

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07)
Field: WELD COUNTY (KERR MCGEE) Well: HENRICKSON FEDERAL 14N-18HZ
Facility: SEC.07-T3N-R66W Wellbore: HENRICKSON FEDERAL 14N-18HZ PWB

Plot reference wellpath is HENRICKSON FEDERAL 14N-18HZ (PERMIT REV-1) PWP

True vertical depths are referenced to Rig on SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07) (RKB)
Measured depths are referenced to Rig on SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07) (RKB)
Rig on SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07) (RKB) to Mean Sea Level: 4811 feet
Mean Sea Level to Mud line (in Slot) HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07): 0 feet
Coordinates are in feet referenced to Slot
Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
North Reference: True north
Scale: True distance
Depths are in feet
Created by: pccrain on 5/24/2013

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.07-T3N-R66W	31807.40	13264.76	40°12'54.82"N	104°46'32.10"W
SEC.07-T3N-R66W	31807.40	13264.76	40°12'54.82"N	104°46'32.10"W
SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07)	31807.40	13264.76	40°12'54.82"N	104°46'32.10"W
Rig on SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07) (RKB) to Mean Sea Level (in Slot) HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07)				4811
Mean Sea Level to Mud line (in Slot) HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07)				0
Rig on SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07) (RKB) to Mean Sea Level				4811

Survey Program

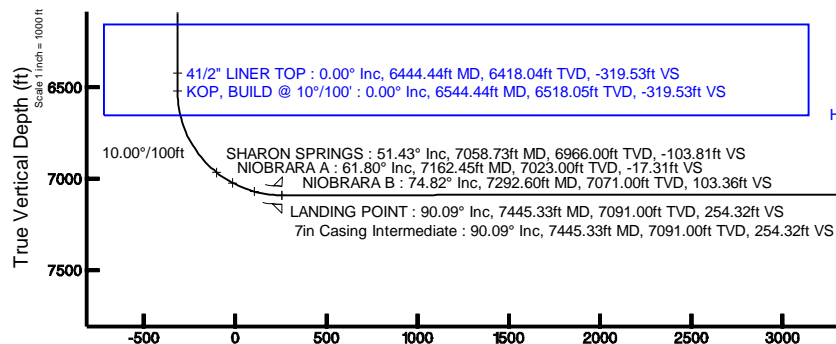
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	7445.33	NavTrak	NavTrak (MagCorr)		HENRICKSON FEDERAL 14N-18HZ PWB
7445.33	13869.05	OnTrak	OnTrak (MagCorr)		HENRICKSON FEDERAL 14N-18HZ PWB

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	15.000	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1300.00	0.000	15.000	1300.00	0.00	0.00	0.00	0.00
END NUDGE	1800.00	10.000	15.000	1797.47	42.04	11.26	2.00	-42.04
BEGIN DROP	3203.86	10.000	15.000	3180.00	277.51	74.36	0.00	-277.49
END DROP	3703.86	0.000	179.985	3677.47	319.55	85.62	2.00	-319.53
KOP, BUILD @ 10°/100'	6544.44	0.000	179.985	6518.05	319.55	85.62	0.00	-319.53
LANDING POINT	7445.33	90.089	179.985	7091.00	-254.30	85.77	10.00	254.32
TOTAL DEPTH	13869.05	90.089	179.985	7081.00	-6678.01	87.44	0.00	6678.03

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.07-T3N-R66W HARD LINES (460' SET BACKS)	4811.00	-117.84	-1285.28	3187895.01	1326743.58	40°14'11.71"N	104°46'32.10"W	
SEC.07-T3N-R66W SECTION LINES	4811.00	-117.84	-1285.28	3187895.01	1326743.58	40°14'11.71"N	104°46'32.10"W	
SEC.18-T3N-R66W HARD LINES (460' SET BACKS)	4811.00	-117.84	-1285.27	3187895.01	1326743.58	40°14'11.71"N	104°46'32.10"W	
SEC.18-T3N-R66W SECTION LINES	4811.00	-117.84	-1285.27	3187895.01	1326743.58	40°14'11.71"N	104°46'32.10"W	
HENRICKSON FEDERAL 14N-18HZ BHL ON PLAT (460' FSL & 2165' FWL, SEC.18) REV-1	13869.05	7081.00	-6678.01	87.44	3188297.75	1327094.03	40°13'06.88"N	104°46'10.88"W



