



**REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY**

ANSCHUTZ CORPORATION

COMPANY

U.S.A. 0356 NO. 15-4

WELL NAME

BONNEWILLE COUNTY, IDAHO

LOCATION

JOB NUMBER

410-0303

TYPE OF SURVEY

COMPLETION REPORT

DATE

19-MAY-86

SURVEY BY

LARREN HOLDREN

OFFICE

RM 410

EASTMAN WHIPSTOCK, INC.

RECORD OF SURVEY

FOR

* * * * *
* OPERATOR : ANSCHUTZ CORPORATION *
* STRUCTURE : U.S.A. WELLS *
* WELL : USA 0356 #15-4 SLOT : 5 *
* LOCATION : BONNEVILLE COUNTY, IDAHO *
* JOB NUMBER : 410-0303 *
* RIG : MOLEN #6 *
* DECLINATION : 15.00 E *
* PLANE OF VERTICAL SECTION *
* DIRECTION : S 45 0 W *
* * * * *

EW DISTRICT : ROCKY MOUNTAIN DIST.



MEASURED DEPTH	DRIFT ANGLE		DRIFT DIRECTION		COURSE LENGTH	TRUE VERTICAL DEPTH	VERTICAL SECTION	RECTANGULAR COORDINATES		DUGLE/ SEVERITY
	D	M	D	M						
0.00	0	0	N	0 0 E	0.00	0.00	0.00	0.00 N	0.00 E	0.00
100.00	0	2	S	40 38 E	100.00	100.00	0.00	0.02 S	0.02 E	0.04
200.00	0	3	N	58 36 E	100.00	200.00	-0.37	0.12 S	0.64 E	0.05
300.00	0	2	N	3 24 E	100.00	300.00	-0.46	0.04 S	0.69 E	0.03
400.00	0	5	N	6 42 W	100.00	400.00	-0.53	0.07 N	0.69 E	0.06
500.00	0	13	N	29 30 E	100.00	500.00	-0.75	0.32 N	0.74 E	0.11
600.00	0	24	N	49 17 E	100.00	600.00	-1.27	0.73 N	1.07 E	0.21
700.00	0	45	N	68 4 E	100.00	699.99	-2.24	1.24 N	1.92 E	0.37
800.00	0	20	N	49 48 E	100.00	799.99	-3.15	1.73 N	2.73 E	0.44
900.00	1	31	N	65 43 E	100.00	899.97	-4.73	2.59 N	4.10 E	1.20
1000.00	1	31	N	73 18 E	100.00	999.94	-7.15	3.52 N	6.59 E	0.20
1100.00	1	31	N	73 36 E	100.00	1099.90	-9.50	4.29 N	9.15 E	0.01
1200.00	1	31	N	71 32 E	100.00	1199.86	-11.96	5.12 N	11.80 E	0.05
1300.00	1	12	N	82 47 E	100.00	1299.83	-13.97	5.64 N	14.11 E	0.41
1400.00	1	24	N	87 26 E	100.00	1399.81	-15.71	5.84 N	16.38 E	0.22
1500.00	0	53	N	89 48 E	100.00	1499.79	-17.15	5.88 N	18.37 E	0.53
1600.00	0	41	S	87 45 E	100.00	1599.78	-18.09	5.86 N	19.73 E	0.19
1700.00	0	37	S	89 57 E	100.00	1699.77	-18.88	5.84 N	20.87 E	0.07
1800.00	0	24	S	88 41 E	100.00	1799.77	-19.51	5.83 N	21.76 E	0.22
1900.00	0	36	N	76 17 E	100.00	1899.76	-20.18	5.92 N	22.62 E	0.23
2000.00	0	34	N	79 12 E	100.00	1999.76	-21.01	6.13 N	23.58 E	0.04
2100.00	0	29	S	84 23 E	100.00	2099.75	-21.69	6.17 N	24.50 E	0.17
2200.00	0	32	S	71 29 E	100.00	2199.75	-22.17	5.99 N	25.37 E	0.13
2300.00	0	41	S	83 29 E	100.00	2299.74	-22.74	5.76 N	26.40 E	0.19
2400.00	1	1	N	78 46 E	100.00	2399.73	-23.83	5.82 N	27.88 E	0.42
2500.00	1	24	N	77 49 E	100.00	2499.71	-25.59	6.24 N	29.94 E	0.38
2600.00	1	44	N	75 41 E	100.00	2599.67	-27.91	6.87 N	32.59 E	0.34
2700.00	1	40	N	61 48 E	100.00	2699.63	-30.62	7.94 N	35.36 E	0.42
2800.00	1	57	N	60 8 E	100.00	2799.58	-33.65	9.48 N	38.12 E	0.29
2900.00	2	6	N	61 32 E	100.00	2899.52	-37.06	11.20 N	41.21 E	0.16

