

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11)
 Field: WELD COUNTY (KERR MCGEE) Well: COMO 13C-14HZ
 Facility: SEC.11-T1N-R68W Wellbore: COMO 13C-14HZ PWB

Plot reference wellpath is COMO 13C-14HZ (PERMIT REV-4) PWP

True vertical depths are referenced to PERMIT (17KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to PERMIT (17KB) (RKB)	North Reference: True north
PERMIT (17KB) (RKB) to Mean Sea Level: 5047 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: robie01 on 18/Jun/2014

Location Information

Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
SEC.11-T1N-R68W		3146323.286	1269372.662	40°04'17.882"N	104°58'37.744"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11)	-1148.93	446.18	3146776.216	1268226.428	40°04'06.528"N	104°58'32.005"W
PERMIT (17KB) (RKB) to Mud line (At Slot: SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11))	5047ft					
Mean Sea Level to Mud line (At Slot: SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11))	0ft					
PERMIT (17KB) (RKB) to Mean Sea Level	5047ft					

Survey Program

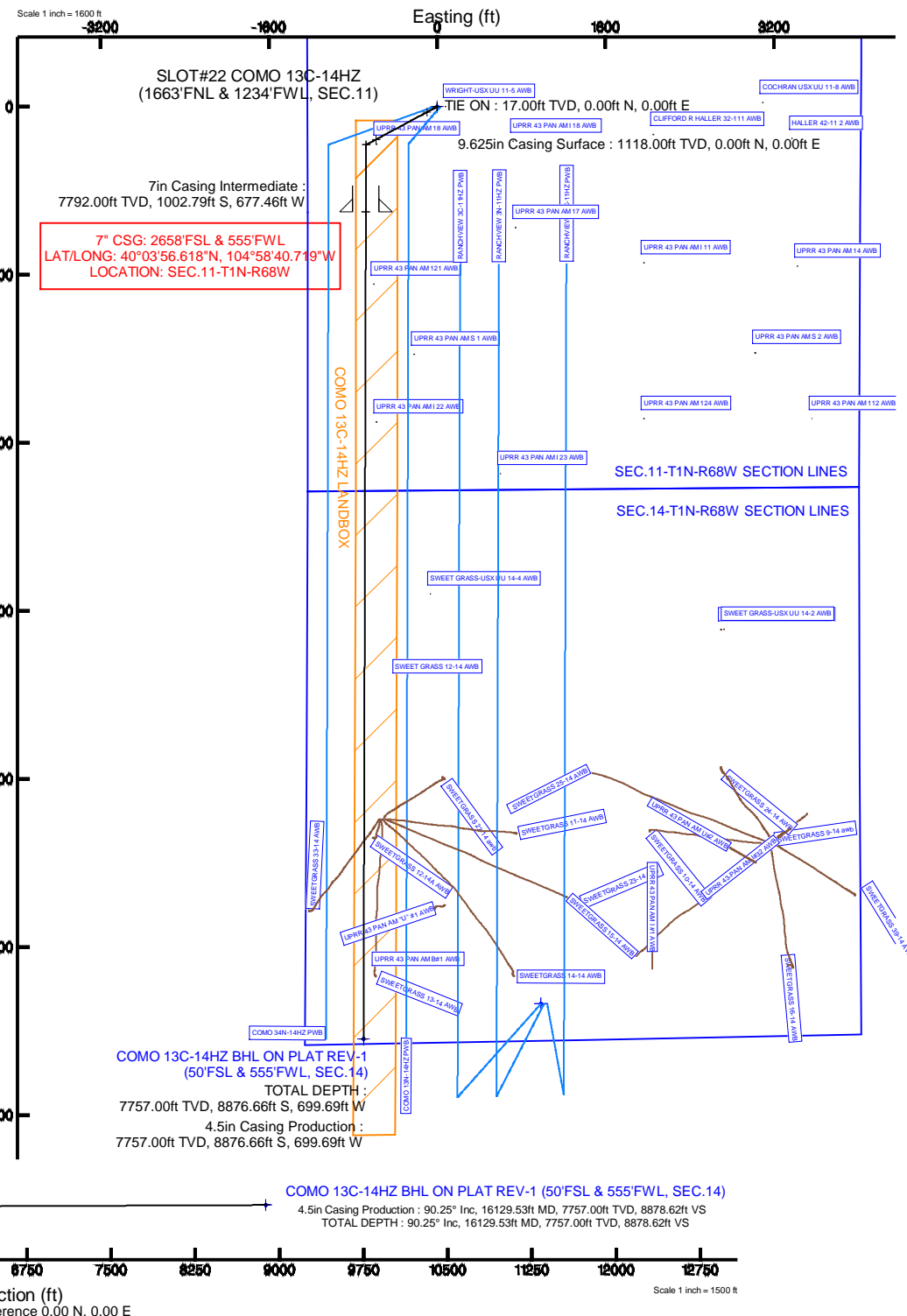
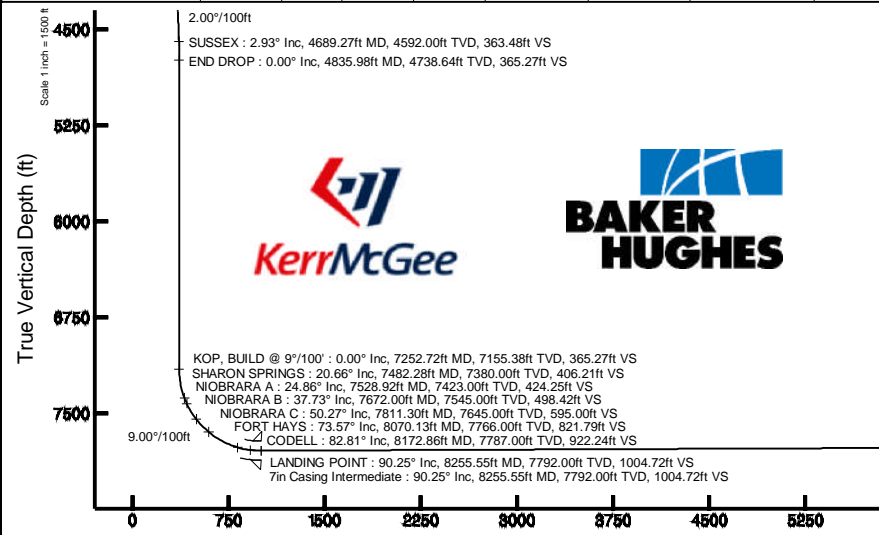
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	8255.55	NaviTrak	NaviTrak (MAGCORR,IFR)		COMO 13C-14HZ PWB
8255.55	16129.53	NaviTrak	NaviTrak (MAGCORR,IFR)		COMO 13C-14HZ PWB

