

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#01 RALPH 34C-19HZ (280°FNL & 1210°FNL, SEC.19)
Field: WELD COUNTY (KERR MCGEE) Well: RALPH 34C-19HZ
Facility: SEC.19-T1N-R67W Wellbore: RALPH 34C-19HZ PWB

Plot reference wellpath is RALPH 34C-19HZ (REV-C.0) PWP

True vertical depths are referenced to XTREME 6 (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to XTREME 6 (RKB)	North Reference: True north
XTREME 6 (RKB) to Mean Sea Level: 5133 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#01 RALPH 34C-19HZ (280°FNL & 1210°FNL, SEC.19): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wilajet02 on 8/6/2013

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.19-T1N-R67W	3157293.749	1259018.130	40°02'34.891"N	104°56'17.471"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLOT#01 RALPH 34N-19HZ (280°FNL & 1210°FNL, SEC.19)	60.01	0.08	3157293.447	1259078.133
XTREME 6 (RKB) to Mud line (At Slot: SLOT#01 RALPH 34C-19HZ (280°FNL & 1210°FNL, SEC.19))				5133R
Mean Sea Level to Mud line (At Slot: SLOT#01 RALPH 34C-19HZ (280°FNL & 1210°FNL, SEC.19))				0ft
XTREME 6 (RKB) to Mean Sea Level				5133R

Survey Program

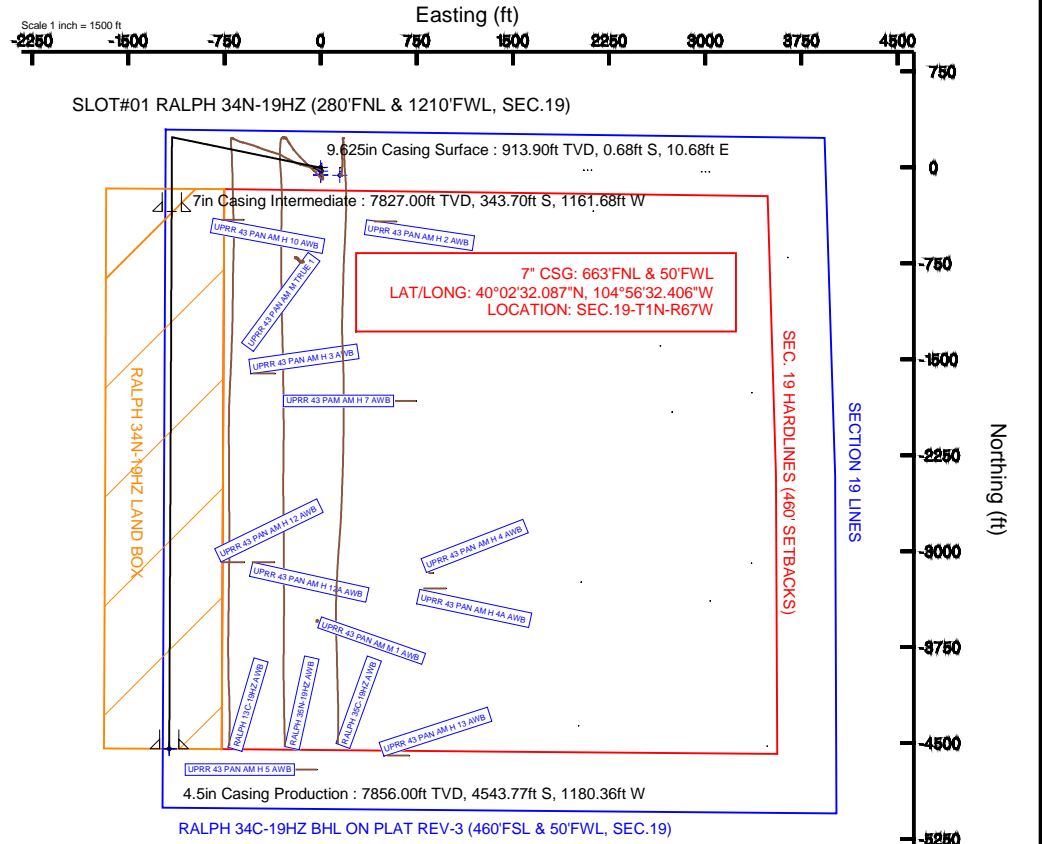
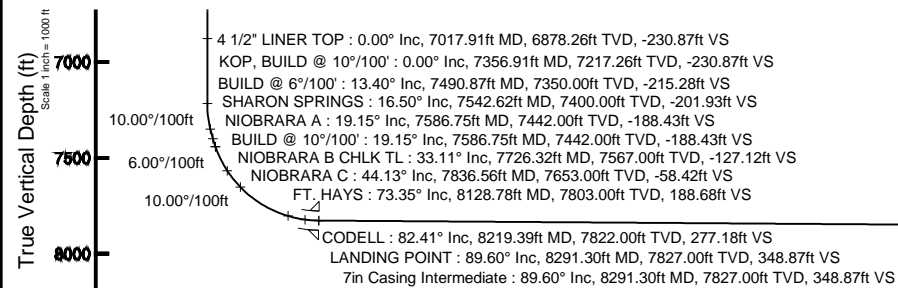
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
16.00	846.00	Generic gyro - continuous	Generic gyro - continuous (Standard)		RALPH 34C-19HZ AWB
846.00	8291.30	NavitTrak	NavitTrak (MagCorr)		RALPH 34C-19HZ PWB
8291.30	12491.51	OnTrak	OnTrak (MagCorr)		RALPH 34C-19HZ PWB

