

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#08 WIRKNER-VANCE 35C-1HZ (306'FSL & 861'FWL, SEC.36)
Field: WELD COUNTY (KERR MCGEE) Well: WIRKNER-VANCE 35C-1HZ
Facility: SEC.36-T3N-R67W Wellbore: WIRKNER-VANCE 35C-1HZ PWB

Plot reference wellpath is WIRKNER-VANCE 35C-1HZ (REV-A.0) PWP

True vertical depths are referenced to ENSIGN 138 (RKB 13) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to ENSIGN 138 (RKB 13) (RKB)	North Reference: True north
ENSIGN 138 (RKB 13) (RKB) to Mean Sea Level: 4835 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#08 WIRKNER-VANCE 35C-1HZ (306'FSL & 861'FWL, SEC.36)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: rboale01 on 24/Oct/2013

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.36-T3N-R67W			3182517.510	1310192.871	40°10'58.908"N	104°50'48.300"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#08 WIRKNER-VANCE 35C-1HZ (306'FSL & 861'FWL, SEC.36)	-2915.49	431.75	3182970.701	1307280.765	40°10'30.097"N	104°50'42.738"W
ENSIGN 138 (RKB 13) (RKB) to Mud line (At Slot: SLOT#08 WIRKNER-VANCE 35C-1HZ (306'FSL & 861'FWL, SEC.36))					4835ft	
Mean Sea Level to Mud line (At Slot: SLOT#08 WIRKNER-VANCE 35C-1HZ (306'FSL & 861'FWL, SEC.36))					0ft	
ENSIGN 138 (RKB 13) (RKB) to Mean Sea Level					4835ft	

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
13.00	933.00	Generic gyro - continuous	Generic gyro - continuous (Standard)		WIRKNER-VANCE 35C-1HZ AWB
933.00	7731.91	NavTrak	NavTrak (MAGCORR, IFR)		WIRKNER-VANCE 35C-1HZ PWB
7731.91	12919.86	OnTrak	OnTrak (MAGCORR, IFR)		WIRKNER-VANCE 35C-1HZ PWB

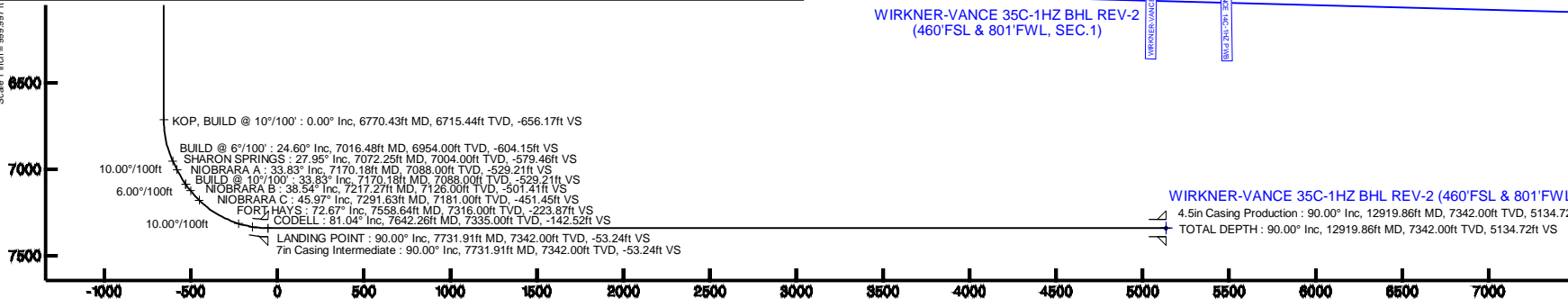
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE-INTO GYRO	933.00	0.090	308.260	932.99	0.01	-0.57	0.67	0.00
BEGIN NUDGE	1250.01	0.090	308.260	1250.00	0.31	-0.96	0.00	-0.31
END NUDGE	1747.00	10.000	356.230	1744.46	43.72	-4.12	2.00	-43.70
BEGIN DROP	5032.45	10.000	356.230	4980.00	613.00	-41.63	0.00	-612.76
END DROP	5532.45	0.000	180.319	5477.47	656.43	-44.49	2.00	-656.17
KOP, BUILD @ 10°/100'	6770.43	0.000	180.319	6715.44	656.43	-44.49	0.00	-656.17
BUILD @ 6°/100'	7016.48	24.605	180.319	6954.00	604.41	-44.78	10.00	-604.15
BUILD @ 10°/100'	7170.18	33.827	180.319	7088.00	529.47	-45.20	6.00	-529.21
LANDING POINT	7731.91	90.000	180.319	7342.00	53.50	-47.85	10.00	-53.24
TOTAL DEPTH	12919.86	90.000	180.319	7342.00	-5134.37	-76.71	0.00	5134.72