HENRICKSON FEDERAL 14N-18HZ BHL ON PLAT (460' FSL & 2165' FWL, SEC.18) REV-1

TOTAL DEPTH : 90.09° Inc, 13869.05ft MD, 7081.00ft TVD, 6678.03ft VS
4.5in Casing Production : 90.09° Inc, 13869.05ft MD, 7081.00ft TVD, 6678.03ft VS

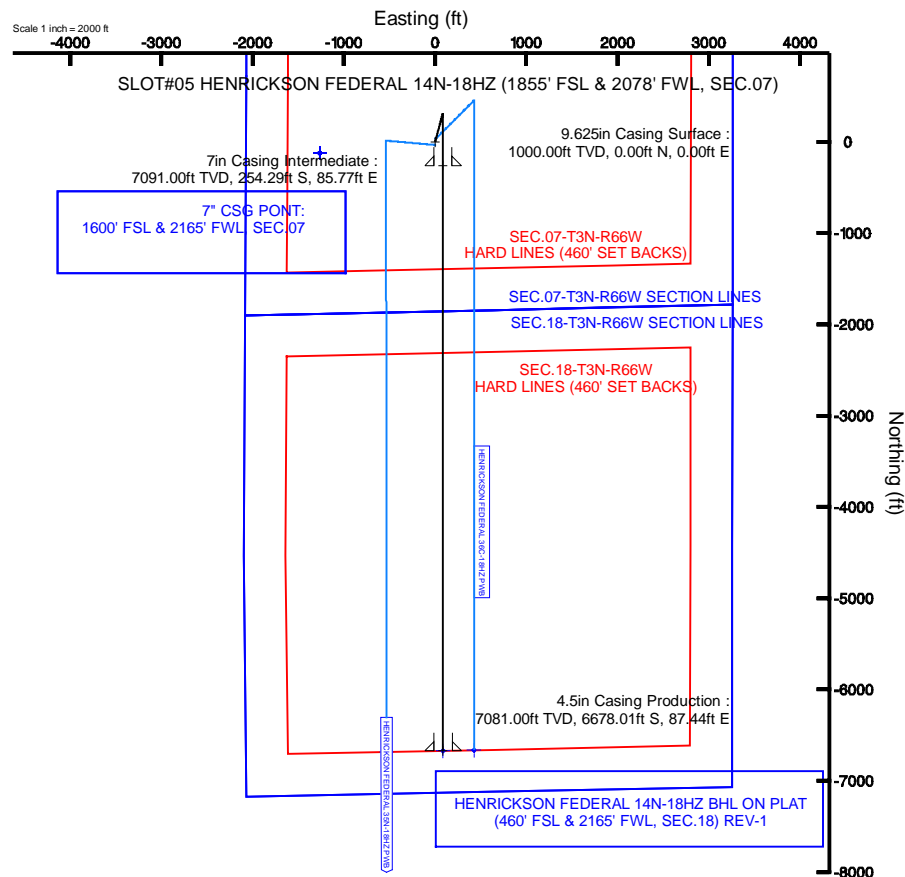
7in Casing Intermediate : 90.09° Inc, 7445.33ft MD, 7091.00ft TVD, 254.32ft VS

Vertical Section (ft)
Azimuth 179.99° with reference 0.00 N, 0.00 E



BGGM (1945.0 to 2014.0) Dip: 66.81° Field: 52735.9 nT
Magnetic North is 8.67 degrees East of True North (at 5/23/2013)

To correct azimuth from Magnetic to True add 8.67 degrees
For example: If the Magnetic North Azimuth = 90 degs, then the True North Azimuth = 90 + 8.67 = 98.67



