

FIFTH CREEK ENERGY

Location: COLORADO Slot: SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29)
Field: WELD COUNTY (NAD 83 / TN) Well: RANDALL CREEK #412-2905H
Facility: SEC.29-T12N-R62W Wellbore: RANDALL CREEK #412-2905H PWB

Plot reference wellpath is RANDALL CREEK #412-2905H (PERMIT) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (16KB) (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to RIG (16KB) (RKB)	North Reference: True north
RIG (16KB) (RKB) to Mean Sea Level: 5363 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: adamkat on 2017-07-28
	Database: WA_DEN_Denver_Defn

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.29-T12N-R62W			3320911.400	1599809.588	40°58'26.630"N	104°20'16.380"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29)	0.00	0.00	3320911.400	1599809.588	40°58'26.630"N	104°20'16.380"W
RIG (16KB) (RKB) to Mud line (At Slot: SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29))					5363ft	
Mean Sea Level to Mud line (At Slot: SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29))					0ft	
RIG (16KB) (RKB) to Mean Sea Level					5363ft	

Well Profile Data

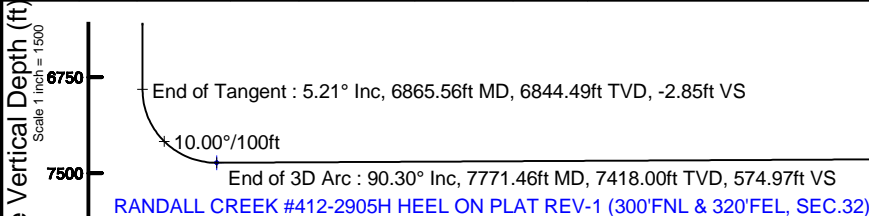
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	16.00	0.000	86.650	16.00	0.00	0.00	0.00	0.00
End of Tangent	1600.00	0.000	86.650	1600.00	0.00	0.00	0.00	0.00
End of Build	1860.67	5.213	86.650	1860.31	0.69	11.83	2.00	-0.07
End of Tangent	6865.56	5.213	86.650	6844.49	27.27	465.82	0.00	-2.85
End of 3D Arc	7771.46	90.296	179.903	7418.00	-548.54	519.31	10.00	574.97
End of Tangent	17440.95	90.296	179.903	7368.00	-10217.89	535.63	0.00	10231.92

Hole and Casing Sections

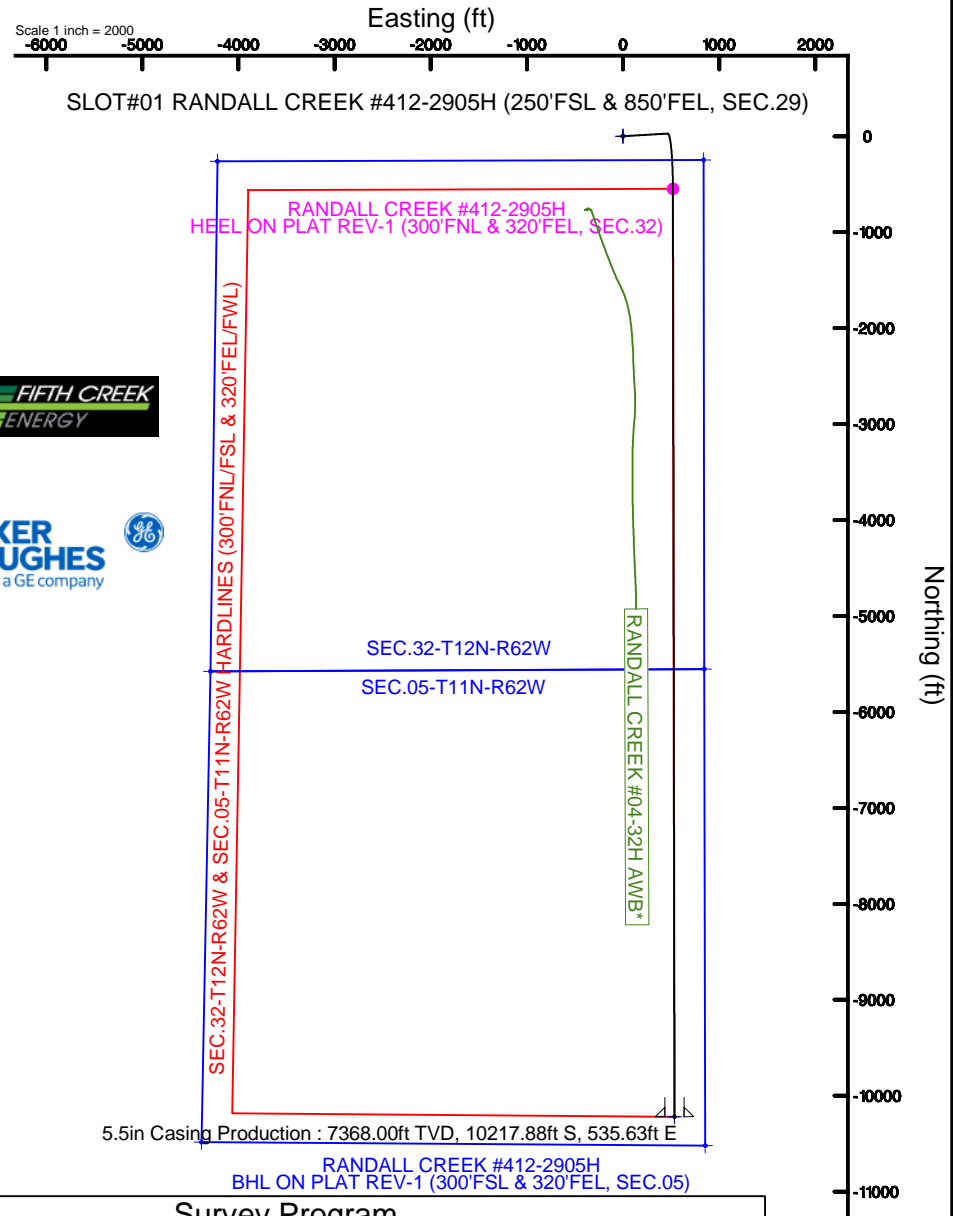
Name	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start Local N (ft)	Start Local E (ft)	End Local N (ft)	End Local E (ft)	Wellbore
9.625in Casing Surface	16.00	1500.00	1484.00	16.00	1500.00	0.00	0.00	0.00	0.00	RANDALL CREEK #412-2905H PWB
8.75in Open Hole	1500.00	17440.95	15940.95	1500.00	7368.00	0.00	0.00	-10217.88	535.63	RANDALL CREEK #412-2905H PWB
5.5in Casing Production	16.00	17440.95	17424.95	16.00	7368.00	0.00	0.00	-10217.88	535.63	RANDALL CREEK #412-2905H PWB