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ANSCHUTZ CORPORATION
U.S.A. WELLS

SLOT : 5
WELL : USA 0356 #15-4
PBHL : S 45 0 W

DATE PRINTED : 19-MAY-86
OUR REF. NO. : S02590.8AS
JOB NUMBER :

PAGE NO. 3

MEASURED DEPTH	DRIFT ANGLE		DRIFT DIRECTION		COURSE LENGTH	TRUE VERTICAL DEPTH	VERTICAL SECTION	R E C T A N G U L A R C O O R D I N A T E S		DOUBLEG SEVERITY
	D	M	D	M						
3000.00	2	11	N	62 17 E	100.00	2999.45	-40.64	12.96 N	44.51 E	0.09
3100.00	2	15	N	59 57 E	100.00	3099.37	-44.35	14.83 N	47.89 E	0.11
3200.00	2	38	N	62 18 E	100.00	3199.28	-48.44	16.88 N	51.62 E	0.39
3300.00	2	25	N	60 9 E	100.00	3299.18	-52.67	19.00 N	55.48 E	0.23
3400.00	2	59	N	61 25 E	100.00	3399.07	-57.20	21.30 N	59.59 E	0.56
3500.00	3	26	N	60 19 E	100.00	3498.92	-62.58	24.03 N	64.47 E	0.45
3600.00	3	48	N	58 7 E	100.00	3598.72	-68.70	27.26 N	69.89 E	0.40
3700.00	4	19	N	59 31 E	100.00	3698.47	-75.57	30.92 N	75.95 E	0.52
3800.00	4	1	N	55 8 E	100.00	3798.20	-82.65	34.84 N	82.06 E	0.44
3900.00	4	15	N	59 3 E	100.00	3897.94	-89.70	38.75 N	88.10 E	0.37
4000.00	4	18	N	58 14 E	100.00	3997.67	-96.93	42.62 N	94.46 E	0.07
4100.00	4	21	N	56 22 E	100.00	4097.38	-104.29	46.69 N	100.80 E	0.15
4200.00	4	19	N	53 23 E	100.00	4197.10	-111.74	51.04 N	106.98 E	0.23
4300.00	4	6	N	58 50 E	100.00	4296.83	-118.93	55.13 N	113.07 E	0.45
4400.00	4	10	N	59 18 E	100.00	4396.57	-125.92	58.83 N	119.24 E	0.07
4500.00	4	13	N	59 19 E	100.00	4496.30	-133.00	62.56 N	125.53 E	0.06
4562.00	3	18	N	63 54 E	62.00	4558.17	-136.90	64.50 N	129.10 E	1.56
4593.00	1	48	N	60 0 E	31.00	4589.13	-138.21	65.15 N	130.32 E	4.87
4653.00	0	36	N	72 42 E	60.00	4649.12	-139.38	65.65 N	131.47 E	2.04
4745.00	0	30	N	55 0 W	92.00	4741.12	-139.96	66.35 N	131.58 E	0.5
4805.00	1	18	S	85 0 W	60.00	4801.11	-139.49	66.59 N	130.68 E	1.62
4835.00	1	42	S	73 24 W	30.00	4831.10	-138.85	66.44 N	129.91 E	1.67
4865.00	2	12	S	59 36 W	30.00	4861.08	-137.90	66.04 N	128.98 E	2.28
4896.00	2	30	S	50 0 W	31.00	4892.05	-136.65	65.31 N	127.94 E	1.59
4927.00	2	30	S	50 0 W	31.00	4923.02	-135.30	64.44 N	126.91 E	0.00
4959.00	2	48	S	49 0 W	32.00	4954.99	-133.83	63.48 N	125.78 E	0.95
4974.00	2	48	S	49 0 W	15.00	4969.97	-133.10	63.00 N	125.23 E	0.00
5022.00	3	6	S	44 0 W	48.00	5017.91	-130.63	61.29 N	123.44 E	0.82
5083.00	4	6	S	42 0 W	61.00	5078.79	-126.80	58.49 N	120.83 E	1.65
5272.00	5	24	S	47 0 W	189.00	5267.13	-111.15	47.33 N	109.86 E	0.72

