



## **Cimarex Energy Co., Inc.**

**Ward Co., Texas**

**Cimarex-University 18-38 #2H**

**Cimarex-University 18-38 #2H**

**Lateral**

**Plan: Plan #4**

## **Standard Survey Report**

**12 December, 2007**





# Black Viper Energy

## Survey Report



<b>Company:</b>	Cimarex Energy Co., Inc.	<b>Local Co-ordinate Reference:</b>	Well Cimarex-University 18-38 #2H
<b>Project:</b>	Ward Co., Texas	<b>TVD Reference:</b>	Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
<b>Site:</b>	Cimarex-University 18-38 #2H	<b>MD Reference:</b>	Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
<b>Well:</b>	Cimarex-University 18-38 #2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Lateral	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #4	<b>Database:</b>	EDM 2003.14.1.0 Server DB

<b>Project</b>	Ward Co., Texas		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Texas Central 4203		

Site		Cimarex-University 18-38 #2H			
Site Position:		Northing:	715,197.40 ft	Latitude:	31° 35' 55.942 N
From:	Map	Easting:	1,070,805.16 ft	Longitude:	103° 19' 5.350 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	-1.54 °

Well	Cimarex-University 18-38 #2H					
Well Position	+N/-S	0.00 ft	Northing:	715,197.40 ft	Latitude:	31° 35' 55.942 N
	+E/-W	0.00 ft	Easting:	1,070,805.16 ft	Longitude:	103° 19' 5.350 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	2,796.00 ft

<b>Wellbore</b>	Lateral				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	11/20/2007	7.84	59.74	48,648

<b>Design</b>	Plan #4				
<b>Audit Notes:</b>					
<b>Version:</b>	ZERO	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	12,179.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	218.33	

<b>Survey Tool Program</b>	<b>Date</b>	12/12/2007			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
12,179.00	15,524.25	Plan #4 (Lateral)	MWD	MWD - Standard	

<b>Planned Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
12,179.00	91.30	218.00	11,465.38	-639.60	-554.74	845.78	0.00	0.00	0.00	
<b>Build 3.80° / 100 :: Turn -0.48°</b>										
12,200.00	92.10	217.90	11,464.76	-656.16	-567.64	866.77	3.83	3.80	-0.48	
12,250.00	94.00	217.66	11,462.10	-695.62	-598.23	916.69	3.83	3.80	-0.48	
<b>Hold 94.0° Inc. :: 217.66° Azi.</b>										
12,300.00	94.00	217.66	11,458.61	-735.10	-628.71	966.57	0.00	0.00	0.00	
<b>Drop -2.94° / 100</b>										
12,385.00	91.50	217.66	11,454.53	-802.31	-680.57	1,051.46	2.94	-2.94	0.00	
<b>EOD - Hold 91.5° Inc. :: 217.66° Azi.</b>										
12,400.00	91.50	217.66	11,454.14	-814.18	-689.74	1,066.45	0.00	0.00	0.00	
12,500.00	91.50	217.66	11,451.52	-893.32	-750.81	1,166.41	0.00	0.00	0.00	
12,600.00	91.50	217.66	11,448.90	-972.46	-811.89	1,266.37	0.00	0.00	0.00	
12,700.00	91.50	217.66	11,446.28	-1,051.59	-872.97	1,366.33	0.00	0.00	0.00	



# Black Viper Energy

## Survey Report



<b>Company:</b>	Cimarex Energy Co., Inc.	<b>Local Co-ordinate Reference:</b>	Well Cimarex-University 18-38 #2H
<b>Project:</b>	Ward Co., Texas	<b>TVD Reference:</b>	Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
<b>Site:</b>	Cimarex-University 18-38 #2H	<b>MD Reference:</b>	Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
<b>Well:</b>	Cimarex-University 18-38 #2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Lateral	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #4	<b>Database:</b>	EDM 2003.14.1.0 Server DB

Planned 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)
12,800.00	91.50	217.66	11,443.67	-1,130.73	-934.04	1,466.29	0.00	0.00	0.00
12,900.00	91.50	217.66	11,441.05	-1,209.87	-995.12	1,566.25	0.00	0.00	0.00
13,000.00	91.50	217.66	11,438.43	-1,289.01	-1,056.19	1,666.20	0.00	0.00	0.00
13,100.00	91.50	217.66	11,435.81	-1,368.15	-1,117.27	1,766.16	0.00	0.00	0.00
13,200.00	91.50	217.66	11,433.19	-1,447.28	-1,178.35	1,866.12	0.00	0.00	0.00
13,300.00	91.50	217.66	11,430.57	-1,526.42	-1,239.42	1,966.08	0.00	0.00	0.00
13,400.00	91.50	217.66	11,427.95	-1,605.56	-1,300.50	2,066.04	0.00	0.00	0.00
13,500.00	91.50	217.66	11,425.33	-1,684.70	-1,361.58	2,166.00	0.00	0.00	0.00
13,600.00	91.50	217.66	11,422.71	-1,763.84	-1,422.65	2,265.96	0.00	0.00	0.00
13,700.00	91.50	217.66	11,420.09	-1,842.97	-1,483.73	2,365.92	0.00	0.00	0.00
13,800.00	91.50	217.66	11,417.47	-1,922.11	-1,544.81	2,465.88	0.00	0.00	0.00
13,900.00	91.50	217.66	11,414.85	-2,001.25	-1,605.88	2,565.83	0.00	0.00	0.00
14,000.00	91.50	217.66	11,412.23	-2,080.39	-1,666.96	2,665.79	0.00	0.00	0.00
14,100.00	91.50	217.66	11,409.60	-2,159.52	-1,728.04	2,765.75	0.00	0.00	0.00
14,200.00	91.50	217.66	11,406.98	-2,238.66	-1,789.11	2,865.71	0.00	0.00	0.00
14,300.00	91.50	217.66	11,404.36	-2,317.80	-1,850.19	2,965.67	0.00	0.00	0.00
14,400.00	91.50	217.66	11,401.74	-2,396.94	-1,911.27	3,065.63	0.00	0.00	0.00
14,500.00	91.50	217.66	11,399.12	-2,476.08	-1,972.34	3,165.59	0.00	0.00	0.00
14,600.00	91.50	217.66	11,396.49	-2,555.21	-2,033.42	3,265.55	0.00	0.00	0.00
14,700.00	91.50	217.66	11,393.87	-2,634.35	-2,094.49	3,365.51	0.00	0.00	0.00
14,800.00	91.50	217.66	11,391.25	-2,713.49	-2,155.57	3,465.46	0.00	0.00	0.00
14,900.00	91.50	217.66	11,388.62	-2,792.63	-2,216.65	3,565.42	0.00	0.00	0.00
15,000.00	91.50	217.66	11,386.00	-2,871.76	-2,277.72	3,665.38	0.00	0.00	0.00
15,100.00	91.50	217.66	11,383.38	-2,950.90	-2,338.80	3,765.34	0.00	0.00	0.00
15,200.00	91.50	217.66	11,380.75	-3,030.04	-2,399.88	3,865.30	0.00	0.00	0.00
15,300.00	91.50	217.66	11,378.13	-3,109.18	-2,460.95	3,965.26	0.00	0.00	0.00
15,400.00	91.50	217.66	11,375.50	-3,188.32	-2,522.03	4,065.22	0.00	0.00	0.00
15,500.00	91.50	217.66	11,372.88	-3,267.45	-2,583.11	4,165.18	0.00	0.00	0.00
15,524.31	91.50	217.66	11,372.29	-3,286.64	-2,598.03	4,189.48	0.02	-0.01	0.01
PBHL#4[CU18-38#2H]									