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
CANTRELL REDV 1-13 150' RADIUS		7340.00	-4960.62	-236.18	3182771.17	1302318.76	40°09'41.076"N	104°50'45.780"W
WIRKNER-VANCE 35C-1HZ BHL ON PLAT REV-1 (460'FSL & 801'FWL, SEC.1)		7342.00	-5134.37	-101.71	3182906.91	1302146.01	40°09'39.359"N	104°50'44.048"W
WIRKNER-VANCE 35C-1HZ BHL REV-2 (460'FSL & 801'FWL, SEC.1)	12919.86	7342.00	-5134.37	-76.71	3182931.91	1302146.20	40°09'39.359"N	104°50'43.728"W
WIRKNER SECTION 1 LINES	7400.00		-59.40	6.99	3182978.13	1307221.42	40°10'29.510"N	104°50'42.648"W
WIRKNER SECTION 36 LINES	7400.00		-59.40	6.99	3182978.13	1307221.42	40°10'29.510"N	104°50'42.648"W
WIRKNER-VANCE 35C-1HZ LAND BOX	7400.00		0.00	0.00	3182970.70	1307280.76	40°10'30.097"N	104°50'42.738"W

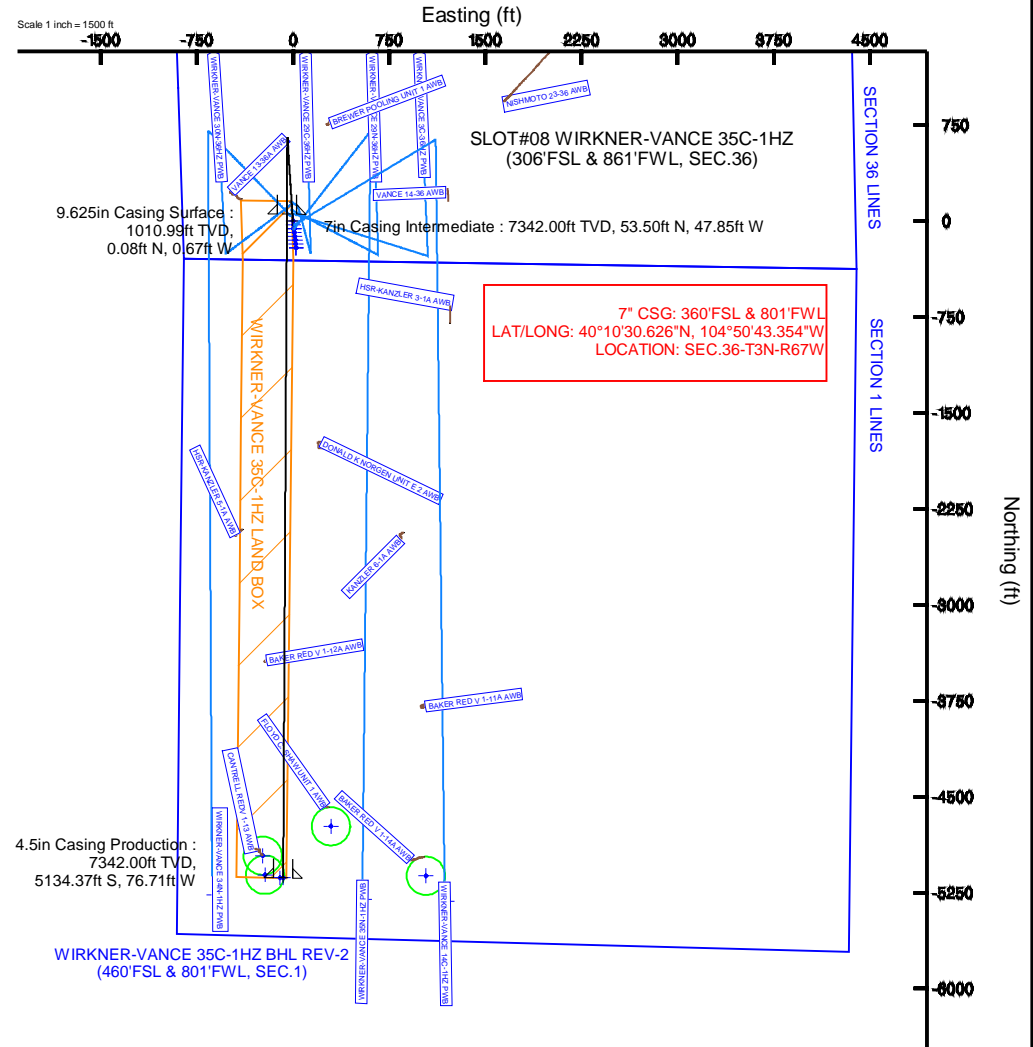
True Vertical Depth (ft)
Scale 1 inch = 999.997 ft