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.11-T1N-R68W SECTION LINES	-114.00	-8543.00	985.76	3147912.44	1269689.75	40°02'42.104"N	104°58'19.330"W	
SEC.14-T1N-R68W SECTION LINES	-114.00	-8543.00	985.76	3147912.44	1269689.75	40°02'42.104"N	104°58'19.330"W	
COMO 13C-14HZ BHL ON PLAT REV-1 (50'FSL & 555'FWL, SEC.14)	16129.53	7757.00	-8876.66	-699.69	3146129.06	1269346.14	40°02'38.807"N	104°58'41.002"W
COMO 13C-14HZ BHL REV-2 (50'FSL & 510'FWL, SEC.14)	7757.00	-8876.64	-744.69	3146054.06	1269346.14	40°02'38.807"N	104°58'41.580"W	
COMO 13C-14HZ LANDBOX	7757.00	0.00	0.00	3146776.22	1268226.43	40°04'06.528"N	104°58'32.005"W	

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	0.00	241.730	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1258.00	0.00	241.730	1258.00	0.00	0.00	0.00	0.00
END NUDGE	2058.00	16.000	241.730	2047.64	-52.56	-97.74	2.00	52.84
BEGIN DROP	4035.98	16.000	241.730	3949.00	-310.79	-577.92	0.00	312.43
END DROP	4835.98	0.000	180.162	4738.64	-363.35	-675.66	2.00	365.27
KOP, BUILD @ 9°/100'	7252.72	0.000	180.162	7155.38	-363.35	-675.66	0.00	365.27
LANDING POINT	8255.55	90.255	180.162	7792.00	-1002.79	-677.46	9.00	1004.72
TOTAL DEPTH	16129.53	90.255	180.162	7757.00	-8876.66	-699.69	0.00	8878.62



Vertical Section (ft)
 Azimuth 180.16° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500 ft

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11)
Area	COLORADO	Well	COMO 13C-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COMO 13C-14HZ PWB
Facility	SEC.11-T1N-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	0.999962	Report Generated	19/Jun/2014 at 08:22
Convergence at slot	n/a	Database/Source file	WellArchitectDB/COMO_13C-14HZ_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-1148.93	446.18	3146776.22	1268226.43	40°04'06.528"N	104°58'32.005"W
Facility Reference Pt			3146323.29	1269372.66	40°04'17.882"N	104°58'37.744"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	5047.00ft
Horizontal Reference Pt	Slot	PERMIT (17'KB) (RKB) to Mean Sea Level	5047.00ft
Vertical Reference Pt	PERMIT (17'KB) (RKB)	PERMIT (17'KB) (RKB) to Mud Line at Slot (SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11))	5047.00ft
MD Reference Pt	PERMIT (17'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	180.16°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11)
Area	COLORADO	Well	COMO 13C-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COMO 13C-14HZ PWB
Facility	SEC.11-T1N-R68W		