Wellpath Comments

MD (ft)	X (ft)	Y (ft)	TVD (ft)	Inclination (°)	Azimuth (°)	VS (ft)	Comment
1546.00	0.00	0.00	1546.00	0.000	86.650	0.00	Fox Hills-Pierre contact
3411.78	152.53	8.93	3405.00	5.213	86.650	-0.93	Pierre A
4255.27	229.04	13.41	4245.00	5.213	86.650	-1.40	Parkman
7193.50	494.21	-62.40	7154.00	32.870	171.772	88.18	Lower Sharon Springs GR Marker
7234.97	497.36	-85.92	7188.00	36.965	172.924	111.84	Niobrara A Chalk
7253.98	498.75	-97.51	7203.00	38.845	173.381	123.49	Niobrara A Marl
7277.48	500.42	-112.53	7221.00	41.171	173.897	138.57	Nio B1 Chalk
7322.93	503.50	-143.61	7254.00	45.676	174.772	169.77	Nio B1 Marl
7331.58	504.06	-149.82	7260.00	46.535	174.923	176.00	Niobrara B Chalk
7391.68	507.71	-195.37	7299.00	52.502	175.868	221.68	Niobrara B Marl
7529.29	514.34	-313.27	7369.00	66.185	177.572	339.76	Niobrara M Zone
7771.46	519.31	-548.54	7418.00	90.296	179.903	574.97	Nio M Zone Target
17440.95	535.63	-10217.88	7368.00	90.296	179.903	10231.91	TD



Vertical Section (ft)
Azimuth 177.00° with reference 0.00 N, 0.00 E

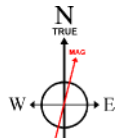


Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
16.00	17440.95	BHI NavTrak	Custom BHI NavTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model)		RANDALL CREEK #412-2905H PWB

5.5in Casing Production : 90.30° Inc, 17440.95ft MD, 7368.00ft TVD, 10231.91ft VS
End of Tangent : 90.30° Inc, 17440.95ft MD, 7368.00ft TVD, 10231.92ft VS

RANDALL CREEK #412-2905H BHL ON PLAT REV-1 (300'FSL & 320'FEL, SEC.05)



BCGM (1900.0 to 2019.0) Dip: 67.39° Field: 52725.9 nT
Magnetic North is 8.17 degrees East of True North (at 7/28/2017)
Scale 1 inch = 1500
To correct azimuth from Magnetic to True add 8.17 degrees



Planned Wellpath Report

RANDALL CREEK #412-2905H (PERMIT) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	FIFTH CREEK ENERGY	Slot	SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29)
Area	COLORADO	Well	RANDALL CREEK #412-2905H
Field	WELD COUNTY (NAD 83 / TN)	Wellbore	RANDALL CREEK #412-2905H PWB
Facility	SEC.29-T12N-R62W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	True	User	Adamkat
Scale	1.000037	Report Generated	7/28/2017 at 1:58:56 PM
Convergence at slot	0.75° East	Database/Source file	WA_DEN_Denver_Defn/RANDALL_CREEK_#412-2905H_PERMIT_PWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W
Facility Reference Pt			3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W
Field Reference Pt			3310982.01	1578058.18	40°54'53.000"N	104°22'29.410"W

WELLPATH DATUM			
Calculation method	Minimum curvature	RIG (16'KB) (RKB) to Facility Vertical Datum	5363.00ft
Horizontal Reference Pt	Slot	RIG (16'KB) (RKB) to Mean Sea Level	5363.00ft
Vertical Reference Pt	RIG (16'KB) (RKB)	RIG (16'KB) (RKB) to Mud Line at Slot (SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29))	5363.00ft
MD Reference Pt	RIG (16'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	177.00°



Planned Wellpath Report

RANDALL CREEK #412-2905H (PERMIT) PWP

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REFERENCE WELLPATH IDENTIFICATION			
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Area	COLORADO	Well	RANDALL CREEK #412-2905H
Field	WELD COUNTY (NAD 83 / TN)	Wellbore	RANDALL CREEK #412-2905H PWB
Facility	SEC.29-T12N-R62W		

WELLPATH DATA (194 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	86.650	0.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
16.00	0.000	86.650	16.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	Tie On
116.00†	0.000	86.650	116.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
216.00†	0.000	86.650	216.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
316.00†	0.000	86.650	316.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
416.00†	0.000	86.650	416.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
516.00†	0.000	86.650	516.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
616.00†	0.000	86.650	616.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
716.00†	0.000	86.650	716.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
816.00†	0.000	86.650	816.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
916.00†	0.000	86.650	916.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
1016.00†	0.000	86.650	1016.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
1116.00†	0.000	86.650	1116.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
1216.00†	0.000	86.650	1216.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
1316.00†	0.000	86.650	1316.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
1416.00†	0.000	86.650	1416.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
1516.00†	0.000	86.650	1516.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	
1546.00†	0.000	86.650	1546.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	Fox Hills-Pierre contact
1600.00	0.000	86.650	1600.00	0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	0.00	End of Tangent
1616.00†	0.320	86.650	1616.00	0.00	0.00	0.04	3320911.44	1599809.59	40°58'26.630"N	104°20'16.379"W	2.00	
1716.00†	2.320	86.650	1715.97	-0.01	0.14	2.34	3320913.74	1599809.76	40°58'26.631"N	104°20'16.349"W	2.00	
1816.00†	4.320	86.650	1815.80	-0.05	0.48	8.13	3320919.52	1599810.17	40°58'26.635"N	104°20'16.274"W	2.00	
1860.67	5.213	86.650	1860.31	-0.07	0.69	11.83	3320923.22	1599810.44	40°58'26.637"N	104°20'16.226"W	2.00	End of Build
1916.00†	5.213	86.650	1915.41	-0.10	0.99	16.85	3320928.24	1599810.80	40°58'26.640"N	104°20'16.160"W	0.00	
2016.00†	5.213	86.650	2015.00	-0.16	1.52	25.92	3320937.30	1599811.45	40°58'26.645"N	104°20'16.042"W	0.00	
2116.00†	5.213	86.650	2114.58	-0.21	2.05	34.99	3320946.36	1599812.10	40°58'26.650"N	104°20'15.924"W	0.00	
2216.00†	5.213	86.650	2214.17	-0.27	2.58	44.06	3320955.43	1599812.75	40°58'26.655"N	104°20'15.806"W	0.00	
2316.00†	5.213	86.650	2313.76	-0.32	3.11	53.13	3320964.49	1599813.39	40°58'26.661"N	104°20'15.687"W	0.00	
2416.00†	5.213	86.650	2413.34	-0.38	3.64	62.20	3320973.55	1599814.04	40°58'26.666"N	104°20'15.569"W	0.00	
2516.00†	5.213	86.650	2512.93	-0.44	4.17	71.28	3320982.62	1599814.69	40°58'26.671"N	104°20'15.451"W	0.00	



