

11-29-32N-10W

STATE OF COLORADO)

CITY AND COUNTY OF DENVER)

The foregoing instrument, a directional survey of the Scott LS 3, was acknowledged before me this 28th day of June, 1996, by Bradley D. Bilyeu and, to the best of his knowledge, the surveys and calculations are correct.



Bradley D. Bilyeu
Drilling Engineer - Amoco Production Company

WITNESS my hand and official seal.


Notary Public

My commission expires:

August 12, 1999

RECEIVED
AUG 1 8 1996
OIL CON. DIV.
DIST. 3

A G Y r o d a t a D i r e c t i o n a l S u r v e y

for

AMOCO PRODUCTION COMPANY

WELL: SCOTT LS-3, 2 7/8" DRILLPIPE

Location: AWS-301, SAN JUAN COUNTY, NM

Job Number: RM0596G300M

Run Date: 22-May-96 17:12:20

Surveyor: JOSH CORDES

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 36.920000 deg. N

Magnetic Correction:

Magnetic Bearings are Relative to True North

Proposed Well Direction: 70.000 deg

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Local Horizontal Reference

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AUG 16 1996

OIL CON. DIV.
DIST. 3

A G Y r o d a t a D i r e c t i o n a l S u r v e y

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MOCO PRODUCTION COMPANY
 WELL: SCOTT LS-3, 2 7/8" DRILLPIPE
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MEASURED DEPTH	I N C L	AZIMUTH	DOGLEG SEVERITY	VERTICAL DEPTH	VERTICAL SECTION	CLOSURE DIST.	AZIMUTH	H O R I Z O N T A L C O O R D I N A T E S
feet	deg.	deg.	deg. / 100 ft.	feet	feet	feet	deg.	feet
0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.00 N 0.00 E

ALL MEASURED DEPTHS REFERENCED TO RKB AWS-301 15' 6".
 NOTE - API # 30045 11215 990 FSL 990 FWL / S29M T32N R10W

100.0	1.82	28.51	1.82	100.0	1.2	1.6	28.5	1.40 N .76 E
200.0	1.21	33.54	.62	199.9	3.2	4.2	29.8	3.68 N 2.10 E
300.0	1.15	35.69	.08	299.9	4.9	6.3	31.3	5.38 N 3.28 E
400.0	.75	51.65	.48	399.9	6.4	7.9	33.5	6.60 N 4.38 E
500.0	.72	78.31	.34	499.9	7.6	9.0	37.6	7.13 N 5.50 E
600.0	.68	75.21	.05	599.9	8.8	10.0	42.1	7.41 N 6.69 E
700.0	.75	92.26	.23	699.9	10.0	10.9	46.4	7.54 N 7.92 E
800.0	.80	89.28	.06	799.9	11.3	11.9	51.0	7.52 N 9.28 E
900.0	.88	94.71	.11	899.9	12.6	13.1	55.2	7.47 N 10.74 E
1000.0	.83	100.60	.10	999.9	14.0	14.2	59.2	7.27 N 12.21 E
1100.0	.72	97.86	.12	1099.8	15.1	15.3	62.5	7.05 N 13.55 E
1200.0	.70	101.20	.05	1199.8	16.2	16.3	65.1	6.85 N 14.77 E
1300.0	.80	101.01	.11	1299.8	17.3	17.4	67.7	6.59 N 16.05 E
1400.0	.78	106.03	.07	1399.8	18.5	18.5	70.2	6.27 N 17.40 E
1500.0	.80	100.26	.08	1499.8	19.7	19.7	72.4	5.96 N 18.75 E
1600.0	.72	107.80	.13	1599.8	20.8	20.8	74.3	5.64 N 20.04 E
1700.0	.72	114.07	.08	1699.8	21.7	21.8	76.2	5.19 N 21.21 E
1800.0	.67	114.32	.05	1799.8	22.6	22.8	78.1	4.70 N 22.31 E
1900.0	.69	119.43	.06	1899.8	23.4	23.7	79.9	4.16 N 23.37 E
2000.0	.64	115.06	.07	1999.8	24.2	24.7	81.5	3.63 N 24.39 E

A g y r o d a t a D i r e c t i o n a l S u r v e y

AMOCO PRODUCTION COMPANY
WELL: SCOTT LS-3, 2 7/8" DRILLPIPE
Location: AWS-301, SAN JUAN COUNTY, NM
Job Number: RM0596G300M