WELLPATH DATA (180 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	241.730	0.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
17.00	0.000	241.730	17.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	TIE ON
117.00†	0.000	241.730	117.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
217.00†	0.000	241.730	217.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
317.00†	0.000	241.730	317.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
417.00†	0.000	241.730	417.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
517.00†	0.000	241.730	517.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
617.00†	0.000	241.730	617.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
717.00†	0.000	241.730	717.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
817.00†	0.000	241.730	817.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
917.00†	0.000	241.730	917.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
967.00†	0.000	241.730	967.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	BASE FOX HILLS
1017.00†	0.000	241.730	1017.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
1117.00†	0.000	241.730	1117.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
1118.00†	0.000	241.730	1118.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	SURFACE CASING SETTING DEPTH
1217.00†	0.000	241.730	1217.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	
1258.00	0.000	241.730	1258.00	0.00	0.00	0.00	40°04'06.528"N	104°58'32.005"W	0.00	BEGIN NUDGE
1317.00†	1.180	241.730	1317.00	0.29	-0.29	-0.54	40°04'06.525"N	104°58'32.012"W	2.00	
1417.00†	3.180	241.730	1416.92	2.10	-2.09	-3.89	40°04'06.507"N	104°58'32.055"W	2.00	
1517.00†	5.180	241.730	1516.65	5.57	-5.54	-10.30	40°04'06.473"N	104°58'32.138"W	2.00	
1617.00†	7.180	241.730	1616.06	10.70	-10.64	-19.79	40°04'06.423"N	104°58'32.259"W	2.00	
1717.00†	9.180	241.730	1715.04	17.47	-17.38	-32.32	40°04'06.356"N	104°58'32.421"W	2.00	
1817.00†	11.180	241.730	1813.46	25.89	-25.75	-47.88	40°04'06.274"N	104°58'32.621"W	2.00	
1917.00†	13.180	241.730	1911.20	35.93	-35.74	-66.46	40°04'06.175"N	104°58'32.860"W	2.00	
2017.00†	15.180	241.730	2008.15	47.59	-47.34	-88.04	40°04'06.060"N	104°58'33.137"W	2.00	
2058.00	16.000	241.730	2047.64	52.84	-52.56	-97.74	40°04'06.009"N	104°58'33.262"W	2.00	END NUDGE
2117.00†	16.000	241.730	2104.36	60.58	-60.26	-112.06	40°04'05.932"N	104°58'33.446"W	0.00	
2217.00†	16.000	241.730	2200.48	73.71	-73.32	-136.34	40°04'05.803"N	104°58'33.759"W	0.00	
2317.00†	16.000	241.730	2296.61	86.83	-86.37	-160.62	40°04'05.674"N	104°58'34.071"W	0.00	
2417.00†	16.000	241.730	2392.74	99.95	-99.43	-184.89	40°04'05.545"N	104°58'34.383"W	0.00	
2517.00†	16.000	241.730	2488.86	113.08	-112.48	-209.17	40°04'05.416"N	104°58'34.695"W	0.00	
2617.00†	16.000	241.730	2584.99	126.20	-125.54	-233.44	40°04'05.287"N	104°58'35.008"W	0.00	
2717.00†	16.000	241.730	2681.11	139.33	-138.59	-257.72	40°04'05.158"N	104°58'35.320"W	0.00	
2817.00†	16.000	241.730	2777.24	152.45	-151.65	-282.00	40°04'05.029"N	104°58'35.632"W	0.00	
2917.00†	16.000	241.730	2873.37	165.57	-164.70	-306.27	40°04'04.900"N	104°58'35.944"W	0.00	
3017.00†	16.000	241.730	2969.49	178.70	-177.76	-330.55	40°04'04.771"N	104°58'36.257"W	0.00	
3117.00†	16.000	241.730	3065.62	191.82	-190.81	-354.82	40°04'04.642"N	104°58'36.569"W	0.00	
3217.00†	16.000	241.730	3161.75	204.95	-203.87	-379.10	40°04'04.513"N	104°58'36.881"W	0.00	
3317.00†	16.000	241.730	3257.87	218.07	-216.92	-403.38	40°04'04.384"N	104°58'37.193"W	0.00	
3417.00†	16.000	241.730	3354.00	231.19	-229.98	-427.65	40°04'04.255"N	104°58'37.506"W	0.00	
3517.00†	16.000	241.730	3450.12	244.32	-243.03	-451.93	40°04'04.126"N	104°58'37.818"W	0.00	
3617.00†	16.000	241.730	3546.25	257.44	-256.09	-476.20	40°04'03.997"N	104°58'38.130"W	0.00	
3717.00†	16.000	241.730	3642.38	270.57	-269.14	-500.48	40°04'03.868"N	104°58'38.442"W	0.00	
3817.00†	16.000	241.730	3738.50	283.69	-282.20	-524.76	40°04'03.739"N	104°58'38.755"W	0.00	
3917.00†	16.000	241.730	3834.63	296.81	-295.25	-549.03	40°04'03.610"N	104°58'39.067"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11)
Area	COLORADO	Well	COMO 13C-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COMO 13C-14HZ PWB
Facility	SEC.11-T1N-R68W		

