

CONFLUENCE RESOURCES

Location: COLORADO Slot: SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22)
Field: WELD COUNTY (NAD83, TRUE NORTH) Well: WILLOW 22-21-3L
Facility: SEC.22-T01N-R65W Wellbore: WILLOW 22-21-3L PWB

Plot reference wellpath is WILLOW 22-21-3L PWB (REV-A.0)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (17) (RKB)	North Reference: True north
Measured depths are referenced to RIG (17) (RKB)	Scale: True distance
RIG (17) (RKB) to Mean Sea Level: 5108 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot: SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22)): 0 feet	Created by: robiale01 on 2019-02-27
Coordinates are in feet referenced to Slot	Database: WADENVER

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.22-T01N-R65W	3236383.461	1254962.137	40°01'48.612"N	104°39'21.060"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22)	0.00	22.40	3236405.862	1254962.350
RIG (17) (RKB) to Mud line (At Slot: SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22))				5108ft
Mean Sea Level to Mud line (At Slot: SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22))				0ft
RIG (17) (RKB) to Mean Sea Level				5108ft

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
HARDLINES SEC.10,15,22-T01N-R65W 460'N/S&E/W		0.00	0.00	-22.40	3236383.46	1254962.14	40°01'48.612"N	104°39'21.060"W
SEC.10-T01N-R65W		0.00	0.00	-22.40	3236383.46	1254962.14	40°01'48.612"N	104°39'21.060"W
SEC.15-T01N-R65W		0.00	0.00	-22.40	3236383.46	1254962.14	40°01'48.612"N	104°39'21.060"W
SEC.22-T01N-R65W		0.00	0.00	-22.40	3236383.46	1254962.14	40°01'48.612"N	104°39'21.060"W
WILLOW 22-21-3L BHL ON PLAT (2181'FSL & 470'FWL,SEC.10)	19961.08	7332.00	12588.32	-585.13	3235700.94	1267544.05	40°03'53.013"N	104°39'28.298"W
WILLOW 22-21-3L LP ON PLAT (470'FSL & 470'FWL,SEC.22)	7660.55	7332.00	287.80	-599.28	3235803.89	1255244.42	40°01'51.456"N	104°39'28.476"W

Survey Program

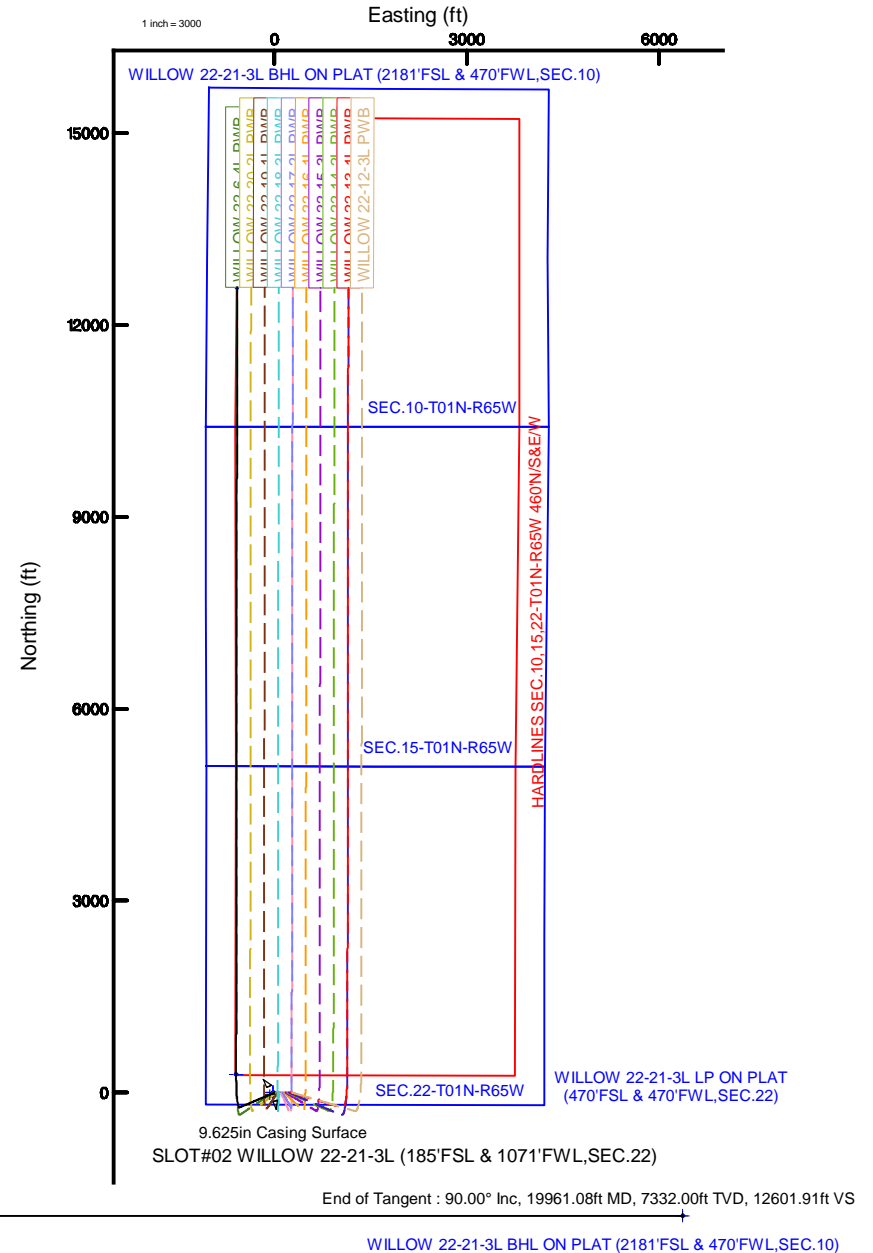
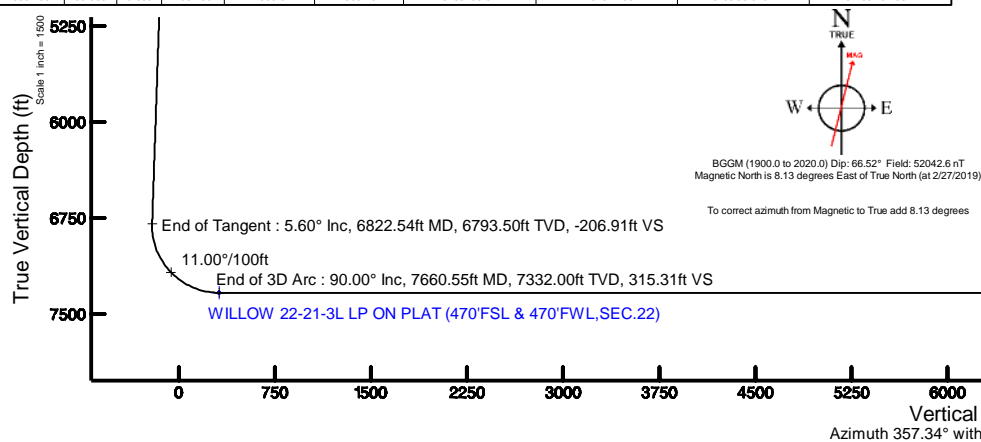
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	1500.00	BHI NavTrak	BHI NavTrak (Rotating+Axial Corr)		WILLOW 22-21-3L PWB
1500.00	19961.08	BHI AutoTrak Curve	BHI AutoTrak Curve (Axial Corr, Short spacing)		WILLOW 22-21-3L PWB