Black Viper Energy  
Survey Report



<b>Company:</b>	Cimarex Energy Co., Inc.	<b>Local Co-ordinate Reference:</b>	Well Cimarex-University 18-38 #2H
<b>Project:</b>	Ward Co., Texas	<b>TVD Reference:</b>	Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
<b>Site:</b>	Cimarex-University 18-38 #2H	<b>MD Reference:</b>	Rig KB @ 2812.00ft (Key Rig #92 KB Elev)
<b>Well:</b>	Cimarex-University 18-38 #2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Lateral	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #4	<b>Database:</b>	EDM 2003.14.1.0 Server DB

Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL#4[CU18-38#2H] - plan hits target - Point	0.00	0.00	11,372.29	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
z1 - plan misses by 11496.60ft at 12179.00ft MD (11465.38 TVD, -639.60 N, -554.74 E) - Point	0.00	0.00	0.00	0.00	0.00	715,197.40	1,070,805.16	31° 35' 55.942 N	103° 19' 5.350 W
PBHL#2[CU18-38#2H] - plan misses by 61.87ft at 15522.81ft MD (11372.28 TVD, -3285.51 N, -2597.04 E) - Point	0.00	0.00	11,434.13	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
PBHL#3[CU18-38#2H] - plan misses by 52.55ft at 15523.04ft MD (11372.28 TVD, -3285.69 N, -2597.18 E) - Point	0.00	0.00	11,424.81	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W
PBHL#1[CU18-38#2H] - plan misses by 31.62ft at 15523.55ft MD (11372.26 TVD, -3286.09 N, -2597.49 E) - Point	0.00	0.00	11,403.87	-3,286.64	-2,598.03	711,910.76	1,068,207.13	31° 35' 22.735 N	103° 19' 34.357 W

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
	11,475.50	T/ 'D' Sand	Sand	1.50	38.33	
	11,488.50	B/ 'D' Sand	Sand	1.50	38.33	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
12,179.00	11,465.38	-639.60	-554.74	Build 3.80° / 100 :: Turn -0.48°	
12,250.00	11,462.10	-695.62	-598.23	Hold 94.0° Inc. :: 217.66° Azi.	
12,300.00	11,458.61	-735.10	-628.71	Drop -2.94° / 100	
12,385.00	11,454.53	-802.31	-680.57	EOD - Hold 91.5° Inc. :: 217.66° Azi.	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

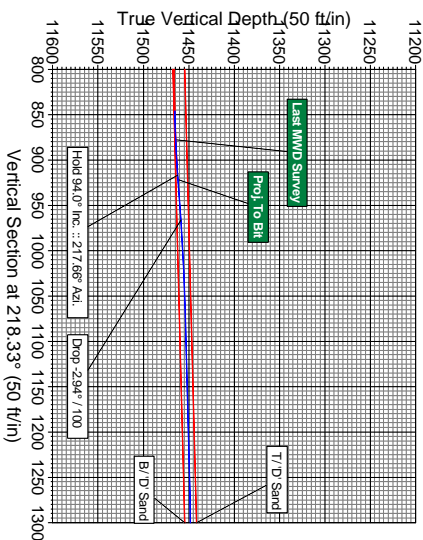


Project: Ward Co., Texas  
Site: Cimarex-University 18-38 #2H  
Well: Cimarex-University 18-38 #2H  
Wellbore: Lateta  
Plan: Plan #4 (Cimarex-University 18-38 #2H Lateta)

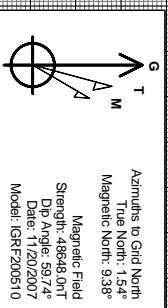
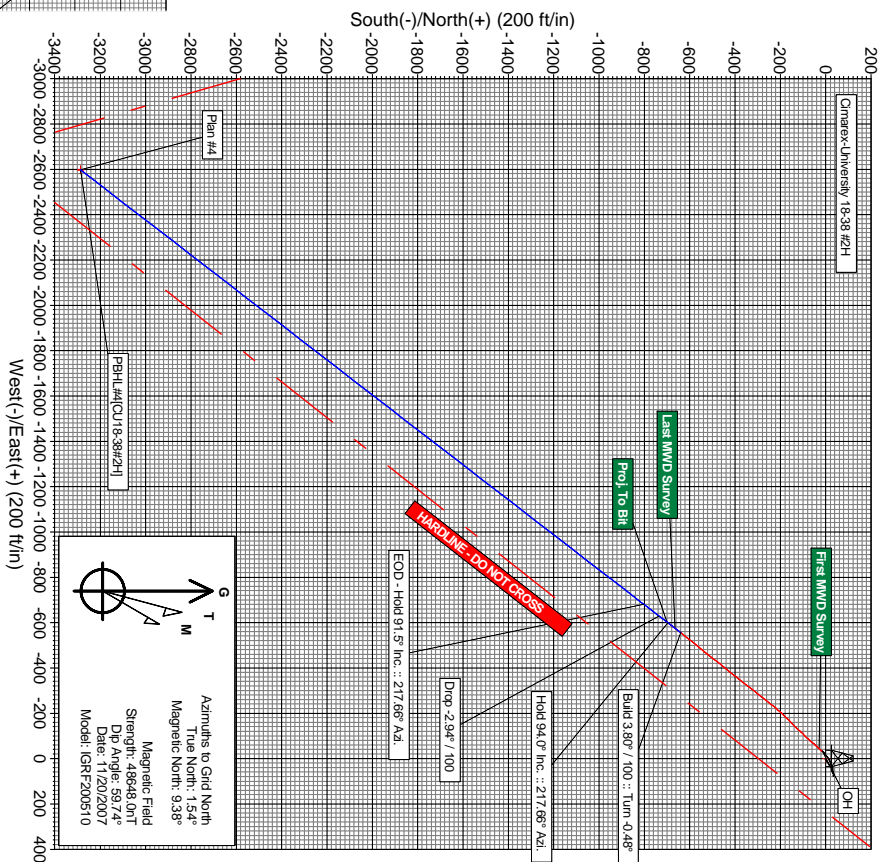
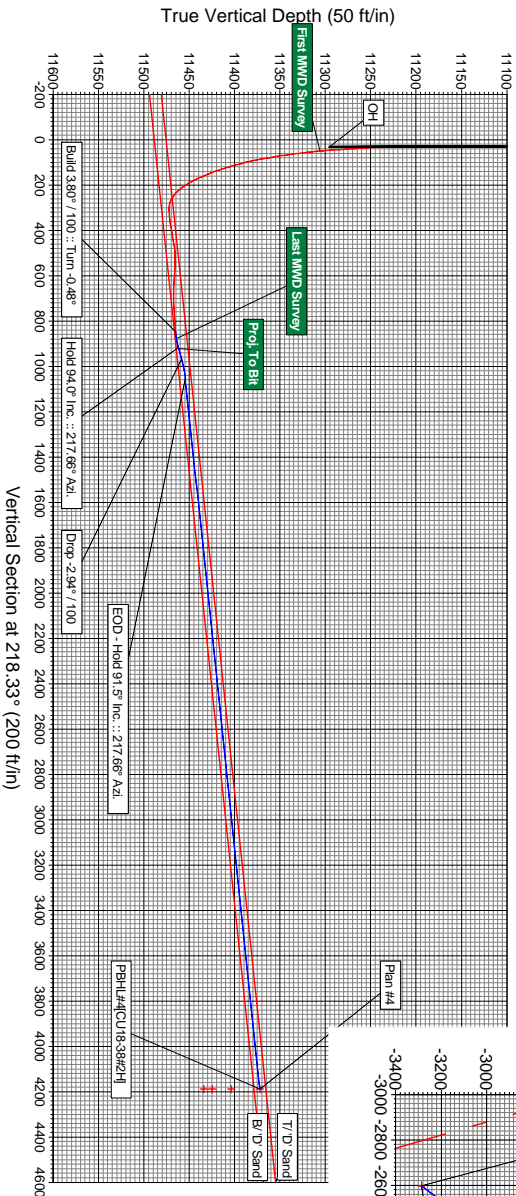


