Ferrellgas, Inc. (Buckeye Gas Prod. Inc.)
NW/4 NW/4 Sec. 8-T18N-R24E, Yadkin Co., N.C.

ORIGINAL

[redacted]

s1

COUNTY Apache AREA 16 miles E/Holbrook LEASE NO. Suburban Fee

WELL NAME ~~Suburban Companies #2 Fee Strat~~ Buckeye Gas Products Co. Adamana Williams Energy Co

LOCATION NW NW SEC 8 TWP 18N RANGE 24E FOOTAGE 600' FWL-1220' FNL

ELEV 5305.6 [redacted] GR KB SPUD DATE 7-14-71 STATUS Completed COMP. DATE 8-4-71 TOTAL DEPTH 1112

CONTRACTOR J. O. Barnes, Casa Grande, AZ

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH
13 3/8" OD	150'	150 SKS	
9 5/8" OD	904'	260 SKS	
7" OD	905'	Hung	
4½" OD	1092'	Hung	

DRILLED BY ROTARY X
DRILLED BY CABLE TOOL
PRODUCTIVE RESERVOIR NA
INITIAL PRODUCTION Storage Well

FORMATION TOPS	DEPTHS	SOURCE L.L.	SOURCE E.L.	REMARKS
Coconino	311	X		
Salt	837	X		

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS
Gamma-Ray Neutron	NA	NA

SAMPLE LOG
SAMPLE DESCRP.
SAMPLE NO. 1667
CORE ANALYSIS
DSTs

REMARKS Propane Storage Well

APP. TO PLUG
PLUGGING REP. X
COMP. REPORT X

WATER WELL ACCEPTED BY

BOND CO. ~~The Aetna Casualty & Surety Co~~ ~~Federal Insurance Company~~ St. Paul Fire & Marine Ins. Co. filed in 1/1/77 BOND NO. ~~8047-02-65~~ 405-32083 DATE 1-15-80

BOND AMT. $ 25,000 CANCELLED ORGANIZATION REPORT 4-23-71

FILING RECEIPT 2891 LOC. PLAT X WELL BOOK X PLAT BOOK X

API NO. 02-001-20143 DATE ISSUED 6-16-71 DEDICATION None (Strat Test)

PERMIT NUMBER 557
Sample #1667

CONFIDENTIAL

(over)

Release Date 2-4-72

DRILL STEM TEST

NO.	FROM	TO	RESULTS
			NA

CORE RECORD

NO.	FROM	TO	RECOVERY	REMARKS
				NA

REMEDIAL HISTORY

DATE STARTED	COMPLETED	WORK PERFORMED	NEW PERFORATIONS

ADDITIONAL INFORMATION

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION:

New Well [x] Work-Over [ ] Deepen [ ] Plug Back [ ] Same Reservoir [ ] Different Reservoir [ ] Oil [ ] Gas [ ] Dry [x]

DESCRIPTION OF WELL AND LEASE

Operator: SUBURBAN COMPANIES	Address: P. O. Box 3478, Tulsa, Oklahoma 74101
Federal, State or Indian Lease Number or name of lessor if fee lease: Suburban Companies	Well Number: 2 / Field & Reservoir: Unnamed
Location: 600' FWL, ~~[illegible]~~ 1220' FNL	County: Apache
Sec. TWP-Range or Block & Survey: Section 8, T-18N, R-24E, G.&S.R., B.&M.	

Date spudded	Date total depth reached	Date completed, ready to produce	Elevation (DF, RKB, RT or Gr.) feet	Elevation of casing hd. flange feet
7-14-71	7-28-71		5305.60	5307

Total depth	P.B.T.D.	Single, dual or triple completion?	If this is a dual or triple completion, furnish separate report for each completion.
1112'		Salt-solution well	

Producing interval (s) for this completion	Rotary tools used (interval)	Cable tools used (interval)
	G.L. to T.D.	

Was this well directionally drilled?	Was directional survey made?	Was copy of directional survey filed?	Date filed
No	No	---	---

Type of electrical or other logs run (check logs filed with the commission)	Date filed
* Gamma-Ray Neutron	attached

CASING RECORD

Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Surface	17-1/2	13-3/8"	48	150'	150	0
Protection	12-1/4	9-5/8"	32.75	904'	260	0
Solution	8-3/4	7"	20	905'	Hung - uncemented	
Solution	----	4-1/2"	9.5	1092'	Hung - uncemented	

TUBING RECORD

Size in.	Depth set ft.	Packer set at ft.

LINER RECORD

Size in.	Top ft.	Bottom ft.	Sacks cement	Screen (ft.)

PERFORATION RECORD

Number per ft.	Size & type	Depth Interval

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Am't. & kind of material used	Depth Interval

INITIAL PRODUCTION

Date of first production	Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:)

Date of test	Hrs. tested	Choke size	Oil prod. during test bbls.	Gas prod. during test MCF	Water prod. during test bbls.	Oil gravity °API (Corr)

Tubing pressure	Casing pressure	Cal'ted rate of Production per 24 hrs.	Oil bbls.	Gas MCF	Water bbls.	Gas—oil ratio

Disposition of gas (state whether vented, used for fuel or sold):

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Manager of Operations of the Suburban Co's (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

8/4/71
Date

Robert J. Wirth
Signature

Permit No. 557

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Well Completion or Recompletion Report and Well Log
File One Copy
Form No. 4

DETAIL OF FORMATIONS PENETRATED

Formation	Top	Bottom	Description*
Surface	0	46	Clay
	46	114	Sand and shale
	114	154	Shale with sand streaks
	154	241	Sandy shale
	241	311	Sand and shale stringers
Coconino	311	690	Sand
	690	711	Sand and shale
	711	837	Anhydrite with sand
Top Salt	837	1112	Salt

RECEIVED
AUG 9 1971
O & G CONS. COMM.

* Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

INSTRUCTIONS:

Attach drillers log or other acceptable log of well.

This Well Completion or Recompletion report and well log shall be filed with the State of Arizona Oil & Gas Conservation Commission not later than thirty days after project completion.

Form No. 4

DOWELL SONAR CALIPER SURVEY

TREATMENT NO: 11-42-0273 JOB NO: 326

WELL DATA

ZERO @ GL

T.D. DOWELL 997 FT OPERATOR 997 FT

CASING SIZE 9 5/8 IN DEPTH 896 FT

LINER - FT

INTERMEDIATE 7 IN DEPTH OUT FT

TUBING 4 1/2 IN DEPTH OUT FT

WILLIAMS ENERGY COMPANY

WELL NO: 2

ADAMANA STORAGE TERMINAL

APRIL 16, 1979 557

PRODUCTION: STORAGE

GENERAL COMMENTS

MAILING ADDRESS

STREET/BOX: P.O. BOX 849

CITY: HOLBROOK STATE: ARIZONA

ZIP: 86025

ATTN: MR. ARMANDO PADILLA

MR. ARMANDO PADILLA
COMPANY REPRESENTATIVE

HL VAN METRE
DOWELL ENGINEER

DOWELL SONAR CALIPER SURVEY

WILLIAMS ENERGY COMPANY ADAMANA STORAGE TERMINAL APRIL 16, 1979

WELL NO. 2 JOB NO. 326

RADII IN FT

DEPTH	N	S	E	W	NE	SW	SE	NW
897	1.6	1.7	1.6	1.5	1.5	1.7	1.7	1.2
898	1.6	1.6	1.7	1.4	1.6	1.6	1.6	1.1
899	1.1	1.1	1.0	1.8	1.1	1.6	0.9	1.3
900	1.0	0.9	1.1	1.4	1.1	1.1	0.9	1.0
901	1.6	2.9	1.2	1.9	1.2	1.6	1.7	1.9
902	5.2	1.9	4.6	3.2	3.5	1.6	4.3	3.1
903	5.8	3.7	2.8	2.5	3.3	3.5	2.2	2.6
904	4.8	1.5	2.1	1.8	2.3	2.7	1.1	2.0
905	2.3	0.9	1.3	1.6	1.8	2.3	0.8	1.3
906	3.4	3.7	0.9	3.2	1.4	5.2	1.1	2.7
907	44.0	68.0	64.0	48.0	54.0	56.0	55.0	45.0
908	44.0	44.0	62.0	47.0	54.0	46.0	48.0	46.0
910	42.0	41.0	60.0	43.0	54.0	45.0	45.0	43.0
912	41.0	38.0	57.0	42.0	53.0	41.0	41.0	39.0
914	38.0	33.0	54.0	38.0	48.0	36.0	36.0	36.0
916	38.0	32.0	58.0	37.0	50.0	34.0	34.0	34.0
918	38.0	28.0	47.0	31.0	41.0	30.0	31.0	29.0
920	37.0	26.0	47.0	31.0	38.0	31.0	26.0	26.0

RADII IN FT

DEPTH	N	S	E	W	NE	SW	SE	NW
922	32.0	23.0	33.0	21.0	34.0	26.0	24.0	24.0
924	23.0	18.0	27.0	20.0	30.0	21.0	22.0	21.0
926	20.0	17.0	27.0	20.0	28.0	19.0	19.0	18.0
928	17.0	15.2	26.0	16.9	27.4	16.6	18.2	14.5
930	13.7	13.7	23.4	15.0	25.5	14.5	14.7	12.3
932	25.0	17.0	28.0	15.0	26.0	15.0	21.0	17.0
934	65.0	67.0	66.0	63.0	63.0	64.0	68.0	64.0
936	67.0	66.0	70.0	63.0	69.0	69.0	72.0	65.0
938	64.0	64.0	70.0	66.0	69.0	67.0	70.0	64.0
940	66.0	62.0	70.0	58.0	68.0	56.0	68.0	60.0
942	71.0	64.0	67.0	58.0	64.0	58.0	67.0	62.0
944	70.0	61.0	67.0	53.0	52.0	60.0	67.0	63.0
946	70.0	53.0	59.0	51.0	49.0	58.0	67.0	53.0
948	67.0	52.0	64.0	55.0	49.0	57.0	66.0	61.0
950	62.0	65.0	56.0	63.0	48.0	65.0	67.0	55.0
952	71.0	65.0	64.0	65.0	67.0	66.0	66.0	69.0
954	71.0	67.0	65.0	64.0	70.0	67.0	66.0	71.0
956	74.0	66.0	65.0	66.0	71.0	66.0	65.0	70.0

RADII IN FT

DEPTH	N	S	E	W	NE	SW	SE	NW
958	74.0	67.0	64.0	69.0	71.0	67.0	63.0	71.0
960	71.0	66.0	64.0	68.0	71.0	66.0	63.0	71.0
965	71.0	65.0	65.0	68.0	70.0	66.0	64.0	70.0
970	70.0	66.0	69.0	68.0	69.0	64.0	68.0	69.0
975	69.0	62.0	64.0	63.0	63.0	61.0	68.0	65.0
980	59.0	56.0	62.0	58.0	60.0	54.0	59.0	60.0
985	54.0	51.0	52.0	47.0	49.0	47.0	55.0	51.0
990	45.0	39.0	48.0	40.0	45.0	41.0	47.0	44.0
992	42.0	33.0	41.0	36.0	40.0	36.0	37.0	43.0
994	39.0	28.0	40.0	34.0	36.0	30.0	39.0	37.0
995	36.0	20.0	36.0	34.0	38.0	26.0	31.0	34.0
996	16.9	18.2	16.8	30.4	17.1	25.7	17.0	26.4
997	4.6	3.1	4.7	5.6	4.6	4.6	4.7	5.1

DOWELL SONAR CALIPER SURVEY

WILLIAMS ENERGY COMPANY ADAMANA STORAGE TERMINAL APRIL 16, 1979

WELL NO: 2 JOB NO: 326

VOLUME CALCULATIONS

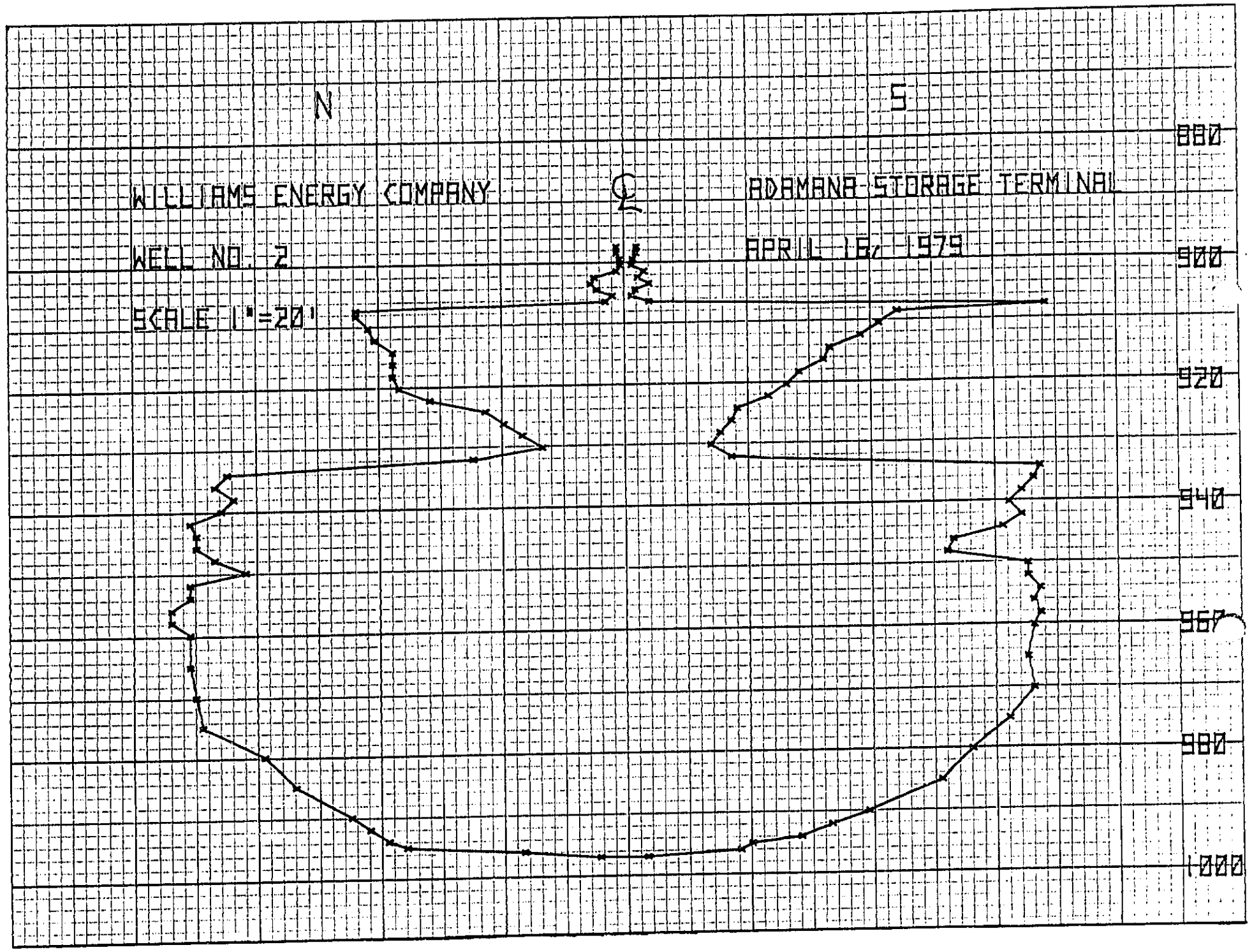
DEPTH	INCR CU FT	TOTAL CU FT	INCR BBLS	BBLS
897	0	0	0	0
898	8	8	1	1
899	6	14	1	2
900	4	18	1	3
901	7	25	1	4
902	24	49	4	9
903	38	88	7	16
904	25	113	4	20
905	11	124	2	22
906	17	141	3	25
907	3288	3429	586	611
908	8533	11963	1520	2130
910	14688	26651	2616	4746
912	13121	39772	2337	7083
914	11261	51032	2005	9088
916	10108	61140	1800	10888
918	8741	69881	1557	12445
920	7271	77152	1295	13740

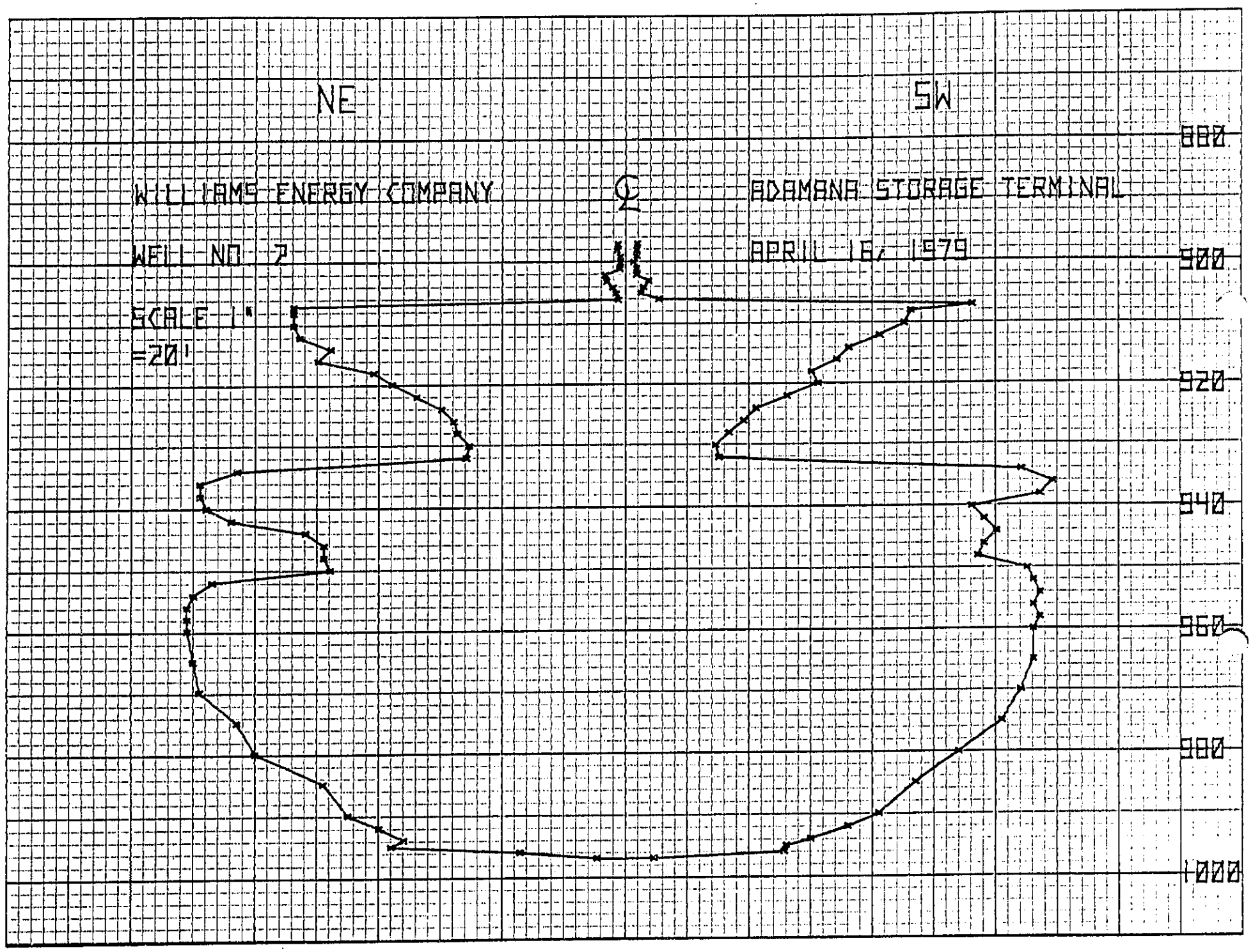
VOLUME CALCULATIONS

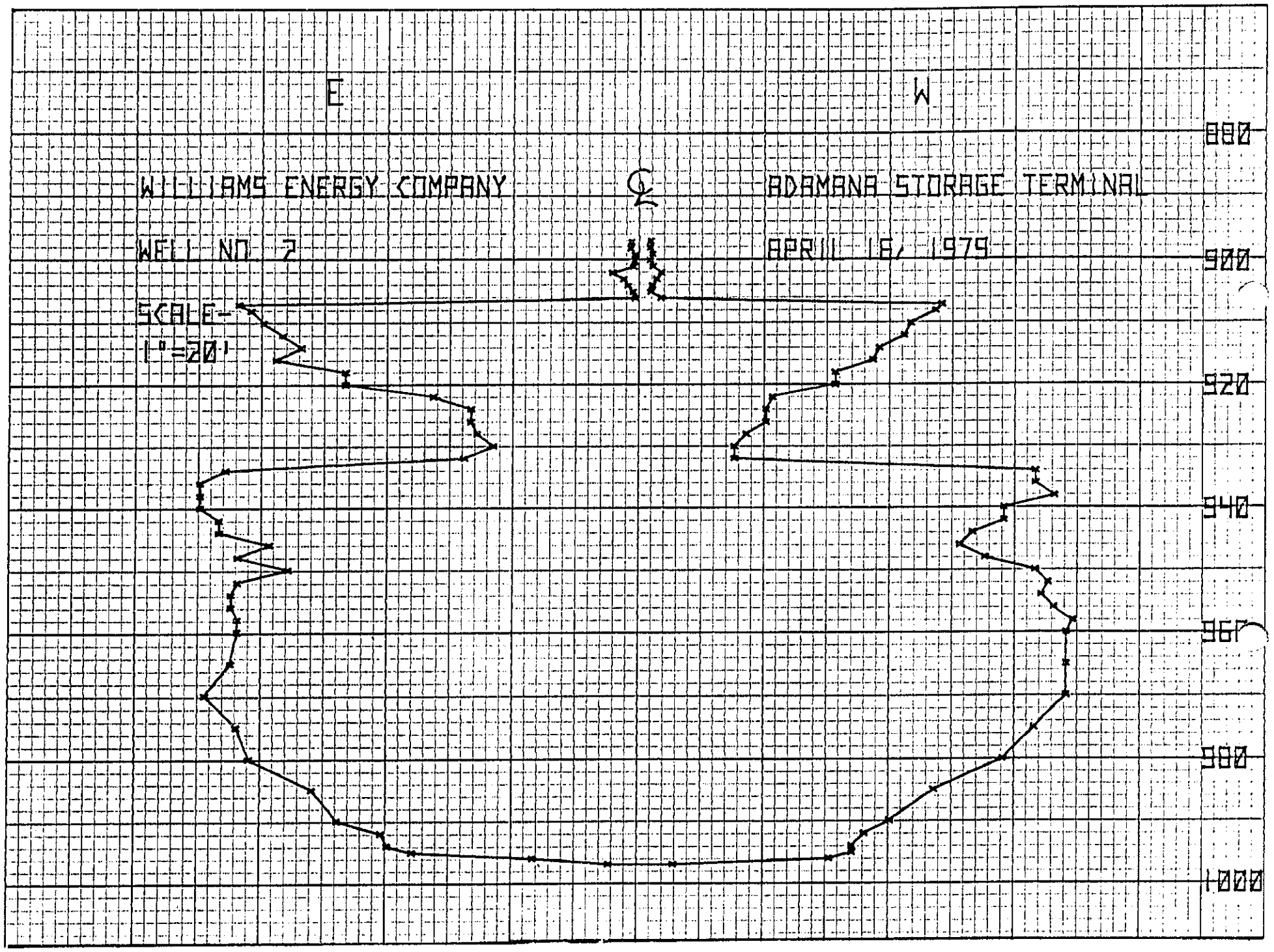
DEPTH	INCR CU FT	TOTAL CU FT	INCR BBLS	BBLS
922	5852	83004	1042	14782
924	4100	87104	730	15512
926	3201	90305	570	16082
928	2657	92962	473	16556
930	2111	95072	376	16931
932	2251	97323	401	17332
934	12619	109942	2247	19580
936	27900	137842	4969	24548
938	28549	166390	5084	29633
940	26764	193153	4766	34399
942	25876	219029	4608	39007
944	25669	244697	4571	43579
946	23701	268397	4221	47800
948	22286	290682	3969	51768
950	22669	313350	4037	55805
952	25373	338722	4519	60324
954	28250	366971	5031	65355
956	28859	395829	5139	70495

VOLUME CALCULATIONS

DEPTH	INCR CU FT	TOTAL CU FT	INCR BBLS	BBLS
958	29175	425003	5196	75690
960	29033	454035	5170	80861
965	72108	526142	12842	93702
970	72170	598312	12853	106555
975	69303	667615	12342	118897
980	60288	727902	10737	129634
985	47521	775423	8463	138097
990	35631	811053	6345	144442
992	10672	821725	1901	146343
994	8567	830292	1526	147869
995	3512	833803	625	148494
996	2255	836058	402	148896
997	631	836689	112	149008


N
S
WILLIAMS ENERGY COMPANY
ADAMANA STORAGE TERMINAL
WELL NO. 2
APRIL 16, 1979
SCALE 1"=20'
880
900
920
940
960
980
1000


NE
SW
WILLIAMS ENERGY COMPANY
WELL NO. 7
SCALE 1" =20'
ADAMANA STORAGE TERMINAL
APRIL 16, 1979
800
900
920
940
960
980
1000


E
W
WILLIAMS ENERGY COMPANY
ADAMANA STORAGE TERMINAL
WELL NO 2
APRIL 16, 1979
SCALE-
1"=20'
880
900
920
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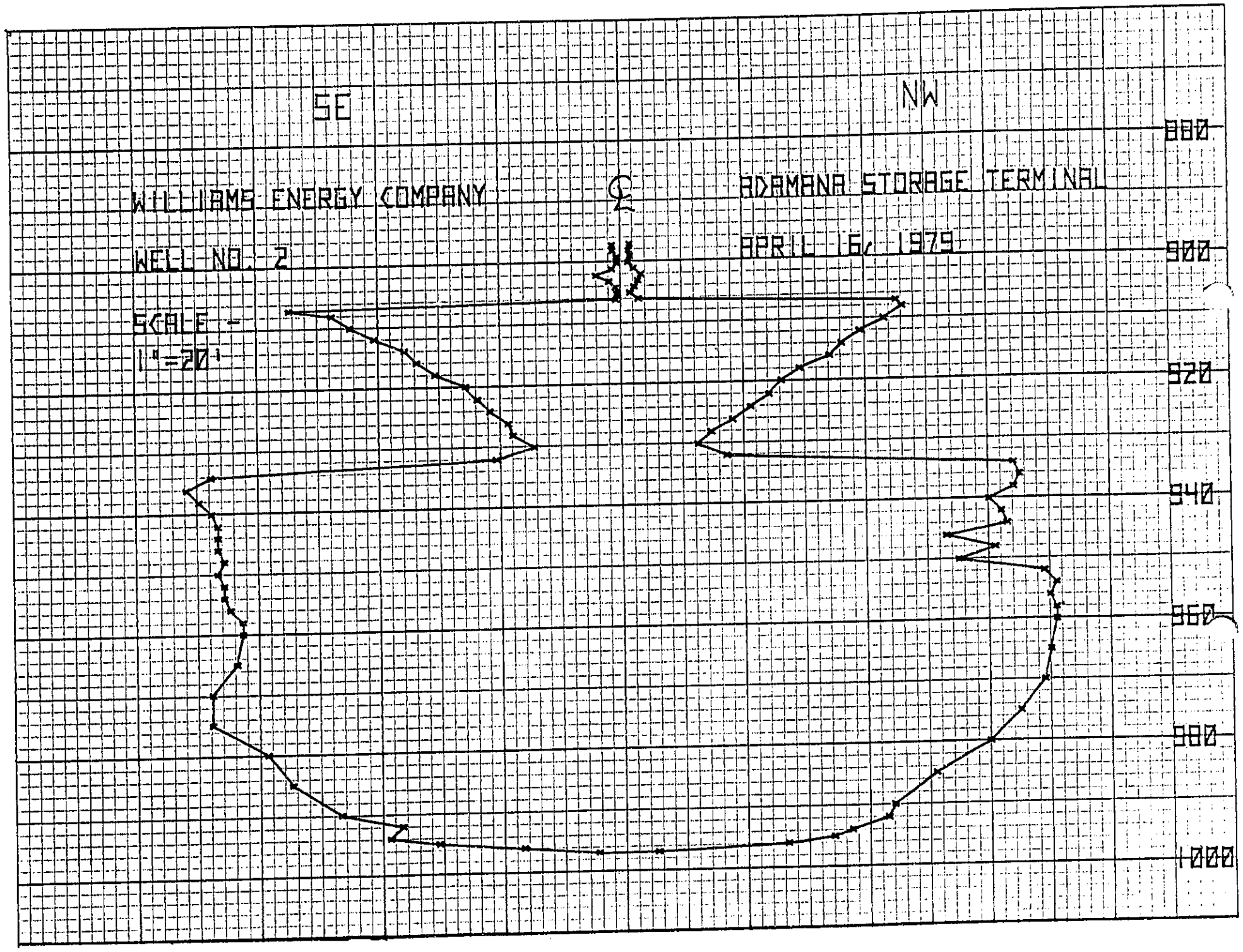
980
1000


SE
NW
WILLIAMS ENERGY COMPANY
ADAMANA STORAGE TERMINAL
WELL NO. 2
APRIL 16, 1979
SCALE -
1"=20'
800
900
920
940
960
980
1000

November 8, 1971

Memo to: Suburban Companies Core Test #1
NW/NW Sec. 8-T18N-R24E
Apache County
Our File #554

Suburban Companies #1 Fee Strat
SW/NW Sec-8-T18N-R24E
Apache County
Our File #556

Suburban Companies #2 Fee Strat
NW/NW Sec-8-T18N-R24E
Apache County
Our File #557

Suburban Companies Water Well #1
Sec 8-T18N-R24E
Apache County
Our File #562

Memo from: Mr. W. E. Allen, Director
Enforcement Section

On November 5, 1971 the writer visited the Suburban locations. Williams Brothers, the general contractor on this installation, had crews installing the various lines, pumps, loading racks, and related facilities required to complete the installation project. Bert Savoy, William Brothers representative, told me that the #1 Well Reservoir had been enlarged to 2300 barels capacity. This reservoir had been filled with 2300 gallons of propane. The reservoir for #2 Well is presently being built. It has a present capacity of approximately 2100 barels. The ultimate capacity will be 150,000 barels. Another 30 days we will probably see all construction work completed on this project.

Surfin' [illegible] Pt #2

6

#557 - 11-8-71

September 10, 1971

Memo from: Mr. W. E. Allen, Director
Enforcement Section

Memo to: Suburban Companies Strat Test #1-&2
Our File #556 and ~~#559~~ 557

Talked with Bob Wiruth regarding reports that they routinely keep on receipts and disbursements of LPG in and out of their storage projects. Wiruth is sending us information that they have available which may help in developing a form "Transporters and Storers Monthly Report" for our use.

July 15, 1971

Memo from W. E. Allen

Memo to Suburban Companies #2 Fee Strat
NW/4 NW/4 Sec. 8-T18N-R24E
Apache County
Our File #557

Red Johnson called to say that they spudded the above referenced well on 7-14-71 at 12 noon. Drilling a 17½" hole.

July 1, 1971

Memo from W. E. Allen, Director
Enforcement Section

Memo to: Suburban Companies #1 Fee Strat
SW/4 NW/4 Sec. 8-T18N-R24E
Apache County
Our File #556

Red Johnson, Fenix and Scisson, called to report that the above referenced well had reached total depth of 1101'. 9-5/8" casing had been set at 890.5' and cemented to overlap the surface casing. Their plans are to move the rig and drill a water well. Following this they will drill their #2 strat test.

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER

APPLICATION TO DRILL ☒ RE-ENTER OLD WELL ☐

SUBURBAN COMPANIES c/o Fenix & Scisson, Inc.
NAME OF COMPANY OR OPERATOR

P. O. Box 15609 — Address
Tulsa — City
Oklahoma 74115 — State

J. O. Barnes
Drilling Contractor

P. O. Box 141, Casa Grande, Arizona 85222
Address

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or if fee lease, name of lessor	Well number: 2	Elevation (ground): 5305.6
Nearest distance from proposed location to property or lease line: 600 feet	Distance from proposed location to nearest drilling, completed or applied—for well on the same lease: 530 feet	
Number of acres in lease: 114	Number of wells on lease, including this well, completed in or drilling to this reservoir: Two	

If lease, purchased with one or more wells drilled, from whom purchased: Name — Address: Not applicable

Well location (give footage from section lines): 600' FWL, 1220' FNL	Section—township—range or block and survey: Sec. 8, T-18N, R-24E, G&SR B&M	Dedication (Comply with Rule 105): None
Field and reservoir (if wildcat, so state): Unnamed field	County: Apache	
Distance, in miles, and direction from nearest town or post office: 16 miles east of Holbrook		
Proposed depth: 1100'	Rotary or cable tools: Rotary	Approx. date work will start: June 24, 1971
Bond Status / Amount	Organization Report: On file X Or attached	Filing Fee of $25.00: Attached X

Remarks:

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Manager of Operations of the The Suburban Co's (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Robert J. Wirth
Signature

6/9/71
Date

RECEIVED
JUN 15 1971
O & G CONS. COMM.

Permit Number: 557
Approval Date: 6-16-71
Approved By: John Bannister

Notice: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Drill or Re-enter
File Two Copies

Form No. 3

(Complete Reverse Side)

1. Operator shall outline the dedicated acreage for *both* oil and gas wells on the plat.

2. A registered professional engineer or land surveyor registered in the State of Arizona or approved by the Commission shall show on the plat the location of the well and certify this information in the space provided.

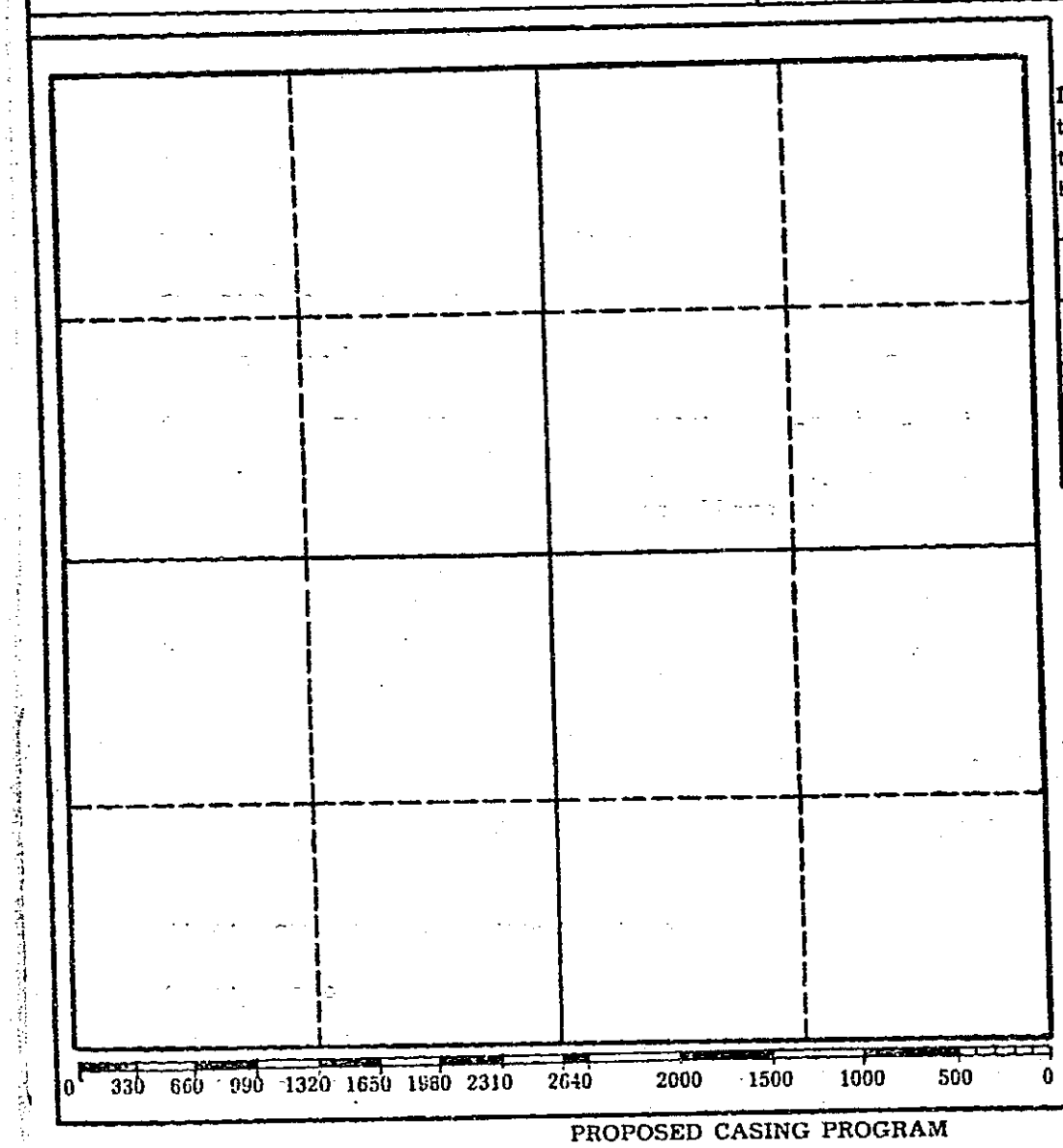
3. All distances shown on the plat must be from the outer boundaries of the Section.

4. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES__X__NO_____

5. If the answer to question four is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES_____NO_____. If answer is "yes," Type of Consolidation_____

6. If the answer to question four is "no," list all the owners and their respective interests below:

Owner	Land Description



CERTIFICATION

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Name

Position

Company

Date

I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement
13 3/8"	48	H-40	G.L.	150'	top to bottom	
9 5/8"	32.3	H-40	G.L.	850'	top to bottom	

PERMIT TO DRILL

This constitutes the permission and authority from the

OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,

To: SUBURBAN COMPANIES
(OPERATOR)

to drill a well to be known as

SUBURBAN COMPANIES #2 FEE STRAT
(WELL NAME)

located 600' FWL - 1220' FNL

Section 8 Township 18N Range 24E, APACHE County, Arizona.

The None (Strat Test) of said Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 16th day of JUNE, 19 71.

OIL AND GAS CONSERVATION COMMISSION

By W.E.C. for John Bannister
EXECUTIVE SECRETARY

PERMIT Nº 557

RECEIPT NO. 2891
API NO. 02-001-20143

State of Arizona
Oil & Gas Conservation Commission
Permit to Drill
FORM NO. 27

SAMPLES ARE REQUIRED

SONARWIRE

SONARWIRE

INC.

SONARWIRE, INC.
P. O. BOX 576
ABITA SPRINGS, LA. 70420
(504) 893-9221
Survey conducted by: Gary McCool

FERRELLGAS
HOLBROOK, AZ.
STORAGE WELL NO. 2
FEBRUARY 27, 1995
SONAR-THRU-PIPE SURVEY

Permit 557

MAR 1995
ARIZONA GEOLOGICAL SURVEY

Sonar from 906 ft. to 995 ft.
Sonar T.D. at 997 ft.
9 5/8 inch cemented casing at 896 ft.
7 inch intermediate pipe at 905 ft.
4 1/2 inch tubing at 995 ft.
Zero sonar tool at B.H.F.
Site personnel: Mr. Dale Thompson

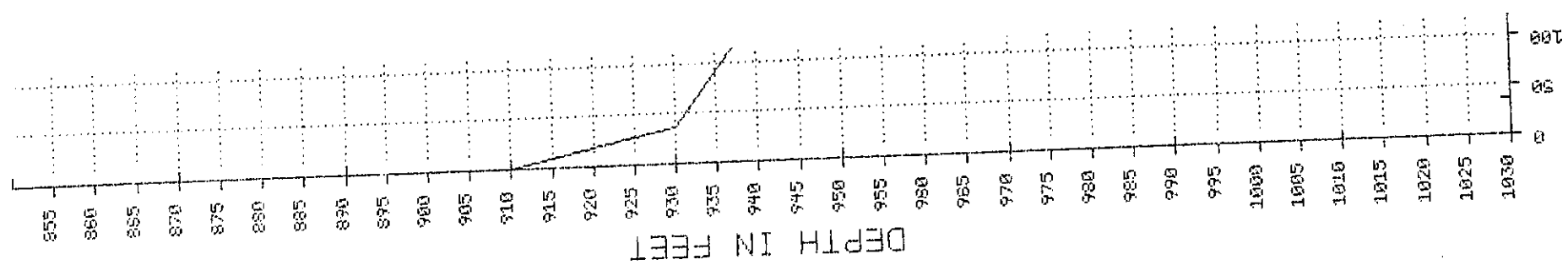
VOLUME (in Barrels) VERSUS DEPTH (in feet)

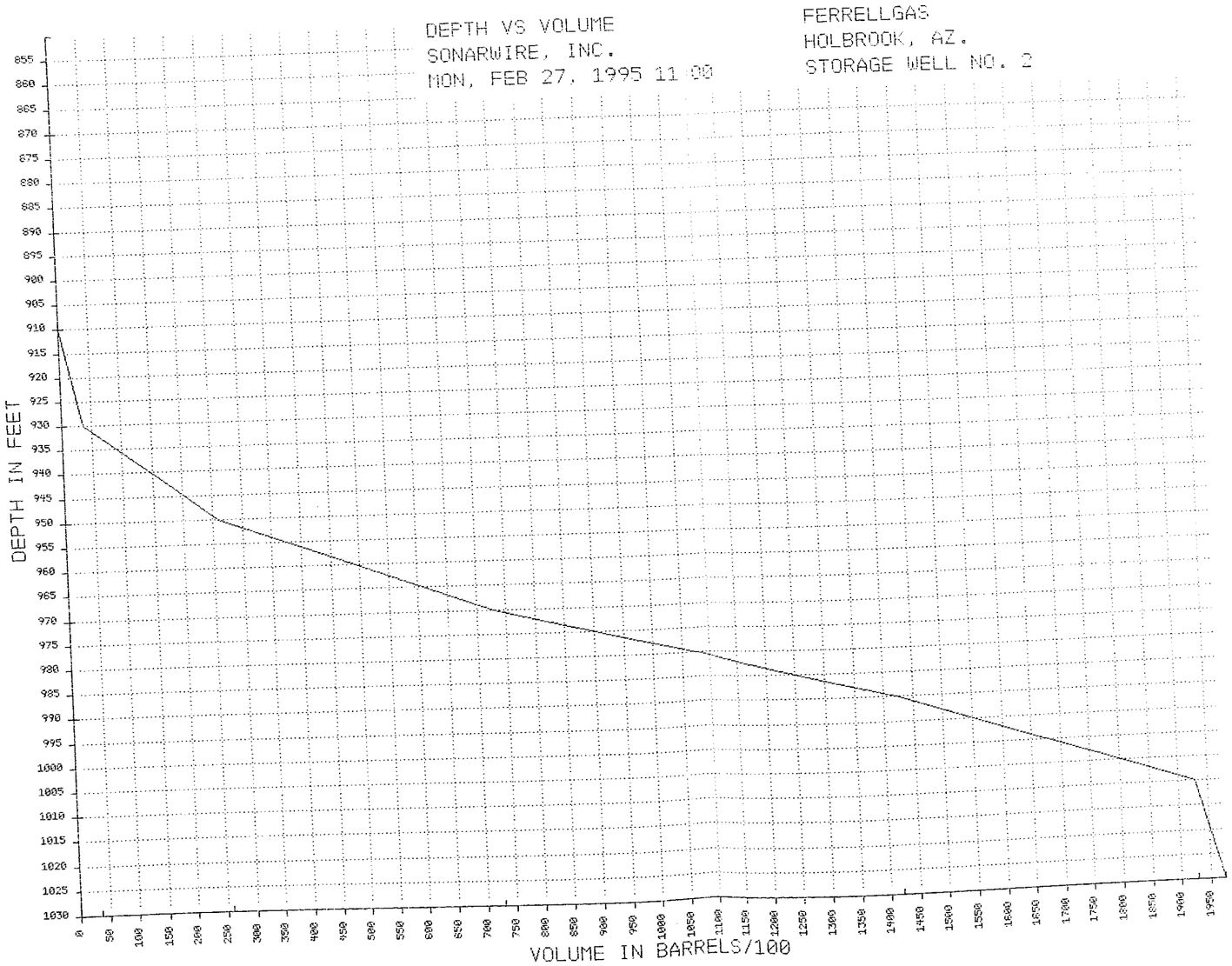
Sonarwire, Inc.
FERRELLGAS
STORAGE WELL NO. 2 \HOLBROOK, AZ.
Mon, Feb 27, 1995 11:00

Depth	Volume/foot	Total Volume
898	0.6	0.6
899	0.7	1.3
900	0.9	2.3
901	1.2	3.5
902	1.5	4.9
903	1.8	6.7
904	2.1	8.8
905	7.1	15.9
906	26.6	42.5
907	169.9	212.4
908	644.1	856.5
909	1169.4	2026.0
910	1632.5	3658.4
911	1894.7	5553.1
912	1850.3	7403.5
913	1765.1	9168.5
914	1642.5	10811.0
915	1539.9	12350.8
916	1455.5	13806.4
917	1358.7	15165.1
918	1251.6	16416.7
919	1154.1	17570.8
920	1063.9	18634.7
921	977.5	19612.1
922	895.4	20507.5
923	844.1	21351.7
924	822.5	22174.1
925	769.8	22943.9
926	687.6	23631.5
927	623.1	24254.5
928	574.5	24829.0
929	523.9	25352.9
930	471.7	25824.6
931	423.9	26248.6
932	380.5	26629.0
933	350.0	26979.0
934	333.0	27312.0
935	371.1	27683.1
936	478.8	28161.9
937	1107.4	29269.3

Depth	Volume/foot	Total Volume
938	2805.8	32075.1
939	3927.9	36003.0
940	3908.4	39911.4
941	3811.4	43722.9
942	3639.9	47362.7
943	3505.3	50868.0
944	3407.5	54275.5
945	3296.4	57571.9
946	3173.3	60745.2
947	3094.7	63839.9
948	3056.8	66896.7
949	3019.4	69916.1
950	2982.8	72898.9
951	2866.8	75765.7
952	2683.0	78448.6
953	2734.0	81182.7
954	3026.8	84209.5
955	3325.7	87535.2
956	3629.0	91164.3
957	3740.9	94905.2
958	3647.3	98552.5
959	3603.0	102155.4
960	3605.1	105760.5
961	3607.0	109367.5
962	3608.6	112976.1
963	3610.3	116586.4
964	3612.0	120198.4
965	3613.9	123812.3
966	3623.1	127435.3
967	3639.8	131075.1
968	3656.7	134731.8
969	3673.9	138405.6
970	3691.2	142096.9
971	3644.3	145741.2
972	3534.4	149275.6
973	3426.9	152702.4
974	3321.5	156023.9
975	3218.4	159242.3
976	3096.9	162339.2
977	2957.8	165296.9
978	2822.1	168119.1
979	2690.0	170809.1
980	2561.4	173370.5
981	2435.2	175805.7
982	2311.5	178117.3
983	2191.4	180308.7
984	2074.9	182383.5
985	1961.9	184345.4
986	1860.7	186206.1
987	1770.9	187977.0

Depth	Volume/foot	Total Volume
988	1683.6	189660.6
989	1599.0	191259.6
990	1516.9	192776.5
991	1342.1	194118.7
992	1096.8	195215.4
993	887.1	196102.5
994	646.8	196749.4
995	439.5	197188.9
996	264.6	197453.5
997	93.8	197547.2
998	11.7	197559.0


DEPTH IN FEET
855
860
865
870
875
880
885
890
895
900
905
910
915
920
925
930
935
940
945
950
955
960
965
970
975
980
985
990
995
1000
1005
1010
1015
1020
1025
1030
0
50
100


DEPTH VS VOLUME
SONARWIRE, INC.
MON, FEB 27, 1995 11:00
FERRELLGAS
HOLBROOK, AZ.
STORAGE WELL NO. 2
DEPTH IN FEET
855
860
865
870
875
880
885
890
895
900
905
910
915
920
925
930
935
940
945
950
955
960
965
970
975
980
985
990
995
1000
1005
1010
1015
1020
1025
1030
VOLUME IN BARRELS/100
0
50
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500
1550
1600
1650
1700
1750
1800
1850
1900
1950

VOLUME (in Cubic Feet) VERSUS DEPTH (in feet)

Sonarwire, Inc.
FERRELLGAS
STORAGE WELL NO. 2 \HOLBROOK, AZ.
Mon, Feb 27, 1995 11:00

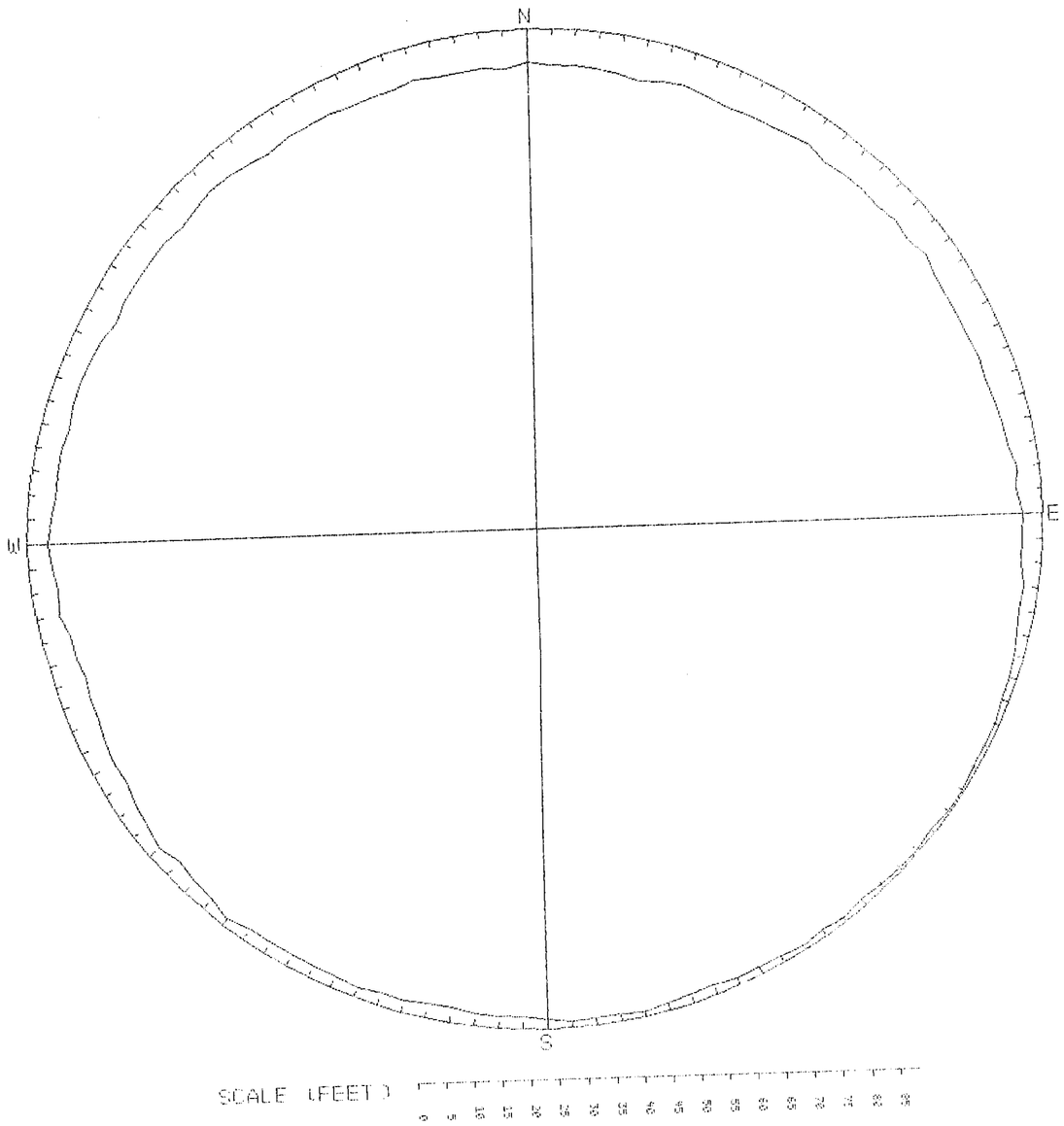
Depth	Volume/foot	Total Volume
898	3.2	3.2
899	4.2	7.4
900	5.3	12.7
901	6.7	19.4
902	8.2	27.6
903	9.9	37.5
904	11.8	49.3
905	39.8	89.1
906	149.6	238.7
907	953.8	1192.5
908	3616.6	4809.1
909	6565.9	11375.0
910	9165.6	20540.6
911	10638.0	31178.6
912	10388.8	41567.4
913	9910.1	51477.5
914	9221.7	60699.2
915	8645.6	69344.8
916	8172.3	77517.1
917	7628.8	85145.9
918	7027.1	92173.0
919	6479.5	98652.5
920	5973.3	104625.9
921	5488.1	110114.0
922	5027.1	115141.0
923	4739.5	119880.6
924	4617.9	124498.4
925	4321.9	128820.4
926	3860.4	132680.8
927	3498.2	136179.0
928	3225.6	139404.7
929	2941.3	142346.0
930	2648.5	144994.5
931	2380.2	147374.7
932	2136.1	149510.8
933	1965.2	151476.0
934	1869.7	153345.7
935	2083.5	155429.1
936	2688.1	158117.3
937	6217.8	164335.0

Depth	Volume/foot	Total Volume
938	15753.4	180088.4
939	22053.6	202142.0
940	21943.9	224085.9
941	21399.6	245485.5
942	20436.3	265921.7
943	19680.8	285602.5
944	19131.8	304734.3
945	18507.8	323242.1
946	17816.6	341058.7
947	17375.6	358434.3
948	17162.4	375596.7
949	16952.9	392549.6
950	16747.1	409296.7
951	16095.7	425392.4
952	15063.7	440456.1
953	15350.4	455806.5
954	16994.3	472800.8
955	18672.6	491473.4
956	20375.6	511849.0
957	21003.6	532852.6
958	20478.0	553330.6
959	20229.2	573559.8
960	20240.9	593800.7
961	20251.7	614052.4
962	20260.8	634313.2
963	20270.3	654583.4
964	20280.1	674863.6
965	20290.3	695153.9
966	20342.0	715495.8
967	20435.7	735931.6
968	20530.8	756462.4
969	20627.1	777089.5
970	20724.8	797814.3
971	20461.3	818275.6
972	19844.4	838119.9
973	19240.1	857360.1
974	18648.6	876008.7
975	18069.9	894078.6
976	17387.7	911466.3
977	16606.6	928072.9
978	15845.2	943918.1
979	15103.3	959021.4
980	14381.1	973402.5
981	13672.7	987075.2
982	12978.3	1000053.5
983	12303.9	1012357.4
984	11649.5	1024006.9
985	11015.0	1035021.9
986	10447.3	1045469.2
987	9942.8	1055412.0

Depth	Volume/foot	Total Volume
988	9452.9	1064864.9
989	8977.5	1073842.4
990	8516.8	1082359.1
991	7535.6	1089894.8
992	6157.9	1096052.6
993	4980.7	1101033.4
994	3631.6	1104665.0
995	2467.7	1107132.8
996	1485.5	1108618.3
997	526.6	1109144.8
998	65.9	1109210.6

MAX RANGE VS BEARING
SONARWIRE, INC.
MON, FEB 27, 1995 11:00

FERRELLGAS
HOLBROOK, AZ.
STORAGE WELL NO. 2



MAXIMUM RADIUS and DEPTH VS BEARING SONARWIRE, INC.
FERRELLGAS Mon, Feb 27, 1995 11:00
STORAGE WELL NO. 2 HOLBROOK, AZ.

This table lists the maximum radius (in feet) found at each of the 128 bearings at which soundings were taken. Also listed, after each radius, (separated by ':'), is the depth (in feet) at which that maximum radius was found. Bearings are shown, (in degrees), for each row of four 'radius : depth' pairs.

Bearing	+0.0	+2.8	+5.6	+8.4
0.0	83 : 940	83 : 940	83 : 956	83 : 970
11.3	82 : 970	82 : 938	83 : 940	83 : 940
22.5	83 : 938	82 : 938	83 : 938	83 : 938
33.8	83 : 938	83 : 940	83 : 938	83 : 940
45.0	83 : 938	83 : 940	83 : 940	83 : 938
56.3	84 : 940	83 : 938	83 : 938	83 : 938
67.5	83 : 938	83 : 938	83 : 938	83 : 938
78.8	84 : 938	84 : 938	85 : 940	84 : 938
90.0	85 : 938	85 : 938	85 : 938	86 : 938
101.3	86 : 938	87 : 938	87 : 938	88 : 938
112.5	88 : 938	88 : 938	88 : 938	88 : 938
123.8	89 : 938	89 : 938	88 : 938	89 : 938
135.0	89 : 938	88 : 938	88 : 938	88 : 938
146.3	88 : 938	88 : 938	88 : 938	88 : 938
157.5	88 : 938	87 : 938	87 : 938	88 : 938
168.8	88 : 938	88 : 938	88 : 938	88 : 938
180.0	87 : 938	87 : 938	87 : 938	87 : 938
191.3	86 : 938	86 : 938	87 : 938	87 : 938
202.5	87 : 938	87 : 938	87 : 938	87 : 938
213.8	87 : 938	87 : 938	88 : 938	87 : 938
225.0	86 : 938	86 : 938	87 : 938	86 : 938
236.3	85 : 940	84 : 940	85 : 940	84 : 940
247.5	84 : 940	84 : 956	83 : 956	84 : 956
258.8	84 : 956	85 : 956	84 : 956	85 : 956
270.0	85 : 956	85 : 956	84 : 956	84 : 956
281.3	84 : 956	84 : 956	84 : 956	84 : 956
292.5	84 : 956	84 : 956	83 : 956	83 : 956
303.8	83 : 956	83 : 956	83 : 956	83 : 956
315.0	83 : 956	84 : 956	83 : 956	83 : 956
326.3	83 : 956	83 : 956	83 : 940	83 : 956
337.5	83 : 956	83 : 940	83 : 956	83 : 940
348.8	83 : 940	83 : 956	83 : 956	82 : 940

Between 897 and 995 foot depths, maximum radius was 89 feet at bearing 123.8 at 938 foot depth.

Wall Ranges versus Depth
Sonarwire, Inc.
FERRELLGAS
STORAGE WELL NO. 2
Mon, Feb 27, 1995 11:00
HOLBROOK, AZ.

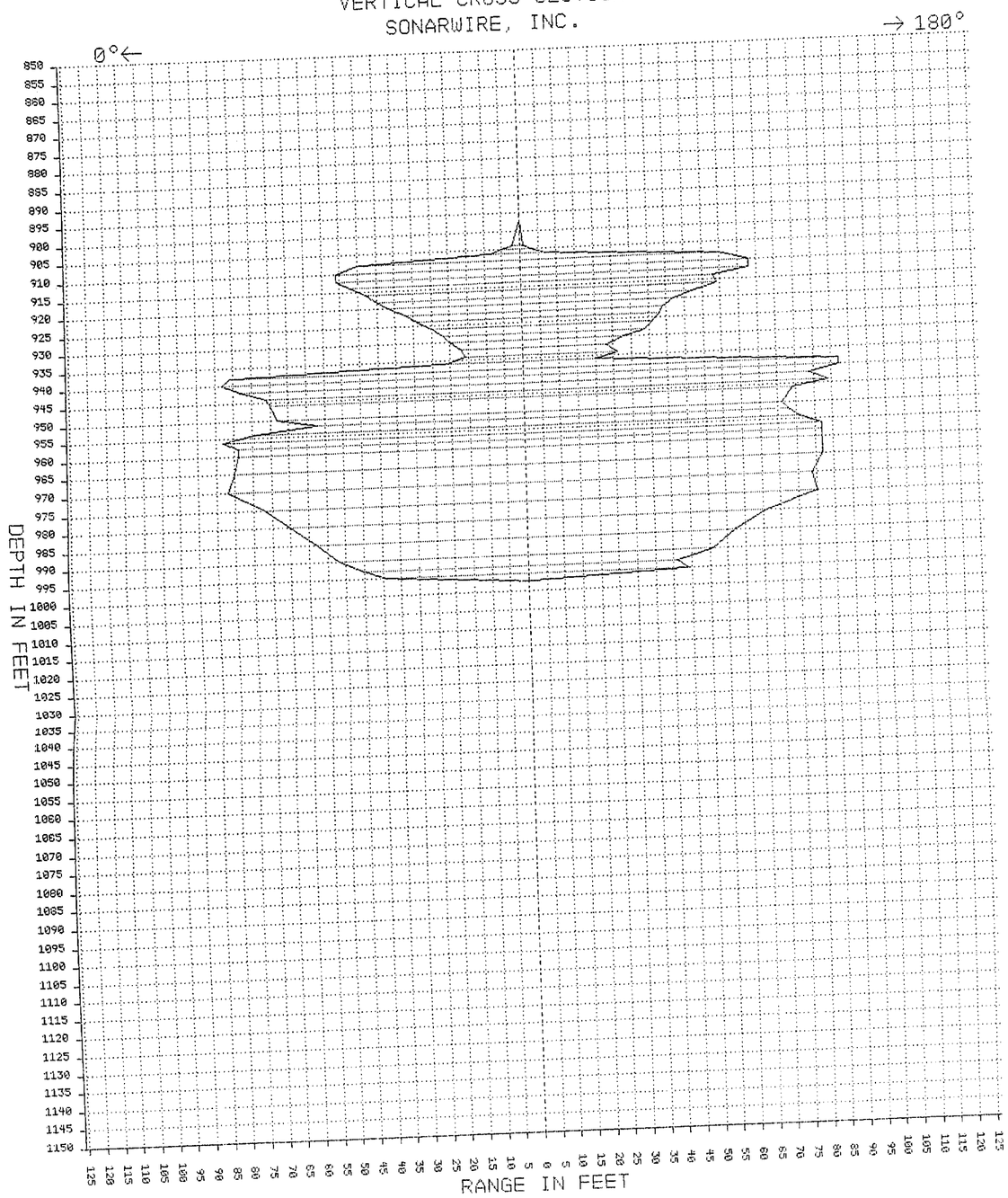
Depth	N	NE	E	SE	S	SW	W	NW
897	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
904	2.2	3.7	1.7	1.4	1.3	1.5	1.5	1.5
905	5.3	7.3	6.2	2.8	3.1	4.1	4.5	4.3
906	8.4	15.8	8.7	7.2	7.5	6.7	6.6	3.8
908	45.2	45.9	54.3	56.3	55.6	30.2	13.4	11.1
910	51.9	63.3	64.0	64.0	63.0	56.0	52.3	51.6
912	51.3	62.7	62.7	63.0	63.3	52.6	51.3	50.9
914	47.6	54.6	55.6	62.0	53.3	52.6	48.6	47.6
916	43.2	52.6	57.3	57.3	55.0	46.9	44.2	43.6
918	40.2	55.0	54.3	49.9	47.3	40.2	39.2	39.2
920	37.9	53.0	51.3	45.9	42.9	36.9	36.2	35.2
922	32.5	47.6	48.3	40.6	39.9	35.2	33.5	32.5
924	29.2	42.6	44.2	44.9	38.2	36.9	34.9	30.2
926	25.5	39.2	40.9	39.5	36.2	30.8	29.8	27.1
928	22.9	37.2	38.2	35.4	34.4	28.7	26.1	23.9
930	20.1	32.7	35.2	32.9	28.9	24.9	23.9	21.4
932	17.6	33.2	32.2	29.2	23.4	22.9	19.1	18.1
934	16.3	24.4	28.2	30.4	26.6	23.4	20.9	18.6
936	21.5	42.6	42.2	43.9	20.4	21.5	20.4	24.5
938	81.6	83.0	85.3	88.6	87.2	86.3	80.2	80.7
940	83.0	82.6	83.5	86.7	87.2	84.0	80.7	81.2
942	78.4	80.2	78.9	80.2	79.8	84.0	79.3	76.1
944	71.4	81.2	79.8	75.6	84.4	81.2	74.7	71.9
946	70.0	81.2	79.8	77.5	74.2	72.8	70.5	69.6
950	68.2	75.6	77.5	74.7	71.9	71.4	70.0	67.3
952	58.0	77.9	77.9	72.4	73.8	59.8	58.0	58.4
954	74.2	81.2	81.6	81.2	76.5	64.0	71.4	72.8
956	83.0	81.6	82.1	81.2	82.1	82.6	85.3	83.5
958	79.3	81.2	83.0	84.4	82.1	77.9	77.5	78.4
960	79.3	80.7	82.6	84.0	82.6	78.4	77.5	78.9
965	80.7	80.2	81.2	81.6	82.6	81.6	78.9	78.4
970	82.1	82.1	81.2	80.7	79.8	79.3	84.0	82.6
975	72.8	72.4	73.8	78.9	80.7	74.7	73.8	71.9
980	65.8	64.1	67.5	69.1	66.2	67.0	66.6	66.2
985	58.7	59.1	61.2	63.7	57.8	54.1	54.1	57.8
990	52.4	50.3	50.7	54.5	52.0	51.5	49.9	49.9
993	45.2	19.7	22.2	39.4	41.5	37.7	33.5	44.8
995	39.2	31.8	17.0	27.9	44.4	11.1	6.5	6.3

Depth	Tilt	N	NE	E	SE	S	SW	W	NW
995	-90	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9

FERRELLGAS
HOLBROOK, AZ.

STORAGE WELL NO. 2
MON, FEB 27, 1995 11:00

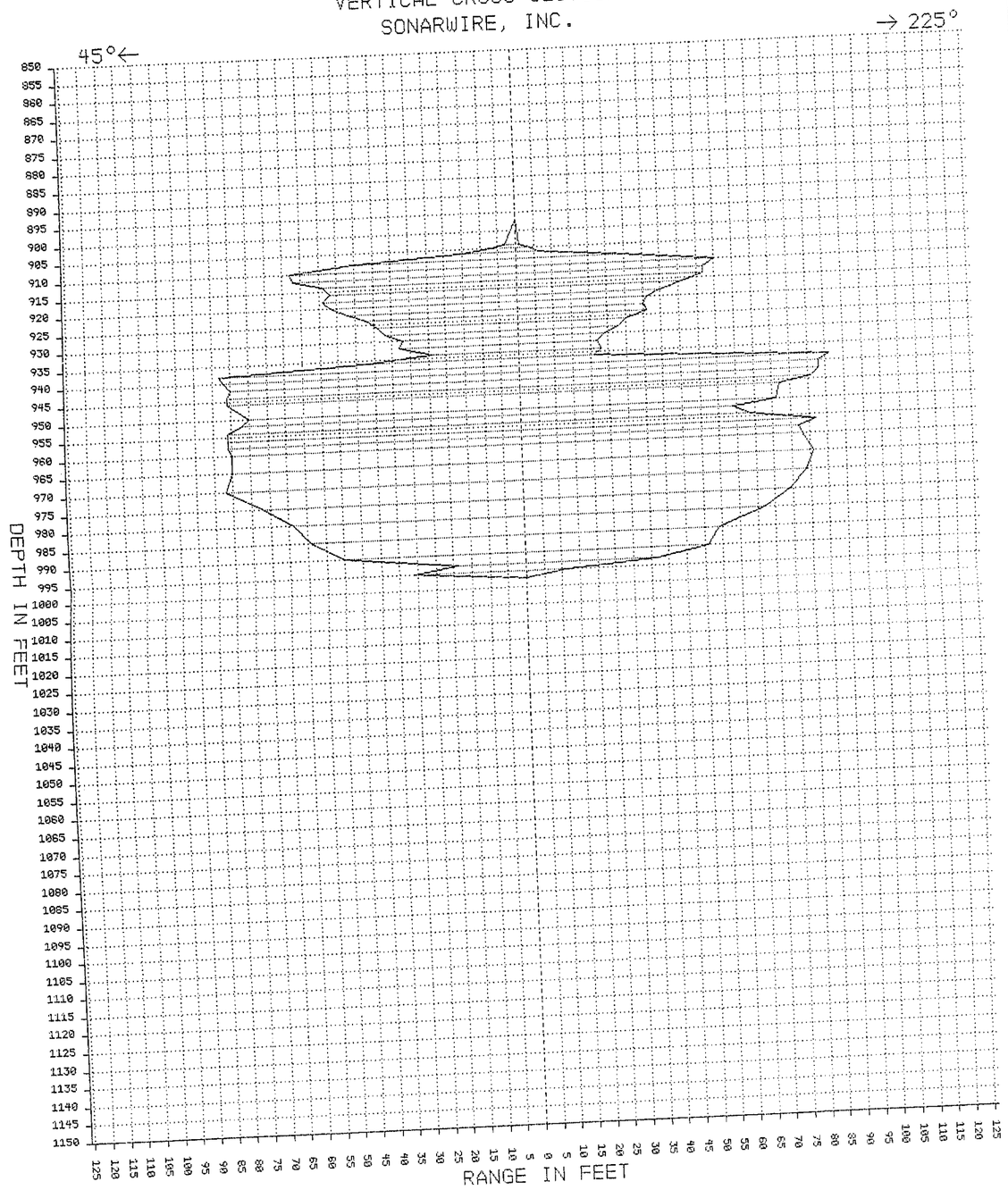
VERTICAL CROSS-SECTION
SONARWIRE, INC.



FERRELLGAS
HOLBROOK, AZ.