Planned Wellpath Report

RANDALL CREEK #412-2905H (PERMIT) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	FIFTH CREEK ENERGY	Slot	SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29)
Area	COLORADO	Well	RANDALL CREEK #412-2905H
Field	WELD COUNTY (NAD 83 / TN)	Wellbore	RANDALL CREEK #412-2905H PWB
Facility	SEC.29-T12N-R62W		

WELLPATH DATA (194 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2616.00†	5.213	86.650	2612.52	-0.49	4.70	80.35	3320991.68	1599815.34	40°58'26.676"N	104°20'15.333"W	0.00	
2716.00†	5.213	86.650	2712.10	-0.55	5.23	89.42	3321000.74	1599815.99	40°58'26.682"N	104°20'15.214"W	0.00	
2816.00†	5.213	86.650	2811.69	-0.60	5.77	98.49	3321009.81	1599816.64	40°58'26.687"N	104°20'15.096"W	0.00	
2916.00†	5.213	86.650	2911.27	-0.66	6.30	107.56	3321018.87	1599817.29	40°58'26.692"N	104°20'14.978"W	0.00	
3016.00†	5.213	86.650	3010.86	-0.71	6.83	116.63	3321027.94	1599817.94	40°58'26.697"N	104°20'14.860"W	0.00	
3116.00†	5.213	86.650	3110.45	-0.77	7.36	125.70	3321037.00	1599818.59	40°58'26.703"N	104°20'14.741"W	0.00	
3216.00†	5.213	86.650	3210.03	-0.82	7.89	134.77	3321046.06	1599819.24	40°58'26.708"N	104°20'14.623"W	0.00	
3316.00†	5.213	86.650	3309.62	-0.88	8.42	143.84	3321055.13	1599819.89	40°58'26.713"N	104°20'14.505"W	0.00	
3411.78†	5.213	86.650	3405.00	-0.93	8.93	152.53	3321063.81	1599820.52	40°58'26.718"N	104°20'14.391"W	0.00	Pierre A
3416.00†	5.213	86.650	3409.21	-0.93	8.95	152.91	3321064.19	1599820.54	40°58'26.718"N	104°20'14.386"W	0.00	
3516.00†	5.213	86.650	3508.79	-0.99	9.48	161.99	3321073.25	1599821.19	40°58'26.724"N	104°20'14.268"W	0.00	
3616.00†	5.213	86.650	3608.38	-1.05	10.01	171.06	3321082.32	1599821.84	40°58'26.729"N	104°20'14.150"W	0.00	
3716.00†	5.213	86.650	3707.97	-1.10	10.54	180.13	3321091.38	1599822.49	40°58'26.734"N	104°20'14.032"W	0.00	
3816.00†	5.213	86.650	3807.55	-1.16	11.08	189.20	3321100.44	1599823.14	40°58'26.739"N	104°20'13.913"W	0.00	
3916.00†	5.213	86.650	3907.14	-1.21	11.61	198.27	3321109.51	1599823.79	40°58'26.745"N	104°20'13.795"W	0.00	
4016.00†	5.213	86.650	4006.72	-1.27	12.14	207.34	3321118.57	1599824.44	40°58'26.750"N	104°20'13.677"W	0.00	
4116.00†	5.213	86.650	4106.31	-1.32	12.67	216.41	3321127.63	1599825.09	40°58'26.755"N	104°20'13.559"W	0.00	
4216.00†	5.213	86.650	4205.90	-1.38	13.20	225.48	3321136.70	1599825.74	40°58'26.760"N	104°20'13.440"W	0.00	
4255.27†	5.213	86.650	4245.00	-1.40	13.41	229.04	3321140.26	1599826.00	40°58'26.762"N	104°20'13.394"W	0.00	Parkman
4316.00†	5.213	86.650	4305.48	-1.43	13.73	234.55	3321145.76	1599826.39	40°58'26.766"N	104°20'13.322"W	0.00	
4416.00†	5.213	86.650	4405.07	-1.49	14.26	243.62	3321154.83	1599827.04	40°58'26.771"N	104°20'13.204"W	0.00	
4516.00†	5.213	86.650	4504.66	-1.54	14.79	252.70	3321163.89	1599827.69	40°58'26.776"N	104°20'13.086"W	0.00	
4616.00†	5.213	86.650	4604.24	-1.60	15.32	261.77	3321172.95	1599828.34	40°58'26.781"N	104°20'12.967"W	0.00	
4716.00†	5.213	86.650	4703.83	-1.66	15.86	270.84	3321182.02	1599828.99	40°58'26.787"N	104°20'12.849"W	0.00	
4816.00†	5.213	86.650	4803.41	-1.71	16.39	279.91	3321191.08	1599829.64	40°58'26.792"N	104°20'12.731"W	0.00	
4916.00†	5.213	86.650	4903.00	-1.77	16.92	288.98	3321200.14	1599830.29	40°58'26.797"N	104°20'12.613"W	0.00	
5016.00†	5.213	86.650	5002.59	-1.82	17.45	298.05	3321209.21	1599830.94	40°58'26.802"N	104°20'12.494"W	0.00	
5116.00†	5.213	86.650	5102.17	-1.88	17.98	307.12	3321218.27	1599831.59	40°58'26.808"N	104°20'12.376"W	0.00	
5216.00†	5.213	86.650	5201.76	-1.93	18.51	316.19	3321227.33	1599832.24	40°58'26.813"N	104°20'12.258"W	0.00	
5316.00†	5.213	86.650	5301.35	-1.99	19.04	325.26	3321236.40	1599832.89	40°58'26.818"N	104°20'12.140"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
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Area	COLORADO	Well	RANDALL CREEK #412-2905H
Field	WELD COUNTY (NAD 83 / TN)	Wellbore	RANDALL CREEK #412-2905H PWB
Facility	SEC.29-T12N-R62W		