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-INTO GYRO	846.00	0.440	188.350	845.91	-0.17	10.75	1.41	0.12
BEGIN NUDGE	1100.10	0.440	188.350	1100.00	-2.10	10.47	0.00	2.05
END NUDGE	1801.70	14.000	281.638	1794.64	12.43	-73.46	2.00	-12.10
BEGIN DROP	6031.70	14.000	281.638	5899.00	218.86	-1075.75	0.00	-214.07
END DROP	6731.70	0.000	180.255	6592.06	236.03	-1159.10	2.00	-230.87
KOP, BUILD @ 10°/100'	7356.91	0.000	180.255	7217.26	236.03	-1159.10	0.00	-230.87
BUILD @ 6°/100'	7490.87	13.396	180.255	7350.00	220.44	-1159.17	10.00	-215.28
BUILD @ 10°/100'	7586.75	19.149	180.255	7442.00	193.59	-1159.29	6.00	-188.43
LANDING POINT	8291.30	89.604	180.255	7827.00	-343.71	-1161.68	10.00	348.87
TOTAL DEPTH	12491.51	89.605	180.255	7856.00	-4543.77	-1180.36	0.00	4548.98

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SECTION 19 LINES		0.00	-60.11	0.00	3157293.83	1259018.03	40°02'34.890"N	104°56'17.470"W
RALPH 34N-19HZ BHL ON PLAT REV-2 (460°FSL & 50°FNL, SEC.19)		7619.00	-4543.77	-1180.36	3156141.94	1254527.15	40°01'50.581"N	104°56'32.644"W
RALPH 34N-19HZ BHL ON PLAT REV-1 (460°FSL & 50°FNL, SEC.19)		7718.00	-4543.77	-1180.36	3156141.94	1254527.15	40°01'50.581"N	104°56'32.644"W
RALPH 34N-19HZ BHL ON PLAT REV-3 (460°FSL & 50°FNL, SEC.19)		12491.51	7856.00	-4543.77	3156141.94	1254527.15	40°01'50.581"N	104°56'32.644"W
RALPH 34N-19HZ LAND BOX		8000.00	0.00	0.00	3157293.45	1259078.13	40°02'35.484"N	104°56'17.470"W
SEC. 19 HARDLINES (460° SETBACKS)		8000.00	-60.11	0.00	3157293.83	1259018.03	40°02'34.890"N	104°56'17.470"W





Planned Wellpath Report

RALPH 34C-19HZ (REV-C.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 RALPH 34C-19HZ (280'FNL & 1210'FWL, SEC.19)
Area	COLORADO	Well	RALPH 34C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	RALPH 34C-19HZ PWB
Facility	SEC.19-T1N-R67W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Wilsjef02
Scale	0.999963	Report Generated	8/6/2013 at 14:17:48
Convergence at slot	n/a	Database/Source file	WellArchitectDB/RALPH_34C-19HZ_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	60.01	0.08	3157293.45	1259078.13	40°02'35.484"N	104°56'17.470"W
Facility Reference Pt			3157293.75	1259018.13	40°02'34.891"N	104°56'17.471"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	XTREME 6 (RKB) to Facility Vertical Datum	5133.00ft
Horizontal Reference Pt	Slot	XTREME 6 (RKB) to Mean Sea Level	5133.00ft
Vertical Reference Pt	XTREME 6 (RKB)	XTREME 6 (RKB) to Mud Line at Slot (SLOT#01 RALPH 34C-19HZ (280'FNL & 1210'FWL, SEC.19))	5133.00ft
MD Reference Pt	XTREME 6 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	180.25°



