

EXTRACTION OIL & GAS

Location: COLORADO Slot: SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04)
Field: WELD COUNTY (NAD83/TRUE NORTH) Well: RANCHO WATER VALLEY 10
Facility: SEC.04-T05N-R67W Wellbore: RANCHO WATER VALLEY 10 PWB

Plot reference wellpath is RANCHO WATER VALLEY 10 (REV-C.0) PWB

True vertical depths are referenced to RIG (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to RIG (RKB)	North Reference: True north
RIG (RKB) to Mean Sea Level: 4799 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 8/27/2014

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.04-T05N-R67W	3170424.561	1402077.673	40°26'07.764"N	104°53'15.936"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04)	-285.26	-74.88	3170351.651	1401791.917
RIG (RKB) to Mud line (At Slot: SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04))			40°26'04.945"N	104°53'16.904"W
Mean Sea Level to Mud line (At Slot: SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04))				0ft
RIG (RKB) to Mean Sea Level				4799ft

Targets

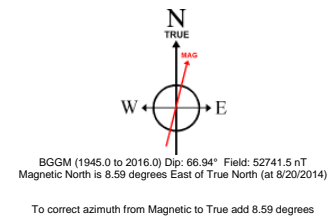
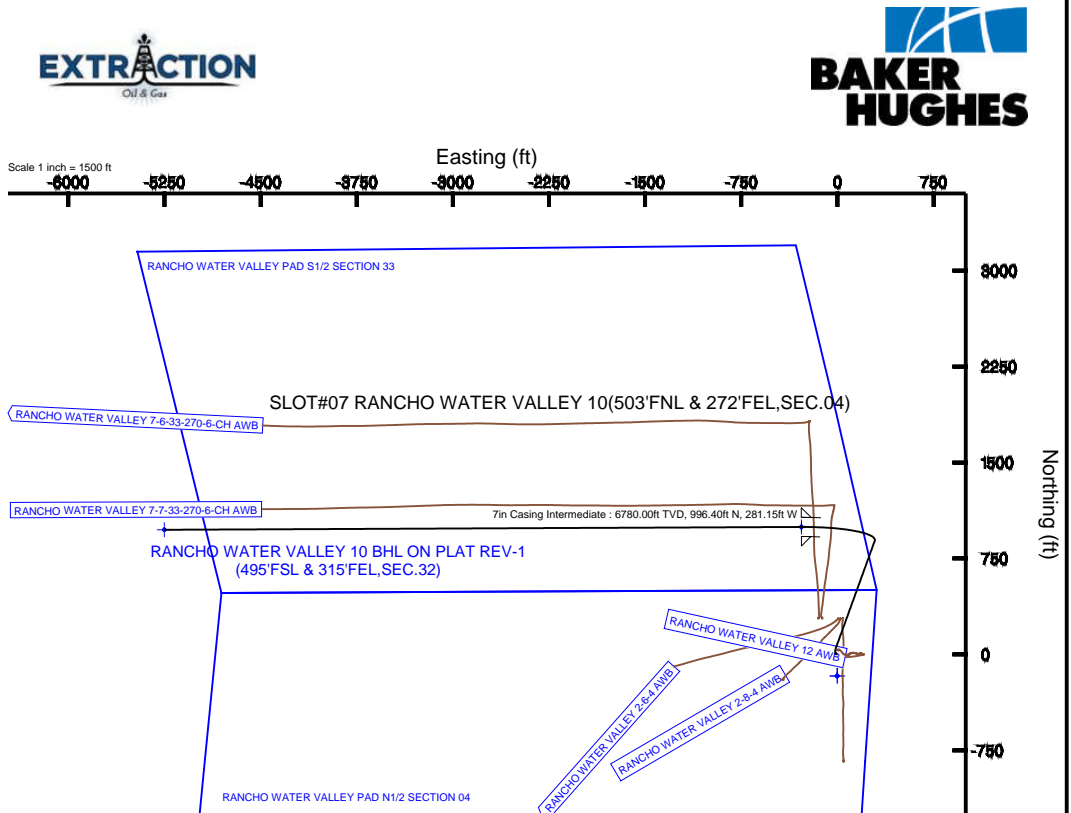
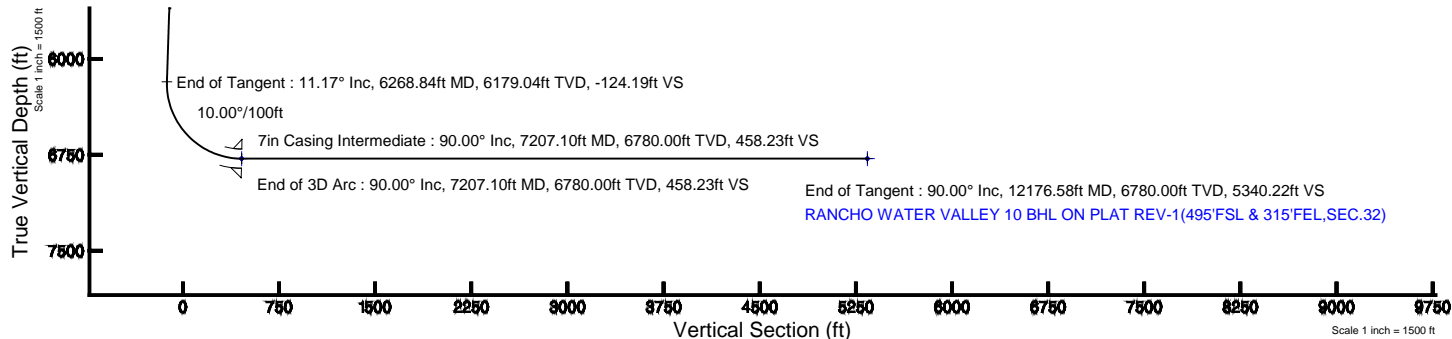
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
RANCHO WATER VALLEY PAD N1/2 SECTION 04		0.00	-168.31	-1.39	3170351.42	1401623.60	40°26'03.282"N	104°53'16.922"W
RANCHO WATER VALLEY PAD S1/2 SECTION 33		0.00	-168.31	-1.39	3170351.42	1401623.60	40°26'03.282"N	104°53'16.922"W
RANCHO WATER VALLEY 10 BHL ON PLAT REV-1(495'FSL & 315'FEL,SEC.32)	12176.58	6780.00	974.37	-250.58	3165094.69	1402729.99	40°26'14.568"N	104°54'24.808"W
RANCHO WATER VALLEY 10 LANDING	7207.10	6780.00	996.40	-281.15	3170063.64	1402786.31	40°26'14.791"N	104°53'20.540"W