WELLPATH DATA (194 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5416.00†	5.213	86.650	5400.93	-2.04	19.57	334.33	3321245.46	1599833.54	40°58'26.823"N	104°20'12.021"W	0.00	
5516.00†	5.213	86.650	5500.52	-2.10	20.10	343.41	3321254.52	1599834.19	40°58'26.829"N	104°20'11.903"W	0.00	
5616.00†	5.213	86.650	5600.11	-2.15	20.63	352.48	3321263.59	1599834.84	40°58'26.834"N	104°20'11.785"W	0.00	
5716.00†	5.213	86.650	5699.69	-2.21	21.17	361.55	3321272.65	1599835.49	40°58'26.839"N	104°20'11.667"W	0.00	
5816.00†	5.213	86.650	5799.28	-2.27	21.70	370.62	3321281.71	1599836.14	40°58'26.844"N	104°20'11.548"W	0.00	
5916.00†	5.213	86.650	5898.86	-2.32	22.23	379.69	3321290.78	1599836.79	40°58'26.850"N	104°20'11.430"W	0.00	
6016.00†	5.213	86.650	5998.45	-2.38	22.76	388.76	3321299.84	1599837.44	40°58'26.855"N	104°20'11.312"W	0.00	
6116.00†	5.213	86.650	6098.04	-2.43	23.29	397.83	3321308.91	1599838.09	40°58'26.860"N	104°20'11.194"W	0.00	
6216.00†	5.213	86.650	6197.62	-2.49	23.82	406.90	3321317.97	1599838.74	40°58'26.865"N	104°20'11.075"W	0.00	
6316.00†	5.213	86.650	6297.21	-2.54	24.35	415.97	3321327.03	1599839.39	40°58'26.871"N	104°20'10.957"W	0.00	
6416.00†	5.213	86.650	6396.80	-2.60	24.88	425.04	3321336.10	1599840.04	40°58'26.876"N	104°20'10.839"W	0.00	
6516.00†	5.213	86.650	6496.38	-2.65	25.41	434.12	3321345.16	1599840.69	40°58'26.881"N	104°20'10.721"W	0.00	
6616.00†	5.213	86.650	6595.97	-2.71	25.94	443.19	3321354.22	1599841.34	40°58'26.886"N	104°20'10.602"W	0.00	
6716.00†	5.213	86.650	6695.55	-2.76	26.48	452.26	3321363.29	1599841.99	40°58'26.892"N	104°20'10.484"W	0.00	
6816.00†	5.213	86.650	6795.14	-2.82	27.01	461.33	3321372.35	1599842.64	40°58'26.897"N	104°20'10.366"W	0.00	
6865.56	5.213	86.650	6844.49	-2.85	27.27	465.82	3321376.84	1599842.96	40°58'26.899"N	104°20'10.307"W	0.00	End of Tangent
6916.00†	7.043	132.370	6894.67	-0.66	25.32	470.40	3321381.44	1599841.07	40°58'26.880"N	104°20'10.248"W	10.00	
7016.00†	15.623	160.864	6992.70	16.68	8.42	479.37	3321390.63	1599824.29	40°58'26.713"N	104°20'10.131"W	10.00	
7116.00†	25.259	168.744	7086.31	50.82	-25.31	487.97	3321399.67	1599790.67	40°58'26.380"N	104°20'10.019"W	10.00	
7193.50†	32.870	171.772	7154.00	88.18	-62.40	494.21	3321406.41	1599753.67	40°58'26.013"N	104°20'09.937"W	10.00	Lower Sharon Springs GR Marker
7216.00†	35.090	172.426	7172.66	100.71	-74.85	495.94	3321408.29	1599741.24	40°58'25.890"N	104°20'09.915"W	10.00	
7234.97†	36.965	172.924	7188.00	111.84	-85.92	497.36	3321409.86	1599730.19	40°58'25.781"N	104°20'09.896"W	10.00	Niobrara A Chalk
7253.98†	38.845	173.381	7203.00	123.49	-97.51	498.75	3321411.40	1599718.61	40°58'25.666"N	104°20'09.878"W	10.00	Niobrara A Marl
7277.48†	41.171	173.897	7221.00	138.57	-112.53	500.42	3321413.27	1599703.62	40°58'25.518"N	104°20'09.856"W	10.00	Nio B1 Chalk
7316.00†	44.989	174.648	7249.13	164.85	-138.70	503.04	3321416.24	1599677.49	40°58'25.259"N	104°20'09.822"W	10.00	
7322.93†	45.676	174.772	7254.00	169.77	-143.61	503.50	3321416.75	1599672.58	40°58'25.211"N	104°20'09.816"W	10.00	Nio B1 Marl
7331.58†	46.535	174.923	7260.00	176.00	-149.82	504.06	3321417.40	1599666.38	40°58'25.150"N	104°20'09.809"W	10.00	Niobrara B Chalk
7391.68†	52.502	175.868	7299.00	221.68	-195.37	507.71	3321421.64	1599620.89	40°58'24.700"N	104°20'09.761"W	10.00	Niobrara B Marl
7416.00†	54.918	176.208	7313.39	241.27	-214.92	509.06	3321423.25	1599601.35	40°58'24.506"N	104°20'09.744"W	10.00	
7516.00†	64.863	177.426	7363.50	327.67	-301.18	513.81	3321429.13	1599515.16	40°58'23.654"N	104°20'09.682"W	10.00	



Planned Wellpath Report

RANDALL CREEK #412-2905H (PERMIT) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	FIFTH CREEK ENERGY	Slot	SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29)
Area	COLORADO	Well	RANDALL CREEK #412-2905H
Field	WELD COUNTY (NAD 83 / TN)	Wellbore	RANDALL CREEK #412-2905H PWB
Facility	SEC.29-T12N-R62W		