WELLPATH DATA (180 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4017.00†	16.000	241.730	3930.75	309.94	-308.31	-573.31	40°04'03.481"N	104°58'39.379"W	0.00	
4035.98	16.000	241.730	3949.00	312.43	-310.79	-577.92	40°04'03.457"N	104°58'39.438"W	0.00	BEGIN DROP
4117.00†	14.380	241.730	4027.19	322.54	-320.84	-596.61	40°04'03.357"N	104°58'39.679"W	2.00	
4217.00†	12.380	241.730	4124.47	333.55	-331.80	-616.99	40°04'03.249"N	104°58'39.941"W	2.00	
4280.87†	11.102	241.730	4187.00	339.74	-337.95	-628.44	40°04'03.188"N	104°58'40.088"W	2.00	PARKMAN
4317.00†	10.380	241.730	4222.50	342.95	-341.14	-634.37	40°04'03.157"N	104°58'40.164"W	2.00	
4417.00†	8.380	241.730	4321.15	350.71	-348.86	-648.72	40°04'03.080"N	104°58'40.349"W	2.00	
4517.00†	6.380	241.730	4420.32	356.82	-354.95	-660.03	40°04'03.020"N	104°58'40.495"W	2.00	
4617.00†	4.380	241.730	4519.88	361.29	-359.39	-668.29	40°04'02.976"N	104°58'40.601"W	2.00	
4689.27†	2.934	241.730	4592.00	363.48	-361.57	-672.35	40°04'02.955"N	104°58'40.653"W	2.00	SUSSEX
4717.00†	2.380	241.730	4619.70	364.09	-362.18	-673.48	40°04'02.949"N	104°58'40.668"W	2.00	
4817.00†	0.380	241.730	4719.66	365.24	-363.32	-675.60	40°04'02.938"N	104°58'40.695"W	2.00	
4835.98	0.000	180.162	4738.64	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	2.00	END DROP
4917.00†	0.000	180.162	4819.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
5017.00†	0.000	180.162	4919.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
5117.00†	0.000	180.162	5019.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
5217.00†	0.000	180.162	5119.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
5317.00†	0.000	180.162	5219.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
5417.00†	0.000	180.162	5319.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
5517.00†	0.000	180.162	5419.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
5617.00†	0.000	180.162	5519.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
5717.00†	0.000	180.162	5619.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
5817.00†	0.000	180.162	5719.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
5917.00†	0.000	180.162	5819.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
6017.00†	0.000	180.162	5919.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
6117.00†	0.000	180.162	6019.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
6217.00†	0.000	180.162	6119.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
6317.00†	0.000	180.162	6219.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
6417.00†	0.000	180.162	6319.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
6517.00†	0.000	180.162	6419.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
6617.00†	0.000	180.162	6519.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
6717.00†	0.000	180.162	6619.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
6817.00†	0.000	180.162	6719.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
6917.00†	0.000	180.162	6819.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
7017.00†	0.000	180.162	6919.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
7117.00†	0.000	180.162	7019.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
7217.00†	0.000	180.162	7119.66	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	
7252.72	0.000	180.162	7155.38	365.27	-363.35	-675.66	40°04'02.937"N	104°58'40.696"W	0.00	KOP, BUILD @ 9°/100'
7317.00†	5.785	180.162	7219.55	368.51	-366.59	-675.67	40°04'02.905"N	104°58'40.696"W	9.00	
7417.00†	14.785	180.162	7317.84	386.35	-384.43	-675.72	40°04'02.729"N	104°58'40.696"W	9.00	
7482.28†	20.660	180.162	7380.00	406.21	-404.29	-675.77	40°04'02.533"N	104°58'40.697"W	9.00	SHARON SPRINGS
7517.00†	23.785	180.162	7412.14	419.34	-417.42	-675.81	40°04'02.403"N	104°58'40.697"W	9.00	
7528.92†	24.858	180.162	7423.00	424.25	-422.33	-675.82	40°04'02.354"N	104°58'40.698"W	9.00	NIOBRARA A
7617.00†	32.785	180.162	7500.11	466.68	-464.76	-675.94	40°04'01.935"N	104°58'40.699"W	9.00	
7672.00†	37.735	180.162	7545.00	498.42	-496.50	-676.03	40°04'01.621"N	104°58'40.700"W	9.00	NIOBRARA B

