

VERDAD OIL & GAS CORPORATION

Location: COLORADO Slot: SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL,SEC.10)
Field: WELD COUNTY (NAD83/TN) Well: BRNAK 01N-64W-10-2H
Facility: SEC.10-T1N-R64W Wellbore: BRNAK 01N-64W-10-2H PWB

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.10-T1N-R64W			3268153.230	1270722.362	40°04'21.166"N	104°32'30.469"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL,SEC.10)	0.04	0.02	3268153.245	1270722.403	40°04'21.166"N	104°32'30.469"W
RIG (GL-5104' + RKB:25') (RKB) to Mud line (At Slot: SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL,SEC.10))						5129ft
Mean Sea Level to Mud line (At Slot: SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL,SEC.10))						0ft
RIG (GL-5104' + RKB:25') (RKB) to Mean Sea Level						5129ft

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
17133.24	90.117	180.052	6972.00	-10003.42	-443.77	3267817.61	1260715.17	40°02'42.310"N	104°32'36.175"W

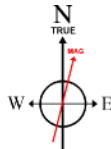
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	25.00	0.000	312.220	25.00	0.00	0.00	0.00	0.00
End of Tangent	300.00	0.000	312.220	300.00	0.00	0.00	0.00	0.00
End of Build	555.28	5.106	312.220	554.94	7.64	-8.42	2.00	-7.26
End of Tangent	6409.71	5.106	312.220	6386.15	357.73	-394.25	0.00	-339.91
End of 3D Arc (J)	7345.13	90.117	180.052	6992.00	-215.33	-434.96	10.00	234.40
End of Tangent (J)	17133.24	90.117	180.052	6972.00	-10003.42	-443.77	0.00	10013.26

Survey Program

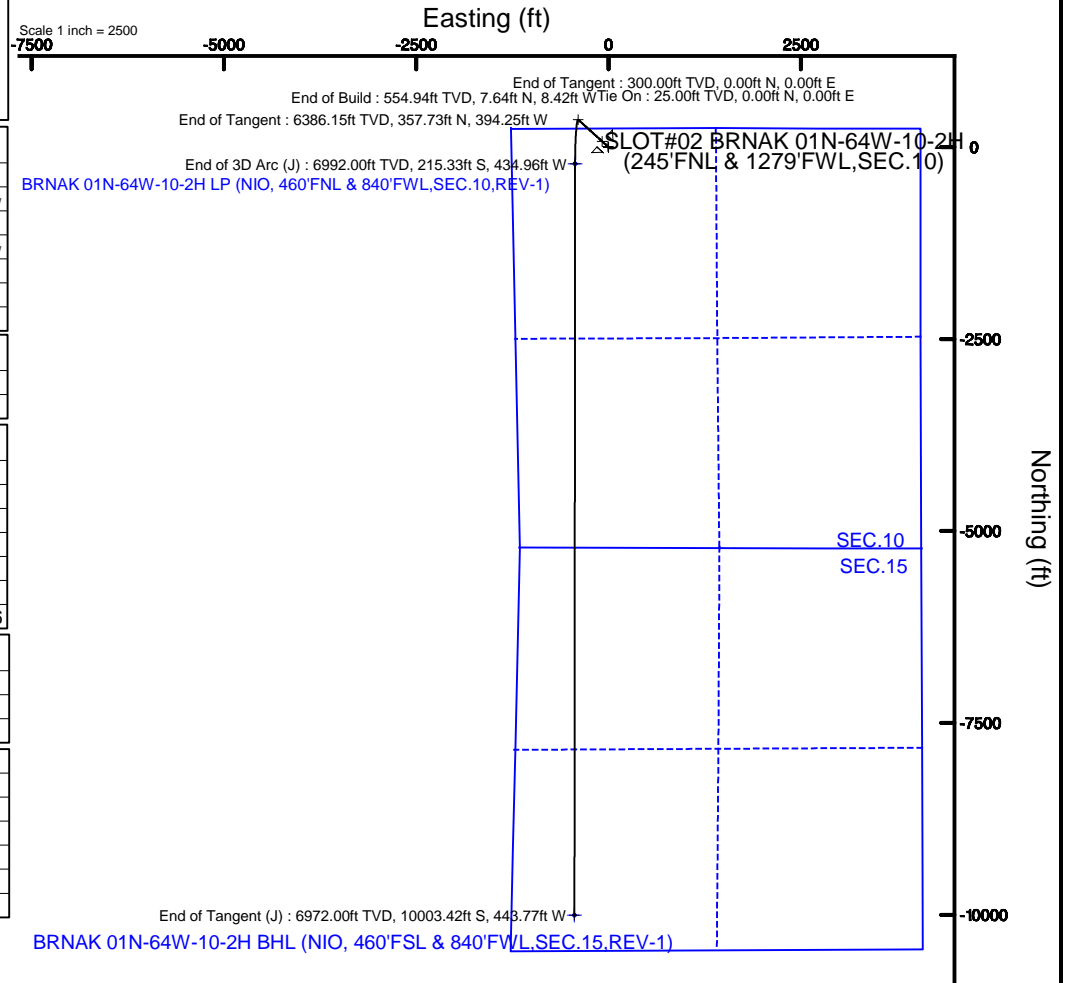
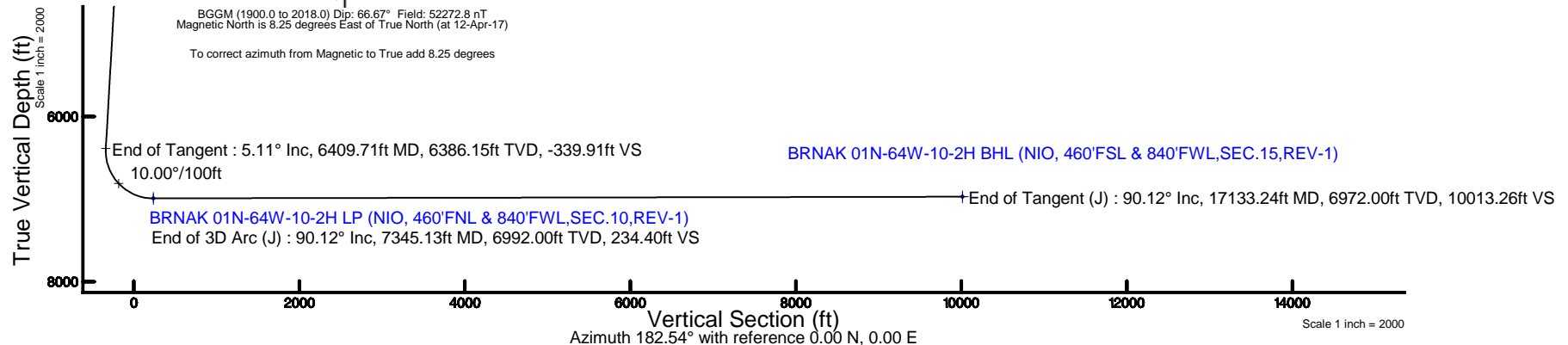
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
25.00	1700.00	BHI NavTrak	Custom BHI NavTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model)		BRNAK 01N-64W-10-2H PWB
1700.00	17133.24	BHI AutoTrak Curve	Custom BHI AutoTrak Curve (Axial Corr, Short spacing) (Rockies 0.03Gt model)		BRNAK 01N-64W-10-2H PWB

Plot reference wellpath is BRNAK 01N-64W-10-2H (NIO, REV-A.0) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (GL-5104' + RKB:25') (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to RIG (GL-5104' + RKB:25') (RKB)	North Reference: True north
RIG (GL-5104' + RKB:25') (RKB) to Mean Sea Level: 5129 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL,SEC.10)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: cookdanm on 2017-04-13
	Database: WA_Denver



