

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#03 VOGEL STATE 38N-36HZ (586'FSL & 716'FWL, SEC.36)
Field: WELD COUNTY (KERR MCGEE) Well: VOGEL STATE 38N-36HZ
Facility: SEC.36-T3N-R68W Wellbore: VOGEL STATE 38N-36HZ PWB

Plot reference wellpath is VOGEL STATE 38N-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: SLOTH03 VOGEL STATE 38N-36HZ (586'FSL & 716'FWL, SEC.36)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: robat01 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)
SLOT#03 VOGEL STATE 38N-36HZ (586'FSL & 716'FWL, SEC.36)	-59.91	-5.51	3151417.684	1307700.606
PERMIT (17 KB) (RKB) to Mud line (At Slot: SLOTH03 VOGEL STATE 38N-36HZ (586'FSL & 716'FWL, SEC.36))				4835ft
Mean Sea Level to Mud line (At Slot: SLOTH03 VOGEL STATE 38N-36HZ (586'FSL & 716'FWL, SEC.36))				0ft
PERMIT (17 KB) (RKB) to Mean Sea Level				4835ft

Survey Program

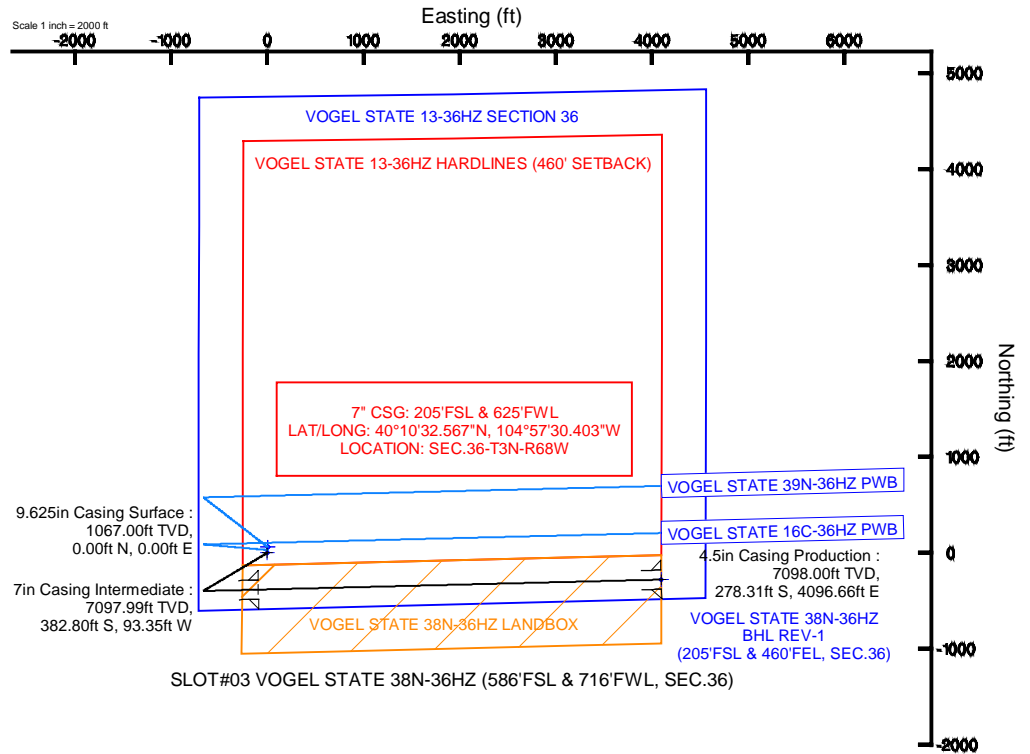
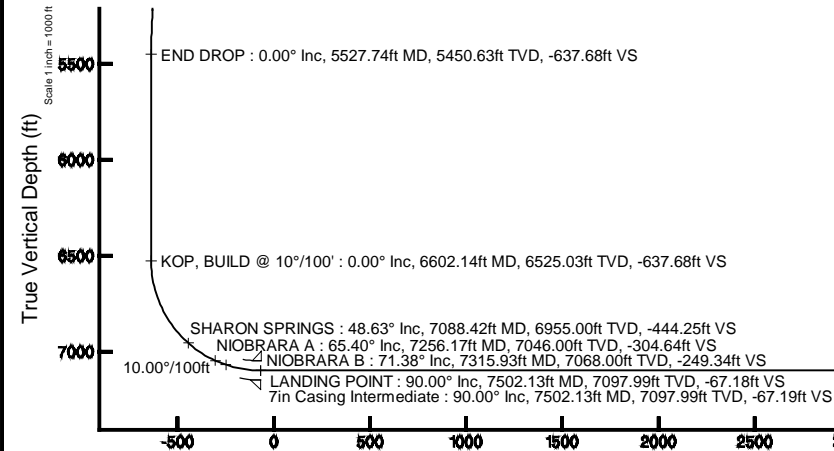
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	7502.13	NaviTrak	NaviTrak (Standard)		VOGEL STATE 38N-36HZ PWB
7502.13	11693.44	OnTrak	OnTrak (Standard)		VOGEL STATE 38N-36HZ PWB