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MEASURED DEPTH	DRIFT ANGLE D M	DRIFT DIRECTION D M	COURSE LENGTH	TRUE VERTICAL DEPTH	VERTICAL SECTION	RECTANGULAR COORDINATES	DOGLEG SEVERITY
5303.00	5 12	S 50 0 W	31.00	5298.00	-108.29	45.44 N 107.71 E	1.10
5360.00	5 18	S 52 0 W	57.00	5354.76	-103.10	42.15 N 103.66 E	0.67
5390.00	5 48	S 54 0 W	30.00	5384.62	-100.23	40.41 N 101.34 E	1.79
5419.00	6 12	S 57 0 W	29.00	5413.46	-97.25	38.69 N 98.84 E	1.75
5448.00	6 24	S 61 0 W	29.00	5442.29	-94.16	37.05 N 96.12 E	1.66
5480.00	6 24	S 63 0 W	32.00	5474.09	-90.75	35.38 N 92.97 E	0.71
5511.00	6 48	S 67 0 W	31.00	5504.88	-87.40	33.87 N 89.74 E	1.97
5541.00	7 6	S 63 0 W	30.00	5534.66	-83.99	32.34 N 86.45 E	1.90
5572.00	7 30	S 57 0 W	31.00	5565.41	-80.19	30.37 N 83.04 E	2.78
5603.00	7 36	S 53 0 W	31.00	5596.14	-76.18	28.03 N 79.70 E	1.73
5634.00	8 0	S 47 0 W	31.00	5626.86	-71.99	25.33 N 76.48 E	2.92
5665.00	8 0	S 44 0 W	31.00	5657.55	-67.68	22.31 N 73.41 E	1.35
5696.00	9 18	S 42 0 W	31.00	5688.20	-63.02	18.90 N 70.23 E	4.30
5724.00	10 45	S 42 0 W	28.00	5715.77	-58.15	15.28 N 66.97 E	5.18
5756.00	11 42	S 41 0 W	32.00	5747.16	-51.94	10.61 N 62.84 E	3.03
5787.00	12 18	S 41 0 W	31.00	5777.48	-45.51	5.75 N 58.61 E	1.94
5826.00	13 12	S 45 0 W	39.00	5815.52	-36.91	0.55 S 52.74 E	3.23
5856.00	13 30	S 44 54 W	30.00	5844.71	-29.98	5.45 S 47.85 E	1.00
5887.00	13 24	S 45 54 W	31.00	5874.86	-22.77	10.51 S 42.71 E	0.82
5919.00	12 48	S 44 30 W	32.00	5906.03	-15.52	15.62 S 37.57 E	2.11
5950.00	12 42	S 46 18 W	31.00	5936.26	-8.67	20.43 S 32.70 E	1.32
5982.00	12 24	S 44 54 W	32.00	5967.50	-1.72	25.29 S 27.73 E	1.34
6013.00	12 0	S 44 54 W	31.00	5997.80	4.83	29.93 S 23.10 E	1.29
6045.00	11 48	S 45 54 W	32.00	6029.11	11.43	34.57 S 18.40 E	0.90
6076.00	11 54	S 44 54 W	31.00	6059.45	17.79	39.04 S 13.87 E	0.74
6105.00	12 12	S 45 54 W	29.00	6087.81	23.85	43.29 S 9.56 E	1.26
6136.00	12 36	S 46 36 W	31.00	6118.09	30.50	47.89 S 4.75 E	1.38
6166.00	13 0	S 46 18 W	30.00	6147.34	37.15	52.47 S 0.06 W	1.35
6207.00	13 12	S 45 54 W	41.00	6187.27	46.44	58.91 S 6.76 W	0.54
6238.00	13 0	S 47 0 W	31.00	6217.47	53.46	63.76 S 11.85 W	1.03