# SECTION DETAILS

Sec	MD	Inc	Azi	TVD	-N/S	-E/W	DLsg	Trace	VSec	Target
1	12179.00	91.30	218.00	11465.38	-639.60	-554.74	0.00	0.00	845.76	
2	12250.00	84.00	217.86	11462.10	-635.02	-538.23	3.65	-7.16	916.69	
3	12300.00	91.50	217.86	11458.51	-632.31	-530.57	2.94	-18.00	1050.57	
4	12350.00	91.50	217.86	11372.23	-326.64	-2598.03	0.00	0.00	4169.46	PBHL#4(CU18-38#2H)
5	15524.31	91.50	217.86							



PROJECT DETAILS: Ward Co., Texas  
Geodetic System: US State Plane 1827 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: Texas Central 4203  
System Datum: Mean Sea Level



## ANNOTATIONS

TVD	MD	Annotation
11465.38	12179.00	Build 3.80° / 100 - Turn 0.48°
11462.10	12250.00	Hold 94.0° Inc.: 217.86° Azi.
11458.61	12300.00	Drop -2.94° / 100
11454.53	12350.00	EOD - Hold 91.5° Inc.: 217.86° Azi.

CIMAREX-UNIVERSITY 18-38 #2H

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Ci marex Energy Co. , Inc.  
Ci marex-Uni versi ty 18-38 #2H - Pl an #4

Ward Co. , Texas  
Ci marex-Uni versi ty 18-38 #2H

Measured Dogleg Depth Rate (ft) (°/100ft)	Incl .	Azi m.	Verti cal Depth (ft)	Northi ngs (ft)	Easti ngs (ft)	Verti cal Secti on (ft)
12180.00 0.00	91.338	217.995	11465.36	640.39 S	555.35 W	846.78
12190.00 3.83	91.718	217.947	11465.09	648.27 S	561.50 W	856.77
12200.00 3.83	92.099	217.900	11464.76	656.16 S	567.64 W	866.77
12210.00 3.83	92.479	217.852	11464.36	664.04 S	573.78 W	876.76
12220.00 3.83	92.859	217.804	11463.89	671.93 S	579.91 W	886.75
12230.00 3.83	93.239	217.756	11463.36	679.83 S	586.02 W	896.73
12240.00 3.83	93.620	217.708	11462.76	687.72 S	592.13 W	906.71
12250.00 3.83	94.000	217.660	11462.10	695.62 S	598.23 W	916.69
12260.00 0.00	94.000	217.660	11461.40	703.51 S	604.33 W	926.67
12270.00 0.00	94.000	217.660	11460.70	711.41 S	610.42 W	936.64
12280.00 0.00	94.000	217.660	11460.00	719.31 S	616.52 W	946.62
12290.00 0.00	94.000	217.660	11459.31	727.21 S	622.61 W	956.59
12300.00 0.00	94.000	217.660	11458.61	735.10 S	628.71 W	966.57
12310.00 2.94	93.706	217.660	11457.94	743.00 S	634.80 W	976.54
12320.00 2.94	93.412	217.660	11457.32	750.90 S	640.90 W	986.52
12330.00 2.94	93.118	217.660	11456.75	758.81 S	647.00 W	996.51
12340.00 2.94	92.824	217.660	11456.23	766.71 S	653.10 W	1006.49
12350.00 2.94	92.529	217.660	11455.76	774.62 S	659.20 W	1016.48
12360.00 2.94	92.235	217.660	11455.35	782.53 S	665.31 W	1026.47
12370.00 2.94	91.941	217.660	11454.98	790.44 S	671.41 W	1036.46
12380.00 2.94	91.647	217.660	11454.67	798.35 S	677.52 W	1046.46
12390.00 1.47	91.500	217.660	11454.40	806.27 S	683.63 W	1056.45
12400.00 0.00	91.500	217.660	11454.14	814.18 S	689.74 W	1066.45
12410.00 0.00	91.500	217.660	11453.88	822.09 S	695.84 W	1076.45
12420.00 0.00	91.500	217.660	11453.61	830.01 S	701.95 W	1086.44

