

# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#03 SACK 1C-30HZ (697'FSL & 702'FEL, SEC.31)  
 Field: WELD COUNTY (KERR MCGEE) Well: SACK 1C-30HZ  
 Facility: SEC.31-T1N-R67W Wellbore: SACK 1C-30HZ PWB  
**Plot reference wellpath is SACK 1C-30HZ (REV-C.0) PWP**

True vertical depths are referenced to PRECISION 595 (25'KB) (RKB) Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet  
 Measured depths are referenced to PRECISION 595 (25'KB) (RKB) North Reference: True north  
 PRECISION 595 (25'KB) (RKB) to Mean Sea Level: 5080 feet Scale: True distance  
 Mean Sea Level to Mud line (At Slot: SLOT#03 SACK 1C-30HZ (697'FSL & 702'FEL, SEC.31)): 0 feet Depths are in feet  
 Coordinates are in feet referenced to Slot Created by: robale01 on 9/3/2014

## Location Information

Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
SEC.31-T1N-R67W		3157061.918	1244292.687	40°00'09.382"N	104°56'21.649"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#03 SACK 1C-30HZ (697'FSL & 702'FEL, SEC.31)	-128.75	3681.77	3160744.300	1244187.226	40°00'08.107"N	104°55'34.338"W
PRECISION 595 (25'KB) (RKB) to Mud line (At Slot: SLOT#03 SACK 1C-30HZ (697'FSL & 702'FEL, SEC.31))					5080ft	
Mean Sea Level to Mud line (At Slot: SLOT#03 SACK 1C-30HZ (697'FSL & 702'FEL, SEC.31))					0ft	
PRECISION 595 (25'KB) (RKB) to Mean Sea Level					5080ft	

## Survey Program

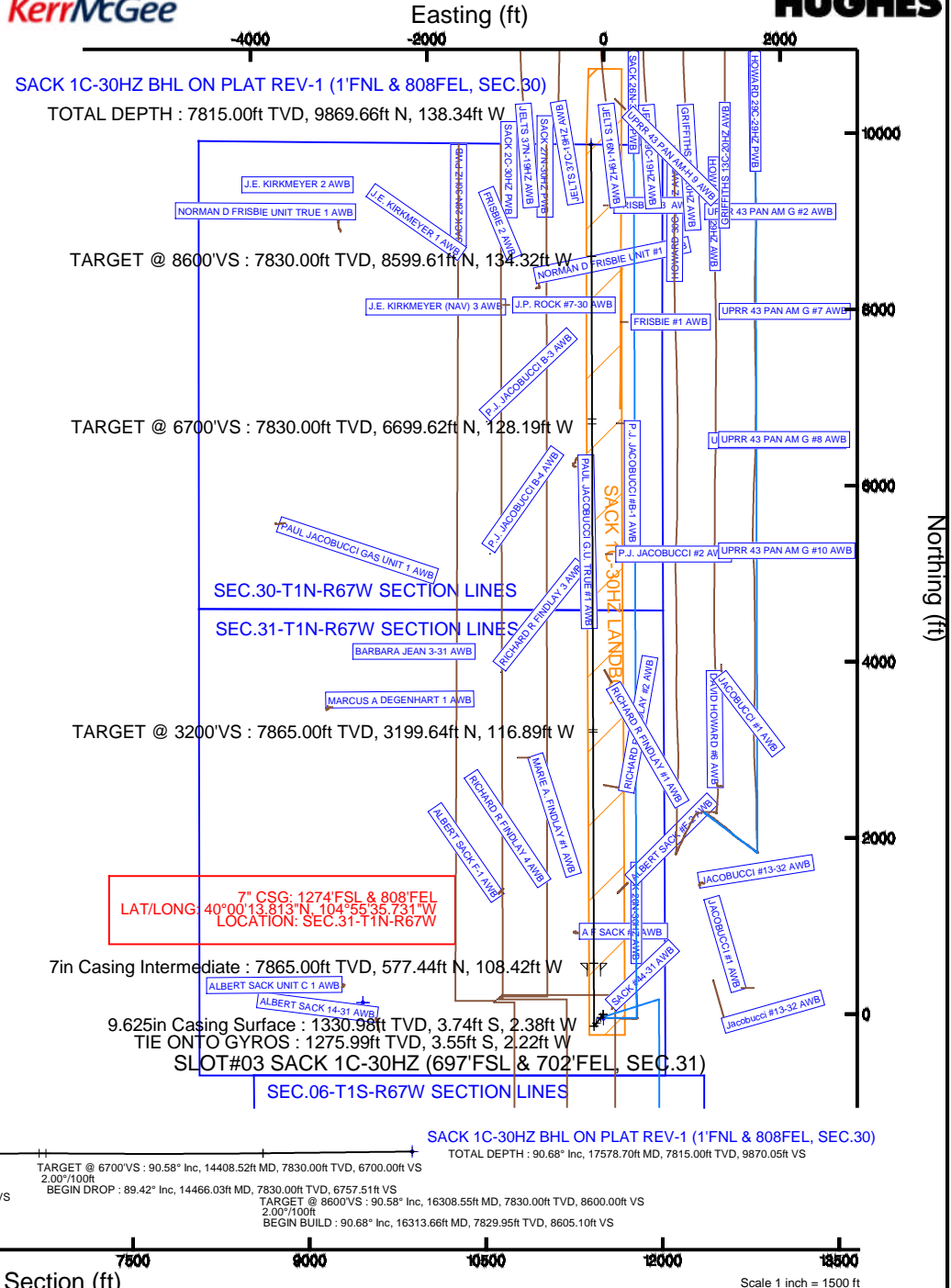
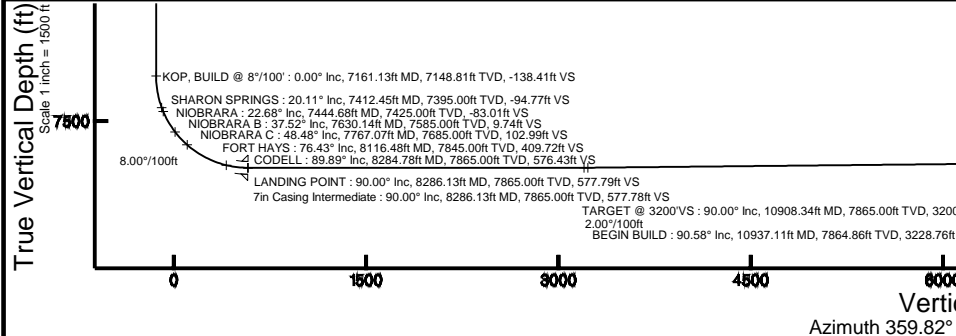
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
25.00	1276.00	Generic gyro - continuous	Generic gyro - continuous (Standard)		SACK 1C-30HZ AWB
1276.00	8286.13	NaviTrak	NaviTrak (MAGCORR, IFR)		SACK 1C-30HZ PWB
8286.13	17578.70	NaviTrak	NaviTrak (MAGCORR, IFR)		SACK 1C-30HZ PWB

## Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE ONTO GYROS	1276.00	0.260	221.095	1275.99	-3.55	-2.22	0.00	-3.54
BEGIN NUDGE	1431.02	0.260	221.095	1431.00	-4.08	-2.68	0.00	-4.07
END NUDGE	1918.04	10.000	217.500	1915.49	-38.54	-29.22	2.00	-38.45
BEGIN DROP	2394.79	10.000	217.500	2385.00	-104.22	-79.61	0.00	-103.97
END DROP	2894.79	0.000	359.815	2882.47	-138.75	-106.11	2.00	-138.41
KOP, BUILD @ 8°/100'	7161.13	0.000	359.815	7148.81	-138.75	-106.11	0.00	-138.41
LANDING POINT	8286.13	90.000	359.815	7865.00	577.44	-108.42	8.00	577.79
TARGET @ 3200'VS	10908.34	90.000	359.815	7865.00	3199.64	-116.89	0.00	3200.00
BEGIN BUILD	10937.11	90.575	359.815	7864.86	3228.40	-116.98	2.00	3228.76
TARGET @ 6700'VS	14408.52	90.575	359.815	7830.00	6699.62	-128.19	0.00	6700.00
BEGIN DROP	14466.03	89.425	359.815	7830.00	6757.13	-128.37	2.00	6757.51
TARGET @ 8600'VS	16308.55	90.575	359.815	7830.00	8599.61	-134.32	0.06	8600.00
BEGIN BUILD	16313.66	90.677	359.819	7829.95	8604.71	-134.34	2.00	8605.10
TOTAL DEPTH	17578.70	90.677	359.819	7815.00	9869.66	-138.34	0.00	9870.05

## Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.06-T1S-R67W SECTION LINES		0.00	-47.66	0.00	3160744.61	1244139.57	40°00'07.636"N	104°55'34.338"W
SEC.30-T1N-R67W SECTION LINES		0.00	128.76	-2724.80	3158018.82	1244298.35	40°00'09.378"N	104°56'09.352"W
SEC.31-T1N-R67W SECTION LINES		0.00	128.76	-2724.80	3158018.82	1244298.35	40°00'09.378"N	104°56'09.352"W
SACK 1C-30HZ BHL ON PLAT REV-1 (1'FNL & 808'FEL, SEC.30)	17578.70	7815.00	9869.66	-138.34	3160542.10	1254055.43	40°01'45.642"N	104°55'36.116"W
SACK 1C-30HZ LANDBOX		7815.00	-47.66	0.00	3160744.61	1244139.57	40°00'07.636"N	104°55'34.338"W