TOTAL DEPTH : 90.09° Inc, 13869.05ft MD, 7081.00ft TVD, 6678.03ft VS

4.5in Casing Production : 90.09° Inc, 13869.05ft MD, 7081.00ft TVD, 6678.03ft VS

HENRICKSON FEDERAL 14N-18HZ BHL ON PLAT
(460' FSL & 2165' FWL, SEC.18) REV-1

Scale 1 inch = 1000 ft



Planned Wellpath Report
HENRICKSON FEDERAL 14N-18HZ (PERMIT REV-1) PWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07)
Area	COLORADO	Well	HENRICKSON FEDERAL 14N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HENRICKSON FEDERAL 14N-18HZ PWB
Facility	SEC.07-T3N-R66W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect@ 3.0.2
North Reference	True	User	Precain
Scale	0.999957	Report Generated	5/24/2013 at 7:54:55 PM
Convergence at slot	0.44° East	Database/Source file	WellArchitectDB/HENRICKSON_FEDERAL_14N-18HZ_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	1841.01	-624.10	3189159.29	1329870.87	40°14'12.876"N	104°49'20.788"W
Facility Reference Pt			3189797.46	1328034.78	40°13'54.683"N	104°49'12.741"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07) (RKB) to Facility Vertical
Horizontal Reference Pt	Slot	Rig on SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07) (RKB) to Mean Sea Level
Vertical Reference Pt	Rig on SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07) (RKB)	Rig on SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07) (RKB) to Mud Line at Slo
MD Reference Pt	Rig on SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07) (RKB)	Section Origin
Field Vertical Reference	Mean Sea Level	Section Azimuth



Planned Wellpath Report

HENRICKSON FEDERAL 14N-18HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07)
Area	COLORADO	Well	HENRICKSON FEDERAL 14N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HENRICKSON FEDERAL 14N-18HZ PWB
Facility	SEC.07-T3N-R66W		

