



# Clearance Report

VARRA #12 (REV-A.0) PWP

Closest Approach

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## REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#12 VARRA #12(1459'FSL & 784'FWL,SEC.05)
Area	COLORADO	Well	VARRA #12
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	VARRA #12 PWB
Facility	SEC.05-T06N-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	Painsetr
Scale	0.999967	Report Generated	4/29/2014 at 2:49:35 PM
Convergence at slot	n/a	Database/Source file	WA_Denver/VARRA_#12_PWB_CR.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-285.99	-1.93	3160186.71	1430094.24	40°30'45.292"N	104°55'25.982"W
Facility Reference Pt			3160186.79	1430380.22	40°30'48.118"N	104°55'25.957"W
Field Reference Pt			3185481.27	1419166.81	40°28'55.560"N	104°49'59.556"W

## WELLPATH DATUM

Calculation method	Minimum Curvature	RIG (RKB) to Facility Vertical Datum	4898.00ft
Horizontal Reference Pt	Slot	RIG (RKB) to Mean Sea Level	4898.00ft
Vertical Reference Pt	RIG (RKB)	RIG (RKB) to Mud Line at Slot (SLOT#12 VARRA #12(1459'FSL & 784'FWL,SEC.05))	4898.00ft
MD Reference Pt	RIG (RKB)		
Field Vertical Reference	Mean Sea Level		

## POSITIONAL UNCERTAINTY CALCULATION SETTINGS

Ellipse Confidence Limit	3.00 Std Dev	Ellipse Start MD	24.00ft	Surface Position Uncertainty	included
Declination	8.62° East of TN	Dip Angle	67.00°	Mag Field Strength	52835 nT
Slot Surface Uncertainty @ 1SD		Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @ 1SD		Horizontal	8.200ft	Vertical	3.000ft

Positional Uncertainty values in the WELLPATH DATA table are the projection of the ellipsoid of uncertainty onto the vertical and horizontal planes



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Area	COLORADO	Well	VARRA #12
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	VARRA #12 PWB
Facility	SEC.05-T06N-R67W		

## ANTI-COLLISION RULE

Rule Name	Baker Hughes R-type Start Clearance Monitoring	Rule Based On	Ratio
Plane of Rule	Closest Approach	Threshold Value	1.50
Subtract Casing & Hole Size	yes	Apply Cone of Safety	no

## HOLE & CASING SECTIONS - Ref Wellbore: VARRA #12 PWB Ref Wellpath: VARRA #12 (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]
7in Casing Intermediate	24.00	7816.20	7792.20	24.00	7276.00	0.00	0.00	-1120.32	-303.40

## SURVEY PROGRAM - Ref Wellbore: VARRA #12 PWB Ref Wellpath: VARRA #12 (REV-A.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.00	18000.00	NaviTrak (Standard)		VARRA #12 PWB

## CALCULATION RANGE & CUTOFF

From: 24.00ft MD	To: 17413.82ft MD	C-C Cutoff: (none)
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## OFFSET WELL CLEARANCE SUMMARY (1 Offset Wellpath selected) Ratios are calculated in Closest Approach plane

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	C-C Clearance Distance			ACR Separation Ratio			
					Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	ACR Status
SEC.05-T06N-R67W	SLOT#11 VARRA #11(1485'FSL & 785'FWL,SEC.05)	VARRA #11	VARRA #11 PWB	VARRA #11 (REV-A.0) PWP	24.00	25.81	800.00	17408.79	0.43	17408.79	FAIL



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Area	COLORADO	Well	VARRA #12
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	VARRA #12 PWB
Facility	SEC.05-T06N-R67W		

## CLEARANCE DATA - Offset Wellbore: VARRA #11 PWB Offset Wellpath: VARRA #11 (REV-A.0) PWP

Facility: SEC.05-T06N-R67W Slot: SLOT#11 VARRA #11(1485'FSL & 785'FWL,SEC.05) Well: VARRA #11 Threshold Value=1.50

† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
24.00	24.00	0.00	0.00	24.00	24.00	25.81	0.23	0.51	25.81	1.48	42.04	PASS
124.00†	124.00	0.00	0.00	124.00	124.00	25.81	0.23	0.51	25.81	1.99	26.94	PASS
224.00†	224.00	0.00	0.00	224.00	224.00	25.81	0.23	0.51	25.81	2.92	16.20	PASS
324.00†	324.00	0.00	0.00	324.00	324.00	25.81	0.23	0.51	25.81	3.94	11.27	PASS
424.00†	424.00	0.00	0.00	424.00	424.00	25.81	0.23	0.51	25.81	4.99	8.59	PASS
524.00†	524.00	0.00	0.00	524.00	524.00	25.81	0.23	0.51	25.81	6.05	6.92	PASS
624.00†	624.00	0.00	0.00	624.00	624.00	25.81	0.23	0.51	25.81	7.11	5.79	PASS
724.00†	724.00	0.00	0.00	724.00	724.00	25.81	0.23	0.51	25.81	8.18	4.98	PASS
800.00	800.00	0.00	0.00	800.00	800.00	25.81	0.23	0.51	25.81	9.00	4.50	PASS
824.00†	824.00	-0.07	-0.07	824.13	824.13	25.74	0.15	137.11	25.82	9.26	4.37	PASS
924.00†	923.96	-1.95	-1.84	924.69	924.65	24.16	-1.92	136.47	26.12	10.51	3.86	PASS
1024.00†	1023.77	-6.36	-6.01	1025.24	1025.01	20.43	-6.80	135.00	26.83	12.10	3.42	PASS
1124.00†	1123.31	-13.30	-12.57	1125.77	1125.07	14.56	-14.46	132.85	27.98	13.55	3.17	PASS
1224.00†	1222.45	-22.76	-21.51	1226.29	1224.72	6.57	-24.91	130.20	29.62	14.96	3.03	PASS
1324.00†	1321.08	-34.74	-32.82	1326.79	1323.82	-3.54	-38.13	127.23	31.76	16.39	2.96	PASS
1424.00†	1419.08	-49.20	-46.49	1427.18	1422.19	-15.73	-54.05	124.21	34.46	17.98	2.92	PASS
1505.62	1498.51	-62.84	-59.38	1508.73	1501.88	-26.25	-67.80	123.92	37.70	19.41	2.96	PASS
1524.00†	1516.33	-66.10	-62.46	1527.09	1519.83	-28.62	-70.89	124.20	38.58	19.75	2.97	PASS
1624.00†	1613.31	-83.82	-79.20	1626.98	1617.43	-41.50	-87.73	125.50	43.37	21.55	3.06	PASS
1724.00†	1710.30	-101.55	-95.95	1726.86	1715.03	-54.39	-104.57	126.55	48.18	23.40	3.13	PASS
1824.00†	1807.28	-119.27	-112.70	1826.74	1812.64	-67.27	-121.41	127.41	52.99	25.28	3.18	PASS
1924.00†	1904.26	-136.99	-129.44	1926.62	1910.24	-80.16	-138.25	128.12	57.82	27.18	3.23	PASS
2024.00†	2001.24	-154.72	-146.19	2026.50	2007.85	-93.04	-155.09	128.72	62.66	29.10	3.26	PASS
2124.00†	2098.22	-172.44	-162.93	2126.38	2105.45	-105.93	-171.94	129.24	67.50	31.04	3.30	PASS
2224.00†	2195.21	-190.16	-179.68	2226.26	2203.05	-118.82	-188.78	129.69	72.35	32.99	3.32	PASS
2324.00†	2292.19	-207.88	-196.42	2326.14	2300.66	-131.70	-205.62	130.08	77.20	34.96	3.34	PASS
2424.00†	2389.17	-225.61	-213.17	2426.02	2398.26	-144.59	-222.46	130.42	82.05	36.93	3.36	PASS
2524.00†	2486.15	-243.33	-229.91	2525.90	2495.87	-157.47	-239.30	130.73	86.91	38.92	3.38	PASS
2624.00†	2583.13	-261.05	-246.66	2625.78	2593.47	-170.36	-256.14	131.00	91.77	40.91	3.39	PASS
2724.00†	2680.12	-278.77	-263.41	2725.67	2691.08	-183.25	-272.98	131.25	96.63	42.90	3.40	PASS



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Area	COLORADO	Well	VARRA #12
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	VARRA #12 PWB
Facility	SEC.05-T06N-R67W		

## CLEARANCE DATA - Offset Wellbore: VARRA #11 PWB Offset Wellpath: VARRA #11 (REV-A.0) PWP

Facility: SEC.05-T06N-R67W Slot: SLOT#11 VARRA #11(1485'FSL & 785'FWL,SEC.05) Well: VARRA #11 Threshold Value=1.50

† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
2824.00†	2777.10	-296.50	-280.15	2825.55	2788.68	-196.13	-289.82	131.47	101.49	44.91	3.41	PASS
2924.00†	2874.08	-314.22	-296.90	2925.43	2886.28	-209.02	-306.66	131.68	106.36	46.91	3.42	PASS
3024.00†	2971.06	-331.94	-313.64	3025.31	2983.89	-221.90	-323.50	131.86	111.22	48.93	3.43	PASS
3124.00†	3068.04	-349.66	-330.39	3125.19	3081.49	-234.79	-340.34	132.03	116.09	50.94	3.44	PASS
3224.00†	3165.03	-367.39	-347.13	3225.07	3179.10	-247.67	-357.18	132.18	120.95	52.96	3.45	PASS
3324.00†	3262.01	-385.11	-363.88	3324.95	3276.70	-260.56	-374.02	132.33	125.82	54.98	3.45	PASS
3424.00†	3358.99	-402.83	-380.63	3424.83	3374.30	-273.45	-390.86	132.46	130.69	57.01	3.46	PASS
3524.00†	3455.97	-420.55	-397.37	3524.71	3471.91	-286.33	-407.70	132.58	135.56	59.04	3.46	PASS
3624.00†	3552.95	-438.28	-414.12	3624.59	3569.51	-299.22	-424.54	132.70	140.43	61.07	3.47	PASS
3724.00†	3649.93	-456.00	-430.86	3724.48	3667.12	-312.10	-441.38	132.81	145.30	63.10	3.47	PASS
3824.00†	3746.92	-473.72	-447.61	3824.36	3764.72	-324.99	-458.22	132.91	150.17	65.13	3.48	PASS
3924.00†	3843.90	-491.44	-464.35	3924.24	3862.33	-337.87	-475.06	133.00	155.04	67.17	3.48	PASS
4024.00†	3940.88	-509.17	-481.10	4024.12	3959.93	-350.76	-491.90	133.09	159.91	69.21	3.48	PASS
4124.00†	4037.86	-526.89	-497.84	4124.00	4057.53	-363.65	-508.74	133.17	164.78	71.25	3.49	PASS
4224.00†	4134.84	-544.61	-514.59	4223.88	4155.14	-376.53	-525.59	133.25	169.66	73.29	3.49	PASS
4324.00†	4231.83	-562.33	-531.34	4323.76	4252.74	-389.42	-542.43	133.32	174.53	75.33	3.49	PASS
4424.00†	4328.81	-580.06	-548.08	4423.64	4350.35	-402.30	-559.27	133.39	179.40	77.37	3.49	PASS
4524.00†	4425.79	-597.78	-564.83	4523.52	4447.95	-415.19	-576.11	133.46	184.27	79.42	3.50	PASS
4624.00†	4522.77	-615.50	-581.57	4623.40	4545.55	-428.08	-592.95	133.52	189.15	81.46	3.50	PASS
4724.00†	4619.75	-633.22	-598.32	4723.29	4643.16	-440.96	-609.79	133.58	194.02	83.51	3.50	PASS
4824.00†	4716.74	-650.95	-615.06	4823.17	4740.76	-453.85	-626.63	133.64	198.89	85.55	3.50	PASS
4924.00†	4813.72	-668.67	-631.81	4923.05	4838.37	-466.73	-643.47	133.69	203.77	87.60	3.50	PASS
5024.00†	4910.70	-686.39	-648.56	5022.93	4935.97	-479.62	-660.31	133.74	208.64	89.65	3.50	PASS
5124.00†	5007.68	-704.11	-665.30	5122.81	5033.57	-492.50	-677.15	133.79	213.52	91.69	3.51	PASS
5224.00†	5104.66	-721.84	-682.05	5222.69	5131.18	-505.39	-693.99	133.84	218.39	93.74	3.51	PASS
5324.00†	5201.65	-739.56	-698.79	5322.57	5228.78	-518.28	-710.83	133.88	223.26	95.79	3.51	PASS
5424.00†	5298.63	-757.28	-715.54	5422.45	5326.39	-531.16	-727.67	133.93	228.14	97.84	3.51	PASS
5524.00†	5395.61	-775.00	-732.28	5522.33	5423.99	-544.05	-744.51	133.97	233.01	99.89	3.51	PASS
5624.00†	5492.59	-792.73	-749.03	5622.21	5521.60	-556.93	-761.35	134.01	237.89	101.95	3.51	PASS
5724.00†	5589.57	-810.45	-765.77	5722.10	5619.20	-569.82	-778.19	134.05	242.76	104.00	3.51	PASS



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Operator	EXTRACTION OIL & GAS	Slot	SLOT#12 VARRA #12(1459'FSL & 784'FWL,SEC.05)
Area	COLORADO	Well	VARRA #12
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	VARRA #12 PWB
Facility	SEC.05-T06N-R67W		