STORAGE WELL NO. 2
MON, FEB 27, 1995 11:00

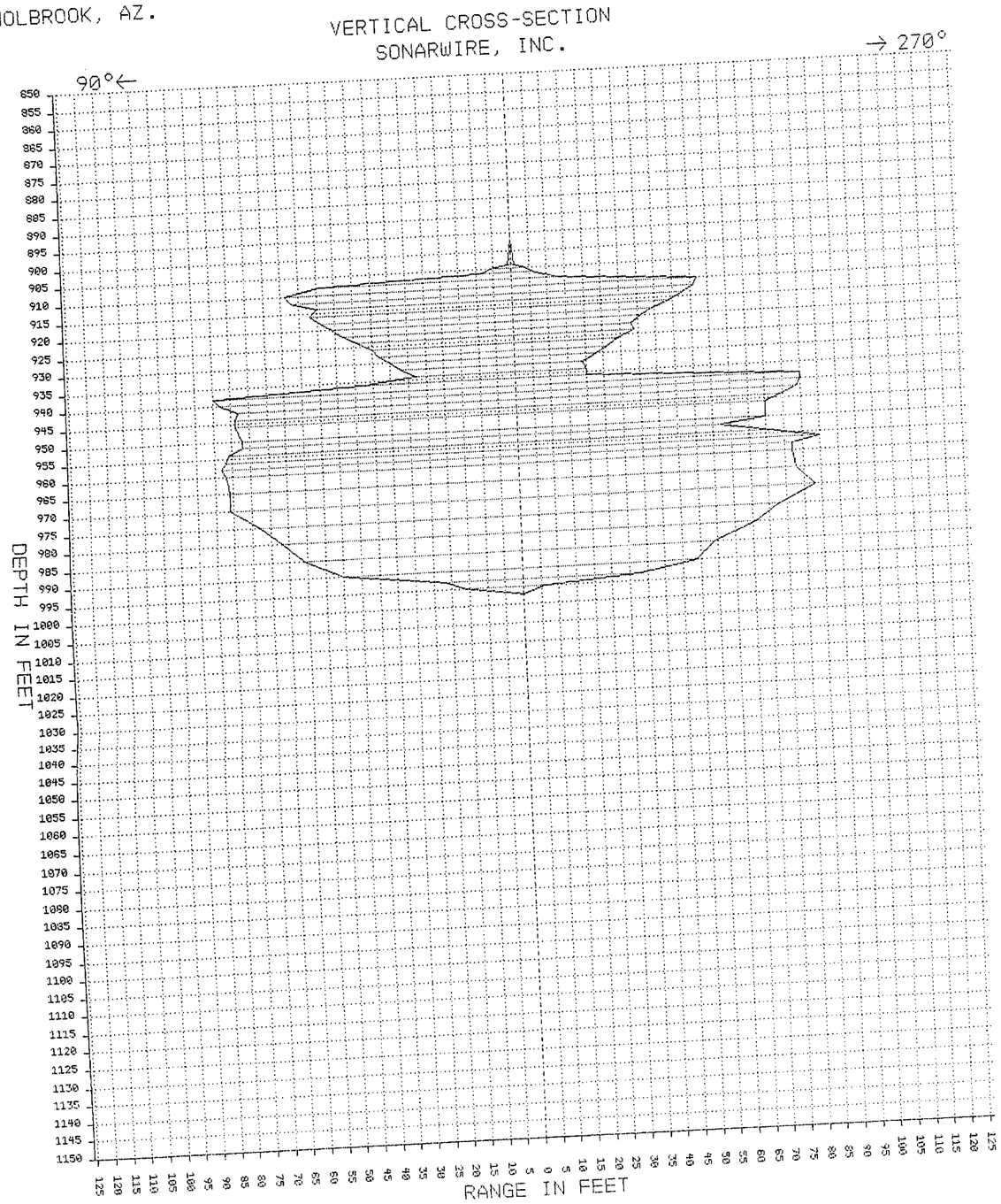
VERTICAL CROSS-SECTION
SONARWIRE, INC.



FERRELLGAS
HOLBROOK, AZ.

STORAGE WELL NO. 2
MON, FEB 27, 1995 11:00

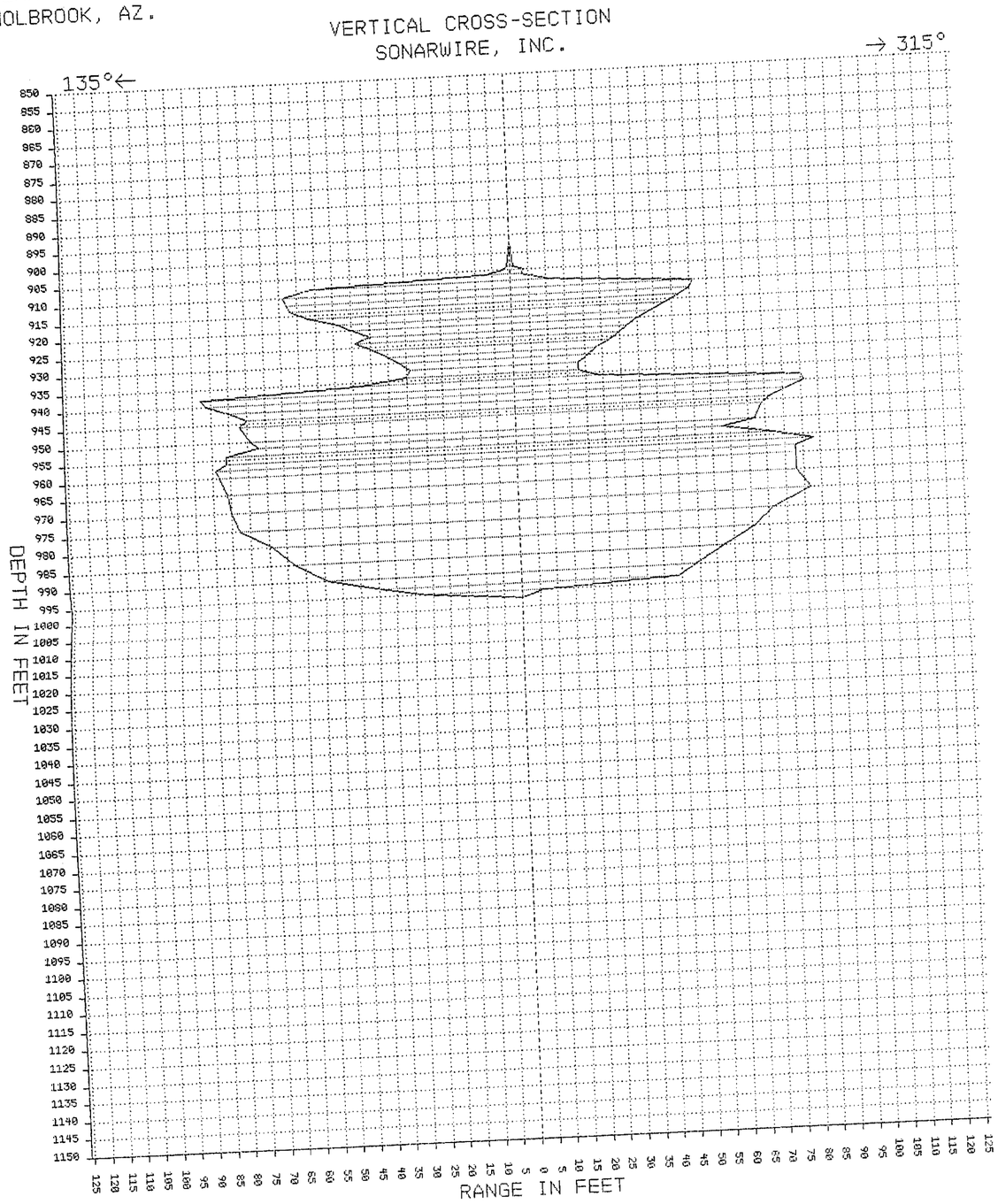
VERTICAL CROSS-SECTION
SONARWIRE, INC.



FERRELLGAS
HOLBROOK, AZ.

STORAGE WELL NO. 2
MON, FEB 27, 1995 11:00

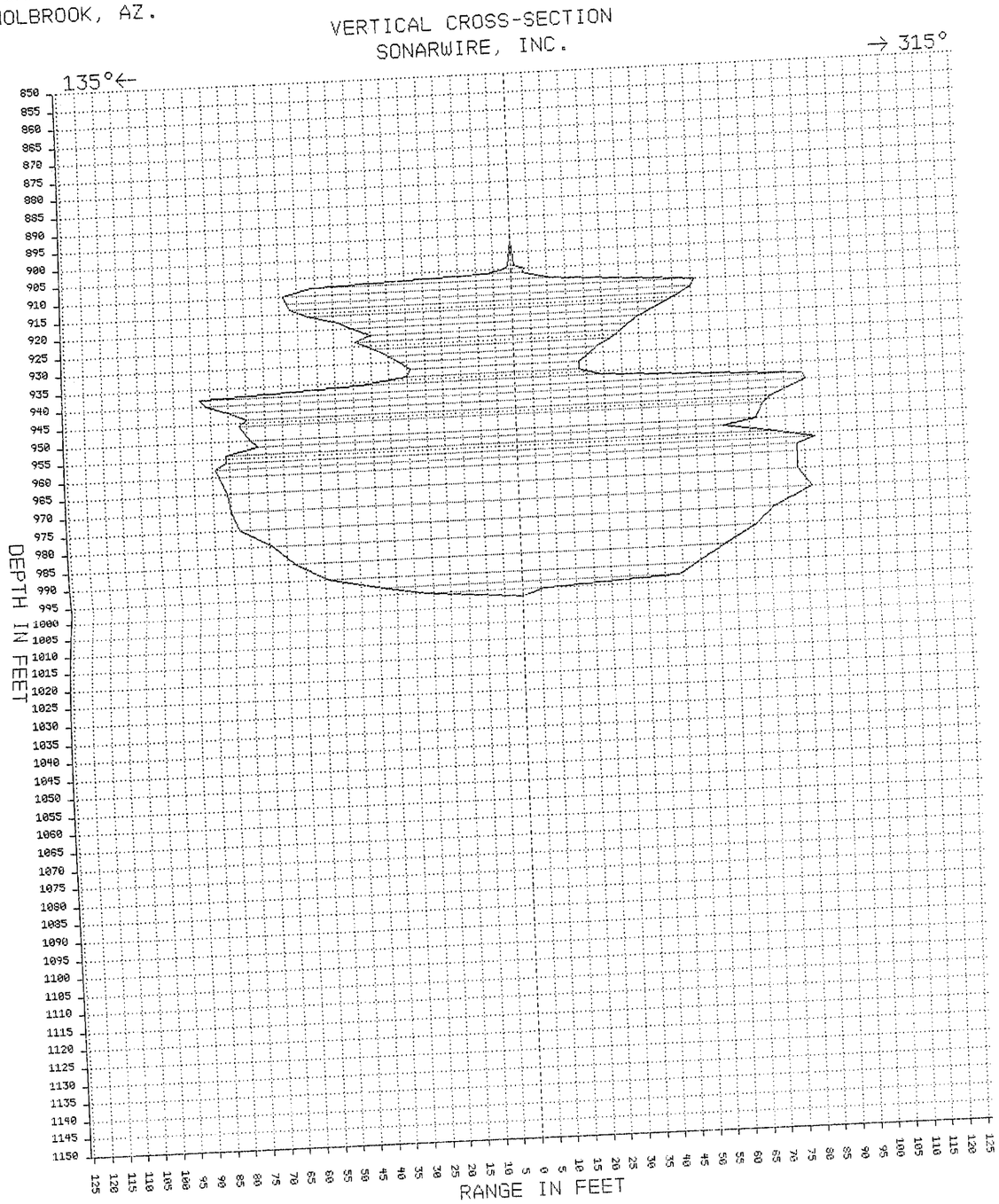
VERTICAL CROSS-SECTION
SONARWIRE, INC.



FERRELLGAS
HOLBROOK, AZ.

STORAGE WELL NO. 2
MON, FEB 27, 1995 11:00

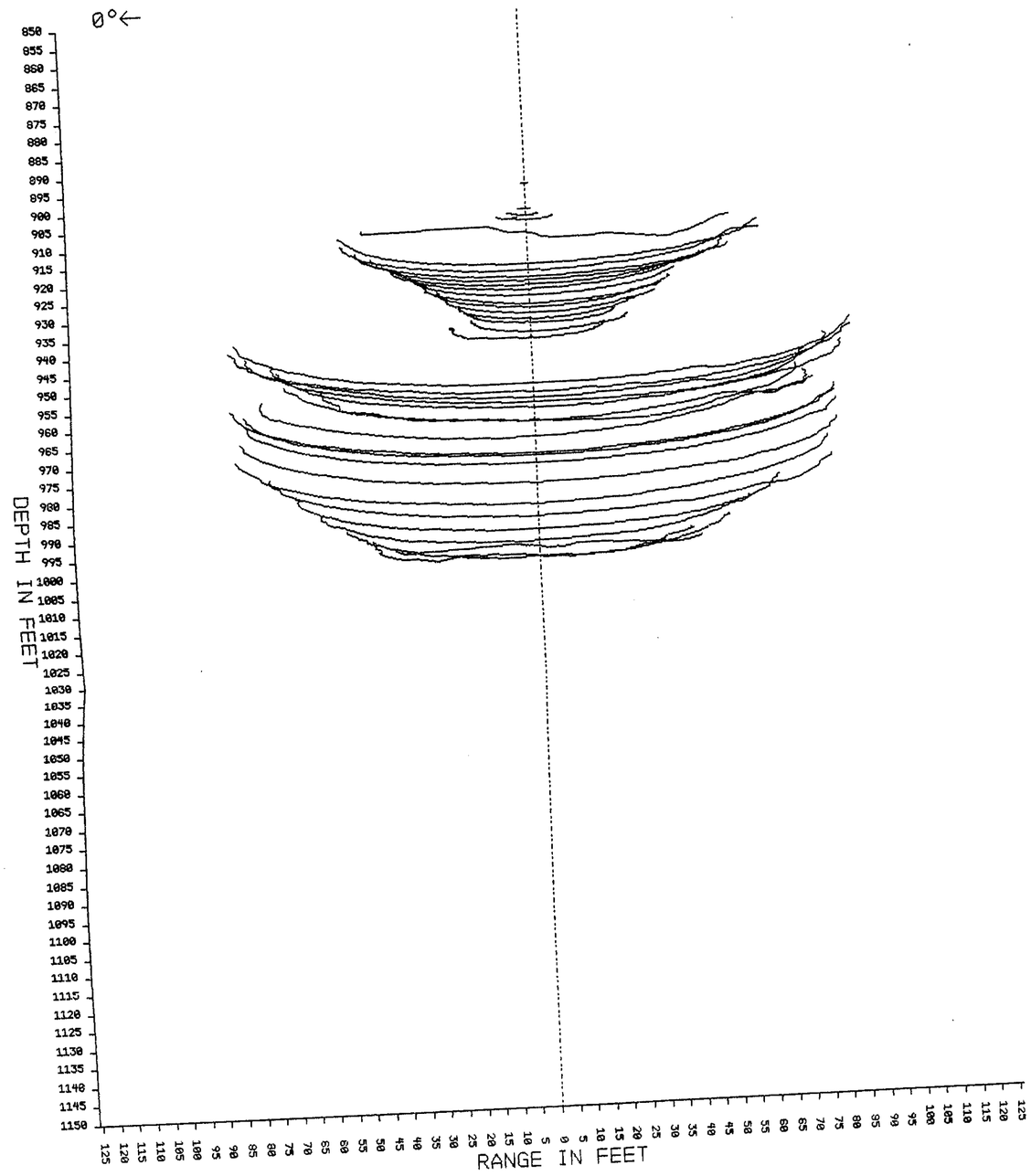
VERTICAL CROSS-SECTION
SONARWIRE, INC.



FERRELLGAS
HOLBROOK, AZ.

STORAGE WELL NO. 2
MON, FEB 27, 1995 11:00

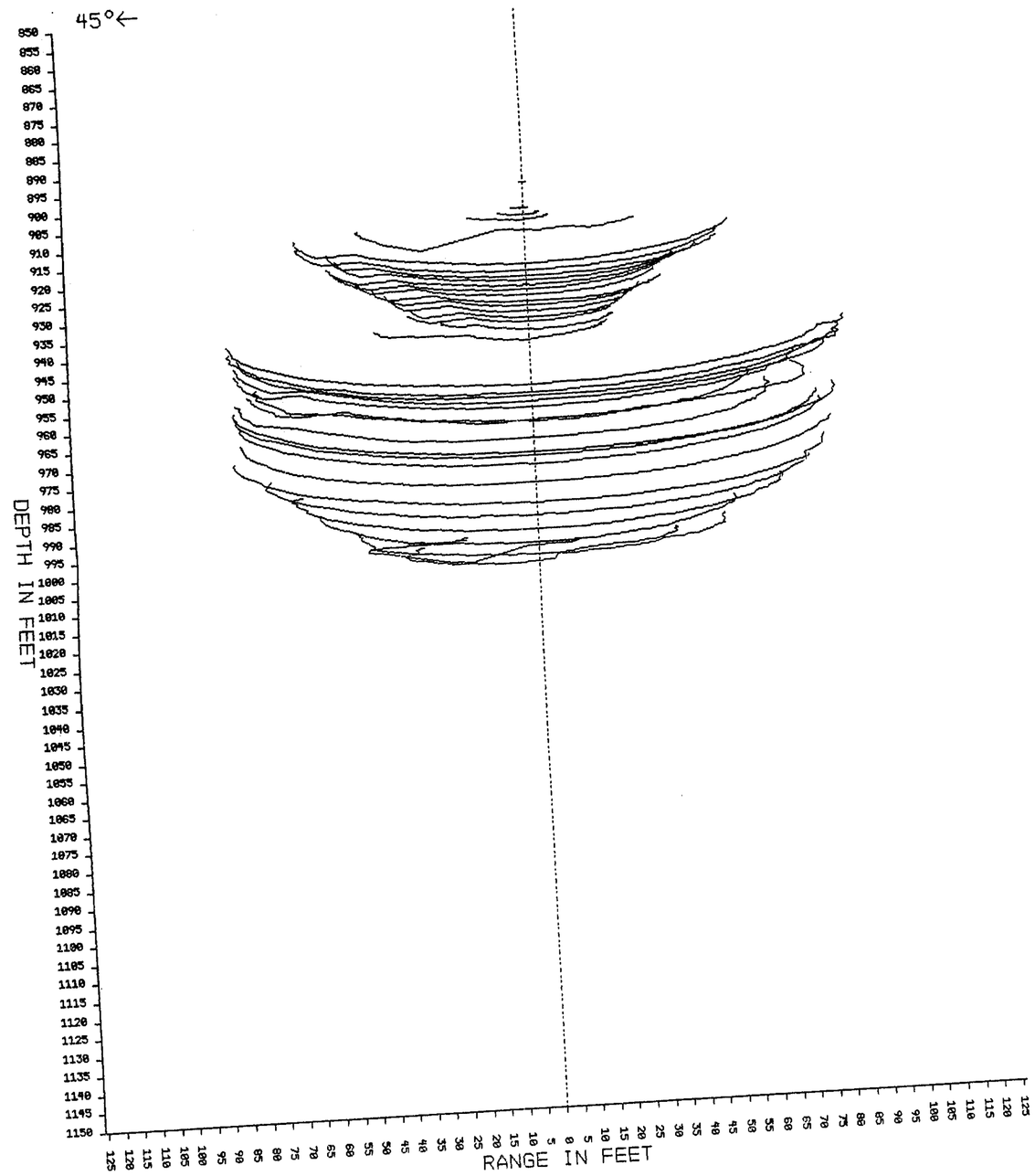
HORIZONTAL HALF-SECTIONS
SONARWIRE, INC.



FERRELLGAS
HOLBROOK, AZ.

STORAGE WELL NO. 2
MON, FEB 27, 1995 11:00

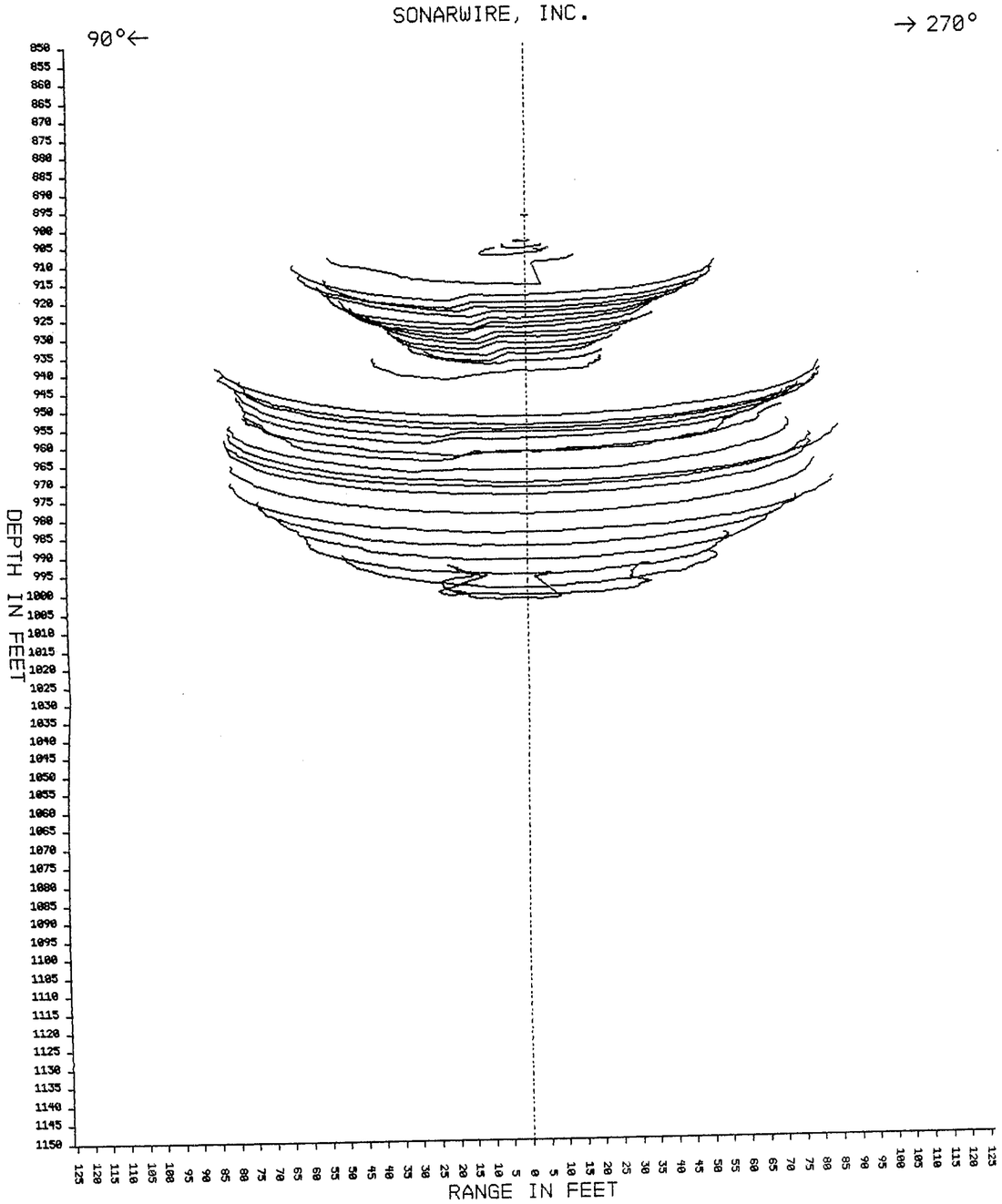
HORIZONTAL HALF-SECTIONS
SONARWIRE, INC.



FERRELLGAS
HOLBROOK, AZ.

STORAGE WELL NO. 2
MON, FEB 27, 1995 11:00

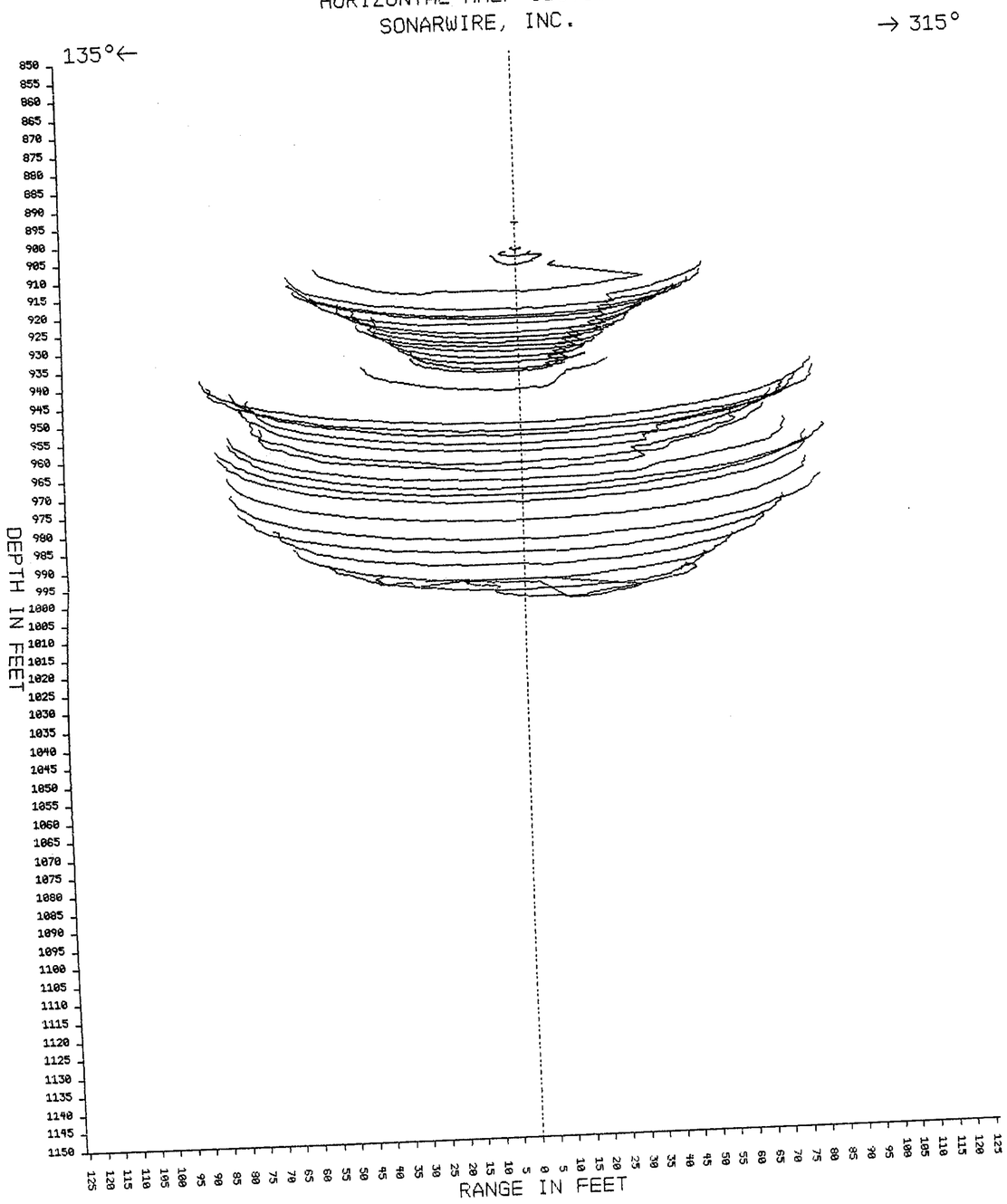
HORIZONTAL HALF-SECTIONS
SONARWIRE, INC.



FERRELLGAS
HOLBROOK, AZ.

STORAGE WELL NO. 2
MON, FEB 27, 1995 11:00

HORIZONTAL HALF-SECTIONS
SONARWIRE, INC.



Wall Range versus Bearing and Depth
Sonarwire, Inc.
FERRELLGAS
STORAGE WELL NO. 2
Mon, Feb 27, 1995 11:00
HOLBROOK, AZ.

Depth: 897 Tilt: 0 Range: 24.8 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
22.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
45.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
67.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
90.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
112.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
135.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
157.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
180.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
202.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
225.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
247.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
270.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
292.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
315.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
337.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

Depth: 904 Tilt: 0 Range: 24.8 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	2.2	2.2	2.4	2.5	2.7	2.7	2.8	2.9
22.5	2.9	2.9	3.1	3.4	3.4	3.5	3.6	3.7
45.0	3.7	3.8	3.7	3.8	3.7	3.7	3.6	3.6
67.5	3.5	3.4	3.2	2.9	2.7	2.2	2.2	2.2
90.0	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.4
112.5	1.4	1.4	1.5	1.3	1.4	1.4	1.4	1.4
135.0	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3
157.5	1.3	1.3	1.3	1.4	1.3	1.3	1.3	1.3
180.0	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4
202.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5
225.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
247.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
270.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
292.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
315.0	1.5	1.5	1.5	1.5	1.6	1.6	1.7	1.7
337.5	1.8	1.9	2.0	2.0	2.0	2.0	2.1	2.1

Depth: 905 Tilt: 0 Range: 34.8 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	5.3	5.6	5.9	5.9	6.2	6.3	6.2	6.2
22.5	6.5	6.6	6.7	6.9	7.0	7.2	7.3	7.3
45.0	7.3	7.5	8.1	8.1	7.8	7.5	7.3	7.2
67.5	6.9	6.7	6.6	6.7	6.5	6.6	6.6	6.5
90.0	6.2	5.9	5.9	5.3	5.0	4.7	4.5	4.5
112.5	4.4	4.3	4.1	4.0	3.8	3.8	3.2	3.2
135.0	2.8	3.1	2.6	2.6	2.8	2.6	2.6	2.5
157.5	2.6	2.6	2.6	2.6	2.8	3.1	2.9	3.1
180.0	3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.4
202.5	3.4	3.7	3.8	4.0	4.0	4.0	4.1	4.1
225.0	4.1	4.1	4.3	4.1	4.1	4.1	4.0	4.0
247.5	4.0	4.0	4.1	4.3	4.3	4.4	4.4	4.5
270.0	4.5	4.7	4.8	4.7	4.5	4.7	4.7	4.7
292.5	4.8	4.8	5.0	4.7	4.4	4.3	4.3	4.3
315.0	4.3	4.3	4.4	4.4	4.4	4.5	4.5	4.4
337.5	4.4	4.4	4.5	4.5	4.5	4.7	4.8	5.1

Depth: 906 Tilt: 0 Range: 34.8 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	8.4	8.9	8.9	9.1	9.2	9.7	10.0	11.4
22.5	12.5	12.5	12.8	13.1	13.6	14.2	15.1	15.5
45.0	15.8	16.1	16.1	15.8	15.0	14.5	13.9	13.1
67.5	12.2	12.0	11.4	10.6	10.0	10.0	9.4	8.9
90.0	8.7	8.4	8.1	7.8	7.5	7.3	7.2	7.2
112.5	7.2	7.0	7.0	7.0	7.0	7.0	7.2	7.2
135.0	7.2	7.2	7.2	7.2	7.2	7.3	7.3	7.3
157.5	7.5	7.5	7.5	7.5	7.5	7.8	7.8	7.8
180.0	7.5	7.3	7.3	7.3	7.3	7.2	7.2	7.2
202.5	7.2	7.2	7.2	7.2	7.2	7.0	7.0	6.9
225.0	6.7	6.7	6.7	6.7	6.9	6.7	6.7	6.7
247.5	6.7	6.7	6.7	6.6	6.6	6.6	6.6	6.6
270.0	6.6	6.5	6.5	6.3	6.3	6.2	6.2	6.2
292.5	6.2	6.2	5.9	5.9	5.9	5.9	6.5	6.9
315.0	3.8	6.9	7.3	7.2	7.5	7.3	7.3	7.8
337.5	7.8	7.5	7.5	8.1	8.1	8.1	8.4	8.4

Depth: 908 Tilt: 0 Range: 79.4 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	45.2	44.9	44.2	44.6	44.9	44.9	44.9	44.9
22.5	44.6	44.9	45.2	45.2	45.9	45.9	46.3	46.6
45.0	45.9	45.9	45.6	44.9	44.9	44.9	45.6	46.3
67.5	46.6	47.3	48.3	51.9	52.6	53.6	53.6	54.3
90.0	54.3	54.0	53.6	53.3	53.3	53.3	53.6	54.0
112.5	54.3	54.3	55.0	55.3	55.6	56.0	56.0	56.0
135.0	56.3	56.0	56.0	56.3	56.0	56.0	56.6	56.3
157.5	56.6	57.0	57.3	57.6	58.0	57.6	57.3	56.6
180.0	55.6	54.0	52.3	51.6	51.3	50.9	50.6	49.9
202.5	49.6	49.3	50.3	49.6	49.3	48.9	47.9	30.8
225.0	30.2	29.5	28.8	28.2	27.1	26.8	26.1	25.1
247.5	24.5	24.5	23.5	22.5	22.5	16.1	15.1	14.1
270.0	13.4	13.1	13.4	13.1	13.1	12.7	12.7	12.7
292.5	13.1	12.7	12.7	12.4	12.1	12.1	11.7	11.4
315.0	11.1	11.1	10.7	11.1	10.7	10.7	10.4	10.7
337.5	10.4	10.4	10.7	10.7	11.1	12.7	45.2	45.6

Depth: 910 Tilt: 0 Range: 79.4 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	51.9	52.3	52.6	52.3	52.6	52.6	53.3	63.0
22.5	63.3	63.3	63.3	63.3	63.7	63.7	63.7	63.3
45.0	63.3	63.3	63.3	63.3	63.3	63.7	63.7	63.7
67.5	63.7	63.7	64.0	63.7	63.7	64.0	64.7	64.4
90.0	64.0	63.7	63.7	63.3	63.3	63.7	64.4	64.7
112.5	64.4	64.0	64.0	63.7	63.3	63.7	63.7	63.7
135.0	64.0	64.0	64.0	64.4	64.4	64.0	63.3	63.7
157.5	63.7	63.7	63.3	63.0	62.7	62.3	62.7	62.7
180.0	63.0	62.3	62.0	61.3	61.0	61.0	61.3	60.3
202.5	60.0	59.0	58.3	57.6	57.3	57.0	56.3	56.6
225.0	56.0	55.6	55.3	55.3	55.0	54.6	54.3	54.0
247.5	53.6	53.0	52.6	53.3	53.0	52.6	52.6	52.3
270.0	52.3	51.9	51.9	51.9	51.9	51.9	51.9	52.3
292.5	52.3	51.9	51.9	51.9	51.9	51.6	51.6	51.9
315.0	51.6	51.6	51.6	51.6	51.6	51.3	50.9	50.6
337.5	50.6	50.6	50.3	50.3	50.6	50.6	50.9	51.3

Depth: 912 Tilt: 0 Range: 79.4 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	51.3	50.9	50.9	50.9	51.3	51.3	52.3	62.0
22.5	62.3	62.7	62.3	62.7	62.3	62.7	63.0	63.3
45.0	62.7	62.7	62.7	62.7	63.0	63.3	63.0	63.3
67.5	63.0	63.7	63.3	63.0	63.0	63.3	62.7	62.3
90.0	62.7	63.0	62.7	63.0	62.7	62.7	62.7	63.0
112.5	62.7	62.3	62.3	62.3	62.0	62.3	62.7	63.7
135.0	63.0	63.0	63.3	63.0	63.0	62.7	63.0	63.3
157.5	63.7	64.0	63.7	63.7	63.3	63.7	63.7	64.0
180.0	63.3	56.0	55.3	55.0	54.6	54.3	54.3	54.3
202.5	53.6	53.3	53.3	53.6	53.3	53.3	52.6	52.6
225.0	52.6	52.6	52.6	53.0	52.3	51.9	51.3	50.9
247.5	51.3	51.3	50.9	51.3	51.6	51.6	51.9	51.3
270.0	51.3	50.9	51.3	51.3	51.6	51.3	51.6	50.9
292.5	50.9	50.9	50.6	50.9	50.6	50.9	50.9	50.6
315.0	50.9	50.9	50.9	51.3	51.3	50.9	51.3	51.3
337.5	50.9	50.6	50.9	50.9	50.9	51.3	51.3	50.9