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	17.00	0.000	247.110	17.00	0.00	0.00	0.00	0.00
End of Tangent	550.00	0.000	247.110	550.00	0.00	0.00	0.00	0.00
End of Build	829.97	5.599	247.110	829.53	-5.32	-12.59	2.00	-4.73
End of Tangent	6822.54	5.599	247.110	6793.50	-232.75	-551.26	0.00	-206.91
End of 3D Arc	7660.55	90.000	0.066	7332.00	287.80	-599.28	11.00	315.31
End of Tangent	19961.08	90.000	0.066	7332.00	12588.32	-585.13	0.00	12601.91

Bottom Hole Location

MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
19961.08	90.000	0.066	7332.00	12588.32	-585.13	3235700.94	1267544.05	40°03'53.013"N	104°39'28.298"W



Planned Wellpath Report

WILLOW 22-21-3L PWP (REV-A.0)

Page 1 of 8

REFERENCE WELLPATH IDENTIFICATION

Operator	CONFLUENCE RESOURCES	Slot	SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22)
Area	COLORADO	Well	WILLOW 22-21-3L
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	WILLOW 22-21-3L PWB
Facility	SEC.22-T01N-R65W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	True	User	Robiale01
Scale	0.999964	Report Generated	2/27/2019 at 12:24:39 PM
Convergence at slot	0.55° East	Database/Source file	WA DENVER/WILLOW_22-21-3L_PWP__REV-A.0_.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	22.40	3236405.86	1254962.35	40°01'48.612"N	104°39'20.772"W
Facility Reference Pt			3236383.46	1254962.14	40°01'48.612"N	104°39'21.060"W
Field Reference Pt			3230456.90	1245096.09	40°00'11.664"N	104°40'38.424"W

WELLPATH DATUM

Calculation method	Minimum curvature	RIG (17') (RKB) to Facility Vertical Datum	5108.00ft
Horizontal Reference Pt	Slot	RIG (17') (RKB) to Mean Sea Level	5108.00ft
Vertical Reference Pt	RIG (17') (RKB)	RIG (17') (RKB) to Mud Line at Slot (SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22))	5108.00ft
MD Reference Pt	RIG (17') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	357.34°

Planned Wellpath Report

WILLOW 22-21-3L PWP (REV-A.0)

Page 2 of 8

REFERENCE WELLPATH IDENTIFICATION

Operator	CONFLUENCE RESOURCES	Slot	SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22)
Area	COLORADO	Well	WILLOW 22-21-3L
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	WILLOW 22-21-3L PWB
Facility	SEC.22-T01N-R65W		

