

EXTRACTION OIL & GAS

Location: COLORADO Slot: SLOT#04 RANCHO WATER VALLEY 7(503'FNL & 272'FEL,SEC.04)
Field: WELD COUNTY (NAD83/TRUE NORTH) Well: RANCHO WATER VALLEY 7
Facility: SEC.04-T05N-R67W Wellbore: RANCHO WATER VALLEY 7 PWB

Plot reference wellpath is RANCHO WATER VALLEY 7 (REV-B.0) PWP

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#04 RANCHO WATER VALLEY 7(503'FNL & 272'FEL,SEC.04)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 7/31/2014

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)	Latitude	Longitude	
SLOT#04 RANCHO WATER VALLEY 7(503'FNL & 272'FEL,SEC.04)	-285.26	-74.88	3170351.651	1401791.917	40°26'04.945"N	104°53'16.904"W	
RIG (RKB) to Mud line (At Slot: SLOT#04 RANCHO WATER VALLEY 7(503'FNL & 272'FEL,SEC.04))						4799ft	
Mean Sea Level to Mud line (At Slot: SLOT#04 RANCHO WATER VALLEY 7(503'FNL & 272'FEL,SEC.04))						0ft	
RIG (RKB) to Mean Sea Level						4799ft	

Targets

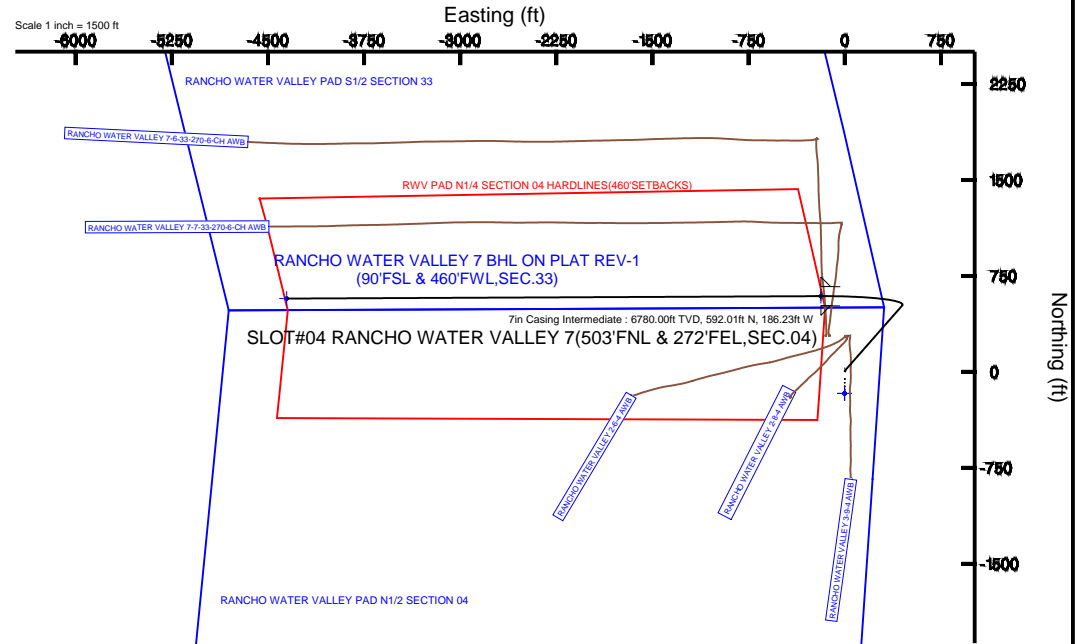
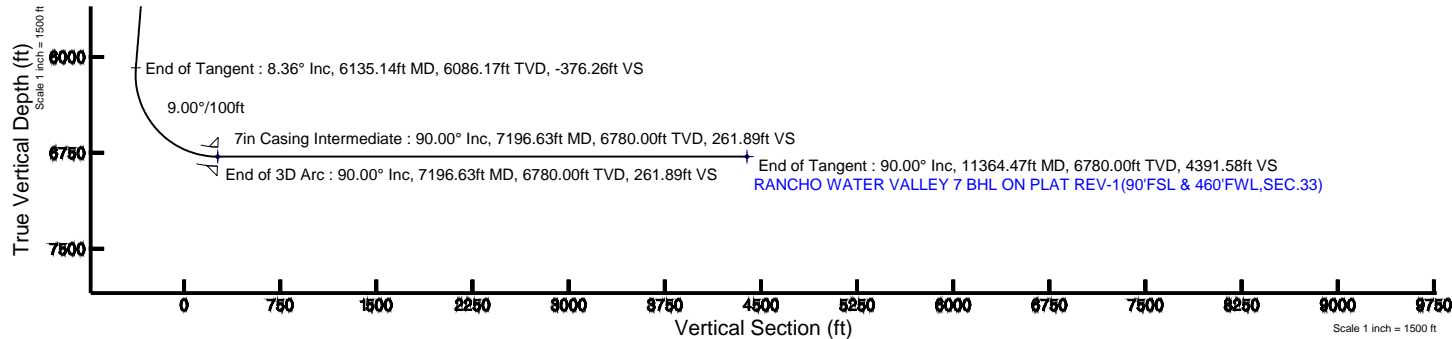
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
RANCHO WATER VALLEY PAD N1/2 SECTION 04		0.00	-168.31	-1.39	3170351.42	1401623.60	40°26'03.282"N	104°53'16.922"W