BGGM (1900.0 to 2018.0) Dip: 66.67° Field: 52272.8 nT
Magnetic North is 8.25 degrees East of True North (at 12-Apr-17)

To correct azimuth from Magnetic to True add 8.25 degrees





Planned Wellpath Report

BRNAK 01N-64W-10-2H (NIO, REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H PWB
Facility	SEC.10-T1N-R64W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Cookdanm
Scale	0.999962	Report Generated	13-Apr-17 at 11:44:50 AM
Convergence at slot	0.62° East	Database/Source file	WA_Denver/BRNAK_01N-64W-10-2H__NIO__REV-A.0__PWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.04	0.02	3268153.25	1270722.40	40°04'21.166"N	104°32'30.469"W
Facility Reference Pt			3268153.23	1270722.36	40°04'21.166"N	104°32'30.469"W
Field Reference Pt			3242930.13	1254608.21	40°01'44.490"N	104°37'56.946"W

WELLPATH DATUM			
Calculation method	Minimum curvature	RIG (GL:5104' + RKB:25') (RKB) to Facility Vertical Datum	5129.00ft
Horizontal Reference Pt	Slot	RIG (GL:5104' + RKB:25') (RKB) to Mean Sea Level	5129.00ft
Vertical Reference Pt	RIG (GL:5104' + RKB:25') (RKB)	RIG (GL:5104' + RKB:25') (RKB) to Mud Line at Slot (SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL,SEC.10))	5129.00ft
MD Reference Pt	RIG (GL:5104' + RKB:25') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	182.54°