WELLPATH DATA (206 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	247.110	0.00	0.00	0.00	0.00	40°01'48.612"N	104°39'20.772"W	0.00	
17.00	0.000	247.110	17.00	0.00	0.00	0.00	40°01'48.612"N	104°39'20.772"W	0.00	Tie On
117.00†	0.000	247.110	117.00	0.00	0.00	0.00	40°01'48.612"N	104°39'20.772"W	0.00	
217.00†	0.000	247.110	217.00	0.00	0.00	0.00	40°01'48.612"N	104°39'20.772"W	0.00	
317.00†	0.000	247.110	317.00	0.00	0.00	0.00	40°01'48.612"N	104°39'20.772"W	0.00	
417.00†	0.000	247.110	417.00	0.00	0.00	0.00	40°01'48.612"N	104°39'20.772"W	0.00	
517.00†	0.000	247.110	517.00	0.00	0.00	0.00	40°01'48.612"N	104°39'20.772"W	0.00	
550.00	0.000	247.110	550.00	0.00	0.00	0.00	40°01'48.612"N	104°39'20.772"W	0.00	End of Tangent
617.00†	1.340	247.110	616.99	-0.27	-0.30	-0.72	40°01'48.609"N	104°39'20.781"W	2.00	
717.00†	3.340	247.110	716.91	-1.68	-1.89	-4.48	40°01'48.593"N	104°39'20.830"W	2.00	
817.00†	5.340	247.110	816.61	-4.30	-4.84	-11.45	40°01'48.564"N	104°39'20.919"W	2.00	
829.97	5.599	247.110	829.53	-4.73	-5.32	-12.59	40°01'48.559"N	104°39'20.934"W	2.00	End of Build
917.00†	5.599	247.110	916.14	-7.66	-8.62	-20.42	40°01'48.527"N	104°39'21.034"W	0.00	
1017.00†	5.599	247.110	1015.66	-11.04	-12.42	-29.41	40°01'48.489"N	104°39'21.150"W	0.00	
1117.00†	5.599	247.110	1115.18	-14.41	-16.21	-38.39	40°01'48.452"N	104°39'21.266"W	0.00	
1217.00†	5.599	247.110	1214.71	-17.78	-20.01	-47.38	40°01'48.414"N	104°39'21.381"W	0.00	
1317.00†	5.599	247.110	1314.23	-21.16	-23.80	-56.37	40°01'48.377"N	104°39'21.497"W	0.00	
1417.00†	5.599	247.110	1413.75	-24.53	-27.60	-65.36	40°01'48.339"N	104°39'21.612"W	0.00	
1517.00†	5.599	247.110	1513.28	-27.91	-31.39	-74.35	40°01'48.302"N	104°39'21.728"W	0.00	
1617.00†	5.599	247.110	1612.80	-31.28	-35.19	-83.34	40°01'48.264"N	104°39'21.843"W	0.00	
1717.00†	5.599	247.110	1712.32	-34.65	-38.98	-92.33	40°01'48.227"N	104°39'21.959"W	0.00	
1817.00†	5.599	247.110	1811.84	-38.03	-42.78	-101.32	40°01'48.189"N	104°39'22.074"W	0.00	
1917.00†	5.599	247.110	1911.37	-41.40	-46.57	-110.31	40°01'48.152"N	104°39'22.190"W	0.00	
2017.00†	5.599	247.110	2010.89	-44.78	-50.37	-119.29	40°01'48.114"N	104°39'22.306"W	0.00	
2117.00†	5.599	247.110	2110.41	-48.15	-54.16	-128.28	40°01'48.077"N	104°39'22.421"W	0.00	
2217.00†	5.599	247.110	2209.94	-51.52	-57.96	-137.27	40°01'48.039"N	104°39'22.537"W	0.00	
2317.00†	5.599	247.110	2309.46	-54.90	-61.75	-146.26	40°01'48.002"N	104°39'22.652"W	0.00	
2417.00†	5.599	247.110	2408.98	-58.27	-65.55	-155.25	40°01'47.964"N	104°39'22.768"W	0.00	
2517.00†	5.599	247.110	2508.50	-61.64	-69.35	-164.24	40°01'47.927"N	104°39'22.883"W	0.00	
2617.00†	5.599	247.110	2608.03	-65.02	-73.14	-173.23	40°01'47.889"N	104°39'22.999"W	0.00	
2717.00†	5.599	247.110	2707.55	-68.39	-76.94	-182.22	40°01'47.852"N	104°39'23.114"W	0.00	
2817.00†	5.599	247.110	2807.07	-71.77	-80.73	-191.21	40°01'47.814"N	104°39'23.230"W	0.00	
2917.00†	5.599	247.110	2906.60	-75.14	-84.53	-200.20	40°01'47.777"N	104°39'23.346"W	0.00	
3017.00†	5.599	247.110	3006.12	-78.51	-88.32	-209.18	40°01'47.739"N	104°39'23.461"W	0.00	
3117.00†	5.599	247.110	3105.64	-81.89	-92.12	-218.17	40°01'47.702"N	104°39'23.577"W	0.00	
3217.00†	5.599	247.110	3205.16	-85.26	-95.91	-227.16	40°01'47.664"N	104°39'23.692"W	0.00	

WELLPATH DATA (206 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3317.00†	5.599	247.110	3304.69	-88.64	-99.71	-236.15	40°01'47.627"N	104°39'23.808"W	0.00	
3417.00†	5.599	247.110	3404.21	-92.01	-103.50	-245.14	40°01'47.589"N	104°39'23.923"W	0.00	
3517.00†	5.599	247.110	3503.73	-95.38	-107.30	-254.13	40°01'47.552"N	104°39'24.039"W	0.00	
3617.00†	5.599	247.110	3603.26	-98.76	-111.09	-263.12	40°01'47.514"N	104°39'24.154"W	0.00	
3717.00†	5.599	247.110	3702.78	-102.13	-114.89	-272.11	40°01'47.477"N	104°39'24.270"W	0.00	
3817.00†	5.599	247.110	3802.30	-105.50	-118.68	-281.10	40°01'47.439"N	104°39'24.386"W	0.00	
3917.00†	5.599	247.110	3901.82	-108.88	-122.48	-290.09	40°01'47.402"N	104°39'24.501"W	0.00	
4017.00†	5.599	247.110	4001.35	-112.25	-126.27	-299.07	40°01'47.364"N	104°39'24.617"W	0.00	
4117.00†	5.599	247.110	4100.87	-115.63	-130.07	-308.06	40°01'47.327"N	104°39'24.732"W	0.00	

Planned Wellpath Report

WILLOW 22-21-3L PWP (REV-A.0)

Page 3 of 8

REFERENCE WELLPATH IDENTIFICATION

Operator	CONFLUENCE RESOURCES	Slot	SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22)
Area	COLORADO	Well	WILLOW 22-21-3L
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	WILLOW 22-21-3L PWB
Facility	SEC.22-T01N-R65W		