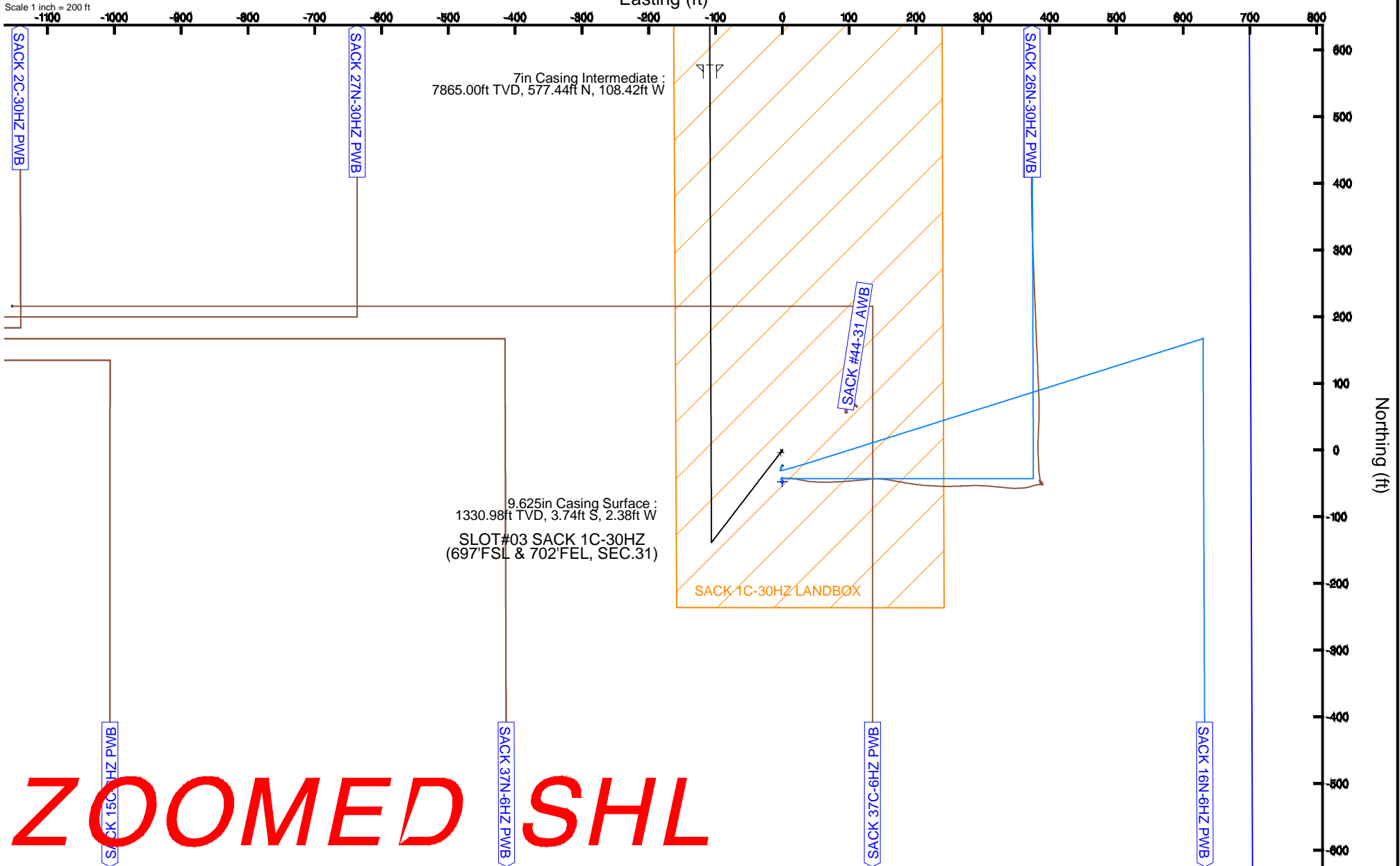


# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#03 SACK 1C-30HZ (697'FSL & 702'FEL, SEC.31)  
 Field: WELD COUNTY (KERR MCGEE) Well: SACK 1C-30HZ  
 Facility: SEC.31-T1N-R67W Wellbore: SACK 1C-30HZ PWB

Plot reference wellpath is SACK 1C-30HZ (REV-C.0) PWP

True vertical depths are referenced to PRECISION 595 (25KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to PRECISION 595 (25KB) (RKB)	North Reference: True north
PRECISION 595 (25KB) (RKB) to Mean Sea Level: 5080 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#03 SACK 1C-30HZ (697'FSL & 702'FEL, SEC.31)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: robiale01 on 9/3/2014



# Planned Wellpath Report

SACK 1C-30HZ (REV-C.0) PWP

Page 1 of 8

REFERENCE WELLPATH IDENTIFICATION			
Operator	<b>KERR-MCGEE OIL &amp; GAS ONSHORE LP</b>	Slot	<b>SLOT#03 SACK 1C-30HZ (697'FSL &amp; 702'FEL, SEC.31)</b>
Area	<b>COLORADO</b>	Well	<b>SACK 1C-30HZ</b>
Field	<b>WELD COUNTY (KERR MCGEE)</b>	Wellbore	<b>SACK 1C-30HZ PWB</b>
Facility	<b>SEC.31-T1N-R67W</b>		

REPORT SETUP INFORMATION			
Projection System	<b>NAD83 / Lambert Colorado SP, Northern Zone (501), US feet</b>	Software System	<b>WellArchitect® 4.0.0</b>
North Reference	<b>True</b>	User	<b>Robiale01</b>
Scale	<b>0.999966</b>	Report Generated	<b>9/3/2014 at 7:57:15 AM</b>
Convergence at slot	<b>n/a</b>	Database/Source file	<b>WellArchitectDB/SACK_1C-30HZ_PWB.xml</b>

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-128.75	3681.77	3160744.30	1244187.23	<b>40°00'08.107"N</b>	<b>104°55'34.338"W</b>
Facility Reference Pt			3157061.92	1244292.69	<b>40°00'09.382"N</b>	<b>104°56'21.649"W</b>
Field Reference Pt			<b>3197771.84</b>	<b>1268891.29</b>	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	<b>Minimum curvature</b>	PRECISION 595 (25'KB) (RKB) to Facility Vertical Datum	<b>5080.00ft</b>
Horizontal Reference Pt	<b>Slot</b>	PRECISION 595 (25'KB) (RKB) to Mean Sea Level	<b>5080.00ft</b>
Vertical Reference Pt	<b>PRECISION 595 (25'KB) (RKB)</b>	PRECISION 595 (25'KB) (RKB) to Mud Line at Slot (SLOT#03 SACK 1C-30HZ (697'FSL & 702'FEL, SEC.31))	<b>5080.00ft</b>
MD Reference Pt	<b>PRECISION 595 (25'KB) (RKB)</b>	Section Origin	<b>N 0.00, E 0.00 ft</b>
Field Vertical Reference	<b>Mean Sea Level</b>	Section Azimuth	<b>359.82°</b>

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 SACK 1C-30HZ (697'FSL & 702'FEL, SEC.31)
Area	COLORADO	Well	SACK 1C-30HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	SACK 1C-30HZ PWB
Facility	SEC.31-T1N-R67W		