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11)
Area	COLORADO	Well	COMO 13C-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COMO 13C-14HZ PWB
Facility	SEC.11-T1N-R68W		

WELLPATH DATA (180 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7717.00†	41.785	180.162	7579.59	527.19	-525.27	-676.11	40°04'01.337"N	104°58'40.701"W	9.00	
7811.30†	50.272	180.162	7645.00	595.00	-593.08	-676.31	40°04'00.667"N	104°58'40.704"W	9.00	NIOBRARA C
7817.00†	50.785	180.162	7648.62	599.40	-597.48	-676.32	40°04'00.624"N	104°58'40.704"W	9.00	
7917.00†	59.785	180.162	7705.51	681.51	-679.59	-676.55	40°03'59.812"N	104°58'40.707"W	9.00	
8017.00†	68.785	180.162	7748.86	771.52	-769.59	-676.80	40°03'58.923"N	104°58'40.710"W	9.00	
8070.13†	73.567	180.162	7766.00	821.79	-819.87	-676.95	40°03'58.426"N	104°58'40.712"W	9.00	FORT HAYS
8117.00†	77.785	180.162	7777.59	867.19	-865.27	-677.07	40°03'57.977"N	104°58'40.714"W	9.00	
8172.86†	82.813	180.162	7787.00	922.24	-920.31	-677.23	40°03'57.433"N	104°58'40.716"W	9.00	CODELL
8217.00†	86.785	180.162	7791.00	966.19	-964.26	-677.35	40°03'56.999"N	104°58'40.717"W	9.00	
8255.55	90.255	180.162	7792.00	1004.72	-1002.79	-677.46	40°03'56.618"N	104°58'40.719"W	9.00	LANDING POINT
8317.00†	90.255	180.162	7791.72	1066.17	-1064.24	-677.64	40°03'56.011"N	104°58'40.721"W	0.00	
8417.00†	90.255	180.162	7791.28	1166.17	-1164.24	-677.92	40°03'55.023"N	104°58'40.724"W	0.00	
8517.00†	90.255	180.162	7790.83	1266.16	-1264.24	-678.20	40°03'54.034"N	104°58'40.728"W	0.00	
8617.00†	90.255	180.162	7790.39	1366.16	-1364.24	-678.48	40°03'53.046"N	104°58'40.732"W	0.00	
8717.00†	90.255	180.162	7789.95	1466.16	-1464.24	-678.77	40°03'52.058"N	104°58'40.735"W	0.00	
8817.00†	90.255	180.162	7789.50	1566.16	-1564.24	-679.05	40°03'51.070"N	104°58'40.739"W	0.00	
8917.00†	90.255	180.162	7789.06	1666.16	-1664.23	-679.33	40°03'50.082"N	104°58'40.742"W	0.00	
9017.00†	90.255	180.162	7788.61	1766.16	-1764.23	-679.61	40°03'49.093"N	104°58'40.746"W	0.00	
9117.00†	90.255	180.162	7788.17	1866.16	-1864.23	-679.89	40°03'48.105"N	104°58'40.749"W	0.00	
9217.00†	90.255	180.162	7787.72	1966.16	-1964.23	-680.18	40°03'47.117"N	104°58'40.753"W	0.00	
9317.00†	90.255	180.162	7787.28	2066.16	-2064.23	-680.46	40°03'46.129"N	104°58'40.757"W	0.00	
9417.00†	90.255	180.162	7786.83	2166.16	-2164.23	-680.74	40°03'45.141"N	104°58'40.760"W	0.00	