WELLPATH DATA (206 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4217.00†	5.599	247.110	4200.39	-119.00	-133.87	-317.05	40°01'47.289"N	104°39'24.848"W	0.00	
4317.00†	5.599	247.110	4299.92	-122.37	-137.66	-326.04	40°01'47.252"N	104°39'24.963"W	0.00	
4417.00†	5.599	247.110	4399.44	-125.75	-141.46	-335.03	40°01'47.214"N	104°39'25.079"W	0.00	
4517.00†	5.599	247.110	4498.96	-129.12	-145.25	-344.02	40°01'47.177"N	104°39'25.194"W	0.00	
4617.00†	5.599	247.110	4598.48	-132.50	-149.05	-353.01	40°01'47.139"N	104°39'25.310"W	0.00	
4717.00†	5.599	247.110	4698.01	-135.87	-152.84	-362.00	40°01'47.102"N	104°39'25.426"W	0.00	
4817.00†	5.599	247.110	4797.53	-139.24	-156.64	-370.99	40°01'47.064"N	104°39'25.541"W	0.00	
4917.00†	5.599	247.110	4897.05	-142.62	-160.43	-379.98	40°01'47.027"N	104°39'25.657"W	0.00	
5017.00†	5.599	247.110	4996.58	-145.99	-164.23	-388.96	40°01'46.989"N	104°39'25.772"W	0.00	
5117.00†	5.599	247.110	5096.10	-149.36	-168.02	-397.95	40°01'46.952"N	104°39'25.888"W	0.00	
5217.00†	5.599	247.110	5195.62	-152.74	-171.82	-406.94	40°01'46.914"N	104°39'26.003"W	0.00	
5317.00†	5.599	247.110	5295.14	-156.11	-175.61	-415.93	40°01'46.877"N	104°39'26.119"W	0.00	
5417.00†	5.599	247.110	5394.67	-159.49	-179.41	-424.92	40°01'46.839"N	104°39'26.234"W	0.00	
5517.00†	5.599	247.110	5494.19	-162.86	-183.20	-433.91	40°01'46.801"N	104°39'26.350"W	0.00	
5617.00†	5.599	247.110	5593.71	-166.23	-187.00	-442.90	40°01'46.764"N	104°39'26.466"W	0.00	
5717.00†	5.599	247.110	5693.24	-169.61	-190.80	-451.89	40°01'46.726"N	104°39'26.581"W	0.00	
5817.00†	5.599	247.110	5792.76	-172.98	-194.59	-460.88	40°01'46.689"N	104°39'26.697"W	0.00	
5917.00†	5.599	247.110	5892.28	-176.36	-198.39	-469.87	40°01'46.651"N	104°39'26.812"W	0.00	
6017.00†	5.599	247.110	5991.80	-179.73	-202.18	-478.85	40°01'46.614"N	104°39'26.928"W	0.00	
6117.00†	5.599	247.110	6091.33	-183.10	-205.98	-487.84	40°01'46.576"N	104°39'27.043"W	0.00	
6217.00†	5.599	247.110	6190.85	-186.48	-209.77	-496.83	40°01'46.539"N	104°39'27.159"W	0.00	
6317.00†	5.599	247.110	6290.37	-189.85	-213.57	-505.82	40°01'46.501"N	104°39'27.274"W	0.00	
6417.00†	5.599	247.110	6389.89	-193.22	-217.36	-514.81	40°01'46.464"N	104°39'27.390"W	0.00	
6517.00†	5.599	247.110	6489.42	-196.60	-221.16	-523.80	40°01'46.426"N	104°39'27.506"W	0.00	
6617.00†	5.599	247.110	6588.94	-199.97	-224.95	-532.79	40°01'46.389"N	104°39'27.621"W	0.00	
6717.00†	5.599	247.110	6688.46	-203.35	-228.75	-541.78	40°01'46.351"N	104°39'27.737"W	0.00	
6817.00†	5.599	247.110	6787.99	-206.72	-232.54	-550.77	40°01'46.314"N	104°39'27.852"W	0.00	
6822.54	5.599	247.110	6793.50	-206.91	-232.75	-551.26	40°01'46.312"N	104°39'27.859"W	0.00	End of Tangent
6917.00†	9.687	328.136	6887.32	-201.55	-227.78	-559.73	40°01'46.361"N	104°39'27.967"W	11.00	
7017.00†	19.865	345.597	6983.93	-177.50	-204.11	-568.42	40°01'46.595"N	104°39'28.079"W	11.00	
7117.00†	30.606	351.288	7074.26	-135.42	-162.36	-576.53	40°01'47.007"N	104°39'28.183"W	11.00	
7217.00†	41.474	354.204	7155.01	-76.86	-104.07	-583.75	40°01'47.583"N	104°39'28.276"W	11.00	
7317.00†	52.390	356.078	7223.20	-3.97	-31.39	-589.82	40°01'48.302"N	104°39'28.354"W	11.00	
7417.00†	63.327	357.467	7276.32	80.57	53.02	-594.52	40°01'49.136"N	104°39'28.415"W	11.00	
7517.00†	74.276	358.609	7312.42	173.65	146.06	-597.68	40°01'50.055"N	104°39'28.455"W	11.00	
7617.00†	85.229	359.634	7330.19	271.86	244.30	-599.17	40°01'51.026"N	104°39'28.475"W	11.00	