WELLPATH DATA (200 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	316.400	0.00	0.00	0.00	0.00	40°00'08.107"N	104°55'34.338"W	0.00	
25.00	0.000	316.400	25.00	0.00	0.00	0.00	40°00'08.107"N	104°55'34.338"W	0.00	
125.00	0.200	316.400	125.00	0.13	0.13	-0.12	40°00'08.108"N	104°55'34.340"W	0.20	
225.00	0.210	205.740	225.00	0.09	0.09	-0.32	40°00'08.108"N	104°55'34.342"W	0.34	
325.00	0.240	117.700	325.00	-0.17	-0.17	-0.21	40°00'08.105"N	104°55'34.341"W	0.31	
425.00	0.480	152.190	425.00	-0.64	-0.64	0.17	40°00'08.101"N	104°55'34.336"W	0.31	
525.00	0.220	191.070	525.00	-1.20	-1.20	0.32	40°00'08.095"N	104°55'34.334"W	0.34	
625.00	0.290	210.290	624.99	-1.61	-1.61	0.16	40°00'08.091"N	104°55'34.336"W	0.11	
725.00	0.410	241.570	724.99	-2.00	-2.00	-0.28	40°00'08.087"N	104°55'34.342"W	0.22	
825.00	0.430	248.530	824.99	-2.30	-2.30	-0.95	40°00'08.084"N	104°55'34.350"W	0.05	
925.00	0.230	240.750	924.99	-2.54	-2.54	-1.47	40°00'08.082"N	104°55'34.357"W	0.20	
1025.00	0.130	253.740	1024.99	-2.66	-2.67	-1.75	40°00'08.081"N	104°55'34.361"W	0.11	
1125.00	0.290	186.430	1124.99	-2.95	-2.95	-1.89	40°00'08.078"N	104°55'34.362"W	0.27	
1225.00	0.260	221.090	1224.99	-3.37	-3.38	-2.07	40°00'08.074"N	104°55'34.365"W	0.17	
1235.01†	0.260	221.090	1235.00	-3.40	-3.41	-2.10	40°00'08.073"N	104°55'34.365"W	0.00	FOX HILLS MARKER
1276.00	0.260	221.095	1275.99	-3.54	-3.55	-2.22	40°00'08.072"N	104°55'34.367"W	0.00	TIE ONTO GYROS
1376.00†	0.260	221.095	1375.98	-3.88	-3.89	-2.52	40°00'08.069"N	104°55'34.370"W	0.00	
1431.02	0.260	221.095	1431.00	-4.07	-4.08	-2.68	40°00'08.067"N	104°55'34.372"W	0.00	BEGIN NUDGE
1476.00†	1.159	218.232	1475.98	-4.51	-4.51	-3.03	40°00'08.062"N	104°55'34.377"W	2.00	
1576.00†	3.159	217.708	1575.90	-7.47	-7.49	-5.34	40°00'08.033"N	104°55'34.407"W	2.00	
1676.00†	5.159	217.590	1675.64	-13.20	-13.23	-9.77	40°00'07.976"N	104°55'34.464"W	2.00	
1776.00†	7.159	217.538	1775.05	-21.69	-21.74	-16.31	40°00'07.892"N	104°55'34.548"W	2.00	
1876.00†	9.159	217.509	1874.04	-32.91	-32.99	-24.96	40°00'07.781"N	104°55'34.659"W	2.00	
1918.04	10.000	217.500	1915.49	-38.45	-38.54	-29.22	40°00'07.726"N	104°55'34.713"W	2.00	END NUDGE
1976.00†	10.000	217.500	1972.57	-46.41	-46.53	-35.34	40°00'07.647"N	104°55'34.792"W	0.00	
2076.00†	10.000	217.500	2071.05	-60.16	-60.30	-45.91	40°00'07.511"N	104°55'34.928"W	0.00	
2176.00†	10.000	217.500	2169.53	-73.90	-74.08	-56.48	40°00'07.375"N	104°55'35.064"W	0.00	
2276.00†	10.000	217.500	2268.01	-87.64	-87.86	-67.06	40°00'07.239"N	104°55'35.200"W	0.00	
2376.00†	10.000	217.500	2366.49	-101.38	-101.63	-77.63	40°00'07.103"N	104°55'35.335"W	0.00	
2394.79	10.000	217.500	2385.00	-103.97	-104.22	-79.61	40°00'07.077"N	104°55'35.361"W	0.00	BEGIN DROP
2476.00†	8.376	217.500	2465.16	-114.23	-114.51	-87.51	40°00'06.975"N	104°55'35.462"W	2.00	
2576.00†	6.376	217.500	2564.33	-124.39	-124.69	-95.32	40°00'06.875"N	104°55'35.563"W	2.00	
2676.00†	4.376	217.500	2663.88	-131.80	-132.13	-101.02	40°00'06.801"N	104°55'35.636"W	2.00	
2776.00†	2.376	217.500	2763.71	-136.46	-136.80	-104.61	40°00'06.755"N	104°55'35.682"W	2.00	
2876.00†	0.376	217.500	2863.67	-138.36	-138.70	-106.07	40°00'06.736"N	104°55'35.701"W	2.00	
2894.79	0.000	359.815	2882.47	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	2.00	END DROP
2976.00†	0.000	359.815	2963.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
3076.00†	0.000	359.815	3063.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
3176.00†	0.000	359.815	3163.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
3276.00†	0.000	359.815	3263.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
3376.00†	0.000	359.815	3363.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
3476.00†	0.000	359.815	3463.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
3576.00†	0.000	359.815	3563.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
3676.00†	0.000	359.815	3663.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	

3776.00†	0.000	359.815	3763.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00
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# Planned Wellpath Report