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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL, SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H PWB
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (178 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	312.220	0.00	0.00	0.00	0.00	40°04'21.166"N	104°32'30.469"W	0.00	
25.00	0.000	312.220	25.00	0.00	0.00	0.00	40°04'21.166"N	104°32'30.469"W	0.00	Tie On
125.00†	0.000	312.220	125.00	0.00	0.00	0.00	40°04'21.166"N	104°32'30.469"W	0.00	
225.00†	0.000	312.220	225.00	0.00	0.00	0.00	40°04'21.166"N	104°32'30.469"W	0.00	
300.00	0.000	312.220	300.00	0.00	0.00	0.00	40°04'21.166"N	104°32'30.469"W	0.00	End of Tangent
325.00†	0.500	312.220	325.00	-0.07	0.07	-0.08	40°04'21.167"N	104°32'30.470"W	2.00	
425.00†	2.500	312.220	424.96	-1.74	1.83	-2.02	40°04'21.184"N	104°32'30.495"W	2.00	
525.00†	4.500	312.220	524.77	-5.64	5.93	-6.54	40°04'21.225"N	104°32'30.553"W	2.00	
555.28	5.106	312.220	554.94	-7.26	7.64	-8.42	40°04'21.241"N	104°32'30.577"W	2.00	End of Build
625.00†	5.106	312.220	624.39	-11.22	11.81	-13.01	40°04'21.283"N	104°32'30.636"W	0.00	
725.00†	5.106	312.220	723.99	-16.90	17.79	-19.60	40°04'21.342"N	104°32'30.721"W	0.00	
825.00†	5.106	312.220	823.59	-22.58	23.77	-26.19	40°04'21.401"N	104°32'30.806"W	0.00	
925.00†	5.106	312.220	923.20	-28.27	29.75	-32.78	40°04'21.460"N	104°32'30.891"W	0.00	
1025.00†	5.106	312.220	1022.80	-33.95	35.73	-39.37	40°04'21.519"N	104°32'30.975"W	0.00	
1125.00†	5.106	312.220	1122.40	-39.63	41.71	-45.96	40°04'21.578"N	104°32'31.060"W	0.00	
1225.00†	5.106	312.220	1222.01	-45.31	47.69	-52.55	40°04'21.637"N	104°32'31.145"W	0.00	
1325.00†	5.106	312.220	1321.61	-50.99	53.67	-59.14	40°04'21.696"N	104°32'31.230"W	0.00	
1425.00†	5.106	312.220	1421.21	-56.68	59.65	-65.74	40°04'21.755"N	104°32'31.315"W	0.00	
1525.00†	5.106	312.220	1520.81	-62.36	65.63	-72.33	40°04'21.815"N	104°32'31.399"W	0.00	
1625.00†	5.106	312.220	1620.42	-68.04	71.61	-78.92	40°04'21.874"N	104°32'31.484"W	0.00	
1725.00†	5.106	312.220	1720.02	-73.72	77.59	-85.51	40°04'21.933"N	104°32'31.569"W	0.00	
1825.00†	5.106	312.220	1819.62	-79.40	83.57	-92.10	40°04'21.992"N	104°32'31.654"W	0.00	
1925.00†	5.106	312.220	1919.23	-85.09	89.55	-98.69	40°04'22.051"N	104°32'31.738"W	0.00	
2025.00†	5.106	312.220	2018.83	-90.77	95.53	-105.28	40°04'22.110"N	104°32'31.823"W	0.00	
2125.00†	5.106	312.220	2118.43	-96.45	101.51	-111.87	40°04'22.169"N	104°32'31.908"W	0.00	
2225.00†	5.106	312.220	2218.04	-102.13	107.49	-118.46	40°04'22.228"N	104°32'31.993"W	0.00	
2325.00†	5.106	312.220	2317.64	-107.81	113.47	-125.05	40°04'22.287"N	104°32'32.078"W	0.00	
2425.00†	5.106	312.220	2417.24	-113.50	119.45	-131.64	40°04'22.346"N	104°32'32.162"W	0.00	
2525.00†	5.106	312.220	2516.85	-119.18	125.43	-138.23	40°04'22.405"N	104°32'32.247"W	0.00	
2625.00†	5.106	312.220	2616.45	-124.86	131.41	-144.82	40°04'22.465"N	104°32'32.332"W	0.00	
2725.00†	5.106	312.220	2716.05	-130.54	137.39	-151.41	40°04'22.524"N	104°32'32.417"W	0.00	
2825.00†	5.106	312.220	2815.66	-136.22	143.37	-158.00	40°04'22.583"N	104°32'32.501"W	0.00	
2925.00†	5.106	312.220	2915.26	-141.91	149.35	-164.59	40°04'22.642"N	104°32'32.586"W	0.00	
3025.00†	5.106	312.220	3014.86	-147.59	155.33	-171.18	40°04'22.701"N	104°32'32.671"W	0.00	
3125.00†	5.106	312.220	3114.47	-153.27	161.31	-177.77	40°04'22.760"N	104°32'32.756"W	0.00	
3225.00†	5.106	312.220	3214.07	-158.95	167.29	-184.36	40°04'22.819"N	104°32'32.841"W	0.00	
3325.00†	5.106	312.220	3313.67	-164.63	173.27	-190.95	40°04'22.878"N	104°32'32.925"W	0.00	
3425.00†	5.106	312.220	3413.28	-170.32	179.25	-197.54	40°04'22.937"N	104°32'33.010"W	0.00	
3525.00†	5.106	312.220	3512.88	-176.00	185.23	-204.13	40°04'22.996"N	104°32'33.095"W	0.00	
3625.00†	5.106	312.220	3612.48	-181.68	191.21	-210.72	40°04'23.056"N	104°32'33.180"W	0.00	
3725.00†	5.106	312.220	3712.09	-187.36	197.19	-217.31	40°04'23.115"N	104°32'33.264"W	0.00	
3825.00†	5.106	312.220	3811.69	-193.04	203.17	-223.90	40°04'23.174"N	104°32'33.349"W	0.00	
3925.00†	5.106	312.220	3911.29	-198.73	209.15	-230.49	40°04'23.233"N	104°32'33.434"W	0.00	
4025.00†	5.106	312.220	4010.90	-204.41	215.13	-237.08	40°04'23.292"N	104°32'33.519"W	0.00	
4125.00†	5.106	312.220	4110.50	-210.09	221.11	-243.68	40°04'23.351"N	104°32'33.603"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H PWB
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (178 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4225.00†	5.106	312.220	4210.10	-215.77	227.09	-250.27	40°04'23.410"N	104°32'33.688"W	0.00	
4325.00†	5.106	312.220	4309.71	-221.46	233.07	-256.86	40°04'23.469"N	104°32'33.773"W	0.00	
4425.00†	5.106	312.220	4409.31	-227.14	239.05	-263.45	40°04'23.528"N	104°32'33.858"W	0.00	
4525.00†	5.106	312.220	4508.91	-232.82	245.03	-270.04	40°04'23.587"N	104°32'33.943"W	0.00	
4625.00†	5.106	312.220	4608.52	-238.50	251.01	-276.63	40°04'23.646"N	104°32'34.027"W	0.00	
4725.00†	5.106	312.220	4708.12	-244.18	256.99	-283.22	40°04'23.706"N	104°32'34.112"W	0.00	
4825.00†	5.106	312.220	4807.72	-249.87	262.97	-289.81	40°04'23.765"N	104°32'34.197"W	0.00	
4925.00†	5.106	312.220	4907.33	-255.55	268.95	-296.40	40°04'23.824"N	104°32'34.282"W	0.00	
5025.00†	5.106	312.220	5006.93	-261.23	274.93	-302.99	40°04'23.883"N	104°32'34.366"W	0.00	
5125.00†	5.106	312.220	5106.53	-266.91	280.91	-309.58	40°04'23.942"N	104°32'34.451"W	0.00	
5225.00†	5.106	312.220	5206.14	-272.59	286.89	-316.17	40°04'24.001"N	104°32'34.536"W	0.00	
5325.00†	5.106	312.220	5305.74	-278.28	292.87	-322.76	40°04'24.060"N	104°32'34.621"W	0.00	
5425.00†	5.106	312.220	5405.34	-283.96	298.85	-329.35	40°04'24.119"N	104°32'34.706"W	0.00	
5525.00†	5.106	312.220	5504.94	-289.64	304.83	-335.94	40°04'24.178"N	104°32'34.790"W	0.00	
5625.00†	5.106	312.220	5604.55	-295.32	310.81	-342.53	40°04'24.237"N	104°32'34.875"W	0.00	
5725.00†	5.106	312.220	5704.15	-301.00	316.79	-349.12	40°04'24.297"N	104°32'34.960"W	0.00	
5825.00†	5.106	312.220	5803.75	-306.69	322.77	-355.71	40°04'24.356"N	104°32'35.045"W	0.00	
5925.00†	5.106	312.220	5903.36	-312.37	328.75	-362.30	40°04'24.415"N	104°32'35.129"W	0.00	
6025.00†	5.106	312.220	6002.96	-318.05	334.73	-368.89	40°04'24.474"N	104°32'35.214"W	0.00	
6125.00†	5.106	312.220	6102.56	-323.73	340.71	-375.48	40°04'24.533"N	104°32'35.299"W	0.00	
6225.00†	5.106	312.220	6202.17	-329.41	346.69	-382.07	40°04'24.592"N	104°32'35.384"W	0.00	
6325.00†	5.106	312.220	6301.77	-335.10	352.67	-388.66	40°04'24.651"N	104°32'35.469"W	0.00	
6409.71	5.106	312.220	6386.15	-339.91	357.73	-394.25	40°04'24.701"N	104°32'35.540"W	0.00	End of Tangent