RANCHO WATER VALLEY PAD S1/2 SECTION 33		0.00	-168.31	-1.39	3170351.42	1401623.60	40°26'03.282"N	104°53'16.922"W
RANCHO WATER VALLEY 7 BHL ON PLAT REV-1(90'FSL & 460'FWL,SEC.33)	11364.47	6780.00	573.09	-4354.02	3165963.95	1402334.92	40°26'10.604"N	104°54'13.212"W
RANCHO WATER VALLEY 7 LANDING	7196.63	6780.00	592.01	-186.23	3170161.35	1402382.61	40°26'10.795"N	104°53'19.313"W
RWV PAD N1/4 SECTION 04 HARDLINE(460'SETBACKS)		6780.00	-168.31	-1.39	3170351.42	1401623.60	40°26'03.282"N	104°53'16.922"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 7 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	10.000	24.00	0.00	0.00	0.00	0.00
End of Tangent	850.00	0.000	10.000	850.00	0.00	0.00	0.00	0.00
End of Build	900.00	1.000	10.000	900.00	0.43	0.08	2.00	-0.02
End of Tangent	1300.00	1.000	10.000	1299.94	7.30	1.29	0.00	-0.32
End of 3D Arc	1676.32	8.363	41.276	1674.76	31.14	19.94	2.00	-15.70
End of Tangent	6135.14	8.363	41.276	6086.17	518.54	447.76	0.00	-376.26
End of 3D Arc	7196.63	90.000	269.740	6780.00	592.01	-186.23	9.00	261.89
End of Tangent	11364.47	90.000	269.740	6780.00	573.09	-4354.02	0.00	4391.58