## CLEARANCE DATA - Offset Wellbore: VARRA #11 PWB Offset Wellpath: VARRA #11 (REV-A.0) PWP

Facility: SEC.05-T06N-R67W Slot: SLOT#11 VARRA #11(1485'FSL & 785'FWL,SEC.05) Well: VARRA #11 Threshold Value=1.50

† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
5824.00†	5686.56	-828.17	-782.52	5821.98	5716.80	-582.70	-795.03	134.08	247.64	106.05	3.51	PASS
5924.00†	5783.54	-845.89	-799.27	5921.86	5814.41	-595.59	-811.87	134.12	252.51	108.10	3.51	PASS
6024.00†	5880.52	-863.62	-816.01	6021.74	5912.01	-608.48	-828.71	134.15	257.39	110.16	3.52	PASS
6124.00†	5977.50	-881.34	-832.76	6121.62	6009.62	-621.36	-845.55	134.18	262.26	112.21	3.52	PASS
6224.00†	6074.48	-899.06	-849.50	6221.50	6107.22	-634.25	-862.39	134.21	267.14	114.26	3.52	PASS
6324.00†	6171.47	-916.78	-866.25	6321.38	6204.82	-647.13	-879.24	134.24	272.02	116.32	3.52	PASS
6424.00†	6268.45	-934.51	-882.99	6421.26	6302.43	-660.02	-896.08	134.27	276.89	118.37	3.52	PASS
6524.00†	6365.43	-952.23	-899.74	6521.14	6400.03	-672.91	-912.92	134.30	281.77	120.43	3.52	PASS
6624.00†	6462.41	-969.95	-916.48	6621.02	6497.64	-685.79	-929.76	134.33	286.64	122.48	3.52	PASS
6709.35	6545.18	-985.08	-930.78	6707.18	6582.05	-696.94	-942.77	134.65	290.73	123.85	3.53	PASS
6724.00†	6559.42	-987.68	-933.06	6722.07	6596.75	-698.88	-944.08	139.05	291.41	123.90	3.54	PASS
6824.00†	6657.47	-1005.62	-939.72	6823.02	6696.72	-712.12	-943.81	-177.06	296.14	123.49	3.61	PASS
6924.00†	6755.33	-1023.56	-930.70	6922.85	6794.32	-725.08	-927.89	-136.48	301.03	122.31	3.70	PASS
7024.00†	6850.59	-1041.06	-906.23	7021.63	6887.28	-737.46	-897.20	-117.13	305.95	120.31	3.83	PASS
7124.00†	6940.90	-1057.69	-866.91	7119.41	6973.58	-748.98	-852.89	-107.31	310.75	117.66	3.97	PASS
7224.00†	7024.05	-1073.03	-813.71	7216.29	7051.45	-759.42	-796.38	-101.39	315.29	114.56	4.14	PASS
7324.00†	7097.98	-1086.72	-747.94	7312.35	7119.39	-768.57	-729.21	-97.42	319.42	111.94	4.29	PASS
7424.00†	7160.88	-1098.41	-671.21	7407.72	7176.18	-776.26	-653.10	-94.61	323.03	109.47	4.44	PASS
7524.00†	7211.19	-1107.82	-585.43	7502.48	7220.82	-782.36	-569.83	-92.60	325.98	107.63	4.56	PASS
7624.00†	7247.68	-1114.71	-492.69	7596.77	7252.60	-786.76	-481.26	-91.22	328.18	106.62	4.63	PASS
7724.00†	7269.44	-1118.91	-395.28	7690.70	7271.03	-789.41	-389.28	-90.36	329.56	106.56	4.66	PASS
7816.20	7276.00	-1120.32	-303.41	7777.53	7276.00	-790.26	-302.66	-90.00	330.06	107.29	4.63	PASS
7824.00†	7276.00	-1120.34	-295.60	7785.33	7276.00	-790.28	-294.86	-90.00	330.06	106.78	4.64	PASS
7924.00†	7276.00	-1120.56	-195.60	7885.33	7276.00	-790.50	-194.86	-90.00	330.06	108.32	4.57	PASS
8024.00†	7276.00	-1120.79	-95.61	7985.33	7276.00	-790.73	-94.86	-90.00	330.06	111.09	4.46	PASS
8124.00†	7276.00	-1121.01	4.39	8085.33	7276.00	-790.95	5.14	-90.00	330.06	115.01	4.30	PASS
8224.00†	7276.00	-1121.24	104.39	8185.33	7276.00	-791.18	105.14	-90.00	330.06	122.45	4.04	PASS
8324.00†	7276.00	-1121.46	204.39	8285.33	7276.00	-791.40	205.14	-90.00	330.06	125.76	3.94	PASS
8424.00†	7276.00	-1121.69	304.39	8385.33	7276.00	-791.63	305.14	-90.00	330.06	132.57	3.73	PASS
8524.00†	7276.00	-1121.91	404.39	8485.33	7276.00	-791.85	405.14	-90.00	330.06	140.03	3.54	PASS