Depth: 914 Tilt: 0 Range: 79.4 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	47.6	47.6	47.3	47.6	47.6	47.3	47.6	55.6
22.5	55.3	55.3	55.0	55.0	54.6	54.6	54.6	54.6
45.0	54.6	54.6	55.0	55.3	55.0	55.0	55.0	55.0
67.5	55.3	55.0	55.3	55.6	55.6	55.6	55.6	55.0
90.0	55.6	55.6	56.0	56.3	56.6	57.0	57.3	57.6
112.5	58.0	59.0	60.0	60.0	60.7	61.3	62.0	62.3
135.0	62.0	62.3	62.7	63.0	62.3	62.3	62.0	61.7
157.5	61.3	60.7	60.0	54.0	53.6	53.3	53.0	53.0
180.0	53.3	53.3	53.6	53.3	53.6	54.3	54.3	54.6
202.5	54.0	54.0	54.0	54.0	53.6	53.6	54.0	54.0
225.0	52.6	51.6	51.3	51.6	50.6	50.3	49.9	49.3
247.5	49.3	49.3	49.3	48.9	48.9	48.6	48.9	48.9
270.0	48.6	48.6	48.6	48.3	48.6	48.6	48.6	48.3
292.5	48.3	47.9	47.6	47.6	47.6	47.6	47.6	47.6
315.0	47.6	47.6	47.6	47.3	47.3	47.3	47.6	47.6
337.5	47.6	47.3	47.6	47.6	47.3	47.6	47.6	47.6

Depth: 916 Tilt: 0 Range: 79.4 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	43.2	43.2	43.2	43.2	43.6	44.2	51.9	51.9
22.5	52.3	52.3	52.3	52.3	51.9	52.3	52.3	52.3
45.0	52.6	52.3	52.6	52.6	52.6	53.0	53.0	53.6
67.5	54.0	55.0	56.3	57.0	57.0	57.0	57.0	57.3
90.0	57.3	57.3	57.3	57.3	57.3	57.3	57.0	57.0
112.5	57.0	57.3	57.3	57.0	57.3	57.0	57.0	57.0
135.0	57.3	57.0	56.6	56.6	56.6	56.3	56.0	55.6
157.5	55.6	55.3	55.3	55.3	55.6	55.3	55.0	55.3
180.0	55.0	54.6	54.3	53.6	51.3	50.6	50.3	50.3
202.5	49.9	49.6	49.6	49.3	48.6	48.3	47.9	47.6
225.0	46.9	46.9	46.6	46.6	46.3	45.2	44.9	44.6
247.5	44.6	44.6	44.6	44.6	44.6	44.6	44.2	44.2
270.0	44.2	44.6	44.6	44.6	44.2	44.6	44.6	44.9
292.5	44.9	44.6	44.6	44.6	44.2	43.9	43.9	43.9
315.0	43.6	43.6	43.6	43.2	42.9	42.6	42.6	42.6
337.5	42.6	42.9	42.9	42.9	42.6	42.6	43.2	43.2

Depth: 918 Tilt: 0 Range: 79.4 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	40.2	41.2	41.2	41.9	41.6	42.2	51.9	52.6
22.5	53.0	53.3	53.3	53.6	53.6	54.0	54.3	54.3
45.0	55.0	55.3	56.0	56.0	56.0	56.0	56.0	55.6
67.5	55.6	55.3	55.3	55.0	55.0	54.6	54.6	54.6
90.0	54.3	54.3	54.0	54.0	53.6	53.3	53.0	52.3
112.5	52.3	51.9	51.9	51.6	50.9	50.6	49.9	49.9
135.0	49.9	49.6	49.6	49.3	49.3	49.3	48.6	48.6
157.5	48.6	47.9	47.6	47.6	47.3	47.3	47.3	47.3
180.0	47.3	47.3	46.9	46.3	45.9	45.6	43.6	42.9
202.5	42.2	41.6	41.6	41.2	41.6	40.9	40.9	40.9
225.0	40.2	40.6	40.2	40.6	40.2	39.9	39.5	39.9
247.5	39.5	39.9	39.9	39.9	39.5	39.5	39.2	39.2
270.0	39.2	39.5	39.9	39.9	39.9	39.9	40.2	39.9
292.5	39.9	39.9	39.5	39.2	39.2	39.2	39.2	39.5
315.0	39.2	39.5	39.2	39.2	39.5	39.2	39.2	38.5
337.5	38.2	38.2	38.5	38.5	38.9	38.9	38.9	40.2

Depth: 920 Tilt: 0 Range: 79.4 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	37.9	37.9	38.2	37.9	37.9	38.5	48.9	49.9
22.5	50.3	50.6	50.6	51.3	51.6	52.3	52.3	53.0
45.0	53.0	53.0	52.6	52.6	52.6	52.6	51.9	51.9
67.5	52.3	51.6	51.3	51.3	51.3	50.9	50.9	51.3
90.0	51.3	50.9	50.3	49.6	48.9	48.6	48.9	48.6
112.5	47.9	47.6	47.6	46.9	46.9	46.3	45.9	45.9
135.0	45.9	45.6	45.6	44.9	44.6	44.6	43.9	43.6
157.5	43.6	43.6	43.9	43.9	43.6	43.6	43.6	42.9
180.0	42.9	42.6	42.6	39.9	39.2	39.2	38.9	38.5
202.5	38.9	38.5	37.9	37.9	37.5	37.2	37.2	36.9
225.0	36.9	36.9	36.9	37.2	36.5	36.5	36.5	35.9
247.5	35.9	35.9	35.9	35.5	35.9	35.9	35.9	35.9
270.0	36.2	36.2	36.5	36.2	35.9	35.9	35.5	35.9
292.5	35.5	35.5	35.9	35.5	35.9	35.5	35.9	35.5
315.0	35.2	35.2	35.2	35.2	35.2	35.5	35.5	35.5
337.5	35.5	35.9	36.2	36.2	36.9	37.2	37.5	37.5

Depth: 922 Tilt: 0 Range: 79.4 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	32.5	32.8	33.2	33.2	32.8	32.8	32.8	33.2
22.5	46.3	46.6	46.9	46.9	46.9	46.9	46.9	47.3
45.0	47.6	47.9	48.6	48.6	48.6	48.6	48.6	48.6
67.5	48.9	48.6	48.6	48.6	48.6	48.6	48.6	48.3
90.0	48.3	48.3	47.6	47.3	46.9	47.3	46.6	46.3
112.5	43.6	42.6	41.6	41.2	40.9	40.6	40.2	40.6
135.0	40.6	40.6	40.6	40.2	40.6	40.6	39.5	39.9
157.5	38.9	38.5	38.9	39.9	39.9	39.5	39.9	39.9
180.0	39.9	39.5	39.2	38.5	38.2	37.5	37.9	37.2
202.5	37.5	37.2	36.5	36.9	36.2	36.5	35.5	35.5
225.0	35.2	35.2	35.2	34.9	34.9	34.5	34.5	34.5
247.5	34.2	33.9	33.9	33.9	33.5	33.5	33.5	33.2
270.0	33.5	33.2	33.5	33.2	33.2	32.8	32.8	32.8
292.5	32.8	32.5	32.8	32.5	32.8	32.8	32.5	32.2
315.0	32.5	31.8	31.8	31.8	31.8	31.5	32.2	31.5
337.5	30.8	31.8	31.5	32.2	31.8	32.2	32.2	32.5

Depth: 924 Tilt: 0 Range: 79.4 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	29.2	29.5	29.5	29.2	29.5	29.2	29.8	42.2
22.5	42.2	42.2	42.6	42.9	42.9	42.6	42.6	42.6
45.0	42.6	42.6	42.6	42.2	42.6	42.9	42.6	42.9
67.5	42.9	43.2	42.9	43.6	43.6	43.6	43.6	43.9
90.0	44.2	44.6	44.2	44.2	44.2	44.2	44.2	44.6
112.5	44.6	44.6	44.2	44.6	45.2	45.2	45.2	45.2
135.0	44.9	44.6	44.2	44.2	43.9	43.6	42.9	42.6
157.5	41.9	41.6	40.9	40.2	40.6	39.9	39.2	38.9
180.0	38.2	38.9	38.2	38.2	37.5	37.5	37.5	36.9
202.5	37.2	36.9	37.2	36.5	36.9	36.5	37.2	36.9
225.0	36.9	36.9	36.5	36.2	35.9	35.9	35.2	35.9
247.5	35.2	34.9	35.2	35.2	34.9	34.9	34.9	34.9
270.0	34.9	35.2	34.9	34.2	33.9	33.2	33.2	32.5
292.5	32.2	32.2	30.8	30.5	30.8	30.2	30.2	30.2
315.0	30.2	30.2	30.2	30.2	30.2	30.2	29.8	29.5
337.5	29.8	29.5	30.2	29.5	29.2	29.2	29.2	29.5

Depth: 926 Tilt: 0 Range: 79.4 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	25.5	25.1	25.5	25.1	25.1	25.1	25.5	37.9
22.5	37.9	38.2	38.9	38.9	39.2	39.2	39.2	39.2
45.0	39.2	39.5	40.2	39.5	39.9	39.9	39.9	39.9
67.5	40.2	39.9	40.6	40.2	40.2	40.2	40.2	40.2
90.0	40.9	40.6	41.2	40.9	40.9	40.6	40.9	40.6
112.5	40.6	40.6	40.6	40.6	40.6	40.6	40.2	40.2
135.0	39.5	38.9	39.2	38.9	38.9	38.2	38.5	38.2
157.5	36.9	37.2	36.5	36.9	36.2	36.2	36.2	35.9
180.0	36.2	35.9	35.5	35.5	33.9	33.2	32.8	30.8
202.5	30.5	30.2	30.5	30.2	30.5	30.5	30.8	30.8
225.0	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8
247.5	30.5	30.5	30.8	30.8	30.5	30.5	29.8	30.2
270.0	29.8	29.8	29.2	29.2	28.8	28.8	28.8	27.8
292.5	27.1	27.1	27.1	27.1	27.1	27.1	27.1	26.8
315.0	27.1	26.8	26.8	27.1	26.8	26.8	26.1	26.8
337.5	26.1	26.1	26.1	26.1	25.5	26.1	25.1	25.5

Depth: 928 Tilt: 0 Range: 59.6 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	22.9	22.9	22.6	22.9	22.9	22.9	22.9	23.4
22.5	35.2	35.9	35.9	35.9	36.2	36.7	36.7	37.0
45.0	37.2	37.2	37.7	37.7	38.0	38.0	38.0	38.0
67.5	37.7	38.0	38.0	38.0	38.0	38.0	38.2	38.0
90.0	38.2	38.0	37.7	38.0	37.7	37.5	37.0	37.5
112.5	37.0	37.2	36.7	36.7	36.7	35.9	35.4	35.7
135.0	35.4	35.7	35.2	35.7	35.2	35.4	35.2	35.4
157.5	35.2	35.2	34.9	34.9	34.7	34.4	34.4	34.4
180.0	34.4	34.4	33.7	33.4	32.9	31.9	31.2	30.9
202.5	29.4	29.2	28.7	29.2	28.9	28.9	28.7	28.7
225.0	28.7	28.7	28.2	27.9	27.9	27.9	27.9	27.9
247.5	28.2	27.9	28.2	27.7	27.4	27.1	26.6	26.6
270.0	26.1	26.1	26.1	26.1	25.9	26.1	25.4	24.9
292.5	24.9	25.1	24.4	24.4	24.4	24.4	23.9	23.9
315.0	23.9	23.9	23.4	23.9	23.9	23.9	23.9	23.9
337.5	23.9	23.9	23.9	23.4	23.4	23.4	22.9	23.4

Depth: 930 Tilt: 0 Range: 59.6 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	20.1	20.1	20.6	20.1	20.6	20.1	20.6	32.4
22.5	32.2	32.2	32.2	32.2	32.4	32.4	32.4	32.4
45.0	32.7	32.7	33.2	33.2	33.9	34.4	34.7	34.7
67.5	34.9	34.9	35.4	35.2	35.2	35.2	35.4	35.4
90.0	35.2	34.9	35.2	34.9	34.9	34.7	34.7	34.4
112.5	34.7	34.2	34.7	34.4	34.2	33.9	33.4	33.2
135.0	32.9	33.2	32.7	32.7	32.7	32.7	32.2	32.4
157.5	31.9	31.7	31.4	30.9	30.4	30.4	29.7	30.4
180.0	28.9	27.1	27.1	27.1	26.6	26.6	26.1	25.9
202.5	25.9	25.9	25.6	25.4	24.9	24.4	24.9	24.4
225.0	24.9	25.4	24.9	25.1	24.9	24.9	24.9	25.1
247.5	24.9	25.1	24.9	24.9	24.4	24.9	24.4	24.4
270.0	23.9	23.9	23.9	23.4	23.4	22.9	22.9	22.6
292.5	22.4	22.1	21.9	21.9	21.6	21.4	21.6	21.6
315.0	21.4	21.4	21.1	21.6	21.1	21.4	20.6	20.1
337.5	20.1	20.6	20.1	20.1	20.1	19.6	19.6	19.6

Depth: 932 Tilt: 0 Range: 59.6 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	17.6	17.6	17.6	17.6	17.1	17.1	17.6	30.2
22.5	30.7	30.4	31.2	31.4	31.9	32.2	32.4	32.9
45.0	33.2	33.2	33.4	33.4	33.4	33.2	33.7	33.7
67.5	33.7	33.7	33.2	33.4	33.2	32.7	32.4	32.2
90.0	32.2	31.9	31.9	31.9	31.7	31.9	31.7	31.4
112.5	31.2	30.9	30.9	30.7	30.7	30.4	30.2	29.7
135.0	29.2	29.2	29.2	28.9	28.4	28.2	27.9	27.4
157.5	26.6	25.4	24.4	23.9	23.9	23.9	23.4	23.4
180.0	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.9
202.5	23.4	23.9	23.4	23.9	23.4	23.9	23.4	22.9
225.0	22.9	22.9	22.9	22.9	22.4	22.4	21.9	21.4
247.5	21.1	20.9	20.6	20.1	20.1	20.1	19.1	19.1
270.0	19.1	18.6	19.1	19.1	18.6	18.6	19.1	18.6
292.5	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6
315.0	18.1	18.1	17.6	18.1	17.6	18.1	17.6	17.6
337.5	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6

Depth: 934 Tilt: 0 Range: 59.6 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	16.3	16.3	16.1	16.3	15.8	16.3	16.3	21.9
22.5	22.1	23.4	23.4	23.9	23.9	24.4	23.9	24.4
45.0	24.4	25.4	24.9	25.6	26.1	26.1	26.1	26.1
67.5	26.1	26.6	26.9	26.9	27.1	27.4	27.4	27.9
90.0	28.2	28.2	28.2	28.2	28.4	28.9	29.9	29.4
112.5	29.9	29.7	30.2	29.9	30.4	30.2	30.4	29.9
135.0	30.4	30.2	30.2	29.9	29.9	29.4	29.2	28.9
157.5	29.4	29.2	29.2	28.9	29.2	28.9	28.7	26.9
180.0	26.6	26.4	26.4	26.1	26.6	25.9	26.4	26.1
202.5	25.9	24.9	24.4	24.9	23.4	23.4	23.4	22.9
225.0	23.4	22.6	22.9	22.4	22.6	21.9	22.1	21.9
247.5	22.1	22.1	21.9	21.6	21.4	21.6	21.1	20.9
270.0	20.9	20.6	20.9	21.1	20.1	20.1	20.1	20.1
292.5	20.1	19.6	19.6	19.1	19.6	19.1	19.1	18.6
315.0	18.6	18.6	18.6	17.6	17.6	17.1	17.1	17.1
337.5	16.6	16.6	17.1	16.6	16.6	16.6	16.6	16.6

Depth: 936 Tilt: 0 Range: 79.4 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	21.5	21.5	21.5	21.8	22.8	25.1	25.5	26.8
22.5	29.5	31.5	34.9	38.2	41.2	41.6	41.2	42.2
45.0	42.6	43.2	43.6	44.2	43.6	43.2	42.9	43.6
67.5	43.2	42.9	43.2	43.2	42.6	42.9	42.6	42.6
90.0	42.2	42.2	42.9	42.9	43.2	43.2	43.6	43.9
112.5	44.2	43.2	43.6	43.9	43.6	43.6	43.2	43.6
135.0	43.9	43.2	41.9	39.9	38.2	37.5	36.5	35.5
157.5	33.9	31.8	28.8	26.8	25.1	21.8	20.8	20.1
180.0	20.4	20.1	20.4	20.4	20.4	20.4	20.8	20.4
202.5	20.4	20.4	20.1	20.4	20.8	21.5	20.8	21.5
225.0	21.5	21.5	21.5	21.5	21.5	20.8	20.8	21.5
247.5	21.5	20.8	20.8	21.5	21.5	20.8	20.8	20.8
270.0	20.4	20.8	20.8	20.8	20.8	20.8	21.5	21.5
292.5	20.8	21.5	21.8	22.5	21.8	22.5	22.5	23.5
315.0	24.5	24.5	24.5	23.5	23.5	23.5	23.5	23.5
337.5	23.5	22.8	22.5	22.5	21.8	21.5	22.5	22.5

Depth: 938 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	81.6	81.6	81.6	81.6	81.6	81.6	81.6	82.1
22.5	82.6	82.1	82.6	82.6	83.0	82.6	82.6	82.6
45.0	83.0	82.6	82.6	83.0	82.6	83.0	83.0	83.0
67.5	83.0	83.5	83.0	83.5	84.0	84.0	84.4	84.4
90.0	85.3	85.3	85.3	86.3	86.3	86.7	87.2	87.7
112.5	87.7	88.1	88.1	88.1	88.6	88.6	88.1	88.6
135.0	88.6	88.1	87.7	88.1	87.7	88.1	87.7	87.7
157.5	87.7	87.2	87.2	87.7	88.1	87.7	87.7	87.7
180.0	87.2	86.7	86.7	86.7	86.3	86.3	86.7	86.7
202.5	87.2	86.7	86.7	86.7	86.7	86.7	87.7	86.7
225.0	86.3	85.8	86.7	85.8	80.7	81.2	81.6	81.2
247.5	81.6	81.2	81.6	80.7	81.2	80.2	80.7	80.2
270.0	80.2	80.2	80.2	80.2	80.7	80.7	80.7	80.7
292.5	80.7	80.7	80.7	81.2	80.7	81.2	80.7	80.7
315.0	80.7	80.7	80.2	79.8	80.2	79.8	80.2	79.8
337.5	80.2	80.7	80.2	80.7	81.2	81.2	81.2	81.2

Depth: 940 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	83.0	82.6	81.6	82.1	81.2	81.6	82.6	83.0
22.5	81.6	82.1	82.1	82.6	82.1	83.5	82.6	83.0
45.0	82.6	83.0	83.5	83.0	84.0	82.6	83.0	83.0
67.5	82.1	82.1	83.0	83.0	83.5	83.5	84.9	84.4
90.0	83.5	84.0	84.9	84.4	83.5	84.9	84.4	85.3
112.5	85.8	85.8	85.3	87.2	87.2	87.2	86.3	85.8
135.0	86.7	86.7	87.2	85.8	86.3	86.3	86.3	85.8
157.5	85.3	85.8	85.8	85.8	85.3	85.8	85.8	85.8
180.0	87.2	85.8	85.3	85.8	84.9	84.9	85.3	84.4
202.5	84.4	84.9	84.4	84.4	84.4	84.9	84.4	84.4
225.0	84.0	84.9	84.9	84.0	85.3	84.4	84.9	84.4
247.5	84.0	81.2	81.2	81.2	80.2	80.7	81.2	80.7
270.0	80.7	79.8	80.7	81.2	80.7	81.2	81.6	81.6
292.5	79.8	79.3	81.2	80.7	80.2	81.2	81.2	81.2
315.0	81.2	81.2	81.2	81.2	82.1	82.1	83.0	82.6
337.5	81.6	82.6	81.6	83.0	82.6	82.1	81.6	82.1

Depth: 942 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	78.4	78.4	79.3	79.3	79.8	80.2	80.2	80.2
22.5	80.2	79.8	80.2	80.2	80.2	80.2	80.2	80.2
45.0	80.2	80.7	79.8	79.3	79.8	80.2	80.2	80.2
67.5	80.2	79.8	80.2	79.3	78.9	78.4	78.4	79.3
90.0	78.9	79.8	78.9	79.8	80.2	79.8	79.8	80.2
112.5	79.8	80.2	79.8	80.2	80.2	80.2	80.2	80.2
135.0	80.2	80.2	80.2	80.2	80.2	80.2	79.8	80.2
157.5	80.7	80.2	80.2	80.2	80.2	79.8	79.8	79.8
180.0	79.8	80.7	80.7	80.7	81.2	80.2	81.2	81.2
202.5	80.7	80.7	81.2	81.6	82.6	82.6	83.5	83.0
225.0	84.0	84.9	84.4	84.9	80.2	79.8	79.8	79.8
247.5	79.3	79.3	79.3	79.3	79.3	79.8	79.3	79.8
270.0	79.3	78.9	78.9	78.9	78.9	78.9	78.4	79.3
292.5	78.9	79.3	78.4	78.4	77.0	76.5	76.5	76.1
315.0	76.1	76.1	76.1	76.5	76.1	77.0	77.0	77.5
337.5	78.4	78.9	78.4	78.9	78.4	78.9	78.9	78.4

Depth: 944 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	71.4	71.4	71.4	71.9	72.8	73.8	80.7	80.7
22.5	80.7	80.7	80.7	81.2	80.7	81.2	80.7	81.2
45.0	81.2	81.2	81.2	81.2	81.2	81.2	80.7	80.7
67.5	80.2	80.2	79.8	80.2	79.8	79.8	79.8	80.2
90.0	79.8	79.8	79.8	79.3	79.8	79.8	79.3	78.4
112.5	77.9	77.5	76.5	76.1	76.1	76.1	76.1	76.1
135.0	75.6	75.1	75.1	75.1	75.6	75.6	75.6	75.1
157.5	75.1	74.7	74.7	74.7	74.2	73.8	73.3	73.3
180.0	84.4	84.0	84.9	84.9	84.4	84.9	85.3	84.0
202.5	84.4	83.5	84.0	83.5	82.6	82.6	82.1	82.6
225.0	81.2	80.7	81.2	81.2	80.7	80.7	79.8	79.3
247.5	77.9	77.5	77.5	76.5	76.5	75.1	75.1	74.7
270.0	74.7	74.7	74.2	73.8	73.8	73.8	73.8	73.8
292.5	73.3	73.3	73.3	72.8	72.4	71.9	71.9	71.9
315.0	71.9	72.8	72.4	73.3	72.8	73.3	73.3	72.8
337.5	73.3	72.8	72.4	71.9	72.4	71.9	71.9	71.4

Depth: 946 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	70.0	71.0	71.4	71.4	71.4	71.0	71.9	81.2
22.5	81.2	81.6	81.6	81.6	80.7	81.2	80.7	81.2
45.0	81.2	80.7	80.2	80.7	80.2	80.7	80.2	80.7
67.5	80.2	80.2	80.2	80.2	79.3	79.8	79.3	79.8
90.0	79.8	79.3	79.3	79.3	79.8	78.9	78.4	77.9
112.5	77.0	76.5	77.0	77.9	77.5	77.9	77.5	77.9
135.0	77.5	77.0	76.5	76.1	77.0	76.1	76.1	76.5
157.5	75.6	76.1	76.1	76.5	76.5	75.6	76.1	75.6
180.0	74.2	73.3	73.8	73.3	73.8	73.8	73.8	73.8
202.5	73.8	73.8	73.8	73.8	73.3	73.3	73.8	73.3
225.0	72.8	72.4	72.8	72.4	71.9	72.8	72.4	71.9
247.5	71.4	71.9	72.8	72.4	71.4	71.4	71.0	71.0
270.0	70.5	70.0	70.0	69.6	69.1	69.1	68.6	68.6
292.5	68.6	69.1	69.1	69.1	69.1	69.1	69.1	69.6
315.0	69.6	69.6	69.1	69.1	69.6	69.6	69.6	68.6
337.5	68.6	68.6	69.1	69.1	69.1	69.1	70.0	69.6

Depth: 950 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	68.2	68.2	68.6	70.0	73.3	76.5	76.5	75.6
22.5	75.6	75.1	75.6	76.1	77.0	76.1	75.1	76.1
45.0	75.6	76.5	77.5	77.9	77.5	77.9	78.9	77.9
67.5	77.5	76.5	76.1	77.0	77.0	77.9	77.9	77.5
90.0	77.5	76.5	76.5	77.0	75.6	75.1	75.1	76.1
112.5	76.1	76.5	76.1	76.5	76.1	75.1	74.7	75.1
135.0	74.7	74.2	73.8	74.7	73.8	73.3	74.2	75.1
157.5	73.8	72.8	73.3	72.8	72.8	72.4	71.9	71.9
180.0	71.9	71.9	72.4	72.4	72.4	72.4	71.9	71.9
202.5	72.4	72.4	72.8	71.9	71.4	71.4	72.4	71.9
225.0	71.4	73.3	74.2	75.6	76.1	77.0	78.4	77.9
247.5	78.4	77.5	75.6	74.7	73.3	72.4	71.0	70.0
270.0	70.0	69.1	67.3	66.3	66.3	65.9	66.8	67.3
292.5	67.7	66.8	66.8	66.3	66.8	66.3	66.8	66.8
315.0	67.3	67.3	67.3	66.8	66.3	65.9	65.9	66.3
337.5	66.3	66.3	66.3	66.3	65.9	67.3	68.2	68.2

Depth: 952 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	58.0	58.9	58.9	59.8	59.4	59.4	72.4	75.1
22.5	76.1	75.1	76.1	76.5	76.5	77.0	77.5	77.0
45.0	77.9	77.9	78.9	77.9	77.5	75.6	75.1	74.2
67.5	74.7	74.7	75.1	74.7	74.7	75.6	77.5	77.0
90.0	77.9	76.5	75.6	75.1	76.5	75.6	75.1	76.1
112.5	76.5	76.1	75.1	74.7	73.8	72.8	72.4	72.4
135.0	72.4	72.8	72.8	73.3	72.8	73.3	73.3	72.8
157.5	72.8	73.3	73.8	75.1	76.1	74.7	73.8	73.3
180.0	73.8	74.7	74.7	75.6	75.6	76.5	77.0	75.1
202.5	74.2	74.7	75.1	61.7	59.8	59.8	59.8	59.4
225.0	59.8	59.8	59.4	58.9	58.9	58.9	58.9	58.9
247.5	58.4	59.4	59.4	59.4	58.9	59.4	59.4	58.9
270.0	58.0	58.4	58.4	58.0	57.1	56.1	56.6	57.5
292.5	58.0	58.4	59.4	58.9	59.8	59.4	58.0	58.4
315.0	58.4	58.0	58.0	58.9	60.8	60.8	60.3	58.9
337.5	58.0	58.4	58.0	58.4	58.9	58.4	58.0	58.4

Depth: 954 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	74.2	75.1	75.1	75.1	75.1	75.6	77.5	79.8
22.5	81.6	81.6	81.2	81.6	81.2	80.7	80.7	80.2
45.0	81.2	80.7	80.7	80.7	81.2	80.7	81.2	80.7
67.5	81.6	82.1	81.6	82.1	82.1	81.6	81.6	82.1
90.0	81.6	81.6	81.2	81.2	80.7	80.7	81.2	81.6
112.5	81.2	81.2	80.7	81.2	81.2	81.2	81.2	81.2
135.0	81.2	81.6	81.2	80.7	80.7	79.8	79.3	77.0
157.5	75.1	75.1	74.7	74.7	75.1	75.1	76.1	76.1
180.0	76.5	74.7	74.7	71.9	70.5	70.0	69.6	64.9
202.5	63.5	62.6	63.1	63.1	63.5	63.5	63.5	64.5
225.0	64.0	64.0	64.5	65.9	65.4	66.3	66.8	68.2
247.5	68.2	68.2	69.6	69.1	69.6	70.5	71.9	71.9
270.0	71.4	71.9	72.4	72.8	72.4	73.3	72.8	73.3
292.5	72.8	72.8	72.8	72.4	72.4	72.8	72.8	73.3
315.0	72.8	73.3	73.3	73.3	73.8	74.7	75.1	75.6
337.5	75.6	76.5	76.5	76.5	76.1	75.6	75.1	74.7

Depth: 956 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	83.0	82.6	82.6	82.1	81.6	80.7	81.2	81.2
22.5	81.6	81.6	82.1	82.6	82.1	82.1	82.1	82.1
45.0	81.6	82.1	82.6	82.1	82.6	82.1	82.6	82.1
67.5	82.1	82.6	82.1	82.1	82.1	82.6	82.1	81.6
90.0	82.1	81.2	82.1	81.2	81.6	82.1	81.6	81.2
112.5	80.7	79.8	79.8	80.7	80.2	80.2	81.2	81.2
135.0	81.2	80.7	81.2	81.2	81.2	79.3	78.4	78.4
157.5	78.4	79.3	79.8	79.3	79.3	80.7	81.6	82.1
180.0	82.1	82.1	82.1	82.1	81.6	81.6	81.6	82.6
202.5	82.1	82.1	82.1	82.1	82.6	82.6	82.1	82.1
225.0	82.6	82.6	83.5	83.5	84.0	84.4	84.4	84.4
247.5	84.0	84.0	83.5	84.0	84.0	84.9	84.4	84.9
270.0	85.3	84.9	84.4	84.4	84.4	84.0	84.4	84.4
292.5	84.4	84.0	83.0	83.5	83.5	83.5	83.5	83.0
315.0	83.5	84.0	83.5	83.0	82.6	83.0	83.0	83.0
337.5	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.1

Depth: 958 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	79.3	80.2	79.3	78.9	79.3	78.9	79.3	79.8
22.5	80.7	80.7	81.2	80.7	81.2	81.6	81.6	81.2
45.0	81.2	81.2	81.6	81.6	81.6	82.1	82.6	82.6
67.5	82.6	82.1	83.0	82.1	82.6	83.5	83.0	83.0
90.0	83.0	83.0	83.0	83.0	83.5	83.0	83.0	82.6
112.5	82.6	81.6	82.6	82.6	82.1	83.0	84.0	84.4
135.0	84.4	83.5	83.0	83.0	83.0	84.0	83.5	84.0
157.5	83.5	83.5	84.0	82.6	83.5	83.0	83.5	82.1
180.0	82.1	81.2	79.8	78.4	78.4	78.4	78.4	77.5
202.5	77.9	77.9	77.5	77.5	77.5	77.9	77.9	77.9
225.0	77.9	77.9	77.5	77.9	77.5	77.9	77.5	77.9
247.5	77.5	77.5	78.9	77.9	77.9	77.9	77.9	77.9
270.0	77.5	77.9	77.5	77.5	77.9	77.0	77.5	77.9
292.5	77.9	78.4	78.4	78.4	78.4	77.9	78.4	78.4
315.0	78.4	78.4	77.9	78.4	79.3	78.4	77.9	78.4
337.5	78.4	78.4	78.4	78.4	78.9	78.4	79.3	78.9

Depth: 960 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	79.3	79.3	79.3	79.3	79.8	80.2	79.8	79.8
22.5	80.2	80.2	80.2	80.7	80.7	80.7	80.7	80.2
45.0	80.7	80.2	80.2	81.2	81.2	81.6	81.6	81.6
67.5	81.2	81.2	81.2	81.2	81.6	82.1	82.1	82.1
90.0	82.6	82.1	82.6	82.1	82.1	82.1	82.6	82.1
112.5	82.6	82.6	82.1	82.6	83.0	82.6	83.0	83.5
135.0	84.0	84.0	83.5	83.5	83.0	82.6	83.0	83.0
157.5	83.0	83.0	83.0	83.0	82.1	82.1	82.1	82.1
180.0	82.6	82.1	81.6	81.6	81.2	82.1	80.2	79.3
202.5	79.3	78.9	78.9	78.4	78.9	78.4	78.4	78.4
225.0	78.4	78.9	78.9	78.4	78.4	78.4	78.4	78.4
247.5	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9
270.0	77.5	77.9	77.5	77.9	77.5	77.9	77.9	78.4
292.5	77.9	78.4	77.9	78.4	78.4	78.9	79.3	78.9
315.0	78.9	78.4	78.9	78.9	78.9	78.9	78.9	78.4
337.5	78.4	78.9	79.3	79.3	79.3	79.3	78.9	78.9

Depth: 965 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	80.7	80.2	80.7	80.7	80.7	80.2	80.2	80.2
22.5	79.8	80.2	80.2	80.2	80.2	80.2	80.2	80.2
45.0	80.2	80.7	80.2	80.7	80.2	80.2	80.2	80.2
67.5	80.7	80.2	80.2	80.7	80.7	81.6	81.6	81.2
90.0	81.2	81.6	81.6	81.2	81.2	81.2	81.6	81.6
112.5	81.2	81.6	81.6	81.6	81.2	81.6	81.6	81.6
135.0	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6
157.5	81.6	81.2	81.6	81.6	81.6	81.2	81.6	82.1
180.0	82.6	82.6	82.1	81.6	82.1	81.6	81.2	81.6
202.5	81.6	81.2	81.2	81.2	80.7	81.2	80.7	80.7
225.0	81.6	81.2	81.2	79.8	79.3	79.3	78.9	78.9
247.5	79.3	78.9	78.9	78.9	79.3	78.9	78.9	78.4
270.0	78.9	78.4	78.4	78.4	78.4	78.9	78.4	78.9
292.5	78.9	78.9	78.4	78.9	78.4	78.9	78.4	78.4
315.0	78.4	78.4	78.9	78.4	79.3	78.9	79.3	79.3
337.5	79.3	79.8	79.3	79.8	79.8	80.7	80.2	80.2

Depth: 970 Tilt: 0 Range: 109.9 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	82.1	82.1	82.6	82.6	82.1	81.6	81.6	82.1
22.5	81.2	81.2	81.6	82.1	82.1	82.1	82.6	82.6
45.0	82.1	82.1	82.1	82.6	82.1	82.1	82.1	81.6
67.5	81.6	81.6	81.6	81.6	81.2	81.2	81.2	81.6
90.0	81.2	81.6	81.6	81.6	81.2	81.6	81.6	81.6
112.5	81.2	81.2	80.7	81.2	80.7	80.7	80.7	81.2
135.0	80.7	81.2	81.6	81.6	81.6	81.6	81.2	81.2
157.5	81.2	81.2	81.2	81.6	81.2	80.7	80.2	79.8
180.0	79.8	79.8	79.3	79.3	79.3	79.8	79.3	79.3
202.5	79.3	79.3	79.3	78.9	78.9	78.9	79.3	79.3
225.0	79.3	79.3	79.3	79.8	80.2	80.2	80.2	79.8
247.5	80.2	82.6	83.0	82.6	82.6	83.0	83.5	83.0
270.0	84.0	83.5	84.0	83.5	82.6	82.6	82.6	81.6
292.5	81.6	82.6	83.0	82.6	82.6	83.0	82.1	81.6
315.0	82.6	81.6	81.2	81.2	81.2	81.6	81.6	81.2
337.5	81.2	80.2	79.8	80.2	80.2	81.2	81.6	81.6

Depth: 975 Tilt: 0 Range: 109.9 VOS: 5986

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	72.8	72.4	72.4	72.4	73.3	73.3	73.3	73.8
22.5	74.2	74.2	74.2	74.2	74.7	74.7	73.8	73.3
45.0	72.4	72.8	72.8	72.8	72.4	72.8	73.3	72.8
67.5	73.8	73.8	74.7	74.2	73.8	74.2	73.8	74.2
90.0	73.8	74.7	74.7	75.2	76.5	75.6	76.5	77.5
112.5	77.0	77.5	77.5	77.0	77.0	77.5	77.5	78.4
135.0	78.9	78.4	78.9	79.3	79.3	79.8	81.6	81.6
157.5	81.6	81.6	80.7	81.2	81.6	80.7	80.3	80.3
180.0	80.7	80.7	79.8	78.9	78.9	79.3	78.9	79.3
202.5	79.3	79.8	79.3	79.3	75.2	74.7	74.7	75.2
225.0	74.7	75.2	74.7	75.2	74.7	73.8	73.3	73.8
247.5	73.8	74.2	73.3	73.8	72.8	73.3	73.8	73.3
270.0	73.8	73.8	73.8	73.8	72.8	72.4	72.8	73.3
292.5	73.3	72.8	72.8	71.9	72.8	72.4	72.4	71.9
315.0	71.9	72.4	71.9	72.4	71.4	72.4	72.4	72.8
337.5	71.9	72.4	72.8	72.4	71.9	72.8	72.8	73.3