WELLPATH DATA (206 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7660.55	90.000	0.066	7332.00†	315.31	287.80	-599.28	40°01'51.456"N	104°39'28.476"W	11.00	End of 3D Arc
7717.00†	90.000	0.066	7332.00	371.70	344.25	-599.21	40°01'52.014"N	104°39'28.475"W	0.00	
7817.00†	90.000	0.066	7332.00	471.59	444.25	-599.10	40°01'53.002"N	104°39'28.474"W	0.00	
7917.00†	90.000	0.066	7332.00	571.47	544.25	-598.98	40°01'53.990"N	104°39'28.472"W	0.00	
8017.00†	90.000	0.066	7332.00	671.36	644.25	-598.87	40°01'54.979"N	104°39'28.471"W	0.00	
8117.00†	90.000	0.066	7332.00	771.25	744.25	-598.75	40°01'55.967"N	104°39'28.469"W	0.00	
8217.00†	90.000	0.066	7332.00	871.13	844.25	-598.64	40°01'56.955"N	104°39'28.468"W	0.00	
8317.00†	90.000	0.066	7332.00	971.02	944.25	-598.52	40°01'57.943"N	104°39'28.466"W	0.00	
8417.00†	90.000	0.066	7332.00	1070.91	1044.25	-598.41	40°01'58.931"N	104°39'28.465"W	0.00	

Planned Wellpath Report

WILLOW 22-21-3L PWP (REV-A.0)

Page 4 of 8

REFERENCE WELLPATH IDENTIFICATION

Operator	CONFLUENCE RESOURCES	Slot	SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22)
Area	COLORADO	Well	WILLOW 22-21-3L
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	WILLOW 22-21-3L PWB
Facility	SEC.22-T01N-R65W		

WELLPATH DATA (206 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8517.00†	90.000	0.066	7332.00	1170.79	1144.25	-598.29	40°01'59.920"N	104°39'28.464"W	0.00	
8617.00†	90.000	0.066	7332.00	1270.68	1244.25	-598.18	40°02'00.908"N	104°39'28.462"W	0.00	
8717.00†	90.000	0.066	7332.00	1370.57	1344.25	-598.06	40°02'01.896"N	104°39'28.461"W	0.00	
8817.00†	90.000	0.066	7332.00	1470.45	1444.25	-597.95	40°02'02.884"N	104°39'28.459"W	0.00	
8917.00†	90.000	0.066	7332.00	1570.34	1544.25	-597.83	40°02'03.873"N	104°39'28.458"W	0.00	
9017.00†	90.000	0.066	7332.00	1670.23	1644.25	-597.72	40°02'04.861"N	104°39'28.456"W	0.00	
9117.00†	90.000	0.066	7332.00	1770.11	1744.25	-597.60	40°02'05.849"N	104°39'28.455"W	0.00	
9217.00†	90.000	0.066	7332.00	1870.00	1844.25	-597.49	40°02'06.837"N	104°39'28.453"W	0.00	
9317.00†	90.000	0.066	7332.00	1969.89	1944.25	-597.37	40°02'07.826"N	104°39'28.452"W	0.00	
9417.00†	90.000	0.066	7332.00	2069.78	2044.25	-597.26	40°02'08.814"N	104°39'28.451"W	0.00	
9517.00†	90.000	0.066	7332.00	2169.66	2144.25	-597.14	40°02'09.802"N	104°39'28.449"W	0.00	
9617.00†	90.000	0.066	7332.00	2269.55	2244.25	-597.03	40°02'10.790"N	104°39'28.448"W	0.00	
9717.00†	90.000	0.066	7332.00	2369.44	2344.25	-596.91	40°02'11.778"N	104°39'28.446"W	0.00	
9817.00†	90.000	0.066	7332.00	2469.32	2444.25	-596.80	40°02'12.767"N	104°39'28.445"W	0.00	
9917.00†	90.000	0.066	7332.00	2569.21	2544.25	-596.68	40°02'13.755"N	104°39'28.443"W	0.00	
10017.00†	90.000	0.066	7332.00	2669.10	2644.25	-596.57	40°02'14.743"N	104°39'28.442"W	0.00	
10117.00†	90.000	0.066	7332.00	2768.98	2744.25	-596.45	40°02'15.731"N	104°39'28.440"W	0.00	
10217.00†	90.000	0.066	7332.00	2868.87	2844.25	-596.34	40°02'16.720"N	104°39'28.439"W	0.00	
10317.00†	90.000	0.066	7332.00	2968.76	2944.25	-596.22	40°02'17.708"N	104°39'28.438"W	0.00	
10417.00†	90.000	0.066	7332.00	3068.64	3044.25	-596.11	40°02'18.696"N	104°39'28.436"W	0.00	
10517.00†	90.000	0.066	7332.00	3168.53	3144.25	-595.99	40°02'19.684"N	104°39'28.435"W	0.00	
10617.00†	90.000	0.066	7332.00	3268.42	3244.25	-595.88	40°02'20.672"N	104°39'28.433"W	0.00	
10717.00†	90.000	0.066	7332.00	3368.30	3344.25	-595.76	40°02'21.661"N	104°39'28.432"W	0.00	
10817.00†	90.000	0.066	7332.00	3468.19	3444.25	-595.65	40°02'22.649"N	104°39'28.430"W	0.00	
10917.00†	90.000	0.066	7332.00	3568.08	3544.25	-595.53	40°02'23.637"N	104°39'28.429"W	0.00	
11017.00†	90.000	0.066	7332.00	3667.96	3644.25	-595.42	40°02'24.625"N	104°39'28.427"W	0.00	
11117.00†	90.000	0.066	7332.00	3767.85	3744.25	-595.30	40°02'25.614"N	104°39'28.426"W	0.00	
11217.00†	90.000	0.066	7332.00	3867.74	3844.25	-595.19	40°02'26.602"N	104°39'28.424"W	0.00	
11317.00†	90.000	0.066	7332.00	3967.62	3944.25	-595.07	40°02'27.590"N	104°39'28.423"W	0.00	
11417.00†	90.000	0.066	7332.00	4067.51	4044.25	-594.96	40°02'28.578"N	104°39'28.422"W	0.00	
11517.00†	90.000	0.066	7332.00	4167.40	4144.25	-594.84	40°02'29.566"N	104°39'28.420"W	0.00	
11617.00†	90.000	0.066	7332.00	4267.28	4244.25	-594.73	40°02'30.555"N	104°39'28.419"W	0.00	
11717.00†	90.000	0.066	7332.00	4367.17	4344.25	-594.61	40°02'31.543"N	104°39'28.417"W	0.00	
11817.00†	90.000	0.066	7332.00	4467.06	4444.25	-594.50	40°02'32.531"N	104°39'28.416"W	0.00	
11917.00†	90.000	0.066	7332.00	4566.94	4544.25	-594.38	40°02'33.519"N	104°39'28.414"W	0.00	
12017.00†	90.000	0.066	7332.00	4666.83	4644.25	-594.27	40°02'34.508"N	104°39'28.413"W	0.00	