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12430.00	91.500	217.660	11453.35	837.92 S	708.06 W	1096.44
0.00						
12440.00	91.500	217.660	11453.09	845.84 S	714.17 W	1106.43
0.00						
12450.00	91.500	217.660	11452.83	853.75 S	720.27 W	1116.43
0.00						
12460.00	91.500	217.660	11452.57	861.66 S	726.38 W	1126.43
0.00						
12470.00	91.500	217.660	11452.31	869.58 S	732.49 W	1136.42
0.00						
12480.00	91.500	217.660	11452.04	877.49 S	738.60 W	1146.42
0.00						
12490.00	91.500	217.660	11451.78	885.41 S	744.70 W	1156.41
0.00						
12500.00	91.500	217.660	11451.52	893.32 S	750.81 W	1166.41
0.00						
12510.00	91.500	217.660	11451.26	901.23 S	756.92 W	1176.41
0.00						
12520.00	91.500	217.660	11451.00	909.15 S	763.03 W	1186.40
0.00						
12530.00	91.500	217.660	11450.73	917.06 S	769.14 W	1196.40
0.00						
12540.00	91.500	217.660	11450.47	924.97 S	775.24 W	1206.39
0.00						
12550.00	91.500	217.660	11450.21	932.89 S	781.35 W	1216.39
0.00						
12560.00	91.500	217.660	11449.95	940.80 S	787.46 W	1226.38
0.00						
12570.00	91.500	217.660	11449.69	948.72 S	793.57 W	1236.38
0.00						
12580.00	91.500	217.660	11449.43	956.63 S	799.67 W	1246.38
0.00						
12590.00	91.500	217.660	11449.16	964.54 S	805.78 W	1256.37
0.00						
12600.00	91.500	217.660	11448.90	972.46 S	811.89 W	1266.37
0.00						
12610.00	91.500	217.660	11448.64	980.37 S	818.00 W	1276.36
0.00						
12620.00	91.500	217.660	11448.38	988.28 S	824.10 W	1286.36
0.00						
12630.00	91.500	217.660	11448.12	996.20 S	830.21 W	1296.36
0.00						
12640.00	91.500	217.660	11447.85	1004.11 S	836.32 W	1306.35
0.00						
12650.00	91.500	217.660	11447.59	1012.03 S	842.43 W	1316.35
0.00						
12660.00	91.500	217.660	11447.33	1019.94 S	848.53 W	1326.34
0.00						
12670.00	91.500	217.660	11447.07	1027.85 S	854.64 W	1336.34
0.00						
12680.00	91.500	217.660	11446.81	1035.77 S	860.75 W	1346.34
0.00						
12690.00	91.500	217.660	11446.55	1043.68 S	866.86 W	1356.33
0.00						
12700.00	91.500	217.660	11446.28	1051.59 S	872.97 W	1366.33
0.00						
12710.00	91.500	217.660	11446.02	1059.51 S	879.07 W	1376.32
0.00						
12720.00	91.500	217.660	11445.76	1067.42 S	885.18 W	1386.32
0.00						
12730.00	91.500	217.660	11445.50	1075.34 S	891.29 W	1396.31
0.00						
12740.00	91.500	217.660	11445.24	1083.25 S	897.40 W	1406.31

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0. 00						
12750. 00	91. 500	217. 660	11444. 97	1091. 16 S	903. 50 W	1416. 31
0. 00						
12760. 00	91. 500	217. 660	11444. 71	1099. 08 S	909. 61 W	1426. 30
0. 00						
12770. 00	91. 500	217. 660	11444. 45	1106. 99 S	915. 72 W	1436. 30
0. 00						
12780. 00	91. 500	217. 660	11444. 19	1114. 90 S	921. 83 W	1446. 29
0. 00						
12790. 00	91. 500	217. 660	11443. 93	1122. 82 S	927. 93 W	1456. 29
0. 00						
12800. 00	91. 501	217. 660	11443. 67	1130. 73 S	934. 04 W	1466. 29
0. 00						
12810. 00	91. 501	217. 660	11443. 40	1138. 65 S	940. 15 W	1476. 28
0. 00						
12820. 00	91. 501	217. 660	11443. 14	1146. 56 S	946. 26 W	1486. 28
0. 00						
12830. 00	91. 501	217. 660	11442. 88	1154. 47 S	952. 36 W	1496. 27
0. 00						
12840. 00	91. 501	217. 660	11442. 62	1162. 39 S	958. 47 W	1506. 27
0. 00						
12850. 00	91. 501	217. 660	11442. 36	1170. 30 S	964. 58 W	1516. 27
0. 00						
12860. 00	91. 501	217. 660	11442. 09	1178. 22 S	970. 69 W	1526. 26
0. 00						
12870. 00	91. 501	217. 660	11441. 83	1186. 13 S	976. 80 W	1536. 26
0. 00						
12880. 00	91. 501	217. 660	11441. 57	1194. 04 S	982. 90 W	1546. 25
0. 00						
12890. 00	91. 501	217. 660	11441. 31	1201. 96 S	989. 01 W	1556. 25
0. 00						
12900. 00	91. 501	217. 660	11441. 05	1209. 87 S	995. 12 W	1566. 25
0. 00						
12910. 00	91. 501	217. 660	11440. 78	1217. 78 S	1001. 23 W	1576. 24
0. 00						
12920. 00	91. 501	217. 660	11440. 52	1225. 70 S	1007. 33 W	1586. 24
0. 00						
12930. 00	91. 501	217. 660	11440. 26	1233. 61 S	1013. 44 W	1596. 23
0. 00						
12940. 00	91. 501	217. 660	11440. 00	1241. 53 S	1019. 55 W	1606. 23
0. 00						
12950. 00	91. 501	217. 660	11439. 74	1249. 44 S	1025. 66 W	1616. 22
0. 00						
12960. 00	91. 501	217. 660	11439. 48	1257. 35 S	1031. 76 W	1626. 22
0. 00						
12970. 00	91. 501	217. 660	11439. 21	1265. 27 S	1037. 87 W	1636. 22
0. 00						
12980. 00	91. 501	217. 660	11438. 95	1273. 18 S	1043. 98 W	1646. 21
0. 00						
12990. 00	91. 501	217. 660	11438. 69	1281. 09 S	1050. 09 W	1656. 21
0. 00						
13000. 00	91. 501	217. 660	11438. 43	1289. 01 S	1056. 19 W	1666. 20
0. 00						
13010. 00	91. 501	217. 660	11438. 17	1296. 92 S	1062. 30 W	1676. 20
0. 00						
13020. 00	91. 501	217. 660	11437. 90	1304. 84 S	1068. 41 W	1686. 20
0. 00						
13030. 00	91. 501	217. 660	11437. 64	1312. 75 S	1074. 52 W	1696. 19
0. 00						
13040. 00	91. 501	217. 660	11437. 38	1320. 66 S	1080. 63 W	1706. 19
0. 00						
13050. 00	91. 501	217. 660	11437. 12	1328. 58 S	1086. 73 W	1716. 18
0. 00						