Depth: 980 Tilt: 0 Range: 99.3 VOS: 5986

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	65.8	66.6	66.6	66.2	66.6	67.5	66.6	67.0
22.5	67.0	67.0	65.8	66.2	67.0	66.2	67.5	66.6
45.0	64.1	64.1	64.9	64.5	64.9	66.2	65.8	66.2
67.5	67.5	66.6	65.8	66.6	67.0	67.5	67.9	68.3
90.0	67.5	68.3	67.9	67.5	68.7	67.9	67.5	67.9
112.5	68.3	67.5	68.3	68.7	68.7	68.3	67.9	67.9
135.0	69.1	69.6	69.6	69.1	69.6	69.1	68.3	67.5
157.5	67.0	66.6	66.6	66.2	66.2	66.6	65.8	66.6
180.0	66.2	65.8	65.8	64.9	65.4	65.4	66.2	66.2
202.5	65.8	66.2	66.2	67.0	66.2	67.0	66.6	67.5
225.0	67.0	67.9	67.9	67.5	68.3	67.5	66.6	67.5
247.5	66.2	66.6	67.5	66.6	66.2	66.2	66.6	66.6
270.0	66.6	66.6	66.2	66.2	66.6	65.8	65.8	65.8
292.5	66.2	65.8	66.2	66.6	67.5	66.6	66.6	66.6
315.0	66.2	66.6	67.0	66.6	66.2	66.2	67.0	66.2
337.5	66.6	66.2	66.2	66.6	66.6	66.2	65.4	66.2

Depth: 985 Tilt: 0 Range: 99.3 VOS: 5986

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	58.7	58.7	59.1	59.1	58.2	58.7	57.8	58.2
22.5	58.7	59.1	59.1	59.9	59.9	59.5	59.9	59.5
45.0	59.1	59.1	59.5	59.9	59.9	60.3	60.8	60.8
67.5	61.2	61.2	61.2	61.6	60.8	61.2	60.8	60.8
90.0	61.2	61.2	61.6	61.2	61.2	61.6	61.6	62.4
112.5	62.4	62.9	62.9	63.3	63.3	63.3	63.3	63.3
135.0	63.7	64.1	63.3	63.3	62.9	61.2	59.1	59.5
157.5	58.7	59.1	59.1	59.5	58.7	59.1	58.7	58.2
180.0	57.8	57.8	57.8	57.8	57.0	54.1	54.5	53.6
202.5	54.1	53.6	53.6	53.6	52.8	53.6	53.2	53.6
225.0	54.1	54.5	54.9	55.3	55.3	55.7	54.5	54.9
247.5	54.9	54.5	53.6	54.1	53.6	54.1	54.1	54.1
270.0	54.1	55.3	55.7	55.3	55.7	55.3	55.7	55.3
292.5	56.1	56.1	57.4	57.0	57.4	58.2	57.8	58.2
315.0	57.8	58.2	57.8	57.8	57.4	57.8	57.4	57.8
337.5	57.4	58.7	59.1	59.5	59.1	59.9	59.5	59.1

Depth: 990 Tilt: 0 Range: 99.3 VOS: 5986

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	52.4	52.4	53.2	53.2	53.2	52.8	51.1	50.7
22.5	50.3	50.3	50.3	50.3	49.4	49.9	49.4	49.9
45.0	50.3	50.3	51.1	50.3	50.3	49.9	50.3	49.9
67.5	50.7	50.3	50.3	49.9	50.7	50.3	50.3	50.7
90.0	50.7	51.1	50.7	50.7	50.3	50.7	50.3	49.9
112.5	50.3	50.7	51.5	52.8	53.2	53.2	53.2	54.1
135.0	54.5	53.2	53.2	52.8	52.0	52.0	52.4	52.8
157.5	52.4	51.1	52.0	52.4	52.8	52.4	52.4	52.4
180.0	52.0	52.4	51.1	51.1	51.1	51.1	51.1	50.3
202.5	49.9	50.7	50.7	50.7	50.3	50.7	50.7	51.5
225.0	51.5	51.5	51.1	51.5	52.4	52.8	53.6	53.2
247.5	52.8	53.2	52.8	53.2	52.8	51.5	51.5	50.3
270.0	49.9	50.7	52.0	52.8	52.8	52.4	52.4	52.4
292.5	52.0	51.1	51.5	51.5	52.4	52.0	51.1	49.9
315.0	49.9	50.7	49.9	50.3	49.9	49.9	49.9	50.3
337.5	50.7	49.9	49.4	50.7	50.7	51.1	52.4	52.4

Depth: 993 Tilt: 0 Range: 99.3 VOS: 5985

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	45.2	45.2	45.2	45.2	45.2	45.2	46.1	46.1
22.5	47.3	49.9	49.0	47.8	20.5	21.4	20.9	20.5
45.0	19.7	20.5	20.1	19.7	20.5	20.5	20.1	20.1
67.5	20.1	20.9	20.5	20.1	20.5	20.9	20.9	21.8
90.0	22.2	22.2	22.2	38.1	37.3	36.4	35.6	34.8
112.5	43.2	43.2	41.5	41.5	42.3	41.5	39.8	39.4
135.0	39.4	41.5	41.9	41.1	40.2	40.6	39.8	40.2
157.5	39.0	38.1	39.0	39.8	39.8	39.8	39.8	41.1
180.0	41.5	42.3	41.5	40.6	40.2	38.5	37.3	37.3
202.5	37.3	38.1	38.5	38.1	38.5	38.1	37.7	37.7
225.0	37.7	38.5	37.7	38.5	39.0	38.5	37.7	37.3
247.5	37.7	37.7	37.3	37.3	36.4	35.2	35.2	34.8
270.0	33.5	32.3	31.0	31.0	30.6	30.6	30.6	31.0
292.5	31.4	31.4	33.1	33.5	34.8	35.2	44.4	44.0
315.0	44.8	45.7	47.8	48.2	48.2	47.8	47.8	47.8
337.5	47.3	46.1	45.7	46.1	45.7	45.7	45.2	44.8

Depth: 995 Tilt: 0 Range: 49.7 VOS: 5986

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	39.2	39.0	39.2	39.6	40.2	40.4	40.6	40.0
22.5	39.8	38.5	35.6	34.4	34.4	34.2	33.5	32.7
45.0	31.8	31.6	30.4	29.1	28.3	27.7	26.6	24.9
67.5	21.4	16.3	15.9	15.9	15.5	15.7	15.5	16.1
90.0	17.0	17.4	17.4	17.6	17.6	17.4	17.8	17.8
112.5	17.6	17.6	17.6	17.2	17.4	16.3	16.1	15.9
135.0	27.9	29.3	30.4	30.8	38.1	41.7	43.6	45.5
157.5	46.9	47.6	48.0	46.7	46.3	46.1	45.7	45.5
180.0	44.4	44.2	43.4	42.1	41.9	39.4	17.4	13.4
202.5	11.3	11.1	11.1	11.1	11.5	11.3	11.1	11.3
225.0	11.1	11.1	11.1	11.1	10.5	9.8	9.8	9.6
247.5	9.8	9.6	9.6	9.6	8.6	8.0	7.3	6.7
270.0	6.5	6.5	6.5	6.3	5.9	5.7	5.7	5.4
292.5	5.4	5.4	5.9	5.9	6.1	6.5	6.3	6.3
315.0	6.3	5.9	5.9	6.1	6.1	6.1	6.1	6.3
337.5	6.3	6.5	6.9	37.7	38.8	39.0	39.6	39.0

Depth: 995 Tilt: -90 Range: 49.7 VOS: 5986

Bearing	+ 0.0	+ 2.8	+ 5.6	+ 8.4	+11.3	+14.1	+16.9	+19.7
0.0	2.9	2.9	2.9	2.9	2.9	2.7	2.7	2.9
22.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
45.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
67.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
90.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
112.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
135.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
157.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
180.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
202.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
225.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
247.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
270.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
292.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
315.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
337.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9

SONAR SURVEY

MICRO GAGE, INC.

FERRELLGAS
WELL NO. 2 P/N 557
FEBRUARY 28, 1989
ADAMANA FIELD HOLBROOK, ARIZONA

CUSTOMER REP : DAVE JONES
JOB NO: 79
SONAR OPERATOR: J. CHILDRESS
HOIST OPERATOR: J. CHILDRESS

WELL DATA:
PERMANENT DATUM: B.H.F.
ZERO: B.H.F.
CASING DIA: 9-5/8"
CASING DEPTH: 696'
INTERMEDIATE DIA : 7"
INTERMEDIATE DEPTH : OUT FOR SONAR
TUBING DIA : 4 1/2"
TUBING DEPTH : OUT FOR SONAR
CUSTOMER T.D. 997'
SONAR T.D. 997'

VOLUME REPORT

DEPTH feet	DEPTH meters	INCR ft^3	TOTAL ft^3	INCR m^3	TOTAL m^3	INCR bbls	TOTAL bbls
897	273.4	0	0	0.0	0	0.0	0
898	273.7	8	8	.2	0	1.4	1
899	274.0	9	17	.2	0	1.6	3
900	274.3	9	27	.2	0	1.6	4
901	274.6	9	36	.2	1	1.6	6
902	274.9	5	42	.1	1	.8	7
903	275.2	2	44	.0	1	.3	7
904	275.5	2	46	.0	1	.3	8
905	275.8	30	77	.8	2	5.3	13
906	276.1	248	326	7.0	9	44.1	58
907	276.4	925	1252	26.1	35	164.7	222
908	276.7	2992	4244	84.7	120	532.8	755
909	277.0	5699	9943	161.3	281	1014.9	1770
910	277.3	8143	18087	230.6	512	1450.2	3221
911	277.6	9730	27818	275.5	787	1732.9	4954
912	277.9	9183	37001	260.0	1047	1635.4	6589
913	278.2	8646	45647	244.8	1292	1539.8	8129
914	278.5	8119	53767	229.9	1522	1445.9	9575
915	278.8	7615	61382	215.6	1738	1356.2	10932
916	279.1	7136	68518	202.0	1940	1270.9	12203
917	279.5	6638	75157	187.9	2128	1182.2	13385
918	279.8	6128	81286	173.5	2302	1091.3	14477
919	280.1	5624	86910	159.2	2461	1001.6	15478
920	280.4	5128	92038	145.2	2606	913.2	16391
921	280.7	4692	96730	132.8	2739	835.6	17227
922	281.0	4312	101043	122.1	2861	767.9	17995
923	281.3	3946	104989	111.7	2973	702.7	18698
924	281.6	3595	108585	101.8	3075	640.2	19338
925	281.9	3236	111821	91.6	3166	576.3	19915
926	282.2	2874	114695	81.3	3248	511.8	20427
927	282.5	2572	117268	72.8	3321	458.0	20885
928	282.8	2325	119594	65.8	3386	414.0	21299
929	283.1	2084	121678	59.0	3445	371.1	21670
930	283.4	1849	123528	52.3	3498	329.3	22000
931	283.7	1648	125176	46.6	3544	293.5	22293
932	284.0	1479	126656	41.8	3586	263.4	22557
933	284.3	1323	127980	37.4	3624	235.6	22793
934	284.6	1181	129162	33.4	3657	210.3	23003
935	284.9	3877	133039	109.7	3767	690.4	23694
936	285.2	13404	146444	379.6	4147	2387.2	26081
937	285.5	20174	166618	571.3	4718	3592.9	29674
938	285.9	20183	186802	571.5	5290	3594.5	33269
939	286.2	20146	206948	570.5	5860	3588.0	36857
940	286.5	20064	227012	568.2	6428	3573.3	40430
941	286.8	19862	246874	562.4	6991	3537.4	43968
942	287.1	19543	266418	553.4	7544	3480.6	47449
943	287.4	19127	285545	541.6	8086	3406.5	50855
944	287.7	18631	304177	527.6	8614	3318.1	54173
945	288.0	18176	322354	514.7	9129	3237.1	57411
946	288.3	17748	340102	502.6	9631	3160.9	60572
947	288.6	17331	357433	490.8	10122	3086.6	63658
948	288.9	16927	374361	479.3	10601	3014.6	66673
949	289.2	16534	390895	468.2	11070	2944.7	69618
950	289.5	16154	407049	457.4	11527	2877.0	72495

VOLUME REPORT

DEPTH feet	DEPTH meters	INCR ft³	TOTAL ft³	INCR m³	TOTAL m³	INCR bbls	TOTAL bbls
951	289.8	15554	422603	440.4	11968	2770.1	75265
952	290.1	14778	437381	418.5	12386	2631.9	77897
953	290.4	14710	452092	416.5	12803	2619.8	80517
954	290.7	15418	467510	436.6	13239	2745.9	83263
955	291.0	16963	484473	480.3	13720	3021.1	86284
956	291.3	19493	503967	552.0	14272	3471.7	89756
957	291.6	20870	524837	591.0	14863	3716.9	93473
958	291.9	20844	545682	590.3	15453	3712.3	97185
959	292.3	20835	566517	590.0	16043	3710.7	100896
960	292.6	20842	587360	590.2	16634	3711.9	104608
961	292.9	20814	608174	589.4	17223	3706.9	108315
962	293.2	20745	628920	587.4	17811	3694.6	112010
963	293.5	20677	649598	585.5	18396	3682.5	115693
964	293.8	20609	670207	583.6	18980	3670.4	119363
965	294.1	20541	690749	581.7	19562	3658.3	123022
966	294.4	20469	711219	579.6	20141	3645.5	126668
967	294.7	20405	731624	577.8	20719	3634.1	130302
968	295.0	20345	751969	576.1	21295	3623.4	133925
969	295.3	20288	772258	574.5	21870	3613.2	137539
970	295.6	20236	792494	573.0	22443	3604.0	141143
971	295.9	19799	812293	560.7	23004	3526.2	144669
972	296.2	18992	831286	537.8	23542	3382.4	148052
973	296.5	18205	849491	515.5	24057	3242.3	151294
974	296.8	17438	866929	493.8	24551	3105.7	154400
975	297.1	16690	883620	472.6	25024	2972.4	157372
976	297.4	15989	899609	452.8	25476	2847.6	160220
977	297.7	15347	914957	434.6	25911	2733.3	162953
978	298.0	14719	929676	416.8	26328	2621.4	165575
979	298.3	14105	943782	399.4	26727	2512.1	168087
980	298.7	13506	957289	382.4	27110	2405.4	170493
981	299.0	12889	970178	365.0	27475	2295.5	172788
982	299.3	12273	982452	347.5	27823	2185.8	174974
983	299.6	11673	994125	330.5	28153	2078.9	177053
984	299.9	11090	1005215	314.0	28467	1975.1	179028
985	300.2	10523	1015739	298.0	28765	1874.1	180903
986	300.5	9939	1025678	281.4	29047	1770.1	182673
987	300.8	9356	1035035	264.9	29312	1666.3	184339
988	301.1	8792	1043828	248.9	29561	1565.8	185905
989	301.4	8247	1052075	233.5	29794	1468.7	187374
990	301.7	7720	1059796	218.6	30013	1374.9	188749
991	302.0	7172	1066968	203.1	30216	1277.3	190027
992	302.3	6622	1073590	187.5	30404	1179.3	191206
993	302.6	5537	1079127	156.8	30560	986.1	192192
994	302.9	4239	1083367	120.0	30680	754.9	192947
995	303.2	2568	1085935	72.7	30753	457.3	193405
996	303.5	890	1086826	25.2	30778	158.5	193563

VOLUME REPORT

DEPTH feet	DEPTH meters	INCR ft^3	TOTAL ft^3	INCR m^3	TOTAL m^3	INCR bbls	TOTAL bbls
897	273.4	0	0	0.0	0	0.0	0
898	273.7	8	8	.2	0	1.4	1
899	274.0	9	17	.2	0	1.6	3
900	274.3	9	27	.2	0	1.6	4
901	274.6	9	36	.2	1	1.6	6
902	274.9	5	42	.1	1	.8	7
903	275.2	2	44	.0	1	.3	7
904	275.5	2	46	.0	1	.3	8
905	275.8	30	77	.8	2	5.3	13
906	276.1	248	326	7.0	9	44.1	58
907	276.4	925	1252	26.1	35	164.7	222
908	276.7	2931	4183	83.0	118	522.0	744
910	277.3	13662	17845	386.9	505	2433.2	3178
912	277.9	18914	36759	535.6	1041	3368.5	6546
914	278.5	16765	53524	474.7	1515	2985.8	9532
916	279.1	14751	68276	417.7	1933	2627.1	12159
918	279.8	12767	81044	361.5	2295	2273.8	14433
920	280.4	10752	91796	304.4	2599	1914.9	16348
922	281.0	9004	100801	254.9	2854	1603.6	17952
924	281.6	7541	108343	213.5	3068	1343.0	19295
926	282.2	6110	114453	173.0	3241	1088.1	20384
928	282.8	4898	119352	138.7	3380	872.3	21256
930	283.4	3933	123286	111.3	3491	700.4	21957
932	284.0	3128	126414	88.5	3580	557.0	22514
934	284.6	2505	128919	70.9	3650	446.1	22960
936	285.2	17281	146201	489.3	4140	3077.7	26038
938	285.9	40358	186560	1142.9	5283	7187.7	33226
940	286.5	40210	226770	1138.7	6422	7161.4	40387
942	287.1	39406	266176	1115.9	7538	7018.2	47405
944	287.7	37758	303935	1069.3	8607	6724.6	54130
950	289.5	102872	406807	2913.3	11520	18321.5	72452
952	290.1	30332	437139	859.0	12379	5402.1	77854
954	290.7	30129	467268	853.2	13233	5365.9	83220
956	291.3	36456	503725	1032.4	14265	6492.8	89713
958	291.9	41714	545440	1181.3	15446	7429.2	97142
960	292.6	41677	587118	1180.2	16627	7422.6	104565
965	294.1	103389	690507	2927.9	19555	18413.5	122979
970	295.6	101745	792252	2881.4	22436	18120.7	141100
975	297.1	91125	883378	2580.6	25017	16229.3	157329
980	298.7	73668	957046	2086.2	27103	13120.2	170449
985	300.2	58449	1015496	1655.2	28758	10409.7	180859
990	301.7	44057	1059553	1247.6	30006	7846.5	188706
992	302.3	13794	1073348	390.6	30397	2456.7	191163
994	302.9	9776	1083125	276.8	30674	1741.1	192904
995	303.2	2568	1085693	72.7	30746	457.3	193361
996	303.5	890	1086584	25.2	30772	158.5	193520

MAJOR COMPASS RADII

Depth & Radii in feet

DEPTH	TILT	N	NE	E	SE	S	SW	W	NW
897	90	1.4	1.6	1.6	1.7	1.8	1.8	1.6	1.9
898	90	1.5	1.4	1.7	1.6	1.6	1.6	1.9	1.7
899	90	1.3	1.6	2.0	2.0	2.0	2.0	1.8	1.6
900	90	1.8	1.8	1.9	1.6	1.6	1.6	1.8	2.0
901	90	1.5	1.6	1.8	2.0	1.9	1.9	1.9	2.0
902	90	.9	1.2	.9	.9	.9	.6	.7	.6
903	90	1.2	1.2	.9	1.1	.8	.9	.9	.9
904	90	1.1	1.2	.7	.8	.8	.7	.8	.9
905	90	5.5	7.0	6.6	2.3	2.8	4.1	3.2	3.7
906	90	9.7	9.4	13.6	19.2	7.4	6.1	7.1	21.6
907	90	28.1	17.7	22.6	47.4	7.4	5.5	5.5	20.3
908	90	52.8	58.8	66.0	14.0	6.9	5.0	5.0	20.7
910	90	50.6	56.9	63.8	61.2	52.8	55.9	57.5	50.4
912	90	49.8	55.0	60.2	61.3	48.3	49.1	52.3	48.4
914	90	47.2	53.2	56.7	56.6	45.1	46.3	47.8	45.9
916	90	46.0	49.3	54.8	53.4	41.2	43.2	42.0	42.7
918	90	41.0	44.9	49.5	53.2	37.5	39.9	40.4	38.9
920	90	35.8	43.6	48.2	43.1	33.8	36.0	36.2	32.6
922	90	31.5	40.6	44.2	37.7	31.3	34.2	32.2	29.0
924	90	30.2	38.0	40.9	34.0	28.6	31.2	28.6	26.1
926	90	26.1	34.4	38.9	30.2	24.7	26.2	24.4	25.0
928	90	23.3	30.6	37.2	26.3	22.4	23.4	21.8	22.1
930	90	21.0	27.3	34.8	24.0	19.2	20.2	20.0	19.7
932	90	18.2	22.9	32.5	22.7	16.8	17.2	17.6	19.2
934	90	14.1	17.4	30.4	20.8	15.6	16.7	16.2	16.6
936	90	79.0	80.3	81.7	87.4	83.2	79.5	77.8	72.2
938	90	81.3	81.4	82.0	87.0	81.4	79.7	78.1	67.6
940	90	82.8	81.5	81.8	87.5	84.3	79.5	72.4	67.7
942	90	81.2	77.8	80.8	84.9	83.3	78.5	75.1	68.2
944	90	80.0	76.2	78.2	84.5	83.6	72.1	72.7	70.9
950	90	67.4	66.4	62.1	85.2	75.9	60.9	64.4	81.1
952	90	64.4	63.8	56.9	81.3	68.6	57.8	64.4	63.5
954	90	63.0	63.9	55.0	77.6	84.3	82.6	62.9	62.0
956	90	83.7	83.5	77.8	77.5	84.5	82.3	82.7	79.1
958	90	83.1	83.1	78.1	77.8	83.6	82.5	82.9	81.7
960	90	82.2	83.4	79.0	77.6	82.2	80.6	82.5	82.0
965	90	81.3	81.8	78.1	78.6	81.1	79.2	80.5	82.4
970	90	90.3	79.6	85.2	81.0	79.1	77.4	76.5	77.1
975	90	72.4	70.5	72.3	77.1	70.7	69.9	66.2	71.2
980	90	64.7	66.1	65.4	70.6	64.7	62.7	59.8	64.4
985	90	58.0	57.3	59.8	63.1	54.6	52.5	53.3	55.4
990	90	52.4	50.4	48.1	55.2	47.9	45.8	44.9	48.3
992	90	48.4	46.7	46.6	45.7	43.9	41.2	42.1	45.1
994	90	46.2	16.4	13.6	13.9	37.5	34.1	42.9	42.8
995	90	43.7	6.6	6.1	6.1	6.1	24.7	15.2	29.5
996	90	5.8	6.3	4.7	4.7	4.5	9.1	16.9	5.8

5 DEGREE RADII REPORT

Radii in feet

AZ	DEPTH: 897 ft			TILT: 90 degrees					
0	1.4	1.5	1.1	1.4	1.5	1.5	1.5	1.6	1.5
45	1.6	1.5	1.6	1.8	1.9	1.9	1.9	1.6	1.5
90	1.6	1.7	1.7	1.8	1.8	1.8	1.9	1.8	1.9
135	1.7	1.7	1.7	1.7	1.9	1.9	1.9	1.9	1.8
180	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
225	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
270	1.6	1.6	1.9	1.9	1.8	1.7	1.8	1.9	1.8
315	1.9	1.9	1.9	1.9	1.9	1.9	1.3	1.3	1.3

AZ	DEPTH: 898 ft			TILT: 90 degrees					
0	1.5	1.4	1.4	1.3	1.3	1.0	1.2	1.3	1.5
45	1.4	1.6	1.6	1.6	1.3	1.3	1.5	1.4	1.7
90	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.7	1.8
135	1.6	1.9	1.9	1.8	1.7	1.6	1.6	1.6	1.6
180	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
225	1.6	1.6	1.6	1.8	1.9	1.9	1.8	1.9	1.8
270	1.9	1.7	1.8	1.8	1.8	1.8	1.9	1.8	1.9
315	1.7	1.9	1.6	1.6	1.3	1.5	1.8	1.8	1.4

AZ	DEPTH: 899 ft			TILT: 90 degrees					
0	1.3	1.2	1.3	1.3	1.3	1.3	1.5	1.6	1.7
45	1.6	1.3	1.6	1.6	1.6	1.6	1.9	1.9	1.9
90	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
135	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
180	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
225	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
270	1.8	1.9	1.9	1.9	1.8	1.7	1.8	1.8	1.7
315	1.6	1.9	1.9	1.9	1.9	2.0	1.3	1.3	1.3

AZ	DEPTH: 900 ft			TILT: 90 degrees					
0	1.8	1.9	2.1	2.1	1.6	1.6	1.6	1.5	1.6
45	1.8	2.1	1.8	1.7	1.3	1.6	1.7	1.7	1.6
90	1.9	1.7	1.6	1.4	1.5	1.6	1.8	1.7	1.8
135	1.6	1.8	1.6	1.7	1.6	1.6	1.6	1.6	1.6
180	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
225	1.6	1.6	1.6	1.9	1.8	1.8	1.8	1.8	1.8
270	1.8	1.8	2.0	1.9	1.9	2.0	2.0	2.0	2.0
315	2.0	1.8	1.8	1.9	2.2	2.2	2.2	2.2	1.7

AZ	DEPTH: 901 ft			TILT: 90 degrees					
0	1.5	1.6	1.6	1.4	1.3	1.4	1.3	1.6	1.7
45	1.6	1.3	1.3	1.7	1.6	1.9	1.3	1.8	1.8
90	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0
135	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
180	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
225	1.9	1.8	1.8	1.9	1.8	1.8	1.8	1.9	1.9
270	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0
315	2.0	2.1	2.0	2.0	1.9	1.4	1.6	1.6	1.5

5 DEGREE RADII REPORT

Radii in feet

AZ DEPTH: 902 ft TILT: 90 degrees

0	.9	1.2	1.2	1.3	1.4	1.2	1.4	1.2	1.3
45	1.2	1.3	1.1	1.0	1.0	1.0	.9	.9	.9
90	.9	.9	.9	1.0	.9	.9	.9	.9	.9
135	.9	1.1	.9	.9	.9	.9	.9	.9	.9
180	.9	.9	.9	.9	.9	.9	.9	.9	.6
225	.6	.7	.7	.7	.7	.7	.7	.7	.7
270	.7	.7	.7	.7	.7	.7	.7	.7	.9
315	.6	.7	.7	.8	.7	.7	.8	1.0	1.1

AZ DEPTH: 903 ft TILT: 90 degrees

0	1.2	1.3	1.4	1.2	1.4	1.3	1.4	1.3	1.2
45	1.2	1.1	.9	1.2	.9	1.0	.9	1.0	.9
90	.9	.9	.9	.9	1.0	1.0	1.0	1.0	1.1
135	1.1	.8	.7	.8	.8	.9	.7	.8	.7
180	.8	.8	.8	.8	.9	.9	.9	.9	.9
225	.9	.9	.9	.9	.9	.9	.9	.9	.9
270	.9	.9	.9	.9	.9	.9	1.0	.9	.9
315	.9	.9	.9	1.0	.9	.9	.9	.9	1.1

AZ DEPTH: 904 ft TILT: 90 degrees

0	1.1	.9	1.3	1.7	1.6	1.6	1.6	1.4	1.3
45	1.2	1.2	.9	.9	.8	.9	.9	.9	.8
90	.7	.8	.8	.8	.8	.7	.8	.7	.8
135	.8	.7	.8	.7	.8	.7	.7	.7	.7
180	.8	.7	.7	.7	.8	.7	.8	.7	.7
225	.7	.8	.8	.7	.7	.7	.8	.8	.7
270	.8	.8	.7	.7	.7	.7	.9	.8	.9
315	.9	.9	.8	.9	1.0	1.2	1.1	1.0	1.0

AZ DEPTH: 905 ft TILT: 90 degrees

0	5.5	5.7	6.2	6.8	7.2	7.5	7.6	7.6	7.3
45	7.0	6.7	6.5	6.4	5.9	6.1	5.9	6.0	6.4
90	6.6	6.7	7.4	7.4	2.7	2.6	2.7	2.4	2.2
135	2.3	3.5	3.4	3.0	2.9	2.7	2.7	2.7	2.8
180	2.8	2.9	3.2	5.8	4.7	3.7	4.1	4.3	4.1
225	4.1	3.9	3.5	3.7	3.7	3.7	3.6	3.1	3.2
270	3.2	3.4	3.4	3.7	4.4	4.5	6.6	3.6	3.7
315	3.7	3.9	3.9	4.4	4.4	7.1	6.7	6.1	5.5

AZ DEPTH: 906 ft TILT: 90 degrees

0	9.7	12.8	13.9	13.4	14.3	13.4	10.8	10.0	9.2
45	9.4	9.5	9.4	12.0	11.7	10.6	12.5	14.1	13.9
90	13.6	13.3	13.0	15.3	18.5	16.2	13.7	13.8	13.8
135	19.2	14.9	9.6	8.7	8.7	8.4	6.2	6.3	6.9
180	7.4	8.1	8.8	8.9	8.1	7.5	6.6	6.5	6.3
225	6.1	6.0	5.6	5.4	5.7	5.9	5.9	6.3	6.8
270	7.1	7.7	8.4	8.9	10.0	11.4	16.3	18.8	22.5
315	21.6	22.5	22.5	22.5	17.0	16.9	14.9	13.0	11.4

5 DEGREE RADII REPORT

Radii in feet

AZ	DEPTH: 907 ft			TILT: 90 degrees					
0	28.1	23.6	23.3	21.3	22.1	21.8	20.5	19.6	20.8
45	17.7	22.4	17.4	20.9	22.4	23.2	23.1	20.1	20.8
90	22.6	23.7	25.3	23.3	23.3	23.3	23.3	36.1	47.4
135	47.4	15.3	14.3	11.9	10.3	6.6	6.5	6.6	6.9
180	7.4	7.4	6.8	6.8	6.8	6.1	5.8	5.1	5.4
225	5.5	5.1	4.8	4.5	4.5	4.9	4.9	4.6	4.9
270	5.5	5.2	6.2	7.5	8.7	11.9	13.9	16.3	17.7
315	20.3	23.1	34.6	52.7	32.7	35.1	42.3	31.7	20.8

AZ	DEPTH: 908 ft			TILT: 90 degrees					
0	52.8	52.1	52.1	52.1	51.9	51.7	54.1	54.6	57.3
45	58.8	60.5	60.9	61.5	63.2	64.1	63.0	63.1	64.4
90	66.0	67.4	69.1	69.5	64.5	66.7	62.8	41.4	15.5
135	14.0	11.7	10.0	6.8	5.9	5.8	6.2	6.7	6.7
180	6.9	6.5	6.3	6.1	5.8	5.5	5.5	5.2	5.2
225	5.0	5.1	4.5	4.5	4.9	4.8	4.1	4.2	4.8
270	5.0	5.7	6.6	8.2	9.5	12.9	16.5	11.7	17.9
315	20.7	21.4	52.5	53.1	53.1	52.8	52.8	52.8	52.8

AZ	DEPTH: 910 ft			TILT: 90 degrees					
0	50.6	51.6	52.2	49.5	51.2	50.3	52.7	53.3	53.0
45	56.9	58.3	59.3	60.5	60.6	61.5	61.5	60.5	62.9
90	63.8	63.8	66.5	67.2	68.9	67.7	65.7	65.2	64.7
135	61.2	60.8	57.4	56.4	54.1	53.4	54.0	55.0	56.6
180	52.8	56.6	54.6	54.6	54.6	57.5	55.4	56.3	53.9
225	55.9	57.6	56.8	60.3	57.6	53.8	55.3	54.0	56.6
270	57.5	56.0	52.0	52.4	51.4	51.2	51.3	50.8	49.5
315	50.4	50.6	50.7	51.1	50.7	50.7	50.5	50.6	51.1

AZ	DEPTH: 912 ft			TILT: 90 degrees					
0	49.8	50.8	50.9	50.2	50.1	50.1	51.4	51.7	53.4
45	55.0	55.1	56.9	58.6	58.7	59.2	58.7	57.6	59.5
90	60.2	61.9	62.3	63.2	64.0	64.7	63.4	62.8	63.0
135	61.3	59.5	58.4	55.6	50.6	49.8	50.4	49.3	48.5
180	48.3	48.7	49.0	49.4	49.4	50.1	50.2	49.9	48.8
225	49.1	50.3	52.0	51.7	52.0	50.6	50.1	50.0	51.7
270	52.3	50.7	50.0	49.8	50.2	49.8	50.1	49.6	48.4
315	48.4	48.1	48.7	48.3	47.4	48.1	48.0	49.3	49.7

AZ	DEPTH: 914 ft			TILT: 90 degrees					
0	47.2	48.8	49.1	50.6	50.3	50.1	49.4	51.0	52.9
45	53.2	53.7	55.0	55.9	56.6	56.8	56.1	55.0	54.8
90	56.7	56.8	58.9	60.2	59.8	58.6	56.2	58.0	59.2
135	56.6	55.1	53.3	49.4	47.2	46.8	46.2	47.0	46.8
180	45.1	44.0	44.3	44.8	46.3	47.2	47.0	46.3	46.1
225	46.3	47.5	46.6	46.7	46.7	47.2	46.2	45.7	47.2
270	47.8	47.3	44.1	46.6	46.2	46.3	47.5	46.8	46.2
315	45.9	46.0	45.6	45.2	45.0	44.6	44.2	46.3	46.8

5 DEGREE RADII REPORT

Radii in feet

AZ	DEPTH: 916 ft			TILT: 90 degrees					
0	46.0	46.2	48.3	48.8	48.8	47.8	46.9	48.0	49.8
45	49.3	51.1	50.2	52.2	53.8	53.9	53.4	52.5	53.1
90	54.8	56.7	57.0	57.9	55.0	55.0	54.4	55.7	55.0
135	53.4	51.7	48.5	44.6	42.6	41.9	43.0	43.2	40.8
180	41.2	40.7	41.0	42.1	44.4	44.4	43.9	42.6	43.5
225	43.2	43.3	42.7	43.2	43.5	42.9	42.5	43.6	43.4
270	42.0	41.6	43.3	43.0	43.6	42.9	43.5	43.8	42.6
315	42.7	41.9	41.1	41.2	38.3	42.2	44.1	45.4	46.2

AZ	DEPTH: 918 ft			TILT: 90 degrees					
0	41.0	40.7	42.9	44.2	44.9	45.3	44.6	44.4	41.4
45	44.9	47.6	48.2	49.9	51.9	50.6	49.5	49.1	49.4
90	49.5	51.7	52.2	53.8	54.5	53.1	52.4	51.1	48.4
135	53.2	42.3	46.6	41.9	40.6	39.4	39.7	39.3	38.7
180	37.5	37.2	37.2	37.3	37.1	37.1	38.5	41.0	41.3
225	39.9	38.8	39.8	39.6	40.0	39.7	38.6	38.4	39.2
270	40.4	40.4	39.9	39.3	40.0	40.3	40.0	40.0	39.7
315	38.9	37.7	39.2	37.4	37.8	38.2	36.2	38.9	40.8