6425.00†	4.236	296.663	6401.38	-340.57	358.44	-395.25	40°04'24.708"N	104°32'35.553"W	10.00	
6525.00†	8.941	204.954	6500.89	-334.89	353.04	-401.85	40°04'24.655"N	104°32'35.638"W	10.00	
6625.00†	18.484	191.487	6597.95	-311.99	330.40	-408.30	40°04'24.431"N	104°32'35.721"W	10.00	
6725.00†	28.338	187.113	6689.61	-272.57	291.22	-414.41	40°04'24.044"N	104°32'35.800"W	10.00	
6825.00†	38.264	184.876	6773.09	-217.83	236.68	-420.00	40°04'23.505"N	104°32'35.872"W	10.00	
6925.00†	48.217	183.452	6845.85	-149.44	168.44	-424.89	40°04'22.830"N	104°32'35.934"W	10.00	
7025.00†	58.182	182.414	6905.68	-69.47	88.57	-428.93	40°04'22.041"N	104°32'35.986"W	10.00	
7125.00†	68.155	181.581	6950.76	19.64	-0.50	-432.01	40°04'21.161"N	104°32'36.026"W	10.00	
7225.00†	78.131	180.857	6979.72	115.20	-96.06	-434.03	40°04'20.217"N	104°32'36.052"W	10.00	
7325.00†	88.109	180.185	6991.69	214.29	-195.21	-434.92	40°04'19.237"N	104°32'36.063"W	10.00	
7345.13	90.117	180.052	6992.00†	234.40	-215.33	-434.96	40°04'19.038"N	104°32'36.064"W	10.00	End of 3D Arc (J)
7425.00†	90.117	180.052	6991.84	314.19	-295.20	-435.04	40°04'18.249"N	104°32'36.065"W	0.00	
7525.00†	90.117	180.052	6991.63	414.10	-395.20	-435.13	40°04'17.260"N	104°32'36.066"W	0.00	
7625.00†	90.117	180.052	6991.43	514.00	-495.20	-435.22	40°04'16.272"N	104°32'36.067"W	0.00	
7725.00†	90.117	180.052	6991.22	613.91	-595.20	-435.31	40°04'15.284"N	104°32'36.068"W	0.00	
7825.00†	90.117	180.052	6991.02	713.81	-695.20	-435.40	40°04'14.296"N	104°32'36.069"W	0.00	
7925.00†	90.117	180.052	6990.82	813.72	-795.20	-435.49	40°04'13.308"N	104°32'36.071"W	0.00	
8025.00†	90.117	180.052	6990.61	913.63	-895.20	-435.58	40°04'12.319"N	104°32'36.072"W	0.00	
8125.00†	90.117	180.052	6990.41	1013.53	-995.20	-435.67	40°04'11.331"N	104°32'36.073"W	0.00	
8225.00†	90.117	180.052	6990.20	1113.44	-1095.20	-435.75	40°04'10.343"N	104°32'36.074"W	0.00	
8325.00†	90.117	180.052	6990.00	1213.34	-1195.20	-435.84	40°04'09.355"N	104°32'36.075"W	0.00	
8425.00†	90.117	180.052	6989.79	1313.25	-1295.20	-435.93	40°04'08.367"N	104°32'36.076"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H PWB
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (178 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8525.00†	90.117	180.052	6989.59	1413.15	-1395.20	-436.02	40°04'07.378"N	104°32'36.077"W	0.00	
8625.00†	90.117	180.052	6989.38	1513.06	-1495.20	-436.11	40°04'06.390"N	104°32'36.079"W	0.00	
8725.00†	90.117	180.052	6989.18	1612.96	-1595.20	-436.20	40°04'05.402"N	104°32'36.080"W	0.00	
8825.00†	90.117	180.052	6988.98	1712.87	-1695.20	-436.29	40°04'04.414"N	104°32'36.081"W	0.00	
8925.00†	90.117	180.052	6988.77	1812.78	-1795.20	-436.38	40°04'03.425"N	104°32'36.082"W	0.00	
9025.00†	90.117	180.052	6988.57	1912.68	-1895.20	-436.47	40°04'02.437"N	104°32'36.083"W	0.00	
9125.00†	90.117	180.052	6988.36	2012.59	-1995.20	-436.56	40°04'01.449"N	104°32'36.084"W	0.00	
9225.00†	90.117	180.052	6988.16	2112.49	-2095.20	-436.65	40°04'00.461"N	104°32'36.085"W	0.00	
9325.00†	90.117	180.052	6987.95	2212.40	-2195.20	-436.74	40°03'59.473"N	104°32'36.086"W	0.00	
9425.00†	90.117	180.052	6987.75	2312.30	-2295.20	-436.83	40°03'58.484"N	104°32'36.088"W	0.00	
9525.00†	90.117	180.052	6987.55	2412.21	-2395.20	-436.92	40°03'57.496"N	104°32'36.089"W	0.00	
9625.00†	90.117	180.052	6987.34	2512.11	-2495.20	-437.01	40°03'56.508"N	104°32'36.090"W	0.00	
9725.00†	90.117	180.052	6987.14	2612.02	-2595.20	-437.10	40°03'55.520"N	104°32'36.091"W	0.00	
9825.00†	90.117	180.052	6986.93	2711.92	-2695.20	-437.19	40°03'54.531"N	104°32'36.092"W	0.00	
9925.00†	90.117	180.052	6986.73	2811.83	-2795.20	-437.28	40°03'53.543"N	104°32'36.093"W	0.00	
10025.00†	90.117	180.052	6986.52	2911.74	-2895.20	-437.37	40°03'52.555"N	104°32'36.094"W	0.00	
10125.00†	90.117	180.052	6986.32	3011.64	-2995.20	-437.46	40°03'51.567"N	104°32'36.096"W	0.00	
10225.00†	90.117	180.052	6986.12	3111.55	-3095.20	-437.55	40°03'50.579"N	104°32'36.097"W	0.00	
10325.00†	90.117	180.052	6985.91	3211.45	-3195.20	-437.64	40°03'49.590"N	104°32'36.098"W	0.00	
10425.00†	90.117	180.052	6985.71	3311.36	-3295.20	-437.73	40°03'48.602"N	104°32'36.099"W	0.00	
10525.00†	90.117	180.052	6985.50	3411.26	-3395.20	-437.82	40°03'47.614"N	104°32'36.100"W	0.00	
10625.00†	90.117	180.052	6985.30	3511.17	-3495.20	-437.91	40°03'46.626"N	104°32'36.101"W	0.00	
10725.00†	90.117	180.052	6985.09	3611.07	-3595.19	-438.00	40°03'45.638"N	104°32'36.102"W	0.00	
10825.00†	90.117	180.052	6984.89	3710.98	-3695.19	-438.09	40°03'44.649"N	104°32'36.103"W	0.00	
10925.00†	90.117	180.052	6984.69	3810.88	-3795.19	-438.18	40°03'43.661"N	104°32'36.105"W	0.00	
11025.00†	90.117	180.052	6984.48	3910.79	-3895.19	-438.27	40°03'42.673"N	104°32'36.106"W	0.00	
11125.00†	90.117	180.052	6984.28	4010.70	-3995.19	-438.36	40°03'41.685"N	104°32'36.107"W	0.00	
11225.00†	90.117	180.052	6984.07	4110.60	-4095.19	-438.45	40°03'40.696"N	104°32'36.108"W	0.00	
11325.00†	90.117	180.052	6983.87	4210.51	-4195.19	-438.54	40°03'39.708"N	104°32'36.109"W	0.00	
11425.00†	90.117	180.052	6983.66	4310.41	-4295.19	-438.63	40°03'38.720"N	104°32'36.110"W	0.00	
11525.00†	90.117	180.052	6983.46	4410.32	-4395.19	-438.72	40°03'37.732"N	104°32'36.111"W	0.00	
11625.00†	90.117	180.052	6983.25	4510.22	-4495.19	-438.81	40°03'36.744"N	104°32'36.113"W	0.00	
11725.00†	90.117	180.052	6983.05	4610.13	-4595.19	-438.90	40°03'35.755"N	104°32'36.114"W	0.00	
11825.00†	90.117	180.052	6982.85	4710.03	-4695.19	-438.99	40°03'34.767"N	104°32'36.115"W	0.00	
11925.00†	90.117	180.052	6982.64	4809.94	-4795.19	-439.08	40°03'33.779"N	104°32'36.116"W	0.00	
12025.00†	90.117	180.052	6982.44	4909.85	-4895.19	-439.17	40°03'32.791"N	104°32'36.117"W	0.00	
12125.00†	90.117	180.052	6982.23	5009.75	-4995.19	-439.26	40°03'31.802"N	104°32'36.118"W	0.00	
12225.00†	90.117	180.052	6982.03	5109.66	-5095.19	-439.35	40°03'30.814"N	104°32'36.119"W	0.00	
12325.00†	90.117	180.052	6981.82	5209.56	-5195.19	-439.44	40°03'29.826"N	104°32'36.120"W	0.00	
12425.00†	90.117	180.052	6981.62	5309.47	-5295.19	-439.53	40°03'28.838"N	104°32'36.122"W	0.00	
12525.00†	90.117	180.052	6981.42	5409.37	-5395.19	-439.62	40°03'27.850"N	104°32'36.123"W	0.00	
12625.00†	90.117	180.052	6981.21	5509.28	-5495.19	-439.71	40°03'26.861"N	104°32'36.124"W	0.00	
12725.00†	90.117	180.052	6981.01	5609.18	-5595.19	-439.80	40°03'25.873"N	104°32'36.125"W	0.00	
12825.00†	90.117	180.052	6980.80	5709.09	-5695.19	-439.89	40°03'24.885"N	104°32'36.126"W	0.00	
12925.00†	90.117	180.052	6980.60	5808.99	-5795.19	-439.98	40°03'23.897"N	104°32'36.127"W	0.00	