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	239.200	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1200.00	0.000	239.200	1200.00	0.00	0.00	0.00	0.00
END NUDGE	1800.00	12.000	239.200	1795.62	-32.06	-53.77	2.00	-51.48
BEGIN DROP	4927.74	12.000	239.200	4855.01	-365.03	-612.35	0.00	-586.20
END DROP	5527.74	0.000	88.571	5450.63	-397.09	-666.12	2.00	-637.68
KOP, BUILD @ 10°/100'	6602.14	0.000	88.571	6525.03	-397.09	-666.12	0.00	-637.68
LANDING POINT	7502.13	90.000	88.571	7097.99	-382.80	-93.34	10.00	-67.18
TOTAL DEPTH	11693.44	90.000	88.571	7098.00	-278.31	4096.66	0.00	4106.11

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
VOGEL STATE 38N-36HZ BHL REV-1 (205'FSL & 460'FEL, SEC.36)	11693.44	7098.00	-278.31	4096.66	3155515.79	1307447.35	40°10'33.596"N	104°56'36.424"W
VOGEL STATE 13-36HZ HARDLINES (460' SETBACK)		7098.00	59.91	5.51	3151422.83	1307760.54	40°10'36.942"N	104°57'29.129"W
VOGEL STATE 38N-36HZ LANDBOX		7098.00	0.00	0.00	3151417.68	1307700.61	40°10'36.350"N	104°57'29.200"W
VOGEL STATE 13-36HZ SECTION 36		7302.00	59.91	5.51	3151422.83	1307760.54	40°10'36.942"N	104°57'29.129"W



VOGEL STATE 38N-36HZ BHL REV-1 (205'FSL & 460'FEL, SEC.36)

4.5in Casing Production : 90.00° Inc, 11693.44ft MD, 7098.00ft TVD, 4106.10ft VS

TOTAL DEPTH : 90.00° Inc, 11693.44ft MD, 7098.00ft TVD, 4106.11ft VS

Scale 1 inch = 1000 ft



Planned Wellpath Report

VOGEL STATE 38N-36HZ (PERMIT REV-1)

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 VOGEL STATE 38N-36HZ (586'FSL & 716'FWL, SEC.36)
Area	COLORADO	Well	VOGEL STATE 38N-36HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOGEL STATE 38N-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 09:24
Convergence at slot	n/a	Database/Source file	WA_ANADARKO/VOGEL_STATE_38N-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	-59.91	-5.51	3151417.68	1307700.61	40°10'36.350"N	104°57'29.200"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#03 VOGEL STATE 38N-36HZ (586'FSL & 716'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	93.89°



Planned Wellpath Report

VOGEL STATE 38N-36HZ (PERMIT REV-1)

