

VERDAD OIL & GAS CORPORATION

Location: COLORADO Slot: SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2)
Field: WELD COUNTY (NAD83/TN) Well: PASTELAK 02-64-35-07H
Facility: SEC.02-T01N-R64W Wellbore: PASTELAK 02-64-35-07H PWB

Location Information

Facility Name			Grid East (US R)	Grid North (US R)	Latitude	Longitude
SEC.02-T01N-R64W			3273343.920	1276066.435	40°05'13.416"N	104°31'22.844"W
Slot	Local N (R)	Local E (R)	Grid East (US R)	Grid North (US R)	Latitude	Longitude
SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2)	0.00	44.77	3273368.685	1276066.928	40°05'13.416"N	104°31'22.368"W
Rig on SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2) to Mud line (At Slot: SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2))						5028ft
Mean Sea Level to Mud line (At Slot: SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2))						0R
Rig on SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2) (RKB) to Mean Sea Level						5028ft

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
19626.05	90.065	359.735	6890.00	12967.74	871.69	3274117.40	1289042.95	40°07'21.565"N	104°31'11.147"W

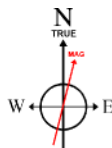
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	16.00	0.000	87.412	16.00	0.00	0.00	0.00	0.00
End of Tangent	200.00	0.000	87.412	200.00	0.00	0.00	0.00	0.00
End of Build	608.19	8.164	87.412	606.81	1.31	29.00	2.00	3.25
End of Tangent	6336.90	8.164	87.412	6277.46	38.04	841.67	0.00	94.41
End of 3D Arc (J)	7333.95	90.065	359.735	6904.00	675.78	928.62	9.00	736.54
End of Tangent (J)	19626.05	90.065	359.735	6890.00	12967.74	871.69	0.00	12997.00

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
16.00	1700.00	BHI NavTrak	Custom BHI NavTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model)		PASTELAK 02-64-35-07H PWB
1700.00	19626.05	BHI AutoTrak Curve	Custom BHI AutoTrak Curve (Axial Corr, Short spacing) (Rockies 0.03Gt model)		PASTELAK 02-64-35-07H PWB

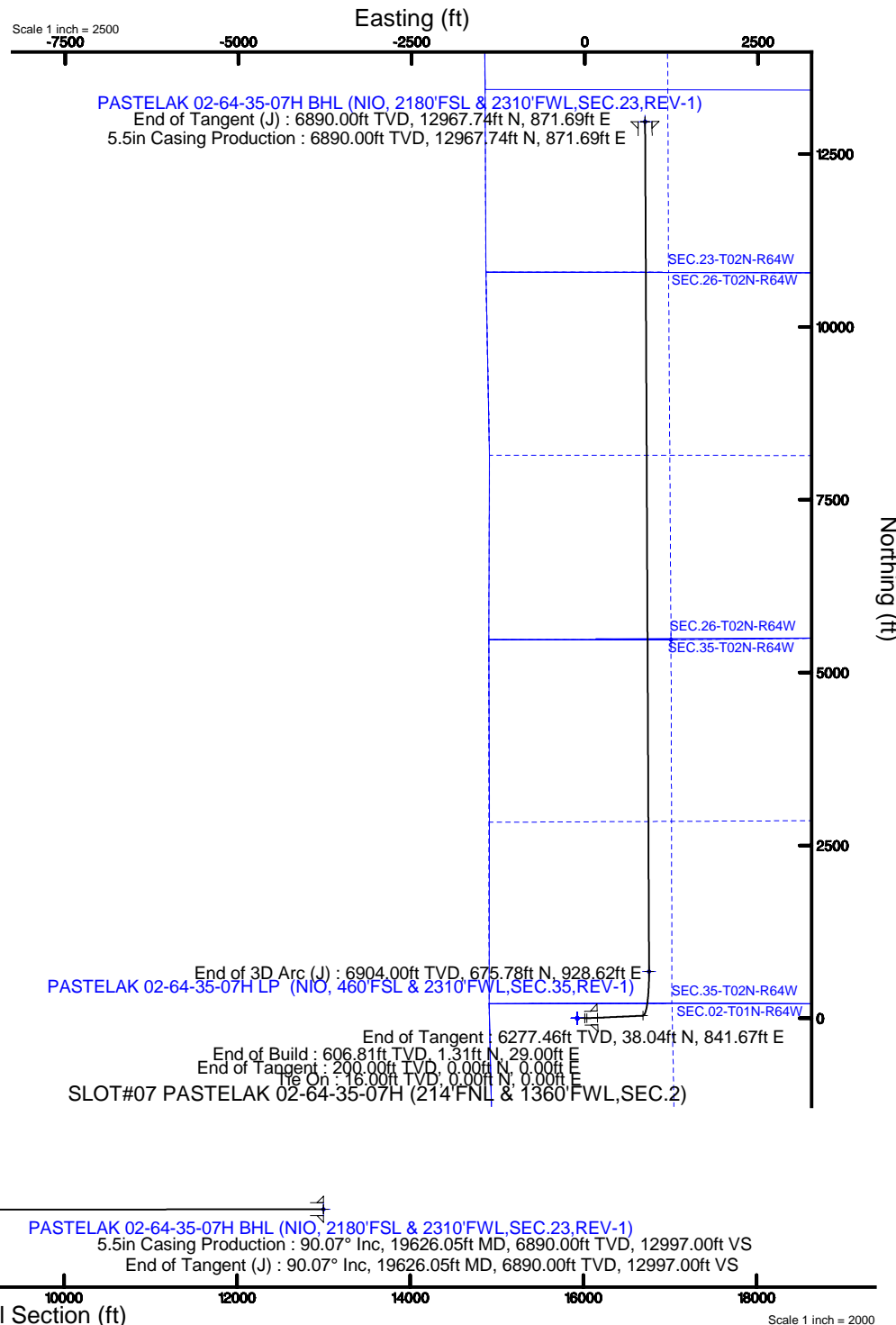
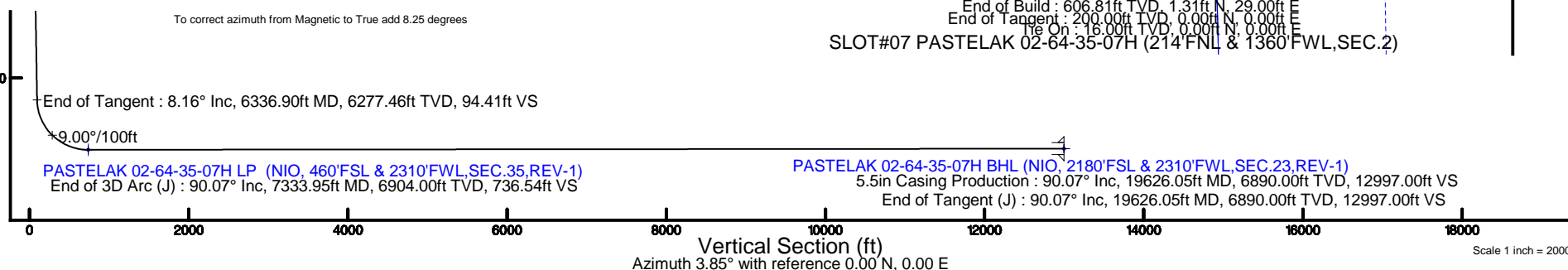
Plot reference wellpath is PASTELAK 02-64-35-07H (NIO, REV-A.0) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to Rig on SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2) (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to Rig on SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2) (RKB)	North Reference: True north
Rig on SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2) to Mean Sea Level: 5028 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: cookdanm on 2017-03-06
	Database: WA_Denver



BGGM (1900.0 to 2018.0) Dip: 66.69° Field: 52297.2 nT
Magnetic North is 8.25 degrees East of True North (at 28-Feb-17)

To correct azimuth from Magnetic to True add 8.25 degrees

True Vertical Depth (ft)
Scale 1 inch = 2000





Planned Wellpath Report

PASTELAK 02-64-35-07H (NIO, REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2)
Area	COLORADO	Well	PASTELAK 02-64-35-07H
Field	WELD COUNTY (NAD83/TN)	Wellbore	PASTELAK 02-64-35-07H PWB
Facility	SEC.02-T01N-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	0.999961	Report Generated	06-Mar-17 at 10:10:46 AM
Convergence at slot	0.64° East	Database/Source file	WA_Denver/PASTELAK_02-64-35-07H__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	0.00	44.77	3273388.69	1276066.93	40°05'13.416"N	104°31'22.368"W
Facility Reference Pt			3273343.92	1276066.44	40°05'13.416"N	104°31'22.944"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 on SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2) (RKB) to Facility Vertical Datum	5028.00ft
Horizontal Reference Pt	Slot	Rig on SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2) (RKB) to Mean Sea Level	5028.00ft
Vertical Reference Pt	Rig on SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2) (RKB)	Rig on SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2) (RKB) to Mud Line at Slot (SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2))	5028.00ft
MD Reference Pt	Rig on SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	3.85°