Planned Wellpath Report

BRNAK 01N-64W-10-2H (NIO, REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H PWB
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (178 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13025.00†	90.117	180.052	6980.39	5908.90	-5895.19	-440.07	40°03'22.908"N	104°32'36.128"W	0.00	
13125.00†	90.117	180.052	6980.19	6008.81	-5995.19	-440.16	40°03'21.920"N	104°32'36.130"W	0.00	
13225.00†	90.117	180.052	6979.99	6108.71	-6095.19	-440.25	40°03'20.932"N	104°32'36.131"W	0.00	
13325.00†	90.117	180.052	6979.78	6208.62	-6195.19	-440.34	40°03'19.944"N	104°32'36.132"W	0.00	
13425.00†	90.117	180.052	6979.58	6308.52	-6295.19	-440.43	40°03'18.956"N	104°32'36.133"W	0.00	
13525.00†	90.117	180.052	6979.37	6408.43	-6395.19	-440.52	40°03'17.967"N	104°32'36.134"W	0.00	
13625.00†	90.117	180.052	6979.17	6508.33	-6495.19	-440.61	40°03'16.979"N	104°32'36.135"W	0.00	
13725.00†	90.117	180.052	6978.96	6608.24	-6595.19	-440.70	40°03'15.991"N	104°32'36.136"W	0.00	
13825.00†	90.117	180.052	6978.76	6708.14	-6695.19	-440.79	40°03'15.003"N	104°32'36.137"W	0.00	
13925.00†	90.117	180.052	6978.56	6808.05	-6795.19	-440.88	40°03'14.015"N	104°32'36.139"W	0.00	
14025.00†	90.117	180.052	6978.35	6907.95	-6895.19	-440.97	40°03'13.026"N	104°32'36.140"W	0.00	
14125.00†	90.117	180.052	6978.15	7007.86	-6995.19	-441.06	40°03'12.038"N	104°32'36.141"W	0.00	
14225.00†	90.117	180.052	6977.94	7107.77	-7095.19	-441.15	40°03'11.050"N	104°32'36.142"W	0.00	
14325.00†	90.117	180.052	6977.74	7207.67	-7195.19	-441.24	40°03'10.062"N	104°32'36.143"W	0.00	
14425.00†	90.117	180.052	6977.53	7307.58	-7295.19	-441.33	40°03'09.073"N	104°32'36.144"W	0.00	
14525.00†	90.117	180.052	6977.33	7407.48	-7395.19	-441.42	40°03'08.085"N	104°32'36.145"W	0.00	
14625.00†	90.117	180.052	6977.13	7507.39	-7495.19	-441.51	40°03'07.097"N	104°32'36.147"W	0.00	
14725.00†	90.117	180.052	6976.92	7607.29	-7595.18	-441.60	40°03'06.109"N	104°32'36.148"W	0.00	
14825.00†	90.117	180.052	6976.72	7707.20	-7695.18	-441.69	40°03'05.121"N	104°32'36.149"W	0.00	
14925.00†	90.117	180.052	6976.51	7807.10	-7795.18	-441.78	40°03'04.132"N	104°32'36.150"W	0.00	
15025.00†	90.117	180.052	6976.31	7907.01	-7895.18	-441.87	40°03'03.144"N	104°32'36.151"W	0.00	
15125.00†	90.117	180.052	6976.10	8006.92	-7995.18	-441.96	40°03'02.156"N	104°32'36.152"W	0.00	
15225.00†	90.117	180.052	6975.90	8106.82	-8095.18	-442.05	40°03'01.168"N	104°32'36.153"W	0.00	
15325.00†	90.117	180.052	6975.69	8206.73	-8195.18	-442.14	40°03'00.179"N	104°32'36.155"W	0.00	
15425.00†	90.117	180.052	6975.49	8306.63	-8295.18	-442.23	40°02'59.191"N	104°32'36.156"W	0.00	
15525.00†	90.117	180.052	6975.29	8406.54	-8395.18	-442.32	40°02'58.203"N	104°32'36.157"W	0.00	
15625.00†	90.117	180.052	6975.08	8506.44	-8495.18	-442.41	40°02'57.215"N	104°32'36.158"W	0.00	
15725.00†	90.117	180.052	6974.88	8606.35	-8595.18	-442.50	40°02'56.227"N	104°32'36.159"W	0.00	
15825.00†	90.117	180.052	6974.67	8706.25	-8695.18	-442.59	40°02'55.238"N	104°32'36.160"W	0.00	
15925.00†	90.117	180.052	6974.47	8806.16	-8795.18	-442.68	40°02'54.250"N	104°32'36.161"W	0.00	
16025.00†	90.117	180.052	6974.26	8906.06	-8895.18	-442.77	40°02'53.262"N	104°32'36.162"W	0.00	
16125.00†	90.117	180.052	6974.06	9005.97	-8995.18	-442.86	40°02'52.274"N	104°32'36.164"W	0.00	
16225.00†	90.117	180.052	6973.86	9105.88	-9095.18	-442.95	40°02'51.285"N	104°32'36.165"W	0.00	
16325.00†	90.117	180.052	6973.65	9205.78	-9195.18	-443.04	40°02'50.297"N	104°32'36.166"W	0.00	
16425.00†	90.117	180.052	6973.45	9305.69	-9295.18	-443.13	40°02'49.309"N	104°32'36.167"W	0.00	
16525.00†	90.117	180.052	6973.24	9405.59	-9395.18	-443.22	40°02'48.321"N	104°32'36.168"W	0.00	
16625.00†	90.117	180.052	6973.04	9505.50	-9495.18	-443.31	40°02'47.333"N	104°32'36.169"W	0.00	
16725.00†	90.117	180.052	6972.83	9605.40	-9595.18	-443.40	40°02'46.344"N	104°32'36.170"W	0.00	
16825.00†	90.117	180.052	6972.63	9705.31	-9695.18	-443.49	40°02'45.356"N	104°32'36.172"W	0.00	
16925.00†	90.117	180.052	6972.43	9805.21	-9795.18	-443.58	40°02'44.368"N	104°32'36.173"W	0.00	
17025.00†	90.117	180.052	6972.22	9905.12	-9895.18	-443.67	40°02'43.380"N	104°32'36.174"W	0.00	
17125.00†	90.117	180.052	6972.02	10005.02	-9995.18	-443.76	40°02'42.391"N	104°32'36.175"W	0.00	
17133.24	90.117	180.052	6972.00 ²	10013.26	-10003.42	-443.77	40°02'42.310"N	104°32'36.175"W	0.00	End of Tangent (J)



Planned Wellpath Report

BRNAK 01N-64W-10-2H (NIO, REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H PWB
Facility	SEC.10-T1N-R64W		

HOLE & CASING SECTIONS

- Ref Wellbore: BRNAK 01N-64W-10-2H PWB Ref Wellpath: BRNAK 01N-64W-10-2H (NIO, REV-A.0) PWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.5in Open Hole	25.00	1700.00	1675.00	25.00	1695.12	0.00	0.00	76.09	-83.86
9.625in Casing Surface	25.00	1700.00	1675.00	25.00	1695.12	0.00	0.00	76.09	-83.86
8.5in Open Hole	1700.00	17134.00	15434.00	1695.12	N/A	76.09	-83.86	N/A	N/A
5.5in Casing Production	25.00	17134.00	17109.00	25.00	N/A	0.00	0.00	N/A	N/A

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
2) BRNAK 01N-64W-10-2H BHL (NIO, 460'FSL & 840'FWL,SEC.15,REV-1)	17133.24	6972.00	-10003.42	-443.77	3267817.61	1260715.17	40°02'42.310"N	104°32'36.175"W	point
1) BRNAK 01N-64W-10-2H LP (NIO, 460'FNL & 840'FWL,SEC.10,REV-1)	7345.13	6992.00	-215.33	-434.96	3267720.65	1270502.39	40°04'19.038"N	104°32'36.064"W	point

SURVEY PROGRAM -

Ref Wellbore: BRNAK 01N-64W-10-2H PWB Ref Wellpath: BRNAK 01N-64W-10-2H (NIO, REV-A.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	1700.00	Custom BHI NaviTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model)		BRNAK 01N-64W- 10-2H PWB
1700.00	17133.24	Custom BHI AutoTrak Curve (Axial Corr, Short spacing) (Rockies 0.03Gt model)		BRNAK 01N-64W- 10-2H PWB

~VERSION INFORMATION

VERS. 2.0 : CWLS LOG ASCII STANDARD-VERSION 2.0

WRAP. NO : ASCII DATA SECTION CONTAINS ONE ROW PER WELLPATH STATION

~WELL INFORMATION

#MNE	UNITS	DATA	DESCRIPTION
STRT	.ft	0.00	:START MD
STOP	.ft	17133.24	:STOP MD
STEP	.ft	0.0	:STEP (non-uniform increment)
NULL	.	-999.99	:NULL
COMP	.	VERDAD OIL & GAS CORPORATION	:OPERATOR
WELL	.	BRNAK 01N-64W-10-2H	:WELL
FLD	.	WELD COUNTY (NAD83/TN)	:FIELD
LOC	.	COLORADO	:AREA (aka: Location)
CNTY	.	N/A	:COUNTY
STAT	.	N/A	:STATE
CTRY	.	N/A	:COUNTRY
SRVC	.	Baker Hughes	:CONTRACTOR
DATE	.	04/12/2017	:LOG REV DATE
API	.		:API NUMBER