WELLPATH DATA (194 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7529.29†	66.185	177.572	7369.00	339.76	-313.27	514.34	3321429.82	1599503.08	40°58'23.535"N	104°20'09.675"W	10.00	Niobrara M Zone
7616.00†	74.816	178.460	7397.92	421.41	-394.88	517.15	3321433.70	1599421.51	40°58'22.728"N	104°20'09.638"W	10.00	
7716.00†	84.773	179.399	7415.62	519.64	-493.15	518.98	3321436.81	1599323.26	40°58'21.757"N	104°20'09.614"W	10.00	
7771.46†	90.296	179.903	7418.00	574.97	-548.54	519.31	3321437.87	1599267.88	40°58'21.210"N	104°20'09.610"W	10.00	Nio M Zone Target
7771.46	90.296	179.903	7418.00†	574.97	-548.54	519.31	3321437.87	1599267.88	40°58'21.210"N	104°20'09.610"W	10.00	End of 3D Arc
7816.00†	90.296	179.903	7417.77	619.45	-593.08	519.39	3321438.53	1599223.35	40°58'20.770"N	104°20'09.609"W	0.00	
7916.00†	90.296	179.903	7417.25	719.32	-693.08	519.56	3321440.01	1599123.36	40°58'19.782"N	104°20'09.607"W	0.00	
8016.00†	90.296	179.903	7416.74	819.19	-793.07	519.73	3321441.49	1599023.37	40°58'18.794"N	104°20'09.605"W	0.00	
8116.00†	90.296	179.903	7416.22	919.06	-893.07	519.89	3321442.97	1598923.37	40°58'17.806"N	104°20'09.603"W	0.00	
8216.00†	90.296	179.903	7415.70	1018.93	-993.07	520.06	3321444.45	1598823.38	40°58'16.818"N	104°20'09.600"W	0.00	
8316.00†	90.296	179.903	7415.18	1118.80	-1093.07	520.23	3321445.93	1598723.39	40°58'15.830"N	104°20'09.598"W	0.00	
8416.00†	90.296	179.903	7414.67	1218.67	-1193.07	520.40	3321447.41	1598623.40	40°58'14.842"N	104°20'09.596"W	0.00	
8516.00†	90.296	179.903	7414.15	1318.54	-1293.07	520.57	3321448.89	1598523.41	40°58'13.854"N	104°20'09.594"W	0.00	
8616.00†	90.296	179.903	7413.63	1418.42	-1393.07	520.74	3321450.37	1598423.42	40°58'12.866"N	104°20'09.592"W	0.00	
8716.00†	90.296	179.903	7413.12	1518.29	-1493.06	520.91	3321451.85	1598323.43	40°58'11.877"N	104°20'09.589"W	0.00	
8816.00†	90.296	179.903	7412.60	1618.16	-1593.06	521.08	3321453.33	1598223.44	40°58'10.889"N	104°20'09.587"W	0.00	
8916.00†	90.296	179.903	7412.08	1718.03	-1693.06	521.24	3321454.81	1598123.45	40°58'09.901"N	104°20'09.585"W	0.00	
9016.00†	90.296	179.903	7411.56	1817.90	-1793.06	521.41	3321456.28	1598023.45	40°58'08.913"N	104°20'09.583"W	0.00	
9116.00†	90.296	179.903	7411.05	1917.77	-1893.06	521.58	3321457.76	1597923.46	40°58'07.925"N	104°20'09.581"W	0.00	
9216.00†	90.296	179.903	7410.53	2017.64	-1993.06	521.75	3321459.24	1597823.47	40°58'06.937"N	104°20'09.579"W	0.00	
9316.00†	90.296	179.903	7410.01	2117.51	-2093.05	521.92	3321460.72	1597723.48	40°58'05.949"N	104°20'09.576"W	0.00	
9416.00†	90.296	179.903	7409.50	2217.38	-2193.05	522.09	3321462.20	1597623.49	40°58'04.961"N	104°20'09.574"W	0.00	
9516.00†	90.296	179.903	7408.98	2317.25	-2293.05	522.26	3321463.68	1597523.50	40°58'03.973"N	104°20'09.572"W	0.00	
9616.00†	90.296	179.903	7408.46	2417.12	-2393.05	522.43	3321465.16	1597423.51	40°58'02.985"N	104°20'09.570"W	0.00	
9716.00†	90.296	179.903	7407.94	2516.99	-2493.05	522.59	3321466.64	1597323.52	40°58'01.997"N	104°20'09.568"W	0.00	
9816.00†	90.296	179.903	7407.43	2616.86	-2593.05	522.76	3321468.12	1597223.53	40°58'01.009"N	104°20'09.566"W	0.00	
9916.00†	90.296	179.903	7406.91	2716.73	-2693.05	522.93	3321469.60	1597123.53	40°58'00.021"N	104°20'09.563"W	0.00	
10016.00†	90.296	179.903	7406.39	2816.60	-2793.04	523.10	3321471.08	1597023.54	40°57'59.033"N	104°20'09.561"W	0.00	
10116.00†	90.296	179.903	7405.88	2916.47	-2893.04	523.27	3321472.56	1596923.55	40°57'58.045"N	104°20'09.559"W	0.00	
10216.00†	90.296	179.903	7405.36	3016.34	-2993.04	523.44	3321474.04	1596823.56	40°57'57.057"N	104°20'09.557"W	0.00	



Planned Wellpath Report

RANDALL CREEK #412-2905H (PERMIT) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	FIFTH CREEK ENERGY	Slot	SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29)
Area	COLORADO	Well	RANDALL CREEK #412-2905H
Field	WELD COUNTY (NAD 83 / TN)	Wellbore	RANDALL CREEK #412-2905H PWB
Facility	SEC.29-T12N-R62W		