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
24.00	13000.00	NaviTrak	NaviTrak (Standard)		RANCHO WATER VALLEY 10 PWB

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	24.00	0.000	300.000	24.00	0.00	0.00	0.00	0.00
End of Tangent	850.00	0.000	300.000	850.00	0.00	0.00	0.00	0.00
End of Build	1000.00	3.000	300.000	999.93	1.96	-3.40	2.00	3.70
End of Tangent	1200.00	3.000	300.000	1199.66	7.20	-12.46	0.00	13.57
End of 3D Arc	1751.99	11.169	19.898	1747.74	64.87	-6.76	2.00	18.48
End of Tangent	6268.84	11.169	19.898	6179.04	887.55	291.02	0.00	-124.19
End of 3D Arc	7207.10	90.000	269.746	6780.00	996.40	-281.15	10.00	458.23
End of Tangent	12176.58	90.000	269.746	6780.00	974.37	-5250.58	0.00	5340.22





Planned Wellpath Report

RANCHO WATER VALLEY 10 (REV-C.0) PWP

Page 1 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 10
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 10 PWB
Facility	SEC.04-T05N-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	0.999962	Report Generated	8/27/2014 at 1:48:11 PM
Convergence at slot	n/a	Database/Source file	WA_Denver/RANCHO_WATER_VALLEY_10_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-285.26	-74.88	3170351.65	1401791.92	40°26'04.945"N	104°53'16.904"W
Facility Reference Pt			3170424.56	1402077.67	40°26'07.764"N	104°53'15.936"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	4799.00ft
Horizontal Reference Pt	Slot	RIG (RKB) to Mean Sea Level	4799.00ft
Vertical Reference Pt	RIG (RKB)	RIG (RKB) to Mud Line at Slot (SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04))	4799.00ft
MD Reference Pt	RIG (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	280.51°



Planned Wellpath Report

RANCHO WATER VALLEY 10 (REV-C.0) PWP

Page 2 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 10
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 10 PWB
Facility	SEC.04-T05N-R67W		

WELLPATH DATA (130 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00†	0.000	300.000	0.00	0.00	0.00	0.00	0.00	
24.00	0.000	300.000	24.00	0.00	0.00	0.00	0.00	Tie On
124.00†	0.000	300.000	124.00	0.00	0.00	0.00	0.00	
224.00†	0.000	300.000	224.00	0.00	0.00	0.00	0.00	
324.00†	0.000	300.000	324.00	0.00	0.00	0.00	0.00	
424.00†	0.000	300.000	424.00	0.00	0.00	0.00	0.00	
524.00†	0.000	300.000	524.00	0.00	0.00	0.00	0.00	
624.00†	0.000	300.000	624.00	0.00	0.00	0.00	0.00	
724.00†	0.000	300.000	724.00	0.00	0.00	0.00	0.00	
824.00†	0.000	300.000	824.00	0.00	0.00	0.00	0.00	
850.00	0.000	300.000	850.00	0.00	0.00	0.00	0.00	End of Tangent
924.00†	1.480	300.000	923.99	0.90	0.48	-0.83	2.00	
1000.00	3.000	300.000	999.93	3.70	1.96	-3.40	2.00	End of Build
1024.00†	3.000	300.000	1023.90	4.89	2.59	-4.49	0.00	
1124.00†	3.000	300.000	1123.76	9.82	5.21	-9.02	0.00	
1200.00	3.000	300.000	1199.66	13.57	7.20	-12.46	0.00	End of Tangent
1224.00†	2.995	309.189	1223.62	14.71	7.91	-13.49	2.00	
1324.00†	3.714	341.705	1323.46	18.56	12.63	-16.54	2.00	
1424.00†	5.158	359.906	1423.16	20.95	20.20	-17.56	2.00	
1524.00†	6.886	9.621	1522.61	21.87	30.61	-16.57	2.00	
1624.00†	8.730	15.357	1621.68	21.33	43.84	-13.55	2.00	
1724.00†	10.631	19.082	1720.25	19.31	59.88	-8.53	2.00	
1751.99	11.169	19.898	1747.74	18.48	64.87	-6.76	2.00	End of 3D Arc
1824.00†	11.169	19.898	1818.38	16.21	77.98	-2.01	0.00	
1924.00†	11.169	19.898	1916.49	13.05	96.20	4.58	0.00	
2024.00†	11.169	19.898	2014.60	9.89	114.41	11.17	0.00	
2124.00†	11.169	19.898	2112.70	6.73	132.62	17.76	0.00	
2224.00†	11.169	19.898	2210.81	3.57	150.84	24.36	0.00	
2324.00†	11.169	19.898	2308.92	0.42	169.05	30.95	0.00	
2424.00†	11.169	19.898	2407.02	-2.74	187.26	37.54	0.00	



Planned Wellpath Report

RANCHO WATER VALLEY 10 (REV-C.0) PWP

Page 3 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 10
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 10 PWB
Facility	SEC.04-T05N-R67W		