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL, SEC.2)
Area	COLORADO	Well	PASTELAK 02-64-35-07H
Field	WELD COUNTY (NAD83/TN)	Wellbore	PASTELAK 02-64-35-07H PWB
Facility	SEC.02-T01N-R64W		

WELLPATH DATA (203 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	87.412	0.00	0.00	0.00	0.00	40°05'13.416"N	104°31'22.368"W	0.00	
16.00	0.000	87.412	16.00	0.00	0.00	0.00	40°05'13.416"N	104°31'22.368"W	0.00	Tie On
116.00†	0.000	87.412	116.00	0.00	0.00	0.00	40°05'13.416"N	104°31'22.368"W	0.00	
200.00	0.000	87.412	200.00	0.00	0.00	0.00	40°05'13.416"N	104°31'22.368"W	0.00	End of Tangent
216.00†	0.320	87.412	216.00	0.01	0.00	0.04	40°05'13.416"N	104°31'22.367"W	2.00	
316.00†	2.320	87.412	315.97	0.26	0.11	2.35	40°05'13.417"N	104°31'22.338"W	2.00	
416.00†	4.320	87.412	415.80	0.91	0.37	8.13	40°05'13.420"N	104°31'22.263"W	2.00	
516.00†	6.320	87.412	515.36	1.95	0.79	17.39	40°05'13.424"N	104°31'22.144"W	2.00	
608.19	8.164	87.412	606.81	3.25	1.31	29.00	40°05'13.429"N	104°31'21.995"W	2.00	End of Build
616.00†	8.164	87.412	614.54	3.38	1.36	30.11	40°05'13.429"N	104°31'21.981"W	0.00	
716.00†	8.164	87.412	713.53	4.97	2.00	44.30	40°05'13.436"N	104°31'21.798"W	0.00	
816.00†	8.164	87.412	812.51	6.56	2.64	58.48	40°05'13.442"N	104°31'21.616"W	0.00	
916.00†	8.164	87.412	911.50	8.15	3.28	72.67	40°05'13.448"N	104°31'21.433"W	0.00	
1016.00†	8.164	87.412	1010.49	9.74	3.93	86.85	40°05'13.455"N	104°31'21.251"W	0.00	
1116.00†	8.164	87.412	1109.47	11.33	4.57	101.04	40°05'13.461"N	104°31'21.068"W	0.00	
1216.00†	8.164	87.412	1208.46	12.92	5.21	115.22	40°05'13.467"N	104°31'20.886"W	0.00	
1316.00†	8.164	87.412	1307.45	14.52	5.85	129.41	40°05'13.474"N	104°31'20.703"W	0.00	
1416.00†	8.164	87.412	1406.43	16.11	6.49	143.60	40°05'13.480"N	104°31'20.520"W	0.00	
1516.00†	8.164	87.412	1505.42	17.70	7.13	157.78	40°05'13.486"N	104°31'20.338"W	0.00	
1616.00†	8.164	87.412	1604.41	19.29	7.77	171.97	40°05'13.493"N	104°31'20.155"W	0.00	
1716.00†	8.164	87.412	1703.39	20.88	8.41	186.15	40°05'13.499"N	104°31'19.973"W	0.00	
1816.00†	8.164	87.412	1802.38	22.47	9.06	200.34	40°05'13.505"N	104°31'19.790"W	0.00	
1916.00†	8.164	87.412	1901.37	24.06	9.70	214.53	40°05'13.512"N	104°31'19.608"W	0.00	
2016.00†	8.164	87.412	2000.35	25.65	10.34	228.71	40°05'13.518"N	104°31'19.425"W	0.00	
2116.00†	8.164	87.412	2099.34	27.24	10.98	242.90	40°05'13.524"N	104°31'19.243"W	0.00	
2216.00†	8.164	87.412	2198.33	28.84	11.62	257.08	40°05'13.531"N	104°31'19.060"W	0.00	
2316.00†	8.164	87.412	2297.31	30.43	12.26	271.27	40°05'13.537"N	104°31'18.878"W	0.00	
2416.00†	8.164	87.412	2396.30	32.02	12.90	285.45	40°05'13.543"N	104°31'18.695"W	0.00	
2516.00†	8.164	87.412	2495.29	33.61	13.54	299.64	40°05'13.550"N	104°31'18.513"W	0.00	
2616.00†	8.164	87.412	2594.27	35.20	14.18	313.83	40°05'13.556"N	104°31'18.330"W	0.00	
2716.00†	8.164	87.412	2693.26	36.79	14.83	328.01	40°05'13.562"N	104°31'18.148"W	0.00	
2816.00†	8.164	87.412	2792.25	38.38	15.47	342.20	40°05'13.569"N	104°31'17.965"W	0.00	
2916.00†	8.164	87.412	2891.23	39.97	16.11	356.38	40°05'13.575"N	104°31'17.783"W	0.00	
3016.00†	8.164	87.412	2990.22	41.57	16.75	370.57	40°05'13.581"N	104°31'17.600"W	0.00	
3116.00†	8.164	87.412	3089.21	43.16	17.39	384.76	40°05'13.588"N	104°31'17.418"W	0.00	
3216.00†	8.164	87.412	3188.19	44.75	18.03	398.94	40°05'13.594"N	104°31'17.235"W	0.00	
3316.00†	8.164	87.412	3287.18	46.34	18.67	413.13	40°05'13.600"N	104°31'17.053"W	0.00	
3416.00†	8.164	87.412	3386.17	47.93	19.31	427.31	40°05'13.607"N	104°31'16.870"W	0.00	
3516.00†	8.164	87.412	3485.15	49.52	19.96	441.50	40°05'13.613"N	104°31'16.688"W	0.00	
3616.00†	8.164	87.412	3584.14	51.11	20.60	455.68	40°05'13.620"N	104°31'16.505"W	0.00	
3716.00†	8.164	87.412	3683.13	52.70	21.24	469.87	40°05'13.626"N	104°31'16.323"W	0.00	
3816.00†	8.164	87.412	3782.11	54.29	21.88	484.06	40°05'13.632"N	104°31'16.140"W	0.00	
3916.00†	8.164	87.412	3881.10	55.89	22.52	498.24	40°05'13.639"N	104°31'15.958"W	0.00	
4016.00†	8.164	87.412	3980.09	57.48	23.16	512.43	40°05'13.645"N	104°31'15.775"W	0.00	
4116.00†	8.164	87.412	4079.07	59.07	23.80	526.61	40°05'13.651"N	104°31'15.593"W	0.00	



Planned Wellpath Report

PASTELAK 02-64-35-07H (NIO, REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL, SEC.2)
Area	COLORADO	Well	PASTELAK 02-64-35-07H
Field	WELD COUNTY (NAD83/TN)	Wellbore	PASTELAK 02-64-35-07H PWB
Facility	SEC.02-T01N-R64W		