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13060.00 0.00	91.501	217.660	11436.86	1336.49 S	1092.84 W	1726.18
13070.00 0.00	91.501	217.660	11436.59	1344.40 S	1098.95 W	1736.18
13080.00 0.00	91.501	217.660	11436.33	1352.32 S	1105.06 W	1746.17
13090.00 0.00	91.501	217.660	11436.07	1360.23 S	1111.16 W	1756.17
13100.00 0.00	91.501	217.660	11435.81	1368.15 S	1117.27 W	1766.16
13110.00 0.00	91.501	217.660	11435.55	1376.06 S	1123.38 W	1776.16
13120.00 0.00	91.501	217.660	11435.28	1383.97 S	1129.49 W	1786.15
13130.00 0.00	91.501	217.660	11435.02	1391.89 S	1135.59 W	1796.15
13140.00 0.00	91.501	217.660	11434.76	1399.80 S	1141.70 W	1806.15
13150.00 0.00	91.501	217.660	11434.50	1407.72 S	1147.81 W	1816.14
13160.00 0.00	91.501	217.660	11434.24	1415.63 S	1153.92 W	1826.14
13170.00 0.00	91.501	217.660	11433.97	1423.54 S	1160.02 W	1836.13
13180.00 0.00	91.501	217.660	11433.71	1431.46 S	1166.13 W	1846.13
13190.00 0.00	91.501	217.660	11433.45	1439.37 S	1172.24 W	1856.13
13200.00 0.00	91.501	217.660	11433.19	1447.28 S	1178.35 W	1866.12
13210.00 0.00	91.501	217.660	11432.93	1455.20 S	1184.46 W	1876.12
13220.00 0.00	91.501	217.660	11432.67	1463.11 S	1190.56 W	1886.11
13230.00 0.00	91.501	217.660	11432.40	1471.03 S	1196.67 W	1896.11
13240.00 0.00	91.501	217.660	11432.14	1478.94 S	1202.78 W	1906.11
13250.00 0.00	91.501	217.660	11431.88	1486.85 S	1208.89 W	1916.10
13260.00 0.00	91.501	217.660	11431.62	1494.77 S	1214.99 W	1926.10
13270.00 0.00	91.501	217.660	11431.36	1502.68 S	1221.10 W	1936.09
13280.00 0.00	91.501	217.660	11431.09	1510.59 S	1227.21 W	1946.09
13290.00 0.00	91.501	217.660	11430.83	1518.51 S	1233.32 W	1956.08
13300.00 0.00	91.501	217.660	11430.57	1526.42 S	1239.42 W	1966.08
13310.00 0.00	91.501	217.660	11430.31	1534.34 S	1245.53 W	1976.08
13320.00 0.00	91.501	217.660	11430.05	1542.25 S	1251.64 W	1986.07
13330.00 0.00	91.501	217.660	11429.78	1550.16 S	1257.75 W	1996.07
13340.00 0.00	91.501	217.660	11429.52	1558.08 S	1263.85 W	2006.06
13350.00 0.00	91.501	217.660	11429.26	1565.99 S	1269.96 W	2016.06
13360.00 0.00	91.501	217.660	11429.00	1573.90 S	1276.07 W	2026.06
13370.00	91.501	217.660	11428.74	1581.82 S	1282.18 W	2036.05

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13380. 00	91. 501	217. 660	11428. 47	1589. 73 S	1288. 29 W	2046. 05	
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13390. 00	91. 501	217. 660	11428. 21	1597. 65 S	1294. 39 W	2056. 04	
0. 00							
13400. 00	91. 501	217. 660	11427. 95	1605. 56 S	1300. 50 W	2066. 04	
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13410. 00	91. 501	217. 660	11427. 69	1613. 47 S	1306. 61 W	2076. 04	
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13420. 00	91. 501	217. 660	11427. 43	1621. 39 S	1312. 72 W	2086. 03	
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13430. 00	91. 501	217. 660	11427. 16	1629. 30 S	1318. 82 W	2096. 03	
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13440. 00	91. 501	217. 660	11426. 90	1637. 21 S	1324. 93 W	2106. 02	
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13450. 00	91. 501	217. 660	11426. 64	1645. 13 S	1331. 04 W	2116. 02	
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13460. 00	91. 501	217. 660	11426. 38	1653. 04 S	1337. 15 W	2126. 02	
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13470. 00	91. 501	217. 660	11426. 12	1660. 96 S	1343. 25 W	2136. 01	
0. 00							
13480. 00	91. 501	217. 660	11425. 85	1668. 87 S	1349. 36 W	2146. 01	
0. 00							
13490. 00	91. 501	217. 660	11425. 59	1676. 78 S	1355. 47 W	2156. 00	
0. 00							
13500. 00	91. 501	217. 660	11425. 33	1684. 70 S	1361. 58 W	2166. 00	
0. 00							
13510. 00	91. 501	217. 660	11425. 07	1692. 61 S	1367. 68 W	2175. 99	
0. 00							
13520. 00	91. 501	217. 660	11424. 81	1700. 53 S	1373. 79 W	2185. 99	
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13530. 00	91. 501	217. 660	11424. 54	1708. 44 S	1379. 90 W	2195. 99	
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13540. 00	91. 501	217. 660	11424. 28	1716. 35 S	1386. 01 W	2205. 98	
0. 00							
13550. 00	91. 501	217. 660	11424. 02	1724. 27 S	1392. 12 W	2215. 98	
0. 00							
13560. 00	91. 501	217. 660	11423. 76	1732. 18 S	1398. 22 W	2225. 97	
0. 00							
13570. 00	91. 501	217. 660	11423. 50	1740. 09 S	1404. 33 W	2235. 97	
0. 00							
13580. 00	91. 501	217. 660	11423. 23	1748. 01 S	1410. 44 W	2245. 97	
0. 00							
13590. 00	91. 501	217. 660	11422. 97	1755. 92 S	1416. 55 W	2255. 96	
0. 00							
13600. 00	91. 502	217. 660	11422. 71	1763. 84 S	1422. 65 W	2265. 96	
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13610. 00	91. 502	217. 660	11422. 45	1771. 75 S	1428. 76 W	2275. 95	
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13620. 00	91. 502	217. 660	11422. 18	1779. 66 S	1434. 87 W	2285. 95	
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13630. 00	91. 502	217. 660	11421. 92	1787. 58 S	1440. 98 W	2295. 95	
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13640. 00	91. 502	217. 660	11421. 66	1795. 49 S	1447. 08 W	2305. 94	
0. 00							
13650. 00	91. 502	217. 660	11421. 40	1803. 40 S	1453. 19 W	2315. 94	
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13660. 00	91. 502	217. 660	11421. 14	1811. 32 S	1459. 30 W	2325. 93	
0. 00							
13670. 00	91. 502	217. 660	11420. 87	1819. 23 S	1465. 41 W	2335. 93	
0. 00							
13680. 00	91. 502	217. 660	11420. 61	1827. 15 S	1471. 51 W	2345. 92	
0. 00							