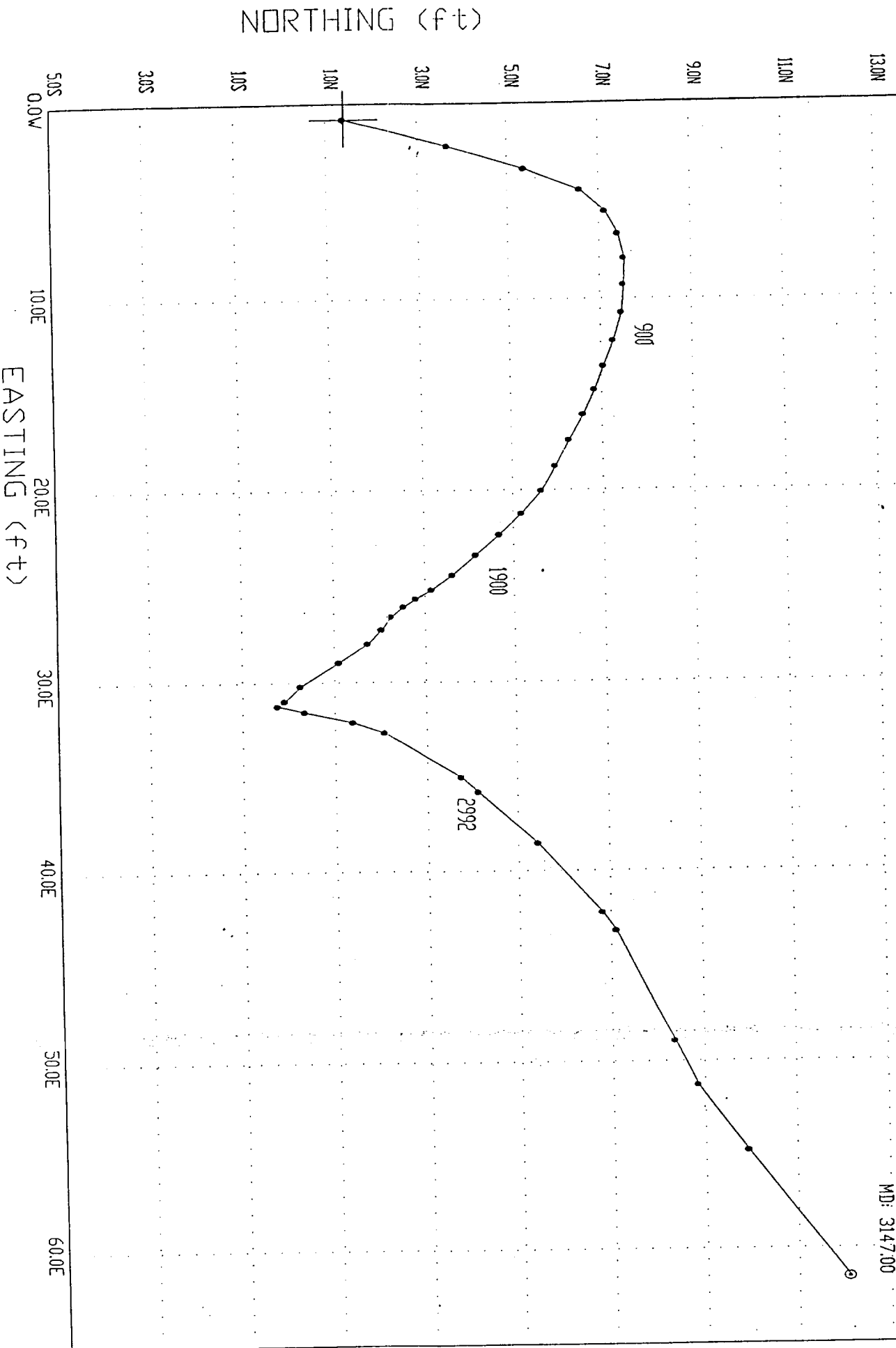
MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	VERTICAL SECTION feet	DIST. feet	CLOSURE AZIMUTH deg.	H O R I Z O N T A L C O O R D I N A T E S feet
2100.0	.38	135.29	.31	2099.8	24.7	25.3	82.8	3.15 N
2200.0	.30	115.32	.14	2199.8	25.0	25.8	83.8	2.80 N
2300.0	.28	131.66	.09	2299.8	25.3	26.2	84.5	2.52 N
2400.0	.40	108.41	.18	2399.8	25.7	26.7	85.2	2.25 N
2500.0	.40	105.75	.02	2499.8	26.3	27.3	85.7	2.04 N
2600.0	.52	116.77	.15	2599.8	26.9	28.0	86.4	1.75 N
2700.0	.83	126.13	.33	2699.8	27.6	29.0	87.8	1.11 N
2800.0	.89	123.09	.08	2799.7	28.5	30.2	89.5	.26 N
2867.0	.60	101.34	.61	2866.7	29.1	31.0	90.2	.09 S
2899.0	.58	138.27	1.16	2898.7	29.3	31.2	90.5	.25 S
2930.0	2.75	16.70	9.99	2929.7	29.8	31.6	89.4	.35 N
2950.0	4.20	36.22	9.23	2949.7	30.7	32.2	87.5	1.40 N
2961.0	4.93	42.22	7.98	2960.7	31.4	32.8	86.4	2.08 N
2992.0	6.00	64.49	7.59	2991.5	34.2	35.2	83.9	3.76 N
3000.0	6.39	64.21	4.90	2999.5	35.1	36.1	83.4	4.14 N
3024.0	8.04	64.64	6.91	3023.3	38.1	38.9	82.0	5.44 N
3050.0	9.35	73.09	7.01	3049.0	42.0	42.8	80.8	6.83 N
3056.0	9.78	73.22	7.16	3054.9	43.0	43.7	80.6	7.12 N
3088.0	11.48	81.77	7.22	3086.3	48.8	49.6	80.3	8.36 N
3100.0	11.92	75.32	11.50	3098.1	51.2	52.0	80.2	8.84 N
3117.0	13.16	70.38	9.65	3114.7	54.9	55.7	79.7	9.94 N
3147.0	14.11	73.66	4.06	3143.8	62.0	62.7	78.9	12.11 N

Final Station Closure: Distance: 62.72 ft Az: 78.86 deg.