AZ	DEPTH: 920 ft			TILT: 90 degrees					
0	35.8	36.8	39.9	40.7	41.5	41.7	40.3	40.1	41.2
45	43.6	44.0	45.2	44.7	46.8	46.6	46.5	46.9	46.5
90	48.2	49.5	50.4	50.3	49.9	48.8	48.8	45.1	42.6
135	43.1	44.3	40.8	37.6	37.1	35.8	34.8	34.1	34.1
180	33.8	33.9	33.8	33.6	34.8	36.2	36.4	36.3	35.9
225	36.0	36.3	36.6	36.7	36.2	35.8	34.8	34.8	35.9
270	36.2	36.4	35.9	36.7	36.8	36.8	36.1	35.8	32.0
315	32.6	31.0	32.0	34.8	35.0	33.2	34.4	35.1	36.1

AZ	DEPTH: 922 ft			TILT: 90 degrees					
0	31.5	34.8	36.7	37.1	36.9	38.0	37.9	38.4	40.3
45	40.6	41.9	41.9	42.6	43.6	43.4	44.4	43.9	43.9
90	44.2	46.3	46.9	46.8	46.8	46.2	40.9	38.1	39.3
135	37.7	36.7	36.0	34.4	33.5	32.8	32.5	32.5	31.8
180	31.3	31.5	31.2	30.9	32.0	32.5	33.2	33.2	33.7
225	34.2	34.2	34.3	33.8	33.3	33.2	32.5	31.9	32.2
270	32.2	33.6	32.8	33.3	33.3	33.6	33.5	31.2	29.6
315	29.0	27.8	29.4	31.4	31.9	31.9	30.9	31.1	32.3

AZ	DEPTH: 924 ft			TILT: 90 degrees					
0	30.2	31.4	31.9	31.9	33.4	35.0	35.1	35.9	37.7
45	38.0	39.0	39.6	39.7	39.9	40.3	41.0	41.0	42.2
90	40.9	43.6	44.7	42.6	41.3	38.8	35.4	33.8	34.3
135	34.0	33.4	32.6	30.9	30.0	29.2	29.6	28.9	28.3
180	28.6	27.5	27.3	28.9	29.5	30.3	30.4	30.8	30.5
225	31.2	30.9	31.3	31.5	30.9	30.2	29.3	28.9	28.9
270	28.6	28.6	28.5	29.3	30.6	31.0	30.4	28.3	26.4
315	26.1	26.1	27.8	28.6	28.9	29.1	28.3	28.7	28.6

5 DEGREE RADII REPORT

Radii in feet

AZ DEPTH: 926 ft TILT: 90 degrees

0	26.1	27.6	26.7	26.9	27.4	28.3	28.9	31.4	31.2
45	34.4	35.9	36.1	36.5	36.5	38.5	38.9	39.5	39.8
90	38.9	38.1	37.1	38.5	36.7	35.2	34.5	30.8	29.9
135	30.2	29.8	28.9	29.1	27.6	26.3	26.3	25.7	25.4
180	24.7	24.5	24.0	24.4	24.4	25.5	25.5	25.9	26.4
225	26.2	25.7	26.6	26.4	26.3	26.4	25.8	25.6	25.0
270	24.4	24.1	23.4	24.0	25.2	27.0	27.6	27.2	26.2
315	25.0	25.1	24.6	25.3	26.0	26.3	26.3	26.8	26.0

AZ DEPTH: 928 ft TILT: 90 degrees

0	23.3	23.4	24.3	24.0	24.5	25.8	26.8	29.0	31.2
45	30.6	33.9	34.1	34.6	34.6	36.3	37.0	37.7	37.4
90	37.2	36.6	35.4	33.9	31.9	30.7	27.9	27.0	27.5
135	26.3	25.4	23.6	23.3	23.3	23.2	23.2	22.7	22.3
180	22.4	22.4	22.4	21.8	21.5	21.6	22.1	22.7	22.9
225	23.4	23.5	22.8	23.0	23.1	23.0	22.4	22.4	21.8
270	21.8	21.8	21.8	23.3	24.2	24.6	23.8	22.7	22.4
315	22.1	23.2	23.8	24.0	24.0	23.8	23.6	23.6	24.1

AZ DEPTH: 930 ft TILT: 90 degrees

0	21.0	19.5	20.5	20.9	21.1	21.8	23.0	23.6	25.2
45	27.3	29.1	28.5	30.3	31.1	31.4	30.7	34.2	34.4
90	34.8	34.2	33.0	31.3	29.6	26.3	24.6	24.6	25.0
135	24.0	23.4	22.7	21.8	20.9	21.1	20.8	20.5	19.8
180	19.2	19.5	19.5	18.8	19.1	19.3	19.6	20.0	20.1
225	20.2	20.5	20.5	20.5	20.1	20.0	20.0	20.4	19.9
270	20.0	19.5	19.8	19.5	20.9	21.8	22.1	21.3	20.0
315	19.7	19.6	20.2	20.6	21.1	21.2	21.1	21.1	21.1

AZ DEPTH: 932 ft TILT: 90 degrees

0	18.2	18.4	18.3	18.1	19.0	19.3	20.1	20.8	21.4
45	22.9	24.3	26.0	26.9	28.6	29.2	29.6	32.2	32.5
90	32.5	30.9	30.3	29.6	28.0	26.0	24.5	23.2	23.0
135	22.7	22.4	20.8	18.9	18.1	18.1	17.5	16.9	17.0
180	16.8	16.5	16.6	16.3	16.6	16.7	16.8	16.9	16.9
225	17.2	17.6	17.6	17.9	17.0	17.2	17.2	17.5	17.5
270	17.6	17.4	17.4	17.5	17.9	18.5	19.1	19.7	19.6
315	19.2	18.5	17.3	17.1	17.7	17.9	17.9	18.2	18.2

AZ DEPTH: 934 ft TILT: 90 degrees

0	14.1	14.9	15.1	15.0	15.3	15.4	15.5	15.9	16.6
45	17.4	18.0	18.9	20.0	21.5	23.7	26.2	27.4	28.6
90	30.4	29.6	28.3	28.2	27.8	25.6	23.8	22.9	21.7
135	20.8	20.0	19.8	18.6	18.7	16.7	19.0	16.2	15.6
180	15.6	15.6	17.0	16.1	17.4	16.9	16.4	16.0	16.4
225	16.7	16.7	16.6	16.5	16.9	16.2	16.0	16.1	16.2
270	16.2	16.2	16.1	16.0	15.9	16.0	16.5	17.1	17.2
315	16.6	15.9	14.9	14.2	14.1	14.2	14.2	14.2	14.2

5 DEGREE RADII REPORT

Radii in feet

AZ DEPTH: 936 ft TILT: 90 degrees

0	79.0	79.0	80.3	80.3	80.3	80.3	80.3	80.3	80.3
45	80.3	80.3	80.3	80.6	80.9	79.0	79.6	80.6	80.7
90	81.7	81.3	81.9	83.6	84.0	85.9	87.8	87.7	86.7
135	87.4	86.9	86.8	86.5	86.2	85.6	84.4	82.7	82.8
180	83.2	82.0	80.4	79.9	79.7	79.8	79.6	79.1	80.2
225	79.5	79.8	80.2	80.1	79.4	79.1	78.5	78.5	77.8
270	77.8	77.4	76.1	75.3	74.3	73.9	71.0	68.6	66.9
315	72.2	73.7	76.0	77.1	74.5	78.3	78.2	78.4	78.7

AZ DEPTH: 938 ft TILT: 90 degrees

0	81.3	82.4	81.7	79.3	78.9	80.1	80.0	79.8	79.8
45	81.4	81.3	80.3	80.4	80.8	79.7	80.9	81.2	82.3
90	82.0	82.0	82.5	83.2	83.9	85.2	85.2	87.0	87.8
135	87.0	87.5	87.1	85.9	85.2	82.5	83.0	82.7	82.6
180	81.4	81.0	80.7	79.3	79.4	79.5	80.0	79.1	78.4
225	79.7	79.4	80.3	80.4	78.1	78.3	78.0	78.8	77.9
270	78.1	77.7	77.1	75.7	75.2	74.5	74.1	74.6	69.7
315	67.6	68.9	73.8	76.8	74.8	79.1	80.2	78.2	79.6

AZ DEPTH: 940 ft TILT: 90 degrees

0	82.8	81.7	82.6	80.5	79.2	80.0	78.7	73.8	80.9
45	81.5	80.9	80.6	80.7	80.7	81.0	79.9	80.0	81.3
90	81.8	82.2	82.7	82.3	83.6	85.2	85.7	85.7	85.7
135	87.5	87.7	86.7	86.5	85.9	84.9	84.1	82.5	84.6
180	84.3	81.6	81.0	76.8	76.8	76.8	76.8	76.8	79.6
225	79.5	79.2	80.0	80.4	78.8	77.3	74.8	74.7	72.0
270	72.4	76.8	77.8	77.5	75.4	75.2	74.2	74.8	70.0
315	67.7	71.7	74.8	75.5	74.5	79.4	78.4	78.0	78.2

AZ DEPTH: 942 ft TILT: 90 degrees

0	81.2	81.7	80.4	80.0	80.0	79.5	74.0	78.1	80.7
45	77.8	79.1	78.8	80.7	80.7	81.0	80.0	80.3	80.7
90	80.8	80.6	80.3	79.8	81.3	82.0	81.7	81.2	83.0
135	84.9	84.3	83.5	84.6	84.2	83.8	84.0	84.0	84.9
180	83.3	80.7	75.5	72.9	72.5	72.7	72.9	73.2	76.5
225	78.5	80.4	80.5	79.3	76.8	74.4	74.3	73.8	74.3
270	75.1	74.9	74.7	73.2	74.2	73.6	74.2	73.2	68.8
315	68.2	72.7	74.8	74.4	77.9	80.9	79.6	78.0	79.9

AZ DEPTH: 944 ft TILT: 90 degrees

0	80.0	77.5	77.7	79.0	80.0	81.8	81.7	73.0	77.1
45	76.2	73.9	73.5	70.8	69.2	67.2	62.0	62.8	77.1
90	78.2	78.1	79.9	81.0	80.2	81.3	81.7	82.6	83.2
135	84.5	84.4	83.9	83.5	84.1	84.3	84.4	84.3	84.6
180	83.6	74.5	73.0	71.2	70.5	70.9	71.4	70.4	69.4
225	72.1	77.8	80.7	80.3	79.2	76.0	76.2	76.1	74.8
270	72.7	72.3	72.5	73.9	73.4	73.0	73.4	72.5	71.9
315	70.9	68.2	70.3	75.8	76.0	79.4	76.3	73.5	77.0

5 DEGREE RADII REPORT

Radii in feet

AZ DEPTH: 950 ft TILT: 90 degrees

0	67.4	70.8	70.6	68.7	69.0	78.1	84.2	74.8	66.9
45	66.4	64.7	61.2	59.4	56.6	54.1	52.4	55.6	58.8
90	62.1	81.7	80.5	82.5	82.1	83.0	84.9	85.1	84.6
135	85.2	84.3	80.2	81.7	79.9	80.6	78.5	78.6	81.0
180	75.9	69.2	68.3	58.3	60.0	60.0	59.5	58.6	60.2
225	60.9	71.9	75.8	75.1	74.8	74.8	74.2	75.4	69.9
270	64.4	64.4	63.1	62.1	64.7	64.8	61.6	64.4	64.8
315	81.1	79.7	74.8	74.5	73.5	72.2	70.3	67.1	67.4

AZ DEPTH: 952 ft TILT: 90 degrees

0	64.4	69.8	69.1	65.4	66.3	72.0	77.3	69.9	65.7
45	63.8	63.1	62.3	58.2	55.7	53.8	53.0	47.5	51.6
90	56.9	58.4	82.0	70.3	82.4	80.0	81.2	80.1	81.3
135	81.3	79.6	79.1	76.7	78.1	78.6	79.9	80.6	83.6
180	68.6	68.1	60.4	57.3	56.1	58.5	58.9	56.7	57.8
225	57.8	58.4	59.5	76.6	76.4	74.6	75.2	73.9	70.4
270	64.4	62.5	61.3	56.4	60.2	64.4	60.4	60.5	62.5
315	63.5	65.1	68.5	68.5	69.3	68.7	69.8	63.8	63.4

AZ DEPTH: 954 ft TILT: 90 degrees

0	63.0	68.0	68.3	64.5	64.7	72.9	73.6	72.5	65.2
45	63.9	61.0	60.2	57.9	53.8	53.0	51.1	45.5	45.1
90	55.0	56.7	74.4	70.8	78.4	78.7	76.1	76.4	77.4
135	77.6	77.8	78.4	78.3	79.6	80.1	82.2	82.2	83.4
180	84.3	84.9	84.9	83.6	82.0	83.5	83.1	83.0	81.2
225	82.6	82.8	82.3	80.9	78.8	77.8	79.5	76.5	68.5
270	62.9	61.0	55.1	54.6	59.2	62.6	56.5	56.1	59.5
315	62.0	64.0	66.4	67.8	67.8	67.9	66.6	62.3	61.5

AZ DEPTH: 956 ft TILT: 90 degrees

0	83.7	83.0	84.1	84.6	84.5	84.2	85.2	83.7	83.0
45	83.5	83.4	84.1	83.8	80.7	79.4	79.1	78.9	79.0
90	77.8	77.5	79.1	77.4	77.8	77.6	76.3	76.8	77.5
135	77.5	78.1	78.4	78.0	80.2	82.8	82.6	83.2	83.3
180	84.5	85.1	84.6	84.2	83.6	83.9	83.6	82.4	82.3
225	82.3	83.2	82.5	82.0	81.8	83.1	81.8	81.8	82.6
270	82.7	81.5	82.2	82.3	79.6	77.0	81.7	80.8	78.7
315	79.1	79.1	80.5	78.2	82.6	83.1	82.5	83.5	83.6

AZ DEPTH: 958 ft TILT: 90 degrees

0	83.1	82.3	83.9	83.8	83.9	83.6	83.4	83.5	82.9
45	83.1	81.0	81.0	81.0	80.0	79.7	79.1	79.3	77.8
90	78.1	78.4	79.2	78.7	77.4	77.0	77.2	77.4	77.9
135	77.8	78.7	78.3	81.3	82.5	82.6	82.9	84.9	84.9
180	83.6	83.9	84.0	83.3	83.2	83.0	82.7	82.0	81.7
225	82.5	82.3	82.0	82.3	82.5	83.1	83.5	83.7	83.0
270	82.9	82.6	82.1	82.1	79.9	81.0	82.3	69.6	80.7
315	81.7	80.4	81.3	82.8	82.2	82.7	83.0	83.0	82.7

5 DEGREE RADII REPORT

Radii in feet

AZ	DEPTH: 960 ft			TILT: 90 degrees					
0	82.2	82.0	82.2	82.0	82.1	83.4	83.0	83.2	83.3
45	83.4	83.0	83.0	82.9	81.9	80.5	80.4	79.4	79.0
90	79.0	79.1	79.0	78.7	77.9	77.0	77.1	77.3	77.8
135	77.6	78.3	78.3	78.9	81.2	81.4	81.9	81.2	82.1
180	82.2	82.1	81.0	82.8	83.0	83.1	82.6	82.0	81.6
225	80.6	80.7	81.8	80.8	82.1	82.3	83.1	82.5	82.8
270	82.5	81.9	81.8	82.5	82.0	82.3	83.5	82.9	82.3
315	82.0	81.9	81.6	82.6	82.3	82.2	82.8	82.5	82.5

AZ	DEPTH: 965 ft			TILT: 90 degrees					
0	81.3	81.6	82.1	82.2	82.2	82.3	81.6	81.3	81.4
45	81.8	82.3	81.3	81.9	79.4	78.3	79.9	79.9	78.7
90	78.1	81.0	79.4	79.4	79.4	77.4	77.4	78.4	78.7
135	78.6	79.0	79.1	80.1	79.7	80.2	80.7	81.5	80.8
180	81.1	81.0	80.1	80.7	81.7	81.5	81.3	80.9	80.4
225	79.2	79.7	80.4	80.1	80.4	81.0	81.3	81.1	81.3
270	80.5	81.7	81.2	81.7	82.4	81.0	82.4	81.9	83.1
315	82.4	83.5	82.0	80.7	81.1	81.7	81.3	81.6	81.1

AZ	DEPTH: 970 ft			TILT: 90 degrees					
0	90.3	87.1	82.9	80.7	82.3	80.9	84.2	84.6	80.1
45	79.6	80.3	79.8	78.8	83.0	86.8	82.9	82.5	81.0
90	85.2	85.0	83.3	82.0	80.7	80.9	82.3	81.9	80.7
135	81.0	81.1	80.9	81.2	80.9	78.6	87.2	77.6	79.3
180	79.1	78.6	78.4	77.4	75.8	77.0	76.9	77.1	81.1
225	77.4	77.6	77.1	77.3	77.5	78.7	78.9	80.0	76.1
270	76.5	75.1	73.5	73.5	74.8	77.1	80.0	76.7	77.2
315	77.1	76.6	80.1	81.9	81.2	81.9	84.6	81.7	82.7

AZ	DEPTH: 975 ft			TILT: 90 degrees					
0	72.4	71.4	72.6	72.6	72.4	71.9	72.3	71.9	71.2
45	70.5	70.6	71.0	71.3	71.4	72.1	72.9	71.6	71.2
90	72.3	72.2	75.0	75.1	80.8	81.2	81.9	81.3	78.4
135	77.1	77.4	75.1	73.9	71.6	72.4	70.8	71.6	71.6
180	70.7	70.7	69.2	70.1	69.0	70.6	70.6	70.6	71.8
225	69.9	69.3	70.9	70.9	70.9	70.3	68.3	67.8	66.4
270	66.2	67.9	68.3	68.9	71.4	70.3	70.8	71.8	72.6
315	71.2	72.1	71.9	68.9	71.2	72.2	72.7	72.5	72.4

AZ	DEPTH: 980 ft			TILT: 90 degrees					
0	64.7	63.8	66.0	64.1	67.2	65.3	65.4	65.4	66.3
45	66.1	66.0	65.5	63.8	65.3	66.4	66.6	65.1	66.7
90	65.4	66.1	66.6	67.9	68.0	68.2	68.9	72.2	73.2
135	70.6	71.6	69.6	68.5	67.7	67.6	63.2	65.3	65.6
180	64.7	64.4	63.8	63.0	63.0	64.6	64.6	63.8	62.5
225	62.7	63.2	63.1	63.0	62.5	52.2	56.6	58.4	59.3
270	59.8	59.6	61.9	62.6	64.0	62.8	65.8	64.1	64.4
315	64.4	63.3	62.1	60.3	60.8	64.0	66.7	67.0	64.4

5 DEGREE RADII REPORT

Radii in feet

AZ	DEPTH: 985 ft			TILT: 90 degrees					
0	58.0	57.9	57.6	55.6	56.9	57.2	59.0	58.2	58.5
45	57.3	57.3	57.0	57.5	58.1	59.5	60.7	58.1	59.5
90	59.8	59.3	56.6	62.7	62.3	63.8	64.7	63.4	63.5
135	63.1	61.7	61.4	59.9	58.3	56.3	59.0	57.5	54.0
180	54.6	54.4	54.7	56.0	55.4	54.7	55.0	54.8	55.3
225	52.5	52.0	48.8	48.1	49.6	51.6	51.2	52.0	53.5
270	53.3	53.8	55.3	55.9	57.9	55.6	54.6	56.5	53.9
315	55.4	55.9	55.9	55.0	56.4	60.1	60.3	57.7	57.7

AZ	DEPTH: 990 ft			TILT: 90 degrees					
0	52.4	51.0	49.7	50.4	48.8	50.2	50.8	49.5	50.1
45	50.4	50.7	50.9	51.5	51.0	49.7	49.5	49.9	50.7
90	48.1	49.1	47.5	51.9	51.4	52.4	53.5	54.7	56.4
135	55.2	46.7	46.5	50.7	51.0	51.7	49.5	50.0	48.0
180	47.9	45.9	44.2	45.9	43.9	45.9	47.3	47.0	46.1
225	45.8	44.8	43.5	42.9	42.2	42.0	42.0	44.1	44.4
270	44.9	46.1	46.9	45.7	43.9	47.8	47.8	47.0	48.4
315	48.3	49.6	48.2	48.3	49.6	50.4	49.5	51.0	52.7

AZ	DEPTH: 992 ft			TILT: 90 degrees					
0	48.4	48.5	47.7	47.3	45.5	45.3	46.7	46.0	45.9
45	46.7	48.4	49.1	47.9	48.5	47.8	46.5	46.5	46.5
90	46.6	46.7	46.8	46.7	50.2	44.9	53.0	48.9	47.0
135	45.7	43.9	44.5	45.9	46.4	39.9	40.2	41.8	44.9
180	43.9	41.8	40.5	42.3	41.0	41.3	43.0	42.6	41.5
225	41.2	40.8	40.6	40.0	39.9	39.6	39.5	40.0	41.3
270	42.1	42.9	43.2	41.7	42.0	44.3	44.7	45.0	45.2
315	45.1	43.3	43.6	46.6	47.5	47.5	48.8	48.8	49.1

AZ	DEPTH: 994 ft			TILT: 90 degrees					
0	46.2	47.0	45.5	44.5	43.7	41.9	44.0	16.9	16.7
45	16.4	16.6	15.9	13.2	13.3	13.2	13.3	13.8	13.8
90	13.6	15.4	18.2	18.8	19.6	19.3	18.4	14.0	14.0
135	13.9	19.0	28.2	37.1	36.7	36.5	37.3	36.5	37.3
180	37.5	32.9	32.5	38.2	37.9	39.4	40.2	33.1	33.8
225	34.1	33.8	32.2	33.9	37.2	36.7	37.2	37.4	38.8
270	42.9	42.9	42.9	41.5	39.1	41.3	43.1	42.4	42.6
315	42.8	42.6	41.9	43.4	44.9	46.4	45.8	47.2	46.7

AZ	DEPTH: 995 ft			TILT: 90 degrees					
0	43.7	43.7	44.3	43.6	35.3	7.9	7.8	7.8	7.8
45	6.6	6.8	6.5	6.1	6.1	6.1	6.1	6.1	6.1
90	6.1	6.1	6.1	6.0	6.0	6.1	6.1	6.1	6.1
135	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
180	6.1	6.1	33.4	33.0	36.1	28.8	27.4	24.9	24.8
225	24.7	22.7	23.1	23.7	14.1	14.4	19.2	21.2	16.1
270	15.2	15.3	15.5	16.0	27.3	27.3	27.3	27.8	28.3
315	29.5	33.1	33.1	34.8	37.4	39.8	42.9	43.7	43.7

5 DEGREE RADII REPORT

Radii in feet

AZ DEPTH: 996 ft TILT: 90 degrees

0	5.8	5.5	5.7	5.7	6.0	5.8	6.1	4.8	5.2
45	6.3	6.1	5.0	4.6	4.7	4.8	4.7	4.6	4.7
90	4.7	4.6	4.5	4.3	4.3	4.5	4.8	4.8	4.8
135	4.7	4.7	4.7	4.7	4.6	4.6	4.5	4.4	4.5
180	4.5	4.4	4.5	4.4	4.5	4.6	4.7	4.5	7.5
225	9.1	12.5	12.9	13.9	18.2	17.2	17.5	16.0	16.4
270	16.9	17.2	22.0	34.8	36.7	41.4	41.9	5.5	5.8
315	5.8	5.6	5.7	6.1	6.1	5.6	5.9	5.7	5.8

MAXIMUM HORIZONTAL RADII

AZM deg	RADIUS ft	DEPTH ft
0	90.3	970
2	88.3	970
4	87.4	970
6	86.8	970
8	86.3	970
10	84.1	956
12	84.4	956
14	84.5	956
16	84.9	956
18	84.3	956
20	84.5	956
22	85.4	956
24	84.0	956
26	84.4	956
28	84.3	956
30	85.2	956
32	84.9	950
34	84.9	970
36	84.5	956
38	84.6	970
40	83.3	960
42	83.9	956
44	83.6	956
46	83.6	960
48	83.4	956
50	83.4	956
52	83.4	956
54	84.1	956
56	84.1	956
58	84.0	956
60	83.8	956
62	82.8	960
64	82.6	960
66	86.0	970
68	81.0	960
70	86.8	970
72	83.3	970
74	84.2	970
76	81.7	970
78	85.1	970
80	82.5	970
82	86.1	970
84	82.3	938
86	82.5	938
88	85.4	970

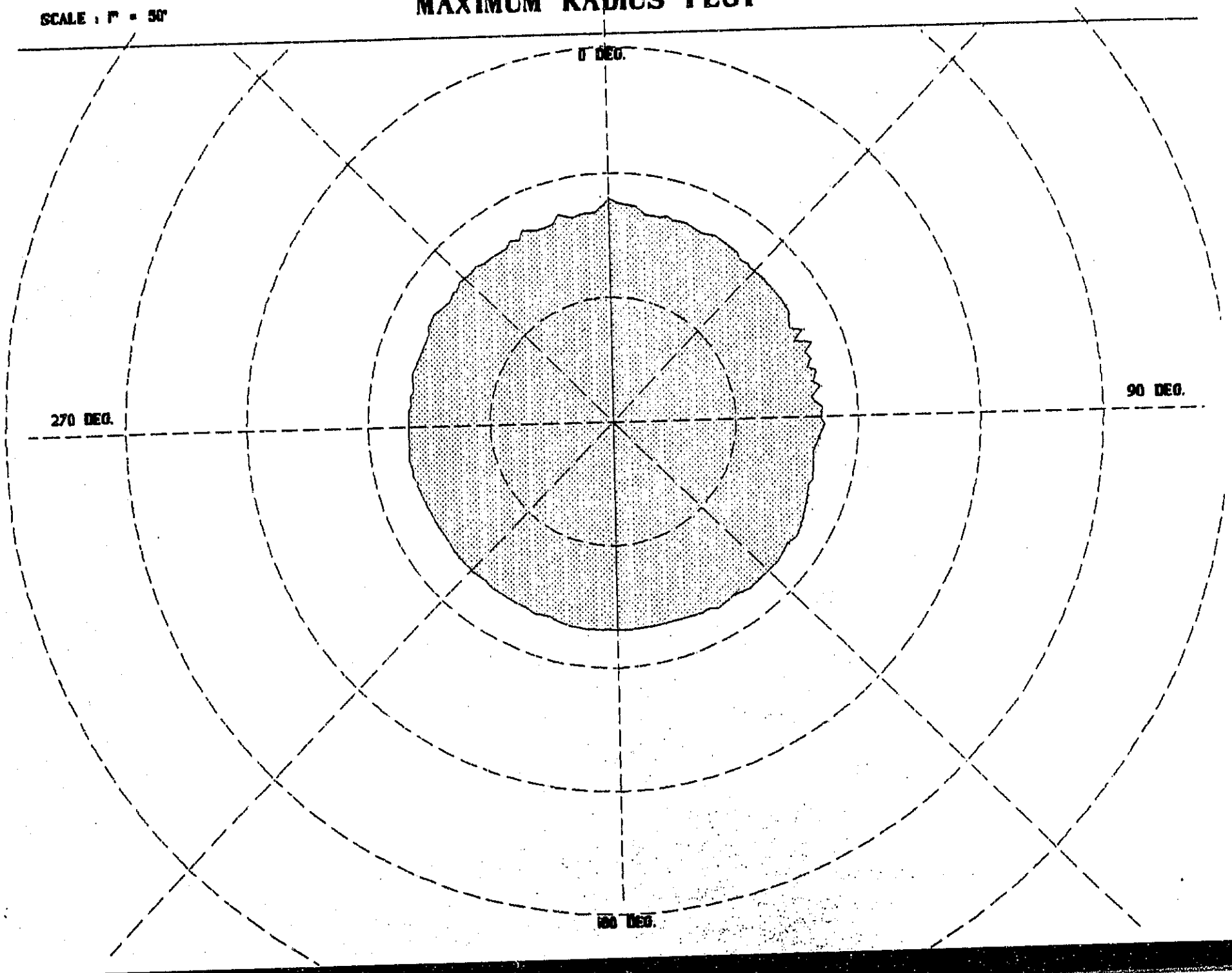
AZM deg	RADIUS ft	DEPTH ft
90	85.2	970
92	85.8	970
94	85.3	970
96	84.8	970
98	84.1	970
100	83.3	970
102	83.0	938
104	83.3	936
106	83.9	936
108	84.4	936
110	84.0	936
112	85.4	936
114	85.7	936
116	86.2	936
118	87.2	936
120	87.8	936
122	88.2	936
124	88.0	936
126	87.4	936
128	87.8	938
130	87.8	938
132	87.5	938
134	87.5	940
136	87.6	936
138	87.8	938
140	87.7	940
142	87.8	940
144	87.6	938
146	86.7	936
148	86.5	936
150	86.5	936
152	86.9	940
154	86.2	936
156	86.2	936
158	85.9	940
160	85.6	936
162	85.3	936
164	84.7	936
166	90.4	970
168	85.0	944
170	84.9	958
172	84.9	944
174	85.3	944
176	85.2	942
178	85.4	942

MAXIMUM HORIZONTAL RADII

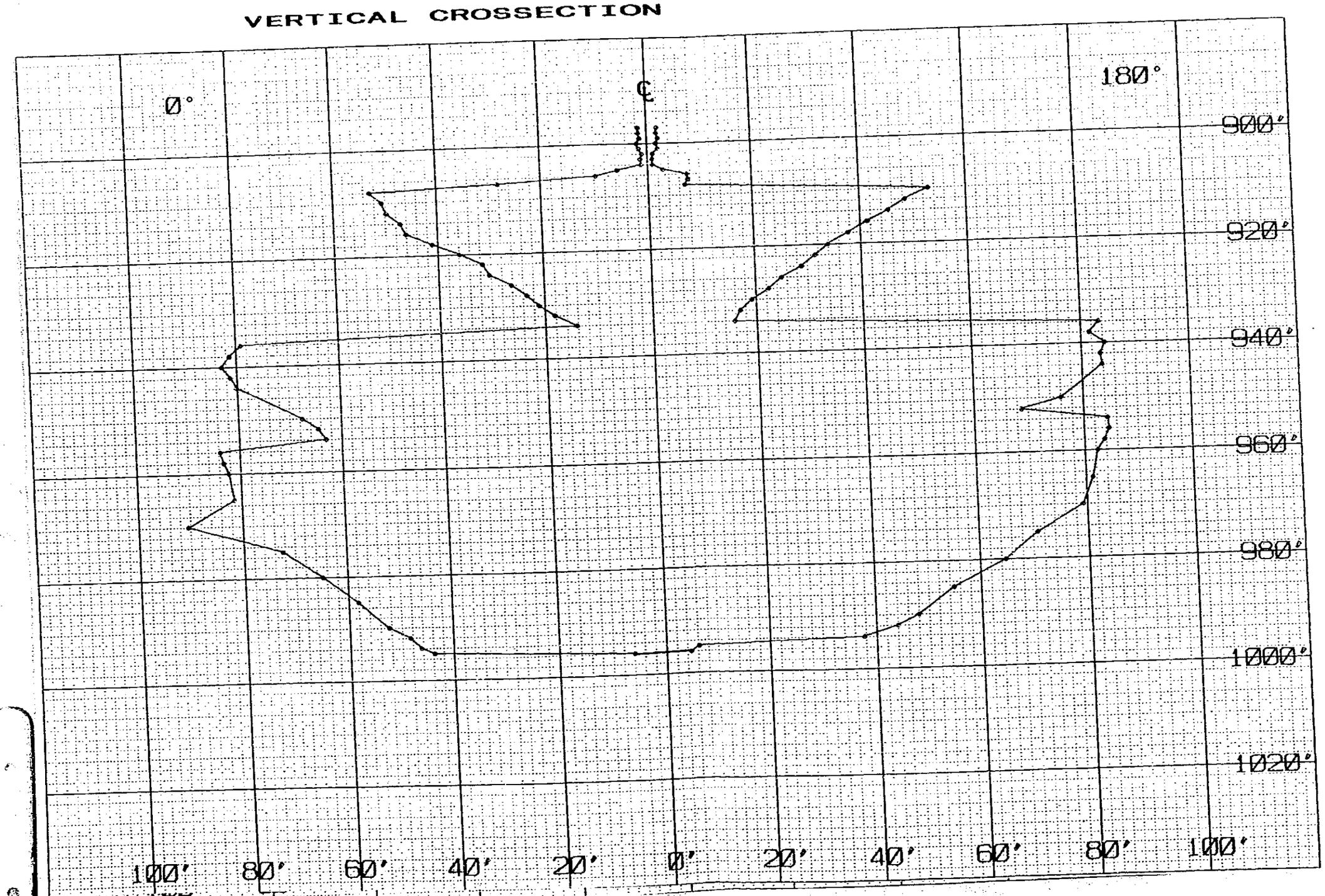
AZM deg	RADIUS ft	DEPTH ft
180	84.5	956
182	84.8	956
184	85.1	956
186	85.2	956
188	85.3	956
190	84.9	954
192	84.9	954
194	84.3	956
196	84.1	956
198	83.8	956
200	83.6	956
202	83.6	956
204	83.9	956
206	83.8	956
208	83.6	956
210	83.6	956
212	83.0	954
214	83.0	954
216	83.0	954
218	83.0	954
220	82.3	956
222	82.5	954
224	82.7	954
226	82.6	954
228	82.7	958
230	83.2	956
232	83.0	956
234	83.0	956
236	82.1	956
238	82.3	958
240	82.3	958
242	82.1	958
244	82.4	958
246	82.6	958
248	82.8	958
250	83.1	956
252	83.3	956
254	83.2	958
256	83.9	958
258	84.0	958
260	83.7	958
262	83.1	956
264	83.1	958
266	83.0	958
268	83.3	958
270	82.9	958
272	83.0	958
274	82.6	958
276	82.5	958
278	82.0	958
280	82.2	956
282	82.4	956
284	82.5	960
286	82.5	960
288	82.6	965
290	82.4	965
292	81.8	960
294	82.2	960
296	82.3	960
298	83.3	960
300	83.5	960
302	83.7	956
304	83.3	960
306	82.5	960
308	82.3	960
310	83.1	965
312	82.7	965
314	83.0	958
316	82.8	965
318	83.6	965
320	83.5	965
322	82.1	965
324	82.2	970
326	82.3	965
328	82.6	958
330	82.8	958
332	83.6	956
334	82.6	960
336	85.6	970
338	83.4	940
340	83.1	956
342	82.9	958
344	83.3	970
346	86.0	970
348	85.0	970
350	83.5	956
352	83.6	956
354	83.6	956
356	83.6	956
358	90.3	970