~OTHER INFORMATION

#Software: wellArchitect(R) Version 5.0

#MNE	UNITS	DATA	DESCRIPTION
WPTYPE	.	PLANNED WELLPATH	:WELLPATH TYPE
FACILITY	.	SEC.10-T1N-R64W	:FACILITY
SLOT	.	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1279'FWL, SEC.10)	:SLOT
WELLBORE	.	BRNAK 01N-64W-10-2H PWB	:WELLBORE
WELLPATH	.	BRNAK 01N-64W-10-2H (NIO, REV-A.0) PWP	:WELLPATH
MDREFPT	.	RIG (GL:5104' + RKB:25') (RKB)	:MD REFERENCE POINT
TVDREFPT	.	RIG (GL:5104' + RKB:25') (RKB)	:TVD REFERENCE POINT
LCLREFPT	.	SLOT	:LOCAL COORDINATE REFERENCE PT
VSAZIMUTH	.deg	182.54	:VERTICAL SECTION AZIMUTH
VSORIGN	.ft	0.00	:VERTICAL SECTION ORIGIN NORTH
VSORIGE	.ft	0.00	:VERTICAL SECTION ORIGIN EAST

~CURVE (WELLPATH) INFORMATION

#MNE	UNITS	DESCRIPTION
DEPT	.ft	:MEASURED DEPTH
INC	.deg	:INCLINATION
AZI	.deg	:AZIMUTH
TVD	.ft	:TRUE VERTICAL DEPTH
SECT	.ft	:CROSS SECTION (CURTAIN/VERTICAL)
LOCALN	.ft	:LOCAL NORTH
LOCALE	.ft	:LOCAL EAST

VERDAD_BRNAK_01N-64W-10-2H__NIO__REV-A.0__PWP_04-13-17.las

LAT .deg :LATITUDE
LONG .deg :LONGITUDE
DLS .deg/100ft :DOGLEG SEVERITY

~ASCII DATA

0.00	0.00	312.22	0.00	0.00	0.00	0.00	40.0725461	-104.5417969	0.00
25.00	0.00	312.22	25.00	0.00	0.00	0.00	40.0725461	-104.5417969	0.00
125.00	0.00	312.22	125.00	0.00	0.00	0.00	40.0725461	-104.5417969	0.00
225.00	0.00	312.22	225.00	0.00	0.00	0.00	40.0725461	-104.5417969	0.00
300.00	0.00	312.22	300.00	0.00	0.00	0.00	40.0725461	-104.5417969	0.00
325.00	0.50	312.22	325.00	-0.07	0.07	-0.08	40.0725463	-104.5417972	2.00
425.00	2.50	312.22	424.96	-1.74	1.83	-2.02	40.0725511	-104.5418042	2.00
525.00	4.50	312.22	524.77	-5.64	5.93	-6.54	40.0725624	-104.5418203	2.00
555.28	5.11	312.22	554.94	-7.26	7.64	-8.42	40.0725671	-104.5418270	2.00
625.00	5.11	312.22	624.39	-11.22	11.81	-13.01	40.0725785	-104.5418434	0.00
725.00	5.11	312.22	723.99	-16.90	17.79	-19.60	40.0725949	-104.5418670	0.00
825.00	5.11	312.22	823.59	-22.58	23.77	-26.19	40.0726114	-104.5418905	0.00
925.00	5.11	312.22	923.20	-28.27	29.75	-32.78	40.0726278	-104.5419141	0.00
1025.00	5.11	312.22	1022.80	-33.95	35.73	-39.37	40.0726442	-104.5419376	0.00
1125.00	5.11	312.22	1122.40	-39.63	41.71	-45.96	40.0726606	-104.5419612	0.00
1225.00	5.11	312.22	1222.01	-45.31	47.69	-52.55	40.0726770	-104.5419847	0.00
1325.00	5.11	312.22	1321.61	-50.99	53.67	-59.14	40.0726934	-104.5420083	0.00
1425.00	5.11	312.22	1421.21	-56.68	59.65	-65.74	40.0727098	-104.5420318	0.00
1525.00	5.11	312.22	1520.81	-62.36	65.63	-72.33	40.0727263	-104.5420554	0.00
1625.00	5.11	312.22	1620.42	-68.04	71.61	-78.92	40.0727427	-104.5420789	0.00
1725.00	5.11	312.22	1720.02	-73.72	77.59	-85.51	40.0727591	-104.5421025	0.00
1825.00	5.11	312.22	1819.62	-79.40	83.57	-92.10	40.0727755	-104.5421260	0.00
1925.00	5.11	312.22	1919.23	-85.09	89.55	-98.69	40.0727919	-104.5421496	0.00
2025.00	5.11	312.22	2018.83	-90.77	95.53	-105.28	40.0728083	-104.5421731	0.00
2125.00	5.11	312.22	2118.43	-96.45	101.51	-111.87	40.0728248	-104.5421967	0.00
2225.00	5.11	312.22	2218.04	-102.13	107.49	-118.46	40.0728412	-104.5422202	0.00
2325.00	5.11	312.22	2317.64	-107.81	113.47	-125.05	40.0728576	-104.5422438	0.00
2425.00	5.11	312.22	2417.24	-113.50	119.45	-131.64	40.0728740	-104.5422673	0.00
2525.00	5.11	312.22	2516.85	-119.18	125.43	-138.23	40.0728904	-104.5422909	0.00
2625.00	5.11	312.22	2616.45	-124.86	131.41	-144.82	40.0729068	-104.5423144	0.00
2725.00	5.11	312.22	2716.05	-130.54	137.39	-151.41	40.0729232	-104.5423380	0.00
2825.00	5.11	312.22	2815.66	-136.22	143.37	-158.00	40.0729397	-104.5423615	0.00
2925.00	5.11	312.22	2915.26	-141.91	149.35	-164.59	40.0729561	-104.5423851	0.00
3025.00	5.11	312.22	3014.86	-147.59	155.33	-171.18	40.0729725	-104.5424086	0.00
3125.00	5.11	312.22	3114.47	-153.27	161.31	-177.77	40.0729889	-104.5424321	0.00
3225.00	5.11	312.22	3214.07	-158.95	167.29	-184.36	40.0730053	-104.5424557	0.00
3325.00	5.11	312.22	3313.67	-164.63	173.27	-190.95	40.0730217	-104.5424792	0.00
3425.00	5.11	312.22	3413.28	-170.32	179.25	-197.54	40.0730382	-104.5425028	0.00
3525.00	5.11	312.22	3512.88	-176.00	185.23	-204.13	40.0730546	-104.5425263	0.00
3625.00	5.11	312.22	3612.48	-181.68	191.21	-210.72	40.0730710	-104.5425499	0.00
3725.00	5.11	312.22	3712.09	-187.36	197.19	-217.31	40.0730874	-104.5425734	0.00
3825.00	5.11	312.22	3811.69	-193.04	203.17	-223.90	40.0731038	-104.5425970	0.00
3925.00	5.11	312.22	3911.29	-198.73	209.15	-230.49	40.0731202	-104.5426205	0.00

