

Tekton Energy

Well Name: **Pavistma South 2 #1-5-32-090-4-CH**

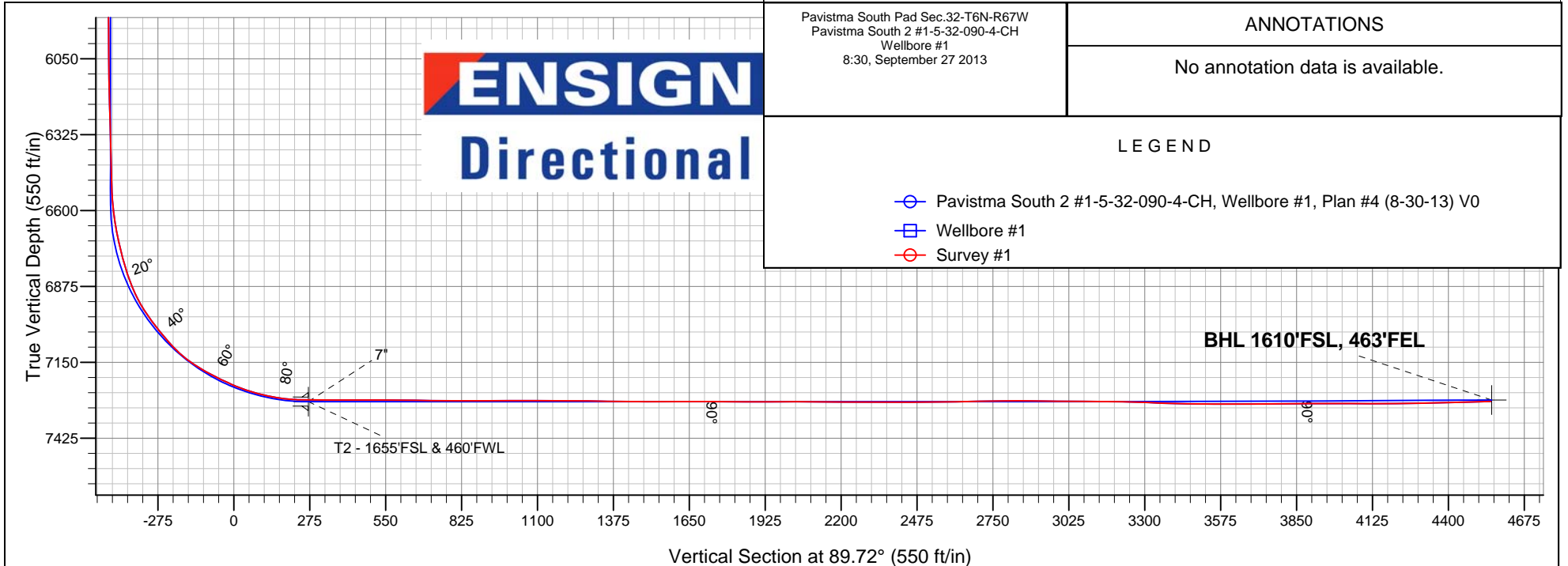
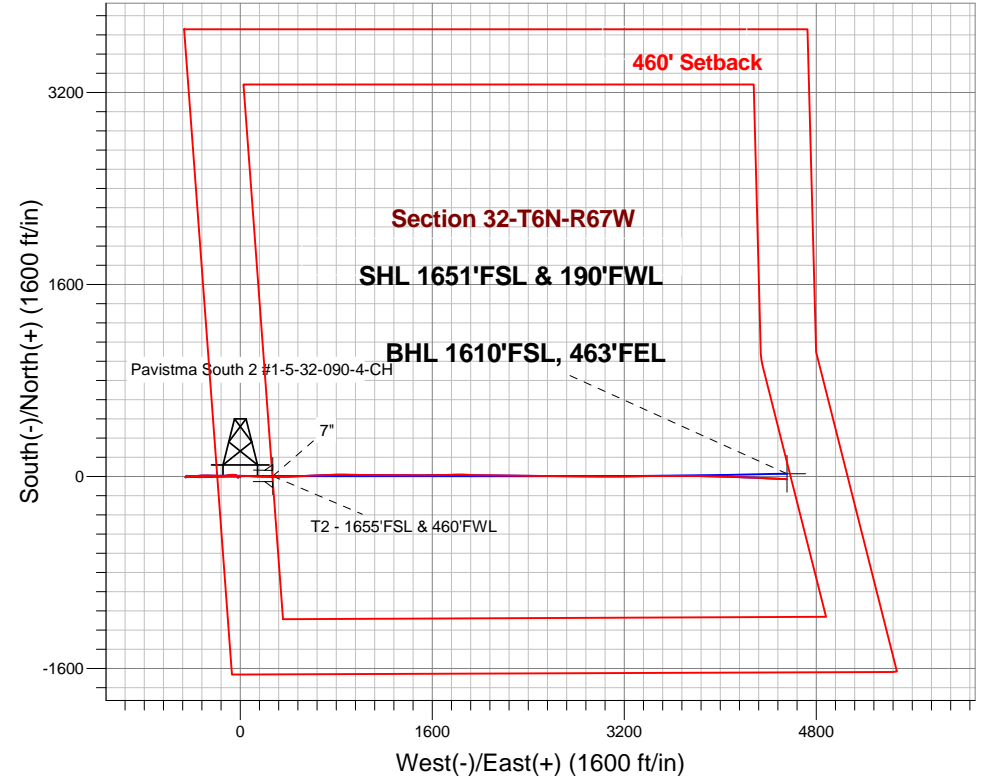
Surface Location: Pavistma South Pad Sec.32-T6N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4954.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1403833.68	3160096.76	40.440500	-104.924820	