WELLPATH DATA (206 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12117.00†	90.000	0.066	7332.00	4766.72	4744.25	-594.15	40°02'35.496"N	104°39'28.411"W	0.00	
12217.00†	90.000	0.066	7332.00	4866.60	4844.25	-594.04	40°02'36.484"N	104°39'28.410"W	0.00	
12317.00†	90.000	0.066	7332.00	4966.49	4944.25	-593.92	40°02'37.472"N	104°39'28.409"W	0.00	
12417.00†	90.000	0.066	7332.00	5066.38	5044.25	-593.81	40°02'38.460"N	104°39'28.407"W	0.00	
12517.00†	90.000	0.066	7332.00	5166.26	5144.25	-593.69	40°02'39.449"N	104°39'28.406"W	0.00	
12617.00†	90.000	0.066	7332.00	5266.15	5244.25	-593.58	40°02'40.437"N	104°39'28.404"W	0.00	
12717.00†	90.000	0.066	7332.00	5366.04	5344.25	-593.46	40°02'41.425"N	104°39'28.403"W	0.00	
12817.00†	90.000	0.066	7332.00	5465.92	5444.25	-593.35	40°02'42.413"N	104°39'28.401"W	0.00	
12917.00†	90.000	0.066	7332.00	5565.81	5544.25	-593.23	40°02'43.402"N	104°39'28.400"W	0.00	

Planned Wellpath Report

WILLOW 22-21-3L PWP (REV-A.0)

Page 5 of 8

REFERENCE WELLPATH IDENTIFICATION			
Operator	CONFLUENCE RESOURCES	Slot	SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22)
Area	COLORADO	Well	WILLOW 22-21-3L
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	WILLOW 22-21-3L PWB
Facility	SEC.22-T01N-R65W		

WELLPATH DATA (206 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13017.00†	90.000	0.066	7332.00	5665.70	5644.25	-593.12	40°02'44.390"N	104°39'28.398"W	0.00	
13117.00†	90.000	0.066	7332.00	5765.58	5744.25	-593.00	40°02'45.378"N	104°39'28.397"W	0.00	
13217.00†	90.000	0.066	7332.00	5865.47	5844.25	-592.89	40°02'46.366"N	104°39'28.396"W	0.00	
13317.00†	90.000	0.066	7332.00	5965.36	5944.25	-592.77	40°02'47.355"N	104°39'28.394"W	0.00	
13417.00†	90.000	0.066	7332.00	6065.24	6044.25	-592.66	40°02'48.343"N	104°39'28.393"W	0.00	
13517.00†	90.000	0.066	7332.00	6165.13	6144.25	-592.54	40°02'49.331"N	104°39'28.391"W	0.00	
13617.00†	90.000	0.066	7332.00	6265.02	6244.25	-592.43	40°02'50.319"N	104°39'28.390"W	0.00	
13717.00†	90.000	0.066	7332.00	6364.90	6344.25	-592.31	40°02'51.307"N	104°39'28.388"W	0.00	
13817.00†	90.000	0.066	7332.00	6464.79	6444.25	-592.20	40°02'52.296"N	104°39'28.387"W	0.00	
13917.00†	90.000	0.066	7332.00	6564.68	6544.25	-592.08	40°02'53.284"N	104°39'28.385"W	0.00	
14017.00†	90.000	0.066	7332.00	6664.57	6644.25	-591.97	40°02'54.272"N	104°39'28.384"W	0.00	
14117.00†	90.000	0.066	7332.00	6764.45	6744.25	-591.85	40°02'55.260"N	104°39'28.382"W	0.00	
14217.00†	90.000	0.066	7332.00	6864.34	6844.25	-591.74	40°02'56.249"N	104°39'28.381"W	0.00	
14317.00†	90.000	0.066	7332.00	6964.23	6944.25	-591.62	40°02'57.237"N	104°39'28.380"W	0.00	
14417.00†	90.000	0.066	7332.00	7064.11	7044.24	-591.51	40°02'58.225"N	104°39'28.378"W	0.00	
14517.00†	90.000	0.066	7332.00	7164.00	7144.24	-591.39	40°02'59.213"N	104°39'28.377"W	0.00	
14617.00†	90.000	0.066	7332.00	7263.89	7244.24	-591.28	40°03'00.201"N	104°39'28.375"W	0.00	
14717.00†	90.000	0.066	7332.00	7363.77	7344.24	-591.16	40°03'01.190"N	104°39'28.374"W	0.00	
14817.00†	90.000	0.066	7332.00	7463.66	7444.24	-591.05	40°03'02.178"N	104°39'28.372"W	0.00	
14917.00†	90.000	0.066	7332.00	7563.55	7544.24	-590.93	40°03'03.166"N	104°39'28.371"W	0.00	
15017.00†	90.000	0.066	7332.00	7663.43	7644.24	-590.82	40°03'04.154"N	104°39'28.369"W	0.00	
15117.00†	90.000	0.066	7332.00	7763.32	7744.24	-590.70	40°03'05.143"N	104°39'28.368"W	0.00	
15217.00†	90.000	0.066	7332.00	7863.21	7844.24	-590.59	40°03'06.131"N	104°39'28.367"W	0.00	
15317.00†	90.000	0.066	7332.00	7963.09	7944.24	-590.47	40°03'07.119"N	104°39'28.365"W	0.00	
15417.00†	90.000	0.066	7332.00	8062.98	8044.24	-590.36	40°03'08.107"N	104°39'28.364"W	0.00	
15517.00†	90.000	0.066	7332.00	8162.87	8144.24	-590.24	40°03'09.095"N	104°39'28.362"W	0.00	
15617.00†	90.000	0.066	7332.00	8262.75	8244.24	-590.13	40°03'10.084"N	104°39'28.361"W	0.00	
15717.00†	90.000	0.066	7332.00	8362.64	8344.24	-590.01	40°03'11.072"N	104°39'28.359"W	0.00	
15817.00†	90.000	0.066	7332.00	8462.53	8444.24	-589.90	40°03'12.060"N	104°39'28.358"W	0.00	
15917.00†	90.000	0.066	7332.00	8562.41	8544.24	-589.78	40°03'13.048"N	104°39'28.356"W	0.00	
16017.00†	90.000	0.066	7332.00	8662.30	8644.24	-589.67	40°03'14.037"N	104°39'28.355"W	0.00	
16117.00†	90.000	0.066	7332.00	8762.19	8744.24	-589.55	40°03'15.025"N	104°39'28.354"W	0.00	
16217.00†	90.000	0.066	7332.00	8862.07	8844.24	-589.43	40°03'16.013"N	104°39'28.352"W	0.00	
16317.00†	90.000	0.066	7332.00	8961.96	8944.24	-589.32	40°03'17.001"N	104°39'28.351"W	0.00	
16417.00†	90.000	0.066	7332.00	9061.85	9044.24	-589.20	40°03'17.989"N	104°39'28.349"W	0.00	
16517.00†	90.000	0.066	7332.00	9161.73	9144.24	-589.09	40°03'18.978"N	104°39'28.348"W	0.00	