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## REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#12 VARRA #12(1459'FSL & 784'FWL,SEC.05)
Area	COLORADO	Well	VARRA #12
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	VARRA #12 PWB
Facility	SEC.05-T06N-R67W		

## CLEARANCE DATA - Offset Wellbore: VARRA #11 PWB Offset Wellpath: VARRA #11 (REV-A.0) PWP

Facility: SEC.05-T06N-R67W Slot: SLOT#11 VARRA #11(1485'FSL & 785'FWL,SEC.05) Well: VARRA #11 Threshold Value=1.50

† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
8624.00†	7276.00	-1122.13	504.39	8585.33	7276.00	-792.08	505.14	-90.00	330.06	148.03	3.34	PASS
8724.00†	7276.00	-1122.36	604.39	8685.33	7276.00	-792.30	605.13	-90.00	330.06	156.52	3.16	PASS
8824.00†	7276.00	-1122.58	704.39	8785.33	7276.00	-792.53	705.13	-90.00	330.06	165.41	2.99	PASS
8924.00†	7276.00	-1122.81	804.39	8885.33	7276.00	-792.75	805.13	-90.00	330.06	174.66	2.83	PASS
9024.00†	7276.00	-1123.03	904.39	8985.33	7276.00	-792.98	905.13	-90.00	330.06	184.21	2.69	PASS
9124.00†	7276.00	-1123.26	1004.39	9085.33	7276.00	-793.20	1005.13	-90.00	330.06	194.01	2.55	PASS
9224.00†	7276.00	-1123.48	1104.39	9185.33	7276.00	-793.43	1105.13	-90.00	330.06	204.03	2.43	PASS
9324.00†	7276.00	-1123.71	1204.39	9285.33	7276.00	-793.65	1205.13	-90.00	330.06	214.24	2.31	PASS
9424.00†	7276.00	-1123.93	1304.39	9385.33	7276.00	-793.87	1305.13	-90.00	330.06	224.62	2.20	PASS
9524.00†	7276.00	-1124.16	1404.39	9485.33	7276.00	-794.10	1405.13	-90.00	330.06	235.13	2.11	PASS
9624.00†	7276.00	-1124.38	1504.39	9585.33	7276.00	-794.32	1505.13	-90.00	330.06	245.77	2.01	PASS
9724.00†	7276.00	-1124.61	1604.39	9685.33	7276.00	-794.55	1605.13	-90.00	330.06	256.51	1.93	PASS
9824.00†	7276.00	-1124.83	1704.39	9785.33	7276.00	-794.77	1705.13	-90.00	330.06	267.35	1.85	PASS
9924.00†	7276.00	-1125.06	1804.39	9885.33	7276.00	-795.00	1805.13	-90.00	330.06	278.28	1.78	PASS
10024.00†	7276.00	-1125.28	1904.39	9985.33	7276.00	-795.22	1905.13	-90.00	330.06	289.28	1.71	PASS
10124.00†	7276.00	-1125.51	2004.39	10085.33	7276.00	-795.45	2005.13	-90.00	330.06	300.34	1.65	PASS
10224.00†	7276.00	-1125.73	2104.39	10185.33	7276.00	-795.67	2105.13	-90.00	330.06	311.46	1.59	PASS
10324.00†	7276.00	-1125.96	2204.39	10285.33	7276.00	-795.90	2205.13	-90.00	330.06	322.64	1.53	PASS
10424.00†	7276.00	-1126.18	2304.39	10385.33	7276.00	-796.12	2305.13	-90.00	330.06	333.86	1.48	FAIL
10524.00†	7276.00	-1126.40	2404.39	10485.33	7276.00	-796.35	2405.13	-90.00	330.06	345.13	1.43	FAIL
10624.00†	7276.00	-1126.63	2504.39	10585.33	7276.00	-796.57	2505.13	-90.00	330.06	356.43	1.39	FAIL
10724.00†	7276.00	-1126.85	2604.39	10685.33	7276.00	-796.80	2605.13	-90.00	330.06	367.77	1.35	FAIL
10824.00†	7276.00	-1127.08	2704.39	10785.33	7276.00	-797.02	2705.13	-90.00	330.06	379.15	1.31	FAIL
10924.00†	7276.00	-1127.30	2804.39	10885.33	7276.00	-797.24	2805.13	-90.00	330.06	390.55	1.27	FAIL
11024.00†	7276.00	-1127.53	2904.39	10985.33	7276.00	-797.47	2905.13	-90.00	330.06	401.98	1.23	FAIL
11124.00†	7276.00	-1127.75	3004.39	11085.33	7276.00	-797.69	3005.13	-90.00	330.06	413.43	1.20	FAIL
11224.00†	7276.00	-1127.98	3104.39	11185.33	7276.00	-797.92	3105.13	-90.00	330.06	424.91	1.17	FAIL
11324.00†	7276.00	-1128.20	3204.39	11285.33	7276.00	-798.14	3205.13	-90.00	330.06	436.40	1.13	FAIL
11424.00†	7276.00	-1128.43	3304.39	11385.33	7276.00	-798.37	3305.13	-90.00	330.06	447.92	1.11	FAIL
11524.00†	7276.00	-1128.65	3404.39	11485.33	7276.00	-798.59	3405.13	-90.00	330.06	459.45	1.08	FAIL