AMOCO PRODUCTION COMPANY
 WELL: SCOTT LS-3, 2 7/8" DRILLPIPE
 Location: AWS-301, SAN JUAN COUNTY, NM

gyrodata
 RM0596G300M DEFINITIVE

BOTTOM HOLE
 LOCATED
 MD: 3147.00

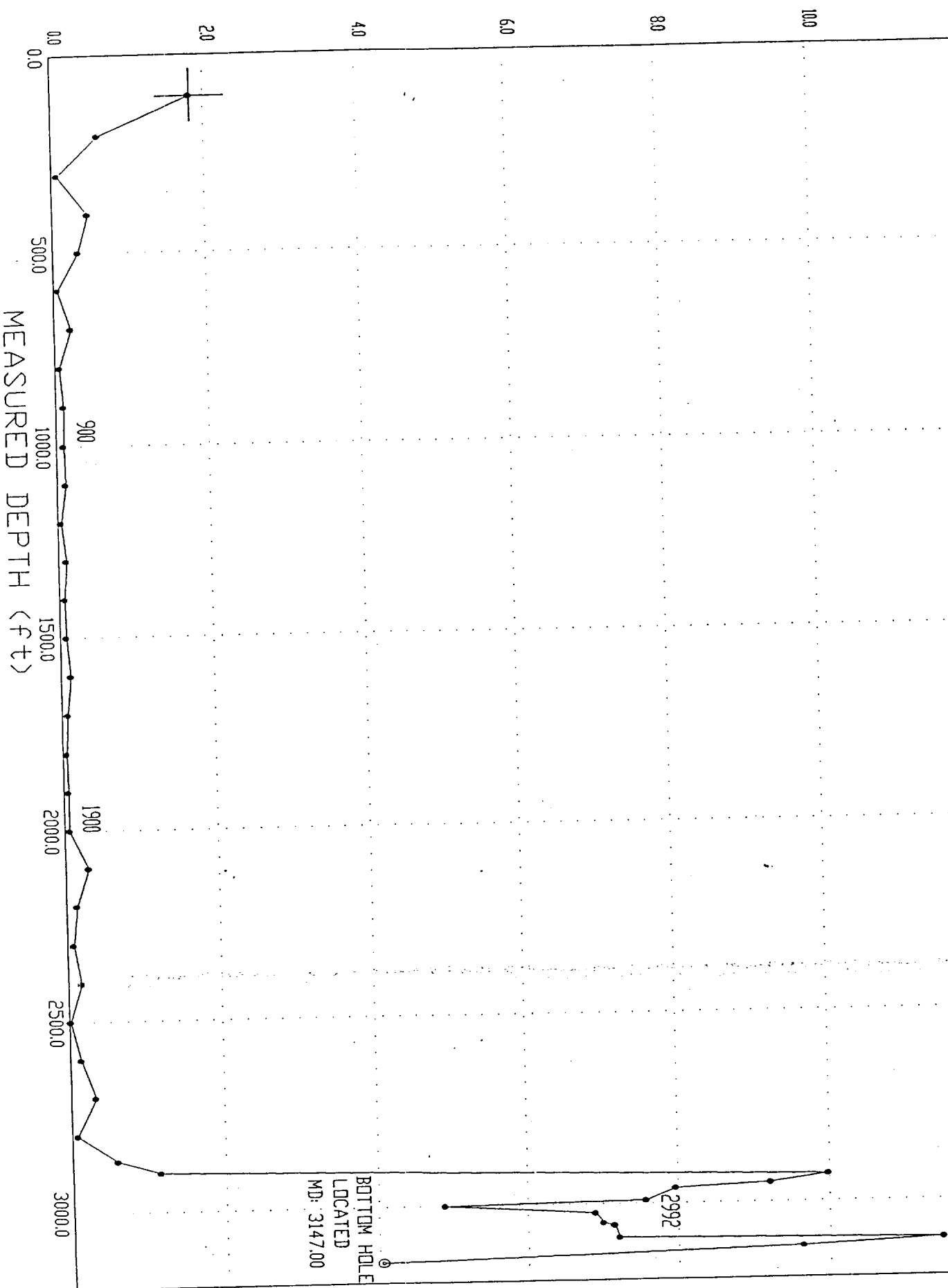


DOGLEG SEVERITY (deg/100ft)