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MEASURED DEPTH	DRIFT ANGLE D M	DRIFT DIRECTION D M	COURSE LENGTH	TRUE VERTICAL DEPTH	VERTICAL SECTION	RECTANGULAR COORDINATES	DOBLEE SEVERITY
6269.00	13 0	S 46 18 W	31.00	6247.67	60.43	68.54 S 16.92 W	0.51
6301.00	13 6	S 46 36 W	32.00	6278.85	67.66	73.52 S 22.16 W	0.38
6331.00	12 54	S 46 36 W	30.00	6308.08	74.40	78.16 S 27.06 W	0.67
6363.00	12 48	S 46 36 W	32.00	6339.28	81.52	83.05 S 32.23 W	0.31
6394.00	12 48	S 46 36 W	31.00	6369.51	88.38	87.77 S 37.22 W	0.00
6425.00	12 42	S 46 36 W	31.00	6399.74	95.22	92.47 S 42.19 W	0.37
6456.00	12 42	S 46 36 W	31.00	6429.98	102.03	97.15 S 47.15 W	0.0
6475.00	12 30	S 46 0 W	19.00	6448.53	106.18	100.01 S 50.14 W	1.26
6537.00	12 30	S 45 0 W	62.00	6509.06	119.59	109.42 S 59.71 W	0.35
6600.00	12 30	S 44 0 W	63.00	6570.56	133.23	119.14 S 69.27 W	0.34
6646.00	12 15	S 45 0 W	46.00	6615.49	143.09	126.18 S 76.18 W	0.72
6724.00	12 15	S 43 0 W	78.00	6691.72	159.63	138.08 S 87.68 W	0.54
6784.00	12 0	S 43 0 W	60.00	6750.38	172.23	147.30 S 96.27 W	0.42
6846.00	11 30	S 45 0 W	62.00	6811.08	184.85	156.38 S 105.04 W	1.04
6878.00	11 45	S 45 0 W	32.00	6842.42	191.30	160.94 S 109.60 W	0.78
6909.00	11 15	S 46 0 W	31.00	6872.80	197.48	165.27 S 114.01 W	1.74
6939.00	11 45	S 46 0 W	30.00	6902.20	203.46	169.43 S 118.31 W	1.67
7003.00	11 45	S 46 0 W	64.00	6964.86	216.49	178.48 S 127.69 W	0.00
7065.00	12 0	S 46 0 W	62.00	7025.53	229.25	187.34 S 136.87 W	0.40
7127.00	12 0	S 50 0 W	62.00	7086.18	242.12	195.97 S 146.44 W	1.34
7159.00	12 0	S 48 0 W	32.00	7117.48	248.76	200.33 S 151.46 W	1.30
7223.00	12 15	S 51 0 W	64.00	7180.05	262.16	209.06 S 161.68 W	1.06
7286.00	12 15	S 49 0 W	63.00	7241.61	275.47	217.65 S 171.92 W	0.67
7351.00	12 15	S 50 0 W	65.00	7305.13	289.22	226.61 S 182.41 W	0.33
7411.00	12 15	S 50 0 W	60.00	7363.77	301.90	234.79 S 192.16 W	0.00
7474.00	12 15	S 52 0 W	63.00	7425.33	315.20	243.20 S 202.55 W	0.67
7537.00	12 0	S 50 0 W	63.00	7486.93	328.35	251.53 S 212.83 W	0.78
7600.00	11 30	S 52 0 W	63.00	7548.61	341.11	259.60 S 222.80 W	1.02
7659.00	11 45	S 51 0 W	59.00	7606.40	352.93	267.00 S 232.11 W	0.54
7875.00	10 0	S 50 0 W	216.00	7818.51	393.49	292.92 S 263.55 W	0.81