WELLPATH DATA (153 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	15.000	0.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	
17.00	0.000	15.000	17.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	TIE-ON
117.00†	0.000	15.000	117.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	
217.00†	0.000	15.000	217.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	
317.00†	0.000	15.000	317.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	
417.00†	0.000	15.000	417.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	
517.00†	0.000	15.000	517.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	FOX HILLS BASE
617.00†	0.000	15.000	617.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	
717.00†	0.000	15.000	717.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	
817.00†	0.000	15.000	817.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	
917.00†	0.000	15.000	917.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	
1017.00†	0.000	15.000	1017.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	
1117.00†	0.000	15.000	1117.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	
1217.00†	0.000	15.000	1217.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	
1300.00	0.000	15.000	1300.00	0.00	0.00	0.00	40°14'12.876"N	104°49'20.788"W	0.00	BEGIN NUDGE
1317.00†	0.340	15.000	1317.00	-0.05	0.05	0.01	40°14'12.876"N	104°49'20.788"W	2.00	
1417.00†	2.340	15.000	1416.97	-2.31	2.31	0.62	40°14'12.899"N	104°49'20.780"W	2.00	
1517.00†	4.340	15.000	1516.79	-7.93	7.93	2.13	40°14'12.954"N	104°49'20.761"W	2.00	
1617.00†	6.340	15.000	1616.35	-16.92	16.92	4.53	40°14'13.043"N	104°49'20.730"W	2.00	
1717.00†	8.340	15.000	1715.53	-29.26	29.26	7.84	40°14'13.165"N	104°49'20.687"W	2.00	
1800.00	10.000	15.000	1797.47	-42.04	42.04	11.26	40°14'13.291"N	104°49'20.643"W	2.00	END NUDGE
1817.00†	10.000	15.000	1814.21	-44.89	44.89	12.03	40°14'13.320"N	104°49'20.633"W	0.00	
1917.00†	10.000	15.000	1912.69	-61.66	61.66	16.52	40°14'13.485"N	104°49'20.575"W	0.00	
2017.00†	10.000	15.000	2011.17	-78.43	78.44	21.02	40°14'13.651"N	104°49'20.517"W	0.00	
2117.00†	10.000	15.000	2109.65	-95.20	95.21	25.51	40°14'13.817"N	104°49'20.459"W	0.00	
2217.00†	10.000	15.000	2208.13	-111.98	111.98	30.01	40°14'13.983"N	104°49'20.401"W	0.00	
2317.00†	10.000	15.000	2306.61	-128.75	128.76	34.50	40°14'14.148"N	104°49'20.343"W	0.00	
2417.00†	10.000	15.000	2405.09	-145.52	145.53	38.99	40°14'14.314"N	104°49'20.285"W	0.00	
2517.00†	10.000	15.000	2503.57	-162.29	162.30	43.49	40°14'14.480"N	104°49'20.227"W	0.00	
2617.00†	10.000	15.000	2602.05	-179.06	179.08	47.98	40°14'14.646"N	104°49'20.169"W	0.00	
2717.00†	10.000	15.000	2700.53	-195.84	195.85	52.48	40°14'14.811"N	104°49'20.111"W	0.00	
2817.00†	10.000	15.000	2799.01	-212.61	212.62	56.97	40°14'14.977"N	104°49'20.053"W	0.00	
2917.00†	10.000	15.000	2897.50	-229.38	229.40	61.47	40°14'15.143"N	104°49'19.995"W	0.00	
3017.00†	10.000	15.000	2995.98	-246.15	246.17	65.96	40°14'15.309"N	104°49'19.937"W	0.00	
3117.00†	10.000	15.000	3094.46	-262.92	262.94	70.46	40°14'15.474"N	104°49'19.880"W	0.00	
3203.86	10.000	15.000	3180.00	-277.49	277.51	74.36	40°14'15.618"N	104°49'19.829"W	0.00	BEGIN DROP
3217.00†	9.737	15.000	3192.94	-279.67	279.69	74.94	40°14'15.640"N	104°49'19.822"W	2.00	
3317.00†	7.737	15.000	3291.78	-294.34	294.36	78.87	40°14'15.785"N	104°49'19.771"W	2.00	
3417.00†	5.737	15.000	3391.08	-305.67	305.69	81.91	40°14'15.897"N	104°49'19.732"W	2.00	
3517.00†	3.737	15.000	3490.74	-313.64	313.67	84.05	40°14'15.976"N	104°49'19.704"W	2.00	
3617.00†	1.737	15.000	3590.62	-318.26	318.28	85.28	40°14'16.021"N	104°49'19.688"W	2.00	
3703.86	0.000	179.985	3677.47	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	2.00	END DROP
3717.00†	0.000	179.985	3690.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
3817.00†	0.000	179.985	3790.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
3833.40†	0.000	179.985	3807.00	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	PARKMAN

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07)
Area	COLORADO	Well	HENRICKSON FEDERAL 14N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HENRICKSON FEDERAL 14N-18HZ PWB
Facility	SEC.07-T3N-R66W		