120

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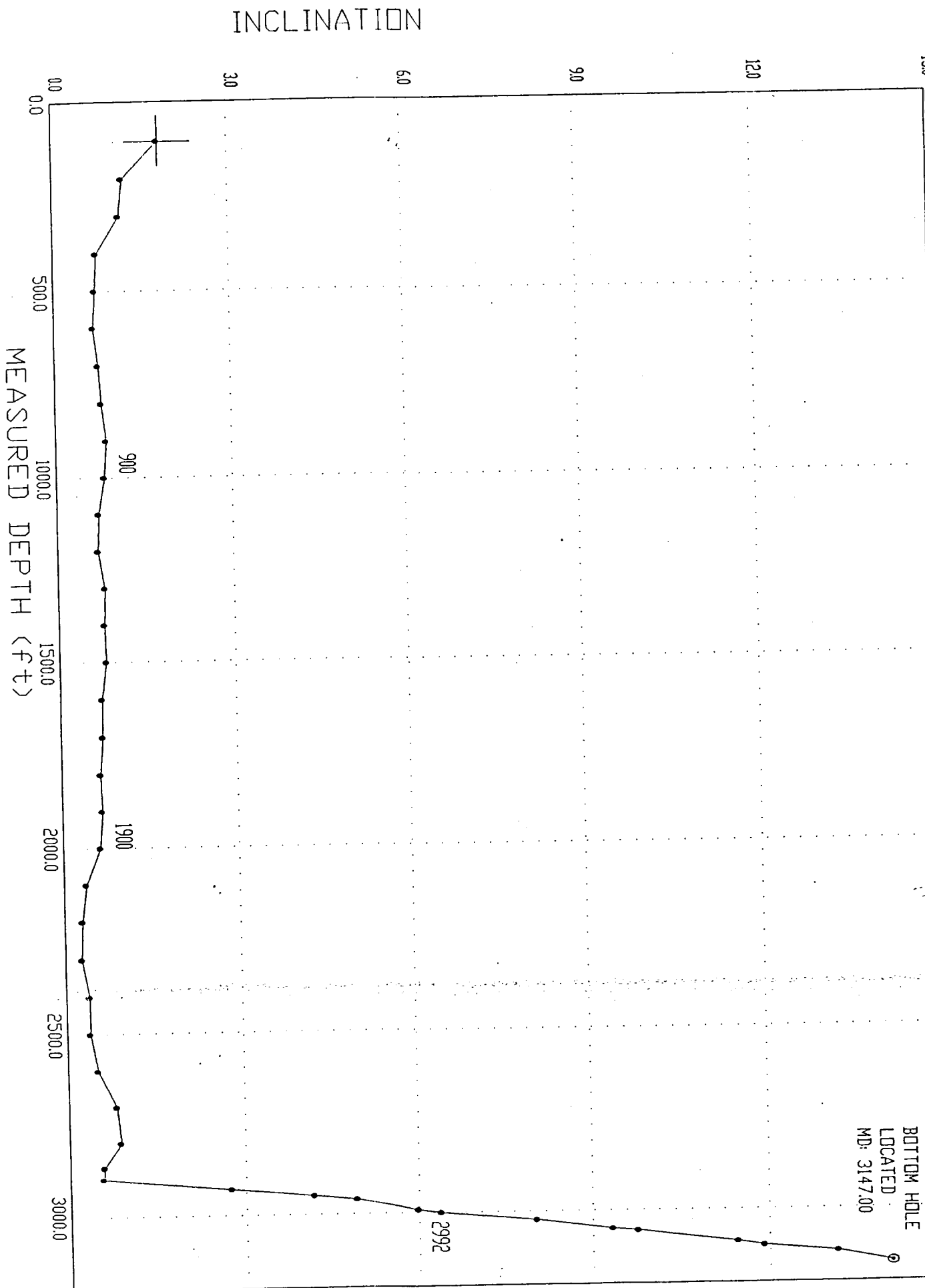
gyrodata
RM0596G300M DEFINITIVE



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gyrodata
RM0596G300M DEFINITIVE

BOTTOM HOLE
LOCATED
MD: 3147.00

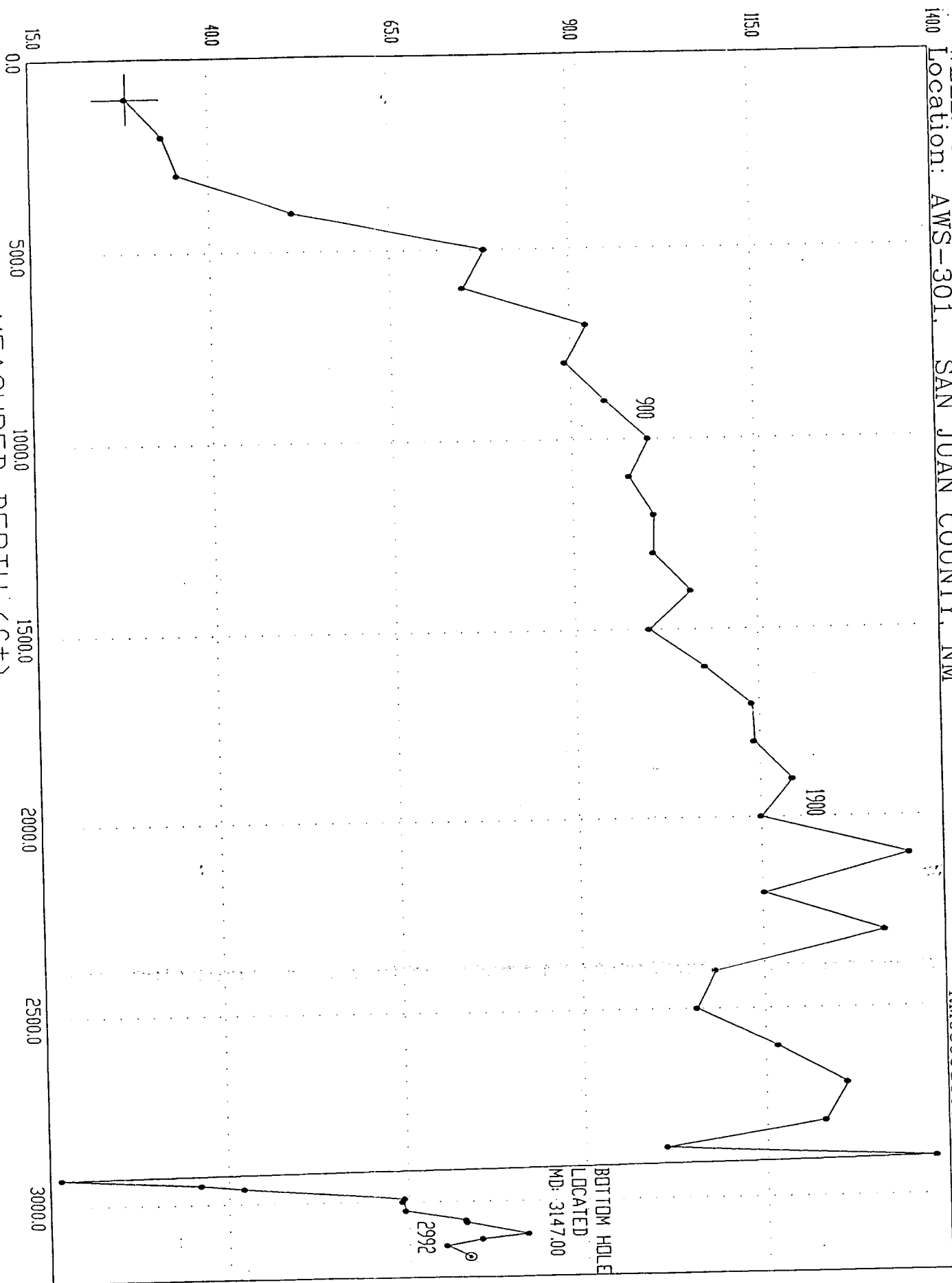


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gyrodata
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MEASURED DEPTH (ft)