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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 RALPH 34C-19HZ (280'FNL & 1210'FWL, SEC.19)
Area	COLORADO	Well	RALPH 34C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	RALPH 34C-19HZ PWB
Facility	SEC.19-T1N-R67W		

WELLPATH DATA (143 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	108.140	0.00	0.00	0.00	0.00	40°02'35.484"N	104°56'17.470"W	0.00	
16.00	0.000	108.140	16.00	0.00	0.00	0.00	40°02'35.484"N	104°56'17.470"W	0.00	TIE-ON
116.00	0.540	108.140	116.00	0.14	-0.15	0.45	40°02'35.483"N	104°56'17.464"W	0.54	BEGIN GYRO SURVEYS
216.00	0.600	61.880	215.99	0.04	-0.05	1.36	40°02'35.484"N	104°56'17.453"W	0.45	
316.00	0.990	67.470	315.98	-0.54	0.53	2.62	40°02'35.489"N	104°56'17.436"W	0.40	
416.00	1.160	87.850	415.97	-0.92	0.90	4.43	40°02'35.493"N	104°56'17.413"W	0.42	
516.00	1.270	90.700	515.94	-0.95	0.92	6.55	40°02'35.493"N	104°56'17.386"W	0.13	
616.00	1.030	87.450	615.92	-0.99	0.95	8.55	40°02'35.493"N	104°56'17.360"W	0.25	
716.00	0.590	106.830	715.91	-0.89	0.84	9.94	40°02'35.492"N	104°56'17.342"W	0.51	
816.00	0.720	155.790	815.91	-0.17	0.12	10.69	40°02'35.485"N	104°56'17.333"W	0.56	
846.00	0.440	188.350	845.91	0.12	-0.17	10.75	40°02'35.482"N	104°56'17.332"W	1.41	TIE-INTO GYRO
946.00†	0.440	188.350	945.90	0.88	-0.93	10.64	40°02'35.475"N	104°56'17.333"W	0.00	
1046.00†	0.440	188.350	1045.90	1.64	-1.69	10.53	40°02'35.467"N	104°56'17.335"W	0.00	
1100.10	0.440	188.350	1100.00	2.05	-2.10	10.47	40°02'35.463"N	104°56'17.335"W	0.00	BEGIN NUDGE
1146.00†	0.982	256.904	1145.90	2.32	-2.36	10.06	40°02'35.461"N	104°56'17.341"W	2.00	
1246.00†	2.912	274.748	1245.83	2.31	-2.34	6.69	40°02'35.461"N	104°56'17.384"W	2.00	
1346.00†	4.899	278.276	1345.60	1.52	-1.52	-0.06	40°02'35.469"N	104°56'17.471"W	2.00	
1446.00†	6.893	279.768	1445.06	-0.07	0.11	-10.20	40°02'35.485"N	104°56'17.601"W	2.00	
1546.00†	8.890	280.593	1544.11	-2.45	2.55	-23.71	40°02'35.509"N	104°56'17.775"W	2.00	
1646.00†	10.888	281.117	1642.62	-5.61	5.79	-40.58	40°02'35.541"N	104°56'17.992"W	2.00	
1746.00†	12.887	281.480	1740.47	-9.56	9.84	-60.78	40°02'35.581"N	104°56'18.251"W	2.00	
1801.70	14.000	281.638	1794.64	-12.10	12.43	-73.46	40°02'35.607"N	104°56'18.415"W	2.00	END NUDGE
1846.00†	14.000	281.638	1837.63	-14.22	14.59	-83.96	40°02'35.628"N	104°56'18.550"W	0.00	
1946.00†	14.000	281.638	1934.66	-18.99	19.47	-107.65	40°02'35.676"N	104°56'18.854"W	0.00	
2046.00†	14.000	281.638	2031.69	-23.77	24.35	-131.35	40°02'35.725"N	104°56'19.159"W	0.00	
2146.00†	14.000	281.638	2128.72	-28.54	29.23	-155.04	40°02'35.773"N	104°56'19.464"W	0.00	
2246.00†	14.000	281.638	2225.75	-33.32	34.11	-178.74	40°02'35.821"N	104°56'19.768"W	0.00	
2346.00†	14.000	281.638	2322.78	-38.09	38.99	-202.43	40°02'35.869"N	104°56'20.073"W	0.00	
2446.00†	14.000	281.638	2419.81	-42.87	43.87	-226.13	40°02'35.918"N	104°56'20.377"W	0.00	
2546.00†	14.000	281.638	2516.84	-47.64	48.75	-249.82	40°02'35.966"N	104°56'20.682"W	0.00	
2646.00†	14.000	281.638	2613.86	-52.42	53.63	-273.52	40°02'36.014"N	104°56'20.987"W	0.00	
2746.00†	14.000	281.638	2710.89	-57.19	58.51	-297.21	40°02'36.062"N	104°56'21.291"W	0.00	
2846.00†	14.000	281.638	2807.92	-61.97	63.39	-320.91	40°02'36.110"N	104°56'21.596"W	0.00	
2946.00†	14.000	281.638	2904.95	-66.74	68.27	-344.60	40°02'36.159"N	104°56'21.901"W	0.00	
3046.00†	14.000	281.638	3001.98	-71.52	73.16	-368.30	40°02'36.207"N	104°56'22.205"W	0.00	
3146.00†	14.000	281.638	3099.01	-76.29	78.04	-391.99	40°02'36.255"N	104°56'22.510"W	0.00	
3246.00†	14.000	281.638	3196.04	-81.06	82.92	-415.69	40°02'36.303"N	104°56'22.815"W	0.00	
3346.00†	14.000	281.638	3293.07	-85.84	87.80	-439.38	40°02'36.352"N	104°56'23.119"W	0.00	
3446.00†	14.000	281.638	3390.10	-90.61	92.68	-463.08	40°02'36.400"N	104°56'23.424"W	0.00	
3546.00†	14.000	281.638	3487.13	-95.39	97.56	-486.77	40°02'36.448"N	104°56'23.729"W	0.00	
3646.00†	14.000	281.638	3584.16	-100.16	102.44	-510.47	40°02'36.496"N	104°56'24.033"W	0.00	
3746.00†	14.000	281.638	3681.19	-104.94	107.32	-534.16	40°02'36.544"N	104°56'24.338"W	0.00	
3846.00†	14.000	281.638	3778.22	-109.71	112.20	-557.86	40°02'36.593"N	104°56'24.643"W	0.00	
3946.00†	14.000	281.638	3875.25	-114.49	117.08	-581.55	40°02'36.641"N	104°56'24.947"W	0.00	
4046.00†	14.000	281.638	3972.28	-119.26	121.96	-605.25	40°02'36.689"N	104°56'25.252"W	0.00	