9517.00†	90.255	180.162	7786.39	2266.15	-2264.23	-681.02	40°03'44.152"N	104°58'40.764"W	0.00	
9617.00†	90.255	180.162	7785.95	2366.15	-2364.23	-681.31	40°03'43.164"N	104°58'40.767"W	0.00	
9717.00†	90.255	180.162	7785.50	2466.15	-2464.22	-681.59	40°03'42.176"N	104°58'40.771"W	0.00	
9817.00†	90.255	180.162	7785.06	2566.15	-2564.22	-681.87	40°03'41.188"N	104°58'40.775"W	0.00	
9917.00†	90.255	180.162	7784.61	2666.15	-2664.22	-682.15	40°03'40.200"N	104°58'40.778"W	0.00	
10017.00†	90.255	180.162	7784.17	2766.15	-2764.22	-682.44	40°03'39.211"N	104°58'40.782"W	0.00	
10117.00†	90.255	180.162	7783.72	2866.15	-2864.22	-682.72	40°03'38.223"N	104°58'40.785"W	0.00	
10217.00†	90.255	180.162	7783.28	2966.15	-2964.22	-683.00	40°03'37.235"N	104°58'40.789"W	0.00	
10317.00†	90.255	180.162	7782.83	3066.15	-3064.22	-683.28	40°03'36.247"N	104°58'40.793"W	0.00	
10417.00†	90.255	180.162	7782.39	3166.15	-3164.21	-683.57	40°03'35.258"N	104°58'40.796"W	0.00	
10517.00†	90.255	180.162	7781.95	3266.14	-3264.21	-683.85	40°03'34.270"N	104°58'40.800"W	0.00	
10617.00†	90.255	180.162	7781.50	3366.14	-3364.21	-684.13	40°03'33.282"N	104°58'40.803"W	0.00	
10717.00†	90.255	180.162	7781.06	3466.14	-3464.21	-684.41	40°03'32.294"N	104°58'40.807"W	0.00	
10817.00†	90.255	180.162	7780.61	3566.14	-3564.21	-684.69	40°03'31.306"N	104°58'40.811"W	0.00	
10917.00†	90.255	180.162	7780.17	3666.14	-3664.21	-684.98	40°03'30.317"N	104°58'40.814"W	0.00	
11017.00†	90.255	180.162	7779.72	3766.14	-3764.21	-685.26	40°03'29.329"N	104°58'40.818"W	0.00	
11117.00†	90.255	180.162	7779.28	3866.14	-3864.20	-685.54	40°03'28.341"N	104°58'40.821"W	0.00	
11217.00†	90.255	180.162	7778.83	3966.14	-3964.20	-685.82	40°03'27.353"N	104°58'40.825"W	0.00	
11317.00†	90.255	180.162	7778.39	4066.14	-4064.20	-686.11	40°03'26.365"N	104°58'40.829"W	0.00	
11417.00†	90.255	180.162	7777.95	4166.14	-4164.20	-686.39	40°03'25.376"N	104°58'40.832"W	0.00	
11517.00†	90.255	180.162	7777.50	4266.14	-4264.20	-686.67	40°03'24.388"N	104°58'40.836"W	0.00	
11617.00†	90.255	180.162	7777.06	4366.13	-4364.20	-686.95	40°03'23.400"N	104°58'40.839"W	0.00	
11717.00†	90.255	180.162	7776.61	4466.13	-4464.20	-687.24	40°03'22.412"N	104°58'40.843"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11)
Area	COLORADO	Well	COMO 13C-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COMO 13C-14HZ PWB
Facility	SEC.11-T1N-R68W		