AZIMUTH

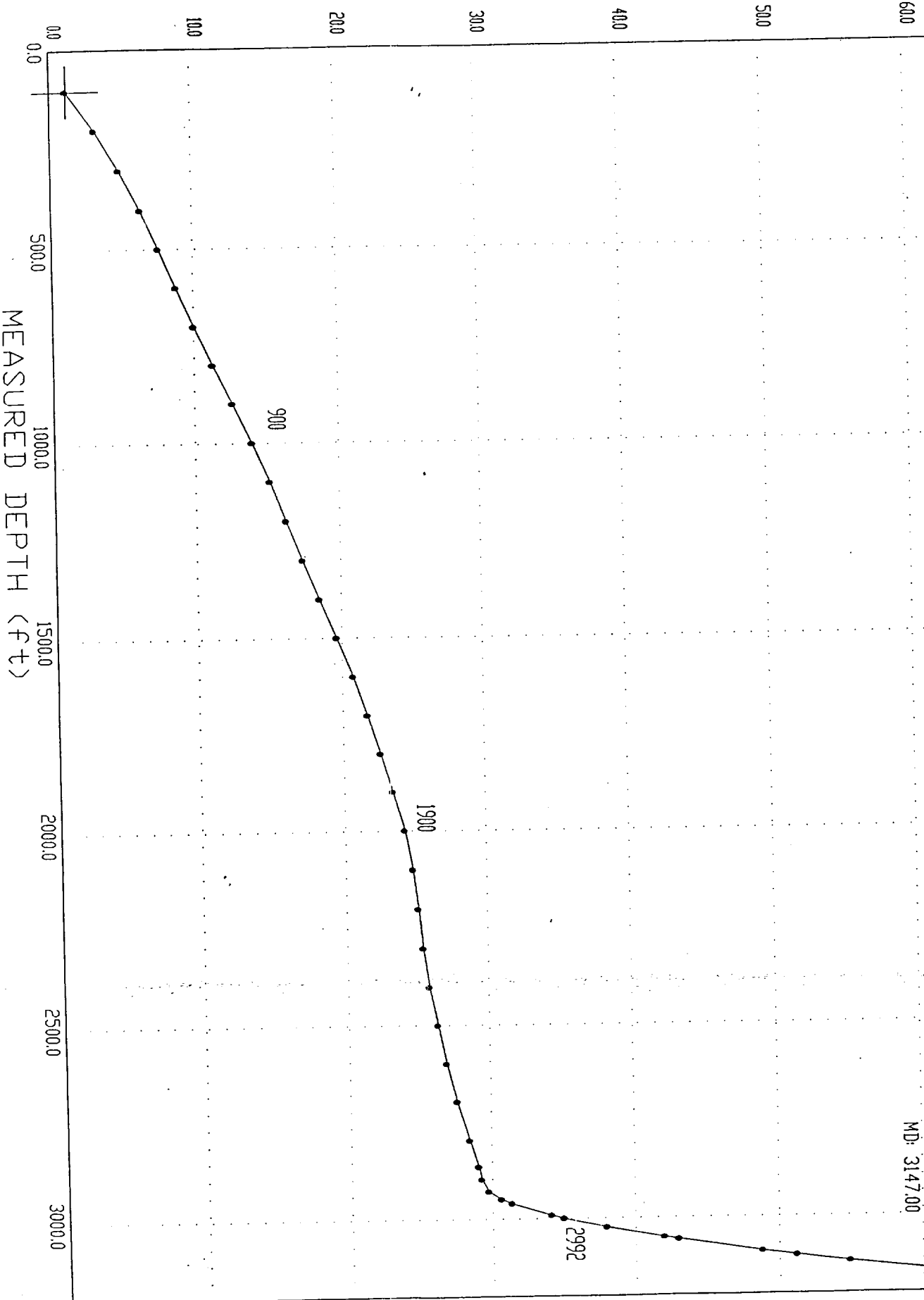


VERTICAL SECTION (ft)