Planned Wellpath Report

RALPH 34C-19HZ (REV-C.0) PWP

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Area	COLORADO	Well	RALPH 34C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	RALPH 34C-19HZ PWB
Facility	SEC.19-T1N-R67W		

WELLPATH DATA (143 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4146.00†	14.000	281.638	4069.31	-124.04	126.84	-628.94	40°02'36.737"N	104°56'25.557"W	0.00	
4246.00†	14.000	281.638	4166.34	-128.81	131.72	-652.63	40°02'36.786"N	104°56'25.861"W	0.00	
4346.00†	14.000	281.638	4263.37	-133.59	136.60	-676.33	40°02'36.834"N	104°56'26.166"W	0.00	
4446.00†	14.000	281.638	4360.40	-138.36	141.48	-700.02	40°02'36.882"N	104°56'26.471"W	0.00	
4546.00†	14.000	281.638	4457.43	-143.14	146.36	-723.72	40°02'36.930"N	104°56'26.775"W	0.00	
4646.00†	14.000	281.638	4554.46	-147.91	151.24	-747.41	40°02'36.978"N	104°56'27.080"W	0.00	
4746.00†	14.000	281.638	4651.49	-152.69	156.12	-771.11	40°02'37.027"N	104°56'27.385"W	0.00	
4846.00†	14.000	281.638	4748.52	-157.46	161.00	-794.80	40°02'37.075"N	104°56'27.689"W	0.00	
4946.00†	14.000	281.638	4845.55	-162.24	165.88	-818.50	40°02'37.123"N	104°56'27.994"W	0.00	
4984.60†	14.000	281.638	4883.00	-164.08	167.76	-827.65	40°02'37.142"N	104°56'28.112"W	0.00	SUSSEX
5046.00†	14.000	281.638	4942.57	-167.01	170.76	-842.19	40°02'37.171"N	104°56'28.299"W	0.00	
5146.00†	14.000	281.638	5039.60	-171.78	175.64	-865.89	40°02'37.220"N	104°56'28.603"W	0.00	
5246.00†	14.000	281.638	5136.63	-176.56	180.52	-889.58	40°02'37.268"N	104°56'28.908"W	0.00	
5346.00†	14.000	281.638	5233.66	-181.33	185.40	-913.28	40°02'37.316"N	104°56'29.213"W	0.00	
5446.00†	14.000	281.638	5330.69	-186.11	190.28	-936.97	40°02'37.364"N	104°56'29.517"W	0.00	
5546.00†	14.000	281.638	5427.72	-190.88	195.16	-960.67	40°02'37.412"N	104°56'29.822"W	0.00	
5646.00†	14.000	281.638	5524.75	-195.66	200.04	-984.36	40°02'37.461"N	104°56'30.127"W	0.00	
5746.00†	14.000	281.638	5621.78	-200.43	204.92	-1008.06	40°02'37.509"N	104°56'30.431"W	0.00	
5846.00†	14.000	281.638	5718.81	-205.21	209.80	-1031.75	40°02'37.557"N	104°56'30.736"W	0.00	
5946.00†	14.000	281.638	5815.84	-209.98	214.68	-1055.45	40°02'37.605"N	104°56'31.041"W	0.00	
6031.70	14.000	281.638	5899.00	-214.07	218.86	-1075.75	40°02'37.647"N	104°56'31.302"W	0.00	BEGIN DROP