SACK 1C-30HZ (REV-C.0) PWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	<b>KERR-MCGEE OIL &amp; GAS ONSHORE LP</b>	Slot	<b>SLOT#03 SACK 1C-30HZ (697'FSL &amp; 702'FEL, SEC.31)</b>
Area	<b>COLORADO</b>	Well	<b>SACK 1C-30HZ</b>
Field	<b>WELD COUNTY (KERR MCGEE)</b>	Wellbore	<b>SACK 1C-30HZ PWB</b>
Facility	<b>SEC.31-T1N-R67W</b>		

WELLPATH DATA (200 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3876.00†	0.000	359.815	3863.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
3976.00†	0.000	359.815	3963.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
4076.00†	0.000	359.815	4063.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
4176.00†	0.000	359.815	4163.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
4276.00†	0.000	359.815	4263.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
4376.00†	0.000	359.815	4363.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
4476.00†	0.000	359.815	4463.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
4576.00†	0.000	359.815	4563.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
4676.00†	0.000	359.815	4663.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
4776.00†	0.000	359.815	4763.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
4876.00†	0.000	359.815	4863.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
4976.00†	0.000	359.815	4963.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
5076.00†	0.000	359.815	5063.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
5092.33†	0.000	359.815	5080.00	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	SUSSEX
5176.00†	0.000	359.815	5163.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
5276.00†	0.000	359.815	5263.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
5376.00†	0.000	359.815	5363.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
5413.33†	0.000	359.815	5401.00	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	SHANNON
5476.00†	0.000	359.815	5463.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
5576.00†	0.000	359.815	5563.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
5676.00†	0.000	359.815	5663.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
5776.00†	0.000	359.815	5763.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
5876.00†	0.000	359.815	5863.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
5976.00†	0.000	359.815	5963.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
6076.00†	0.000	359.815	6063.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
6176.00†	0.000	359.815	6163.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
6276.00†	0.000	359.815	6263.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
6376.00†	0.000	359.815	6363.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
6476.00†	0.000	359.815	6463.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
6576.00†	0.000	359.815	6563.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
6676.00†	0.000	359.815	6663.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
6776.00†	0.000	359.815	6763.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
6876.00†	0.000	359.815	6863.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
6976.00†	0.000	359.815	6963.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
7076.00†	0.000	359.815	7063.67	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	
7161.13	0.000	359.815	7148.81	-138.41	-138.75	-106.11	40°00'06.736"N	104°55'35.701"W	0.00	KOP, BUILD @ 8°/100'
7176.00†	1.189	359.815	7163.67	-138.26	-138.60	-106.11	40°00'06.737"N	104°55'35.701"W	8.00	
7276.00†	9.189	359.815	7263.18	-129.22	-129.56	-106.14	40°00'06.827"N	104°55'35.702"W	8.00	
7376.00†	17.189	359.815	7360.46	-106.42	-106.76	-106.21	40°00'07.052"N	104°55'35.703"W	8.00	
7412.45†	20.106	359.815	7395.00	-94.77	-95.11	-106.25	40°00'07.167"N	104°55'35.703"W	8.00	SHARON SPRINGS
7444.68†	22.684	359.815	7425.00	-83.01	-83.35	-106.29	40°00'07.283"N	104°55'35.704"W	8.00	NIOBRARA
7476.00†	25.189	359.815	7453.63	-70.30	-70.65	-106.33	40°00'07.409"N	104°55'35.704"W	8.00	
7576.00†	33.189	359.815	7540.86	-21.57	-21.92	-106.48	40°00'07.890"N	104°55'35.706"W	8.00	
7630.14†	37.520	359.815	7585.00	9.74	9.40	-106.59	40°00'08.200"N	104°55'35.708"W	8.00	NIOBRARA B