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gyrodata
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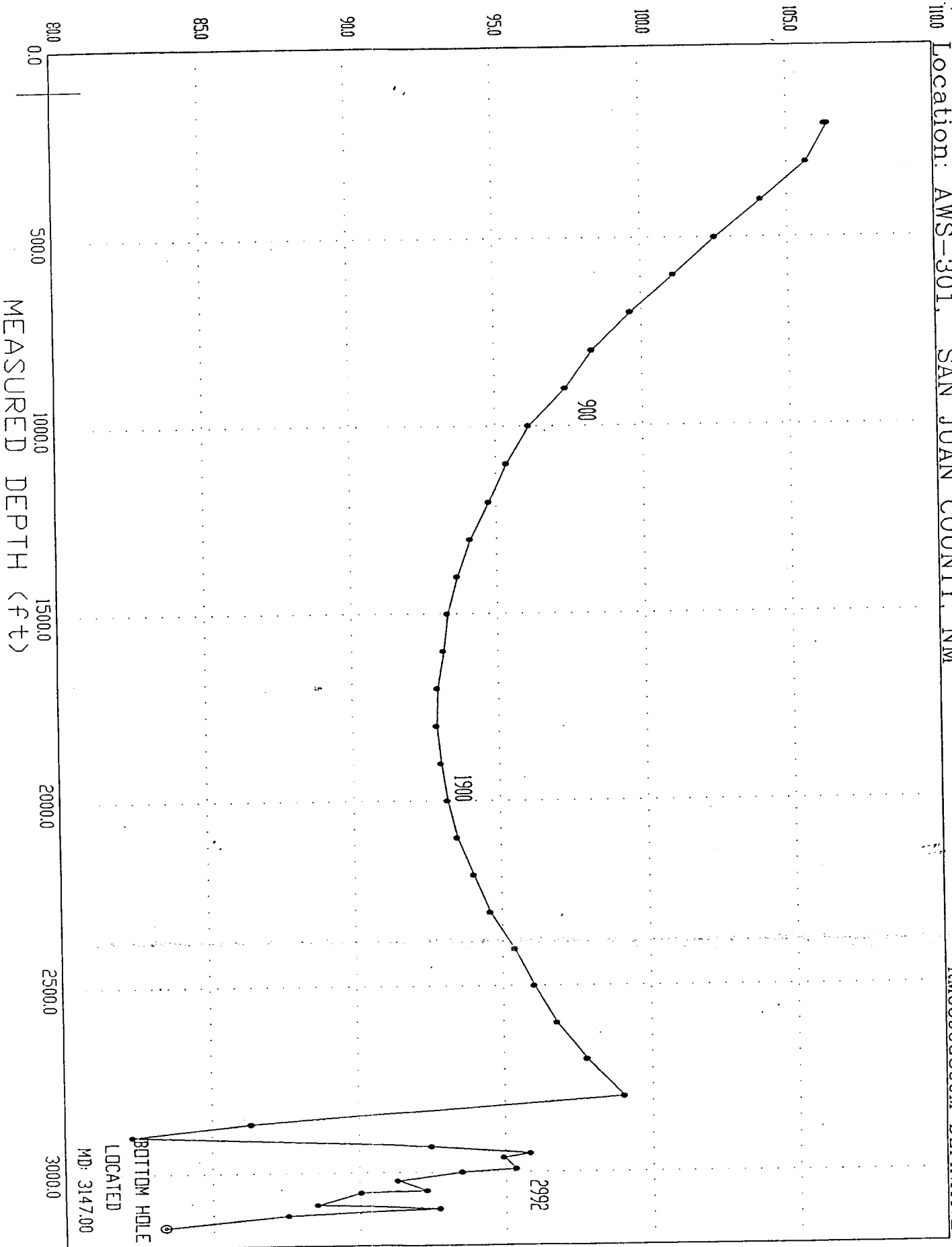
BOTTOM HOLE
LOCATED
MD: 3147.00



TEMPERATURE (deg-F)

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gyrodata
RM0596G300M DEFINITIVE