BGGM (1945.0 to 2016.0) Dip: 66.95° Field: 52759.7 nT
Magnetic North is 8.61 degrees East of True North (at 7/2/2014)

To correct azimuth from Magnetic to True add 8.61 degrees



Planned Wellpath Report

RANCHO WATER VALLEY 7 (REV-B.0) PWP

Page 1 of 7



REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#04 RANCHO WATER VALLEY 7(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 7
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 7 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	7/31/2014 at 9:21:10 AM
Convergence at slot	n/a	Database/Source file	WA_Denver/RANCHO_WATER_VALLEY_7_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#04 RANCHO WATER VALLEY 7(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	277.50°



Planned Wellpath Report

RANCHO WATER VALLEY 7 (REV-B.0) PWP

Page 2 of 7



REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#04 RANCHO WATER VALLEY 7(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 7
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 7 PWB
Facility	SEC.04-T05N-R67W		

WELLPATH DATA (122 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00†	0.000	10.000	0.00	0.00	0.00	0.00	0.00	
24.00	0.000	10.000	24.00	0.00	0.00	0.00	0.00	Tie On
124.00†	0.000	10.000	124.00	0.00	0.00	0.00	0.00	
224.00†	0.000	10.000	224.00	0.00	0.00	0.00	0.00	
324.00†	0.000	10.000	324.00	0.00	0.00	0.00	0.00	
424.00†	0.000	10.000	424.00	0.00	0.00	0.00	0.00	
524.00†	0.000	10.000	524.00	0.00	0.00	0.00	0.00	
624.00†	0.000	10.000	624.00	0.00	0.00	0.00	0.00	
724.00†	0.000	10.000	724.00	0.00	0.00	0.00	0.00	
824.00†	0.000	10.000	824.00	0.00	0.00	0.00	0.00	
850.00	0.000	10.000	850.00	0.00	0.00	0.00	0.00	End of Tangent
900.00	1.000	10.000	900.00	-0.02	0.43	0.08	2.00	End of Build
924.00†	1.000	10.000	923.99	-0.04	0.84	0.15	0.00	
1024.00†	1.000	10.000	1023.98	-0.11	2.56	0.45	0.00	
1124.00†	1.000	10.000	1123.96	-0.19	4.28	0.75	0.00	
1224.00†	1.000	10.000	1223.95	-0.27	6.00	1.06	0.00	
1300.00	1.000	10.000	1299.94	-0.32	7.30	1.29	0.00	End of Tangent
1324.00†	1.419	21.243	1323.93	-0.40	7.79	1.43	2.00	
1424.00†	3.347	35.294	1423.84	-2.06	11.33	3.57	2.00	
1524.00†	5.328	39.007	1523.55	-5.85	17.32	8.18	2.00	
1624.00†	7.320	40.708	1622.94	-11.76	25.75	15.26	2.00	
1676.32	8.363	41.276	1674.76	-15.70	31.14	19.94	2.00	End of 3D Arc
1724.00†	8.363	41.276	1721.94	-19.56	36.35	24.51	0.00	
1824.00†	8.363	41.276	1820.88	-27.65	47.28	34.11	0.00	
1924.00†	8.363	41.276	1919.81	-35.73	58.21	43.70	0.00	
2024.00†	8.363	41.276	2018.75	-43.82	69.15	53.30	0.00	
2124.00†	8.363	41.276	2117.69	-51.91	80.08	62.89	0.00	
2224.00†	8.363	41.276	2216.62	-59.99	91.01	72.49	0.00	
2324.00†	8.363	41.276	2315.56	-68.08	101.94	82.08	0.00	
2424.00†	8.363	41.276	2414.50	-76.17	112.87	91.68	0.00	



Planned Wellpath Report

RANCHO WATER VALLEY 7 (REV-B.0) PWP

Page 3 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#04 RANCHO WATER VALLEY 7(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 7
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 7 PWB
Facility	SEC.04-T05N-R67W		

WELLPATH DATA (122 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
2524.00†	8.363	41.276	2513.43	-84.25	123.80	101.27	0.00	
2624.00†	8.363	41.276	2612.37	-92.34	134.73	110.87	0.00	
2724.00†	8.363	41.276	2711.30	-100.42	145.66	120.46	0.00	
2824.00†	8.363	41.276	2810.24	-108.51	156.59	130.06	0.00	
2924.00†	8.363	41.276	2909.18	-116.60	167.53	139.65	0.00	
3024.00†	8.363	41.276	3008.11	-124.68	178.46	149.25	0.00	
3124.00†	8.363	41.276	3107.05	-132.77	189.39	158.84	0.00	
3224.00†	8.363	41.276	3205.99	-140.86	200.32	168.44	0.00	
3324.00†	8.363	41.276	3304.92	-148.94	211.25	178.03	0.00	
3424.00†	8.363	41.276	3403.86	-157.03	222.18	187.63	0.00	
3524.00†	8.363	41.276	3502.80	-165.12	233.11	197.22	0.00	
3624.00†	8.363	41.276	3601.73	-173.20	244.04	206.82	0.00	
3724.00†	8.363	41.276	3700.67	-181.29	254.97	216.41	0.00	
3824.00†	8.363	41.276	3799.61	-189.38	265.91	226.01	0.00	
3924.00†	8.363	41.276	3898.54	-197.46	276.84	235.60	0.00	
4024.00†	8.363	41.276	3997.48	-205.55	287.77	245.20	0.00	
4124.00†	8.363	41.276	4096.42	-213.64	298.70	254.79	0.00	
4224.00†	8.363	41.276	4195.35	-221.72	309.63	264.39	0.00	
4324.00†	8.363	41.276	4294.29	-229.81	320.56	273.98	0.00	
4424.00†	8.363	41.276	4393.23	-237.89	331.49	283.58	0.00	
4524.00†	8.363	41.276	4492.16	-245.98	342.42	293.17	0.00	
4624.00†	8.363	41.276	4591.10	-254.07	353.35	302.77	0.00	
4724.00†	8.363	41.276	4690.04	-262.15	364.28	312.36	0.00	
4824.00†	8.363	41.276	4788.97	-270.24	375.22	321.96	0.00	
4924.00†	8.363	41.276	4887.91	-278.33	386.15	331.55	0.00	
5024.00†	8.363	41.276	4986.85	-286.41	397.08	341.15	0.00	
5124.00†	8.363	41.276	5085.78	-294.50	408.01	350.74	0.00	
5224.00†	8.363	41.276	5184.72	-302.59	418.94	360.34	0.00	
5324.00†	8.363	41.276	5283.66	-310.67	429.87	369.93	0.00	
5424.00†	8.363	41.276	5382.59	-318.76	440.80	379.53	0.00	