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13690.00	91.502	217.660	11420.35	1835.06 S	1477.62 W	2355.92
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13700.00	91.502	217.660	11420.09	1842.97 S	1483.73 W	2365.92
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13710.00	91.502	217.660	11419.83	1850.89 S	1489.84 W	2375.91
0.00						
13720.00	91.502	217.660	11419.56	1858.80 S	1495.95 W	2385.91
0.00						
13730.00	91.502	217.660	11419.30	1866.71 S	1502.05 W	2395.90
0.00						
13740.00	91.502	217.660	11419.04	1874.63 S	1508.16 W	2405.90
0.00						
13750.00	91.502	217.660	11418.78	1882.54 S	1514.27 W	2415.90
0.00						
13760.00	91.502	217.660	11418.52	1890.46 S	1520.38 W	2425.89
0.00						
13770.00	91.502	217.660	11418.25	1898.37 S	1526.48 W	2435.89
0.00						
13780.00	91.502	217.660	11417.99	1906.28 S	1532.59 W	2445.88
0.00						
13790.00	91.502	217.660	11417.73	1914.20 S	1538.70 W	2455.88
0.00						
13800.00	91.502	217.660	11417.47	1922.11 S	1544.81 W	2465.88
0.00						
13810.00	91.502	217.660	11417.21	1930.02 S	1550.91 W	2475.87
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13820.00	91.502	217.660	11416.94	1937.94 S	1557.02 W	2485.87
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13830.00	91.502	217.660	11416.68	1945.85 S	1563.13 W	2495.86
0.00						
13840.00	91.502	217.660	11416.42	1953.77 S	1569.24 W	2505.86
0.00						
13850.00	91.502	217.660	11416.16	1961.68 S	1575.34 W	2515.85
0.00						
13860.00	91.502	217.660	11415.90	1969.59 S	1581.45 W	2525.85
0.00						
13870.00	91.502	217.660	11415.63	1977.51 S	1587.56 W	2535.85
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13880.00	91.502	217.660	11415.37	1985.42 S	1593.67 W	2545.84
0.00						
13890.00	91.502	217.660	11415.11	1993.34 S	1599.78 W	2555.84
0.00						
13900.00	91.502	217.660	11414.85	2001.25 S	1605.88 W	2565.83
0.00						
13910.00	91.502	217.660	11414.58	2009.16 S	1611.99 W	2575.83
0.00						
13920.00	91.502	217.660	11414.32	2017.08 S	1618.10 W	2585.83
0.00						
13930.00	91.502	217.660	11414.06	2024.99 S	1624.21 W	2595.82
0.00						
13940.00	91.502	217.660	11413.80	2032.90 S	1630.31 W	2605.82
0.00						
13950.00	91.502	217.660	11413.54	2040.82 S	1636.42 W	2615.81
0.00						
13960.00	91.502	217.660	11413.27	2048.73 S	1642.53 W	2625.81
0.00						
13970.00	91.502	217.660	11413.01	2056.65 S	1648.64 W	2635.81
0.00						
13980.00	91.502	217.660	11412.75	2064.56 S	1654.74 W	2645.80
0.00						
13990.00	91.502	217.660	11412.49	2072.47 S	1660.85 W	2655.80
0.00						
14000.00	91.502	217.660	11412.23	2080.39 S	1666.96 W	2665.79

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14010. 00	91. 502	217. 660	11411. 96	2088. 30 S	1673. 07 W	2675. 79	
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14020. 00	91. 502	217. 660	11411. 70	2096. 21 S	1679. 17 W	2685. 78	
0. 00							
14030. 00	91. 502	217. 660	11411. 44	2104. 13 S	1685. 28 W	2695. 78	
0. 00							
14040. 00	91. 502	217. 660	11411. 18	2112. 04 S	1691. 39 W	2705. 78	
0. 00							
14050. 00	91. 502	217. 660	11410. 91	2119. 96 S	1697. 50 W	2715. 77	
0. 00							
14060. 00	91. 502	217. 660	11410. 65	2127. 87 S	1703. 61 W	2725. 77	
0. 00							
14070. 00	91. 502	217. 660	11410. 39	2135. 78 S	1709. 71 W	2735. 76	
0. 00							
14080. 00	91. 502	217. 660	11410. 13	2143. 70 S	1715. 82 W	2745. 76	
0. 00							
14090. 00	91. 502	217. 660	11409. 87	2151. 61 S	1721. 93 W	2755. 76	
0. 00							
14100. 00	91. 502	217. 660	11409. 60	2159. 52 S	1728. 04 W	2765. 75	
0. 00							
14110. 00	91. 502	217. 660	11409. 34	2167. 44 S	1734. 14 W	2775. 75	
0. 00							
14120. 00	91. 502	217. 660	11409. 08	2175. 35 S	1740. 25 W	2785. 74	
0. 00							
14130. 00	91. 502	217. 660	11408. 82	2183. 27 S	1746. 36 W	2795. 74	
0. 00							
14140. 00	91. 502	217. 660	11408. 56	2191. 18 S	1752. 47 W	2805. 74	
0. 00							
14150. 00	91. 502	217. 660	11408. 29	2199. 09 S	1758. 57 W	2815. 73	
0. 00							
14160. 00	91. 502	217. 660	11408. 03	2207. 01 S	1764. 68 W	2825. 73	
0. 00							
14170. 00	91. 502	217. 660	11407. 77	2214. 92 S	1770. 79 W	2835. 72	
0. 00							
14180. 00	91. 502	217. 660	11407. 51	2222. 83 S	1776. 90 W	2845. 72	
0. 00							
14190. 00	91. 502	217. 660	11407. 24	2230. 75 S	1783. 00 W	2855. 72	
0. 00							
14200. 00	91. 502	217. 660	11406. 98	2238. 66 S	1789. 11 W	2865. 71	
0. 00							
14210. 00	91. 502	217. 660	11406. 72	2246. 58 S	1795. 22 W	2875. 71	
0. 00							
14220. 00	91. 502	217. 660	11406. 46	2254. 49 S	1801. 33 W	2885. 70	
0. 00							
14230. 00	91. 502	217. 660	11406. 20	2262. 40 S	1807. 44 W	2895. 70	
0. 00							
14240. 00	91. 502	217. 660	11405. 93	2270. 32 S	1813. 54 W	2905. 69	
0. 00							
14250. 00	91. 502	217. 660	11405. 67	2278. 23 S	1819. 65 W	2915. 69	
0. 00							
14260. 00	91. 502	217. 660	11405. 41	2286. 15 S	1825. 76 W	2925. 69	
0. 00							
14270. 00	91. 502	217. 660	11405. 15	2294. 06 S	1831. 87 W	2935. 68	
0. 00							
14280. 00	91. 502	217. 660	11404. 88	2301. 97 S	1837. 97 W	2945. 68	
0. 00							
14290. 00	91. 502	217. 660	11404. 62	2309. 89 S	1844. 08 W	2955. 67	
0. 00							
14300. 00	91. 502	217. 660	11404. 36	2317. 80 S	1850. 19 W	2965. 67	
0. 00							
14310. 00	91. 502	217. 660	11404. 10	2325. 71 S	1856. 30 W	2975. 67	
0. 00							