# Clearance Report

VARRA #12 (REV-A.0) PWP  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#12 VARRA #12(1459'FSL & 784'FWL,SEC.05)
Area	COLORADO	Well	VARRA #12
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	VARRA #12 PWB
Facility	SEC.05-T06N-R67W		

## CLEARANCE DATA - Offset Wellbore: VARRA #11 PWB Offset Wellpath: VARRA #11 (REV-A.0) PWP

Facility: SEC.05-T06N-R67W Slot: SLOT#11 VARRA #11(1485'FSL & 785'FWL,SEC.05) Well: VARRA #11 Threshold Value=1.50

† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
11624.00†	7276.00	-1128.88	3504.39	11585.33	7276.00	-798.82	3505.13	-90.00	330.06	471.00	1.05	FAIL
11724.00†	7276.00	-1129.10	3604.39	11685.33	7276.00	-799.04	3605.13	-90.00	330.06	482.57	1.03	FAIL
11824.00†	7276.00	-1129.33	3704.39	11785.33	7276.00	-799.27	3705.13	-90.00	330.06	494.15	1.00	FAIL
11924.00†	7276.00	-1129.55	3804.39	11885.33	7276.00	-799.49	3805.13	-90.00	330.06	505.74	0.98	FAIL
12024.00†	7276.00	-1129.78	3904.38	11985.33	7276.00	-799.72	3905.13	-90.00	330.06	517.35	0.96	FAIL
12124.00†	7276.00	-1130.00	4004.38	12085.33	7276.00	-799.94	4005.13	-90.00	330.06	528.96	0.94	FAIL
12224.00†	7276.00	-1130.22	4104.38	12185.33	7276.00	-800.17	4105.13	-90.00	330.06	540.59	0.92	FAIL
12324.00†	7276.00	-1130.45	4204.38	12285.33	7276.00	-800.39	4205.13	-90.00	330.06	552.23	0.90	FAIL
12424.00†	7276.00	-1130.67	4304.38	12385.33	7276.00	-800.62	4305.13	-90.00	330.06	563.88	0.88	FAIL
12524.00†	7276.00	-1130.90	4404.38	12485.33	7276.00	-800.84	4405.13	-90.00	330.06	575.53	0.86	FAIL
12624.00†	7276.00	-1131.12	4504.38	12585.33	7276.00	-801.06	4505.12	-90.00	330.06	587.20	0.84	FAIL
12724.00†	7276.00	-1131.35	4604.38	12685.33	7276.00	-801.29	4605.12	-90.00	330.06	598.87	0.83	FAIL
12824.00†	7276.00	-1131.57	4704.38	12785.33	7276.00	-801.51	4705.12	-90.00	330.06	610.55	0.81	FAIL
12924.00†	7276.00	-1131.80	4804.38	12885.33	7276.00	-801.74	4805.12	-90.00	330.06	622.24	0.80	FAIL
13024.00†	7276.00	-1132.02	4904.38	12985.33	7276.00	-801.96	4905.12	-90.00	330.06	633.93	0.78	FAIL
13124.00†	7276.00	-1132.25	5004.38	13085.33	7276.00	-802.19	5005.12	-90.00	330.06	645.63	0.77	FAIL
13224.00†	7276.00	-1132.47	5104.38	13185.33	7276.00	-802.41	5105.12	-90.00	330.06	657.34	0.75	FAIL
13324.00†	7276.00	-1132.70	5204.38	13285.33	7276.00	-802.64	5205.12	-90.00	330.06	669.05	0.74	FAIL
13424.00†	7276.00	-1132.92	5304.38	13385.33	7276.00	-802.86	5305.12	-90.00	330.06	680.76	0.73	FAIL
13524.00†	7276.00	-1133.15	5404.38	13485.33	7276.00	-803.09	5405.12	-90.00	330.06	692.49	0.71	FAIL
13624.00†	7276.00	-1133.37	5504.38	13585.33	7276.00	-803.31	5505.12	-90.00	330.06	704.21	0.70	FAIL
13724.00†	7276.00	-1133.60	5604.38	13685.33	7276.00	-803.54	5605.12	-90.00	330.06	715.94	0.69	FAIL
13824.00†	7276.00	-1133.82	5704.38	13785.33	7276.00	-803.76	5705.12	-90.00	330.06	727.68	0.68	FAIL
13924.00†	7276.00	-1134.04	5804.38	13885.33	7276.00	-803.99	5805.12	-90.00	330.06	739.42	0.67	FAIL
14024.00†	7276.00	-1134.27	5904.38	13985.33	7276.00	-804.21	5905.12	-90.00	330.06	751.16	0.66	FAIL
14124.00†	7276.00	-1134.49	6004.38	14085.33	7276.00	-804.43	6005.12	-90.00	330.06	762.91	0.65	FAIL
14224.00†	7276.00	-1134.72	6104.38	14185.33	7276.00	-804.66	6105.12	-90.00	330.06	774.66	0.64	FAIL
14324.00†	7276.00	-1134.94	6204.38	14285.33	7276.00	-804.88	6205.12	-90.00	330.06	786.42	0.63	FAIL
14424.00†	7276.00	-1135.17	6304.38	14385.33	7276.00	-805.11	6305.12	-90.00	330.06	798.17	0.62	FAIL
14524.00†	7276.00	-1135.39	6404.38	14485.33	7276.00	-805.33	6405.12	-90.00	330.06	809.93	0.61	FAIL