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MEASURED DEPTH	DRIFT ANGLE D M	DRIFT DIRECTION D M	COURSE LENGTH	TRUE VERTICAL DEPTH	VERTICAL SECTION	RECTANGULAR COORDINATES	DOG LEG SEVERITY
7948.00	10 0	S 48 0 W	73.00	7890.40	406.13	301.24 S 273.12 W	0.48
7969.00	9 30	S 50 0 W	21.00	7911.10	409.68	303.57 S 275.80 W	2.88
8000.00	8 30	S 48 0 W	31.00	7941.72	414.52	306.76 S 279.46 W	3.38
8028.00	8 30	S 48 0 W	28.00	7969.41	418.65	309.52 S 282.54 W	0.00
8059.00	8 15	S 50 0 W	31.00	8000.08	423.16	312.49 S 285.95 W	1.24
8090.00	8 15	S 45 0 W	31.00	8030.76	427.60	315.49 S 289.22 W	2.3
8125.00	8 0	S 45 0 W	35.00	8065.41	432.54	318.99 S 292.72 W	0.71
8154.00	7 30	S 48 0 W	29.00	8094.14	436.45	321.68 S 295.56 W	2.22
8230.00	8 0	S 49 0 W	76.00	8169.45	446.68	328.47 S 303.23 W	0.68
8261.00	8 30	S 45 0 W	31.00	8200.13	451.13	331.50 S 306.49 W	2.45
8323.00	9 15	S 44 0 W	62.00	8261.38	460.69	338.33 S 313.19 W	1.23
8385.00	10 0	S 45 0 W	62.00	8322.51	471.06	345.72 S 320.46 W	1.24
8412.00	10 0	S 44 0 W	27.00	8349.10	475.75	349.06 S 323.74 W	0.64
8448.00	10 0	S 49 0 W	36.00	8384.55	481.99	353.37 S 328.28 W	2.41
8510.00	11 0	S 45 0 W	62.00	8445.51	493.28	361.07 S 336.54 W	2.00
8534.00	10 45	S 50 0 W	24.00	8469.08	497.80	364.13 S 339.87 W	4.06
8564.00	10 45	S 46 0 W	30.00	8498.56	503.39	367.87 S 344.03 W	2.49
8595.00	10 45	S 46 0 W	31.00	8529.01	509.17	371.89 S 348.19 W	0.00
8658.00	11 0	S 44 0 W	63.00	8590.88	521.06	380.29 S 356.59 W	0.72
8720.00	11 0	S 48 0 W	62.00	8651.74	532.88	388.51 S 365.10 W	1.27
8783.00	11 0	S 46 0 W	63.00	8713.58	544.89	396.70 S 373.89 W	0.61
8845.00	10 15	S 45 0 W	62.00	8774.52	556.33	404.72 S 382.05 W	1.25
8876.00	10 30	S 46 0 W	31.00	8805.01	561.91	408.63 S 386.03 W	0.99
8909.00	10 30	S 48 0 W	33.00	8837.46	567.92	412.73 S 390.43 W	1.10
8970.00	10 45	S 46 0 W	61.00	8897.42	579.16	420.40 S 398.65 W	0.73
9031.00	11 0	S 45 0 W	61.00	8957.32	590.66	428.47 S 406.86 W	0.51
9093.00	11 45	S 49 0 W	62.00	9018.10	602.88	436.80 S 415.80 W	1.76
9155.00	11 45	S 47 0 W	62.00	9078.80	615.49	445.25 S 425.18 W	0.66
9216.00	11 30	S 49 0 W	61.00	9138.55	627.77	453.48 S 434.32 W	0.78
9279.00	12 15	S 45 0 W	63.00	9200.20	640.72	462.32 S 443.80 W	1.77