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14320.00 0.00	91.502	217.660	11403.84	2333.63 S	1862.40 W	2985.66
14330.00 0.00	91.502	217.660	11403.57	2341.54 S	1868.51 W	2995.66
14340.00 0.00	91.502	217.660	11403.31	2349.46 S	1874.62 W	3005.65
14350.00 0.00	91.502	217.660	11403.05	2357.37 S	1880.73 W	3015.65
14360.00 0.00	91.502	217.660	11402.79	2365.28 S	1886.83 W	3025.65
14370.00 0.00	91.502	217.660	11402.52	2373.20 S	1892.94 W	3035.64
14380.00 0.00	91.502	217.660	11402.26	2381.11 S	1899.05 W	3045.64
14390.00 0.00	91.502	217.660	11402.00	2389.02 S	1905.16 W	3055.63
14400.00 0.00	91.503	217.660	11401.74	2396.94 S	1911.27 W	3065.63
14410.00 0.00	91.503	217.660	11401.48	2404.85 S	1917.37 W	3075.62
14420.00 0.00	91.503	217.660	11401.21	2412.77 S	1923.48 W	3085.62
14430.00 0.00	91.503	217.660	11400.95	2420.68 S	1929.59 W	3095.62
14440.00 0.00	91.503	217.660	11400.69	2428.59 S	1935.70 W	3105.61
14450.00 0.00	91.503	217.660	11400.43	2436.51 S	1941.80 W	3115.61
14460.00 0.00	91.503	217.660	11400.16	2444.42 S	1947.91 W	3125.60
14470.00 0.00	91.503	217.660	11399.90	2452.33 S	1954.02 W	3135.60
14480.00 0.00	91.503	217.660	11399.64	2460.25 S	1960.13 W	3145.60
14490.00 0.00	91.503	217.660	11399.38	2468.16 S	1966.23 W	3155.59
14500.00 0.00	91.503	217.660	11399.12	2476.08 S	1972.34 W	3165.59
14510.00 0.00	91.503	217.660	11398.85	2483.99 S	1978.45 W	3175.58
14520.00 0.00	91.503	217.660	11398.59	2491.90 S	1984.56 W	3185.58
14530.00 0.00	91.503	217.660	11398.33	2499.82 S	1990.66 W	3195.58
14540.00 0.00	91.503	217.660	11398.07	2507.73 S	1996.77 W	3205.57
14550.00 0.00	91.503	217.660	11397.80	2515.64 S	2002.88 W	3215.57
14560.00 0.00	91.503	217.660	11397.54	2523.56 S	2008.99 W	3225.56
14570.00 0.00	91.503	217.660	11397.28	2531.47 S	2015.10 W	3235.56
14580.00 0.00	91.503	217.660	11397.02	2539.39 S	2021.20 W	3245.55
14590.00 0.00	91.503	217.660	11396.76	2547.30 S	2027.31 W	3255.55
14600.00 0.00	91.503	217.660	11396.49	2555.21 S	2033.42 W	3265.55
14610.00 0.00	91.503	217.660	11396.23	2563.13 S	2039.53 W	3275.54
14620.00 0.00	91.503	217.660	11395.97	2571.04 S	2045.63 W	3285.54
14630.00	91.503	217.660	11395.71	2578.95 S	2051.74 W	3295.53

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14640. 00	91. 503	217. 660	11395. 44	2586. 87 S	2057. 85 W	3305. 53	
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14650. 00	91. 503	217. 660	11395. 18	2594. 78 S	2063. 96 W	3315. 53	
0. 00							
14660. 00	91. 503	217. 660	11394. 92	2602. 70 S	2070. 06 W	3325. 52	
0. 00							
14670. 00	91. 503	217. 660	11394. 66	2610. 61 S	2076. 17 W	3335. 52	
0. 00							
14680. 00	91. 503	217. 660	11394. 39	2618. 52 S	2082. 28 W	3345. 51	
0. 00							
14690. 00	91. 503	217. 660	11394. 13	2626. 44 S	2088. 39 W	3355. 51	
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14700. 00	91. 503	217. 660	11393. 87	2634. 35 S	2094. 49 W	3365. 51	
0. 00							
14710. 00	91. 503	217. 660	11393. 61	2642. 27 S	2100. 60 W	3375. 50	
0. 00							
14720. 00	91. 503	217. 660	11393. 35	2650. 18 S	2106. 71 W	3385. 50	
0. 00							
14730. 00	91. 503	217. 660	11393. 08	2658. 09 S	2112. 82 W	3395. 49	
0. 00							
14740. 00	91. 503	217. 660	11392. 82	2666. 01 S	2118. 93 W	3405. 49	
0. 00							
14750. 00	91. 503	217. 660	11392. 56	2673. 92 S	2125. 03 W	3415. 48	
0. 00							
14760. 00	91. 503	217. 660	11392. 30	2681. 83 S	2131. 14 W	3425. 48	
0. 00							
14770. 00	91. 503	217. 660	11392. 03	2689. 75 S	2137. 25 W	3435. 48	
0. 00							
14780. 00	91. 503	217. 660	11391. 77	2697. 66 S	2143. 36 W	3445. 47	
0. 00							
14790. 00	91. 503	217. 660	11391. 51	2705. 58 S	2149. 46 W	3455. 47	
0. 00							
14800. 00	91. 503	217. 660	11391. 25	2713. 49 S	2155. 57 W	3465. 46	
0. 00							
14810. 00	91. 503	217. 660	11390. 98	2721. 40 S	2161. 68 W	3475. 46	
0. 00							
14820. 00	91. 503	217. 660	11390. 72	2729. 32 S	2167. 79 W	3485. 46	
0. 00							
14830. 00	91. 503	217. 660	11390. 46	2737. 23 S	2173. 89 W	3495. 45	
0. 00							
14840. 00	91. 503	217. 660	11390. 20	2745. 14 S	2180. 00 W	3505. 45	
0. 00							
14850. 00	91. 503	217. 660	11389. 94	2753. 06 S	2186. 11 W	3515. 44	
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14860. 00	91. 503	217. 660	11389. 67	2760. 97 S	2192. 22 W	3525. 44	
0. 00							
14870. 00	91. 503	217. 660	11389. 41	2768. 89 S	2198. 32 W	3535. 44	
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14880. 00	91. 503	217. 660	11389. 15	2776. 80 S	2204. 43 W	3545. 43	
0. 00							
14890. 00	91. 503	217. 660	11388. 89	2784. 71 S	2210. 54 W	3555. 43	
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14900. 00	91. 503	217. 660	11388. 62	2792. 63 S	2216. 65 W	3565. 42	
0. 00							
14910. 00	91. 503	217. 660	11388. 36	2800. 54 S	2222. 76 W	3575. 42	
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14920. 00	91. 503	217. 660	11388. 10	2808. 45 S	2228. 86 W	3585. 41	
0. 00							
14930. 00	91. 503	217. 660	11387. 84	2816. 37 S	2234. 97 W	3595. 41	
0. 00							
14940. 00	91. 503	217. 660	11387. 57	2824. 28 S	2241. 08 W	3605. 41	
0. 00							