Vertical Section (ft)
Azimuth 180.32° with reference 0.00 N, 0.00 E



BAKER
HUGHES





Planned Wellpath Report

WIRKNER-VANCE 35C-1HZ (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 WIRKNER-VANCE 35C-1HZ (306'FSL & 861'FWL, S
Area	COLORADO	Well	WIRKNER-VANCE 35C-1HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WIRKNER-VANCE 35C-1HZ PWB
Facility	SEC.36-T3N-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	Robiale01
Scale	0.999958	Report Generated	24/Oct/2013 at 12:01
Convergence at slot	n/a	Database/Source file	WellArchitectDB/WIRKNER-VANCE_35C-1HZ_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-2915.49	431.75	3182970.70	1307280.77	40°10'30.097"N	104°50'42.738"W
Facility Reference Pt			3182517.51	1310192.87	40°10'58.908"N	104°50'48.300"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	ENSIGN 138 (RKB 13') (RKB) to Facility Vertical Datum	4835.00ft
Horizontal Reference Pt	Slot	ENSIGN 138 (RKB 13') (RKB) to Mean Sea Level	4835.00ft
Vertical Reference Pt	ENSIGN 138 (RKB 13') (RKB)	ENSIGN 138 (RKB 13') (RKB) to Mud Line at Slot (SLOT#08 WIRKNER-VANCE 35C-1HZ (306'FSL & 861'FWL, SEC.36))	4835.00ft
MD Reference Pt	ENSIGN 138 (RKB 13') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	180.32°

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 WIRKNER-VANCE 35C-1HZ (306'FSL & 861'FWL, S
Area	COLORADO	Well	WIRKNER-VANCE 35C-1HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WIRKNER-VANCE 35C-1HZ PWB
Facility	SEC.36-T3N-R67W		