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4025.00	5.11	312.22	4010.90	-204.41	215.13	-237.08	40.0731366	-104.5426441	0.00
4125.00	5.11	312.22	4110.50	-210.09	221.11	-243.68	40.0731531	-104.5426676	0.00
4225.00	5.11	312.22	4210.10	-215.77	227.09	-250.27	40.0731695	-104.5426912	0.00
4325.00	5.11	312.22	4309.71	-221.46	233.07	-256.86	40.0731859	-104.5427147	0.00
4425.00	5.11	312.22	4409.31	-227.14	239.05	-263.45	40.0732023	-104.5427383	0.00
4525.00	5.11	312.22	4508.91	-232.82	245.03	-270.04	40.0732187	-104.5427618	0.00
4625.00	5.11	312.22	4608.52	-238.50	251.01	-276.63	40.0732351	-104.5427854	0.00
4725.00	5.11	312.22	4708.12	-244.18	256.99	-283.22	40.0732516	-104.5428089	0.00
4825.00	5.11	312.22	4807.72	-249.87	262.97	-289.81	40.0732680	-104.5428325	0.00
4925.00	5.11	312.22	4907.33	-255.55	268.95	-296.40	40.0732844	-104.5428560	0.00
5025.00	5.11	312.22	5006.93	-261.23	274.93	-302.99	40.0733008	-104.5428796	0.00
5125.00	5.11	312.22	5106.53	-266.91	280.91	-309.58	40.0733172	-104.5429031	0.00
5225.00	5.11	312.22	5206.14	-272.59	286.89	-316.17	40.0733336	-104.5429267	0.00
5325.00	5.11	312.22	5305.74	-278.28	292.87	-322.76	40.0733500	-104.5429502	0.00
5425.00	5.11	312.22	5405.34	-283.96	298.85	-329.35	40.0733665	-104.5429738	0.00
5525.00	5.11	312.22	5504.94	-289.64	304.83	-335.94	40.0733829	-104.5429973	0.00
5625.00	5.11	312.22	5604.55	-295.32	310.81	-342.53	40.0733993	-104.5430209	0.00
5725.00	5.11	312.22	5704.15	-301.00	316.79	-349.12	40.0734157	-104.5430444	0.00
5825.00	5.11	312.22	5803.75	-306.69	322.77	-355.71	40.0734321	-104.5430680	0.00
5925.00	5.11	312.22	5903.36	-312.37	328.75	-362.30	40.0734485	-104.5430915	0.00
6025.00	5.11	312.22	6002.96	-318.05	334.73	-368.89	40.0734649	-104.5431151	0.00
6125.00	5.11	312.22	6102.56	-323.73	340.71	-375.48	40.0734814	-104.5431386	0.00
6225.00	5.11	312.22	6202.17	-329.41	346.69	-382.07	40.0734978	-104.5431622	0.00
6325.00	5.11	312.22	6301.77	-335.10	352.67	-388.66	40.0735142	-104.5431857	0.00
6409.71	5.11	312.22	6386.15	-339.91	357.73	-394.25	40.0735281	-104.5432057	0.00
6425.00	4.24	296.66	6401.38	-340.57	358.44	-395.25	40.0735301	-104.5432093	10.00
6525.00	8.94	204.95	6500.89	-334.89	353.04	-401.85	40.0735152	-104.5432328	10.00
6625.00	18.48	191.49	6597.95	-311.99	330.40	-408.30	40.0734531	-104.5432559	10.00
6725.00	28.34	187.11	6689.61	-272.57	291.22	-414.41	40.0733455	-104.5432777	10.00
6825.00	38.26	184.88	6773.09	-217.83	236.68	-420.00	40.0731958	-104.5432977	10.00
6925.00	48.22	183.45	6845.85	-149.44	168.44	-424.89	40.0730085	-104.5433151	10.00
7025.00	58.18	182.41	6905.68	-69.47	88.57	-428.93	40.0727892	-104.5433296	10.00
7125.00	68.16	181.58	6950.76	19.64	-0.50	-432.01	40.0725447	-104.5433406	10.00
7225.00	78.13	180.86	6979.72	115.20	-96.06	-434.03	40.0722824	-104.5433478	10.00
7325.00	88.11	180.19	6991.69	214.29	-195.21	-434.92	40.0720102	-104.5433510	10.00
7345.13	90.12	180.05	6992.00	234.40	-215.33	-434.96	40.0719550	-104.5433511	10.00
7425.00	90.12	180.05	6991.84	314.19	-295.20	-435.04	40.0717358	-104.5433514	0.00
7525.00	90.12	180.05	6991.63	414.10	-395.20	-435.13	40.0714612	-104.5433517	0.00
7625.00	90.12	180.05	6991.43	514.00	-495.20	-435.22	40.0711867	-104.5433520	0.00
7725.00	90.12	180.05	6991.22	613.91	-595.20	-435.31	40.0709122	-104.5433523	0.00
7825.00	90.12	180.05	6991.02	713.81	-695.20	-435.40	40.0706377	-104.5433526	0.00
7925.00	90.12	180.05	6990.82	813.72	-795.20	-435.49	40.0703632	-104.5433529	0.00
8025.00	90.12	180.05	6990.61	913.63	-895.20	-435.58	40.0700887	-104.5433533	0.00
8125.00	90.12	180.05	6990.41	1013.53	-995.20	-435.67	40.0698142	-104.5433536	0.00
8225.00	90.12	180.05	6990.20	1113.44	-1095.20	-435.75	40.0695397	-104.5433539	0.00
8325.00	90.12	180.05	6990.00	1213.34	-1195.20	-435.84	40.0692652	-104.5433542	0.00
8425.00	90.12	180.05	6989.79	1313.25	-1295.20	-435.93	40.0689907	-104.5433545	0.00
8525.00	90.12	180.05	6989.59	1413.15	-1395.20	-436.02	40.0687162	-104.5433548	0.00

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8625.00	90.12	180.05	6989.38	1513.06	-1495.20	-436.11	40.0684417	-104.5433551	0.00
8725.00	90.12	180.05	6989.18	1612.96	-1595.20	-436.20	40.0681672	-104.5433555	0.00
8825.00	90.12	180.05	6988.98	1712.87	-1695.20	-436.29	40.0678927	-104.5433558	0.00
8925.00	90.12	180.05	6988.77	1812.78	-1795.20	-436.38	40.0676182	-104.5433561	0.00
9025.00	90.12	180.05	6988.57	1912.68	-1895.20	-436.47	40.0673437	-104.5433564	0.00
9125.00	90.12	180.05	6988.36	2012.59	-1995.20	-436.56	40.0670692	-104.5433567	0.00
9225.00	90.12	180.05	6988.16	2112.49	-2095.20	-436.65	40.0667947	-104.5433570	0.00
9325.00	90.12	180.05	6987.95	2212.40	-2195.20	-436.74	40.0665202	-104.5433573	0.00
9425.00	90.12	180.05	6987.75	2312.30	-2295.20	-436.83	40.0662457	-104.5433577	0.00
9525.00	90.12	180.05	6987.55	2412.21	-2395.20	-436.92	40.0659711	-104.5433580	0.00
9625.00	90.12	180.05	6987.34	2512.11	-2495.20	-437.01	40.0656966	-104.5433583	0.00
9725.00	90.12	180.05	6987.14	2612.02	-2595.20	-437.10	40.0654221	-104.5433586	0.00
9825.00	90.12	180.05	6986.93	2711.92	-2695.20	-437.19	40.0651476	-104.5433589	0.00
9925.00	90.12	180.05	6986.73	2811.83	-2795.20	-437.28	40.0648731	-104.5433592	0.00
10025.00	90.12	180.05	6986.52	2911.74	-2895.20	-437.37	40.0645986	-104.5433596	0.00
10125.00	90.12	180.05	6986.32	3011.64	-2995.20	-437.46	40.0643241	-104.5433599	0.00
10225.00	90.12	180.05	6986.12	3111.55	-3095.20	-437.55	40.0640496	-104.5433602	0.00
10325.00	90.12	180.05	6985.91	3211.45	-3195.20	-437.64	40.0637751	-104.5433605	0.00
10425.00	90.12	180.05	6985.71	3311.36	-3295.20	-437.73	40.0635006	-104.5433608	0.00
10525.00	90.12	180.05	6985.50	3411.26	-3395.20	-437.82	40.0632261	-104.5433611	0.00
10625.00	90.12	180.05	6985.30	3511.17	-3495.20	-437.91	40.0629516	-104.5433614	0.00
10725.00	90.12	180.05	6985.09	3611.07	-3595.19	-438.00	40.0626771	-104.5433618	0.00
10825.00	90.12	180.05	6984.89	3710.98	-3695.19	-438.09	40.0624026	-104.5433621	0.00
10925.00	90.12	180.05	6984.69	3810.88	-3795.19	-438.18	40.0621281	-104.5433624	0.00
11025.00	90.12	180.05	6984.48	3910.79	-3895.19	-438.27	40.0618536	-104.5433627	0.00
11125.00	90.12	180.05	6984.28	4010.70	-3995.19	-438.36	40.0615791	-104.5433630	0.00
11225.00	90.12	180.05	6984.07	4110.60	-4095.19	-438.45	40.0613046	-104.5433633	0.00
11325.00	90.12	180.05	6983.87	4210.51	-4195.19	-438.54	40.0610301	-104.5433637	0.00
11425.00	90.12	180.05	6983.66	4310.41	-4295.19	-438.63	40.0607556	-104.5433640	0.00
11525.00	90.12	180.05	6983.46	4410.32	-4395.19	-438.72	40.0604810	-104.5433643	0.00
11625.00	90.12	180.05	6983.25	4510.22	-4495.19	-438.81	40.0602065	-104.5433646	0.00
11725.00	90.12	180.05	6983.05	4610.13	-4595.19	-438.90	40.0599320	-104.5433649	0.00
11825.00	90.12	180.05	6982.85	4710.03	-4695.19	-438.99	40.0596575	-104.5433652	0.00
11925.00	90.12	180.05	6982.64	4809.94	-4795.19	-439.08	40.0593830	-104.5433655	0.00
12025.00	90.12	180.05	6982.44	4909.85	-4895.19	-439.17	40.0591085	-104.5433659	0.00
12125.00	90.12	180.05	6982.23	5009.75	-4995.19	-439.26	40.0588340	-104.5433662	0.00
12225.00	90.12	180.05	6982.03	5109.66	-5095.19	-439.35	40.0585595	-104.5433665	0.00
12325.00	90.12	180.05	6981.82	5209.56	-5195.19	-439.44	40.0582850	-104.5433668	0.00
12425.00	90.12	180.05	6981.62	5309.47	-5295.19	-439.53	40.0580105	-104.5433671	0.00
12525.00	90.12	180.05	6981.42	5409.37	-5395.19	-439.62	40.0577360	-104.5433674	0.00
12625.00	90.12	180.05	6981.21	5509.28	-5495.19	-439.71	40.0574615	-104.5433677	0.00
12725.00	90.12	180.05	6981.01	5609.18	-5595.19	-439.80	40.0571870	-104.5433681	0.00
12825.00	90.12	180.05	6980.80	5709.09	-5695.19	-439.89	40.0569125	-104.5433684	0.00
12925.00	90.12	180.05	6980.60	5808.99	-5795.19	-439.98	40.0566380	-104.5433687	0.00
13025.00	90.12	180.05	6980.39	5908.90	-5895.19	-440.07	40.0563635	-104.5433690	0.00
13125.00	90.12	180.05	6980.19	6008.81	-5995.19	-440.16	40.0560890	-104.5433693	0.00
13225.00	90.12	180.05	6979.99	6108.71	-6095.19	-440.25	40.0558145	-104.5433696	0.00
13325.00	90.12	180.05	6979.78	6208.62	-6195.19	-440.34	40.0555400	-104.5433700	0.00