WELLPATH DATA (130 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
2524.00†	11.169	19.898	2505.13	-5.90	205.48	44.13	0.00	
2624.00†	11.169	19.898	2603.23	-9.06	223.69	50.73	0.00	
2724.00†	11.169	19.898	2701.34	-12.22	241.90	57.32	0.00	
2824.00†	11.169	19.898	2799.45	-15.38	260.12	63.91	0.00	
2924.00†	11.169	19.898	2897.55	-18.54	278.33	70.50	0.00	
3024.00†	11.169	19.898	2995.66	-21.70	296.55	77.10	0.00	
3124.00†	11.169	19.898	3093.76	-24.85	314.76	83.69	0.00	
3224.00†	11.169	19.898	3191.87	-28.01	332.97	90.28	0.00	
3324.00†	11.169	19.898	3289.98	-31.17	351.19	96.88	0.00	
3424.00†	11.169	19.898	3388.08	-34.33	369.40	103.47	0.00	
3524.00†	11.169	19.898	3486.19	-37.49	387.61	110.06	0.00	
3624.00†	11.169	19.898	3584.29	-40.65	405.83	116.65	0.00	
3724.00†	11.169	19.898	3682.40	-43.81	424.04	123.25	0.00	
3824.00†	11.169	19.898	3780.51	-46.97	442.25	129.84	0.00	
3924.00†	11.169	19.898	3878.61	-50.12	460.47	136.43	0.00	
4024.00†	11.169	19.898	3976.72	-53.28	478.68	143.02	0.00	
4124.00†	11.169	19.898	4074.82	-56.44	496.89	149.62	0.00	
4224.00†	11.169	19.898	4172.93	-59.60	515.11	156.21	0.00	
4324.00†	11.169	19.898	4271.04	-62.76	533.32	162.80	0.00	
4424.00†	11.169	19.898	4369.14	-65.92	551.54	169.39	0.00	
4524.00†	11.169	19.898	4467.25	-69.08	569.75	175.99	0.00	
4624.00†	11.169	19.898	4565.35	-72.24	587.96	182.58	0.00	
4724.00†	11.169	19.898	4663.46	-75.39	606.18	189.17	0.00	
4824.00†	11.169	19.898	4761.57	-78.55	624.39	195.76	0.00	
4924.00†	11.169	19.898	4859.67	-81.71	642.60	202.36	0.00	
5024.00†	11.169	19.898	4957.78	-84.87	660.82	208.95	0.00	
5124.00†	11.169	19.898	5055.89	-88.03	679.03	215.54	0.00	
5224.00†	11.169	19.898	5153.99	-91.19	697.24	222.14	0.00	
5324.00†	11.169	19.898	5252.10	-94.35	715.46	228.73	0.00	
5424.00†	11.169	19.898	5350.20	-97.51	733.67	235.32	0.00	



Planned Wellpath Report

RANCHO WATER VALLEY 10 (REV-C.0) PWP

Page 4 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 10
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 10 PWB
Facility	SEC.04-T05N-R67W		