WELLPATH DATA (147 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	308.210	0.00	0.00	0.00	0.00	40°10'30.097"N	104°50'42.738"W	0.00	
13.00	0.000	308.210	13.00	0.00	0.00	0.00	40°10'30.097"N	104°50'42.738"W	0.00	TIE-ON
113.00	0.410	308.210	113.00	-0.22	0.22	-0.28	40°10'30.099"N	104°50'42.742"W	0.41	BEGIN GYRO SURVEYS
213.00	0.260	5.060	213.00	-0.67	0.67	-0.54	40°10'30.104"N	104°50'42.745"W	0.35	
313.00	0.220	359.460	313.00	-1.08	1.09	-0.52	40°10'30.108"N	104°50'42.745"W	0.05	
413.00	0.110	247.350	413.00	-1.24	1.24	-0.61	40°10'30.109"N	104°50'42.746"W	0.28	
513.00	0.170	155.820	513.00	-1.07	1.07	-0.64	40°10'30.108"N	104°50'42.746"W	0.20	
613.00	0.350	183.260	613.00	-0.63	0.63	-0.60	40°10'30.103"N	104°50'42.746"W	0.21	
713.00	0.110	185.840	712.99	-0.23	0.23	-0.63	40°10'30.099"N	104°50'42.746"W	0.24	
813.00	0.090	174.170	812.99	-0.05	0.05	-0.63	40°10'30.098"N	104°50'42.746"W	0.03	
913.00	0.060	71.950	912.99	0.01	-0.01	-0.57	40°10'30.097"N	104°50'42.745"W	0.12	
933.00	0.090	308.260	932.99	0.00	0.01	-0.57	40°10'30.097"N	104°50'42.745"W	0.67	TIE-INTO GYRO
1033.00†	0.090	308.260	1032.99	-0.10	0.10	-0.70	40°10'30.098"N	104°50'42.747"W	0.00	
1133.00†	0.090	308.260	1132.99	-0.20	0.20	-0.82	40°10'30.099"N	104°50'42.749"W	0.00	
1233.00†	0.090	308.260	1232.99	-0.29	0.30	-0.94	40°10'30.100"N	104°50'42.750"W	0.00	
1250.01	0.090	308.260	1250.00	-0.31	0.31	-0.96	40°10'30.100"N	104°50'42.750"W	0.00	BEGIN NUDGE
1333.00†	1.721	354.373	1332.98	-1.59	1.60	-1.14	40°10'30.113"N	104°50'42.753"W	2.00	
1433.00†	3.720	355.577	1432.86	-6.32	6.32	-1.53	40°10'30.159"N	104°50'42.758"W	2.00	
1533.00†	5.720	355.940	1532.52	-14.52	14.53	-2.14	40°10'30.241"N	104°50'42.766"W	2.00	
1633.00†	7.720	356.115	1631.83	-26.19	26.20	-2.95	40°10'30.356"N	104°50'42.776"W	2.00	
1733.00†	9.720	356.219	1730.67	-41.31	41.33	-3.96	40°10'30.505"N	104°50'42.789"W	2.00	
1747.00	10.000	356.230	1744.46	-43.70	43.72	-4.12	40°10'30.529"N	104°50'42.791"W	2.00	END NUDGE
1833.00†	10.000	356.230	1829.15	-58.59	58.62	-5.10	40°10'30.676"N	104°50'42.804"W	0.00	
1933.00†	10.000	356.230	1927.63	-75.92	75.95	-6.24	40°10'30.848"N	104°50'42.818"W	0.00	
2033.00†	10.000	356.230	2026.11	-93.24	93.28	-7.38	40°10'31.019"N	104°50'42.833"W	0.00	
2133.00†	10.000	356.230	2124.59	-110.56	110.61	-8.52	40°10'31.190"N	104°50'42.848"W	0.00	
2233.00†	10.000	356.230	2223.08	-127.88	127.93	-9.66	40°10'31.361"N	104°50'42.862"W	0.00	
2333.00†	10.000	356.230	2321.56	-145.20	145.26	-10.81	40°10'31.532"N	104°50'42.877"W	0.00	
2433.00†	10.000	356.230	2420.04	-162.52	162.59	-11.95	40°10'31.704"N	104°50'42.892"W	0.00	
2533.00†	10.000	356.230	2518.52	-179.84	179.91	-13.09	40°10'31.875"N	104°50'42.907"W	0.00	
2633.00†	10.000	356.230	2617.00	-197.16	197.24	-14.23	40°10'32.046"N	104°50'42.921"W	0.00	
2733.00†	10.000	356.230	2715.48	-214.48	214.57	-15.37	40°10'32.217"N	104°50'42.936"W	0.00	
2833.00†	10.000	356.230	2813.96	-231.80	231.90	-16.51	40°10'32.389"N	104°50'42.951"W	0.00	
2933.00†	10.000	356.230	2912.44	-249.12	249.22	-17.66	40°10'32.560"N	104°50'42.965"W	0.00	
3033.00†	10.000	356.230	3010.92	-266.44	266.55	-18.80	40°10'32.731"N	104°50'42.980"W	0.00	
3133.00†	10.000	356.230	3109.40	-283.76	283.88	-19.94	40°10'32.902"N	104°50'42.995"W	0.00	
3233.00†	10.000	356.230	3207.88	-301.08	301.21	-21.08	40°10'33.074"N	104°50'43.010"W	0.00	
3333.00†	10.000	356.230	3306.36	-318.40	318.53	-22.22	40°10'33.245"N	104°50'43.024"W	0.00	
3433.00†	10.000	356.230	3404.84	-335.72	335.86	-23.37	40°10'33.416"N	104°50'43.039"W	0.00	
3533.00†	10.000	356.230	3503.33	-353.04	353.19	-24.51	40°10'33.587"N	104°50'43.054"W	0.00	
3633.00†	10.000	356.230	3601.81	-370.37	370.51	-25.65	40°10'33.758"N	104°50'43.068"W	0.00	
3733.00†	10.000	356.230	3700.29	-387.69	387.84	-26.79	40°10'33.930"N	104°50'43.083"W	0.00	
3833.00†	10.000	356.230	3798.77	-405.01	405.17	-27.93	40°10'34.101"N	104°50'43.098"W	0.00	
3886.04†	10.000	356.230	3851.00	-414.19	414.36	-28.54	40°10'34.192"N	104°50'43.106"W	0.00	PARKMAN
3933.00†	10.000	356.230	3897.25	-422.33	422.50	-29.07	40°10'34.272"N	104°50'43.113"W	0.00	

REFERENCE WELLPATH IDENTIFICATION

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Area	COLORADO	Well	WIRKNER-VANCE 35C-1HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WIRKNER-VANCE 35C-1HZ PWB
Facility	SEC.36-T3N-R67W		