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MEASURED DEPTH	DRIFT ANGLE		DRIFT DIRECTION		COURSE LENGTH	TRUE VERTICAL DEPTH	VERTICAL SECTION	R E C T A N G U L A R C O O R D I N A T E S		DOGLEG SEVERITY
	D	M	D	M						
9341.00	12	30	S 48	0 W	62.00	9260.76	654.00	471.46 S	453.43 W	1.11
9403.00	13	0	S 48	0 W	62.00	9321.23	667.66	480.62 S	463.60 W	0.81
9464.00	13	0	S 47	0 W	61.00	9380.67	681.37	489.89 S	473.72 W	0.37
9527.00	14	0	S 47	0 W	63.00	9441.93	696.07	499.92 S	484.48 W	1.59
9557.00	14	0	S 47	0 W	30.00	9471.04	703.32	504.87 S	489.78 W	0.00
9620.00	14	30	S 48	0 W	63.00	9532.10	718.82	515.34 S	501.22 W	0.81
9680.00	15	0	S 48	0 W	60.00	9590.12	734.07	525.57 S	512.57 W	0.83
9741.00	15	30	S 45	0 W	61.00	9648.97	750.11	536.61 S	524.21 W	1.53
9804.00	16	45	S 45	0 W	63.00	9709.49	767.61	548.98 S	536.58 W	1.98
9862.00	17	45	S 45	0 W	58.00	9764.88	784.81	561.14 S	548.74 W	1.72
9914.00	18	15	S 46	0 W	52.00	9814.34	800.87	572.41 S	560.20 W	1.13
9957.00	19	0	S 47	0 W	43.00	9855.09	814.60	581.86 S	570.16 W	1.90
10017.00	19	0	S 47	0 W	60.00	9911.82	834.12	595.18 S	584.45 W	0.00
10080.00	19	0	S 49	0 W	63.00	9971.39	854.61	608.90 S	599.69 W	1.03
10143.00	19	0	S 49	0 W	63.00	10030.95	875.07	622.36 S	615.17 W	0.00
10204.00	19	0	S 47	0 W	61.00	10088.63	894.90	635.65 S	629.93 W	1.07
10290.00	19	0	S 47	0 W	86.00	10169.95	922.88	654.74 S	650.40 W	0.00
10353.00	18	30	S 48	0 W	63.00	10229.60	943.11	668.42 S	665.33 W	0.94
10447.00	19	15	S 49	0 W	94.00	10318.55	973.46	688.57 S	688.11 W	0.87
10511.00	19	45	S 50	0 W	64.00	10378.88	994.76	702.45 S	704.35 W	0.9
10987.00	21	0	S 49	0 W	476.00	10825.08	1159.97	810.07 S	830.37 W	0.27
11049.00	21	0	S 50	0 W	62.00	10882.97	1182.12	824.50 S	847.26 W	0.58
11120.00	21	0	S 49	0 W	71.00	10949.25	1207.48	841.03 S	866.61 W	0.50
11207.00	21	15	S 50	0 W	87.00	11030.40	1238.75	861.39 S	890.46 W	0.50
11302.00	20	15	S 55	0 W	95.00	11119.24	1272.10	881.88 S	917.15 W	2.14
11374.00	20	15	S 52	0 W	72.00	11186.79	1296.75	896.70 S	937.18 W	1.44
11491.00	20	30	S 53	0 W	117.00	11296.47	1337.13	921.50 S	969.50 W	0.37