WELLPATH DATA (203 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4216.00†	8.164	87.412	4178.06	60.66	24.44	540.80	40°05'13.658"N	104°31'15.410"W	0.00	
4316.00†	8.164	87.412	4277.05	62.25	25.09	554.99	40°05'13.664"N	104°31'15.228"W	0.00	
4416.00†	8.164	87.412	4376.03	63.84	25.73	569.17	40°05'13.670"N	104°31'15.045"W	0.00	
4516.00†	8.164	87.412	4475.02	65.43	26.37	583.36	40°05'13.677"N	104°31'14.863"W	0.00	
4616.00†	8.164	87.412	4574.01	67.02	27.01	597.54	40°05'13.683"N	104°31'14.680"W	0.00	
4716.00†	8.164	87.412	4672.99	68.62	27.65	611.73	40°05'13.689"N	104°31'14.497"W	0.00	
4816.00†	8.164	87.412	4771.98	70.21	28.29	625.91	40°05'13.696"N	104°31'14.315"W	0.00	
4916.00†	8.164	87.412	4870.97	71.80	28.93	640.10	40°05'13.702"N	104°31'14.132"W	0.00	
5016.00†	8.164	87.412	4969.95	73.39	29.57	654.29	40°05'13.708"N	104°31'13.950"W	0.00	
5116.00†	8.164	87.412	5068.94	74.98	30.21	668.47	40°05'13.714"N	104°31'13.767"W	0.00	
5216.00†	8.164	87.412	5167.93	76.57	30.86	682.66	40°05'13.721"N	104°31'13.585"W	0.00	
5316.00†	8.164	87.412	5266.91	78.16	31.50	696.84	40°05'13.727"N	104°31'13.402"W	0.00	
5416.00†	8.164	87.412	5365.90	79.75	32.14	711.03	40°05'13.733"N	104°31'13.220"W	0.00	
5516.00†	8.164	87.412	5464.89	81.34	32.78	725.22	40°05'13.740"N	104°31'13.037"W	0.00	
5616.00†	8.164	87.412	5563.87	82.94	33.42	739.40	40°05'13.746"N	104°31'12.855"W	0.00	
5716.00†	8.164	87.412	5662.86	84.53	34.06	753.59	40°05'13.752"N	104°31'12.672"W	0.00	
5816.00†	8.164	87.412	5761.85	86.12	34.70	767.77	40°05'13.759"N	104°31'12.490"W	0.00	
5916.00†	8.164	87.412	5860.83	87.71	35.34	781.96	40°05'13.765"N	104°31'12.307"W	0.00	
6016.00†	8.164	87.412	5959.82	89.30	35.99	796.14	40°05'13.771"N	104°31'12.125"W	0.00	
6116.00†	8.164	87.412	6058.81	90.89	36.63	810.33	40°05'13.778"N	104°31'11.942"W	0.00	
6216.00†	8.164	87.412	6157.79	92.48	37.27	824.52	40°05'13.784"N	104°31'11.760"W	0.00	
6316.00†	8.164	87.412	6256.78	94.07	37.91	838.70	40°05'13.790"N	104°31'11.577"W	0.00	
6336.90	8.164	87.412	6277.46	94.41	38.04	841.67	40°05'13.792"N	104°31'11.395"W	0.00	End of Tangent
6416.00†	11.030	47.079	6355.54	100.56	43.46	852.83	40°05'13.845"N	104°31'11.395"W	9.00	
6516.00†	18.312	25.410	6452.28	122.18	64.20	866.61	40°05'14.050"N	104°31'11.218"W	9.00	
6616.00†	26.642	16.345	6544.63	158.76	99.98	879.69	40°05'14.404"N	104°31'11.050"W	9.00	
6716.00†	35.287	11.430	6630.31	209.38	149.91	891.74	40°05'14.897"N	104°31'10.895"W	9.00	
6816.00†	44.059	8.262	6707.21	272.81	212.76	902.49	40°05'15.518"N	104°31'10.757"W	9.00	
6916.00†	52.895	5.969	6773.44	347.48	286.98	911.65	40°05'16.252"N	104°31'10.639"W	9.00	
7016.00†	61.765	4.158	6827.37	431.55	370.75	919.00	40°05'17.080"N	104°31'10.544"W	9.00	
7116.00†	70.656	2.628	6867.67	522.95	462.00	924.37	40°05'17.981"N	104°31'10.475"W	9.00	
7216.00†	79.558	1.258	6893.35	619.44	558.49	927.62	40°05'18.935"N	104°31'10.433"W	9.00	
7316.00†	88.466	359.964	6903.77	718.64	657.83	928.67	40°05'19.917"N	104°31'10.419"W	9.00	
7333.95	90.065	359.735	6904.00 [†]	736.54	675.78	928.62	40°05'20.094"N	104°31'10.420"W	9.00	End of 3D Arc (J)
7416.00†	90.065	359.735	6903.91	818.38	757.83	928.24	40°05'20.905"N	104°31'10.425"W	0.00	
7516.00†	90.065	359.735	6903.79	918.12	857.83	927.78	40°05'21.893"N	104°31'10.431"W	0.00	
7616.00†	90.065	359.735	6903.68	1017.86	957.83	927.32	40°05'22.881"N	104°31'10.437"W	0.00	
7716.00†	90.065	359.735	6903.56	1117.61	1057.83	926.85	40°05'23.869"N	104°31'10.443"W	0.00	
7816.00†	90.065	359.735	6903.45	1217.35	1157.82	926.39	40°05'24.858"N	104°31'10.448"W	0.00	
7916.00†	90.065	359.735	6903.34	1317.09	1257.82	925.93	40°05'25.846"N	104°31'10.454"W	0.00	
8016.00†	90.065	359.735	6903.22	1416.83	1357.82	925.47	40°05'26.834"N	104°31'10.460"W	0.00	
8116.00†	90.065	359.735	6903.11	1516.58	1457.82	925.00	40°05'27.822"N	104°31'10.466"W	0.00	
8216.00†	90.065	359.735	6903.00	1616.32	1557.82	924.54	40°05'28.810"N	104°31'10.472"W	0.00	
8316.00†	90.065	359.735	6902.88	1716.06	1657.82	924.08	40°05'29.799"N	104°31'10.478"W	0.00	
8416.00†	90.065	359.735	6902.77	1815.80	1757.82	923.61	40°05'30.787"N	104°31'10.484"W	0.00	



Planned Wellpath Report

PASTELAK 02-64-35-07H (NIO, REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL, SEC.2)
Area	COLORADO	Well	PASTELAK 02-64-35-07H
Field	WELD COUNTY (NAD83/TN)	Wellbore	PASTELAK 02-64-35-07H PWB
Facility	SEC.02-T01N-R64W		

WELLPATH DATA (203 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8516.00†	90.065	359.735	6902.65	1915.55	1857.82	923.15	40°05'31.775"N	104°31'10.490"W	0.00	
8616.00†	90.065	359.735	6902.54	2015.29	1957.82	922.69	40°05'32.763"N	104°31'10.496"W	0.00	
8716.00†	90.065	359.735	6902.43	2115.03	2057.81	922.22	40°05'33.751"N	104°31'10.502"W	0.00	
8816.00†	90.065	359.735	6902.31	2214.78	2157.81	921.76	40°05'34.740"N	104°31'10.508"W	0.00	
8916.00†	90.065	359.735	6902.20	2314.52	2257.81	921.30	40°05'35.728"N	104°31'10.514"W	0.00	
9016.00†	90.065	359.735	6902.08	2414.26	2357.81	920.83	40°05'36.716"N	104°31'10.519"W	0.00	
9116.00†	90.065	359.735	6901.97	2514.00	2457.81	920.37	40°05'37.704"N	104°31'10.525"W	0.00	
9216.00†	90.065	359.735	6901.86	2613.75	2557.81	919.91	40°05'38.693"N	104°31'10.531"W	0.00	
9316.00†	90.065	359.735	6901.74	2713.49	2657.81	919.44	40°05'39.681"N	104°31'10.537"W	0.00	
9416.00†	90.065	359.735	6901.63	2813.23	2757.81	918.98	40°05'40.669"N	104°31'10.543"W	0.00	
9516.00†	90.065	359.735	6901.51	2912.97	2857.80	918.52	40°05'41.657"N	104°31'10.549"W	0.00	
9616.00†	90.065	359.735	6901.40	3012.72	2957.80	918.05	40°05'42.645"N	104°31'10.555"W	0.00	
9716.00†	90.065	359.735	6901.29	3112.46	3057.80	917.59	40°05'43.634"N	104°31'10.561"W	0.00	
9816.00†	90.065	359.735	6901.17	3212.20	3157.80	917.13	40°05'44.622"N	104°31'10.567"W	0.00	
9916.00†	90.065	359.735	6901.06	3311.94	3257.80	916.66	40°05'45.610"N	104°31'10.573"W	0.00	
10016.00†	90.065	359.735	6900.95	3411.69	3357.80	916.20	40°05'46.598"N	104°31'10.579"W	0.00	
10116.00†	90.065	359.735	6900.83	3511.43	3457.80	915.74	40°05'47.586"N	104°31'10.584"W	0.00	
10216.00†	90.065	359.735	6900.72	3611.17	3557.80	915.28	40°05'48.575"N	104°31'10.590"W	0.00	
10316.00†	90.065	359.735	6900.60	3710.91	3657.80	914.81	40°05'49.563"N	104°31'10.596"W	0.00	
10416.00†	90.065	359.735	6900.49	3810.66	3757.79	914.35	40°05'50.551"N	104°31'10.602"W	0.00	
10516.00†	90.065	359.735	6900.38	3910.40	3857.79	913.89	40°05'51.539"N	104°31'10.608"W	0.00	
10616.00†	90.065	359.735	6900.26	4010.14	3957.79	913.42	40°05'52.527"N	104°31'10.614"W	0.00	
10716.00†	90.065	359.735	6900.15	4109.89	4057.79	912.96	40°05'53.516"N	104°31'10.620"W	0.00	
10816.00†	90.065	359.735	6900.03	4209.63	4157.79	912.50	40°05'54.504"N	104°31'10.626"W	0.00	
10916.00†	90.065	359.735	6899.92	4309.37	4257.79	912.03	40°05'55.492"N	104°31'10.632"W	0.00	
11016.00†	90.065	359.735	6899.81	4409.11	4357.79	911.57	40°05'56.480"N	104°31'10.638"W	0.00	
11116.00†	90.065	359.735	6899.69	4508.86	4457.79	911.11	40°05'57.468"N	104°31'10.644"W	0.00	
11216.00†	90.065	359.735	6899.58	4608.60	4557.79	910.64	40°05'58.457"N	104°31'10.650"W	0.00	
11316.00†	90.065	359.735	6899.46	4708.34	4657.78	910.18	40°05'59.445"N	104°31'10.655"W	0.00	
11416.00†	90.065	359.735	6899.35	4808.08	4757.78	909.72	40°06'00.433"N	104°31'10.661"W	0.00	
11516.00†	90.065	359.735	6899.24	4907.83	4857.78	909.25	40°06'01.421"N	104°31'10.667"W	0.00	
11616.00†	90.065	359.735	6899.12	5007.57	4957.78	908.79	40°06'02.409"N	104°31'10.673"W	0.00	
11716.00†	90.065	359.735	6899.01	5107.31	5057.78	908.33	40°06'03.398"N	104°31'10.679"W	0.00	
11816.00†	90.065	359.735	6898.90	5207.05	5157.78	907.86	40°06'04.386"N	104°31'10.685"W	0.00	
11916.00†	90.065	359.735	6898.78	5306.80	5257.78	907.40	40°06'05.374"N	104°31'10.691"W	0.00	
12016.00†	90.065	359.735	6898.67	5406.54	5357.78	906.94	40°06'06.362"N	104°31'10.697"W	0.00	
12116.00†	90.065	359.735	6898.55	5506.28	5457.78	906.47	40°06'07.350"N	104°31'10.703"W	0.00	
12216.00†	90.065	359.735	6898.44	5606.02	5557.77	906.01	40°06'08.339"N	104°31'10.709"W	0.00	
12316.00†	90.065	359.735	6898.33	5705.77	5657.77	905.55	40°06'09.327"N	104°31'10.715"W	0.00	
12416.00†	90.065	359.735	6898.21	5805.51	5757.77	905.08	40°06'10.315"N	104°31'10.720"W	0.00	
12516.00†	90.065	359.735	6898.10	5905.25	5857.77	904.62	40°06'11.303"N	104°31'10.726"W	0.00	
12616.00†	90.065	359.735	6897.98	6005.00	5957.77	904.16	40°06'12.291"N	104°31'10.732"W	0.00	
12716.00†	90.065	359.735	6897.87	6104.74	6057.77	903.70	40°06'13.280"N	104°31'10.738"W	0.00	
12816.00†	90.065	359.735	6897.76	6204.48	6157.77	903.23	40°06'14.268"N	104°31'10.744"W	0.00	
12916.00†	90.065	359.735	6897.64	6304.22	6257.77	902.77	40°06'15.256"N	104°31'10.750"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL, SEC.2)
Area	COLORADO	Well	PASTELAK 02-64-35-07H
Field	WELD COUNTY (NAD83/TN)	Wellbore	PASTELAK 02-64-35-07H PWB
Facility	SEC.02-T01N-R64W		