WELLPATH DATA (147 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4033.00†	10.000	356.230	3995.73	-439.65	439.82	-30.22	40°10'34.443"N	104°50'43.127"W	0.00	
4133.00†	10.000	356.230	4094.21	-456.97	457.15	-31.36	40°10'34.615"N	104°50'43.142"W	0.00	
4233.00†	10.000	356.230	4192.69	-474.29	474.48	-32.50	40°10'34.786"N	104°50'43.157"W	0.00	
4275.96†	10.000	356.230	4235.00	-481.73	481.92	-32.99	40°10'34.859"N	104°50'43.163"W	0.00	SUSSEX
4333.00†	10.000	356.230	4291.17	-491.61	491.80	-33.64	40°10'34.957"N	104°50'43.171"W	0.00	
4433.00†	10.000	356.230	4389.65	-508.93	509.13	-34.78	40°10'35.128"N	104°50'43.186"W	0.00	
4533.00†	10.000	356.230	4488.13	-526.25	526.46	-35.92	40°10'35.299"N	104°50'43.201"W	0.00	
4633.00†	10.000	356.230	4586.61	-543.57	543.79	-37.07	40°10'35.471"N	104°50'43.216"W	0.00	
4733.00†	10.000	356.230	4685.10	-560.89	561.11	-38.21	40°10'35.642"N	104°50'43.230"W	0.00	
4833.00†	10.000	356.230	4783.58	-578.21	578.44	-39.35	40°10'35.813"N	104°50'43.245"W	0.00	
4933.00†	10.000	356.230	4882.06	-595.53	595.77	-40.49	40°10'35.984"N	104°50'43.260"W	0.00	
5032.45	10.000	356.230	4980.00	-612.76	613.00	-41.63	40°10'36.155"N	104°50'43.274"W	0.00	BEGIN DROP
5033.00†	9.989	356.230	4980.54	-612.85	613.10	-41.63	40°10'36.156"N	104°50'43.274"W	2.00	
5133.00†	7.989	356.230	5079.30	-628.44	628.69	-42.66	40°10'36.310"N	104°50'43.288"W	2.00	
5233.00†	5.989	356.230	5178.56	-640.57	640.83	-43.46	40°10'36.430"N	104°50'43.298"W	2.00	
5333.00†	3.989	356.230	5278.17	-649.25	649.50	-44.03	40°10'36.515"N	104°50'43.305"W	2.00	
5433.00†	1.989	356.230	5378.03	-654.45	654.71	-44.38	40°10'36.567"N	104°50'43.310"W	2.00	
5532.45	0.000	180.319	5477.47	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	2.00	END DROP
5533.00†	0.000	180.319	5478.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
5633.00†	0.000	180.319	5578.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
5733.00†	0.000	180.319	5678.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
5833.00†	0.000	180.319	5778.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
5933.00†	0.000	180.319	5878.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
6033.00†	0.000	180.319	5978.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
6133.00†	0.000	180.319	6078.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
6233.00†	0.000	180.319	6178.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
6333.00†	0.000	180.319	6278.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
6433.00†	0.000	180.319	6378.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
6533.00†	0.000	180.319	6478.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
6633.00†	0.000	180.319	6578.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
6733.00†	0.000	180.319	6678.01	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	
6770.43	0.000	180.319	6715.44	-656.17	656.43	-44.49	40°10'36.584"N	104°50'43.311"W	0.00	KOP, BUILD @ 10°/100'
6833.00†	6.257	180.319	6777.89	-652.76	653.02	-44.51	40°10'36.550"N	104°50'43.311"W	10.00	
6933.00†	16.257	180.319	6875.84	-633.26	633.52	-44.62	40°10'36.357"N	104°50'43.313"W	10.00	
7016.48	24.605	180.319	6954.00	-604.15	604.41	-44.78	40°10'36.070"N	104°50'43.315"W	10.00	BUILD @ 6°/100'
7033.00†	25.596	180.319	6968.96	-597.14	597.40	-44.82	40°10'36.000"N	104°50'43.315"W	6.00	
7072.25†	27.951	180.319	7004.00	-579.46	579.72	-44.92	40°10'35.826"N	104°50'43.317"W	6.00	SHARON SPRINGS
7133.00†	31.596	180.319	7056.72	-549.30	549.56	-45.08	40°10'35.528"N	104°50'43.319"W	6.00	
7170.18	33.827	180.319	7088.00	-529.21	529.47	-45.20	40°10'35.329"N	104°50'43.320"W	6.00	BUILD @ 10°/100'; NIOBRARA A
7217.27†	38.536	180.319	7126.00	-501.41	501.67	-45.35	40°10'35.055"N	104°50'43.322"W	10.00	NIOBRARA B
7233.00†	40.109	180.319	7138.17	-491.45	491.71	-45.41	40°10'34.956"N	104°50'43.323"W	10.00	
7291.63†	45.972	180.319	7181.00	-451.45	451.71	-45.63	40°10'34.561"N	104°50'43.326"W	10.00	NIOBRARA C
7333.00†	50.109	180.319	7208.65	-420.69	420.95	-45.80	40°10'34.257"N	104°50'43.328"W	10.00	
7433.00†	60.109	180.319	7265.78	-338.77	339.03	-46.26	40°10'33.447"N	104°50'43.334"W	10.00	
7533.00†	70.109	180.319	7307.82	-248.18	248.44	-46.76	40°10'32.552"N	104°50'43.340"W	10.00	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 WIRKNER-VANCE 35C-1HZ (306'FSL & 861'FWL, S
Area	COLORADO	Well	WIRKNER-VANCE 35C-1HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WIRKNER-VANCE 35C-1HZ PWB
Facility	SEC.36-T3N-R67W		