7676.00†	41.189	359.815	7620.46	38.82	38.48	-106.68	40°00'08.487"N	104°55'35.709"W	8.00	
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# Planned Wellpath Report

SACK 1C-30HZ (REV-C.0) PWP

Page 4 of 8

REFERENCE WELLPATH IDENTIFICATION			
Operator	<b>KERR-MCGEE OIL &amp; GAS ONSHORE LP</b>	Slot	<b>SLOT#03 SACK 1C-30HZ (697'FSL &amp; 702'FEL, SEC.31)</b>
Area	<b>COLORADO</b>	Well	<b>SACK 1C-30HZ</b>
Field	<b>WELD COUNTY (KERR MCGEE)</b>	Wellbore	<b>SACK 1C-30HZ PWB</b>
Facility	<b>SEC.31-T1N-R67W</b>		

## WELLPATH DATA (200 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7767.07†	48.475	359.815	7685.00	102.99	102.65	-106.89	40°00'09.121"N	104°55'35.712"W	8.00	NIOBRARA C
7776.00†	49.189	359.815	7690.88	109.71	109.36	-106.91	40°00'09.188"N	104°55'35.712"W	8.00	
7876.00†	57.189	359.815	7750.74	189.70	189.36	-107.17	40°00'09.978"N	104°55'35.715"W	8.00	
7976.00†	65.189	359.815	7798.90	277.25	276.91	-107.45	40°00'10.844"N	104°55'35.719"W	8.00	
8076.00†	73.189	359.815	7834.40	370.65	370.31	-107.75	40°00'11.767"N	104°55'35.723"W	8.00	
8116.48†	76.428	359.815	7845.00	409.72	409.37	-107.88	40°00'12.153"N	104°55'35.724"W	8.00	FORT HAYS
8176.00†	81.189	359.815	7856.55	468.09	467.74	-108.07	40°00'12.729"N	104°55'35.727"W	8.00	
8276.00†	89.189	359.815	7864.93	567.65	567.31	-108.39	40°00'13.713"N	104°55'35.731"W	8.00	
8284.78†	89.892	359.815	7865.00	576.43	576.09	-108.42	40°00'13.800"N	104°55'35.731"W	8.00	CODELL
8286.13	90.000	359.815	7865.00	577.79	577.44	-108.42	40°00'13.813"N	104°55'35.731"W	8.00	LANDING POINT
8376.00†	90.000	359.815	7865.00	667.65	667.31	-108.71	40°00'14.702"N	104°55'35.735"W	0.00	
8476.00†	90.000	359.815	7865.00	767.65	767.31	-109.03	40°00'15.690"N	104°55'35.739"W	0.00	
8576.00†	90.000	359.815	7865.00	867.65	867.31	-109.36	40°00'16.678"N	104°55'35.743"W	0.00	
8676.00†	90.000	359.815	7865.00	967.65	967.31	-109.68	40°00'17.666"N	104°55'35.747"W	0.00	
8776.00†	90.000	359.815	7865.00	1067.65	1067.31	-110.00	40°00'18.654"N	104°55'35.752"W	0.00	
8876.00†	90.000	359.815	7865.00	1167.65	1167.30	-110.32	40°00'19.643"N	104°55'35.756"W	0.00	
8976.00†	90.000	359.815	7865.00	1267.65	1267.30	-110.65	40°00'20.631"N	104°55'35.760"W	0.00	
9076.00†	90.000	359.815	7865.00	1367.65	1367.30	-110.97	40°00'21.619"N	104°55'35.764"W	0.00	
9176.00†	90.000	359.815	7865.00	1467.65	1467.30	-111.29	40°00'22.607"N	104°55'35.768"W	0.00	
9276.00†	90.000	359.815	7865.00	1567.65	1567.30	-111.62	40°00'23.596"N	104°55'35.772"W	0.00	
9376.00†	90.000	359.815	7865.00	1667.65	1667.30	-111.94	40°00'24.584"N	104°55'35.777"W	0.00	
9476.00†	90.000	359.815	7865.00	1767.65	1767.30	-112.26	40°00'25.572"N	104°55'35.781"W	0.00	
9576.00†	90.000	359.815	7865.00	1867.65	1867.30	-112.59	40°00'26.560"N	104°55'35.785"W	0.00	
9676.00†	90.000	359.815	7865.00	1967.65	1967.30	-112.91	40°00'27.548"N	104°55'35.789"W	0.00	
9776.00†	90.000	359.815	7865.00	2067.65	2067.30	-113.23	40°00'28.537"N	104°55'35.793"W	0.00	
9876.00†	90.000	359.815	7865.00	2167.65	2167.30	-113.55	40°00'29.525"N	104°55'35.797"W	0.00	
9976.00†	90.000	359.815	7865.00	2267.65	2267.30	-113.88	40°00'30.513"N	104°55'35.801"W	0.00	
10076.00†	90.000	359.815	7865.00	2367.65	2367.30	-114.20	40°00'31.501"N	104°55'35.806"W	0.00	
10176.00†	90.000	359.815	7865.00	2467.65	2467.30	-114.52	40°00'32.490"N	104°55'35.810"W	0.00	
10276.00†	90.000	359.815	7865.00	2567.65	2567.30	-114.85	40°00'33.478"N	104°55'35.814"W	0.00	
10376.00†	90.000	359.815	7865.00	2667.65	2667.30	-115.17	40°00'34.466"N	104°55'35.818"W	0.00	
10476.00†	90.000	359.815	7865.00	2767.65	2767.30	-115.49	40°00'35.454"N	104°55'35.822"W	0.00	
10576.00†	90.000	359.815	7865.00	2867.65	2867.30	-115.81	40°00'36.443"N	104°55'35.826"W	0.00	
10676.00†	90.000	359.815	7865.00	2967.65	2967.30	-116.14	40°00'37.431"N	104°55'35.831"W	0.00	
10776.00†	90.000	359.815	7865.00	3067.65	3067.29	-116.46	40°00'38.419"N	104°55'35.835"W	0.00	
10876.00†	90.000	359.815	7865.00	3167.65	3167.29	-116.78	40°00'39.407"N	104°55'35.839"W	0.00	
10908.34	90.000	359.815	7865.00 <sup>2</sup>	3200.00	3199.64	-116.89	40°00'39.727"N	104°55'35.840"W	0.00	TARGET @ 3200'VS
10937.11	90.575	359.815	7864.86	3228.76	3228.40	-116.98	40°00'40.011"N	104°55'35.841"W	2.00	BEGIN BUILD
10976.00†	90.575	359.815	7864.47	3267.65	3267.29	-117.11	40°00'40.395"N	104°55'35.843"W	0.00	
11076.00†	90.575	359.815	7863.46	3367.65	3367.29	-117.43	40°00'41.384"N	104°55'35.847"W	0.00	
11176.00†	90.575	359.815	7862.46	3467.64	3467.28	-117.75	40°00'42.372"N	104°55'35.851"W	0.00	
11276.00†	90.575	359.815	7861.46	3567.64	3567.27	-118.07	40°00'43.360"N	104°55'35.855"W	0.00	
11376.00†	90.575	359.815	7860.45	3667.63	3667.27	-118.40	40°00'44.348"N	104°55'35.860"W	0.00	
11476.00†	90.575	359.815	7859.45	3767.63	3767.26	-118.72	40°00'45.336"N	104°55'35.864"W	0.00	