WELLPATH DATA (203 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13016.00†	90.065	359.735	6897.53	6403.97	6357.76	902.31	40°06'16.244"N	104°31'10.756"W	0.00	
13116.00†	90.065	359.735	6897.41	6503.71	6457.76	901.84	40°06'17.233"N	104°31'10.762"W	0.00	
13216.00†	90.065	359.735	6897.30	6603.45	6557.76	901.38	40°06'18.221"N	104°31'10.768"W	0.00	
13316.00†	90.065	359.735	6897.19	6703.19	6657.76	900.92	40°06'19.209"N	104°31'10.774"W	0.00	
13416.00†	90.065	359.735	6897.07	6802.94	6757.76	900.45	40°06'20.197"N	104°31'10.780"W	0.00	
13516.00†	90.065	359.735	6896.96	6902.68	6857.76	899.99	40°06'21.185"N	104°31'10.786"W	0.00	
13616.00†	90.065	359.735	6896.85	7002.42	6957.76	899.53	40°06'22.174"N	104°31'10.791"W	0.00	
13716.00†	90.065	359.735	6896.73	7102.16	7057.76	899.06	40°06'23.162"N	104°31'10.797"W	0.00	
13816.00†	90.065	359.735	6896.62	7201.91	7157.76	898.60	40°06'24.150"N	104°31'10.803"W	0.00	
13916.00†	90.065	359.735	6896.50	7301.65	7257.75	898.14	40°06'25.138"N	104°31'10.809"W	0.00	
14016.00†	90.065	359.735	6896.39	7401.39	7357.75	897.67	40°06'26.126"N	104°31'10.815"W	0.00	
14116.00†	90.065	359.735	6896.28	7501.13	7457.75	897.21	40°06'27.115"N	104°31'10.821"W	0.00	
14216.00†	90.065	359.735	6896.16	7600.88	7557.75	896.75	40°06'28.103"N	104°31'10.827"W	0.00	
14316.00†	90.065	359.735	6896.05	7700.62	7657.75	896.28	40°06'29.091"N	104°31'10.833"W	0.00	
14416.00†	90.065	359.735	6895.93	7800.36	7757.75	895.82	40°06'30.079"N	104°31'10.839"W	0.00	
14516.00†	90.065	359.735	6895.82	7900.11	7857.75	895.36	40°06'31.067"N	104°31'10.845"W	0.00	
14616.00†	90.065	359.735	6895.71	7999.85	7957.75	894.89	40°06'32.056"N	104°31'10.851"W	0.00	
14716.00†	90.065	359.735	6895.59	8099.59	8057.75	894.43	40°06'33.044"N	104°31'10.857"W	0.00	
14816.00†	90.065	359.735	6895.48	8199.33	8157.74	893.97	40°06'34.032"N	104°31'10.862"W	0.00	
14916.00†	90.065	359.735	6895.36	8299.08	8257.74	893.51	40°06'35.020"N	104°31'10.868"W	0.00	
15016.00†	90.065	359.735	6895.25	8398.82	8357.74	893.04	40°06'36.008"N	104°31'10.874"W	0.00	
15116.00†	90.065	359.735	6895.14	8498.56	8457.74	892.58	40°06'36.997"N	104°31'10.880"W	0.00	
15216.00†	90.065	359.735	6895.02	8598.30	8557.74	892.12	40°06'37.985"N	104°31'10.886"W	0.00	
15316.00†	90.065	359.735	6894.91	8698.05	8657.74	891.65	40°06'38.973"N	104°31'10.892"W	0.00	
15416.00†	90.065	359.735	6894.80	8797.79	8757.74	891.19	40°06'39.961"N	104°31'10.898"W	0.00	
15516.00†	90.065	359.735	6894.68	8897.53	8857.74	890.73	40°06'40.949"N	104°31'10.904"W	0.00	
15616.00†	90.065	359.735	6894.57	8997.27	8957.74	890.26	40°06'41.938"N	104°31'10.910"W	0.00	
15716.00†	90.065	359.735	6894.45	9097.02	9057.73	889.80	40°06'42.926"N	104°31'10.916"W	0.00	
15816.00†	90.065	359.735	6894.34	9196.76	9157.73	889.34	40°06'43.914"N	104°31'10.922"W	0.00	
15916.00†	90.065	359.735	6894.23	9296.50	9257.73	888.87	40°06'44.902"N	104°31'10.927"W	0.00	
16016.00†	90.065	359.735	6894.11	9396.25	9357.73	888.41	40°06'45.890"N	104°31'10.933"W	0.00	
16116.00†	90.065	359.735	6894.00	9495.99	9457.73	887.95	40°06'46.879"N	104°31'10.939"W	0.00	
16216.00†	90.065	359.735	6893.88	9595.73	9557.73	887.48	40°06'47.867"N	104°31'10.945"W	0.00	
16316.00†	90.065	359.735	6893.77	9695.47	9657.73	887.02	40°06'48.855"N	104°31'10.951"W	0.00	
16416.00†	90.065	359.735	6893.66	9795.22	9757.73	886.56	40°06'49.843"N	104°31'10.957"W	0.00	
16516.00†	90.065	359.735	6893.54	9894.96	9857.73	886.09	40°06'50.831"N	104°31'10.963"W	0.00	
16616.00†	90.065	359.735	6893.43	9994.70	9957.72	885.63	40°06'51.820"N	104°31'10.969"W	0.00	
16716.00†	90.065	359.735	6893.31	10094.44	10057.72	885.17	40°06'52.808"N	104°31'10.975"W	0.00	
16816.00†	90.065	359.735	6893.20	10194.19	10157.72	884.70	40°06'53.796"N	104°31'10.981"W	0.00	
16916.00†	90.065	359.735	6893.09	10293.93	10257.72	884.24	40°06'54.784"N	104°31'10.987"W	0.00	
17016.00†	90.065	359.735	6892.97	10393.67	10357.72	883.78	40°06'55.772"N	104°31'10.993"W	0.00	
17116.00†	90.065	359.735	6892.86	10493.41	10457.72	883.31	40°06'56.761"N	104°31'10.998"W	0.00	
17216.00†	90.065	359.735	6892.74	10593.16	10557.72	882.85	40°06'57.749"N	104°31'11.004"W	0.00	
17316.00†	90.065	359.735	6892.63	10692.90	10657.72	882.39	40°06'58.737"N	104°31'11.010"W	0.00	
17416.00†	90.065	359.735	6892.52	10792.64	10757.71	881.93	40°06'59.725"N	104°31'11.016"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL, SEC.2)
Area	COLORADO	Well	PASTELAK 02-64-35-07H
Field	WELD COUNTY (NAD83/TN)	Wellbore	PASTELAK 02-64-35-07H PWB
Facility	SEC.02-T01N-R64W		