# Clearance Report

VARRA #12 (REV-A.0) PWP  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#12 VARRA #12(1459'FSL & 784'FWL,SEC.05)
Area	COLORADO	Well	VARRA #12
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	VARRA #12 PWB
Facility	SEC.05-T06N-R67W		

## CLEARANCE DATA - Offset Wellbore: VARRA #11 PWB Offset Wellpath: VARRA #11 (REV-A.0) PWP

Facility: SEC.05-T06N-R67W Slot: SLOT#11 VARRA #11(1485'FSL & 785'FWL,SEC.05) Well: VARRA #11 Threshold Value=1.50

† = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
14624.00†	7276.00	-1135.62	6504.38	14585.33	7276.00	-805.56	6505.12	-90.00	330.06	821.70	0.60	FAIL
14724.00†	7276.00	-1135.84	6604.38	14685.33	7276.00	-805.78	6605.12	-90.00	330.06	833.46	0.59	FAIL
14824.00†	7276.00	-1136.07	6704.38	14785.33	7276.00	-806.01	6705.12	-90.00	330.06	845.23	0.59	FAIL
14924.00†	7276.00	-1136.29	6804.38	14885.33	7276.00	-806.23	6805.12	-90.00	330.06	857.01	0.58	FAIL
15024.00†	7276.00	-1136.52	6904.38	14985.33	7276.00	-806.46	6905.12	-90.00	330.06	868.78	0.57	FAIL
15124.00†	7276.00	-1136.74	7004.38	15085.33	7276.00	-806.68	7005.12	-90.00	330.06	880.56	0.56	FAIL
15224.00†	7276.00	-1136.97	7104.38	15185.33	7276.00	-806.91	7105.12	-90.00	330.06	892.34	0.55	FAIL
15324.00†	7276.00	-1137.19	7204.38	15285.33	7276.00	-807.13	7205.12	-90.00	330.06	904.12	0.55	FAIL
15424.00†	7276.00	-1137.42	7304.38	15385.33	7276.00	-807.36	7305.12	-90.00	330.06	915.90	0.54	FAIL
15524.00†	7276.00	-1137.64	7404.38	15485.33	7276.00	-807.58	7405.12	-90.00	330.06	927.69	0.53	FAIL
15624.00†	7276.00	-1137.86	7504.38	15585.33	7276.00	-807.80	7505.12	-90.00	330.06	939.48	0.53	FAIL
15724.00†	7276.00	-1138.09	7604.38	15685.33	7276.00	-808.03	7605.12	-90.00	330.06	951.27	0.52	FAIL
15824.00†	7276.00	-1138.31	7704.38	15785.33	7276.00	-808.25	7705.12	-90.00	330.06	963.06	0.51	FAIL
15924.00†	7276.00	-1138.54	7804.37	15885.33	7276.00	-808.48	7805.12	-90.00	330.06	974.85	0.51	FAIL
16024.00†	7276.00	-1138.76	7904.37	15985.33	7276.00	-808.70	7905.12	-90.00	330.06	986.65	0.50	FAIL
16124.00†	7276.00	-1138.99	8004.37	16085.33	7276.00	-808.93	8005.12	-90.00	330.06	998.44	0.50	FAIL
16224.00†	7276.00	-1139.21	8104.37	16185.33	7276.00	-809.15	8105.12	-90.00	330.06	1010.24	0.49	FAIL
16324.00†	7276.00	-1139.44	8204.37	16285.33	7276.00	-809.38	8205.12	-90.00	330.06	1022.04	0.48	FAIL