6046.00†	13.714	281.638	5912.88	-214.75	219.56	-1079.11	40°02'37.653"N	104°56'31.345"W	2.00	
6146.00†	11.714	281.638	6010.42	-219.09	223.99	-1100.66	40°02'37.697"N	104°56'31.622"W	2.00	
6246.00†	9.714	281.638	6108.67	-222.76	227.74	-1118.87	40°02'37.734"N	104°56'31.856"W	2.00	
6346.00†	7.714	281.638	6207.51	-225.75	230.80	-1133.71	40°02'37.765"N	104°56'32.047"W	2.00	
6446.00†	5.714	281.638	6306.82	-228.06	233.16	-1145.16	40°02'37.788"N	104°56'32.194"W	2.00	
6546.00†	3.714	281.638	6406.48	-229.68	234.82	-1153.21	40°02'37.804"N	104°56'32.298"W	2.00	
6646.00†	1.714	281.638	6506.36	-230.62	235.77	-1157.85	40°02'37.814"N	104°56'32.357"W	2.00	
6731.70	0.000	180.255	6592.06	-230.87	236.03	-1159.10	40°02'37.816"N	104°56'32.374"W	2.00	END DROP
6746.00†	0.000	180.255	6606.35	-230.87	236.03	-1159.10	40°02'37.816"N	104°56'32.374"W	0.00	
6846.00†	0.000	180.255	6706.35	-230.87	236.03	-1159.10	40°02'37.816"N	104°56'32.374"W	0.00	
6946.00†	0.000	180.255	6806.35	-230.87	236.03	-1159.10	40°02'37.816"N	104°56'32.374"W	0.00	
7017.91†	0.000	180.255	6878.26	-230.87	236.03	-1159.10	40°02'37.816"N	104°56'32.374"W	0.00	4 1/2" LINER TOP
7046.00†	0.000	180.255	6906.35	-230.87	236.03	-1159.10	40°02'37.816"N	104°56'32.374"W	0.00	
7146.00†	0.000	180.255	7006.35	-230.87	236.03	-1159.10	40°02'37.816"N	104°56'32.374"W	0.00	
7246.00†	0.000	180.255	7106.35	-230.87	236.03	-1159.10	40°02'37.816"N	104°56'32.374"W	0.00	
7346.00†	0.000	180.255	7206.35	-230.87	236.03	-1159.10	40°02'37.816"N	104°56'32.374"W	0.00	
7356.91	0.000	180.255	7217.26	-230.87	236.03	-1159.10	40°02'37.816"N	104°56'32.374"W	0.00	KOP, BUILD @ 10°/100'
7446.00†	8.909	180.255	7305.99	-223.96	229.12	-1159.13	40°02'37.748"N	104°56'32.374"W	10.00	
7490.87	13.396	180.255	7350.00	-215.28	220.44	-1159.17	40°02'37.662"N	104°56'32.374"W	10.00	BUILD @ 6°/100'
7542.62†	16.501	180.255	7400.00	-201.93	207.09	-1159.23	40°02'37.530"N	104°56'32.375"W	6.00	SHARON SPRINGS
7546.00†	16.704	180.255	7403.23	-200.97	206.13	-1159.23	40°02'37.521"N	104°56'32.375"W	6.00	
7586.75	19.149	180.255	7442.00	-188.43	193.59	-1159.29	40°02'37.397"N	104°56'32.376"W	6.00	BUILD @ 10°/100'; NIOBRARA A
7646.00†	25.074	180.255	7496.87	-166.13	171.30	-1159.39	40°02'37.177"N	104°56'32.377"W	10.00	
7726.32†	33.106	180.255	7567.00	-127.12	132.28	-1159.56	40°02'36.791"N	104°56'32.379"W	10.00	NIOBRARA B CHLK TL