WELLPATH DATA (203 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17516.00†	90.065	359.735	6892.40	10892.38	10857.71	881.46	40°07'00.713"N	104°31'11.022"W	0.00	
17616.00†	90.065	359.735	6892.29	10992.13	10957.71	881.00	40°07'01.702"N	104°31'11.028"W	0.00	
17716.00†	90.065	359.735	6892.18	11091.87	11057.71	880.54	40°07'02.690"N	104°31'11.034"W	0.00	
17816.00†	90.065	359.735	6892.06	11191.61	11157.71	880.07	40°07'03.678"N	104°31'11.040"W	0.00	
17916.00†	90.065	359.735	6891.95	11291.36	11257.71	879.61	40°07'04.666"N	104°31'11.046"W	0.00	
18016.00†	90.065	359.735	6891.83	11391.10	11357.71	879.15	40°07'05.654"N	104°31'11.052"W	0.00	
18116.00†	90.065	359.735	6891.72	11490.84	11457.71	878.68	40°07'06.643"N	104°31'11.058"W	0.00	
18216.00†	90.065	359.735	6891.61	11590.58	11557.71	878.22	40°07'07.631"N	104°31'11.064"W	0.00	
18316.00†	90.065	359.735	6891.49	11690.33	11657.70	877.76	40°07'08.619"N	104°31'11.069"W	0.00	
18416.00†	90.065	359.735	6891.38	11790.07	11757.70	877.29	40°07'09.607"N	104°31'11.075"W	0.00	
18516.00†	90.065	359.735	6891.26	11889.81	11857.70	876.83	40°07'10.595"N	104°31'11.081"W	0.00	
18616.00†	90.065	359.735	6891.15	11989.55	11957.70	876.37	40°07'11.584"N	104°31'11.087"W	0.00	
18716.00†	90.065	359.735	6891.04	12089.30	12057.70	875.90	40°07'12.572"N	104°31'11.093"W	0.00	
18816.00†	90.065	359.735	6890.92	12189.04	12157.70	875.44	40°07'13.560"N	104°31'11.099"W	0.00	
18916.00†	90.065	359.735	6890.81	12288.78	12257.70	874.98	40°07'14.548"N	104°31'11.105"W	0.00	
19016.00†	90.065	359.735	6890.69	12388.52	12357.70	874.51	40°07'15.536"N	104°31'11.111"W	0.00	
19116.00†	90.065	359.735	6890.58	12488.27	12457.70	874.05	40°07'16.525"N	104°31'11.117"W	0.00	
19216.00†	90.065	359.735	6890.47	12588.01	12557.69	873.59	40°07'17.513"N	104°31'11.123"W	0.00	
19316.00†	90.065	359.735	6890.35	12687.75	12657.69	873.12	40°07'18.501"N	104°31'11.129"W	0.00	
19416.00†	90.065	359.735	6890.24	12787.49	12757.69	872.66	40°07'19.489"N	104°31'11.135"W	0.00	
19516.00†	90.065	359.735	6890.13	12887.24	12857.69	872.20	40°07'20.477"N	104°31'11.140"W	0.00	
19616.00†	90.065	359.735	6890.01	12986.98	12957.69	871.73	40°07'21.466"N	104°31'11.146"W	0.00	
19626.05	90.065	359.735	6890.00 ²	12997.00	12967.74	871.69	40°07'21.565"N	104°31'11.147"W	0.00	End of Tangent (J)

HOLE & CASING SECTIONS

- Ref Wellbore: PASTELAK 02-64-35-07H PWB Ref Wellpath: PASTELAK 02-64-35-07H (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	16.00	1700.00	1684.00	16.00	1687.56	0.00	0.00	8.31	183.88
9.625in Casing Surface	16.00	1700.00	1684.00	16.00	1687.56	0.00	0.00	8.31	183.88
8.5in Open Hole	1700.00	19626.05	17926.05	1687.56	6890.00	8.31	183.88	12967.74	871.69
5.5in Casing Production	16.00	19626.05	19610.05	16.00	6890.00	0.00	0.00	12967.74	871.69



Planned Wellpath Report

PASTELAK 02-64-35-07H (NIO, REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2)
Area	COLORADO	Well	PASTELAK 02-64-35-07H
Field	WELD COUNTY (NAD83/TN)	Wellbore	PASTELAK 02-64-35-07H PWB
Facility	SEC.02-T01N-R64W		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
S 1/4 COR. SEC. 26		118.00	5474.95	1245.72	3274573.96	1281555.04	40°06'07.520"N	104°31'06.337"W	point
SEC.02-T01N-R64W		118.00	0.00	-106.33	3273282.37	1276065.76	40°05'13.416"N	104°31'23.736"W	polygon
SEC.02-T01N-R64W (NORTH HALF)		118.00	0.00	-106.33	3273282.37	1276065.76	40°05'13.416"N	104°31'23.736"W	polygon
SEC.02-T01N-R64W (WEST HALF)		118.00	0.00	-106.33	3273282.37	1276065.76	40°05'13.416"N	104°31'23.736"W	polygon
SEC.23-T02N-R64W		118.00	0.00	-106.33	3273282.37	1276065.76	40°05'13.416"N	104°31'23.736"W	polygon
SEC.23-T02N-R64W (NORTH HALF)		118.00	0.00	-106.33	3273282.37	1276065.76	40°05'13.416"N	104°31'23.736"W	polygon
SEC.23-T02N-R64W (WEST HALF)		118.00	0.00	-106.33	3273282.37	1276065.76	40°05'13.416"N	104°31'23.736"W	polygon
SEC.26-T02N-R64W		118.00	0.00	-106.33	3273282.37	1276065.76	40°05'13.416"N	104°31'23.736"W	polygon
SEC.26-T02N-R64W (NORTH HALF)		118.00	0.00	-106.33	3273282.37	1276065.76	40°05'13.416"N	104°31'23.736"W	polygon
SEC.26-T02N-R64W (WEST HALF)		118.00	0.00	-106.33	3273282.37	1276065.76	40°05'13.416"N	104°31'23.736"W	polygon
SEC.35-T02N-R64W		118.00	0.00	-106.33	3273282.37	1276065.76	40°05'13.416"N	104°31'23.736"W	polygon
SEC.35-T02N-R64W (NORTH HALF)		118.00	0.00	-106.33	3273282.37	1276065.76	40°05'13.416"N	104°31'23.736"W	polygon
SEC.35-T02N-R64W (WEST HALF)		118.00	0.00	-106.33	3273282.37	1276065.76	40°05'13.416"N	104°31'23.736"W	polygon
2) PASTELAK 02-64-35-07H BHL (NIO, 2180'FSL & 2310'FWL,SEC.23,REV-1)	19626.05	6890.00	12967.74	871.69	3274117.40	1289042.95	40°07'21.565"N	104°31'11.147"W	point
1) PASTELAK 02-64-35-07H LP (NIO, 460'FSL & 2310'FWL,SEC.35,REV-1)	7333.95	6904.00	675.78	928.62	3274309.77	1276752.87	40°05'20.094"N	104°31'10.420"W	point
PASTELAK 02-64-35-07H LP (NIO, 686'FSL & 2310'FWL,SEC.35,REV-2)		6904.00	901.78	928.62	3274307.28	1276978.85	40°05'22.327"N	104°31'10.420"W	point

SURVEY PROGRAM -

Ref Wellbore: PASTELAK 02-64-35-07H PWB

Ref Wellpath: PASTELAK 02-64-35-07H (NIO, REV-A.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	1700.00	Custom BHI NaviTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model)		PASTELAK 02-64-35- 07H PWB

SURVEY PROGRAM -				
Ref Wellbore: PASTELAK 02-64-35-07H PWB Ref Wellpath: PASTELAK 02-64-35-07H (NIO, REV-A.0) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
1700.00	19626.05	Custom BHI AutoTrak Curve (Axial Corr, Short spacing) (Rockies 0.03Gt model)		PASTELAK 02-64-35- 07H 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