WELLPATH DATA (153 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	179.985	3890.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
4017.00†	0.000	179.985	3990.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
4117.00†	0.000	179.985	4090.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
4217.00†	0.000	179.985	4190.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
4277.40†	0.000	179.985	4251.00	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	SUSSEX
4317.00†	0.000	179.985	4290.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
4417.00†	0.000	179.985	4390.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
4517.00†	0.000	179.985	4490.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
4617.00†	0.000	179.985	4590.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
4717.00†	0.000	179.985	4690.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
4817.00†	0.000	179.985	4790.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
4917.00†	0.000	179.985	4890.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
5017.00†	0.000	179.985	4990.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
5117.00†	0.000	179.985	5090.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
5217.00†	0.000	179.985	5190.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
5317.00†	0.000	179.985	5290.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
5417.00†	0.000	179.985	5390.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
5517.00†	0.000	179.985	5490.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
5617.00†	0.000	179.985	5590.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
5717.00†	0.000	179.985	5690.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
5817.00†	0.000	179.985	5790.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
5917.00†	0.000	179.985	5890.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
6017.00†	0.000	179.985	5990.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
6117.00†	0.000	179.985	6090.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
6217.00†	0.000	179.985	6190.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
6317.00†	0.000	179.985	6290.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
6417.00†	0.000	179.985	6390.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
6444.44†	0.000	179.985	6418.04	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	41/2" LINER TOP
6517.00†	0.000	179.985	6490.60	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	
6544.44	0.000	179.985	6518.05	-319.53	319.55	85.62	40°14'16.034"N	104°49'19.684"W	0.00	KOP, BUILD @ 10°/100'
6617.00†	7.256	179.985	6590.41	-314.94	314.96	85.62	40°14'15.988"N	104°49'19.684"W	10.00	
6717.00†	17.256	179.985	6688.01	-293.74	293.76	85.63	40°14'15.779"N	104°49'19.684"W	10.00	
6817.00†	27.256	179.985	6780.44	-255.91	255.94	85.64	40°14'15.405"N	104°49'19.684"W	10.00	
6917.00†	37.256	179.985	6864.90	-202.61	202.63	85.65	40°14'14.878"N	104°49'19.684"W	10.00	
7017.00†	47.256	179.985	6938.82	-135.45	135.47	85.67	40°14'14.215"N	104°49'19.683"W	10.00	
7058.73†	51.428	179.985	6966.00	-103.81	103.83	85.68	40°14'13.902"N	104°49'19.683"W	10.00	SHARON SPRINGS
7117.00†	57.256	179.985	6999.96	-56.48	56.50	85.69	40°14'13.434"N	104°49'19.683"W	10.00	
7162.45†	61.801	179.985	7023.00	-17.31	17.34	85.70	40°14'13.047"N	104°49'19.683"W	10.00	NIOBRARA A
7217.00†	67.256	179.985	7046.45	31.91	-31.89	85.71	40°14'12.561"N	104°49'19.683"W	10.00	
7292.60†	74.816	179.985	7071.00	103.36	-103.33	85.73	40°14'11.855"N	104°49'19.683"W	10.00	NIOBRARA B
7317.00†	77.256	179.985	7076.89	127.04	-127.01	85.74	40°14'11.621"N	104°49'19.682"W	10.00	
7417.00†	87.256	179.985	7090.35	226.00	-225.98	85.77	40°14'10.643"N	104°49'19.682"W	10.00	
7445.33	90.089	179.985	7091.00	254.32	-254.30	85.77	40°14'10.363"N	104°49'19.682"W	10.00	LANDING POINT
7517.00†	90.089	179.985	7090.89	325.99	-325.96	85.79	40°14'09.655"N	104°49'19.682"W	0.00	
7617.00†	90.089	179.985	7090.74	425.99	-425.96	85.82	40°14'08.667"N	104°49'19.681"W	0.00	



Planned Wellpath Report

HENRICKSON FEDERAL 14N-18HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07)
Area	COLORADO	Well	HENRICKSON FEDERAL 14N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HENRICKSON FEDERAL 14N-18HZ PWB
Facility	SEC.07-T3N-R66W		