Planned Wellpath Report

RANCHO WATER VALLEY 7 (REV-B.0) PWP

Page 4 of 7



REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#04 RANCHO WATER VALLEY 7(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 7
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 7 PWB
Facility	SEC.04-T05N-R67W		

WELLPATH DATA (122 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
5524.00†	8.363	41.276	5481.53	-326.85	451.73	389.12	0.00	
5624.00†	8.363	41.276	5580.47	-334.93	462.66	398.72	0.00	
5724.00†	8.363	41.276	5679.40	-343.02	473.60	408.31	0.00	
5824.00†	8.363	41.276	5778.34	-351.10	484.53	417.91	0.00	
5924.00†	8.363	41.276	5877.28	-359.19	495.46	427.50	0.00	
6024.00†	8.363	41.276	5976.21	-367.28	506.39	437.10	0.00	
6124.00†	8.363	41.276	6075.15	-375.36	517.32	446.69	0.00	
6135.14	8.363	41.276	6086.17	-376.26	518.54	447.76	0.00	End of Tangent
6224.00†	6.744	338.273	6174.39	-377.31	528.26	450.10	9.00	
6324.00†	13.050	298.083	6272.96	-363.85	539.05	437.94	9.00	
6424.00†	21.365	286.078	6368.43	-335.21	549.43	410.42	9.00	
6524.00†	30.066	280.698	6458.45	-292.10	559.14	368.21	9.00	
6624.00†	38.894	277.580	6540.81	-235.58	567.95	312.36	9.00	
6724.00†	47.778	275.471	6613.47	-167.04	575.64	244.25	9.00	
6824.00†	56.691	273.887	6674.66	-88.17	582.02	165.54	9.00	
6924.00†	65.620	272.598	6722.85	-0.91	586.92	78.17	9.00	
7024.00†	74.559	271.482	6756.88	92.59	590.24	-15.70	9.00	
7124.00†	83.502	270.458	6775.89	190.02	591.89	-113.75	9.00	
7196.63	90.000	269.740	6780.00 [†]	261.89	592.01	-186.23	9.00	End of 3D Arc
7224.00†	90.000	269.740	6780.00	289.01	591.89	-213.60	0.00	
7324.00†	90.000	269.740	6780.00	388.09	591.43	-313.60	0.00	
7424.00†	90.000	269.740	6780.00	487.18	590.98	-413.59	0.00	
7524.00†	90.000	269.740	6780.00	586.26	590.53	-513.59	0.00	
7624.00†	90.000	269.740	6780.00	685.35	590.07	-613.59	0.00	
7724.00†	90.000	269.740	6780.00	784.43	589.62	-713.59	0.00	
7824.00†	90.000	269.740	6780.00	883.52	589.16	-813.59	0.00	
7924.00†	90.000	269.740	6780.00	982.60	588.71	-913.59	0.00	
8024.00†	90.000	269.740	6780.00	1081.69	588.25	-1013.59	0.00	
8124.00†	90.000	269.740	6780.00	1180.77	587.80	-1113.59	0.00	
8224.00†	90.000	269.740	6780.00	1279.86	587.35	-1213.59	0.00	



Planned Wellpath Report

RANCHO WATER VALLEY 7 (REV-B.0) PWP

Page 5 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#04 RANCHO WATER VALLEY 7(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 7
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 7 PWB
Facility	SEC.04-T05N-R67W		