Planned Wellpath Report

RALPH 34C-19HZ (REV-C.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 RALPH 34C-19HZ (280'FNL & 1210'FWL, SEC.19)
Area	COLORADO	Well	RALPH 34C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	RALPH 34C-19HZ PWB
Facility	SEC.19-T1N-R67W		

WELLPATH DATA (143 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7746.00†	35.074	180.255	7583.30	-116.09	121.25	-1159.61	40°02'36.682"N	104°56'32.380"W	10.00	
7836.56†	44.130	180.255	7653.00	-58.42	63.58	-1159.87	40°02'36.112"N	104°56'32.383"W	10.00	NIOBRARA C
7846.00†	45.074	180.255	7659.72	-51.79	56.95	-1159.90	40°02'36.047"N	104°56'32.384"W	10.00	
7946.00†	55.074	180.255	7723.82	24.80	-19.64	-1160.24	40°02'35.290"N	104°56'32.388"W	10.00	
8046.00†	65.074	180.255	7773.65	111.36	-106.19	-1160.62	40°02'34.434"N	104°56'32.393"W	10.00	
8128.78†	73.352	180.255	7803.00	188.68	-183.52	-1160.97	40°02'33.670"N	104°56'32.397"W	10.00	FT. HAYS
8146.00†	75.074	180.255	7807.68	205.25	-200.09	-1161.04	40°02'33.506"N	104°56'32.398"W	10.00	
8219.39†	82.412	180.255	7822.00	277.18	-272.01	-1161.36	40°02'32.796"N	104°56'32.402"W	10.00	CODELL
8246.00†	85.074	180.255	7824.90	303.63	-298.46	-1161.48	40°02'32.534"N	104°56'32.404"W	10.00	
8291.30	89.604	180.255	7827.00	348.87	-343.71	-1161.68	40°02'32.087"N	104°56'32.406"W	10.00	LANDING POINT
8346.00†	89.604	180.255	7827.38	403.57	-398.40	-1161.93	40°02'31.547"N	104°56'32.409"W	0.00	
8446.00†	89.604	180.255	7828.07	503.57	-498.40	-1162.37	40°02'30.558"N	104°56'32.415"W	0.00	
8546.00†	89.604	180.255	7828.76	603.56	-598.39	-1162.82	40°02'29.570"N	104°56'32.421"W	0.00	
8646.00†	89.604	180.255	7829.45	703.56	-698.39	-1163.26	40°02'28.582"N	104°56'32.426"W	0.00	
8746.00†	89.604	180.255	7830.14	803.56	-798.39	-1163.71	40°02'27.594"N	104°56'32.432"W	0.00	
8846.00†	89.604	180.255	7830.83	903.56	-898.38	-1164.15	40°02'26.606"N	104°56'32.438"W	0.00	
8946.00†	89.604	180.255	7831.52	1003.55	-998.38	-1164.60	40°02'25.617"N	104°56'32.443"W	0.00	
9046.00†	89.604	180.255	7832.21	1103.55	-1098.38	-1165.04	40°02'24.629"N	104°56'32.449"W	0.00	
9146.00†	89.604	180.255	7832.91	1203.55	-1198.37	-1165.49	40°02'23.641"N	104°56'32.455"W	0.00	
9246.00†	89.604	180.255	7833.60	1303.55	-1298.37	-1165.93	40°02'22.653"N	104°56'32.460"W	0.00	
9346.00†	89.604	180.255	7834.29	1403.54	-1398.37	-1166.38	40°02'21.665"N	104°56'32.466"W	0.00	
9446.00†	89.604	180.255	7834.98	1503.54	-1498.36	-1166.82	40°02'20.677"N	104°56'32.472"W	0.00	