WELLPATH DATA (206 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16617.00†	90.000	0.066	7332.00	9261.62	9244.24	-588.97	40°03'19.966"N	104°39'28.346"W	0.00	
16717.00†	90.000	0.066	7332.00	9361.51	9344.24	-588.86	40°03'20.954"N	104°39'28.345"W	0.00	
16817.00†	90.000	0.066	7332.00	9461.39	9444.24	-588.74	40°03'21.942"N	104°39'28.343"W	0.00	
16917.00†	90.000	0.066	7332.00	9561.28	9544.24	-588.63	40°03'22.931"N	104°39'28.342"W	0.00	
17017.00†	90.000	0.066	7332.00	9661.17	9644.24	-588.51	40°03'23.919"N	104°39'28.340"W	0.00	
17117.00†	90.000	0.066	7332.00	9761.05	9744.24	-588.40	40°03'24.907"N	104°39'28.339"W	0.00	
17217.00†	90.000	0.066	7332.00	9860.94	9844.24	-588.28	40°03'25.895"N	104°39'28.338"W	0.00	
17317.00†	90.000	0.066	7332.00	9960.83	9944.24	-588.17	40°03'26.883"N	104°39'28.336"W	0.00	
17417.00†	90.000	0.066	7332.00	10060.71	10044.24	-588.05	40°03'27.872"N	104°39'28.335"W	0.00	

Planned Wellpath Report

WILLOW 22-21-3L PWP (REV-A.0)

Page 6 of 8

REFERENCE WELLPATH IDENTIFICATION

Operator	CONFLUENCE RESOURCES	Slot	SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22)
Area	COLORADO	Well	WILLOW 22-21-3L
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	WILLOW 22-21-3L PWB
Facility	SEC.22-T01N-R65W		