WELLPATH DATA (153 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7717.00†	90.089	179.985	7090.58	525.99	-525.96	85.84	40°14'07.678"N	104°49'19.681"W	0.00	
7817.00†	90.089	179.985	7090.42	625.99	-625.96	85.87	40°14'06.690"N	104°49'19.681"W	0.00	
7917.00†	90.089	179.985	7090.27	725.99	-725.96	85.90	40°14'05.702"N	104°49'19.680"W	0.00	
8017.00†	90.089	179.985	7090.11	825.99	-825.96	85.92	40°14'04.714"N	104°49'19.680"W	0.00	
8117.00†	90.089	179.985	7089.96	925.99	-925.96	85.95	40°14'03.726"N	104°49'19.680"W	0.00	
8217.00†	90.089	179.985	7089.80	1025.99	-1025.96	85.97	40°14'02.738"N	104°49'19.679"W	0.00	
8317.00†	90.089	179.985	7089.65	1125.99	-1125.96	86.00	40°14'01.749"N	104°49'19.679"W	0.00	
8417.00†	90.089	179.985	7089.49	1225.99	-1225.96	86.03	40°14'00.761"N	104°49'19.679"W	0.00	
8517.00†	90.089	179.985	7089.33	1325.99	-1325.96	86.05	40°13'59.773"N	104°49'19.678"W	0.00	
8617.00†	90.089	179.985	7089.18	1425.99	-1425.96	86.08	40°13'58.785"N	104°49'19.678"W	0.00	
8717.00†	90.089	179.985	7089.02	1525.99	-1525.96	86.10	40°13'57.797"N	104°49'19.678"W	0.00	
8817.00†	90.089	179.985	7088.87	1625.99	-1625.96	86.13	40°13'56.808"N	104°49'19.677"W	0.00	
8917.00†	90.089	179.985	7088.71	1725.99	-1725.96	86.15	40°13'55.820"N	104°49'19.677"W	0.00	
9017.00†	90.089	179.985	7088.56	1825.99	-1825.96	86.18	40°13'54.832"N	104°49'19.677"W	0.00	
9117.00†	90.089	179.985	7088.40	1925.98	-1925.96	86.21	40°13'53.844"N	104°49'19.677"W	0.00	
9217.00†	90.089	179.985	7088.24	2025.98	-2025.96	86.23	40°13'52.856"N	104°49'19.676"W	0.00	
9317.00†	90.089	179.985	7088.09	2125.98	-2125.96	86.26	40°13'51.867"N	104°49'19.676"W	0.00	
9417.00†	90.089	179.985	7087.93	2225.98	-2225.96	86.28	40°13'50.879"N	104°49'19.676"W	0.00	
9517.00†	90.089	179.985	7087.78	2325.98	-2325.96	86.31	40°13'49.891"N	104°49'19.675"W	0.00	
9617.00†	90.089	179.985	7087.62	2425.98	-2425.96	86.34	40°13'48.903"N	104°49'19.675"W	0.00	
9717.00†	90.089	179.985	7087.47	2525.98	-2525.96	86.36	40°13'47.915"N	104°49'19.675"W	0.00	
9817.00†	90.089	179.985	7087.31	2625.98	-2625.96	86.39	40°13'46.926"N	104°49'19.674"W	0.00	
9917.00†	90.089	179.985	7087.15	2725.98	-2725.96	86.41	40°13'45.938"N	104°49'19.674"W	0.00	
10017.00†	90.089	179.985	7087.00	2825.98	-2825.96	86.44	40°13'44.950"N	104°49'19.674"W	0.00	
10117.00†	90.089	179.985	7086.84	2925.98	-2925.96	86.47	40°13'43.962"N	104°49'19.673"W	0.00	
10217.00†	90.089	179.985	7086.69	3025.98	-3025.96	86.49	40°13'42.974"N	104°49'19.673"W	0.00	
10317.00†	90.089	179.985	7086.53	3125.98	-3125.96	86.52	40°13'41.985"N	104°49'19.673"W	0.00	
10417.00†	90.089	179.985	7086.38	3225.98	-3225.96	86.54	40°13'40.997"N	104°49'19.672"W	0.00	
10517.00†	90.089	179.985	7086.22	3325.98	-3325.96	86.57	40°13'40.009"N	104°49'19.672"W	0.00	
10617.00†	90.089	179.985	7086.06	3425.98	-3425.96	86.60	40°13'39.021"N	104°49'19.672"W	0.00	
10717.00†	90.089	179.985	7085.91	3525.98	-3525.96	86.62	40°13'38.033"N	104°49'19.671"W	0.00	
10817.00†	90.089	179.985	7085.75	3625.98	-3625.96	86.65	40°13'37.045"N	104°49'19.671"W	0.00	
10917.00†	90.089	179.985	7085.60	3725.98	-3725.96	86.67	40°13'36.056"N	104°49'19.671"W	0.00	
11017.00†	90.089	179.985	7085.44	3825.98	-3825.96	86.70	40°13'35.068"N	104°49'19.670"W	0.00	
11117.00†	90.089	179.985	7085.29	3925.98	-3925.96	86.73	40°13'34.080"N	104°49'19.670"W	0.00	
11217.00†	90.089	179.985	7085.13	4025.98	-4025.96	86.75	40°13'33.092"N	104°49'19.670"W	0.00	
11317.00†	90.089	179.985	7084.97	4125.98	-4125.96	86.78	40°13'32.104"N	104°49'19.669"W	0.00	
11417.00†	90.089	179.985	7084.82	4225.98	-4225.96	86.80	40°13'31.115"N	104°49'19.669"W	0.00	
11517.00†	90.089	179.985	7084.66	4325.98	-4325.96	86.83	40°13'30.127"N	104°49'19.669"W	0.00	
11617.00†	90.089	179.985	7084.51	4425.98	-4425.96	86.86	40°13'29.139"N	104°49'19.668"W	0.00	
11717.00†	90.089	179.985	7084.35	4525.98	-4525.96	86.88	40°13'28.151"N	104°49'19.668"W	0.00	
11817.00†	90.089	179.985	7084.20	4625.98	-4625.96	86.91	40°13'27.163"N	104°49'19.668"W	0.00	
11917.00†	90.089	179.985	7084.04	4725.98	-4725.96	86.93	40°13'26.174"N	104°49'19.667"W	0.00	
12017.00†	90.089	179.985	7083.88	4825.98	-4825.96	86.96	40°13'25.186"N	104°49'19.667"W	0.00	
12117.00†	90.089	179.985	7083.73	4925.98	-4925.96	86.99	40°13'24.198"N	104°49'19.667"W	0.00	