#MNEM	.UNITS	DATA	:DESCRIPTION
#----	.-----	----	:-----
STRT	.ft	0.00	:START MD
STOP	.ft	19626.05	:STOP MD
STEP	.ft	0.0	:STEP (non-uniform increment)
NULL	.	-999.99	:NULL
COMP	.	VERDAD OIL & GAS CORPORATION	:OPERATOR
WELL	.	PASTELAK 02-64-35-07H	: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	.	02/28/2017	:LOG REV DATE
API	.		:API NUMBER

~OTHER INFORMATION

#Software: wellArchitect(R) Version 5.0

#MNEM	.UNITS	DATA	:DESCRIPTION
#----	.-----	----	:-----
WPTYPE	.	PLANNED WELLPATH	:WELLPATH TYPE
FACILITY	.	SEC.02-T01N-R64W	:FACILITY
SLOT	.	SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2):SLOT	
WELLBORE	.	PASTELAK 02-64-35-07H PWB	:WELLBORE
WELLPATH	.	PASTELAK 02-64-35-07H (NIO, REV-A.0) PWP:WELLPATH	
MDREFPT	.	Rig on SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2) (RKB):MD REFERENCE POINT	
TVDREFPT	.	Rig on SLOT#07 PASTELAK 02-64-35-07H (214'FNL & 1360'FWL,SEC.2) (RKB):TVD REFERENCE POINT	
LCLREFPT	.	slot	:LOCAL COORDINATE REFERENCE PT
VSAZIMUTH.deg		3.85	:VERTICAL SECTION AZIMUTH
VSORIGN .ft		0.00	:VERTICAL SECTION ORIGIN NORTH
VSORIGE .ft		0.00	:VERTICAL SECTION ORIGIN EAST

~CURVE (WELLPATH) INFORMATION

#MNEM	.UNITS	:DESCRIPTION
#----	.-----	:-----
DEPT	.ft	:MEASURED DEPTH
INC	.deg	:INCLINATION
AZI	.deg	:AZIMUTH

VERDAD_PASTELAK_02-64-35-07H__NIO__REV-A.0__PWP_03-06-17.las

TVD .ft :TRUE VERTICAL DEPTH
 SECT .ft :CROSS SECTION (CURTAIN/VERTICAL)
 LOCALN .ft :LOCAL NORTH
 LOCALE .ft :LOCAL EAST
 LAT .deg :LATITUDE
 LONG .deg :LONGITUDE
 DLS .deg/100ft :DOGLEG SEVERITY

~ASCII DATA

0.00	0.00	87.41	0.00	0.00	0.00	0.00	40.0870600	-104.5228800	0.00
16.00	0.00	87.41	16.00	0.00	0.00	0.00	40.0870600	-104.5228800	0.00
116.00	0.00	87.41	116.00	0.00	0.00	0.00	40.0870600	-104.5228800	0.00
200.00	0.00	87.41	200.00	0.00	0.00	0.00	40.0870600	-104.5228800	0.00
216.00	0.32	87.41	216.00	0.01	0.00	0.04	40.0870600	-104.5228798	2.00
316.00	2.32	87.41	315.97	0.26	0.11	2.35	40.0870603	-104.5228716	2.00
416.00	4.32	87.41	415.80	0.91	0.37	8.13	40.0870610	-104.5228509	2.00
516.00	6.32	87.41	515.36	1.95	0.79	17.39	40.0870622	-104.5228178	2.00
608.19	8.16	87.41	606.81	3.25	1.31	29.00	40.0870636	-104.5227764	2.00
616.00	8.16	87.41	614.54	3.38	1.36	30.11	40.0870637	-104.5227724	0.00
716.00	8.16	87.41	713.53	4.97	2.00	44.30	40.0870655	-104.5227217	0.00
816.00	8.16	87.41	812.51	6.56	2.64	58.48	40.0870673	-104.5226710	0.00
916.00	8.16	87.41	911.50	8.15	3.28	72.67	40.0870690	-104.5226203	0.00
1016.00	8.16	87.41	1010.49	9.74	3.93	86.85	40.0870708	-104.5225696	0.00
1116.00	8.16	87.41	1109.47	11.33	4.57	101.04	40.0870725	-104.5225189	0.00
1216.00	8.16	87.41	1208.46	12.92	5.21	115.22	40.0870743	-104.5224682	0.00
1316.00	8.16	87.41	1307.45	14.52	5.85	129.41	40.0870761	-104.5224175	0.00
1416.00	8.16	87.41	1406.43	16.11	6.49	143.60	40.0870778	-104.5223668	0.00
1516.00	8.16	87.41	1505.42	17.70	7.13	157.78	40.0870796	-104.5223161	0.00
1616.00	8.16	87.41	1604.41	19.29	7.77	171.97	40.0870813	-104.5222654	0.00
1716.00	8.16	87.41	1703.39	20.88	8.41	186.15	40.0870831	-104.5222147	0.00
1816.00	8.16	87.41	1802.38	22.47	9.06	200.34	40.0870849	-104.5221640	0.00
1916.00	8.16	87.41	1901.37	24.06	9.70	214.53	40.0870866	-104.5221133	0.00
2016.00	8.16	87.41	2000.35	25.65	10.34	228.71	40.0870884	-104.5220626	0.00
2116.00	8.16	87.41	2099.34	27.24	10.98	242.90	40.0870901	-104.5220119	0.00
2216.00	8.16	87.41	2198.33	28.84	11.62	257.08	40.0870919	-104.5219612	0.00
2316.00	8.16	87.41	2297.31	30.43	12.26	271.27	40.0870937	-104.5219105	0.00
2416.00	8.16	87.41	2396.30	32.02	12.90	285.45	40.0870954	-104.5218598	0.00
2516.00	8.16	87.41	2495.29	33.61	13.54	299.64	40.0870972	-104.5218091	0.00
2616.00	8.16	87.41	2594.27	35.20	14.18	313.83	40.0870989	-104.5217584	0.00
2716.00	8.16	87.41	2693.26	36.79	14.83	328.01	40.0871007	-104.5217077	0.00
2816.00	8.16	87.41	2792.25	38.38	15.47	342.20	40.0871025	-104.5216570	0.00
2916.00	8.16	87.41	2891.23	39.97	16.11	356.38	40.0871042	-104.5216063	0.00
3016.00	8.16	87.41	2990.22	41.57	16.75	370.57	40.0871060	-104.5215556	0.00
3116.00	8.16	87.41	3089.21	43.16	17.39	384.76	40.0871077	-104.5215049	0.00