WELLPATH DATA (194 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10316.00†	90.296	179.903	7404.84	3116.21	-3093.04	523.61	3321475.52	1596723.57	40°57'56.069"N	104°20'09.555"W	0.00	
10416.00†	90.296	179.903	7404.33	3216.08	-3193.04	523.78	3321476.99	1596623.58	40°57'55.081"N	104°20'09.553"W	0.00	
10516.00†	90.296	179.903	7403.81	3315.95	-3293.04	523.94	3321478.47	1596523.59	40°57'54.093"N	104°20'09.550"W	0.00	
10616.00†	90.296	179.903	7403.29	3415.82	-3393.04	524.11	3321479.95	1596423.60	40°57'53.104"N	104°20'09.548"W	0.00	
10716.00†	90.296	179.903	7402.77	3515.69	-3493.03	524.28	3321481.43	1596323.60	40°57'52.116"N	104°20'09.546"W	0.00	
10816.00†	90.296	179.903	7402.26	3615.56	-3593.03	524.45	3321482.91	1596223.61	40°57'51.128"N	104°20'09.544"W	0.00	
10916.00†	90.296	179.903	7401.74	3715.43	-3693.03	524.62	3321484.39	1596123.62	40°57'50.140"N	104°20'09.542"W	0.00	
11016.00†	90.296	179.903	7401.22	3815.30	-3793.03	524.79	3321485.87	1596023.63	40°57'49.152"N	104°20'09.540"W	0.00	
11116.00†	90.296	179.903	7400.71	3915.17	-3893.03	524.96	3321487.35	1595923.64	40°57'48.164"N	104°20'09.537"W	0.00	
11216.00†	90.296	179.903	7400.19	4015.04	-3993.03	525.13	3321488.83	1595823.65	40°57'47.176"N	104°20'09.535"W	0.00	
11316.00†	90.296	179.903	7399.67	4114.91	-4093.03	525.29	3321490.31	1595723.66	40°57'46.188"N	104°20'09.533"W	0.00	
11416.00†	90.296	179.903	7399.15	4214.78	-4193.02	525.46	3321491.79	1595623.67	40°57'45.200"N	104°20'09.531"W	0.00	
11516.00†	90.296	179.903	7398.64	4314.65	-4293.02	525.63	3321493.27	1595523.68	40°57'44.212"N	104°20'09.529"W	0.00	
11616.00†	90.296	179.903	7398.12	4414.52	-4393.02	525.80	3321494.75	1595423.68	40°57'43.224"N	104°20'09.526"W	0.00	
11716.00†	90.296	179.903	7397.60	4514.39	-4493.02	525.97	3321496.23	1595323.69	40°57'42.236"N	104°20'09.524"W	0.00	
11816.00†	90.296	179.903	7397.09	4614.26	-4593.02	526.14	3321497.71	1595223.70	40°57'41.248"N	104°20'09.522"W	0.00	
11916.00†	90.296	179.903	7396.57	4714.13	-4693.02	526.31	3321499.18	1595123.71	40°57'40.260"N	104°20'09.520"W	0.00	
12016.00†	90.296	179.903	7396.05	4814.00	-4793.01	526.48	3321500.66	1595023.72	40°57'39.272"N	104°20'09.518"W	0.00	
12116.00†	90.296	179.903	7395.53	4913.87	-4893.01	526.65	3321502.14	1594923.73	40°57'38.284"N	104°20'09.516"W	0.00	
12216.00†	90.296	179.903	7395.02	5013.74	-4993.01	526.81	3321503.62	1594823.74	40°57'37.296"N	104°20'09.513"W	0.00	
12316.00†	90.296	179.903	7394.50	5113.61	-5093.01	526.98	3321505.10	1594723.75	40°57'36.308"N	104°20'09.511"W	0.00	
12416.00†	90.296	179.903	7393.98	5213.48	-5193.01	527.15	3321506.58	1594623.75	40°57'35.319"N	104°20'09.509"W	0.00	
12516.00†	90.296	179.903	7393.47	5313.35	-5293.01	527.32	3321508.06	1594523.76	40°57'34.331"N	104°20'09.507"W	0.00	
12616.00†	90.296	179.903	7392.95	5413.22	-5393.01	527.49	3321509.54	1594423.77	40°57'33.343"N	104°20'09.505"W	0.00	
12716.00†	90.296	179.903	7392.43	5513.10	-5493.00	527.66	3321511.02	1594323.78	40°57'32.355"N	104°20'09.503"W	0.00	
12816.00†	90.296	179.903	7391.92	5612.97	-5593.00	527.83	3321512.50	1594223.79	40°57'31.367"N	104°20'09.500"W	0.00	
12916.00†	90.296	179.903	7391.40	5712.84	-5693.00	528.00	3321513.98	1594123.80	40°57'30.379"N	104°20'09.498"W	0.00	
13016.00†	90.296	179.903	7390.88	5812.71	-5793.00	528.16	3321515.46	1594023.81	40°57'29.391"N	104°20'09.496"W	0.00	
13116.00†	90.296	179.903	7390.36	5912.58	-5893.00	528.33	3321516.94	1593923.82	40°57'28.403"N	104°20'09.494"W	0.00	
13216.00†	90.296	179.903	7389.85	6012.45	-5993.00	528.50	3321518.42	1593823.83	40°57'27.415"N	104°20'09.492"W	0.00	



Planned Wellpath Report

RANDALL CREEK #412-2905H (PERMIT) PWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	FIFTH CREEK ENERGY	Slot	SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29)
Area	COLORADO	Well	RANDALL CREEK #412-2905H
Field	WELD COUNTY (NAD 83 / TN)	Wellbore	RANDALL CREEK #412-2905H PWB
Facility	SEC.29-T12N-R62W		