Maximum radius : 90.4
On Azmuth deg : 166

MAXIMUM RADIUS PLOT



VERTICAL CROSSECTION



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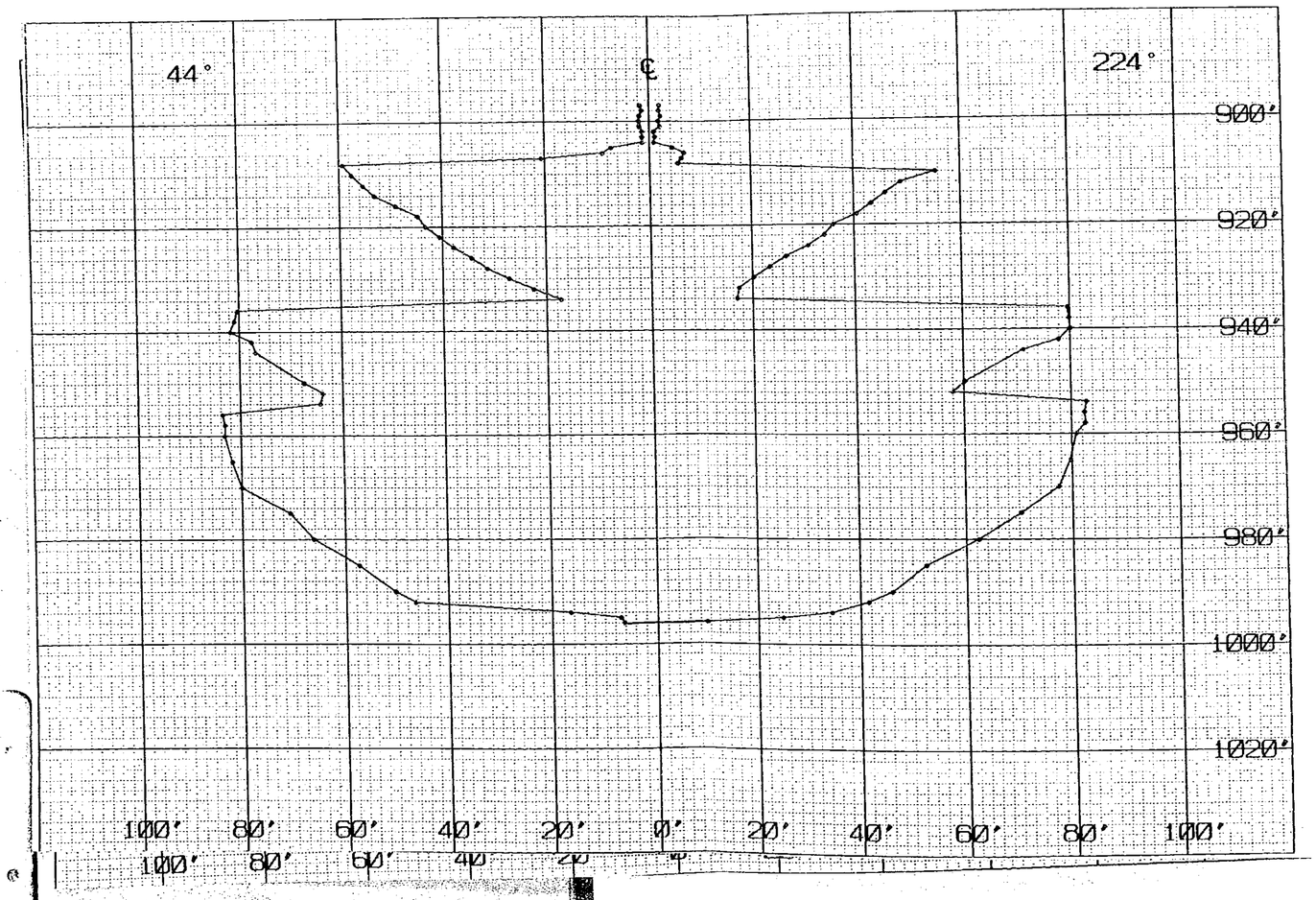

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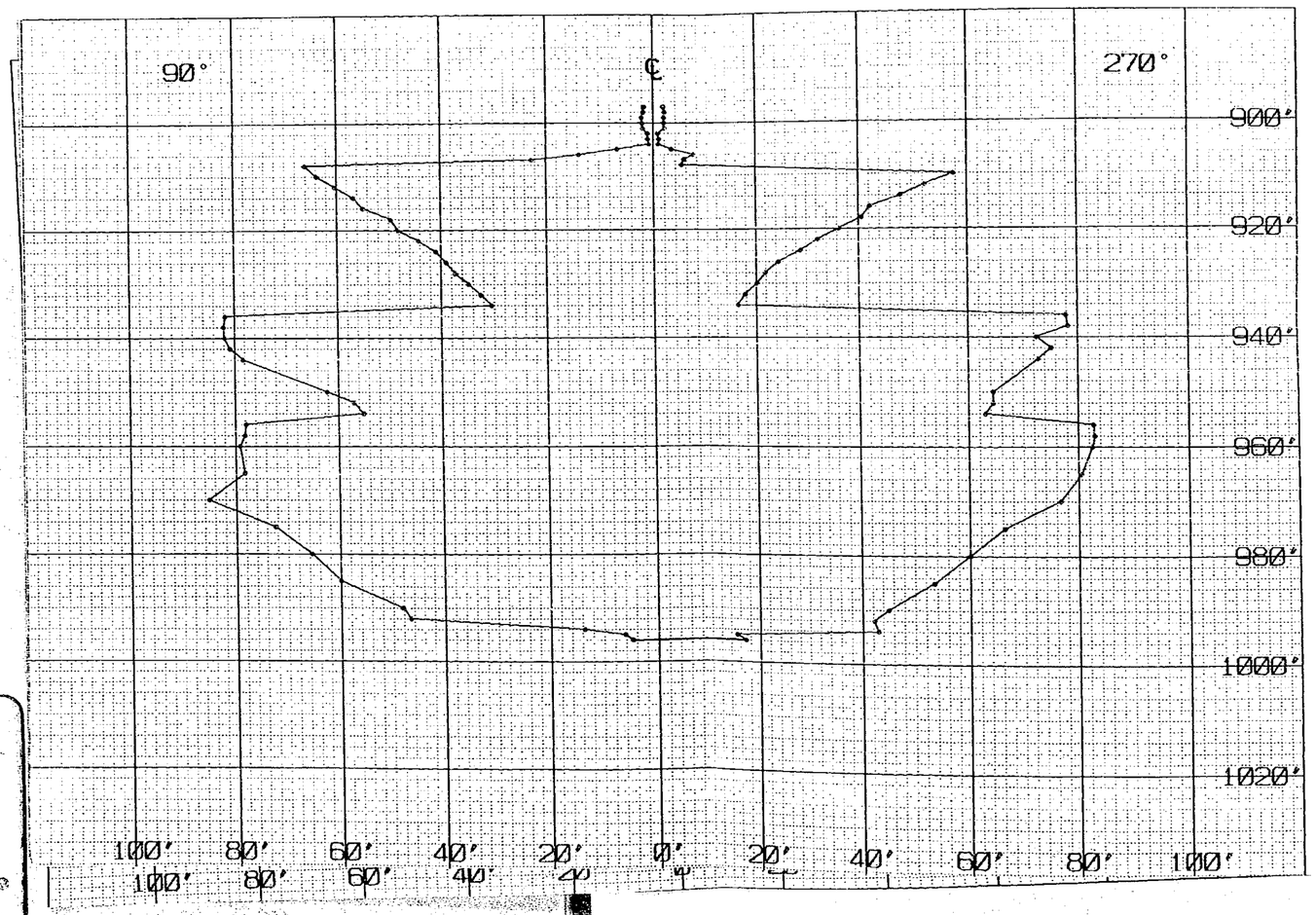

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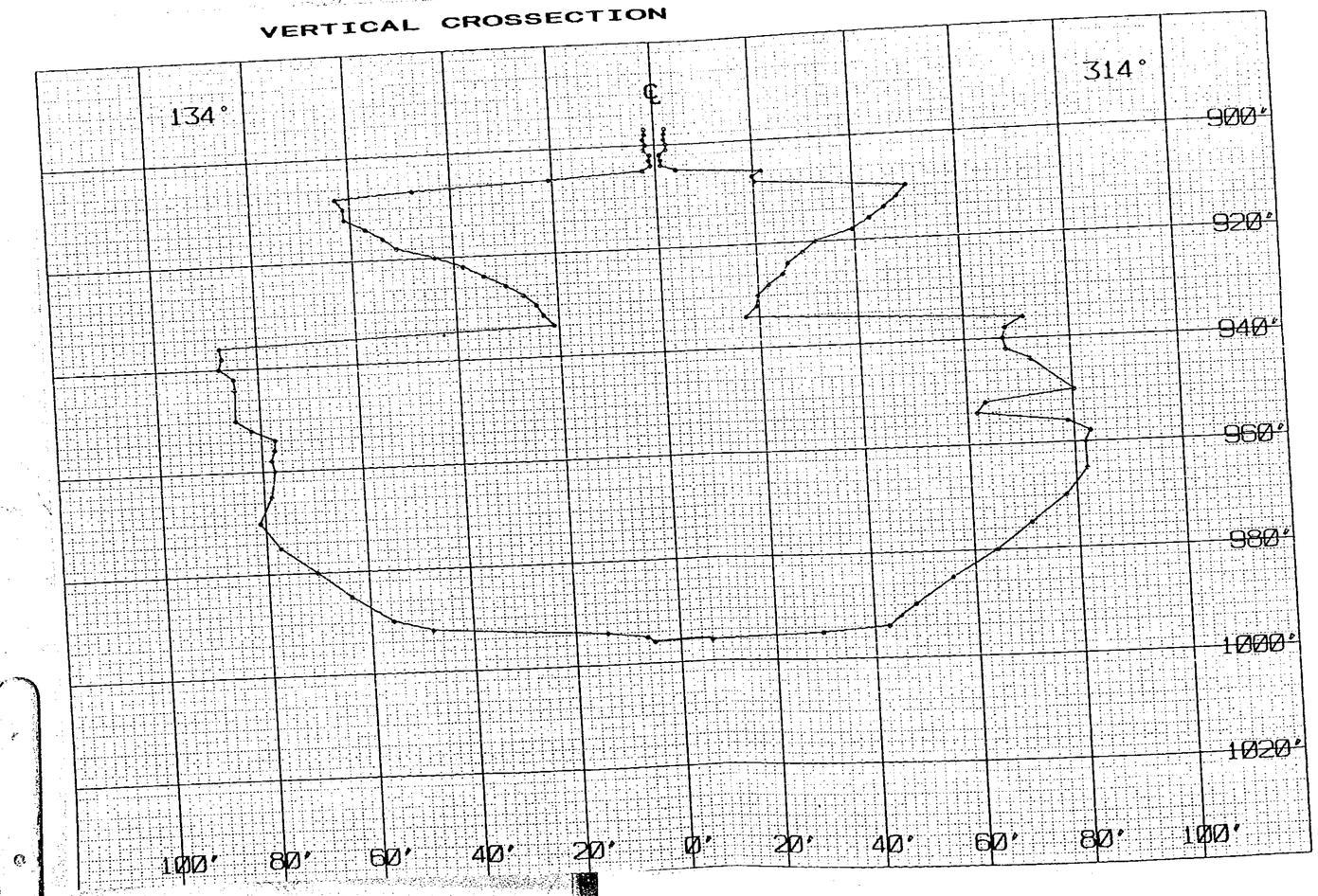


DOWELL

SONAR CALIPER REPORT

DOWELL SONAR CALIPER SURVEY

TREATMENT NO: 11-42-0273

JOB NO: 326

WELL DATA

ZERO @ GL

T.D. DOWELL 997 FT

OPERATOR 997 FT

CASING SIZE 9 5/8 IN

DEPTH 896 FT
LINER - FT
DEPTH OUT FT

INTERMEDIATE 7 IN

DEPTH OUT FT

TUBING 4 1/2 IN

WILLIAMS ENERGY COMPANY

WELL NO: 2

ADAMANA STORAGE TERMINAL

APRIL 16, 1979

PRODUCTION: STORAGE

GENERAL COMMENTS

MAILING ADDRESS

STREET/BOX: P.O. BOX 849

CITY: HOLBROOK STATE: ARIZONA

ZIP: 86025

ATTN: MR. ARMANDO PADILLA

MR. ARMANDO PADILLA
COMPANY REPRESENTATIVE

HL VAN METRE
DOWELL ENGINEER

DOWELL SONAR CALIPER SURVEY

WILLIAMS ENERGY COMPANY ADAMANA STORAGE TERMINAL APRIL 16, 1979

WELL NO. 2 JOB NO. 326

RADII IN FT

DEPTH	N	S	E	W	NE	SW	SE	NW
897	1.6	1.7	1.6	1.5	1.5	1.7	1.7	1.2
898	1.6	1.6	1.7	1.4	1.6	1.6	1.6	1.1
899	1.1	1.1	1.0	1.8	1.1	1.6	0.9	1.3
900	1.0	0.9	1.1	1.4	1.1	1.1	0.9	1.0
901	1.6	2.9	1.2	1.9	1.2	1.6	1.7	1.9
902	5.2	1.9	4.6	3.2	3.5	1.6	4.3	3.1
903	5.8	3.7	2.8	2.5	3.3	3.5	2.2	2.6
904	4.8	1.5	2.1	1.8	2.3	2.7	1.1	2.0
905	2.3	0.9	1.3	1.6	1.8	2.3	0.8	1.3
906	3.4	3.7	0.9	3.2	1.4	5.2	1.1	2.7
907	44.0	68.0	64.0	48.0	54.0	56.0	55.0	45.0
908	44.0	44.0	62.0	47.0	54.0	46.0	48.0	46.0
910	42.0	41.0	60.0	43.0	54.0	45.0	45.0	43.0
912	41.0	38.0	57.0	42.0	53.0	41.0	41.0	39.0
914	38.0	33.0	54.0	38.0	48.0	36.0	36.0	36.0
916	38,0	32.0	58.0	37.0	50.0	34.0	34.0	34.0
918	38.0	28.0	47.0	31.0	41.0	30.0	31.0	29.0
920	37.0	26.0	47.0	31.0	38.0	31.0	26.0	26.0

RADII IN FT

DEPTH	N	S	E	W	NE	SW	SE	NW
922	32.0	23.0	33.0	21.0	34.0	26.0	24.0	24.0
924	23.0	18.0	27.0	20.0	30.0	21.0	22.0	21.0
926	20.0	17.0	27.0	20.0	28.0	19.0	19.0	18.0
928	17.0	15.2	26.0	16.9	27.4	16.6	18.2	14.5
930	13.7	13.7	23.4	15.0	25.5	14.5	14.7	12.3
932	25.0	17.0	28.0	15.0	26.0	15.0	21.0	17.0
934	65.0	67.0	66.0	63.0	63.0	64.0	68.0	64.0
936	67.0	66.0	70.0	63.0	69.0	69.0	72.0	65.0
938	64.0	64.0	70.0	66.0	69.0	67.0	70.0	64.0
940	66.0	62.0	70.0	58.0	68.0	56.0	68.0	60.0
942	71.0	64.0	67.0	58.0	64.0	58.0	67.0	62.0
944	70.0	61.0	67.0	53.0	52.0	60.0	67.0	63.0
946	70.0	53.0	59.0	51.0	49.0	58.0	67.0	53.0
948	67.0	52.0	64.0	55.0	49.0	57.0	66.0	61.0
950	62.0	65.0	56.0	63.0	48.0	65.0	67.0	55.0
952	71.0	65.0	64.0	65.0	67.0	66.0	66.0	69.0
954	71.0	67.0	65.0	64.0	70.0	67.0	66.0	71.0
956	74.0	66.0	65.0	66.0	71.0	66.0	65.0	70.0

RADII IN FT

DEPTH	N	S	E	W	NE	SW	SE	NW
958	74.0	67.0	64.0	69.0	71.0	67.0	63.0	71.0
960	71.0	66.0	64.0	68.0	71.0	66.0	63.0	71.0
965	71.0	65.0	65.0	68.0	70.0	66.0	64.0	70.0
970	70.0	66.0	69.0	68.0	69.0	64.0	68.0	69.0
975	69.0	62.0	64.0	63.0	63.0	61.0	68.0	65.0
980	59.0	56.0	62.0	58.0	60.0	54.0	59.0	60.0
985	54.0	51.0	52.0	47.0	49.0	47.0	55.0	51.0
990	45.0	39.0	48.0	40.0	45.0	41.0	47.0	44.0
992	42.0	33.0	41.0	36.0	40.0	36.0	37.0	43.0
994	39.0	28.0	40.0	34.0	36.0	30.0	39.0	37.0
995	36.0	20.0	36.0	34.0	38.0	26.0	31.0	34.0
996	16.9	18.2	16.8	30.4	17.1	25.7	17.0	26.4
997	4.6	3.1	4.7	5.6	4.6	4.6	4.7	5.1

✓ max radius

DOWELL SONAR CALIPER SURVEY

WILLIAMS ENERGY COMPANY ADAMANA STORAGE TERMINAL APRIL 16, 1979

WELL NO: 2 JOB NO: 326

VOLUME CALCULATIONS

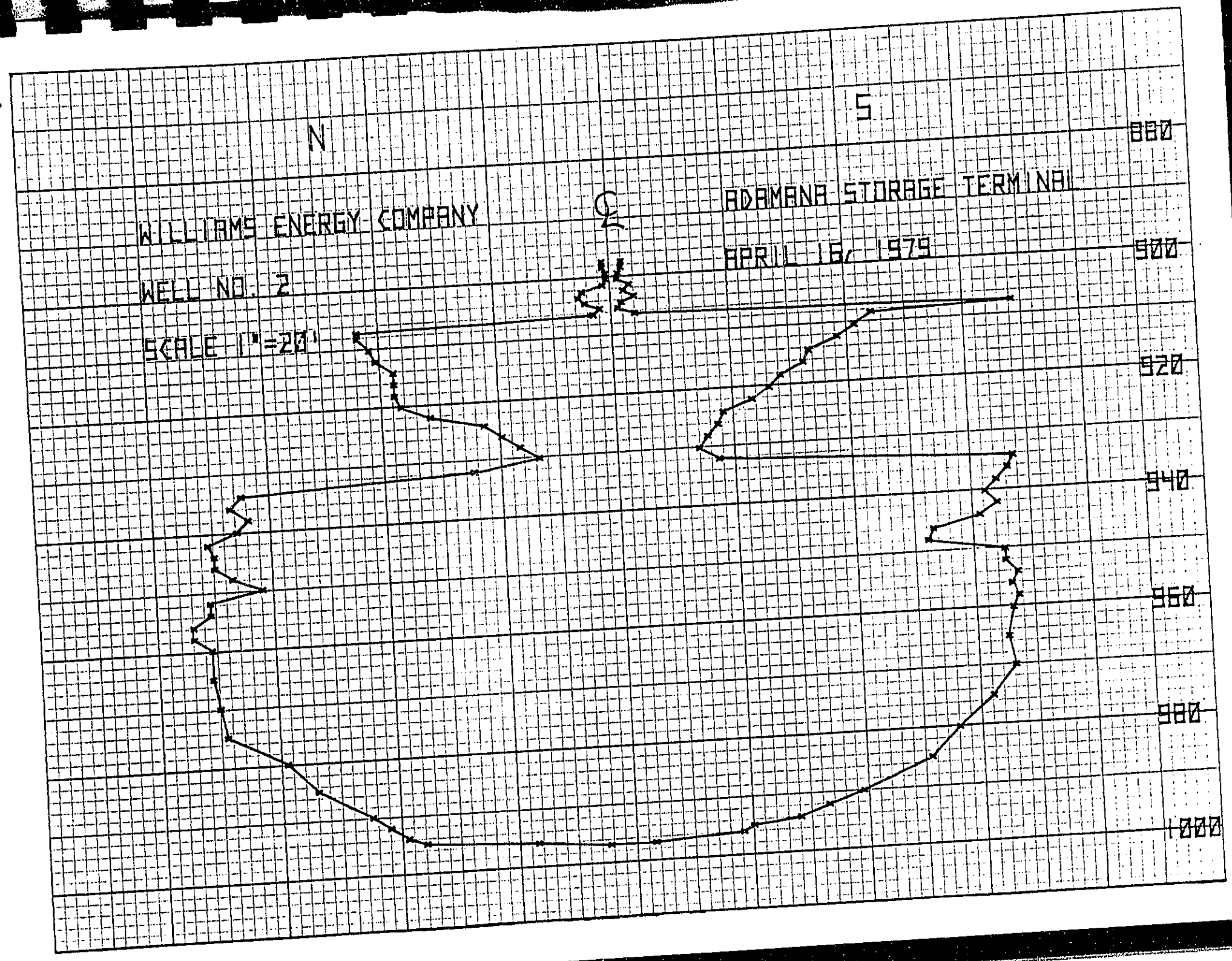
DEPTH	INCR CU FT	TOTAL CU FT	INCR BBLS	BBLS
897	0	0	0	0
898	8	8	1	1
899	6	14	1	2
900	4	18	1	3
901	7	25	1	4
902	24	49	4	9
903	38	88	7	16
904	25	113	4	20
905	11	124	2	22
906	17	141	3	25
907	3288	3429	586	611
908	8533	11963	1520	2130
910	14688	26651	2616	4746
912	13121	39772	2337	7083
914	11261	51032	2005	9088
916	10108	61140	1800	10888
918	8741	69881	1557	12445
920	7271	77152	1295	13740

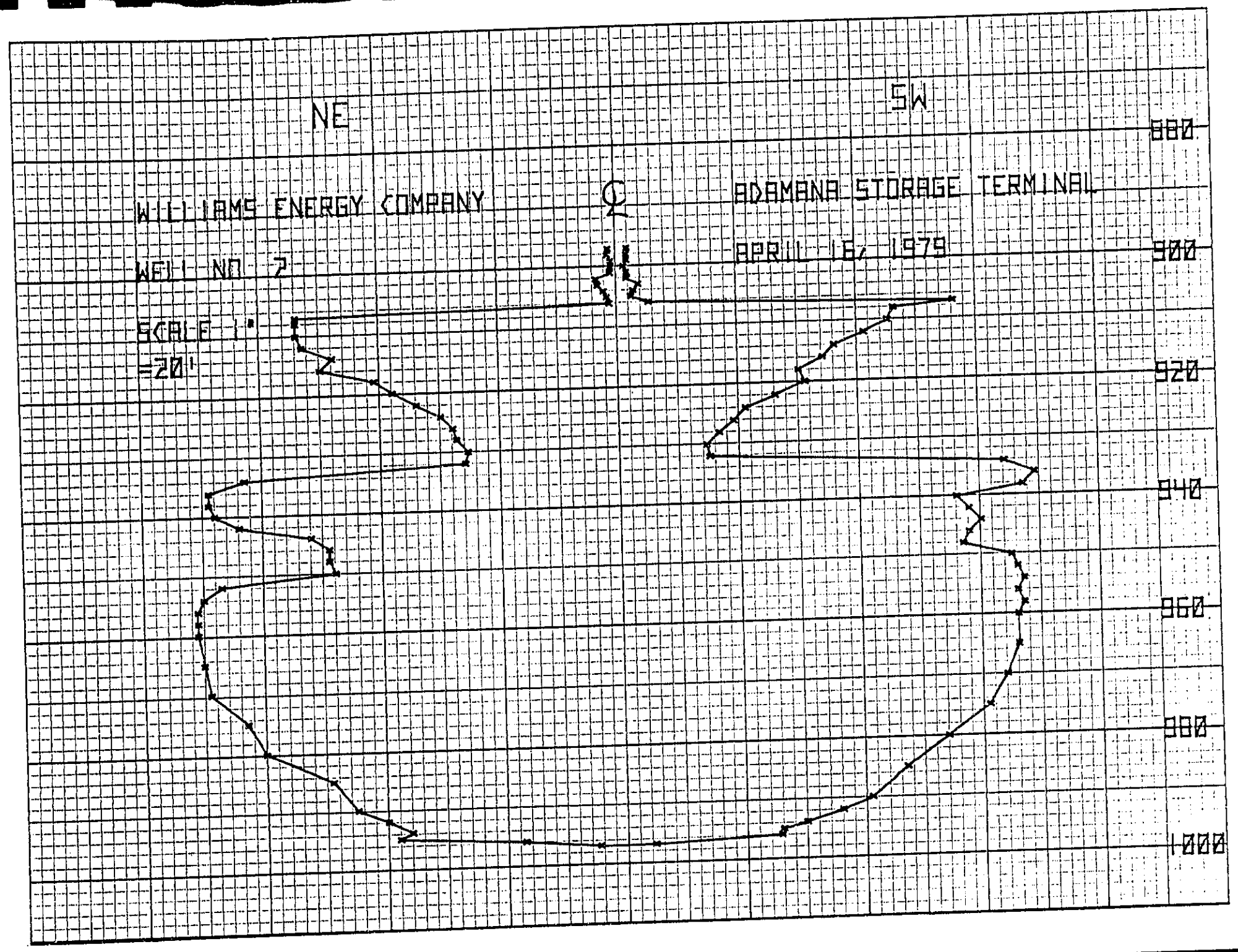
VOLUME CALCULATIONS

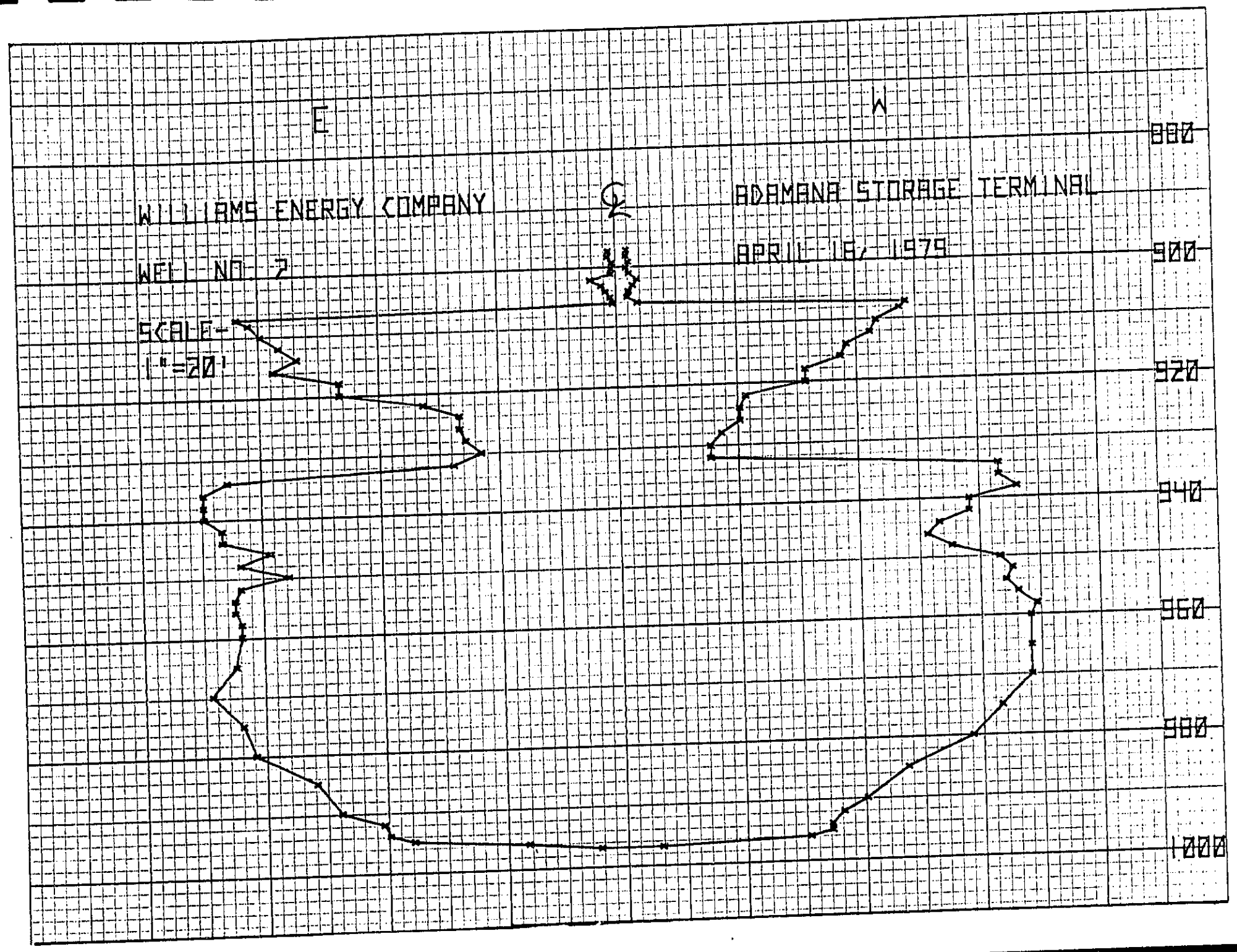
DEPTH	INCR CU FT	TOTAL CU FT	INCR BBLS	BBLS
922	5852	83004	1042	14782
924	4100	87104	730	15512
926	3201	90305	570	16082
928	2657	92962	473	16556
930	2111	95072	376	16931
932	2251	97323	401	17332
934	12619	109942	2247	19580
936	27900	137842	4969	24548
938	28549	166390	5084	29633
940	26764	193153	4766	34399
942	25876	219029	4608	39007
944	25669	244697	4571	43579
946	23701	268397	4221	47800
948	22286	290682	3969	51768
950	22669	313350	4037	55805
952	25373	338722	4519	60324
954	28250	366971	5031	65355
956	28859	395829	5139	70495

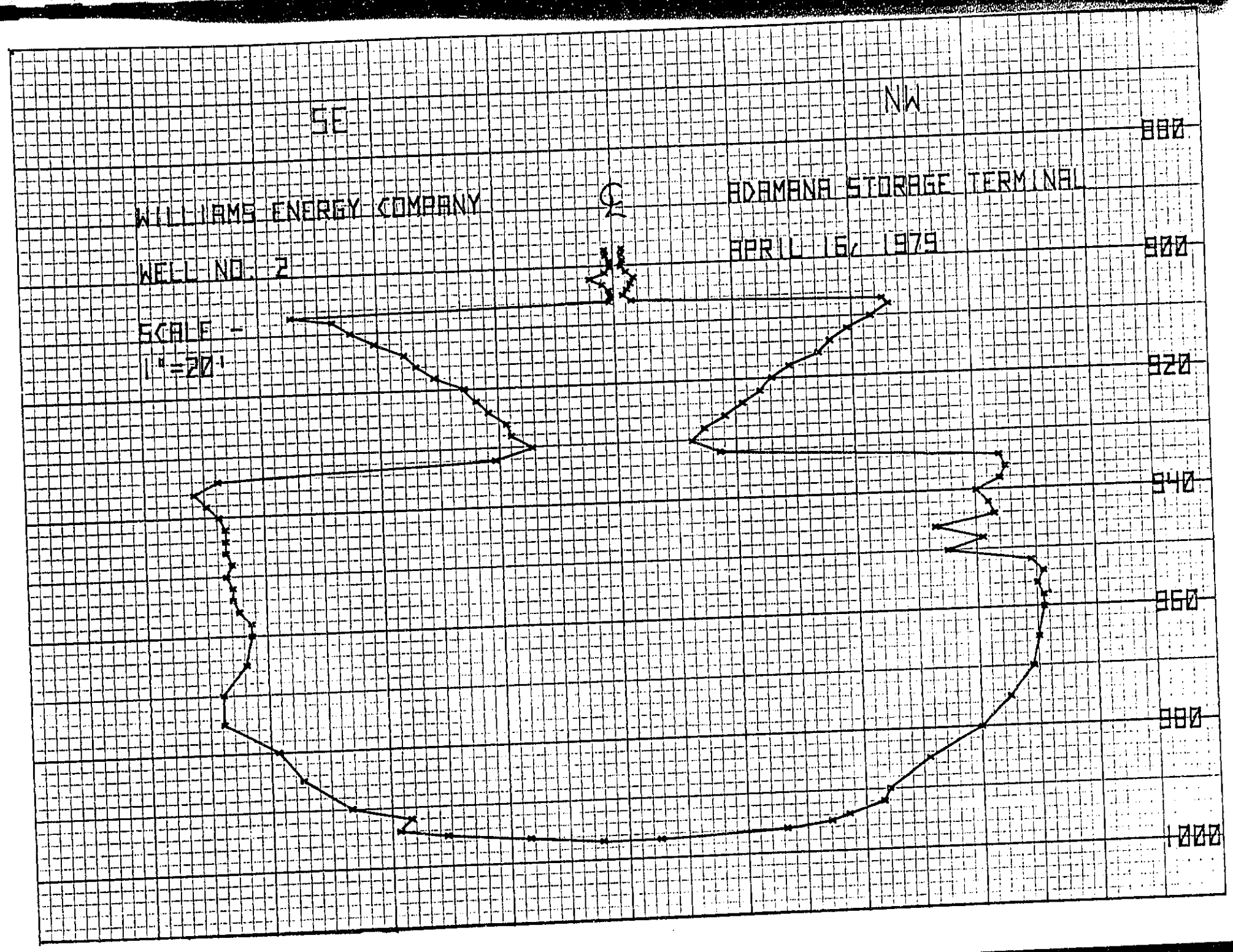
VOLUME CALCULATIONS

DEPTH	INCR CU FT	TOTAL CU FT	INCR BBLS	BBLS
958	29175	425003	5196	75690
960	29033	454035	5170	80861
965	72108	526142	12842	93702
970	72170	598312	12853	106555
975	69303	667615	12342	118897
980	60288	727902	10737	129634
985	47521	775423	8463	138097
990	35631	811053	6345	144442
992	10672	821725	1901	146343
994	8567	830292	1526	147869
995	3512	833803	625	148494
996	2255	836058	402	148896
997	631	836689	112	149008


N
S
WILLIAMS ENERGY COMPANY
WELL NO. 2
SCALE 1"=20'
ADAMANA STORAGE TERMINAL
APRIL 16, 1979
880
900
920
940
960
980
1000


NE
SW
WILLIAMS ENERGY COMPANY
ADAMANA STORAGE TERMINAL
APRIL 16, 1979
WELL NO 2
SCALE 1" =20'
880
900
920
940
960
980
1000


E
W
WILLIAMS ENERGY COMPANY
ADAMANA STORAGE TERMINAL
APRIL 18, 1979
WELL NO. 2
SCALE-
1"=20'
800
900
920
940
960
980
1000


SE
NW
WILLIAMS ENERGY COMPANY
ADAMANA STORAGE TERMINAL
APRIL 16, 1979
WELL NO. 2
SCALE -
1"=20'
880
900
920
940
960
980
1000

FERRELLGAS LPG FACILITY

Operator:	Ferrellgas Inc.
Bond Company:	Travelers Casualty and Surety Co. of America
Bond No.:	030 S 103626358 BCM
Amount:	$25,000.00
Date approved:	8/01/96

Permits covered by this bond:

556 (Cavern 01)
✓557 (Cavern 02)
562 (Water well)
602 (Cavern 03)
603 (Cavern 04)
606 (Cavern 05)
607 (Cavern 06)
646 (Cavern 07)
647 (Cavern 08)
648 (Cavern 09)
671 (Cavern 10)
672 (Cavern 11)
776 (Cavern 12 -- not developed)
777 (Expired)
778* (Expired)

* Bond in Permit #778

May 20, 1996

Memo to Ferrellgas files
From: Steve Rauzi SR
Re: Discussion of volume verification in May 17, 1996 Commission meeting

All of the Commissioners present agreed that the sonar method was the best available technology to determine cavity shapes. They agreed that accepting volumetric measurements would be appropriate as long as sonar measurements continued to be used. Dr. Nations noted that sonar determinations could be waived in individual cases in appropriate situations.

State of Arizona
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500

Fife Symington
Governor

Larry D. Fellows
Director and State Geologist

May 1, 1996

Memo: Dale Thompson, Ferrellgas, Adamana — 9 pages total
Fax #: 524-2635
From: SR Steve Rauzi, Oil & Gas Administrator
Re: Volume verification surveys pursuant to A.A.C. R12-7-182(D)

I examined the sonar surveys on several of your storage wells after receiving the three sonar surveys run in March 1996. My analysis indicates that sonar surveys do not provide an exact picture of the shape and change of shape from survey to survey. On the other hand, sonar surveys, even when run by different companies and tools, do provide a good picture of the general shape and change in shape of a cavity as shown on the attached Exhibits 3 through 8.