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 VOGEL STATE 38N-36HZ (586'FSL & 716'FWL, SEC.36)
Area	COLORADO	Well	VOGEL STATE 38N-36HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOGEL STATE 38N-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	239.200	0.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	
17.00	0.000	239.200	17.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	TIE ON
117.00†	0.000	239.200	117.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	
217.00†	0.000	239.200	217.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	
317.00†	0.000	239.200	317.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	
417.00†	0.000	239.200	417.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	
517.00†	0.000	239.200	517.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	
617.00†	0.000	239.200	617.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	
717.00†	0.000	239.200	717.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	
817.00†	0.000	239.200	817.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	
917.00†	0.000	239.200	917.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	
1017.00†	0.000	239.200	1017.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	FOX HILLS BASE
1117.00†	0.000	239.200	1117.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	
1200.00	0.000	239.200	1200.00	0.00	0.00	0.00	40°10'36.350"N	104°57'29.200"W	0.00	BEGIN NUDGE
1217.00†	0.340	239.200	1217.00	-0.04	-0.03	-0.04	40°10'36.350"N	104°57'29.201"W	2.00	
1317.00†	2.340	239.200	1316.97	-1.96	-1.22	-2.05	40°10'36.338"N	104°57'29.226"W	2.00	
1417.00†	4.340	239.200	1416.79	-6.75	-4.21	-7.06	40°10'36.308"N	104°57'29.291"W	2.00	
1517.00†	6.340	239.200	1516.35	-14.41	-8.97	-15.05	40°10'36.261"N	104°57'29.394"W	2.00	
1617.00†	8.340	239.200	1615.53	-24.91	-15.51	-26.02	40°10'36.197"N	104°57'29.535"W	2.00	
1717.00†	10.340	239.200	1714.20	-38.26	-23.82	-39.96	40°10'36.115"N	104°57'29.715"W	2.00	
1800.00	12.000	239.200	1795.62	-51.48	-32.06	-53.77	40°10'36.033"N	104°57'29.893"W	2.00	END NUDGE
1817.00†	12.000	239.200	1812.25	-54.38	-33.86	-56.81	40°10'36.015"N	104°57'29.932"W	0.00	
1917.00†	12.000	239.200	1910.07	-71.48	-44.51	-74.67	40°10'35.910"N	104°57'30.162"W	0.00	
2017.00†	12.000	239.200	2007.88	-88.58	-55.16	-92.53	40°10'35.805"N	104°57'30.392"W	0.00	
2117.00†	12.000	239.200	2105.70	-105.67	-65.80	-110.39	40°10'35.700"N	104°57'30.622"W	0.00	
2217.00†	12.000	239.200	2203.51	-122.77	-76.45	-128.24	40°10'35.595"N	104°57'30.852"W	0.00	
2317.00†	12.000	239.200	2301.33	-139.86	-87.09	-146.10	40°10'35.489"N	104°57'31.082"W	0.00	
2417.00†	12.000	239.200	2399.14	-156.96	-97.74	-163.96	40°10'35.384"N	104°57'31.312"W	0.00	
2517.00†	12.000	239.200	2496.95	-174.06	-108.39	-181.82	40°10'35.279"N	104°57'31.542"W	0.00	
2617.00†	12.000	239.200	2594.77	-191.15	-119.03	-199.68	40°10'35.174"N	104°57'31.772"W	0.00	
2717.00†	12.000	239.200	2692.58	-208.25	-129.68	-217.54	40°10'35.069"N	104°57'32.003"W	0.00	
2817.00†	12.000	239.200	2790.40	-225.34	-140.32	-235.40	40°10'34.963"N	104°57'32.233"W	0.00	
2917.00†	12.000	239.200	2888.21	-242.44	-150.97	-253.26	40°10'34.858"N	104°57'32.463"W	0.00	
3017.00†	12.000	239.200	2986.03	-259.54	-161.62	-271.11	40°10'34.753"N	104°57'32.693"W	0.00	
3117.00†	12.000	239.200	3083.84	-276.63	-172.26	-288.97	40°10'34.648"N	104°57'32.923"W	0.00	
3217.00†	12.000	239.200	3181.66	-293.73	-182.91	-306.83	40°10'34.542"N	104°57'33.153"W	0.00	
3317.00†	12.000	239.200	3279.47	-310.83	-193.55	-324.69	40°10'34.437"N	104°57'33.383"W	0.00	
3417.00†	12.000	239.200	3377.29	-327.92	-204.20	-342.55	40°10'34.332"N	104°57'33.613"W	0.00	
3517.00†	12.000	239.200	3475.10	-345.02	-214.85	-360.41	40°10'34.227"N	104°57'33.843"W	0.00	
3617.00†	12.000	239.200	3572.92	-362.11	-225.49	-378.27	40°10'34.122"N	104°57'34.073"W	0.00	
3717.00†	12.000	239.200	3670.73	-379.21	-236.14	-396.13	40°10'34.016"N	104°57'34.303"W	0.00	
3817.00†	12.000	239.200	3768.55	-396.31	-246.78	-413.98	40°10'33.911"N	104°57'34.533"W	0.00	
3917.00†	12.000	239.200	3866.36	-413.40	-257.43	-431.84	40°10'33.806"N	104°57'34.763"W	0.00	
4017.00†	12.000	239.200	3964.18	-430.50	-268.08	-449.70	40°10'33.701"N	104°57'34.993"W	0.00	
4096.56†	12.000	239.200	4042.00	-444.10	-276.55	-463.91	40°10'33.617"N	104°57'35.176"W	0.00	SUSSEX