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3216.00	8.16	87.41	3188.19	44.75	18.03	398.94	40.0871095	-104.5214542	0.00
3316.00	8.16	87.41	3287.18	46.34	18.67	413.13	40.0871112	-104.5214035	0.00
3416.00	8.16	87.41	3386.17	47.93	19.31	427.31	40.0871130	-104.5213528	0.00
3516.00	8.16	87.41	3485.15	49.52	19.96	441.50	40.0871148	-104.5213021	0.00
3616.00	8.16	87.41	3584.14	51.11	20.60	455.68	40.0871165	-104.5212514	0.00
3716.00	8.16	87.41	3683.13	52.70	21.24	469.87	40.0871183	-104.5212007	0.00
3816.00	8.16	87.41	3782.11	54.29	21.88	484.06	40.0871200	-104.5211500	0.00
3916.00	8.16	87.41	3881.10	55.89	22.52	498.24	40.0871218	-104.5210993	0.00
4016.00	8.16	87.41	3980.09	57.48	23.16	512.43	40.0871236	-104.5210486	0.00
4116.00	8.16	87.41	4079.07	59.07	23.80	526.61	40.0871253	-104.5209979	0.00
4216.00	8.16	87.41	4178.06	60.66	24.44	540.80	40.0871271	-104.5209472	0.00
4316.00	8.16	87.41	4277.05	62.25	25.09	554.99	40.0871288	-104.5208965	0.00
4416.00	8.16	87.41	4376.03	63.84	25.73	569.17	40.0871306	-104.5208458	0.00
4516.00	8.16	87.41	4475.02	65.43	26.37	583.36	40.0871324	-104.5207951	0.00
4616.00	8.16	87.41	4574.01	67.02	27.01	597.54	40.0871341	-104.5207444	0.00
4716.00	8.16	87.41	4672.99	68.62	27.65	611.73	40.0871359	-104.5206937	0.00
4816.00	8.16	87.41	4771.98	70.21	28.29	625.91	40.0871376	-104.5206430	0.00
4916.00	8.16	87.41	4870.97	71.80	28.93	640.10	40.0871394	-104.5205924	0.00
5016.00	8.16	87.41	4969.95	73.39	29.57	654.29	40.0871412	-104.5205417	0.00
5116.00	8.16	87.41	5068.94	74.98	30.21	668.47	40.0871429	-104.5204910	0.00
5216.00	8.16	87.41	5167.93	76.57	30.86	682.66	40.0871447	-104.5204403	0.00
5316.00	8.16	87.41	5266.91	78.16	31.50	696.84	40.0871464	-104.5203896	0.00
5416.00	8.16	87.41	5365.90	79.75	32.14	711.03	40.0871482	-104.5203389	0.00
5516.00	8.16	87.41	5464.89	81.34	32.78	725.22	40.0871500	-104.5202882	0.00
5616.00	8.16	87.41	5563.87	82.94	33.42	739.40	40.0871517	-104.5202375	0.00
5716.00	8.16	87.41	5662.86	84.53	34.06	753.59	40.0871535	-104.5201868	0.00
5816.00	8.16	87.41	5761.85	86.12	34.70	767.77	40.0871552	-104.5201361	0.00
5916.00	8.16	87.41	5860.83	87.71	35.34	781.96	40.0871570	-104.5200854	0.00
6016.00	8.16	87.41	5959.82	89.30	35.99	796.14	40.0871587	-104.5200347	0.00
6116.00	8.16	87.41	6058.81	90.89	36.63	810.33	40.0871605	-104.5199840	0.00
6216.00	8.16	87.41	6157.79	92.48	37.27	824.52	40.0871623	-104.5199333	0.00
6316.00	8.16	87.41	6256.78	94.07	37.91	838.70	40.0871640	-104.5198826	0.00
6336.90	8.16	87.41	6277.46	94.41	38.04	841.67	40.0871644	-104.5198720	0.00
6416.00	11.03	47.08	6355.54	100.56	43.46	852.83	40.0871793	-104.5198321	9.00
6516.00	18.31	25.41	6452.28	122.18	64.20	866.61	40.0872362	-104.5197828	9.00
6616.00	26.64	16.35	6544.63	158.76	99.98	879.69	40.0873344	-104.5197361	9.00
6716.00	35.29	11.43	6630.31	209.38	149.91	891.74	40.0874715	-104.5196930	9.00
6816.00	44.06	8.26	6707.21	272.81	212.76	902.49	40.0876440	-104.5196546	9.00
6916.00	52.90	5.97	6773.44	347.48	286.98	911.65	40.0878477	-104.5196218	9.00
7016.00	61.77	4.16	6827.37	431.55	370.75	919.00	40.0880777	-104.5195955	9.00
7116.00	70.66	2.63	6867.67	522.95	462.00	924.37	40.0883282	-104.5195763	9.00
7216.00	79.56	1.26	6893.35	619.44	558.49	927.62	40.0885930	-104.5195647	9.00
7316.00	88.47	359.96	6903.77	718.64	657.83	928.67	40.0888657	-104.5195609	9.00
7333.95	90.07	359.74	6904.00	736.54	675.78	928.62	40.0889150	-104.5195611	9.00

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7416.00	90.07	359.74	6903.91	818.38	757.83	928.24	40.0891402	-104.5195625	0.00
7516.00	90.07	359.74	6903.79	918.12	857.83	927.78	40.0894147	-104.5195641	0.00
7616.00	90.07	359.74	6903.68	1017.86	957.83	927.32	40.0896892	-104.5195657	0.00
7716.00	90.07	359.74	6903.56	1117.61	1057.83	926.85	40.0899637	-104.5195674	0.00
7816.00	90.07	359.74	6903.45	1217.35	1157.82	926.39	40.0902382	-104.5195690	0.00
7916.00	90.07	359.74	6903.34	1317.09	1257.82	925.93	40.0905127	-104.5195707	0.00
8016.00	90.07	359.74	6903.22	1416.83	1357.82	925.47	40.0907872	-104.5195723	0.00
8116.00	90.07	359.74	6903.11	1516.58	1457.82	925.00	40.0910617	-104.5195740	0.00
8216.00	90.07	359.74	6903.00	1616.32	1557.82	924.54	40.0913362	-104.5195756	0.00
8316.00	90.07	359.74	6902.88	1716.06	1657.82	924.08	40.0916107	-104.5195772	0.00
8416.00	90.07	359.74	6902.77	1815.80	1757.82	923.61	40.0918852	-104.5195789	0.00
8516.00	90.07	359.74	6902.65	1915.55	1857.82	923.15	40.0921597	-104.5195805	0.00
8616.00	90.07	359.74	6902.54	2015.29	1957.82	922.69	40.0924342	-104.5195822	0.00
8716.00	90.07	359.74	6902.43	2115.03	2057.81	922.22	40.0927087	-104.5195838	0.00
8816.00	90.07	359.74	6902.31	2214.78	2157.81	921.76	40.0929833	-104.5195854	0.00
8916.00	90.07	359.74	6902.20	2314.52	2257.81	921.30	40.0932578	-104.5195871	0.00
9016.00	90.07	359.74	6902.08	2414.26	2357.81	920.83	40.0935323	-104.5195887	0.00
9116.00	90.07	359.74	6901.97	2514.00	2457.81	920.37	40.0938068	-104.5195904	0.00
9216.00	90.07	359.74	6901.86	2613.75	2557.81	919.91	40.0940813	-104.5195920	0.00
9316.00	90.07	359.74	6901.74	2713.49	2657.81	919.44	40.0943558	-104.5195937	0.00
9416.00	90.07	359.74	6901.63	2813.23	2757.81	918.98	40.0946303	-104.5195953	0.00
9516.00	90.07	359.74	6901.51	2912.97	2857.80	918.52	40.0949048	-104.5195969	0.00
9616.00	90.07	359.74	6901.40	3012.72	2957.80	918.05	40.0951793	-104.5195986	0.00
9716.00	90.07	359.74	6901.29	3112.46	3057.80	917.59	40.0954538	-104.5196002	0.00
9816.00	90.07	359.74	6901.17	3212.20	3157.80	917.13	40.0957283	-104.5196019	0.00
9916.00	90.07	359.74	6901.06	3311.94	3257.80	916.66	40.0960028	-104.5196035	0.00
10016.00	90.07	359.74	6900.95	3411.69	3357.80	916.20	40.0962773	-104.5196052	0.00
10116.00	90.07	359.74	6900.83	3511.43	3457.80	915.74	40.0965518	-104.5196068	0.00
10216.00	90.07	359.74	6900.72	3611.17	3557.80	915.28	40.0968263	-104.5196084	0.00
10316.00	90.07	359.74	6900.60	3710.91	3657.80	914.81	40.0971008	-104.5196101	0.00
10416.00	90.07	359.74	6900.49	3810.66	3757.79	914.35	40.0973753	-104.5196117	0.00
10516.00	90.07	359.74	6900.38	3910.40	3857.79	913.89	40.0976498	-104.5196134	0.00
10616.00	90.07	359.74	6900.26	4010.14	3957.79	913.42	40.0979243	-104.5196150	0.00
10716.00	90.07	359.74	6900.15	4109.89	4057.79	912.96	40.0981988	-104.5196167	0.00
10816.00	90.07	359.74	6900.03	4209.63	4157.79	912.50	40.0984733	-104.5196183	0.00
10916.00	90.07	359.74	6899.92	4309.37	4257.79	912.03	40.0987478	-104.5196199	0.00
11016.00	90.07	359.74	6899.81	4409.11	4357.79	911.57	40.0990223	-104.5196216	0.00
11116.00	90.07	359.74	6899.69	4508.86	4457.79	911.11	40.0992968	-104.5196232	0.00
11216.00	90.07	359.74	6899.58	4608.60	4557.79	910.64	40.0995713	-104.5196249	0.00
11316.00	90.07	359.74	6899.46	4708.34	4657.78	910.18	40.0998458	-104.5196265	0.00
11416.00	90.07	359.74	6899.35	4808.08	4757.78	909.72	40.1001203	-104.5196282	0.00
11516.00	90.07	359.74	6899.24	4907.83	4857.78	909.25	40.1003948	-104.5196298	0.00
11616.00	90.07	359.74	6899.12	5007.57	4957.78	908.79	40.1006693	-104.5196314	0.00
11716.00	90.07	359.74	6899.01	5107.31	5057.78	908.33	40.1009438	-104.5196331	0.00