WELLPATH DATA (180 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11817.00†	90.255	180.162	7776.17	4566.13	-4564.19	-687.52	40°03'21.424"N	104°58'40.847"W	0.00	
11917.00†	90.255	180.162	7775.72	4666.13	-4664.19	-687.80	40°03'20.435"N	104°58'40.850"W	0.00	
12017.00†	90.255	180.162	7775.28	4766.13	-4764.19	-688.08	40°03'19.447"N	104°58'40.854"W	0.00	
12117.00†	90.255	180.162	7774.83	4866.13	-4864.19	-688.37	40°03'18.459"N	104°58'40.857"W	0.00	
12217.00†	90.255	180.162	7774.39	4966.13	-4964.19	-688.65	40°03'17.471"N	104°58'40.861"W	0.00	
12317.00†	90.255	180.162	7773.94	5066.13	-5064.19	-688.93	40°03'16.483"N	104°58'40.865"W	0.00	
12417.00†	90.255	180.162	7773.50	5166.13	-5164.19	-689.21	40°03'15.494"N	104°58'40.868"W	0.00	
12517.00†	90.255	180.162	7773.06	5266.13	-5264.18	-689.49	40°03'14.506"N	104°58'40.872"W	0.00	
12617.00†	90.255	180.162	7772.61	5366.12	-5364.18	-689.78	40°03'13.518"N	104°58'40.875"W	0.00	
12717.00†	90.255	180.162	7772.17	5466.12	-5464.18	-690.06	40°03'12.530"N	104°58'40.879"W	0.00	
12817.00†	90.255	180.162	7771.72	5566.12	-5564.18	-690.34	40°03'11.541"N	104°58'40.883"W	0.00	
12917.00†	90.255	180.162	7771.28	5666.12	-5664.18	-690.62	40°03'10.553"N	104°58'40.886"W	0.00	
13017.00†	90.255	180.162	7770.83	5766.12	-5764.18	-690.91	40°03'09.565"N	104°58'40.890"W	0.00	
13117.00†	90.255	180.162	7770.39	5866.12	-5864.18	-691.19	40°03'08.577"N	104°58'40.893"W	0.00	
13217.00†	90.255	180.162	7769.94	5966.12	-5964.18	-691.47	40°03'07.589"N	104°58'40.897"W	0.00	
13317.00†	90.255	180.162	7769.50	6066.12	-6064.17	-691.75	40°03'06.600"N	104°58'40.901"W	0.00	
13417.00†	90.255	180.162	7769.06	6166.12	-6164.17	-692.04	40°03'05.612"N	104°58'40.904"W	0.00	
13517.00†	90.255	180.162	7768.61	6266.12	-6264.17	-692.32	40°03'04.624"N	104°58'40.908"W	0.00	
13617.00†	90.255	180.162	7768.17	6366.11	-6364.17	-692.60	40°03'03.636"N	104°58'40.911"W	0.00	
13717.00†	90.255	180.162	7767.72	6466.11	-6464.17	-692.88	40°03'02.648"N	104°58'40.915"W	0.00	
13817.00†	90.255	180.162	7767.28	6566.11	-6564.17	-693.17	40°03'01.659"N	104°58'40.918"W	0.00	
13917.00†	90.255	180.162	7766.83	6666.11	-6664.17	-693.45	40°03'00.671"N	104°58'40.922"W	0.00	
14017.00†	90.255	180.162	7766.39	6766.11	-6764.16	-693.73	40°02'59.683"N	104°58'40.926"W	0.00	
14117.00†	90.255	180.162	7765.94	6866.11	-6864.16	-694.01	40°02'58.695"N	104°58'40.929"W	0.00	
14217.00†	90.255	180.162	7765.50	6966.11	-6964.16	-694.29	40°02'57.707"N	104°58'40.933"W	0.00	
14317.00†	90.255	180.162	7765.06	7066.11	-7064.16	-694.58	40°02'56.718"N	104°58'40.936"W	0.00	
14417.00†	90.255	180.162	7764.61	7166.11	-7164.16	-694.86	40°02'55.730"N	104°58'40.940"W	0.00	
14517.00†	90.255	180.162	7764.17	7266.11	-7264.16	-695.14	40°02'54.742"N	104°58'40.944"W	0.00	
14617.00†	90.255	180.162	7763.72	7366.10	-7364.16	-695.42	40°02'53.754"N	104°58'40.947"W	0.00	
14717.00†	90.255	180.162	7763.28	7466.10	-7464.15	-695.71	40°02'52.766"N	104°58'40.951"W	0.00	
14817.00†	90.255	180.162	7762.83	7566.10	-7564.15	-695.99	40°02'51.777"N	104°58'40.954"W	0.00	
14917.00†	90.255	180.162	7762.39	7666.10	-7664.15	-696.27	40°02'50.789"N	104°58'40.958"W	0.00	
15017.00†	90.255	180.162	7761.94	7766.10	-7764.15	-696.55	40°02'49.801"N	104°58'40.962"W	0.00	
15117.00†	90.255	180.162	7761.50	7866.10	-7864.15	-696.84	40°02'48.813"N	104°58'40.965"W	0.00	
15217.00†	90.255	180.162	7761.06	7966.10	-7964.15	-697.12	40°02'47.824"N	104°58'40.969"W	0.00	
15317.00†	90.255	180.162	7760.61	8066.10	-8064.15	-697.40	40°02'46.836"N	104°58'40.972"W	0.00	
15417.00†	90.255	180.162	7760.17	8166.10	-8164.14	-697.68	40°02'45.848"N	104°58'40.976"W	0.00	
15517.00†	90.255	180.162	7759.72	8266.10	-8264.14	-697.97	40°02'44.860"N	104°58'40.980"W	0.00	
15617.00†	90.255	180.162	7759.28	8366.09	-8364.14	-698.25	40°02'43.872"N	104°58'40.983"W	0.00	
15717.00†	90.255	180.162	7758.83	8466.09	-8464.14	-698.53	40°02'42.883"N	104°58'40.987"W	0.00	
15817.00†	90.255	180.162	7758.39	8566.09	-8564.14	-698.81	40°02'41.895"N	104°58'40.990"W	0.00	
15917.00†	90.255	180.162	7757.94	8666.09	-8664.14	-699.09	40°02'40.907"N	104°58'40.994"W	0.00	
16017.00†	90.255	180.162	7757.50	8766.09	-8764.14	-699.38	40°02'39.919"N	104°58'40.998"W	0.00	
16117.00†	90.255	180.162	7757.06	8866.09	-8864.14	-699.66	40°02'38.931"N	104°58'41.001"W	0.00	
16129.53	90.255	180.162	7757.00 [†]	8878.62	-8876.66	-699.69	40°02'38.807"N	104°58'41.002"W	0.00	TOTAL DEPTH