WELLPATH DATA (122 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
8324.00†	90.000	269.740	6780.00	1378.94	586.89	-1313.59	0.00	
8424.00†	90.000	269.740	6780.00	1478.02	586.44	-1413.58	0.00	
8524.00†	90.000	269.740	6780.00	1577.11	585.98	-1513.58	0.00	
8624.00†	90.000	269.740	6780.00	1676.19	585.53	-1613.58	0.00	
8724.00†	90.000	269.740	6780.00	1775.28	585.08	-1713.58	0.00	
8824.00†	90.000	269.740	6780.00	1874.36	584.62	-1813.58	0.00	
8924.00†	90.000	269.740	6780.00	1973.45	584.17	-1913.58	0.00	
9024.00†	90.000	269.740	6780.00	2072.53	583.71	-2013.58	0.00	
9124.00†	90.000	269.740	6780.00	2171.62	583.26	-2113.58	0.00	
9224.00†	90.000	269.740	6780.00	2270.70	582.81	-2213.58	0.00	
9324.00†	90.000	269.740	6780.00	2369.79	582.35	-2313.58	0.00	
9424.00†	90.000	269.740	6780.00	2468.87	581.90	-2413.57	0.00	
9524.00†	90.000	269.740	6780.00	2567.96	581.44	-2513.57	0.00	
9624.00†	90.000	269.740	6780.00	2667.04	580.99	-2613.57	0.00	
9724.00†	90.000	269.740	6780.00	2766.12	580.54	-2713.57	0.00	
9824.00†	90.000	269.740	6780.00	2865.21	580.08	-2813.57	0.00	
9924.00†	90.000	269.740	6780.00	2964.29	579.63	-2913.57	0.00	
10024.00†	90.000	269.740	6780.00	3063.38	579.17	-3013.57	0.00	
10124.00†	90.000	269.740	6780.00	3162.46	578.72	-3113.57	0.00	
10224.00†	90.000	269.740	6780.00	3261.55	578.26	-3213.57	0.00	
10324.00†	90.000	269.740	6780.00	3360.63	577.81	-3313.56	0.00	
10424.00†	90.000	269.740	6780.00	3459.72	577.36	-3413.56	0.00	
10524.00†	90.000	269.740	6780.00	3558.80	576.90	-3513.56	0.00	
10624.00†	90.000	269.740	6780.00	3657.89	576.45	-3613.56	0.00	
10724.00†	90.000	269.740	6780.00	3756.97	575.99	-3713.56	0.00	
10824.00†	90.000	269.740	6780.00	3856.06	575.54	-3813.56	0.00	
10924.00†	90.000	269.740	6780.00	3955.14	575.09	-3913.56	0.00	
11024.00†	90.000	269.740	6780.00	4054.22	574.63	-4013.56	0.00	
11124.00†	90.000	269.740	6780.00	4153.31	574.18	-4113.56	0.00	
11224.00†	90.000	269.740	6780.00	4252.39	573.72	-4213.56	0.00	



Planned Wellpath Report

RANCHO WATER VALLEY 7 (REV-B.0) PWP

Page 6 of 7



REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#04 RANCHO WATER VALLEY 7(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 7
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 7 PWB
Facility	SEC.04-T05N-R67W		

WELLPATH DATA (122 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
11324.00†	90.000	269.740	6780.00	4351.48	573.27	-4313.55	0.00	
11364.47	90.000	269.740	6780.00 ²	4391.58	573.09	-4354.02	0.00	End of Tangent

HOLE & CASING SECTIONS -

Ref Wellbore: RANCHO WATER VALLEY 7 PWB Ref Wellpath: RANCHO WATER VALLEY 7 (REV-B.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	7196.63	7172.63	24.00	6780.00	0.00	0.00	592.01	-186.23



Planned Wellpath Report

RANCHO WATER VALLEY 7 (REV-B.0) PWP

Page 7 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#04 RANCHO WATER VALLEY 7(503'FNL & 272'FEL,SEC.04)
Area	COLORADO	Well	RANCHO WATER VALLEY 7
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	RANCHO WATER VALLEY 7 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 7 BHL ON PLAT REV-1(90'FSL & 460'FWL,SEC.33)	11364.47	6780.00	573.09	-4354.02	3165993.95	1402334.92	40°26'10.604"N	104°54'13.212"W	point
1) RANCHO WATER VALLEY 7 LANDING	7196.63	6780.00	592.01	-186.23	3170161.35	1402382.61	40°26'10.795"N	104°53'19.313"W	point
RWV PAD N1/4 SECTION 04 HARDLINES(460'SETBACKS)		6780.00	-168.31	-1.39	3170351.42	1401623.60	40°26'03.282"N	104°53'16.922"W	polygon

SURVEY PROGRAM - Ref Wellbore: RANCHO WATER VALLEY 7 PWB Ref Wellpath: RANCHO WATER VALLEY 7 (REV-B.0) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.00	13000.00	NaviTrak (Standard)		RANCHO WATER VALLEY 7 PWB