.37	4093.23

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
VOGEL STATE 13-36HZ HARDLINES (460' SETBACK)		7098.00	0.00	0.00	3151422.83	1307760.54	40°10'36.942"N	104°57'29.129"W	polygon
1) VOGEL STATE 39N-36HZ BHL REV-1 (1180'FSL & 460'FEL, SEC.36)	11702.25	7098.00	637.37	4093.23	3155511.90	1308422.89	40°10'43.237"N	104°56'36.395"W	point
VOGEL STATE 39N-36HZ LANDBOX		7098.00	0.00	0.00	3151422.83	1307760.54	40°10'36.942"N	104°57'29.129"W	polygon
VOGEL STATE 13-36HZ SECTION 36		7302.00	0.00	0.00	3151422.83	1307760.54	40°10'36.942"N	104°57'29.129"W	polygon

SURVEY PROGRAM - Ref Wellbore: VOGEL STATE 39N-36HZ PWB Ref Wellpath: VOGEL STATE 39N-36HZ (PERMIT REV-1)

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	7509.72	NaviTrak (Standard)		VOGEL STATE 39N-36HZ PWB
7509.72	11702.25	OnTrak (Standard)		VOGEL STATE 39N-36HZ PWB



Planned Wellpath Report

VOGEL STATE 39N-36HZ (PERMIT REV-1)

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 VOGEL STATE 39N-36HZ (645'FSL & 721'FWL, SEC.36)
Area	COLORADO	Well	VOGEL STATE 39N-36HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOGEL STATE 39N-36HZ PWB
Facility	SEC.36-T3N-R68W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1017.00	0.000	307.700	1017.00	FOX HILLS BASE
4096.56	12.000	307.700	4042.00	SUSSEX
4695.65	12.000	307.700	4628.00	SHANNON
7096.02	48.629	88.570	6955.00	SHARON SPRINGS
7263.78	65.406	88.570	7046.00	NIOBRARA A
7323.55	71.383	88.570	7068.00	NIOBRARA B

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	307.700	17.00	TIE ON
1200.00	0.000	307.700	1200.00	BEGIN NUDGE
1800.00	12.000	307.700	1795.62	END NUDGE
5275.32	12.000	307.700	5195.00	BEGIN DROP
5875.32	0.000	88.570	5790.62	END DROP
6609.72	0.000	88.570	6525.02	KOP, BUILD @ 10°/100'
7509.72	90.000	88.570	7097.98	LANDING POINT
11702.25	90.000	88.570	7098.00	TOTAL DEPTH