Scott LS #3 - Sidetrack

Section 24, T31N, R10W

Actual Calculated Survey Data

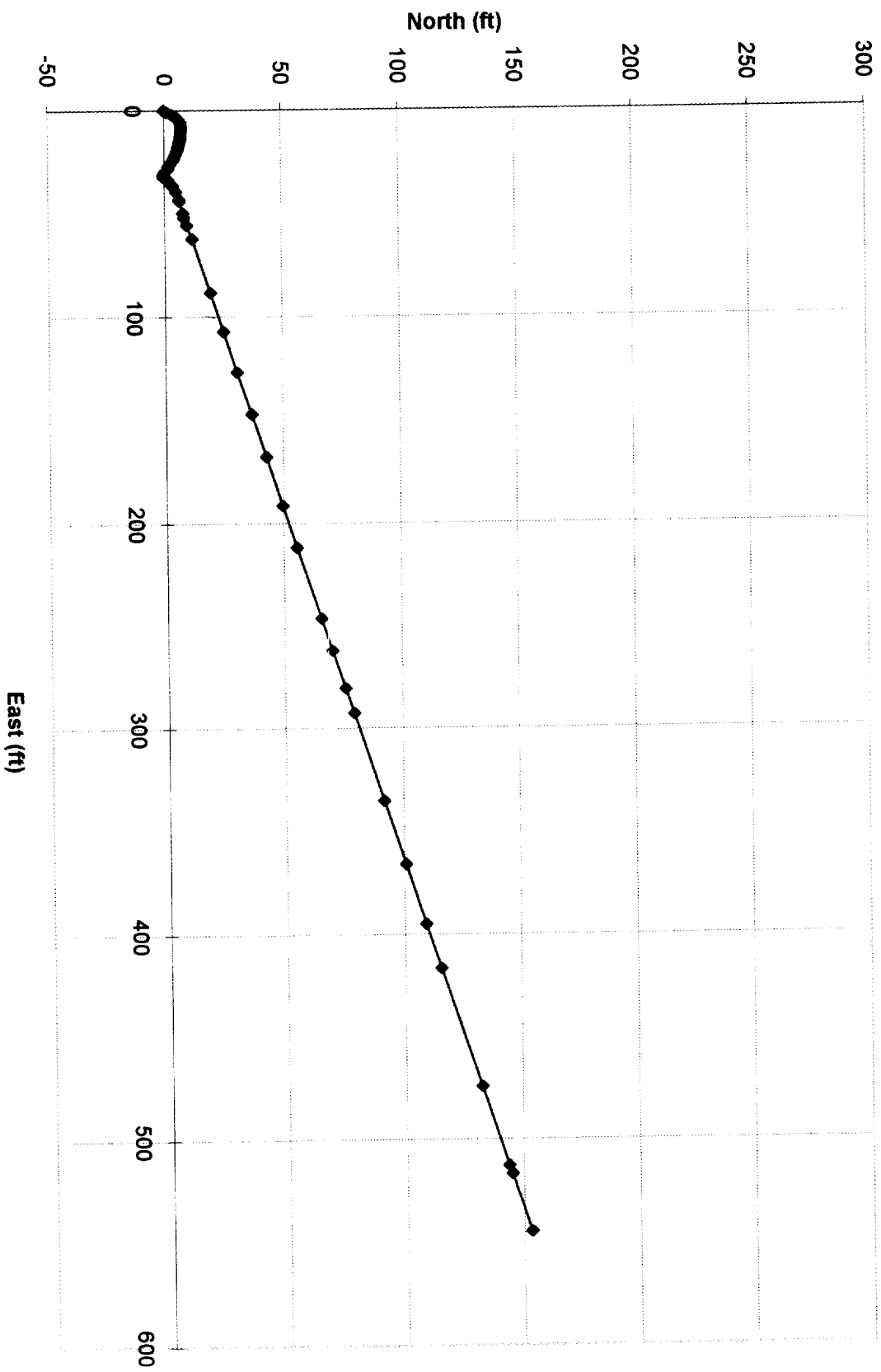
M. Depth	Angle	Azimuth	TVD	N/S	E/W	VSECT	DIST	DIR	DOG LEG
0	0	0	0	0	0	0	0	0	0
100	1.82	28.51	99.98	1.4	0.76	1.11	2	29	1.8
200	1.21	33.54	199.95	3.66	2.12	3.05	4	30	0.6
300	1.15	35.69	299.93	5.36	3.29	4.64	6	32	0.1
400	0.75	51.65	399.91	6.55	4.43	6.07	8	34	0.5
500	0.72	78.31	499.9	7.09	5.58	7.31	9	38	0.3
600	0.68	75.21	599.9	7.37	6.77	8.53	10	43	0.1
700	0.75	92.26	699.89	7.5	8	9.76	11	47	0.2
800	0.8	89.28	799.88	7.48	9.35	11.05	12	51	0.1
900	0.88	94.71	899.87	7.43	10.82	12.45	13	56	0.1
1000	0.83	100.6	999.86	7.23	12.3	13.82	14	60	0.1
1100	0.72	97.86	1099.85	7.02	13.63	15.04	15	63	0.1
1200	0.7	101.2	1199.84	6.81	14.86	16.16	16	65	0
1300	0.8	101.01	1299.83	6.56	16.14	17.33	17	68	0.1
1400	0.78	106.03	1399.82	6.24	17.47	18.51	19	70	0.1
1500	0.8	100.26	1499.81	5.93	18.8	19.71	20	73	0.1
1600	0.72	107.8	1599.8	5.61	20.08	20.85	21	74	0.1
1700	0.72	114.07	1699.8	5.16	21.26	21.86	22	76	0.1
1800	0.67	114.32	1799.79	4.66	22.37	22.78	23	78	0.1
1900	0.69	119.43	1899.78	4.12	23.43	23.66	24	80	0.1
2000	0.64	115.06	1999.78	3.59	24.46	24.51	25	82	0.1
2100	0.38	135.29	2099.77	3.08	25.19	25.06	25	83	0.3
2200	0.3	115.32	2199.77	2.74	25.67	25.43	26	84	0.1
2300	0.28	131.66	2299.77	2.46	26.1	25.76	26	85	0.1
2400	0.4	108.41	2399.77	2.16	26.61	26.17	27	85	0.2
2500	0.4	105.75	2499.76	1.95	27.27	26.76	27	86	0
2600	0.52	116.77	2599.76	1.66	28.02	27.39	28	87	0.1
2700	0.83	126.13	2699.75	1.05	29.03	28.19	29	88	0.3
2800	0.89	123.09	2799.74	0.2	30.26	29.14	30	90	0.1
2867	0.6	101.34	2866.74	-0.13	31.06	29.82	31	90	0.6
2899	0.58	138.27	2898.74	-0.29	31.34	30.05	31	91	1.2
2930	2.75	16.7	2929.72	-0.13	32.07	30.79	32	90	10
2950	4.2	36.22	2949.68	0.95	32.6	31.6	33	88	9.3
2961	4.93	42.22	2960.65	1.63	33.16	32.32	33	87	7.9
2992	6	64.49	2991.51	3.38	35.51	35.07	36	85	7.6
3000	6.39	64.21	2999.46	3.75	36.29	35.92	36	84	4.9
3024	8.04	64.64	3023.27	5.05	39.01	38.89	39	83	6.9
3050	9.35	73.09	3048.97	6.47	42.67	42.8	43	81	7
3056	9.78	73.22	3054.89	6.76	43.62	43.8	44	81	7.2
3088	11.48	81.77	3086.34	8.04	49.38	49.68	50	81	7.2
3100	11.92	75.32	3098.09	8.52	51.77	52.11	52	81	11.5
3117	13.16	70.38	3114.68	9.61	55.29	55.8	56	80	9.6
3147	14.11	73.66	3143.84	11.79	62.02	62.86	63	79	4.1
* 3247	17.75	73.66	3239.98	19.51	88.35	90.31	90	78	3.6
* 3311	18.25	73.66	3300.85	25.07	107.33	110.08	110	77	0.8