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13425.00	90.12	180.05	6979.58	6308.52	-6295.19	-440.43	40.0552654	-104.5433703	0.00
13525.00	90.12	180.05	6979.37	6408.43	-6395.19	-440.52	40.0549909	-104.5433706	0.00
13625.00	90.12	180.05	6979.17	6508.33	-6495.19	-440.61	40.0547164	-104.5433709	0.00
13725.00	90.12	180.05	6978.96	6608.24	-6595.19	-440.70	40.0544419	-104.5433712	0.00
13825.00	90.12	180.05	6978.76	6708.14	-6695.19	-440.79	40.0541674	-104.5433715	0.00
13925.00	90.12	180.05	6978.56	6808.05	-6795.19	-440.88	40.0538929	-104.5433718	0.00
14025.00	90.12	180.05	6978.35	6907.95	-6895.19	-440.97	40.0536184	-104.5433722	0.00
14125.00	90.12	180.05	6978.15	7007.86	-6995.19	-441.06	40.0533439	-104.5433725	0.00
14225.00	90.12	180.05	6977.94	7107.77	-7095.19	-441.15	40.0530694	-104.5433728	0.00
14325.00	90.12	180.05	6977.74	7207.67	-7195.19	-441.24	40.0527949	-104.5433731	0.00
14425.00	90.12	180.05	6977.53	7307.58	-7295.19	-441.33	40.0525204	-104.5433734	0.00
14525.00	90.12	180.05	6977.33	7407.48	-7395.19	-441.42	40.0522459	-104.5433737	0.00
14625.00	90.12	180.05	6977.13	7507.39	-7495.19	-441.51	40.0519714	-104.5433740	0.00
14725.00	90.12	180.05	6976.92	7607.29	-7595.18	-441.60	40.0516969	-104.5433744	0.00
14825.00	90.12	180.05	6976.72	7707.20	-7695.18	-441.69	40.0514224	-104.5433747	0.00
14925.00	90.12	180.05	6976.51	7807.10	-7795.18	-441.78	40.0511479	-104.5433750	0.00
15025.00	90.12	180.05	6976.31	7907.01	-7895.18	-441.87	40.0508734	-104.5433753	0.00
15125.00	90.12	180.05	6976.10	8006.92	-7995.18	-441.96	40.0505989	-104.5433756	0.00
15225.00	90.12	180.05	6975.90	8106.82	-8095.18	-442.05	40.0503243	-104.5433759	0.00
15325.00	90.12	180.05	6975.69	8206.73	-8195.18	-442.14	40.0500498	-104.5433763	0.00
15425.00	90.12	180.05	6975.49	8306.63	-8295.18	-442.23	40.0497753	-104.5433766	0.00
15525.00	90.12	180.05	6975.29	8406.54	-8395.18	-442.32	40.0495008	-104.5433769	0.00
15625.00	90.12	180.05	6975.08	8506.44	-8495.18	-442.41	40.0492263	-104.5433772	0.00
15725.00	90.12	180.05	6974.88	8606.35	-8595.18	-442.50	40.0489518	-104.5433775	0.00
15825.00	90.12	180.05	6974.67	8706.25	-8695.18	-442.59	40.0486773	-104.5433778	0.00
15925.00	90.12	180.05	6974.47	8806.16	-8795.18	-442.68	40.0484028	-104.5433781	0.00
16025.00	90.12	180.05	6974.26	8906.06	-8895.18	-442.77	40.0481283	-104.5433785	0.00
16125.00	90.12	180.05	6974.06	9005.97	-8995.18	-442.86	40.0478538	-104.5433788	0.00
16225.00	90.12	180.05	6973.86	9105.88	-9095.18	-442.95	40.0475793	-104.5433791	0.00
16325.00	90.12	180.05	6973.65	9205.78	-9195.18	-443.04	40.0473048	-104.5433794	0.00
16425.00	90.12	180.05	6973.45	9305.69	-9295.18	-443.13	40.0470303	-104.5433797	0.00
16525.00	90.12	180.05	6973.24	9405.59	-9395.18	-443.22	40.0467558	-104.5433800	0.00
16625.00	90.12	180.05	6973.04	9505.50	-9495.18	-443.31	40.0464813	-104.5433803	0.00
16725.00	90.12	180.05	6972.83	9605.40	-9595.18	-443.40	40.0462068	-104.5433807	0.00
16825.00	90.12	180.05	6972.63	9705.31	-9695.18	-443.49	40.0459323	-104.5433810	0.00
16925.00	90.12	180.05	6972.43	9805.21	-9795.18	-443.58	40.0456578	-104.5433813	0.00
17025.00	90.12	180.05	6972.22	9905.12	-9895.18	-443.67	40.0453832	-104.5433816	0.00
17125.00	90.12	180.05	6972.02	10005.02	-9995.18	-443.76	40.0451087	-104.5433819	0.00
17133.24	90.12	180.05	6972.00	10013.26	-10003.42	-443.77	40.0450861	-104.5433819	0.00