CLOSURE - DISTANCE : 1337.56
DIRECTION : S 46 27 W

REPORT UNITS : Feet
SURVEY CALCULATION METHOD : Radius of curvature



SURVEY RUN INFORMATION

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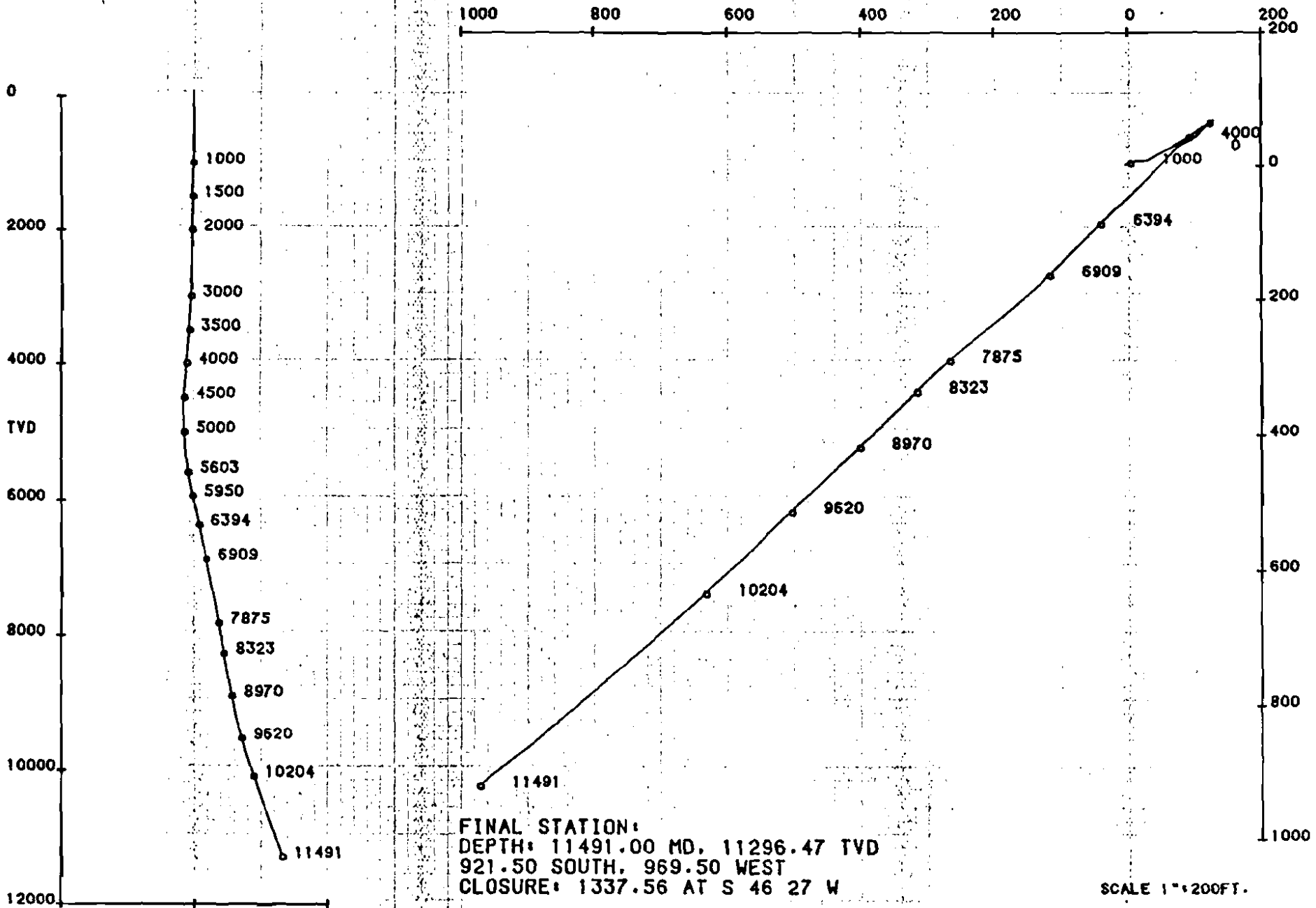
SEEKER: 0-13980 / 10-JAN-86 / 410-0303 / JON VALENZUELA
MOLEN #6

--SIDETRACK NO. 1--

TIED INTO SEEKER AT 4500

SINGLE SHOT: 4562-11491 / 29-JAN-86 / L. HOLDREN
OTTO SMITH

--COMPLETION REPORT--



V. SECTION PLANE:
SURVEY: S02590.8AS
S45°00'W

FINAL STATION:
DEPTH: 11491.00 MD, 11296.47 TVD
921.50 SOUTH, 969.50 WEST
CLOSURE: 1337.56 AT S 46 27 W

SCALE 1"=200FT.
NOTE: COORDINATES RELATIVE
TO SLOT

ANSCHUTZ CORPORATION
U.S.A. WELLS
WELL: USA 0356 #15-4
SLOT: 5

SCALE 1"=2000FT.