Planned Wellpath Report

HENRICKSON FEDERAL 14N-18HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07)
Area	COLORADO	Well	HENRICKSON FEDERAL 14N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HENRICKSON FEDERAL 14N-18HZ PWB
Facility	SEC.07-T3N-R66W		

WELLPATH DATA (153 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12217.00†	90.089	179.985	7083.57	5025.98	-5025.96	87.01	40°13'23.210"N	104°49'19.666"W	0.00	
12317.00†	90.089	179.985	7083.42	5125.98	-5125.96	87.04	40°13'22.222"N	104°49'19.666"W	0.00	
12417.00†	90.089	179.985	7083.26	5225.98	-5225.96	87.06	40°13'21.233"N	104°49'19.666"W	0.00	
12517.00†	90.089	179.985	7083.11	5325.98	-5325.96	87.09	40°13'20.245"N	104°49'19.665"W	0.00	
12617.00†	90.089	179.985	7082.95	5425.98	-5425.96	87.12	40°13'19.257"N	104°49'19.665"W	0.00	
12717.00†	90.089	179.985	7082.79	5525.98	-5525.96	87.14	40°13'18.269"N	104°49'19.665"W	0.00	
12817.00†	90.089	179.985	7082.64	5625.98	-5625.96	87.17	40°13'17.281"N	104°49'19.664"W	0.00	
12917.00†	90.089	179.985	7082.48	5725.98	-5725.96	87.19	40°13'16.292"N	104°49'19.664"W	0.00	
13017.00†	90.089	179.985	7082.33	5825.98	-5825.96	87.22	40°13'15.304"N	104°49'19.664"W	0.00	
13117.00†	90.089	179.985	7082.17	5925.98	-5925.96	87.25	40°13'14.316"N	104°49'19.663"W	0.00	
13217.00†	90.089	179.985	7082.02	6025.98	-6025.96	87.27	40°13'13.328"N	104°49'19.663"W	0.00	
13317.00†	90.089	179.985	7081.86	6125.98	-6125.96	87.30	40°13'12.340"N	104°49'19.663"W	0.00	
13417.00†	90.089	179.985	7081.70	6225.98	-6225.96	87.32	40°13'11.352"N	104°49'19.662"W	0.00	
13517.00†	90.089	179.985	7081.55	6325.98	-6325.96	87.35	40°13'10.363"N	104°49'19.662"W	0.00	
13617.00†	90.089	179.985	7081.39	6425.98	-6425.96	87.38	40°13'09.375"N	104°49'19.662"W	0.00	
13717.00†	90.089	179.985	7081.24	6525.98	-6525.96	87.40	40°13'08.387"N	104°49'19.661"W	0.00	
13817.00†	90.089	179.985	7081.08	6625.98	-6625.96	87.43	40°13'07.399"N	104°49'19.661"W	0.00	
13869.05	90.089	179.985	7081.00†	6678.03	-6678.01	87.44	40°13'06.884"N	104°49'19.661"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: HENRICKSON FEDERAL 14N-18HZ PWB Ref Wellpath: HENRICKSON FEDERAL 14N-18HZ (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	1000.00	983.00	17.00	1000.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1000.00	983.00	17.00	1000.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1000.00	7445.33	6445.33	1000.00	7091.00	0.00	0.00	-254.29	85.77
7in Casing Intermediate	17.00	7445.33	7428.33	17.00	7091.00	0.00	0.00	-254.29	85.77
6.125in Open Hole	7445.33	13869.05	6423.72	7091.00	7081.00	-254.29	85.77	-6678.01	87.44
4.5in Casing Production	17.00	13869.05	13852.05	17.00	7081.00	0.00	0.00	-6678.01	87.44