11576.00†	90.575	359.815	7858.44	3867.62	3867.26	-119.04	40°00'46.324"N	104°55'35.868"W	0.00
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# Planned Wellpath Report

SACK 1C-30HZ (REV-C.0) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	<b>KERR-MCGEE OIL &amp; GAS ONSHORE LP</b>	Slot	<b>SLOT#03 SACK 1C-30HZ (697'FSL &amp; 702'FEL, SEC.31)</b>
Area	<b>COLORADO</b>	Well	<b>SACK 1C-30HZ</b>
Field	<b>WELD COUNTY (KERR MCGEE)</b>	Wellbore	<b>SACK 1C-30HZ PWB</b>
Facility	<b>SEC.31-T1N-R67W</b>		

WELLPATH DATA (200 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11676.00†	90.575	359.815	7857.44	3967.62	3967.25	-119.37	40°00'47.313"N	104°55'35.872"W	0.00	
11776.00†	90.575	359.815	7856.44	4067.61	4067.25	-119.69	40°00'48.301"N	104°55'35.876"W	0.00	
11876.00†	90.575	359.815	7855.43	4167.61	4167.24	-120.01	40°00'49.289"N	104°55'35.880"W	0.00	
11976.00†	90.575	359.815	7854.43	4267.60	4267.24	-120.33	40°00'50.277"N	104°55'35.885"W	0.00	
12076.00†	90.575	359.815	7853.42	4367.60	4367.23	-120.66	40°00'51.265"N	104°55'35.889"W	0.00	
12176.00†	90.575	359.815	7852.42	4467.59	4467.22	-120.98	40°00'52.254"N	104°55'35.893"W	0.00	
12276.00†	90.575	359.815	7851.41	4567.59	4567.22	-121.30	40°00'53.242"N	104°55'35.897"W	0.00	
12376.00†	90.575	359.815	7850.41	4667.58	4667.21	-121.63	40°00'54.230"N	104°55'35.901"W	0.00	
12476.00†	90.575	359.815	7849.41	4767.57	4767.21	-121.95	40°00'55.218"N	104°55'35.905"W	0.00	
12576.00†	90.575	359.815	7848.40	4867.57	4867.20	-122.27	40°00'56.206"N	104°55'35.910"W	0.00	
12676.00†	90.575	359.815	7847.40	4967.56	4967.20	-122.59	40°00'57.194"N	104°55'35.914"W	0.00	
12776.00†	90.575	359.815	7846.39	5067.56	5067.19	-122.92	40°00'58.183"N	104°55'35.918"W	0.00	
12876.00†	90.575	359.815	7845.39	5167.55	5167.19	-123.24	40°00'59.171"N	104°55'35.922"W	0.00	
12976.00†	90.575	359.815	7844.39	5267.55	5267.18	-123.56	40°01'00.159"N	104°55'35.926"W	0.00	
13076.00†	90.575	359.815	7843.38	5367.54	5367.17	-123.89	40°01'01.147"N	104°55'35.930"W	0.00	
13176.00†	90.575	359.815	7842.38	5467.54	5467.17	-124.21	40°01'02.135"N	104°55'35.934"W	0.00	
13276.00†	90.575	359.815	7841.37	5567.53	5567.16	-124.53	40°01'03.123"N	104°55'35.939"W	0.00	
13376.00†	90.575	359.815	7840.37	5667.53	5667.16	-124.85	40°01'04.112"N	104°55'35.943"W	0.00	
13476.00†	90.575	359.815	7839.37	5767.52	5767.15	-125.18	40°01'05.100"N	104°55'35.947"W	0.00	
13576.00†	90.575	359.815	7838.36	5867.52	5867.15	-125.50	40°01'06.088"N	104°55'35.951"W	0.00	
13676.00†	90.575	359.815	7837.36	5967.51	5967.14	-125.82	40°01'07.076"N	104°55'35.955"W	0.00	
13776.00†	90.575	359.815	7836.35	6067.51	6067.14	-126.15	40°01'08.064"N	104°55'35.959"W	0.00	
13876.00†	90.575	359.815	7835.35	6167.50	6167.13	-126.47	40°01'09.052"N	104°55'35.964"W	0.00	
13976.00†	90.575	359.815	7834.35	6267.50	6267.12	-126.79	40°01'10.041"N	104°55'35.968"W	0.00	
14076.00†	90.575	359.815	7833.34	6367.49	6367.12	-127.11	40°01'11.029"N	104°55'35.972"W	0.00	
14176.00†	90.575	359.815	7832.34	6467.49	6467.11	-127.44	40°01'12.017"N	104°55'35.976"W	0.00	
14276.00†	90.575	359.815	7831.33	6567.48	6567.11	-127.76	40°01'13.005"N	104°55'35.980"W	0.00	
14376.00†	90.575	359.815	7830.33	6667.48	6667.10	-128.08	40°01'13.993"N	104°55'35.984"W	0.00	
14408.52	90.575	359.815	7830.00	6700.00	6699.62	-128.19	40°01'14.315"N	104°55'35.986"W	0.00	TARGET @ 6700'VS
14466.03	89.425	359.815	7830.00	6757.51	6757.13	-128.37	40°01'14.883"N	104°55'35.988"W	2.00	BEGIN DROP
14476.00†	89.431	359.815	7830.10	6767.48	6767.10	-128.41	40°01'14.982"N	104°55'35.988"W	0.06	
14576.00†	89.494	359.815	7831.04	6867.47	6867.09	-128.73	40°01'15.970"N	104°55'35.993"W	0.06	
14676.00†	89.556	359.815	7831.87	6967.47	6967.09	-129.05	40°01'16.958"N	104°55'35.997"W	0.06	
14776.00†	89.618	359.815	7832.59	7067.47	7067.09	-129.37	40°01'17.946"N	104°55'36.001"W	0.06	
14876.00†	89.681	359.815	7833.20	7167.46	7167.08	-129.70	40°01'18.934"N	104°55'36.005"W	0.06	
14976.00†	89.743	359.815	7833.70	7267.46	7267.08	-130.02	40°01'19.923"N	104°55'36.009"W	0.06	
15076.00†	89.806	359.815	7834.10	7367.46	7367.08	-130.34	40°01'20.911"N	104°55'36.013"W	0.06	
15176.00†	89.868	359.815	7834.38	7467.46	7467.08	-130.67	40°01'21.899"N	104°55'36.018"W	0.06	
15276.00†	89.931	359.815	7834.56	7567.46	7567.08	-130.99	40°01'22.887"N	104°55'36.022"W	0.06	
15376.00†	89.993	359.815	7834.62	7667.46	7667.08	-131.31	40°01'23.875"N	104°55'36.026"W	0.06	
15476.00†	90.055	359.815	7834.58	7767.46	7767.08	-131.63	40°01'24.864"N	104°55'36.030"W	0.06	
15576.00†	90.118	359.815	7834.43	7867.46	7867.08	-131.96	40°01'25.852"N	104°55'36.034"W	0.06	
15676.00†	90.180	359.815	7834.17	7967.46	7967.08	-132.28	40°01'26.840"N	104°55'36.038"W	0.06	
15776.00†	90.243	359.815	7833.80	8067.46	8067.08	-132.60	40°01'27.828"N	104°55'36.043"W	0.06	

15876.00†	90.305	359.815	7833.32	8167.46	8167.07	-132.93	40°01'28.817"N	104°55'36.047"W	0.06	
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# Planned Wellpath Report

SACK 1C-30HZ (REV-C.0) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	<b>KERR-MCGEE OIL &amp; GAS ONSHORE LP</b>	Slot	<b>SLOT#03 SACK 1C-30HZ (697'FSL &amp; 702'FEL, SEC.31)</b>
Area	<b>COLORADO</b>	Well	<b>SACK 1C-30HZ</b>
Field	<b>WELD COUNTY (KERR MCGEE)</b>	Wellbore	<b>SACK 1C-30HZ PWB</b>
Facility	<b>SEC.31-T1N-R67W</b>		