* 3374	19.5	73.66	3360.46	30.81	126.89	130.46	131	76	2
* 3437	19.5	73.66	3419.84	36.72	147.07	151.49	152	76	0
* 3499	21.5	73.66	3477.92	42.83	167.9	173.2	173	76	3.2
* 3570	19	73.66	3544.52	49.75	191.48	197.78	198	75	3.5
* 3635	18.5	73.66	3606.07	55.62	211.53	218.67	219	75	0.8
* 3757	16	73.66	3722.57	65.8	246.24	254.84	255	75	2
* 3818	14.75	73.66	3781.39	70.35	261.76	271.02	271	75	2
* 3901	12	73.66	3862.13	75.75	280.19	290.21	290	75	3.3
* 3963	12	73.66	3922.78	79.38	292.56	303.1	303	75	0
* 4153	15	73.66	4107.51	91.86	335.11	347.45	347	75	1.6
* 4279	14.5	73.66	4229.35	100.88	365.9	379.53	380	75	0.4
* 4401	14	73.66	4347.6	109.33	394.72	409.56	410	75	0.4
* 4495	13.75	73.66	4438.86	115.67	416.35	432.1	432	74	0.3
* 4776	11	73.66	4713.3	132.61	474.13	492.32	492	74	1
* 5084	4	73.66	5018.48	143.92	512.68	532.49	533	74	2.3
* 5146	4	73.66	5080.33	145.13	516.83	536.82	537	74	0
** 5565	4	73.66	5498.3	153.35	544.88	566.04	566	74	0

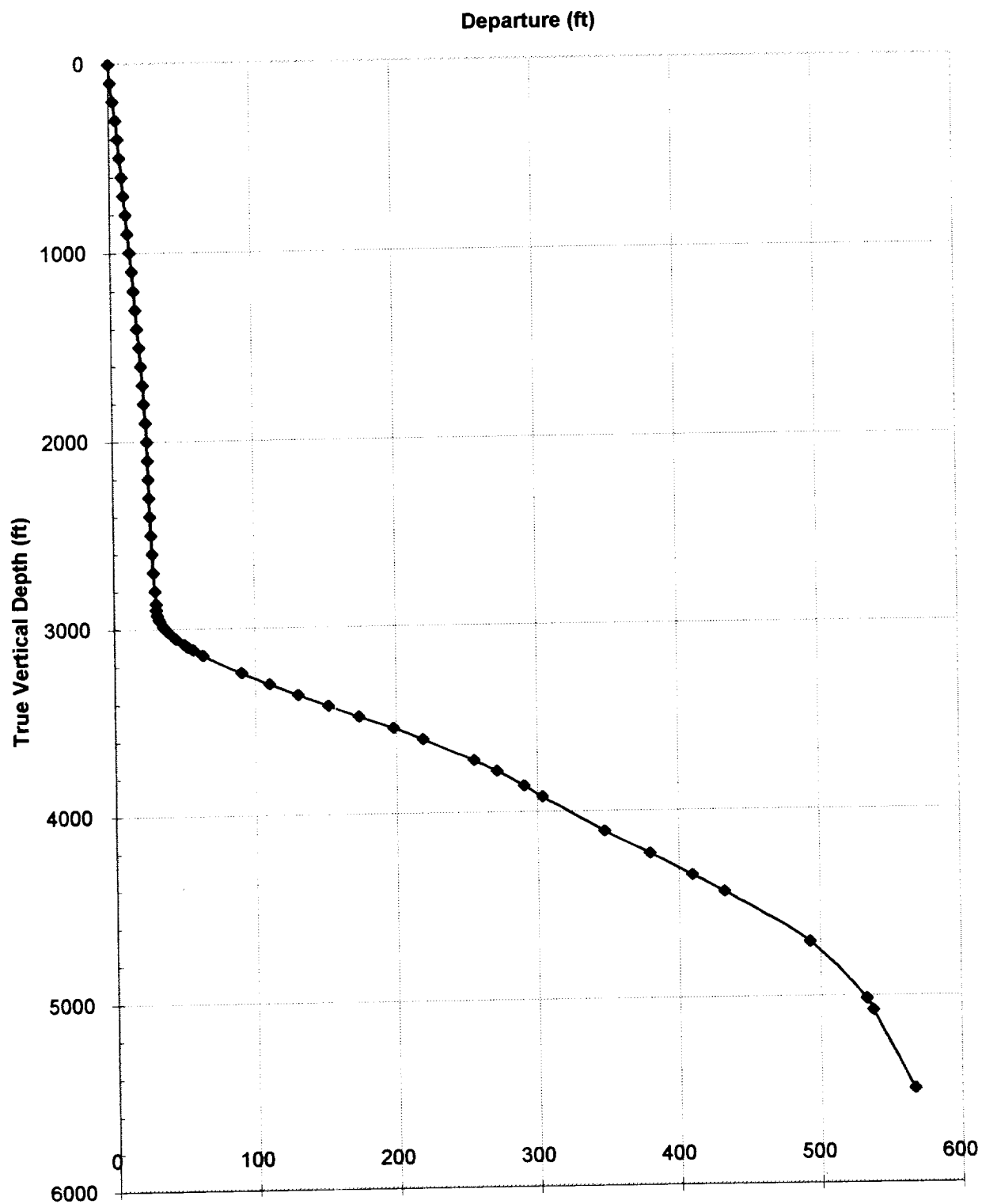
Note: * These surveys were Totco's where only inclination is measured. The last recorded azimuth is assumed for these surveys.

** Extrapolated to TD.

Scott LS #3 - Sidetrack Plan View



Scott LS #3 - Sidetrack Section View
Vertical Section - 74 degrees



6/5/96