WELLPATH DATA (147 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7558.64†	72.673	180.319	7316.00	-223.87	224.14	-46.90	40°10'32.312"N	104°50'43.342"W	10.00	FORT HAYS
7633.00†	80.109	180.319	7333.48	-151.66	151.92	-47.30	40°10'31.598"N	104°50'43.347"W	10.00	
7642.26†	81.035	180.319	7335.00	-142.52	142.79	-47.35	40°10'31.508"N	104°50'43.348"W	10.00	CODELL
7731.91	90.000	180.319	7342.00	-53.24	53.50	-47.85	40°10'30.626"N	104°50'43.354"W	10.00	LANDING POINT
7733.00†	90.000	180.319	7342.00	-52.15	52.41	-47.85	40°10'30.615"N	104°50'43.354"W	0.00	
7833.00†	90.000	180.319	7342.00	47.85	-47.58	-48.41	40°10'29.627"N	104°50'43.362"W	0.00	
7933.00†	90.000	180.319	7342.00	147.85	-147.58	-48.97	40°10'28.639"N	104°50'43.369"W	0.00	
8033.00†	90.000	180.319	7342.00	247.85	-247.58	-49.52	40°10'27.650"N	104°50'43.376"W	0.00	
8133.00†	90.000	180.319	7342.00	347.85	-347.58	-50.08	40°10'26.662"N	104°50'43.383"W	0.00	
8233.00†	90.000	180.319	7342.00	447.85	-447.58	-50.64	40°10'25.674"N	104°50'43.390"W	0.00	
8333.00†	90.000	180.319	7342.00	547.85	-547.58	-51.19	40°10'24.686"N	104°50'43.397"W	0.00	
8433.00†	90.000	180.319	7342.00	647.85	-647.58	-51.75	40°10'23.698"N	104°50'43.405"W	0.00	
8533.00†	90.000	180.319	7342.00	747.85	-747.57	-52.31	40°10'22.709"N	104°50'43.412"W	0.00	
8633.00†	90.000	180.319	7342.00	847.85	-847.57	-52.86	40°10'21.721"N	104°50'43.419"W	0.00	
8733.00†	90.000	180.319	7342.00	947.85	-947.57	-53.42	40°10'20.733"N	104°50'43.426"W	0.00	
8833.00†	90.000	180.319	7342.00	1047.85	-1047.57	-53.98	40°10'19.745"N	104°50'43.433"W	0.00	
8933.00†	90.000	180.319	7342.00	1147.85	-1147.57	-54.53	40°10'18.757"N	104°50'43.440"W	0.00	
9033.00†	90.000	180.319	7342.00	1247.85	-1247.57	-55.09	40°10'17.769"N	104°50'43.448"W	0.00	
9133.00†	90.000	180.319	7342.00	1347.85	-1347.56	-55.64	40°10'16.780"N	104°50'43.455"W	0.00	
9233.00†	90.000	180.319	7342.00	1447.85	-1447.56	-56.20	40°10'15.792"N	104°50'43.462"W	0.00	
9333.00†	90.000	180.319	7342.00	1547.85	-1547.56	-56.76	40°10'14.804"N	104°50'43.469"W	0.00	
9433.00†	90.000	180.319	7342.00	1647.85	-1647.56	-57.31	40°10'13.816"N	104°50'43.476"W	0.00	
9533.00†	90.000	180.319	7342.00	1747.85	-1747.56	-57.87	40°10'12.828"N	104°50'43.483"W	0.00	
9633.00†	90.000	180.319	7342.00	1847.85	-1847.56	-58.43	40°10'11.839"N	104°50'43.491"W	0.00	
9733.00†	90.000	180.319	7342.00	1947.85	-1947.56	-58.98	40°10'10.851"N	104°50'43.498"W	0.00	
9833.00†	90.000	180.319	7342.00	2047.85	-2047.55	-59.54	40°10'09.863"N	104°50'43.505"W	0.00	
9933.00†	90.000	180.319	7342.00	2147.85	-2147.55	-60.10	40°10'08.875"N	104°50'43.512"W	0.00	
10033.00†	90.000	180.319	7342.00	2247.85	-2247.55	-60.65	40°10'07.887"N	104°50'43.519"W	0.00	
10133.00†	90.000	180.319	7342.00	2347.85	-2347.55	-61.21	40°10'06.898"N	104°50'43.526"W	0.00	
10233.00†	90.000	180.319	7342.00	2447.85	-2447.55	-61.77	40°10'05.910"N	104°50'43.534"W	0.00	
10333.00†	90.000	180.319	7342.00	2547.85	-2547.55	-62.32	40°10'04.922"N	104°50'43.541"W	0.00	
10433.00†	90.000	180.319	7342.00	2647.85	-2647.54	-62.88	40°10'03.934"N	104°50'43.548"W	0.00	
10533.00†	90.000	180.319	7342.00	2747.85	-2747.54	-63.44	40°10'02.946"N	104°50'43.555"W	0.00	
10633.00†	90.000	180.319	7342.00	2847.85	-2847.54	-63.99	40°10'01.958"N	104°50'43.562"W	0.00	
10733.00†	90.000	180.319	7342.00	2947.85	-2947.54	-64.55	40°10'00.969"N	104°50'43.569"W	0.00	
10833.00†	90.000	180.319	7342.00	3047.85	-3047.54	-65.10	40°09'59.981"N	104°50'43.577"W	0.00	
10933.00†	90.000	180.319	7342.00	3147.85	-3147.54	-65.66	40°09'58.993"N	104°50'43.584"W	0.00	
11033.00†	90.000	180.319	7342.00	3247.85	-3247.54	-66.22	40°09'58.005"N	104°50'43.591"W	0.00	
11133.00†	90.000	180.319	7342.00	3347.85	-3347.53	-66.77	40°09'57.017"N	104°50'43.598"W	0.00	
11233.00†	90.000	180.319	7342.00	3447.85	-3447.53	-67.33	40°09'56.028"N	104°50'43.605"W	0.00	
11333.00†	90.000	180.319	7342.00	3547.85	-3547.53	-67.89	40°09'55.040"N	104°50'43.612"W	0.00	
11433.00†	90.000	180.319	7342.00	3647.85	-3647.53	-68.44	40°09'54.052"N	104°50'43.620"W	0.00	
11533.00†	90.000	180.319	7342.00	3747.85	-3747.53	-69.00	40°09'53.064"N	104°50'43.627"W	0.00	
11633.00†	90.000	180.319	7342.00	3847.85	-3847.53	-69.55	40°09'52.076"N	104°50'43.634"W	0.00	
11733.00†	90.000	180.319	7342.00	3947.85	-3947.52	-70.11	40°09'51.087"N	104°50'43.641"W	0.00	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 WIRKNER-VANCE 35C-1HZ (306'FSL & 861'FWL, S
Area	COLORADO	Well	WIRKNER-VANCE 35C-1HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WIRKNER-VANCE 35C-1HZ PWB
Facility	SEC.36-T3N-R67W		