9546.00†	89.604	180.255	7835.67	1603.54	-1598.36	-1167.26	40°02'19.688"N	104°56'32.477"W	0.00	
9646.00†	89.604	180.255	7836.36	1703.54	-1698.36	-1167.71	40°02'18.700"N	104°56'32.483"W	0.00	
9746.00†	89.604	180.255	7837.05	1803.53	-1798.35	-1168.15	40°02'17.712"N	104°56'32.489"W	0.00	
9846.00†	89.604	180.255	7837.74	1903.53	-1898.35	-1168.60	40°02'16.724"N	104°56'32.494"W	0.00	
9946.00†	89.604	180.255	7838.43	2003.53	-1998.35	-1169.04	40°02'15.736"N	104°56'32.500"W	0.00	
10046.00†	89.604	180.255	7839.12	2103.53	-2098.34	-1169.49	40°02'14.747"N	104°56'32.506"W	0.00	
10146.00†	89.604	180.255	7839.81	2203.52	-2198.34	-1169.93	40°02'13.759"N	104°56'32.511"W	0.00	
10246.00†	89.604	180.255	7840.50	2303.52	-2298.34	-1170.38	40°02'12.771"N	104°56'32.517"W	0.00	
10346.00†	89.604	180.255	7841.19	2403.52	-2398.33	-1170.82	40°02'11.783"N	104°56'32.523"W	0.00	
10446.00†	89.604	180.255	7841.88	2503.52	-2498.33	-1171.27	40°02'10.795"N	104°56'32.528"W	0.00	
10546.00†	89.604	180.255	7842.57	2603.52	-2598.33	-1171.71	40°02'09.806"N	104°56'32.534"W	0.00	
10646.00†	89.604	180.255	7843.26	2703.51	-2698.32	-1172.16	40°02'08.818"N	104°56'32.540"W	0.00	
10746.00†	89.604	180.255	7843.95	2803.51	-2798.32	-1172.60	40°02'07.830"N	104°56'32.545"W	0.00	
10846.00†	89.604	180.255	7844.64	2903.51	-2898.32	-1173.05	40°02'06.842"N	104°56'32.551"W	0.00	
10946.00†	89.604	180.255	7845.33	3003.51	-2998.31	-1173.49	40°02'05.854"N	104°56'32.557"W	0.00	
11046.00†	89.604	180.255	7846.02	3103.50	-3098.31	-1173.94	40°02'04.865"N	104°56'32.562"W	0.00	
11146.00†	89.604	180.255	7846.71	3203.50	-3198.31	-1174.38	40°02'03.877"N	104°56'32.568"W	0.00	
11246.00†	89.605	180.255	7847.40	3303.50	-3298.30	-1174.82	40°02'02.889"N	104°56'32.574"W	0.00	
11346.00†	89.605	180.255	7848.09	3403.50	-3398.30	-1175.27	40°02'01.901"N	104°56'32.579"W	0.00	
11446.00†	89.605	180.255	7848.78	3503.49	-3498.30	-1175.71	40°02'00.913"N	104°56'32.585"W	0.00	
11546.00†	89.605	180.255	7849.47	3603.49	-3598.29	-1176.16	40°01'59.924"N	104°56'32.591"W	0.00	
11646.00†	89.605	180.255	7850.16	3703.49	-3698.29	-1176.60	40°01'58.936"N	104°56'32.596"W	0.00	
11746.00†	89.605	180.255	7850.85	3803.49	-3798.29	-1177.05	40°01'57.948"N	104°56'32.602"W	0.00	



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RALPH 34C-19HZ (REV-C.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 RALPH 34C-19HZ (280'FNL & 1210'FWL, SEC.19)
Area	COLORADO	Well	RALPH 34C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	RALPH 34C-19HZ PWB
Facility	SEC.19-T1N-R67W		