WELLPATH DATA (200 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
15976.00†	90.367	359.815	7832.74	8267.46	8267.07	-133.25	40°01'29.805"N	104°55'36.051"W	0.06	
16076.00†	90.430	359.815	7832.04	8367.45	8367.07	-133.57	40°01'30.793"N	104°55'36.055"W	0.06	
16176.00†	90.492	359.815	7831.24	8467.45	8467.07	-133.89	40°01'31.781"N	104°55'36.059"W	0.06	
16276.00†	90.555	359.815	7830.32	8567.45	8567.06	-134.22	40°01'32.769"N	104°55'36.063"W	0.06	
16308.55	90.575	359.815	7830.00	8600.00	8599.61	-134.32	40°01'33.091"N	104°55'36.065"W	0.06	TARGET @ 8600'VS
16313.66	90.677	359.819	7829.95	8605.10	8604.71	-134.34	40°01'33.141"N	104°55'36.065"W	2.00	BEGIN BUILD
16376.00†	90.677	359.819	7829.21	8667.44	8667.05	-134.54	40°01'33.757"N	104°55'36.067"W	0.00	
16476.00†	90.677	359.819	7828.03	8767.43	8767.05	-134.85	40°01'34.746"N	104°55'36.071"W	0.00	
16576.00†	90.677	359.819	7826.85	8867.43	8867.04	-135.17	40°01'35.734"N	104°55'36.076"W	0.00	
16676.00†	90.677	359.819	7825.67	8967.42	8967.03	-135.49	40°01'36.722"N	104°55'36.080"W	0.00	
16776.00†	90.677	359.819	7824.48	9067.41	9067.02	-135.80	40°01'37.710"N	104°55'36.084"W	0.00	
16876.00†	90.677	359.819	7823.30	9167.41	9167.02	-136.12	40°01'38.698"N	104°55'36.088"W	0.00	
16976.00†	90.677	359.819	7822.12	9267.40	9267.01	-136.43	40°01'39.686"N	104°55'36.092"W	0.00	
17076.00†	90.677	359.819	7820.94	9367.39	9367.00	-136.75	40°01'40.675"N	104°55'36.096"W	0.00	
17176.00†	90.677	359.819	7819.76	9467.39	9466.99	-137.07	40°01'41.663"N	104°55'36.100"W	0.00	
17276.00†	90.677	359.819	7818.58	9567.38	9566.99	-137.38	40°01'42.651"N	104°55'36.104"W	0.00	
17376.00†	90.677	359.819	7817.39	9667.37	9666.98	-137.70	40°01'43.639"N	104°55'36.108"W	0.00	
17476.00†	90.677	359.819	7816.21	9767.36	9766.97	-138.02	40°01'44.627"N	104°55'36.112"W	0.00	
17576.00†	90.677	359.819	7815.03	9867.36	9866.96	-138.33	40°01'45.615"N	104°55'36.116"W	0.00	
17578.70	90.677	359.819	7815.00 <sup>2</sup>	9870.05	9869.66	-138.34	40°01'45.642"N	104°55'36.116"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: SACK 1C-30HZ PWB Ref Wellpath: SACK 1C-30HZ (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	25.00	1341.00	1316.00	25.00	1340.98	0.00	0.00	-3.77	-2.41
9.625in Casing Surface	25.00	1331.00	1306.00	25.00	1330.98	0.00	0.00	-3.74	-2.38
8.75in Open Hole	1341.00	8286.13	6945.13	1340.98	7865.00	-3.77	-2.41	577.44	-108.42
7in Casing Intermediate	25.00	8286.13	8261.13	25.00	7865.00	0.00	0.00	577.44	-108.42
6.125in Open Hole	8286.13	17579.17	9293.04	7865.00	NA	577.44	-108.42	NA	NA
4.5in Casing Production	25.00	17579.17	17554.17	25.00	NA	0.00	0.00	NA	NA



# Planned Wellpath Report

SACK 1C-30HZ (REV-C.0) PWP  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 SACK 1C-30HZ (697'FSL & 702'FEL, SEC.31)
Area	COLORADO	Well	SACK 1C-30HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	SACK 1C-30HZ PWB
Facility	SEC.31-T1N-R67W		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.06-T1S-R67W SECTION LINES		0.00	-47.66	0.00	3160744.61	1244139.57	40°00'07.636"N	104°55'34.338"W	polygon
SEC.30-T1N-R67W SECTION LINES		0.00	128.76	-2724.80	3158018.82	1244298.35	40°00'09.378"N	104°56'09.352"W	polygon
SEC.31-T1N-R67W SECTION LINES		0.00	128.76	-2724.80	3158018.82	1244298.35	40°00'09.378"N	104°56'09.352"W	polygon
2) SACK 1C-30HZ BHL ON PLAT REV-1 (1'FNL & 808FEL, SEC.30)	17578.70	7815.00	9869.66	-138.34	3160542.10	1254055.43	40°01'45.642"N	104°55'36.116"W	point
SACK 1C-30HZ LANDBOX		7815.00	-47.66	0.00	3160744.61	1244139.57	40°00'07.636"N	104°55'34.338"W	polygon

SURVEY PROGRAM - Ref Wellbore: SACK 1C-30HZ PWB    Ref Wellpath: SACK 1C-30HZ (REV-C.0) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	1276.00	Generic gyro - continuous (Standard)		SACK 1C-30HZ AWB
1276.00	8286.13	NaviTrak (MAGCORR,IFR)		SACK 1C-30HZ PWB
8286.13	17578.70	NaviTrak (MAGCORR,IFR)		SACK 1C-30HZ PWB

# Planned Wellpath Report

SACK 1C-30HZ (REV-C.0) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	<b>KERR-MCGEE OIL &amp; GAS ONSHORE LP</b>	Slot	<b>SLOT#03 SACK 1C-30HZ (697'FSL &amp; 702'FEL, SEC.31)</b>
Area	<b>COLORADO</b>	Well	<b>SACK 1C-30HZ</b>
Field	<b>WELD COUNTY (KERR MCGEE)</b>	Wellbore	<b>SACK 1C-30HZ PWB</b>
Facility	<b>SEC.31-T1N-R67W</b>		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
1235.01	0.260	221.090	1235.00	FOX HILLS MARKER	
5092.33	0.000	359.815	5080.00	SUSSEX	
5413.33	0.000	359.815	5401.00	SHANNON	
7412.45	20.106	359.815	7395.00	SHARON SPRINGS	
7444.68	22.684	359.815	7425.00	NIOBRARA	
7630.14	37.520	359.815	7585.00	NIOBRARA B	
7767.07	48.475	359.815	7685.00	NIOBRARA C	
8116.48	76.428	359.815	7845.00	FORT HAYS	
8284.78	89.892	359.815	7865.00	CODELL	

DESIGN COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
1276.00	0.260	221.095	1275.99	TIE ONTO GYROS	
1431.02	0.260	221.095	1431.00	BEGIN NUDGE	
1918.04	10.000	217.500	1915.49	END NUDGE	
2394.79	10.000	217.500	2385.00	BEGIN DROP	
2894.79	0.000	359.815	2882.47	END DROP	
7161.13	0.000	359.815	7148.81	KOP, BUILD @ 8°/100'	
8286.13	90.000	359.815	7865.00	LANDING POINT	
10908.34	90.000	359.815	7865.00	TARGET @ 3200'VS	
10937.11	90.575	359.815	7864.86	BEGIN BUILD	
14408.52	90.575	359.815	7830.00	TARGET @ 6700'VS	
14466.03	89.425	359.815	7830.00	BEGIN DROP	
16308.55	90.575	359.815	7830.00	TARGET @ 8600'VS	
16313.66	90.677	359.819	7829.95	BEGIN BUILD	
17578.70	90.677	359.819	7815.00	TOTAL DEPTH	