Planned Wellpath Report

VOGEL STATE 38N-36HZ (PERMIT REV-1)

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 VOGEL STATE 38N-36HZ (586'FSL & 716'FWL, SEC.36)
Area	COLORADO	Well	VOGEL STATE 38N-36HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOGEL STATE 38N-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	239.200	4061.99	-447.59	-278.72	-467.56	40°10'33.596"N	104°57'35.223"W	0.00	
4217.00†	12.000	239.200	4159.81	-464.69	-289.37	-485.42	40°10'33.490"N	104°57'35.454"W	0.00	
4317.00†	12.000	239.200	4257.62	-481.79	-300.01	-503.28	40°10'33.385"N	104°57'35.684"W	0.00	
4417.00†	12.000	239.200	4355.44	-498.88	-310.66	-521.14	40°10'33.280"N	104°57'35.914"W	0.00	
4517.00†	12.000	239.200	4453.25	-515.98	-321.31	-539.00	40°10'33.175"N	104°57'36.144"W	0.00	
4617.00†	12.000	239.200	4551.06	-533.07	-331.95	-556.85	40°10'33.070"N	104°57'36.374"W	0.00	
4695.65†	12.000	239.200	4628.00	-546.52	-340.33	-570.90	40°10'32.987"N	104°57'36.555"W	0.00	SHANNON
4717.00†	12.000	239.200	4648.88	-550.17	-342.60	-574.71	40°10'32.964"N	104°57'36.604"W	0.00	
4817.00†	12.000	239.200	4746.69	-567.27	-353.24	-592.57	40°10'32.859"N	104°57'36.834"W	0.00	
4917.00†	12.000	239.200	4844.51	-584.36	-363.89	-610.43	40°10'32.754"N	104°57'37.064"W	0.00	
4927.74	12.000	239.200	4855.01	-586.20	-365.03	-612.35	40°10'32.743"N	104°57'37.089"W	0.00	BEGIN DROP
5017.00†	10.215	239.200	4942.60	-600.34	-373.84	-627.12	40°10'32.656"N	104°57'37.279"W	2.00	
5117.00†	8.215	239.200	5041.30	-613.51	-382.04	-640.87	40°10'32.575"N	104°57'37.456"W	2.00	
5217.00†	6.215	239.200	5140.51	-623.83	-388.47	-651.66	40°10'32.511"N	104°57'37.595"W	2.00	
5317.00†	4.215	239.200	5240.09	-631.30	-393.12	-659.47	40°10'32.465"N	104°57'37.696"W	2.00	
5417.00†	2.215	239.200	5339.93	-635.92	-395.99	-664.28	40°10'32.437"N	104°57'37.758"W	2.00	
5517.00†	0.215	239.200	5439.90	-637.66	-397.08	-666.10	40°10'32.426"N	104°57'37.781"W	2.00	
5527.74	0.000	88.571	5450.63	-637.68	-397.09	-666.12	40°10'32.426"N	104°57'37.781"W	2.00	END DROP
5617.00†	0.000	88.571	5539.90	-637.68	-397.09	-666.12	40°10'32.426"N	104°57'37.781"W	0.00	
5717.00†	0.000	88.571	5639.90	-637.68	-397.09	-666.12	40°10'32.426"N	104°57'37.781"W	0.00	
5817.00†	0.000	88.571	5739.90	-637.68	-397.09	-666.12	40°10'32.426"N	104°57'37.781"W	0.00	