WELLPATH DATA (143 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11846.00†	89.605	180.255	7851.54	3903.48	-3898.28	-1177.49	40°01'56.960"N	104°56'32.608"W	0.00	
11946.00†	89.605	180.255	7852.24	4003.48	-3998.28	-1177.94	40°01'55.972"N	104°56'32.613"W	0.00	
12046.00†	89.605	180.255	7852.93	4103.48	-4098.28	-1178.38	40°01'54.984"N	104°56'32.619"W	0.00	
12146.00†	89.605	180.255	7853.62	4203.48	-4198.27	-1178.83	40°01'53.995"N	104°56'32.624"W	0.00	
12246.00†	89.605	180.255	7854.31	4303.47	-4298.27	-1179.27	40°01'53.007"N	104°56'32.630"W	0.00	
12346.00†	89.605	180.255	7855.00	4403.47	-4398.27	-1179.71	40°01'52.019"N	104°56'32.636"W	0.00	
12446.00†	89.605	180.255	7855.69	4503.47	-4498.26	-1180.16	40°01'51.031"N	104°56'32.641"W	0.00	
12491.51	89.605	180.255	7856.00 ¹	4548.98	-4543.77	-1180.36	40°01'50.581"N	104°56'32.644"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: RALPH 34C-19HZ PWB Ref Wellpath: RALPH 34C-19HZ (REV-C.0) 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	16.00	846.00	830.00	16.00	845.91	0.00	0.00	-0.17	10.75
9.625in Casing Surface	16.00	914.00	898.00	16.00	913.90	0.00	0.00	-0.68	10.68
8.75in Open Hole	846.00	8291.30	7445.30	845.91	7827.00	-0.17	10.75	-343.70	-1161.68
7in Casing Intermediate	16.00	8291.30	8275.30	16.00	7827.00	0.00	0.00	-343.70	-1161.68
6.125in Open Hole	8291.30	12491.51	4200.21	7827.00	7856.00	-343.70	-1161.68	-4543.77	-1180.36
4.5in Casing Production	16.00	12491.51	12475.51	16.00	7856.00	0.00	0.00	-4543.77	-1180.36



Planned Wellpath Report

RALPH 34C-19HZ (REV-C.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 RALPH 34C-19HZ (280'FNL & 1210'FWL, SEC.19)
Area	COLORADO	Well	RALPH 34C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	RALPH 34C-19HZ PWB
Facility	SEC.19-T1N-R67W		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SECTION 19 LINES		0.00	-60.11	0.00	3157293.83	1259018.03	40°02'34.890"N	104°56'17.470"W	polygon
RALPH 34N-19HZ BHL ON PLAT REV-2 (460'FSL & 50'FWL, SEC.19)		7619.00	-4543.77	-1180.36	3156141.94	1254527.15	40°01'50.581"N	104°56'32.644"W	point
RALPH 34N-19HZ BHL ON PLAT REV-1 (460'FSL & 50'FWL, SEC.19)		7718.00	-4543.77	-1180.36	3156141.94	1254527.15	40°01'50.581"N	104°56'32.644"W	point
1) RALPH 34C-19HZ BHL ON PLAT REV-3 (460'FSL & 50'FWL, SEC.19)	12491.51	7856.00	-4543.77	-1180.36	3156141.94	1254527.15	40°01'50.581"N	104°56'32.644"W	point
RALPH 34N-19HZ LAND BOX		8000.00	0.00	0.00	3157293.45	1259078.13	40°02'35.484"N	104°56'17.470"W	polygon
SEC. 19 HARDLINES (460' SETBACKS)		8000.00	-60.11	0.00	3157293.83	1259018.03	40°02'34.890"N	104°56'17.470"W	polygon

SURVEY PROGRAM - Ref Wellbore: RALPH 34C-19HZ PWB Ref Wellpath: RALPH 34C-19HZ (REV-C.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	846.00	Generic gyro - continuous (Standard)		RALPH 34N-19HZ AWB
846.00	8291.30	NaviTrak (MagCorr)		RALPH 34C-19HZ PWB
8291.30	12491.51	OnTrak (MagCorr)		RALPH 34C-19HZ PWB



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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 RALPH 34C-19HZ (280'FNL & 1210'FWL, SEC.19)
Area	COLORADO	Well	RALPH 34C-19HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	RALPH 34C-19HZ PWB
Facility	SEC.19-T1N-R67W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	108.140	16.00	TIE-ON
116.00	0.540	108.140	116.00	BEGIN GYRO SURVEYS
4984.60	14.000	281.638	4883.00	SUSSEX
7017.91	0.000	180.255	6878.26	4 1/2" LINER TOP
7542.62	16.501	180.255	7400.00	SHARON SPRINGS
7586.75	19.149	180.255	7442.00	NIOBRARA A
7726.32	33.106	180.255	7567.00	NIOBRARA B CHLK TL
7836.56	44.130	180.255	7653.00	NIOBRARA C
8128.78	73.352	180.255	7803.00	FT. HAYS
8219.39	82.412	180.255	7822.00	CODELL