WELLPATH DATA (194 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13316.00†	90.296	179.903	7389.33	6112.32	-6093.00	528.67	3321519.89	1593723.83	40°57'26.427"N	104°20'09.490"W	0.00	
13416.00†	90.296	179.903	7388.81	6212.19	-6192.99	528.84	3321521.37	1593623.84	40°57'25.439"N	104°20'09.487"W	0.00	
13516.00†	90.296	179.903	7388.30	6312.06	-6292.99	529.01	3321522.85	1593523.85	40°57'24.451"N	104°20'09.485"W	0.00	
13616.00†	90.296	179.903	7387.78	6411.93	-6392.99	529.18	3321524.33	1593423.86	40°57'23.463"N	104°20'09.483"W	0.00	
13716.00†	90.296	179.903	7387.26	6511.80	-6492.99	529.35	3321525.81	1593323.87	40°57'22.475"N	104°20'09.481"W	0.00	
13816.00†	90.296	179.903	7386.74	6611.67	-6592.99	529.51	3321527.29	1593223.88	40°57'21.487"N	104°20'09.479"W	0.00	
13916.00†	90.296	179.903	7386.23	6711.54	-6692.99	529.68	3321528.77	1593123.89	40°57'20.499"N	104°20'09.477"W	0.00	
14016.00†	90.296	179.903	7385.71	6811.41	-6792.99	529.85	3321530.25	1593023.90	40°57'19.511"N	104°20'09.474"W	0.00	
14116.00†	90.296	179.903	7385.19	6911.28	-6892.98	530.02	3321531.73	1592923.90	40°57'18.523"N	104°20'09.472"W	0.00	
14216.00†	90.296	179.903	7384.68	7011.15	-6992.98	530.19	3321533.21	1592823.91	40°57'17.534"N	104°20'09.470"W	0.00	
14316.00†	90.296	179.903	7384.16	7111.02	-7092.98	530.36	3321534.69	1592723.92	40°57'16.546"N	104°20'09.468"W	0.00	
14416.00†	90.296	179.903	7383.64	7210.89	-7192.98	530.53	3321536.17	1592623.93	40°57'15.558"N	104°20'09.466"W	0.00	
14516.00†	90.296	179.903	7383.12	7310.76	-7292.98	530.70	3321537.65	1592523.94	40°57'14.570"N	104°20'09.464"W	0.00	
14616.00†	90.296	179.903	7382.61	7410.63	-7392.98	530.86	3321539.13	1592423.95	40°57'13.582"N	104°20'09.461"W	0.00	
14716.00†	90.296	179.903	7382.09	7510.50	-7492.97	531.03	3321540.60	1592323.96	40°57'12.594"N	104°20'09.459"W	0.00	
14816.00†	90.296	179.903	7381.57	7610.37	-7592.97	531.20	3321542.08	1592223.97	40°57'11.606"N	104°20'09.457"W	0.00	
14916.00†	90.296	179.903	7381.06	7710.24	-7692.97	531.37	3321543.56	1592123.98	40°57'10.618"N	104°20'09.455"W	0.00	
15016.00†	90.296	179.903	7380.54	7810.11	-7792.97	531.54	3321545.04	1592023.98	40°57'09.630"N	104°20'09.453"W	0.00	
15116.00†	90.296	179.903	7380.02	7909.98	-7892.97	531.71	3321546.52	1591923.99	40°57'08.642"N	104°20'09.450"W	0.00	
15216.00†	90.296	179.903	7379.51	8009.85	-7992.97	531.88	3321548.00	1591824.00	40°57'07.654"N	104°20'09.448"W	0.00	
15316.00†	90.296	179.903	7378.99	8109.72	-8092.97	532.05	3321549.48	1591724.01	40°57'06.666"N	104°20'09.446"W	0.00	
15416.00†	90.296	179.903	7378.47	8209.59	-8192.96	532.21	3321550.96	1591624.02	40°57'05.678"N	104°20'09.444"W	0.00	
15516.00†	90.296	179.903	7377.95	8309.46	-8292.96	532.38	3321552.44	1591524.03	40°57'04.690"N	104°20'09.442"W	0.00	
15616.00†	90.296	179.903	7377.44	8409.33	-8392.96	532.55	3321553.92	1591424.04	40°57'03.702"N	104°20'09.440"W	0.00	
15716.00†	90.296	179.903	7376.92	8509.20	-8492.96	532.72	3321555.40	1591324.05	40°57'02.714"N	104°20'09.437"W	0.00	
15816.00†	90.296	179.903	7376.40	8609.07	-8592.96	532.89	3321556.88	1591224.05	40°57'01.726"N	104°20'09.435"W	0.00	
15916.00†	90.296	179.903	7375.89	8708.94	-8692.96	533.06	3321558.36	1591124.06	40°57'00.737"N	104°20'09.433"W	0.00	
16016.00†	90.296	179.903	7375.37	8808.81	-8792.96	533.23	3321559.84	1591024.07	40°56'59.749"N	104°20'09.431"W	0.00	
16116.00†	90.296	179.903	7374.85	8908.68	-8892.95	533.40	3321561.31	1590924.08	40°56'58.761"N	104°20'09.429"W	0.00	
16216.00†	90.296	179.903	7374.33	9008.55	-8992.95	533.57	3321562.79	1590824.09	40°56'57.773"N	104°20'09.427"W	0.00	



Planned Wellpath Report

RANDALL CREEK #412-2905H (PERMIT) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	FIFTH CREEK ENERGY	Slot	SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29)
Area	COLORADO	Well	RANDALL CREEK #412-2905H
Field	WELD COUNTY (NAD 83 / TN)	Wellbore	RANDALL CREEK #412-2905H PWB
Facility	SEC.29-T12N-R62W		

WELLPATH DATA (194 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16316.00†	90.296	179.903	7373.82	9108.42	-9092.95	533.73	3321564.27	1590724.10	40°56'56.785"N	104°20'09.424"W	0.00	
16416.00†	90.296	179.903	7373.30	9208.29	-9192.95	533.90	3321565.75	1590624.11	40°56'55.797"N	104°20'09.422"W	0.00	
16516.00†	90.296	179.903	7372.78	9308.16	-9292.95	534.07	3321567.23	1590524.12	40°56'54.809"N	104°20'09.420"W	0.00	
16616.00†	90.296	179.903	7372.27	9408.03	-9392.95	534.24	3321568.71	1590424.13	40°56'53.821"N	104°20'09.418"W	0.00	
16716.00†	90.296	179.903	7371.75	9507.90	-9492.95	534.41	3321570.19	1590324.13	40°56'52.833"N	104°20'09.416"W	0.00	
16816.00†	90.296	179.903	7371.23	9607.78	-9592.94	534.58	3321571.67	1590224.14	40°56'51.845"N	104°20'09.414"W	0.00	
16916.00†	90.296	179.903	7370.71	9707.65	-9692.94	534.75	3321573.15	1590124.15	40°56'50.857"N	104°20'09.411"W	0.00	
17016.00†	90.296	179.903	7370.20	9807.52	-9792.94	534.92	3321574.63	1590024.16	40°56'49.869"N	104°20'09.409"W	0.00	
17116.00†	90.296	179.903	7369.68	9907.39	-9892.94	535.08	3321576.11	1589924.17	40°56'48.881"N	104°20'09.407"W	0.00	
17216.00†	90.296	179.903	7369.16	10007.26	-9992.94	535.25	3321577.59	1589824.18	40°56'47.893"N	104°20'09.405"W	0.00	
17316.00†	90.296	179.903	7368.65	10107.13	-10092.94	535.42	3321579.07	1589724.19	40°56'46.905"N	104°20'09.403"W	0.00	
17416.00†	90.296	179.903	7368.13	10207.00	-10192.93	535.59	3321580.55	1589624.20	40°56'45.917"N	104°20'09.401"W	0.00	
17440.95†	90.296	179.903	7368.00	10231.91	-10217.88	535.63	3321580.91	1589599.25	40°56'45.670"N	104°20'09.400"W	0.00	TD
17440.95	90.296	179.903	7368.00	10231.92	-10217.89	535.63	3321580.91	1589599.24	40°56'45.670"N	104°20'09.400"W	0.00	End of Tangent