5917.00†	0.000	88.571	5839.90	-637.68	-397.09	-666.12	40°10'32.426"N	104°57'37.781"W	0.00	
6017.00†	0.000	88.571	5939.90	-637.68	-397.09	-666.12	40°10'32.426"N	104°57'37.781"W	0.00	
6117.00†	0.000	88.571	6039.90	-637.68	-397.09	-666.12	40°10'32.426"N	104°57'37.781"W	0.00	
6217.00†	0.000	88.571	6139.90	-637.68	-397.09	-666.12	40°10'32.426"N	104°57'37.781"W	0.00	
6317.00†	0.000	88.571	6239.90	-637.68	-397.09	-666.12	40°10'32.426"N	104°57'37.781"W	0.00	
6417.00†	0.000	88.571	6339.90	-637.68	-397.09	-666.12	40°10'32.426"N	104°57'37.781"W	0.00	
6517.00†	0.000	88.571	6439.90	-637.68	-397.09	-666.12	40°10'32.426"N	104°57'37.781"W	0.00	
6602.14	0.000	88.571	6525.03	-637.68	-397.09	-666.12	40°10'32.426"N	104°57'37.781"W	0.00	KOP, BUILD @ 10°/100'
6617.00†	1.486	88.571	6539.90	-637.48	-397.08	-665.93	40°10'32.426"N	104°57'37.779"W	10.00	
6717.00†	11.486	88.571	6639.13	-626.25	-396.80	-654.65	40°10'32.429"N	104°57'37.634"W	10.00	
6817.00†	21.486	88.571	6734.90	-598.03	-396.10	-626.32	40°10'32.436"N	104°57'37.269"W	10.00	
6917.00†	31.486	88.571	6824.29	-553.68	-394.98	-581.79	40°10'32.447"N	104°57'36.695"W	10.00	
7017.00†	41.486	88.571	6904.59	-494.55	-393.50	-522.42	40°10'32.461"N	104°57'35.930"W	10.00	
7088.42†	48.628	88.571	6955.00	-444.25	-392.24	-471.92	40°10'32.474"N	104°57'35.280"W	10.00	SHARON SPRINGS
7117.00†	51.486	88.571	6973.35	-422.43	-391.70	-450.01	40°10'32.479"N	104°57'34.997"W	10.00	
7217.00†	61.486	88.571	7028.49	-339.52	-389.62	-366.77	40°10'32.500"N	104°57'33.925"W	10.00	
7256.17†	65.403	88.571	7046.00	-304.64	-388.75	-331.75	40°10'32.508"N	104°57'33.474"W	10.00	NIOBRARA A
7315.93†	71.380	88.571	7068.00	-249.34	-387.36	-276.23	40°10'32.522"N	104°57'32.759"W	10.00	NIOBRARA B
7317.00†	71.486	88.571	7068.34	-248.33	-387.34	-275.22	40°10'32.522"N	104°57'32.746"W	10.00	
7417.00†	81.486	88.571	7091.68	-151.64	-384.92	-178.14	40°10'32.546"N	104°57'31.495"W	10.00	
7502.13	90.000	88.571	7097.99	-67.18	-382.80	-93.34	40°10'32.567"N	104°57'30.403"W	10.00	LANDING POINT
7517.00†	90.000	88.571	7097.99	-52.38	-382.43	-78.48	40°10'32.571"N	104°57'30.211"W	0.00	
7617.00†	90.000	88.571	7097.99	47.19	-379.94	21.49	40°10'32.595"N	104°57'28.923"W	0.00	
7717.00†	90.000	88.571	7097.99	146.76	-377.45	121.46	40°10'32.620"N	104°57'27.635"W	0.00	