16424.00†	7276.00	-1139.66	8304.37	16385.33	7276.00	-809.60	8305.12	-90.00	330.06	1033.84	0.48	FAIL
16524.00†	7276.00	-1139.89	8404.37	16485.33	7276.00	-809.83	8405.12	-90.00	330.06	1045.65	0.47	FAIL
16624.00†	7276.00	-1140.11	8504.37	16585.33	7276.00	-810.05	8505.11	-90.00	330.06	1057.45	0.47	FAIL
16724.00†	7276.00	-1140.34	8604.37	16685.33	7276.00	-810.28	8605.11	-90.00	330.06	1069.26	0.46	FAIL
16824.00†	7276.00	-1140.56	8704.37	16785.33	7276.00	-810.50	8705.11	-90.00	330.06	1081.06	0.46	FAIL
16924.00†	7276.00	-1140.79	8804.37	16885.33	7276.00	-810.73	8805.11	-90.00	330.06	1092.87	0.45	FAIL
17024.00†	7276.00	-1141.01	8904.37	16985.33	7276.00	-810.95	8905.11	-90.00	330.06	1104.68	0.45	FAIL
17124.00†	7276.00	-1141.24	9004.37	17085.33	7276.00	-811.18	9005.11	-90.00	330.06	1116.49	0.44	FAIL
17224.00†	7276.00	-1141.46	9104.37	17185.33	7276.00	-811.40	9105.11	-90.00	330.06	1128.30	0.44	FAIL
17324.00†	7276.00	-1141.68	9204.37	17285.33	7276.00	-811.62	9205.11	-90.00	330.06	1140.12	0.43	FAIL
17408.79†	7276.00	-1141.88	9289.16	17370.11	7276.00	-811.82	9289.90	-90.00	330.06	1150.13	0.43	FAIL
17413.82	7276.00	-1141.89	9294.19	17370.11	7276.00	-811.82	9289.90	-90.00	330.10	1149.33	0.43	FAIL





# Clearance Report

VARRA #12 (REV-A.0) PWP

Closest Approach

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## REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#12 VARRA #12(1459'FSL & 784'FWL,SEC.05)
Area	COLORADO	Well	VARRA #12
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	VARRA #12 PWB
Facility	SEC.05-T06N-R67W		

## POSITIONAL UNCERTAINTY - Offset Wellbore: VARRA #11 PWB Offset Wellpath: VARRA #11 (REV-A.0) PWP

Slot Surface Uncertainty @1SD	Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @1SD	Horizontal	8.200ft	Vertical	3.000ft

## HOLE & CASING SECTIONS - Offset Wellbore: VARRA #11 PWB Offset Wellpath: VARRA #11 (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]
7in Casing Intermediate	24.00	7770.67	7746.67	24.00	7276.00	15.73	0.14	-233.00	-94.27

## SURVEY PROGRAM - Offset Wellbore: VARRA #11 PWB Offset Wellpath: VARRA #11 (REV-A.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.00	18000.00	NaviTrak (Standard)		VARRA #11 PWB

## OFFSET WELLPATH MD REFERENCE - Offset Wellbore: VARRA #11 PWB Offset Wellpath: VARRA #11 (REV-A.0) PWP

MD Reference: <b>RIG (RKB)</b>	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	24.00ft