

HALLIBURTON
EXCELLIT

HIGH RES. INDUCTION BOREHOLE COMP. SONIC TRUE VERTICAL DEPTH 2" = 100'

COMPANY: NORTHWEST NATURAL GAS
WELL: IW 420H-10-65
FIELD: MIST (BUREN POOL STORAGE)
COUNTY: COLUMBIA
STATE: OR

Location: NE 1/4 SECTION 16, X: 80222, Y: 128773

Evolution: K.B.: 9M4.3, R.T.: , G.L.: 883.3

Date Processed: 07-29-2005, Logs Processed: HRID-BCSD-GR
Job Number: 3844368, Date Logged: 07-29-2005
Initial Processed: G. ROUSSAU, Type Fluid In Hole: GEL/POLYMER
Processed By: WEI SITE, Location: WJLD
Processed At: COMPUTER PROCESSED PRODUCT

Service Ticket No. 3844368, API Serial No. 036-008-00362, PGM Version: XL v5.0

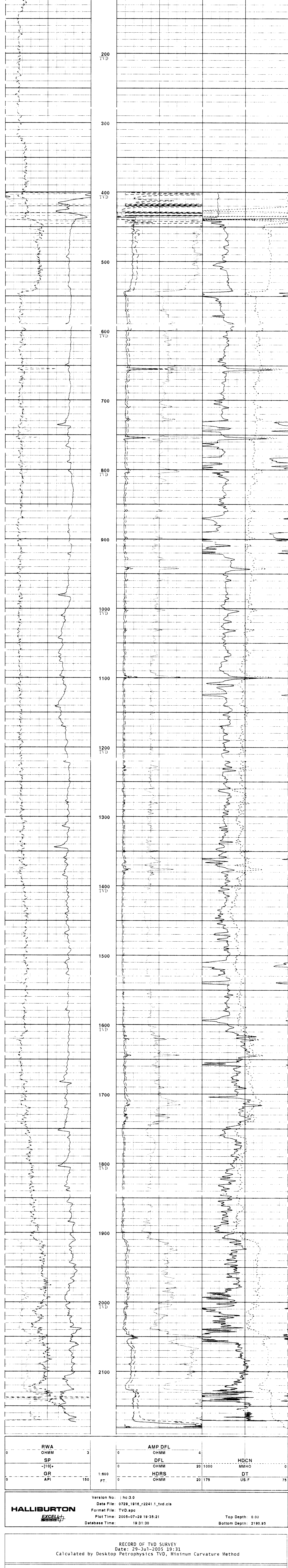
DIRECTIONAL INFORMATION

Maximum Deviation: deg. @ KCP

Remarks: HRID-BCSD-SOLT-DSNT-NGRF RUN IN COMBINATION.
HOLE LOGGED AS PER CUSTOMER.

CREW: M. EMERSON, M. GAONA, M. MCCRAW. RIG: TAYLOR NO. 9.

Version No: |hc:3.0
Data File: 0729_1916_r2241_1_tvd.cis
Format File: TVD.spc
Plot Time: 2005-07-29 19:36:17
Database Time: 19:31:30
Top Depth: 0.00
Bottom Depth: 2190.85