WELLPATH DATA (130 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
5524.00†	11.169	19.898	5448.31	-100.66	751.89	241.91	0.00	
5624.00†	11.169	19.898	5546.42	-103.82	770.10	248.51	0.00	
5724.00†	11.169	19.898	5644.52	-106.98	788.31	255.10	0.00	
5824.00†	11.169	19.898	5742.63	-110.14	806.53	261.69	0.00	
5924.00†	11.169	19.898	5840.73	-113.30	824.74	268.28	0.00	
6024.00†	11.169	19.898	5938.84	-116.46	842.95	274.88	0.00	
6124.00†	11.169	19.898	6036.95	-119.62	861.17	281.47	0.00	
6224.00†	11.169	19.898	6135.05	-122.77	879.38	288.06	0.00	
6268.84	11.169	19.898	6179.04	-124.19	887.55	291.02	0.00	End of Tangent
6324.00†	10.634	350.552	6233.25	-123.32	897.60	292.00	10.00	
6424.00†	15.664	311.121	6330.78	-108.52	915.63	280.29	10.00	
6524.00†	23.987	294.364	6424.84	-77.08	932.93	251.53	10.00	
6624.00†	33.211	286.193	6512.58	-29.98	949.00	206.60	10.00	
6724.00†	42.756	281.311	6591.33	31.37	963.33	146.86	10.00	
6824.00†	52.444	277.939	6658.69	105.10	975.49	74.13	10.00	
6924.00†	62.205	275.353	6712.62	188.96	985.12	-9.37	10.00	
7024.00†	72.007	273.197	6751.48	280.41	991.91	-101.13	10.00	
7124.00†	81.830	271.271	6774.08	376.67	995.67	-198.33	10.00	
7207.10	90.000	269.746	6780.00 ¹	458.23	996.40	-281.15	10.00	End of 3D Arc
7224.00†	90.000	269.746	6780.00	474.83	996.33	-298.05	0.00	
7324.00†	90.000	269.746	6780.00	573.07	995.88	-398.05	0.00	
7424.00†	90.000	269.746	6780.00	671.31	995.44	-498.05	0.00	
7524.00†	90.000	269.746	6780.00	769.55	995.00	-598.04	0.00	
7624.00†	90.000	269.746	6780.00	867.79	994.55	-698.04	0.00	
7724.00†	90.000	269.746	6780.00	966.03	994.11	-798.04	0.00	
7824.00†	90.000	269.746	6780.00	1064.27	993.67	-898.04	0.00	
7924.00†	90.000	269.746	6780.00	1162.51	993.22	-998.04	0.00	
8024.00†	90.000	269.746	6780.00	1260.75	992.78	-1098.04	0.00	
8124.00†	90.000	269.746	6780.00	1358.99	992.34	-1198.04	0.00	
8224.00†	90.000	269.746	6780.00	1457.23	991.89	-1298.04	0.00	



Planned Wellpath Report

RANCHO WATER VALLEY 10 (REV-C.0) PWP

Page 5 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 10
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 10 PWB
Facility	SEC.04-T05N-R67W		

WELLPATH DATA (130 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
8324.00†	90.000	269.746	6780.00	1555.47	991.45	-1398.04	0.00	
8424.00†	90.000	269.746	6780.00	1653.71	991.01	-1498.04	0.00	
8524.00†	90.000	269.746	6780.00	1751.95	990.56	-1598.03	0.00	
8624.00†	90.000	269.746	6780.00	1850.19	990.12	-1698.03	0.00	
8724.00†	90.000	269.746	6780.00	1948.43	989.68	-1798.03	0.00	
8824.00†	90.000	269.746	6780.00	2046.66	989.23	-1898.03	0.00	
8924.00†	90.000	269.746	6780.00	2144.90	988.79	-1998.03	0.00	
9024.00†	90.000	269.746	6780.00	2243.14	988.35	-2098.03	0.00	
9124.00†	90.000	269.746	6780.00	2341.38	987.90	-2198.03	0.00	
9224.00†	90.000	269.746	6780.00	2439.62	987.46	-2298.03	0.00	
9324.00†	90.000	269.746	6780.00	2537.86	987.02	-2398.03	0.00	
9424.00†	90.000	269.746	6780.00	2636.10	986.57	-2498.03	0.00	
9524.00†	90.000	269.746	6780.00	2734.34	986.13	-2598.02	0.00	
9624.00†	90.000	269.746	6780.00	2832.58	985.69	-2698.02	0.00	
9724.00†	90.000	269.746	6780.00	2930.82	985.24	-2798.02	0.00	
9824.00†	90.000	269.746	6780.00	3029.06	984.80	-2898.02	0.00	
9924.00†	90.000	269.746	6780.00	3127.30	984.36	-2998.02	0.00	
10024.00†	90.000	269.746	6780.00	3225.54	983.91	-3098.02	0.00	
10124.00†	90.000	269.746	6780.00	3323.78	983.47	-3198.02	0.00	
10224.00†	90.000	269.746	6780.00	3422.02	983.03	-3298.02	0.00	
10324.00†	90.000	269.746	6780.00	3520.26	982.58	-3398.02	0.00	
10424.00†	90.000	269.746	6780.00	3618.50	982.14	-3498.02	0.00	
10524.00†	90.000	269.746	6780.00	3716.74	981.70	-3598.01	0.00	
10624.00†	90.000	269.746	6780.00	3814.98	981.25	-3698.01	0.00	
10724.00†	90.000	269.746	6780.00	3913.22	980.81	-3798.01	0.00	
10824.00†	90.000	269.746	6780.00	4011.45	980.37	-3898.01	0.00	
10924.00†	90.000	269.746	6780.00	4109.69	979.92	-3998.01	0.00	
11024.00†	90.000	269.746	6780.00	4207.93	979.48	-4098.01	0.00	
11124.00†	90.000	269.746	6780.00	4306.17	979.04	-4198.01	0.00	
11224.00†	90.000	269.746	6780.00	4404.41	978.59	-4298.01	0.00	