Planned Wellpath Report

HENRICKSON FEDERAL 14N-18HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07)
Area	COLORADO	Well	HENRICKSON FEDERAL 14N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HENRICKSON FEDERAL 14N-18HZ PWB
Facility	SEC.07-T3N-R66W		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.07-T3N-R66W HARD LINES (460' SET BACKS)		4811.00	-117.64	-1265.28	3187895.01	1329743.58	40°14'11.713"N	104°49'37.103"W	polygon
SEC.07-T3N-R66W SECTION LINES		4811.00	-117.64	-1265.28	3187895.01	1329743.58	40°14'11.713"N	104°49'37.103"W	polygon
SEC.18-T3N-R66W HARD LINES (460' SET BACKS)		4811.00	-117.64	-1265.27	3187895.01	1329743.58	40°14'11.713"N	104°49'37.103"W	polygon
SEC.18-T3N-R66W SECTION LINES		4811.00	-117.64	-1265.27	3187895.01	1329743.58	40°14'11.713"N	104°49'37.103"W	polygon
1) HENRICKSON FEDERAL 14N-18HZ BHL ON PLAT (460' FSL & 2165' FWL, SEC.18) REV-1	13869.05	7081.00	-6678.01	87.44	3189297.75	1323194.03	40°13'06.884"N	104°49'19.661"W	point

SURVEY PROGRAM - Ref Wellbore: HENRICKSON FEDERAL 14N-18HZ PWB Ref Wellpath: HENRICKSON FEDERAL 14N-18HZ (PERMIT REV-1) PWP			
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Wellbore
17.00	7445.33	NaviTrak (MagCorr)	HENRICKSON FEDERAL 14N-18HZ PWB
7445.33	13869.05	OnTrak (MagCorr)	HENRICKSON FEDERAL 14N-18HZ PWB



Planned Wellpath Report

HENRICKSON FEDERAL 14N-18HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#05 HENRICKSON FEDERAL 14N-18HZ (1855' FSL & 2078' FWL, SEC.07)
Area	COLORADO	Well	HENRICKSON FEDERAL 14N-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HENRICKSON FEDERAL 14N-18HZ PWB
Facility	SEC.07-T3N-R66W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
517.00	0.000	15.000	517.00	FOX HILLS BASE	
3833.40	0.000	179.985	3807.00	PARKMAN	
4277.40	0.000	179.985	4251.00	SUSSEX	
6444.44	0.000	179.985	6418.04	41/2" LINER TOP	
7058.73	51.428	179.985	6966.00	SHARON SPRINGS	
7162.45	61.801	179.985	7023.00	NIOBRARA A	
7292.60	74.816	179.985	7071.00	NIOBRARA B	

DESIGN COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
17.00	0.000	15.000	17.00	TIE-ON	
1300.00	0.000	15.000	1300.00	BEGIN NUDGE	
1800.00	10.000	15.000	1797.47	END NUDGE	
3203.86	10.000	15.000	3180.00	BEGIN DROP	
3703.86	0.000	179.985	3677.47	END DROP	
6544.44	0.000	179.985	6518.05	KOP, BUILD @ 10°/100'	
7445.33	90.089	179.985	7091.00	LANDING POINT	
13869.05	90.089	179.985	7081.00	TOTAL DEPTH	