Frontier Rig 10 RKB - 22.5'WELL @ 4976.5ft (Frontier Rig 10 RKB - 22.5')

FINAL SURVEY

Projected Bottom Hole Location
12007' MD 7291' TVD 22' S & 4554' E of SHL
91.89 degree Incl @ 92.6 degree AZM





Tekton Energy

SEC.32-T6N-R67W

Pavistma South Pad Sec.32-T6N-R67W

Pavistma South 2 #1-5-32-090-4-CH

Wellbore #1

Survey: Survey #1

Standard Survey Report

27 September, 2013

Company:	Tekton Energy	Local Co-ordinate Reference:	Well Pavistma South 2 #1-5-32-090-4-CH
Project:	SEC.32-T6N-R67W	TVD Reference:	WELL @ 4976.5ft (Frontier Rig 10 RKB - 22.5')
Site:	Pavistma South Pad Sec.32-T6N-R67W	MD Reference:	WELL @ 4976.5ft (Frontier Rig 10 RKB - 22.5')
Well:	Pavistma South 2 #1-5-32-090-4-CH	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,373.0	1.20	259.90	1,372.9	-4.7	-12.3	-12.4	0.31	0.11	14.57
1,466.0	1.40	274.30	1,465.9	-4.7	-14.4	-14.5	0.41	0.22	15.48
1,558.0	1.20	253.30	1,557.8	-4.9	-16.5	-16.5	0.56	-0.22	-22.83
1,650.0	1.80	238.80	1,649.8	-6.0	-18.6	-18.7	0.77	0.65	-15.76
1,742.0	0.20	193.90	1,741.8	-6.9	-19.9	-19.9	1.81	-1.74	-48.80
1,835.0	0.10	123.30	1,834.8	-7.1	-19.9	-19.9	0.21	-0.11	-75.91
1,927.0	0.30	312.20	1,926.8	-6.9	-20.0	-20.0	0.43	0.22	-185.98
2,019.0	1.30	61.60	2,018.8	-6.3	-19.3	-19.3	1.55	1.09	118.91
2,111.0	2.10	2.30	2,110.8	-4.1	-18.3	-18.3	1.98	0.87	-64.46
2,203.0	2.70	335.40	2,202.7	-0.5	-19.1	-19.1	1.37	0.65	-29.24
2,297.0	4.00	304.30	2,296.5	3.4	-22.7	-22.7	2.33	1.38	-33.09
2,391.0	5.10	297.10	2,390.2	7.2	-29.2	-29.1	1.32	1.17	-7.66
2,484.0	6.70	283.90	2,482.7	10.3	-38.1	-38.1	2.25	1.72	-14.19
2,578.0	8.90	277.30	2,575.9	12.6	-50.6	-50.6	2.52	2.34	-7.02
2,671.0	8.50	266.90	2,667.8	13.1	-64.6	-64.6	1.74	-0.43	-11.18
2,764.0	9.30	267.80	2,759.7	12.5	-79.0	-79.0	0.87	0.86	0.97
2,858.0	9.10	262.10	2,852.5	11.2	-94.0	-93.9	0.99	-0.21	-6.06
2,952.0	8.50	260.00	2,945.4	8.9	-108.2	-108.1	0.72	-0.64	-2.23
3,046.0	8.40	265.50	3,038.3	7.2	-121.9	-121.8	0.87	-0.11	5.85
3,139.0	9.00	264.80	3,130.3	6.0	-135.9	-135.9	0.66	0.65	-0.75
3,234.0	7.80	272.00	3,224.3	5.5	-149.7	-149.7	1.68	-1.26	7.58