HOLE & CASING SECTIONS - Ref Wellbore: RANDALL CREEK #412-2905H PWB Ref Wellpath: RANDALL CREEK #412-2905H (PERMIT) 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]
9.625in Casing Surface	16.00	1500.00	1484.00	16.00	1500.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1500.00	17440.95	15940.95	1500.00	7368.00	0.00	0.00	-10217.88	535.63
5.5in Casing Production	16.00	17440.95	17424.95	16.00	7368.00	0.00	0.00	-10217.88	535.63



Planned Wellpath Report

RANDALL CREEK #412-2905H (PERMIT) PWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	FIFTH CREEK ENERGY	Slot	SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29)
Area	COLORADO	Well	RANDALL CREEK #412-2905H
Field	WELD COUNTY (NAD 83 / TN)	Wellbore	RANDALL CREEK #412-2905H PWB
Facility	SEC.29-T12N-R62W		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.05-T11N-R62W		0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	polygon
SEC.05-T11N-R62W SE CORNER		0.00	-10519.35	856.50	3321905.72	1589302.00	40°56'42.691"N	104°20'05.219"W	point
SEC.05-T11N-R62W SW CORNER		0.00	-10483.63	-4385.54	3316663.47	1589269.02	40°56'43.040"N	104°21'13.529"W	point
SEC.32-T12N-R62W		0.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	polygon
SEC.32-T12N-R62W NE CORNER		0.00	-246.97	838.47	3321753.06	1599573.62	40°58'24.190"N	104°20'05.449"W	point
SEC.32-T12N-R62W NW CORNER		0.00	-261.93	-4218.85	3316696.19	1599492.38	40°58'24.038"N	104°21'11.380"W	point
SEC.32-T12N-R62W SE CORNER		0.00	-5552.23	844.73	3321828.85	1594268.71	40°57'31.770"N	104°20'05.370"W	point
SEC.32-T12N-R62W SW CORNER		0.00	-5577.01	-4289.65	3316695.06	1594176.64	40°57'31.522"N	104°21'12.290"W	point
2) RANDALL CREEK #412-2905H BHL ON PLAT REV-1 (300'FSL & 320'FEL, SEC.05)	17440.95	7368.00	-10217.89	535.63	3321580.91	1589599.24	40°56'45.670"N	104°20'09.400"W	point
SEC.32-T12N-R62W & SEC.05-T11N-R62W HARDLINES (300'FNL/FSL & 320'FEL/FWL)		7368.00	0.00	0.00	3320911.40	1599809.59	40°58'26.630"N	104°20'16.380"W	polygon
1) RANDALL CREEK #412-2905H HEEL ON PLAT REV-1 (300'FNL & 320'FEL, SEC.32)	7771.46	7418.00	-548.54	519.31	3321437.87	1599267.88	40°58'21.210"N	104°20'09.610"W	point



Planned Wellpath Report

RANDALL CREEK #412-2905H (PERMIT) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	FIFTH CREEK ENERGY	Slot	SLOT#01 RANDALL CREEK #412-2905H (250'FSL & 850'FEL, SEC.29)
Area	COLORADO	Well	RANDALL CREEK #412-2905H
Field	WELD COUNTY (NAD 83 / TN)	Wellbore	RANDALL CREEK #412-2905H PWB
Facility	SEC.29-T12N-R62W		

SURVEY PROGRAM - Ref Wellbore: RANDALL CREEK #412-2905H PWB Ref Wellpath: RANDALL CREEK #412-2905H (PERMIT) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	17440.95	Custom BHI NaviTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model)		RANDALL CREEK #412-2905H PWB



Planned Wellpath Report

RANDALL CREEK #412-2905H (PERMIT) PWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	FIFTH CREEK ENERGY	Slot	SLOT#01 RANDALL CREEK #412-2905H (250°FSL & 850°FEL, SEC.29)
Area	COLORADO	Well	RANDALL CREEK #412-2905H
Field	WELD COUNTY (NAD 83 / TN)	Wellbore	RANDALL CREEK #412-2905H PWB
Facility	SEC.29-T12N-R62W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1546.00	0.000	86.650	1546.00	Fox Hills-Pierre contact
3411.78	5.213	86.650	3405.00	Pierre A
4255.27	5.213	86.650	4245.00	Parkman
7193.50	32.870	171.772	7154.00	Lower Sharon Springs GR Marker
7234.97	36.965	172.924	7188.00	Niobrara A Chalk
7253.98	38.845	173.381	7203.00	Niobrara A Marl
7277.48	41.171	173.897	7221.00	Nio B1 Chalk
7322.93	45.676	174.772	7254.00	Nio B1 Marl
7331.58	46.535	174.923	7260.00	Niobrara B Chalk
7391.68	52.502	175.868	7299.00	Niobrara B Marl
7529.29	66.185	177.572	7369.00	Niobrara M Zone
7771.46	90.296	179.903	7418.00	Nio M Zone Target
17440.95	90.296	179.903	7368.00	TD

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	86.650	16.00	Tie On
1600.00	0.000	86.650	1600.00	End of Tangent
1860.67	5.213	86.650	1860.31	End of Build
6865.56	5.213	86.650	6844.49	End of Tangent
7771.46	90.296	179.903	7418.00	End of 3D Arc
17440.95	90.296	179.903	7368.00	End of Tangent