Planned Wellpath Report

VOGEL STATE 38N-36HZ (PERMIT REV-1)

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 VOGEL STATE 38N-36HZ (586'FSL & 716'FWL, SEC.36)
Area	COLORADO	Well	VOGEL STATE 38N-36HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOGEL STATE 38N-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	88.571	7097.99	246.33	-374.95	221.42	40°10'32.645"N	104°57'26.347"W	0.00	
7917.00†	90.000	88.571	7097.99	345.90	-372.46	321.39	40°10'32.669"N	104°57'25.060"W	0.00	
8017.00†	90.000	88.571	7097.99	445.47	-369.97	421.36	40°10'32.694"N	104°57'23.772"W	0.00	
8117.00†	90.000	88.571	7097.99	545.04	-367.47	521.33	40°10'32.719"N	104°57'22.484"W	0.00	
8217.00†	90.000	88.571	7097.99	644.61	-364.98	621.30	40°10'32.743"N	104°57'21.196"W	0.00	
8317.00†	90.000	88.571	7097.99	744.18	-362.49	721.27	40°10'32.768"N	104°57'19.908"W	0.00	
8417.00†	90.000	88.571	7097.99	843.75	-359.99	821.24	40°10'32.792"N	104°57'18.620"W	0.00	
8517.00†	90.000	88.571	7097.99	943.32	-357.50	921.21	40°10'32.817"N	104°57'17.332"W	0.00	
8617.00†	90.000	88.571	7097.99	1042.89	-355.01	1021.18	40°10'32.842"N	104°57'16.044"W	0.00	
8717.00†	90.000	88.571	7097.99	1142.46	-352.52	1121.15	40°10'32.866"N	104°57'14.757"W	0.00	
8817.00†	90.000	88.571	7097.99	1242.03	-350.02	1221.11	40°10'32.891"N	104°57'13.469"W	0.00	
8917.00†	90.000	88.571	7097.99	1341.60	-347.53	1321.08	40°10'32.915"N	104°57'12.181"W	0.00	
9017.00†	90.000	88.571	7097.99	1441.17	-345.04	1421.05	40°10'32.940"N	104°57'10.893"W	0.00	
9117.00†	90.000	88.571	7097.99	1540.74	-342.54	1521.02	40°10'32.965"N	104°57'09.605"W	0.00	
9217.00†	90.000	88.571	7097.99	1640.31	-340.05	1620.99	40°10'32.989"N	104°57'08.317"W	0.00	
9317.00†	90.000	88.571	7097.99	1739.88	-337.56	1720.96	40°10'33.014"N	104°57'07.029"W	0.00	
9417.00†	90.000	88.571	7098.00	1839.45	-335.06	1820.93	40°10'33.038"N	104°57'05.741"W	0.00	
9517.00†	90.000	88.571	7098.00	1939.02	-332.57	1920.90	40°10'33.063"N	104°57'04.454"W	0.00	
9617.00†	90.000	88.571	7098.00	2038.59	-330.08	2020.87	40°10'33.087"N	104°57'03.166"W	0.00	
9717.00†	90.000	88.571	7098.00	2138.16	-327.58	2120.83	40°10'33.112"N	104°57'01.878"W	0.00	
9817.00†	90.000	88.571	7098.00	2237.73	-325.09	2220.80	40°10'33.136"N	104°57'00.590"W	0.00	
9917.00†	90.000	88.571	7098.00	2337.30	-322.60	2320.77	40°10'33.161"N	104°56'59.302"W	0.00	
10017.00†	90.000	88.571	7098.00	2436.87	-320.10	2420.74	40°10'33.186"N	104°56'58.014"W	0.00	
10117.00†	90.000	88.571	7098.00	2536.44	-317.61	2520.71	40°10'33.210"N	104°56'56.726"W	0.00	
10217.00†	90.000	88.571	7098.00	2636.01	-315.12	2620.68	40°10'33.235"N	104°56'55.438"W	0.00	
10317.00†	90.000	88.571	7098.00	2735.58	-312.63	2720.65	40°10'33.259"N	104°56'54.151"W	0.00	
10417.00†	90.000	88.571	7098.00	2835.15	-310.13	2820.62	40°10'33.284"N	104°56'52.863"W	0.00	
10517.00†	90.000	88.571	7098.00	2934.72	-307.64	2920.59	40°10'33.308"N	104°56'51.575"W	0.00	
10617.00†	90.000	88.571	7098.00	3034.29	-305.15	3020.55	40°10'33.333"N	104°56'50.287"W	0.00	
10717.00†	90.000	88.571	7098.00	3133.86	-302.65	3120.52	40°10'33.357"N	104°56'48.999"W	0.00	
10817.00†	90.000	88.571	7098.00	3233.43	-300.16	3220.49	40°10'33.382"N	104°56'47.711"W	0.00	
10917.00†	90.000	88.571	7098.00	3333.00	-297.67	3320.46	40°10'33.406"N	104°56'46.423"W	0.00	
11017.00†	90.000	88.571	7098.00	3432.57	-295.17	3420.43	40°10'33.431"N	104°56'45.135"W	0.00	
11117.00†	90.000	88.571	7098.00	3532.14	-292.68	3520.40	40°10'33.455"N	104°56'43.848"W	0.00	
11217.00†	90.000	88.571	7098.00	3631.71	-290.19	3620.37	40°10'33.480"N	104°56'42.560"W	0.00	
11317.00†	90.000	88.571	7098.00	3731.28	-287.69	3720.34	40°10'33.504"N	104°56'41.272"W	0.00	
11417.00†	90.000	88.571	7098.00	3830.85	-285.20	3820.31	40°10'33.529"N	104°56'39.984"W	0.00	
11517.00†	90.000	88.571	7098.00	3930.42	-282.71	3920.27	40°10'33.553"N	104°56'38.696"W	0.00	
11617.00†	90.000	88.571	7098.00	4029.99	-280.21	4020.24	40°10'33.578"N	104°56'37.408"W	0.00	
11693.44	90.000	88.571	7098.00 ¹	4106.11	-278.31	4096.66	40°10'33.596"N	104°56'36.424"W	0.00	TOTAL DEPTH