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11)
Area	COLORADO	Well	COMO 13C-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COMO 13C-14HZ PWB
Facility	SEC.11-T1N-R68W		

HOLE & CASING SECTIONS - Ref Wellbore: COMO 13C-14HZ PWB Ref Wellpath: COMO 13C-14HZ (PERMIT REV-4) 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	1118.00	1101.00	17.00	1118.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1118.00	1101.00	17.00	1118.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1118.00	8255.55	7137.55	1118.00	7792.00	0.00	0.00	-1002.79	-677.46
7in Casing Intermediate	17.00	8255.55	8238.55	17.00	7792.00	0.00	0.00	-1002.79	-677.46
6.125in Open Hole	8255.55	16129.53	7873.98	7792.00	7757.00	-1002.79	-677.46	-8876.66	-699.69
4.5in Casing Production	17.00	16129.53	16112.53	17.00	7757.00	0.00	0.00	-8876.66	-699.69

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.11-T1N-R68W SECTION LINES		-114.00	-8543.00	985.76	3147812.44	1259689.75	40°02'42.104"N	104°58'19.330"W	polygon
SEC.14-T1N-R68W SECTION LINES		-114.00	-8543.00	985.76	3147812.44	1259689.75	40°02'42.104"N	104°58'19.330"W	polygon
1) COMO 13C-14HZ BHL ON PLAT REV-1 (50'FSL & 555'FWL, SEC.14)	16129.53	7757.00	-8876.66	-699.69	3146129.06	1259346.14	40°02'38.807"N	104°58'41.002"W	point
COMO 13C-14HZ BHL REV-2 (50'FSL & 510'FWL, SEC.14)		7757.00	-8876.64	-744.69	3146084.06	1259345.90	40°02'38.807"N	104°58'41.580"W	point
COMO 13C-14HZ LANDBOX		7757.00	0.00	0.00	3146776.22	1268226.43	40°04'06.528"N	104°58'32.005"W	polygon

SURVEY PROGRAM - Ref Wellbore: COMO 13C-14HZ PWB Ref Wellpath: COMO 13C-14HZ (PERMIT REV-4) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	8255.55	NaviTrak (MAGCORR,IFR)		COMO 13C-14HZ PWB
8255.55	16129.53	NaviTrak (MAGCORR,IFR)		COMO 13C-14HZ PWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#22 COMO 13C-14HZ (1663'FNL & 1234'FWL, SEC.11)
Area	COLORADO	Well	COMO 13C-14HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COMO 13C-14HZ PWB
Facility	SEC.11-T1N-R68W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]		Comment
967.00	0.000	241.730	967.00		BASE FOX HILLS
1118.00	0.000	241.730	1118.00		SURFACE CASING SETTING DEPTH
4280.87	11.102	241.730	4187.00		PARKMAN
4689.27	2.934	241.730	4592.00		SUSSEX
7482.28	20.660	180.162	7380.00		SHARON SPRINGS
7528.92	24.858	180.162	7423.00		NIOBRARA A
7672.00	37.735	180.162	7545.00		NIOBRARA B
7811.30	50.272	180.162	7645.00		NIOBRARA C
8070.13	73.567	180.162	7766.00		FORT HAYS
8172.86	82.813	180.162	7787.00		CODELL

DESIGN COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]		Comment
17.00	0.000	241.730	17.00		TIE ON
1258.00	0.000	241.730	1258.00		BEGIN NUDGE
2058.00	16.000	241.730	2047.64		END NUDGE
4035.98	16.000	241.730	3949.00		BEGIN DROP
4835.98	0.000	180.162	4738.64		END DROP
7252.72	0.000	180.162	7155.38		KOP, BUILD @ 9°/100'
8255.55	90.255	180.162	7792.00		LANDING POINT
16129.53	90.255	180.162	7757.00		TOTAL DEPTH