Planned Wellpath Report

RANCHO WATER VALLEY 10 (REV-C.0) PWP

Page 6 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 10
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 10 PWB
Facility	SEC.04-T05N-R67W		

WELLPATH DATA (130 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
11324.00†	90.000	269.746	6780.00	4502.65	978.15	-4398.01	0.00	
11424.00†	90.000	269.746	6780.00	4600.89	977.71	-4498.01	0.00	
11524.00†	90.000	269.746	6780.00	4699.13	977.26	-4598.01	0.00	
11624.00†	90.000	269.746	6780.00	4797.37	976.82	-4698.00	0.00	
11724.00†	90.000	269.746	6780.00	4895.61	976.38	-4798.00	0.00	
11824.00†	90.000	269.746	6780.00	4993.85	975.93	-4898.00	0.00	
11924.00†	90.000	269.746	6780.00	5092.09	975.49	-4998.00	0.00	
12024.00†	90.000	269.746	6780.00	5190.33	975.05	-5098.00	0.00	
12124.00†	90.000	269.746	6780.00	5288.57	974.60	-5198.00	0.00	
12176.58	90.000	269.746	6780.00 ²	5340.22	974.37	-5250.58	0.00	End of Tangent

HOLE & CASING SECTIONS -									
Ref Wellbore: RANCHO WATER VALLEY 10 PWB					Ref Wellpath: RANCHO WATER VALLEY 10 (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]
7in Casing Intermediate	24.00	7207.10	7183.10	24.00	6780.00	0.00	0.00	996.40	-281.15



Planned Wellpath Report

RANCHO WATER VALLEY 10 (REV-C.0) PWP

Page 7 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#07 RANCHO WATER VALLEY 10(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 10
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 10 PWB
Facility	SEC.04-T05N-R67W		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
RANCHO WATER VALLEY PAD N1/2 SECTION 04		0.00	-168.31	-1.39	3170351.42	1401623.60	40°26'03.282"N	104°53'16.922"W	polygon
RANCHO WATER VALLEY PAD S1/2 SECTION 33		0.00	-168.31	-1.39	3170351.42	1401623.60	40°26'03.282"N	104°53'16.922"W	polygon
2) RANCHO WATER VALLEY 10 BHL ON PLAT REV-1(495'FSL & 315'FEL,SEC.32)	12176.58	6780.00	974.37	-5250.58	3165094.69	1402729.99	40°26'14.568"N	104°54'24.808"W	point
1) RANCHO WATER VALLEY 10 LANDING	7207.10	6780.00	996.40	-281.15	3170063.64	1402786.31	40°26'14.791"N	104°53'20.540"W	point

SURVEY PROGRAM - Ref Wellbore: RANCHO WATER VALLEY 10 PWB Ref Wellpath: RANCHO WATER VALLEY 10 (REV-C.0) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.00	13000.00	NaviTrak (Standard)		RANCHO WATER VALLEY 10 PWB