WELLPATH DATA (147 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11833.00†	90.000	180.319	7342.00	4047.85	-4047.52	-70.67	40°09'50.099"N	104°50'43.648"W	0.00	
11933.00†	90.000	180.319	7342.00	4147.85	-4147.52	-71.22	40°09'49.111"N	104°50'43.655"W	0.00	
12033.00†	90.000	180.319	7342.00	4247.85	-4247.52	-71.78	40°09'48.123"N	104°50'43.663"W	0.00	
12133.00†	90.000	180.319	7342.00	4347.85	-4347.52	-72.33	40°09'47.135"N	104°50'43.670"W	0.00	
12233.00†	90.000	180.319	7342.00	4447.85	-4447.52	-72.89	40°09'46.146"N	104°50'43.677"W	0.00	
12333.00†	90.000	180.319	7342.00	4547.85	-4547.52	-73.45	40°09'45.158"N	104°50'43.684"W	0.00	
12433.00†	90.000	180.319	7342.00	4647.85	-4647.51	-74.00	40°09'44.170"N	104°50'43.691"W	0.00	
12533.00†	90.000	180.319	7342.00	4747.85	-4747.51	-74.56	40°09'43.182"N	104°50'43.698"W	0.00	
12633.00†	90.000	180.319	7342.00	4847.85	-4847.51	-75.12	40°09'42.194"N	104°50'43.705"W	0.00	
12733.00†	90.000	180.319	7342.00	4947.85	-4947.51	-75.67	40°09'41.206"N	104°50'43.713"W	0.00	
12833.00†	90.000	180.319	7342.00	5047.85	-5047.51	-76.23	40°09'40.217"N	104°50'43.720"W	0.00	
12919.86	90.000	180.319	7342.00 ¹	5134.72	-5134.37	-76.71	40°09'39.359"N	104°50'43.726"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS -

Ref Wellbore: WIRKNER-VANCE 35C-1HZ PWB Ref Wellpath: WIRKNER-VANCE 35C-1HZ (REV-A.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	13.00	933.00	920.00	13.00	932.99	0.00	0.00	0.01	-0.57
9.625in Casing Surface	13.00	1011.00	998.00	13.00	1010.99	0.00	0.00	0.08	-0.67
8.75in Open Hole	933.00	7731.91	6798.91	932.99	7342.00	0.01	-0.57	53.50	-47.85
7in Casing Intermediate	13.00	7731.91	7718.91	13.00	7342.00	0.00	0.00	53.50	-47.85
6.125in Open Hole	7731.91	12919.86	5187.95	7342.00	7342.00	53.50	-47.85	-5134.37	-76.71
4.5in Casing Production	13.00	12919.86	12906.86	13.00	7342.00	0.00	0.00	-5134.37	-76.71

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 WIRKNER-VANCE 35C-1HZ (306'FSL & 861'FWL, S
Area	COLORADO	Well	WIRKNER-VANCE 35C-1HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WIRKNER-VANCE 35C-1HZ PWB
Facility	SEC.36-T3N-R67W		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
CANTRELL REDV 1-13 150' RADIUS		7340.00	-4960.62	-236.18	3182771.17	1302318.76	40°09'41.076"N	104°50'45.780"W	circle
WIRKNER-VANCE 35C-1HZ BHL ON PLAT REV-1 (460'FSL & 801'FWL, SEC.1)		7342.00	-5134.37	-101.71	3182906.91	1302146.01	40°09'39.359"N	104°50'44.048"W	point
1) WIRKNER-VANCE 35C-1HZ BHL REV-2 (460'FSL & 801'FWL, SEC.1)	12919.86	7342.00	-5134.37	-76.71	3182931.91	1302146.20	40°09'39.359"N	104°50'43.726"W	point
WIRKNER SECTION 1 LINES		7400.00	-59.40	6.99	3182978.13	1307221.42	40°10'29.510"N	104°50'42.648"W	polygon
WIRKNER SECTION 36 LINES		7400.00	-59.40	6.99	3182978.13	1307221.42	40°10'29.510"N	104°50'42.648"W	polygon
WIRKNER-VANCE 35C-1HZ LAND BOX		7400.00	0.00	0.00	3182970.70	1307280.76	40°10'30.097"N	104°50'42.738"W	polygon

SURVEY PROGRAM -

Ref Wellbore: WIRKNER-VANCE 35C-1HZ PWB Ref Wellpath: WIRKNER-VANCE 35C-1HZ (REV-A.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	933.00	Generic gyro - continuous (Standard)		WIRKNER-VANCE 35C-1HZ AWB
933.00	7731.91	NaviTrak (MAGCORR,IFR)		WIRKNER-VANCE 35C-1HZ PWB
7731.91	12919.86	OnTrak (MAGCORR,IFR)		WIRKNER-VANCE 35C-1HZ PWB

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 WIRKNER-VANCE 35C-1HZ (306'FSL & 861'FWL, S
Area	COLORADO	Well	WIRKNER-VANCE 35C-1HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	WIRKNER-VANCE 35C-1HZ PWB
Facility	SEC.36-T3N-R67W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
13.00	0.000	308.210	13.00	TIE-ON
113.00	0.410	308.210	113.00	BEGIN GYRO SURVEYS
3886.04	10.000	356.230	3851.00	PARKMAN
4275.96	10.000	356.230	4235.00	SUSSEX
7072.25	27.951	180.319	7004.00	SHARON SPRINGS
7170.18	33.827	180.319	7088.00	NIOBRARA A
7217.27	38.536	180.319	7126.00	NIOBRARA B
7291.63	45.972	180.319	7181.00	NIOBRARA C
7558.64	72.673	180.319	7316.00	FORT HAYS
7642.26	81.035	180.319	7335.00	CODELL

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
933.00	0.090	308.260	932.99	TIE-INTO GYRO
1250.01	0.090	308.260	1250.00	BEGIN NUDGE
1747.00	10.000	356.230	1744.46	END NUDGE
5032.45	10.000	356.230	4980.00	BEGIN DROP
5532.45	0.000	180.319	5477.47	END DROP
6770.43	0.000	180.319	6715.44	KOP, BUILD @ 10°/100'
7016.48	24.605	180.319	6954.00	BUILD @ 6°/100'
7170.18	33.827	180.319	7088.00	BUILD @ 10°/100'
7731.91	90.000	180.319	7342.00	LANDING POINT
12919.86	90.000	180.319	7342.00	TOTAL DEPTH