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11816.00	90.07	359.74	6898.90	5207.05	5157.78	907.86	40.1012183	-104.5196347	0.00
11916.00	90.07	359.74	6898.78	5306.80	5257.78	907.40	40.1014928	-104.5196364	0.00
12016.00	90.07	359.74	6898.67	5406.54	5357.78	906.94	40.1017673	-104.5196380	0.00
12116.00	90.07	359.74	6898.55	5506.28	5457.78	906.47	40.1020418	-104.5196397	0.00
12216.00	90.07	359.74	6898.44	5606.02	5557.77	906.01	40.1023163	-104.5196413	0.00
12316.00	90.07	359.74	6898.33	5705.77	5657.77	905.55	40.1025908	-104.5196429	0.00
12416.00	90.07	359.74	6898.21	5805.51	5757.77	905.08	40.1028653	-104.5196446	0.00
12516.00	90.07	359.74	6898.10	5905.25	5857.77	904.62	40.1031398	-104.5196462	0.00
12616.00	90.07	359.74	6897.98	6005.00	5957.77	904.16	40.1034143	-104.5196479	0.00
12716.00	90.07	359.74	6897.87	6104.74	6057.77	903.70	40.1036888	-104.5196495	0.00
12816.00	90.07	359.74	6897.76	6204.48	6157.77	903.23	40.1039633	-104.5196511	0.00
12916.00	90.07	359.74	6897.64	6304.22	6257.77	902.77	40.1042378	-104.5196528	0.00
13016.00	90.07	359.74	6897.53	6403.97	6357.76	902.31	40.1045123	-104.5196544	0.00
13116.00	90.07	359.74	6897.41	6503.71	6457.76	901.84	40.1047868	-104.5196561	0.00
13216.00	90.07	359.74	6897.30	6603.45	6557.76	901.38	40.1050613	-104.5196577	0.00
13316.00	90.07	359.74	6897.19	6703.19	6657.76	900.92	40.1053358	-104.5196594	0.00
13416.00	90.07	359.74	6897.07	6802.94	6757.76	900.45	40.1056103	-104.5196610	0.00
13516.00	90.07	359.74	6896.96	6902.68	6857.76	899.99	40.1058848	-104.5196626	0.00
13616.00	90.07	359.74	6896.85	7002.42	6957.76	899.53	40.1061593	-104.5196643	0.00
13716.00	90.07	359.74	6896.73	7102.16	7057.76	899.06	40.1064338	-104.5196659	0.00
13816.00	90.07	359.74	6896.62	7201.91	7157.76	898.60	40.1067083	-104.5196676	0.00
13916.00	90.07	359.74	6896.50	7301.65	7257.75	898.14	40.1069828	-104.5196692	0.00
14016.00	90.07	359.74	6896.39	7401.39	7357.75	897.67	40.1072573	-104.5196709	0.00
14116.00	90.07	359.74	6896.28	7501.13	7457.75	897.21	40.1075318	-104.5196725	0.00
14216.00	90.07	359.74	6896.16	7600.88	7557.75	896.75	40.1078063	-104.5196742	0.00
14316.00	90.07	359.74	6896.05	7700.62	7657.75	896.28	40.1080808	-104.5196758	0.00
14416.00	90.07	359.74	6895.93	7800.36	7757.75	895.82	40.1083553	-104.5196774	0.00
14516.00	90.07	359.74	6895.82	7900.11	7857.75	895.36	40.1086298	-104.5196791	0.00
14616.00	90.07	359.74	6895.71	7999.85	7957.75	894.89	40.1089043	-104.5196807	0.00
14716.00	90.07	359.74	6895.59	8099.59	8057.75	894.43	40.1091788	-104.5196824	0.00
14816.00	90.07	359.74	6895.48	8199.33	8157.74	893.97	40.1094533	-104.5196840	0.00
14916.00	90.07	359.74	6895.36	8299.08	8257.74	893.51	40.1097278	-104.5196857	0.00
15016.00	90.07	359.74	6895.25	8398.82	8357.74	893.04	40.1100023	-104.5196873	0.00
15116.00	90.07	359.74	6895.14	8498.56	8457.74	892.58	40.1102768	-104.5196889	0.00
15216.00	90.07	359.74	6895.02	8598.30	8557.74	892.12	40.1105513	-104.5196906	0.00
15316.00	90.07	359.74	6894.91	8698.05	8657.74	891.65	40.1108258	-104.5196922	0.00
15416.00	90.07	359.74	6894.80	8797.79	8757.74	891.19	40.1111003	-104.5196939	0.00
15516.00	90.07	359.74	6894.68	8897.53	8857.74	890.73	40.1113748	-104.5196955	0.00
15616.00	90.07	359.74	6894.57	8997.27	8957.74	890.26	40.1116493	-104.5196972	0.00
15716.00	90.07	359.74	6894.45	9097.02	9057.73	889.80	40.1119238	-104.5196988	0.00
15816.00	90.07	359.74	6894.34	9196.76	9157.73	889.34	40.1121983	-104.5197004	0.00
15916.00	90.07	359.74	6894.23	9296.50	9257.73	888.87	40.1124728	-104.5197021	0.00
16016.00	90.07	359.74	6894.11	9396.25	9357.73	888.41	40.1127473	-104.5197037	0.00
16116.00	90.07	359.74	6894.00	9495.99	9457.73	887.95	40.1130218	-104.5197054	0.00

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16216.00	90.07	359.74	6893.88	9595.73	9557.73	887.48	40.1132963	-104.5197070	0.00
16316.00	90.07	359.74	6893.77	9695.47	9657.73	887.02	40.1135708	-104.5197087	0.00
16416.00	90.07	359.74	6893.66	9795.22	9757.73	886.56	40.1138453	-104.5197103	0.00
16516.00	90.07	359.74	6893.54	9894.96	9857.73	886.09	40.1141198	-104.5197119	0.00
16616.00	90.07	359.74	6893.43	9994.70	9957.72	885.63	40.1143943	-104.5197136	0.00
16716.00	90.07	359.74	6893.31	10094.44	10057.72	885.17	40.1146688	-104.5197152	0.00
16816.00	90.07	359.74	6893.20	10194.19	10157.72	884.70	40.1149433	-104.5197169	0.00
16916.00	90.07	359.74	6893.09	10293.93	10257.72	884.24	40.1152178	-104.5197185	0.00
17016.00	90.07	359.74	6892.97	10393.67	10357.72	883.78	40.1154923	-104.5197202	0.00
17116.00	90.07	359.74	6892.86	10493.41	10457.72	883.31	40.1157668	-104.5197218	0.00
17216.00	90.07	359.74	6892.74	10593.16	10557.72	882.85	40.1160413	-104.5197234	0.00
17316.00	90.07	359.74	6892.63	10692.90	10657.72	882.39	40.1163158	-104.5197251	0.00
17416.00	90.07	359.74	6892.52	10792.64	10757.71	881.93	40.1165903	-104.5197267	0.00
17516.00	90.07	359.74	6892.40	10892.38	10857.71	881.46	40.1168648	-104.5197284	0.00
17616.00	90.07	359.74	6892.29	10992.13	10957.71	881.00	40.1171393	-104.5197300	0.00
17716.00	90.07	359.74	6892.18	11091.87	11057.71	880.54	40.1174138	-104.5197317	0.00
17816.00	90.07	359.74	6892.06	11191.61	11157.71	880.07	40.1176883	-104.5197333	0.00
17916.00	90.07	359.74	6891.95	11291.36	11257.71	879.61	40.1179629	-104.5197349	0.00
18016.00	90.07	359.74	6891.83	11391.10	11357.71	879.15	40.1182374	-104.5197366	0.00
18116.00	90.07	359.74	6891.72	11490.84	11457.71	878.68	40.1185119	-104.5197382	0.00
18216.00	90.07	359.74	6891.61	11590.58	11557.71	878.22	40.1187864	-104.5197399	0.00
18316.00	90.07	359.74	6891.49	11690.33	11657.70	877.76	40.1190609	-104.5197415	0.00
18416.00	90.07	359.74	6891.38	11790.07	11757.70	877.29	40.1193354	-104.5197432	0.00
18516.00	90.07	359.74	6891.26	11889.81	11857.70	876.83	40.1196099	-104.5197448	0.00
18616.00	90.07	359.74	6891.15	11989.55	11957.70	876.37	40.1198844	-104.5197465	0.00
18716.00	90.07	359.74	6891.04	12089.30	12057.70	875.90	40.1201589	-104.5197481	0.00
18816.00	90.07	359.74	6890.92	12189.04	12157.70	875.44	40.1204334	-104.5197497	0.00
18916.00	90.07	359.74	6890.81	12288.78	12257.70	874.98	40.1207079	-104.5197514	0.00
19016.00	90.07	359.74	6890.69	12388.52	12357.70	874.51	40.1209824	-104.5197530	0.00
19116.00	90.07	359.74	6890.58	12488.27	12457.70	874.05	40.1212569	-104.5197547	0.00
19216.00	90.07	359.74	6890.47	12588.01	12557.69	873.59	40.1215314	-104.5197563	0.00
19316.00	90.07	359.74	6890.35	12687.75	12657.69	873.12	40.1218059	-104.5197580	0.00
19416.00	90.07	359.74	6890.24	12787.49	12757.69	872.66	40.1220804	-104.5197596	0.00
19516.00	90.07	359.74	6890.13	12887.24	12857.69	872.20	40.1223549	-104.5197612	0.00
19616.00	90.07	359.74	6890.01	12986.98	12957.69	871.73	40.1226294	-104.5197629	0.00
19626.05	90.07	359.74	6890.00	12997.00	12967.74	871.69	40.1226569	-104.5197631	0.00