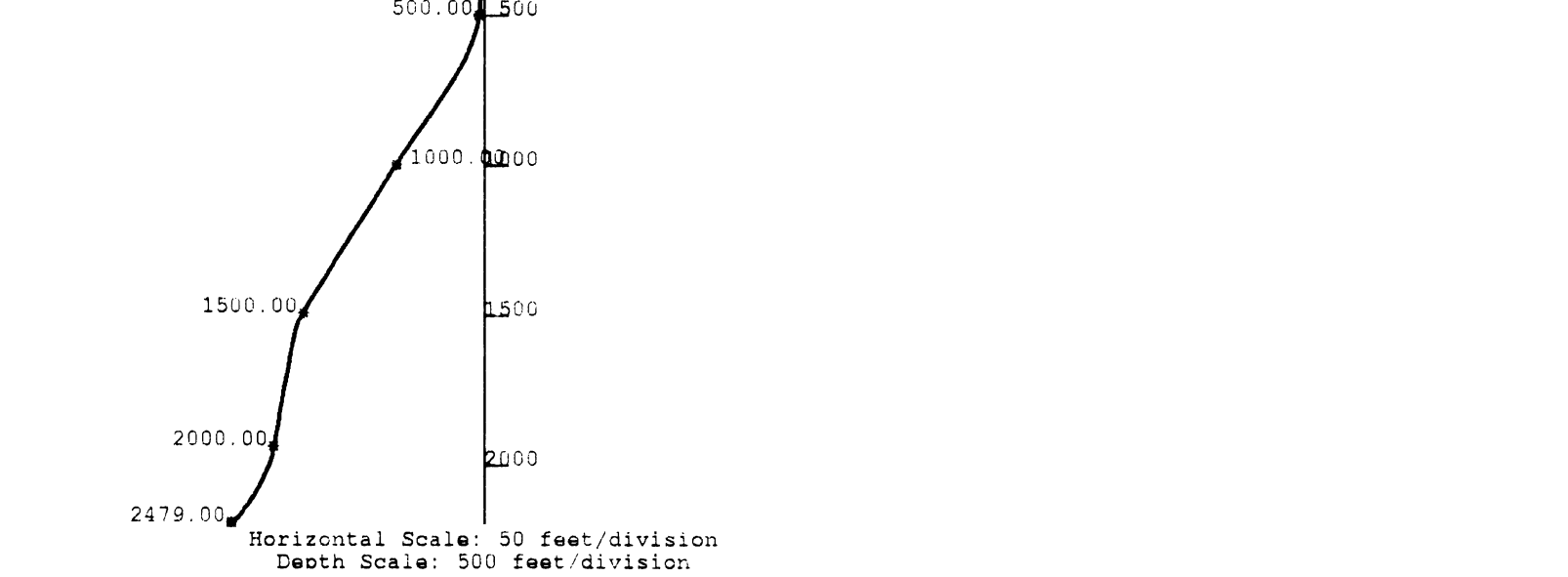
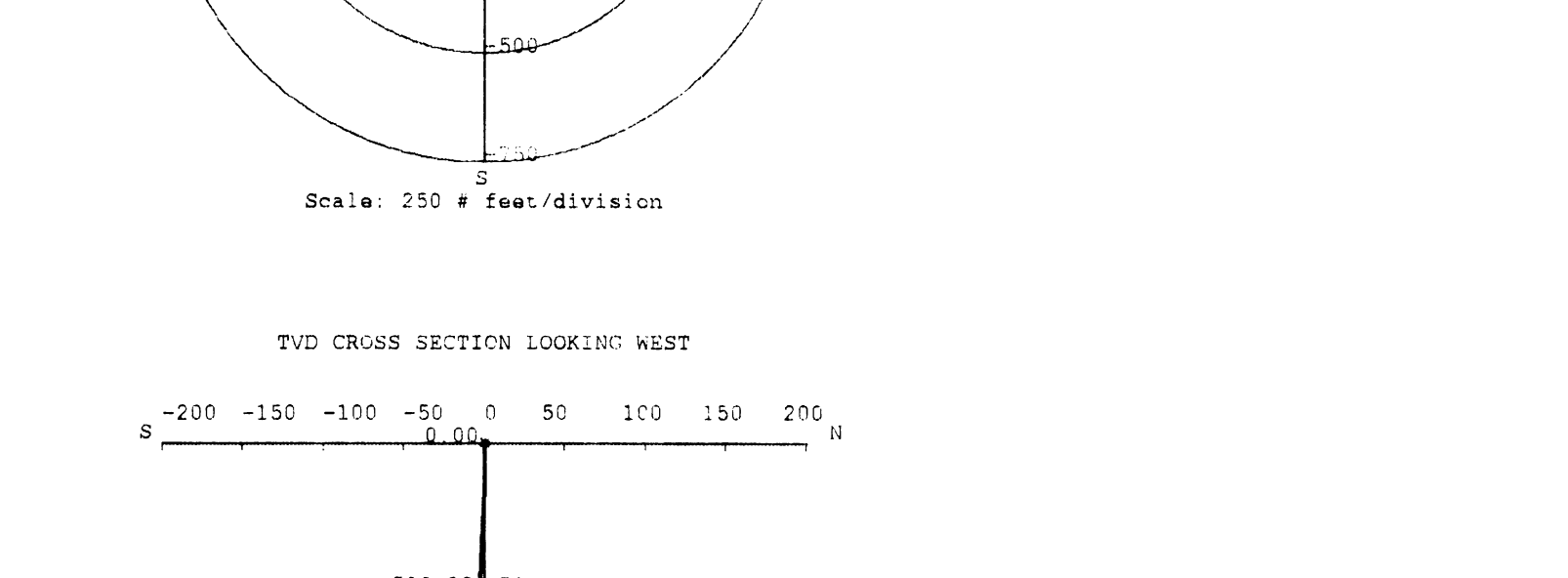
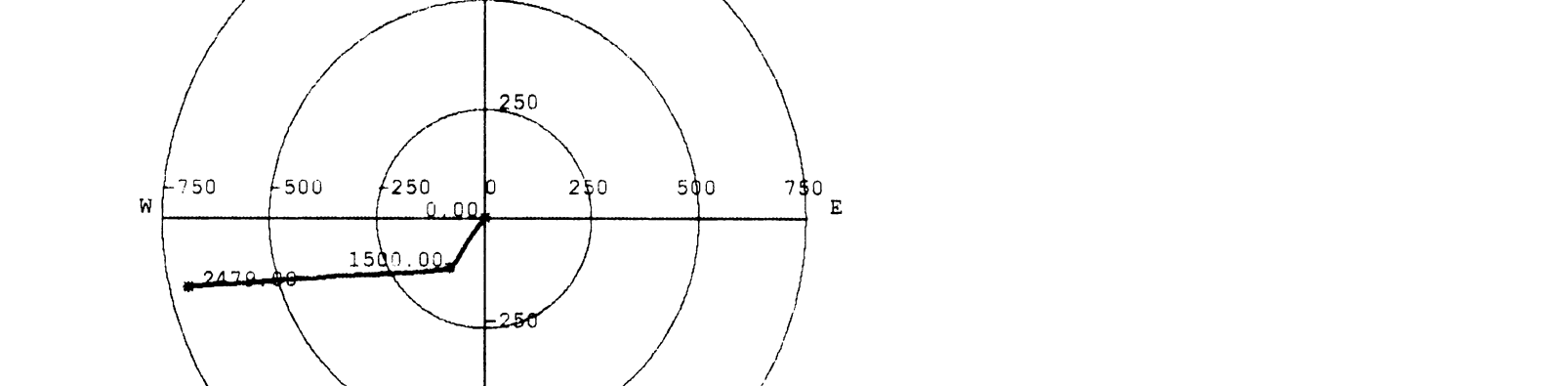
Version No: |hc:3.0
Data File: 0729_1916_r2241_1_tvd.cis
Format File: TVD.spc
Plot Time: 2005-07-29 19:35:21
Database Time: 19:31:30
Top Depth: 0.00
Bottom Depth: 2190.85