Planned Wellpath Report

VOGEL STATE 38N-36HZ (PERMIT REV-1)

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 VOGEL STATE 38N-36HZ (586'FSL & 716'FWL, SEC.36)
Area	COLORADO	Well	VOGEL STATE 38N-36HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOGEL STATE 38N-36HZ PWB
Facility	SEC.36-T3N-R68W		

HOLE & CASING SECTIONS -

Ref Wellbore: VOGEL STATE 38N-36HZ PWB Ref Wellpath: VOGEL STATE 38N-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	7502.13	6435.13	1067.00	7097.99	0.00	0.00	-382.80	-93.35
7in Casing Intermediate	17.00	7502.13	7485.13	17.00	7097.99	0.00	0.00	-382.80	-93.35
6.125in Open Hole	7502.13	11693.44	4191.31	7097.99	7098.00	-382.80	-93.35	-278.31	4096.66
4.5in Casing Production	17.00	11693.44	11676.44	17.00	7098.00	0.00	0.00	-278.31	4096.66

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) VOGEL STATE 38N-36HZ BHL REV-1 (205'FSL & 460'FEL, SEC.36)	11693.44	7098.00	-278.31	4096.66	3155515.79	1307447.35	40°10'33.596"N	104°56'36.424"W	point
VOGEL STATE 13-36HZ HARDLINES (460' SETBACK)		7098.00	59.91	5.51	3151422.83	1307760.54	40°10'36.942"N	104°57'29.129"W	polygon
VOGEL STATE 38N-36HZ LANDBOX		7098.00	0.00	0.00	3151417.68	1307700.61	40°10'36.350"N	104°57'29.200"W	polygon
VOGEL STATE 13-36HZ SECTION 36		7302.00	59.91	5.51	3151422.83	1307760.54	40°10'36.942"N	104°57'29.129"W	polygon

SURVEY PROGRAM - Ref Wellbore: VOGEL STATE 38N-36HZ PWB Ref Wellpath: VOGEL STATE 38N-36HZ (PERMIT REV-1)

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	7502.13	NaviTrak (Standard)		VOGEL STATE 38N-36HZ PWB
7502.13	11693.44	OnTrak (Standard)		VOGEL STATE 38N-36HZ PWB



Planned Wellpath Report

VOGEL STATE 38N-36HZ (PERMIT REV-1)

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 VOGEL STATE 38N-36HZ (586'FSL & 716'FWL, SEC.36)
Area	COLORADO	Well	VOGEL STATE 38N-36HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	VOGEL STATE 38N-36HZ PWB
Facility	SEC.36-T3N-R68W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1017.00	0.000	239.200	1017.00	FOX HILLS BASE
4096.56	12.000	239.200	4042.00	SUSSEX
4695.65	12.000	239.200	4628.00	SHANNON
7088.42	48.628	88.571	6955.00	SHARON SPRINGS
7256.17	65.403	88.571	7046.00	NIOBRARA A
7315.93	71.380	88.571	7068.00	NIOBRARA B

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	239.200	17.00	TIE ON
1200.00	0.000	239.200	1200.00	BEGIN NUDGE
1800.00	12.000	239.200	1795.62	END NUDGE
4927.74	12.000	239.200	4855.01	BEGIN DROP
5527.74	0.000	88.571	5450.63	END DROP
6602.14	0.000	88.571	6525.03	KOP, BUILD @ 10°/100'
7502.13	90.000	88.571	7097.99	LANDING POINT
11693.44	90.000	88.571	7098.00	TOTAL DEPTH