3,327.0	8.20	267.20	3,316.3	5.4	-162.7	-162.6	0.84	0.43	-5.16
3,421.0	8.80	269.70	3,409.3	5.1	-176.5	-176.5	0.75	0.64	2.66
3,514.0	8.40	278.00	3,501.3	6.0	-190.4	-190.4	1.40	-0.43	8.92
3,609.0	8.40	268.10	3,595.3	6.7	-204.2	-204.2	1.52	0.00	-10.42
3,704.0	8.40	268.80	3,689.2	6.3	-218.1	-218.0	0.11	0.00	0.74
3,799.0	8.40	270.00	3,783.2	6.2	-231.9	-231.9	0.18	0.00	1.26
3,894.0	9.50	271.60	3,877.1	6.4	-246.7	-246.7	1.19	1.16	1.68
3,988.0	8.50	270.70	3,969.9	6.7	-261.4	-261.4	1.07	-1.06	-0.96
4,081.0	8.80	270.90	4,061.8	6.9	-275.4	-275.4	0.32	0.32	0.22
4,176.0	8.30	269.90	4,155.8	7.0	-289.5	-289.5	0.55	-0.53	-1.05
4,270.0	8.30	273.60	4,248.8	7.4	-303.1	-303.0	0.57	0.00	3.94
4,363.0	9.50	271.30	4,340.7	8.0	-317.5	-317.4	1.35	1.29	-2.47
4,457.0	8.80	269.70	4,433.5	8.2	-332.4	-332.4	0.79	-0.74	-1.70
4,550.0	8.40	263.70	4,525.4	7.4	-346.3	-346.2	1.06	-0.43	-6.45
4,645.0	9.20	262.30	4,619.3	5.6	-360.7	-360.7	0.87	0.84	-1.47
4,740.0	8.90	261.10	4,713.1	3.4	-375.5	-375.5	0.37	-0.32	-1.26
4,834.0	9.50	266.70	4,805.9	1.9	-390.4	-390.4	1.15	0.64	5.96
4,930.0	8.80	264.90	4,900.7	0.8	-405.6	-405.6	0.79	-0.73	-1.88
5,024.0	7.60	262.80	4,993.8	-0.7	-419.0	-419.0	1.32	-1.28	-2.23
5,118.0	6.50	259.70	5,087.0	-2.4	-430.4	-430.4	1.24	-1.17	-3.30
5,213.0	5.00	258.80	5,181.6	-4.1	-439.7	-439.7	1.58	-1.58	-0.95
5,309.0	3.90	271.60	5,277.3	-4.9	-447.1	-447.1	1.54	-1.15	13.33
5,403.0	1.90	283.90	5,371.1	-4.4	-451.8	-451.8	2.22	-2.13	13.09
5,497.0	1.10	217.50	5,465.1	-4.7	-453.8	-453.9	1.89	-0.85	-70.64
5,591.0	1.50	241.20	5,559.1	-6.1	-455.5	-455.5	0.70	0.43	25.21
5,686.0	0.40	48.20	5,654.1	-6.4	-456.3	-456.3	1.99	-1.16	175.79
5,779.0	1.50	53.00	5,747.1	-5.5	-455.1	-455.1	1.18	1.18	5.16
5,873.0	0.60	21.50	5,841.1	-4.3	-453.9	-454.0	1.10	-0.96	-33.51
5,967.0	1.10	25.50	5,935.0	-3.0	-453.4	-453.4	0.54	0.53	4.26
6,062.0	1.00	2.90	6,030.0	-1.4	-452.9	-452.9	0.45	-0.11	-23.79
6,156.0	2.10	36.40	6,124.0	0.8	-451.9	-451.9	1.47	1.17	35.64
6,251.0	2.30	42.20	6,218.9	3.7	-449.6	-449.5	0.31	0.21	6.11
6,346.0	1.40	87.20	6,313.9	5.1	-447.1	-447.1	1.73	-0.95	47.37