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14950.00	91.503	217.660	11387.31	2832.20 S	2247.19 W	3615.40
0.00						
14960.00	91.503	217.660	11387.05	2840.11 S	2253.29 W	3625.40
0.00						
14970.00	91.503	217.660	11386.79	2848.02 S	2259.40 W	3635.39
0.00						
14980.00	91.503	217.660	11386.53	2855.94 S	2265.51 W	3645.39
0.00						
14990.00	91.503	217.660	11386.26	2863.85 S	2271.62 W	3655.39
0.00						
15000.00	91.503	217.660	11386.00	2871.76 S	2277.72 W	3665.38
0.00						
15010.00	91.503	217.660	11385.74	2879.68 S	2283.83 W	3675.38
0.00						
15020.00	91.503	217.660	11385.48	2887.59 S	2289.94 W	3685.37
0.00						
15030.00	91.503	217.660	11385.21	2895.51 S	2296.05 W	3695.37
0.00						
15040.00	91.503	217.660	11384.95	2903.42 S	2302.15 W	3705.37
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0.00						
15070.00	91.503	217.660	11384.16	2927.16 S	2320.48 W	3735.35
0.00						
15080.00	91.503	217.660	11383.90	2935.07 S	2326.59 W	3745.35
0.00						
15090.00	91.503	217.660	11383.64	2942.99 S	2332.69 W	3755.34
0.00						
15100.00	91.504	217.660	11383.38	2950.90 S	2338.80 W	3765.34
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15110.00	91.504	217.660	11383.11	2958.82 S	2344.91 W	3775.34
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15120.00	91.504	217.660	11382.85	2966.73 S	2351.02 W	3785.33
0.00						
15130.00	91.504	217.660	11382.59	2974.64 S	2357.12 W	3795.33
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15140.00	91.504	217.660	11382.33	2982.56 S	2363.23 W	3805.32
0.00						
15150.00	91.504	217.660	11382.06	2990.47 S	2369.34 W	3815.32
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15160.00	91.504	217.660	11381.80	2998.39 S	2375.45 W	3825.32
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15170.00	91.504	217.660	11381.54	3006.30 S	2381.55 W	3835.31
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15180.00	91.504	217.660	11381.28	3014.21 S	2387.66 W	3845.31
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15190.00	91.504	217.660	11381.02	3022.13 S	2393.77 W	3855.30
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15200.00	91.504	217.660	11380.75	3030.04 S	2399.88 W	3865.30
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15210.00	91.504	217.660	11380.49	3037.95 S	2405.98 W	3875.30
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15220.00	91.504	217.660	11380.23	3045.87 S	2412.09 W	3885.29
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15230.00	91.504	217.660	11379.97	3053.78 S	2418.20 W	3895.29
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15240.00	91.504	217.660	11379.70	3061.70 S	2424.31 W	3905.28
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15250.00	91.504	217.660	11379.44	3069.61 S	2430.42 W	3915.28
0.00						
15260.00	91.504	217.660	11379.18	3077.52 S	2436.52 W	3925.27

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0. 00							
15270. 00	91. 504	217. 660	11378. 92	3085. 44 S	2442. 63 W	3935. 27	
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15280. 00	91. 504	217. 660	11378. 65	3093. 35 S	2448. 74 W	3945. 27	
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15290. 00	91. 504	217. 660	11378. 39	3101. 26 S	2454. 85 W	3955. 26	
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15300. 00	91. 504	217. 660	11378. 13	3109. 18 S	2460. 95 W	3965. 26	
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15310. 00	91. 504	217. 660	11377. 87	3117. 09 S	2467. 06 W	3975. 25	
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15320. 00	91. 504	217. 660	11377. 60	3125. 01 S	2473. 17 W	3985. 25	
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15330. 00	91. 504	217. 660	11377. 34	3132. 92 S	2479. 28 W	3995. 25	
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15340. 00	91. 504	217. 660	11377. 08	3140. 83 S	2485. 38 W	4005. 24	
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15350. 00	91. 504	217. 660	11376. 82	3148. 75 S	2491. 49 W	4015. 24	
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15360. 00	91. 504	217. 660	11376. 55	3156. 66 S	2497. 60 W	4025. 23	
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15370. 00	91. 504	217. 660	11376. 29	3164. 57 S	2503. 71 W	4035. 23	
0. 00							
15380. 00	91. 504	217. 660	11376. 03	3172. 49 S	2509. 81 W	4045. 23	
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15390. 00	91. 504	217. 660	11375. 77	3180. 40 S	2515. 92 W	4055. 22	
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15400. 00	91. 504	217. 660	11375. 50	3188. 32 S	2522. 03 W	4065. 22	
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15410. 00	91. 504	217. 660	11375. 24	3196. 23 S	2528. 14 W	4075. 21	
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15420. 00	91. 504	217. 660	11374. 98	3204. 14 S	2534. 24 W	4085. 21	
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15430. 00	91. 504	217. 660	11374. 72	3212. 06 S	2540. 35 W	4095. 20	
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15440. 00	91. 504	217. 660	11374. 45	3219. 97 S	2546. 46 W	4105. 20	
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15450. 00	91. 504	217. 660	11374. 19	3227. 88 S	2552. 57 W	4115. 20	
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15460. 00	91. 504	217. 660	11373. 93	3235. 80 S	2558. 68 W	4125. 19	
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15470. 00	91. 504	217. 660	11373. 67	3243. 71 S	2564. 78 W	4135. 19	
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15480. 00	91. 504	217. 660	11373. 40	3251. 63 S	2570. 89 W	4145. 18	
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15490. 00	91. 504	217. 660	11373. 14	3259. 54 S	2577. 00 W	4155. 18	
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15500. 00	91. 504	217. 660	11372. 88	3267. 45 S	2583. 11 W	4165. 18	
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15510. 00	91. 504	217. 660	11372. 62	3275. 37 S	2589. 21 W	4175. 17	
0. 00							
15520. 00	91. 503	217. 663	11372. 35	3283. 28 S	2595. 32 W	4185. 17	
0. 03							
15524. 31	91. 502	217. 663	11372. 29	3286. 64 S	2598. 03 W	4189. 48	
0. 02							

All data are in feet unless otherwise stated. Di rections and coordinates are relative to Grid North.  
Vertical depths are relative to Ri g KB. Northings and Eastings are relative to Well.

The Dogleg Severi ty is in Degrees per 100 feet.



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Vertical Section is from Site and calculated along an Azimuth of 218.326° (Grid).

Coordinate System is NAD 1927 (NADCON CONUS) US State Plane 1927 (Exact solution),  
Texas Central 4203.

Central meridian is -100.333°.

Grid Convergence at Surface is -1.537°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 15524.31ft.,  
the Bottom Hole Displacement is 4189.48ft., in the Direction of 218.326° (Grid).