WELLPATH DATA (206 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17517.00†	90.000	0.066	7332.00	10160.60	10144.24	-587.94	40°03'28.860"N	104°39'28.333"W	0.00	
17617.00†	90.000	0.066	7332.00	10260.49	10244.24	-587.82	40°03'29.848"N	104°39'28.332"W	0.00	
17717.00†	90.000	0.066	7332.00	10360.37	10344.24	-587.71	40°03'30.836"N	104°39'28.330"W	0.00	
17817.00†	90.000	0.066	7332.00	10460.26	10444.24	-587.59	40°03'31.825"N	104°39'28.329"W	0.00	
17917.00†	90.000	0.066	7332.00	10560.15	10544.24	-587.48	40°03'32.813"N	104°39'28.327"W	0.00	
18017.00†	90.000	0.066	7332.00	10660.03	10644.24	-587.36	40°03'33.801"N	104°39'28.326"W	0.00	
18117.00†	90.000	0.066	7332.00	10759.92	10744.24	-587.25	40°03'34.789"N	104°39'28.325"W	0.00	
18217.00†	90.000	0.066	7332.00	10859.81	10844.24	-587.13	40°03'35.777"N	104°39'28.323"W	0.00	
18317.00†	90.000	0.066	7332.00	10959.69	10944.24	-587.02	40°03'36.766"N	104°39'28.322"W	0.00	
18417.00†	90.000	0.066	7332.00	11059.58	11044.24	-586.90	40°03'37.754"N	104°39'28.320"W	0.00	
18517.00†	90.000	0.066	7332.00	11159.47	11144.24	-586.79	40°03'38.742"N	104°39'28.319"W	0.00	
18617.00†	90.000	0.066	7332.00	11259.36	11244.24	-586.67	40°03'39.730"N	104°39'28.317"W	0.00	
18717.00†	90.000	0.066	7332.00	11359.24	11344.24	-586.56	40°03'40.719"N	104°39'28.316"W	0.00	
18817.00†	90.000	0.066	7332.00	11459.13	11444.24	-586.44	40°03'41.707"N	104°39'28.314"W	0.00	
18917.00†	90.000	0.066	7332.00	11559.02	11544.24	-586.33	40°03'42.695"N	104°39'28.313"W	0.00	
19017.00†	90.000	0.066	7332.00	11658.90	11644.24	-586.21	40°03'43.683"N	104°39'28.311"W	0.00	
19117.00†	90.000	0.066	7332.00	11758.79	11744.24	-586.10	40°03'44.672"N	104°39'28.310"W	0.00	
19217.00†	90.000	0.066	7332.00	11858.68	11844.24	-585.98	40°03'45.660"N	104°39'28.309"W	0.00	
19317.00†	90.000	0.066	7332.00	11958.56	11944.24	-585.87	40°03'46.648"N	104°39'28.307"W	0.00	
19417.00†	90.000	0.066	7332.00	12058.45	12044.24	-585.75	40°03'47.636"N	104°39'28.306"W	0.00	
19517.00†	90.000	0.066	7332.00	12158.34	12144.24	-585.64	40°03'48.624"N	104°39'28.304"W	0.00	
19617.00†	90.000	0.066	7332.00	12258.22	12244.24	-585.52	40°03'49.613"N	104°39'28.303"W	0.00	
19717.00†	90.000	0.066	7332.00	12358.11	12344.24	-585.41	40°03'50.601"N	104°39'28.301"W	0.00	
19817.00†	90.000	0.066	7332.00	12458.00	12444.24	-585.29	40°03'51.589"N	104°39'28.300"W	0.00	
19917.00†	90.000	0.066	7332.00	12557.88	12544.24	-585.18	40°03'52.577"N	104°39'28.298"W	0.00	
19961.08	90.000	0.066	7332.00 ²	12601.91	12588.32	-585.13	40°03'53.013"N	104°39'28.298"W	0.00	End of Tangent

HOLE & CASING SECTIONS - Ref Wellbore: WILLOW 22-21-3L PWB Ref Wellpath: WILLOW 22-21-3L PWP (REV-A.0)

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	17.00	1500.00	1483.00	17.00	1496.36	0.00	0.00	-30.75	-72.82

Planned Wellpath Report

WILLOW 22-21-3L PWP (REV-A.0)

Page 7 of 8

REFERENCE WELLPATH IDENTIFICATION

Operator	CONFLUENCE RESOURCES	Slot	SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22)
Area	COLORADO	Well	WILLOW 22-21-3L
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	WILLOW 22-21-3L PWB
Facility	SEC.22-T01N-R65W		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
HARDLINES SEC.10,15,22-T01N-R65W 460'N/S&E/W		0.00	0.00	-22.40	3236383.46	1254962.14	40°01'48.612"N	104°39'21.060"W	polygon
SEC.10-T01N-R65W		0.00	0.00	-22.40	3236383.46	1254962.14	40°01'48.612"N	104°39'21.060"W	polygon
SEC.15-T01N-R65W		0.00	0.00	-22.40	3236383.46	1254962.14	40°01'48.612"N	104°39'21.060"W	polygon
SEC.22-T01N-R65W		0.00	0.00	-22.40	3236383.46	1254962.14	40°01'48.612"N	104°39'21.060"W	polygon
2) WILLOW 22-21-3L BHL ON PLAT (2181'FSL & 470'FWL,SEC.10)	19961.08	7332.00	12588.32	-585.13	3235700.94	1267544.05	40°03'53.013"N	104°39'28.298"W	point
1) WILLOW 22-21-3L LP ON PLAT (470'FSL & 470'FWL,SEC.22)	7660.55	7332.00	287.80	-599.28	3235803.89	1255244.42	40°01'51.456"N	104°39'28.476"W	point

SURVEY PROGRAM - Ref Wellbore: WILLOW 22-21-3L PWB Ref Wellpath: WILLOW 22-21-3L PWP (REV-A.0)

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	1500.00	BHI NaviTrak (Rotating+Axial Corr)		WILLOW 22-21-3L PWB
1500.00	19961.08	BHI AutoTrak Curve (Axial Corr, Short spacing)		WILLOW 22-21-3L PWB

Planned Wellpath Report

WILLOW 22-21-3L PWP (REV-A.0)

Page 8 of 8

REFERENCE WELLPATH IDENTIFICATION

Operator	CONFLUENCE RESOURCES	Slot	SLOT#02 WILLOW 22-21-3L (185'FSL & 1071'FWL,SEC.22)
Area	COLORADO	Well	WILLOW 22-21-3L
Field	WELD COUNTY (NAD83, TRUE NORTH)	Wellbore	WILLOW 22-21-3L PWB
Facility	SEC.22-T01N-R65W		

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	247.110	17.00	Tie On
550.00	0.000	247.110	550.00	End of Tangent
829.97	5.599	247.110	829.53	End of Build
6822.54	5.599	247.110	6793.50	End of Tangent
7660.55	90.000	0.066	7332.00	End of 3D Arc
19961.08	90.000	0.066	7332.00	End of Tangent