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Site:	Pavistma South Pad Sec.32-T6N-R67W	MD Reference:	WELL @ 4976.5ft (Frontier Rig 10 RKB - 22.5')
Well:	Pavistma South 2 #1-5-32-090-4-CH	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,440.0	1.60	100.60	6,407.8	4.9	-444.7	-444.7	0.43	0.21	14.26
6,487.0	1.30	91.60	6,454.8	4.8	-443.5	-443.5	0.80	-0.64	-19.15
6,535.0	1.30	115.70	6,502.8	4.6	-442.5	-442.4	1.13	0.00	50.21
6,582.0	3.80	106.60	6,549.8	3.9	-440.5	-440.5	5.37	5.32	-19.36
6,630.0	6.80	98.10	6,597.6	3.0	-436.2	-436.1	6.44	6.25	-17.71
6,677.0	9.00	99.90	6,644.1	2.0	-429.8	-429.8	4.71	4.68	3.83
6,722.0	11.50	100.10	6,688.4	0.6	-421.9	-421.9	5.56	5.56	0.44
6,769.0	13.60	94.80	6,734.3	-0.7	-411.8	-411.8	5.09	4.47	-11.28
6,816.0	15.40	91.60	6,779.8	-1.3	-400.0	-400.0	4.19	3.83	-6.81
6,863.0	17.70	91.50	6,824.8	-1.7	-386.7	-386.7	4.89	4.89	-0.21
6,910.0	21.60	93.60	6,869.1	-2.4	-370.9	-370.9	8.43	8.30	4.47
6,957.0	26.30	94.60	6,912.0	-3.8	-351.8	-351.9	10.04	10.00	2.13
7,003.0	31.60	91.60	6,952.3	-4.9	-329.6	-329.6	11.94	11.52	-6.52
7,050.0	36.10	88.10	6,991.3	-4.8	-303.5	-303.5	10.43	9.57	-7.45
7,097.0	38.30	87.60	7,028.7	-3.8	-275.1	-275.1	4.72	4.68	-1.06
7,144.0	40.40	87.20	7,065.1	-2.4	-245.3	-245.3	4.50	4.47	-0.85
7,191.0	44.50	86.40	7,099.7	-0.6	-213.6	-213.6	8.80	8.72	-1.70
7,238.0	50.50	86.50	7,131.5	1.5	-179.1	-179.1	12.77	12.77	0.21
7,285.0	57.20	89.00	7,159.2	3.0	-141.2	-141.1	14.89	14.26	5.32
7,332.0	61.10	88.60	7,183.3	3.8	-100.8	-100.8	8.33	8.30	-0.85
7,376.0	63.10	88.60	7,203.9	4.8	-62.0	-61.9	4.55	4.55	0.00
7,423.0	65.30	90.00	7,224.3	5.3	-19.7	-19.6	5.39	4.68	2.98
7,471.0	69.20	91.50	7,242.9	4.7	24.6	24.6	8.62	8.13	3.13
7,518.0	73.80	91.60	7,257.8	3.5	69.1	69.2	9.79	9.79	0.21
7,566.0	77.30	92.20	7,269.8	1.9	115.6	115.6	7.39	7.29	1.25
7,613.0	81.30	92.50	7,278.5	0.1	161.7	161.7	8.53	8.51	0.64
7,662.0	85.70	91.30	7,284.0	-1.6	210.4	210.4	9.30	8.98	-2.45
7,689.0	88.90	90.90	7,285.3	-2.1	237.3	237.3	11.94	11.85	-1.48
7,721.7	89.29	90.26	7,285.8	-2.4	270.1	270.1	2.30	1.21	-1.96
T2 - 1655'FSL & 460'FWL									
7,791.0	90.13	88.90	7,286.2	-1.9	339.3	339.3	2.30	1.21	-1.96
7,885.0	89.96	88.20	7,286.1	0.5	433.3	433.3	0.77	-0.18	-0.74
7,980.0	89.69	87.32	7,286.4	4.2	528.2	528.2	0.97	-0.28	-0.93
8,074.0	89.34	87.41	7,287.2	8.5	622.1	622.1	0.38	-0.37	0.10
8,169.0	89.34	87.94	7,288.3	12.4	717.0	717.1	0.56	0.00	0.56
8,263.0	89.78	89.26	7,289.0	14.7	811.0	811.1	1.48	0.47	1.40
8,358.0	90.04	91.19	7,289.2	14.3	906.0	906.0	2.05	0.27	2.03
8,452.0	90.48	90.84	7,288.7	12.6	1,000.0	1,000.0	0.60	0.47	-0.37
8,546.0	89.69	89.87	7,288.6	12.0	1,094.0	1,094.0	1.33	-0.84	-1.03
8,641.0	89.69	90.66	7,289.1	11.6	1,189.0	1,189.0	0.83	0.00	0.83
8,735.0	89.52	90.57	7,289.7	10.6	1,283.0	1,283.0	0.20	-0.18	-0.10
8,830.0	88.81	89.26	7,291.1	10.7	1,377.9	1,378.0	1.57	-0.75	-1.38
8,924.0	89.52	90.05	7,292.5	11.3	1,471.9	1,472.0	1.13	0.76	0.84
9,019.0	90.48	89.96	7,292.5	11.3	1,566.9	1,567.0	1.01	1.01	-0.09
9,113.0	90.13	88.99	7,292.0	12.2	1,660.9	1,661.0	1.10	-0.37	-1.03
9,208.0	89.69	89.08	7,292.1	13.8	1,755.9	1,756.0	0.47	-0.46	0.09
9,302.0	89.60	90.66	7,292.7	14.0	1,849.9	1,850.0	1.68	-0.10	1.68
9,397.0	90.22	92.07	7,292.9	11.7	1,944.9	1,944.9	1.62	0.65	1.48
9,491.0	90.22	91.45	7,292.5	8.8	2,038.8	2,038.9	0.66	0.00	-0.66
9,585.0	89.87	90.57	7,292.4	7.2	2,132.8	2,132.8	1.01	-0.37	-0.94
9,680.0	89.25	89.87	7,293.2	6.8	2,227.8	2,227.8	0.98	-0.65	-0.74
9,774.0	89.43	90.05	7,294.3	6.9	2,321.8	2,321.8	0.27	0.19	0.19
9,869.0	90.31	90.84	7,294.5	6.1	2,416.8	2,416.8	1.24	0.93	0.83
9,963.0	90.75	91.01	7,293.6	4.6	2,510.8	2,510.8	0.50	0.47	0.18