RECORD OF TVD SURVEY
Date: 29-Jul-2005 19:31
Calculated by Desktop Petrophysics TVD, Minimum Curvature Method

MEAS. DEPTH (FT)	DRIFT ANGLE (DEG)	T. V. D. (FT)	HOLE BEARING (DEG)	COURSE COORDINATES			TOTAL COORDINATES		
				NORTH (FT)	SOUTH (FT)	EAST (FT)	WEST (FT)	NORTH (FT)	SOUTH (FT)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
464.00	0.95	463.99	202.90	-2.40	-1.01	-2.40	-1.01	-2.40	-1.01
524.00	2.77	523.96	223.58	-1.51	-1.19	-3.91	-2.20	-4.58	-3.48
583.00	4.61	582.84	216.21	-2.95	-2.38	-6.86	-4.58	-12.93	-7.93
644.00	6.21	643.71	216.19	-4.64	-3.40	-11.50	-7.98	-20.98	-12.93
705.00	8.97	704.03	219.37	-6.34	-4.97	-17.84	-12.93	-29.03	-19.15
766.00	9.27	764.26	220.83	-7.39	-6.23	-25.23	-19.15	-36.88	-26.88
827.00	9.36	826.64	223.91	-8.62	-7.20	-34.85	-26.88	-45.73	-34.85
889.00	8.08	883.79	213.08	-7.72	-4.94	-40.67	-29.84	-52.12	-39.84
949.00	6.39	945.15	208.39	-7.63	-4.53	-48.30	-34.37	-60.63	-44.37
1009.00	7.90	1004.55	212.80	-7.32	-4.31	-55.62	-38.68	-69.94	-48.68
1069.00	7.86	1063.98	211.65	-6.96	-4.39	-64.68	-43.07	-80.66	-53.07
1130.00	7.96	1124.40	212.01	-7.13	-4.43	-74.55	-47.50	-92.99	-57.50
1192.00	8.01	1185.80	213.29	-7.25	-4.65	-85.30	-52.15	-106.65	-61.65
1254.00	8.97	1247.20	212.98	-7.22	-4.71	-97.01	-56.86	-121.77	-66.86
1317.00	7.97	1309.59	213.10	-7.32	-4.76	-109.56	-61.62	-138.12	-71.62
1380.00	7.83	1371.99	212.47	-7.28	-4.69	-122.25	-66.31	-155.92	-76.31
1442.00	9.36	1433.30	223.91	-7.20	-5.76	-140.51	-71.62	-174.27	-81.62
1504.00	11.96	1494.21	240.56	-3.36	-5.11	-159.14	-77.00	-194.14	-77.00
1566.00	12.69	1553.52	249.56	-2.68	-5.80	-179.44	-82.81	-215.25	-82.81
1627.00	13.23	1613.73	259.32	-1.85	-6.68	-201.29	-88.62	-237.91	-88.62
1689.00	15.96	1583.73	260.99	-1.33	-7.70	-224.59	-94.43	-262.02	-94.43
1751.00	17.26	1613.44	264.75	-1.09	-8.79	-249.28	-100.24	-287.52	-100.24
1813.00	19.63	1643.79	265.39	-0.87	-10.09	-275.37	-106.05	-314.41	-106.05
1875.00	21.90	1672.77	265.22	-0.90	-11.93	-302.70	-111.86	-342.66	-111.86
1937.00	23.56	1701.36	265.03	-1.02	-13.93	-331.23	-117.67	-372.33	-117.67
2000.00	25.18	1728.69	265.89	-1.20	-16.04	-361.06	-123.48	-403.54	-123.48
2062.00	27.03	1757.42	266.00	-1.00	-18.34	-392.10	-129.29	-436.13	-129.29
2124.00	29.04	1784.78	266.69	-0.93	-20.84	-424.34	-135.10	-470.14	-135.10
2187.00	31.03	1811.61	268.12	-0.70	-23.54	-458.78	-140.91	-505.69	-140.91
2250.00	33.21	1838.71	267.41	-0.67	-26.44	-505.32	-146.72	-542.70	-146.72
2312.00	35.08	1864.36	266.91	-0.66	-29.54	-554.76	-152.53	-581.23	-152.53
2375.00	37.04	1889.42	267.20	-0.94	-32.84	-606.00	-158.34	-621.27	-158.34
2438.00	39.13	1913.82	267.62	-0.66	-36.34	-659.14	-164.15	-662.42	-164.15
2501.00	41.53	1937.45	268.13	-0.74	-40.04	-714.18	-170.00	-704.66	-170.00
2564.00	43.69	1960.26	267.69	-0.77	-43.94	-771.12	-175.81	-752.91	-175.81
2627.00	45.70	1983.03	266.75	-0.09	-48.04	-830.06	-181.66	-813.26	-181.66
2690.00	47.99	2004.21	265.40	-1.55	-52.34	-890.00	-187.51	-874.71	-187.51
2753.00	50.21	2024.51	265.03	-1.88	-56.84	-951.04	-193.36	-957.40	-193.36
2816.00	51.64	2044.05	265.98	-1.96	-61.54	-1013.18	-199.21	-1041.99	-199.21
2879.00	53.27	2063.55	266.77	-1.60	-66.44	-1076.42	-205.06	-1107.54	-205.06
2942.00	55.49	2081.02	266.15	-1.51	-71.54	-1141.76	-210.91	-1174.45	-210.91
2999.00	57.70	2098.09	265.36	-1.92	-76.84	-1209.10	-216.76	-1242.70	-216.76
3056.00	59.70	2114.19	263.47	-2.12	-82.34	-1278.54	-222.61	-1312.31	-222.61
3113.00	61.75	2128.86	265.74	-2.00	-88.04	-1349.98	-228.46	-1383.36	-228.46
3170.00	64.07	2142.98	266.36	-1.83	-93.94	-1423.42	-234.31	-1455.87	-234.31
3227.00	66.26	2156.00	267.33	-1.50	-100.04	-1498.86	-240.16	-1529.82	-240.16
3284.00	68.70	2167.87	267.03	-1.40	-106.34	-1576.30	-246.01	-1605.27	-246.01
2434.00	71.63	2178.05	265.70	-1.79	-112.84	-1655.74	-251.86	-1682.12	-251.86
2479.00	75.00	2190.97	265.00	-3.50	-119.54	-1737.18	-257.71	-1760.37	-257.71
2479.00	75.00	2190.97	265.00	-3.50	-126.24	-1820.62	-263.56	-1840.62	-263.56

MAGNETIC DECLINATION (Directional Offset) = 0.00
CLOSURE DISTANCE = 705.66 FEET
CLOSURE ANGLE = 237.16 DEGREE

Hole Bearing is corrected for Magnetic Declination (Directional Offset).



COMPANY: _____
WELL: _____
FIELD: _____
COUNTY: _____ STATE: _____

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