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10,058.0	90.75	90.57	7,292.4	3.3	2,605.8	2,605.8	0.46	0.00	-0.46
10,152.0	91.01	90.05	7,290.9	2.8	2,699.8	2,699.7	0.62	0.28	-0.55
10,246.0	90.66	90.40	7,289.5	2.4	2,793.7	2,793.7	0.53	-0.37	0.37
10,341.0	89.25	90.66	7,289.6	1.5	2,888.7	2,888.7	1.51	-1.48	0.27
10,435.0	89.16	90.22	7,290.9	0.8	2,982.7	2,982.7	0.48	-0.10	-0.47
10,530.0	90.30	90.31	7,291.4	0.4	3,077.7	3,077.7	1.20	1.20	0.09
10,625.0	89.34	90.05	7,291.7	0.1	3,172.7	3,172.7	1.05	-1.01	-0.27
10,719.0	87.67	89.78	7,294.1	0.2	3,266.7	3,266.6	1.80	-1.78	-0.29
10,814.0	88.02	88.90	7,297.7	1.3	3,361.6	3,361.6	1.00	0.37	-0.93
10,908.0	88.90	88.55	7,300.2	3.4	3,455.5	3,455.5	1.01	0.94	-0.37
11,003.0	89.69	89.08	7,301.4	5.4	3,550.5	3,550.5	1.00	0.83	0.56
11,097.0	90.57	89.96	7,301.2	6.2	3,644.5	3,644.5	1.32	0.94	0.94
11,192.0	90.22	90.57	7,300.5	5.7	3,739.5	3,739.5	0.74	-0.37	0.64
11,286.0	90.75	91.37	7,299.7	4.1	3,833.5	3,833.5	1.02	0.56	0.85
11,381.0	90.40	92.24	7,298.8	1.1	3,928.4	3,928.4	0.99	-0.37	0.92
11,475.0	89.25	91.54	7,299.1	-2.0	4,022.4	4,022.3	1.43	-1.22	-0.74
11,569.0	90.13	91.63	7,299.6	-4.6	4,116.3	4,116.3	0.94	0.94	0.10
11,664.0	90.48	92.16	7,299.1	-7.7	4,211.3	4,211.2	0.67	0.37	0.56
11,758.0	91.28	92.51	7,297.6	-11.5	4,305.2	4,305.1	0.93	0.85	0.37
11,853.0	91.19	92.24	7,295.6	-15.5	4,400.1	4,400.0	0.30	-0.09	-0.28
11,929.0	91.89	92.60	7,293.5	-18.7	4,476.0	4,475.9	1.04	0.92	0.47
12,007.0	91.89	92.60	7,291.0	-22.2	4,553.9	4,553.7	0.00	0.00	0.00
BHL 1655'FSL, 460'FEL									

Checked By: _____ Approved By: _____ Date: _____