The increase then decrease in sonar-determined volume for cavities 3 and 6 on Exhibit 1 is of special concern to me. I'm not sure if the discrepancy is due to running sonar in open hole versus through-pipe, different companies and tools, differences in tool design or calculation parameters, or improved technology through time. One way to verify sonar-determined volumes would be to complement them with volumetric measurements. The generally consistent cavity shape, change in shape, and rate of maximum radius increase over the last 16 years shown by the sonar survey results on the attached Exhibits 2 through 8 confirms the general integrity of the shape your caverns.

However, in light of the increase then decrease in sonar-determined volume in cavities 3 and 6 shown on Exhibit 1, it would be beneficial and appropriate to complement the sonar-determined volume verifications with volumetric measurements. As a result, I plan to recommend that the Oil and Gas Conservation Commission accept volumetric measurements and sonar surveys run on alternate five year cycles to provide a more accurate tracking and verification of cavity volumes; alternatively, to accept volumetric measurements annually complemented with sonar surveys at least every ten years or whenever a cavity is reentered and worked over, starting a new ten-year cycle.

Please feel free to comment on any aspect my analysis or reasoning. Also, I look forward to receiving your latest volumetric measurements pursuant to our discussion before the Commission's next meeting on May 17.

ADAMANA SONAR METHOD VOLUME VERIFICATION HISTORY

Permit	Well No.	TD	Cavern	Initial Sonar	Max Radius	Sonar Volume	Second Sonar	Max Radius	Sonar Volume	Third Sonar	Max Radius	Sonar Volume
556	1	1101'	900-985'	4/79 Dowell	99'@942'	150,532 bbls	3/92 Digital*	118'@944'	176,119 bbls			
557	2	1112'	906-995'	4/79 Dowell	74'@958'	149,008 bbls	2/89 MicroGage	90'@970'	193,563 bbls	2/95 Sonarwire**	89'@938'	197,559 bbls
602	3	1140'	944-1008'	4/79 Dowell	87'@995'	145,550 bbls	5/91 Digital*	104'@986'	195,355 bbls	3/96 Sonarwire*	104'@982'	185,607 bbls
603	4	1120'	950-1007'	4/80 Dowell	97'@945'	158,244 bbls	3/92 Digital	102'@978'	189,616 bbls			
606	5	1119'	938-1035'	---		---	3/89 MicroGage	100'@1026'	165,922 bbls	3/95 Sonarwire**	101'@1026'	169,615 bbls
607	6	1120'	924-1027'	4/80 Dowell	93'@952'	146,458 bbls	5/91 Digital*	94'@964'	200,659 bbls	3/96 Sonarwire*	90'@1006'	176,893 bbls
646	7	1152'	951-1079'	4/80 Dowell	84'@1055'	171,283 bbls	5/91 Digital	90'@1074'	179,122 bbls	3/96 Sonarwire**	90'@1066'	199,654 bbls
647	8	1132'	956-1069'	4/80 Dowell	57'@1060'	110,892 bbls	3/92 Digital*	72'@1054'	140,952 bbls			
648	9	1125'	973-1065'	4/80 Dowell	71'@1030'	108,222 bbls	3/92 Digital*	81'@1015'	168,797 bbls			
671	10	1150'	978-1042'	4/79 Dowell	85'@988'	128,541 bbls	3/89 MicroGage	99'@990'	164,567 bbls	2/95 Sonarwire**	98'@988'	168,792 bbls
672	11	1176'	960-1101'	---		---	3/89 MicroGage	84'@1070'	227,718 bbls	3/95 Sonarwire**	84'@1070'	244,537 bbls
776	12	1200'	Cavern not developed									

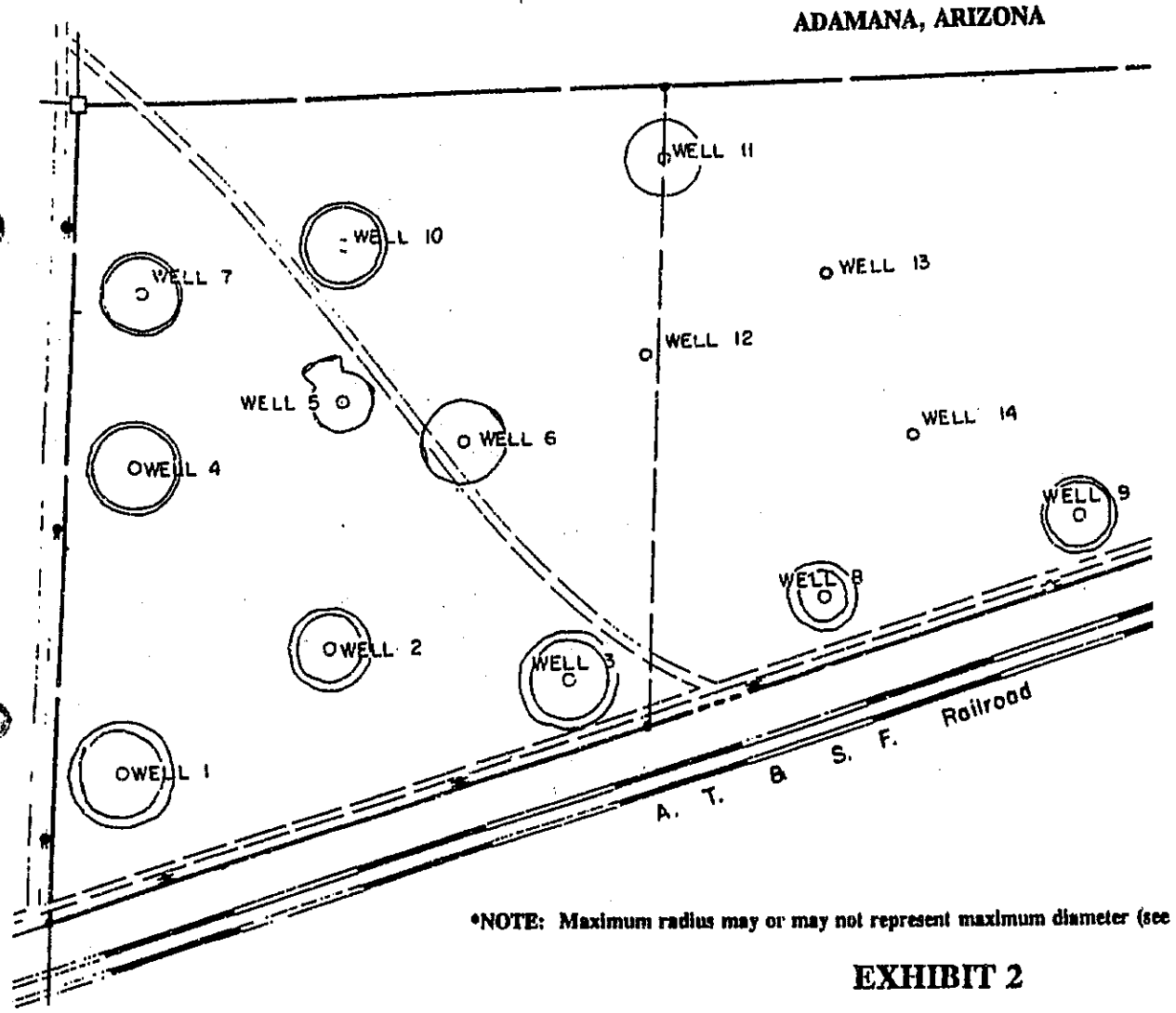
TOTAL CAPACITY 2,031,123 bbls
85,307,166 gallons

* Sonar through one string of pipe
** Sonar through two strings of pipe

EXHIBIT 1

CAVERN MAXIMUM RADIUS* PLOT, FERRELLGAS LPG-STORAGE FACILITY

ADAMANA, ARIZONA



INDICATED RADIUS INCREASE THROUGH TIME BY SONAR MEASUREMENT

Well No.	TD	Cavern	Initial Sonar	Max Radius	Latest Sonar	Max Radius	Sonar Volume	Indicated net Increase
1	1101'	900-985'	4/79	99'@942'	3/92	118'@944'	176,119 bbls	19'/13yr (1.5'/yr)
2	1112'	906-995'	4/79	74'@958'	2/95	89'@938'	197,559 bbls	15'/16yr (1'/yr)
3	1140'	944-1008'	4/79	87'@995'	3/96	104'@982'	185,607 bbls	17'/17yr (1'/yr)
4	1120'	950-1007'	4/80	97'@945'	3/92	102'@978'	189,616 bbls	5'/12yr (.5'/yr)
5	1119'	938-1035'	3/89	100'@1026'	3/95	101'@1026'	169,615 bbls	1'/6yr (.2'/yr)
6	1120'	924-1027'	4/80	93'@952'	3/96	94'@1006'	176,893 bbls	1'/16yr (.06'/yr)
7	1152'	951-1079'	4/80	84'@1055'	3/96	90'@1066'	199,654 bbls	6'/16yr (.4'/yr)
8	1132'	936-1069'	4/80	57'@1060'	3/92	72'@1054'	140,952 bbls	39'/12yr (3'/yr)
9	1125'	973-1065'	4/80	71'@1030'	3/92	81'@1015'	168,797 bbls	10'/12yr (.8'/yr)
10	1150'	978-1042'	4/79	85'@988'	2/95	98'@988'	168,792 bbls	13'/16yr (.8'/yr)
11	1176'	960-1101'	3/89	84'@1070'	3/95	84'@1070'	244,537 bbls	0'/6yr (--/yr)
12	1200'	Cavern not developed						

*NOTE: Maximum radius may or may not represent maximum diameter (see Well 5 above & Exhibits 3-5)

EXHIBIT 2

SLR APR '96

SCALE : 1" = 50'

MAXIMUM RADIUS PLOT

FERRELLGAS WELL 5

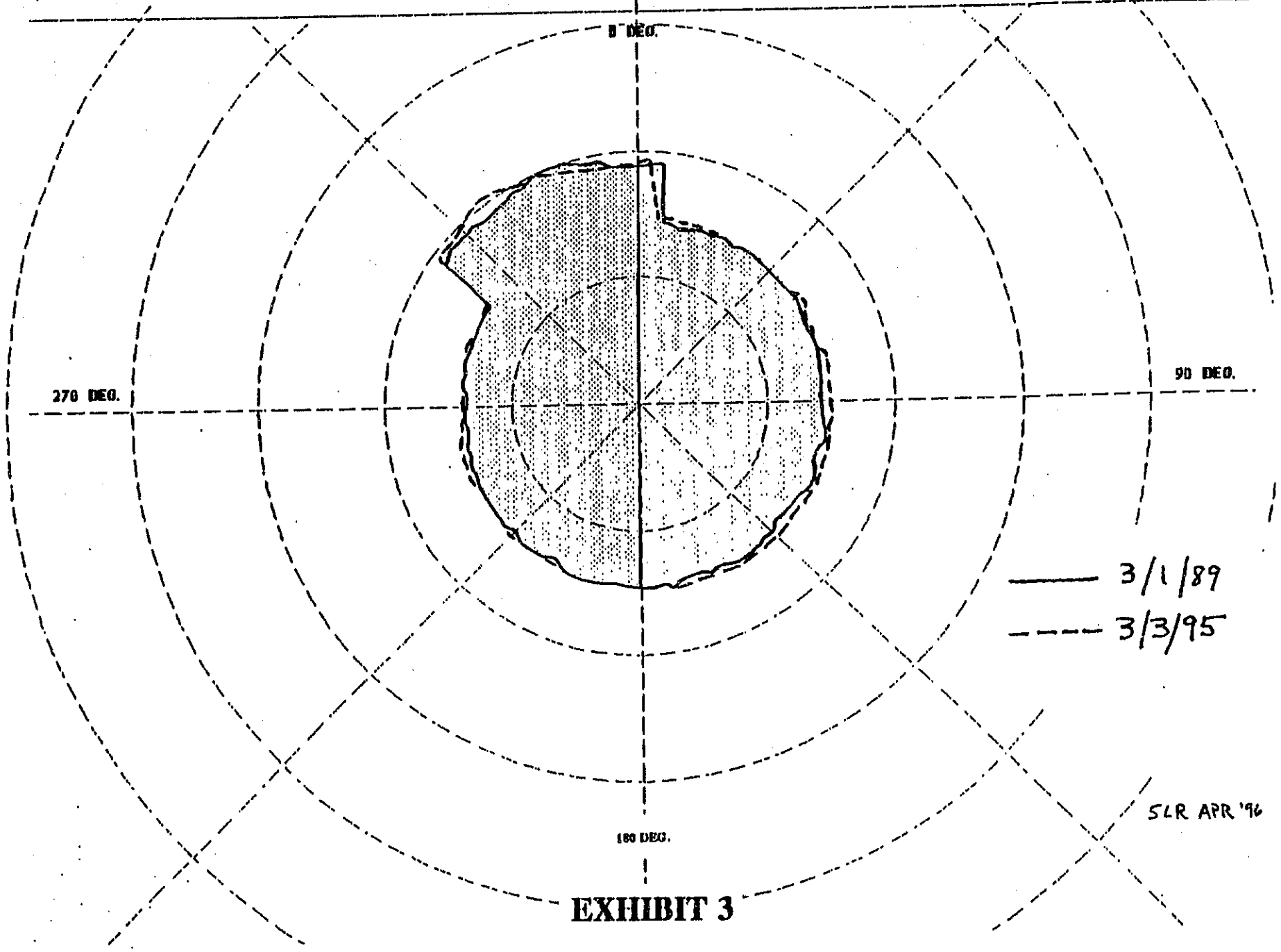


EXHIBIT 3

VERTICAL CROSSECTION

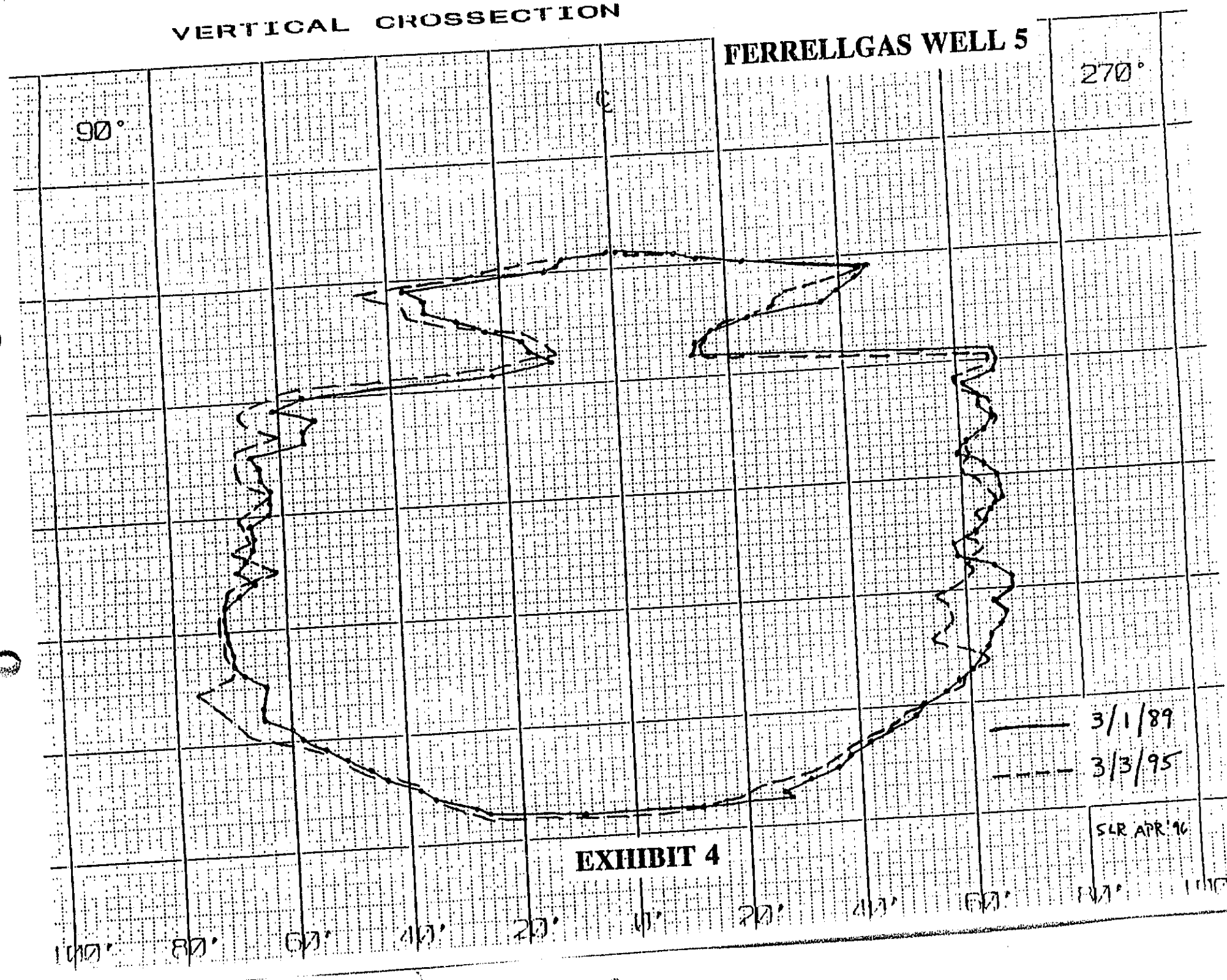


EXHIBIT 4

VERTICAL CROSSECTION

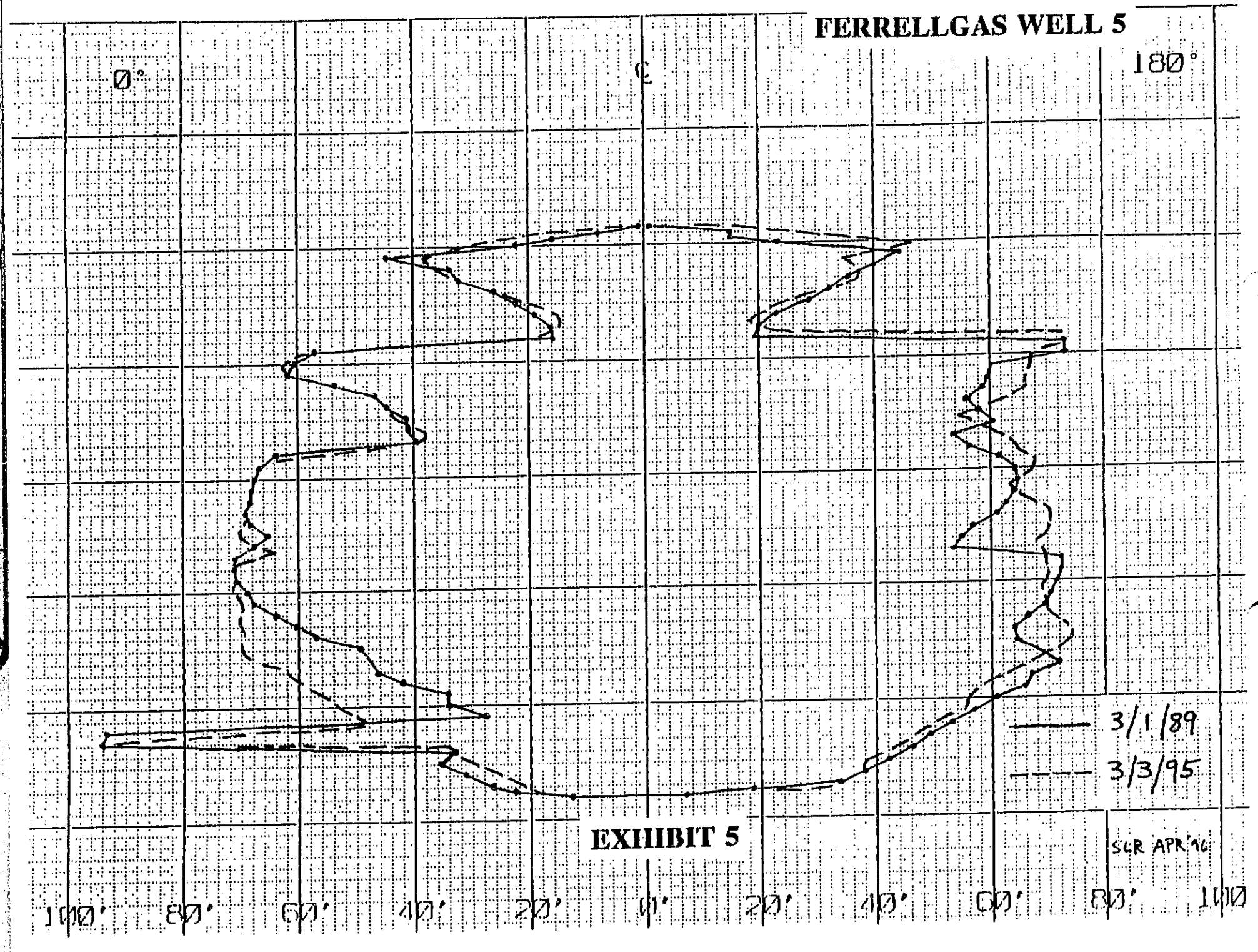


EXHIBIT 5

SCALE : 1" = 50'

MAXIMUM RADIUS PLOT

FERRELLGAS WELL 6

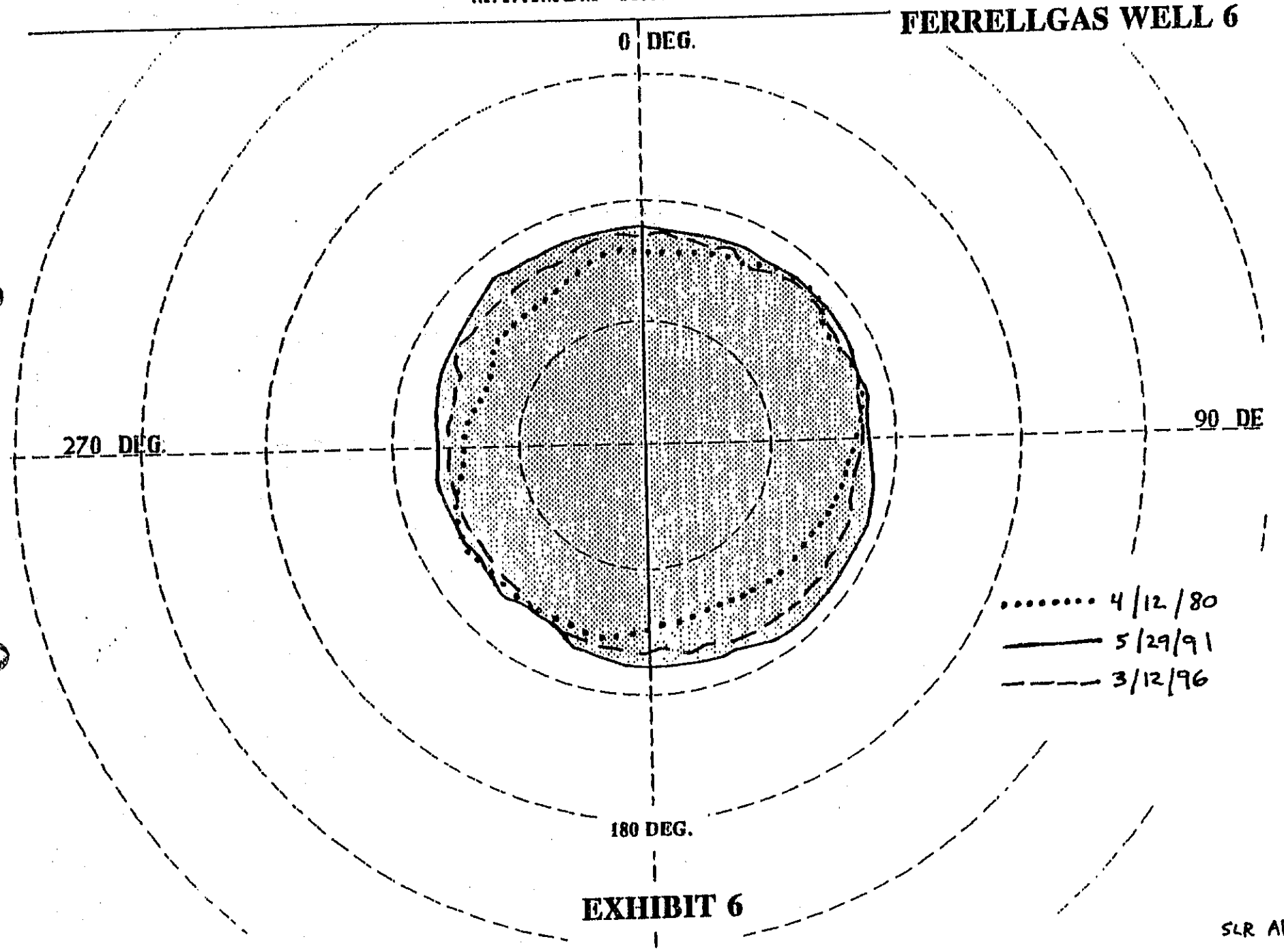


EXHIBIT 6

SLR APR'96

FERRELLGAS WELL 6

180 DEG. **0 DEG.**

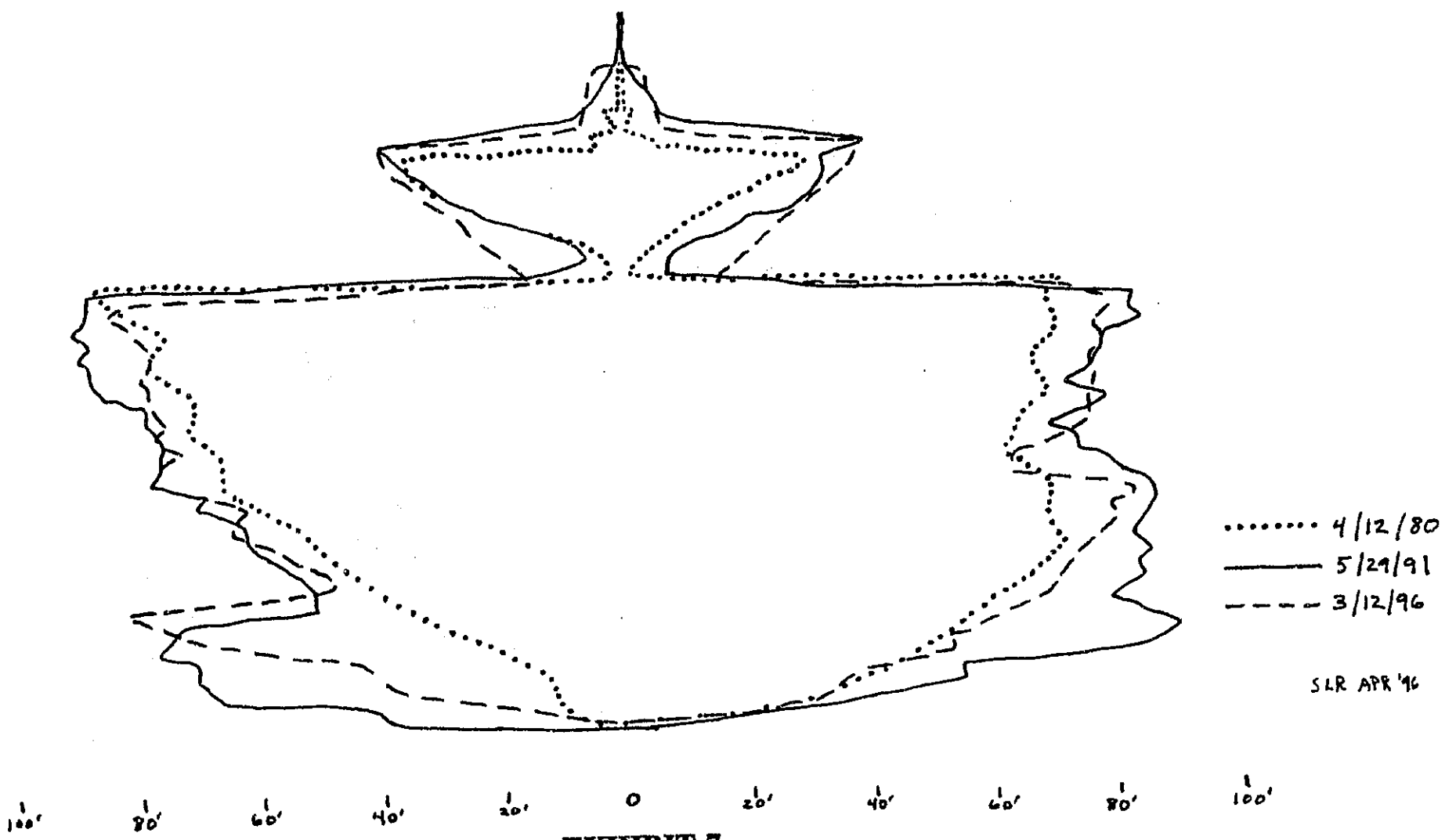


EXHIBIT 7

FERRELLGAS WELL 6

270 DEG. **90 DEG.**

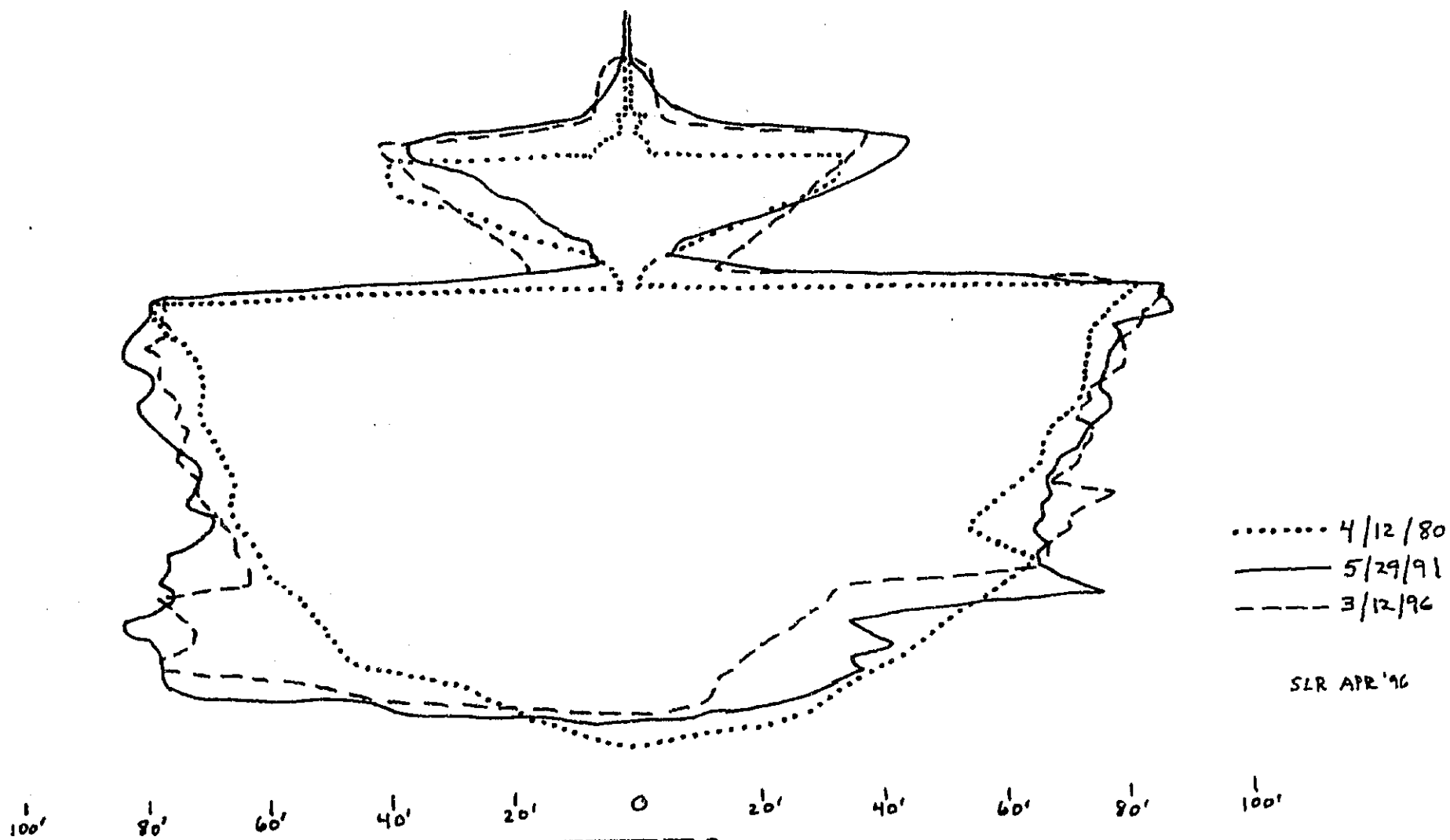


EXHIBIT 8

Ferrellgas

April 24, 1996

To: Steve Rauzi
Arizona Geological Survey

From: Dale Thompson
Ferrell North America

Subject: Cavern Capacities

Steve, as of October 30, 1996 these are the last known capacities on all the Caverns at the Adamana Storage Facility. (Capacities are in gallons).

557

Cavern #1	8,496,730
Cavern #2	6,900,978
Cavern #3	7,368,738
Cavern #4	8,676,071
Cavern #5	6,884,626
Cavern #6	7,886,657
Cavern #7	8,068,158
Cavern #8	6,349,044
Cavern #9	6,969,816
Cavern #10	7,792,578
Cavern #11	10,601,992

If we can be of further assistance please contact us at (520) 524-3229.

Sincerely,

Dale Thompson

Adamana Road • P.O. Box 1624 • Holbrook, Arizona 86025 • 602-524-3779

Ferrellgas

April 9, 1996

Steve L. Rauzi, Administrator
Oil and Gas Program
5150 N. 16th St., Ste. B141
Phoenix, Arizona 85016

file 557

APR 1996
ARIZONA GEOLOGICAL SURVEY

Dear Steve,

After our discussion on March 11, 1996 about "volumetric measurement" of our storage caverns I did some research.

Our past records on last known capacities indicate a more exact method of yearly cavern measurement. Due to the fact that almost all of our caverns are filled and emptied on a yearly basis, I feel this would be more accurate and more often a "yearly" measurement program.

Considering the reasons stated above, I would like to request the Adamana Facility perform the volumetric measurement program on a yearly basis and sonar measurement method every "ten years".

Steve, as you can see by our past sonar reports any increase in size has been very minute over the years. With the acceptance of the commission, my plan would be to sonar any cavern that had to be worked over; otherwise, all caverns would receive the sonar method on a "ten year" basis. All "volumetric measurement" information on our Adamana caverns can be submitted to your office on a yearly or five and/or ten year basis whichever you and the commission would prefer.

Steve, please let me know what you think and how to resolve this matter. Thank you for your time and consideration.

Sincerely,

Dale Thompson

Dale Thompson
Terminal Manager

Adamana Road • P.O. Box 1024 • Holbrook, Arizona 86025 • 602-524-3229

State of Arizona
Arizona Geological Survey
845 North Park Avenue, #100
Tucson, Arizona 85719
(602) 882-4795

Fife Symington
Governor

Larry D. Fellows
Director and State Geologist

July 13, 1993

Ms. Brenda Davis, Mail Drop 5
Ferrellgas
One Liberty Plaza
Liberty, Missouri 64068

Re: Ferrellgas wells in Arizona
Approval of blanket bond #U1665522, United Pacific Insurance Company
Release of blanket bond #400 GV 7009, St. Paul Fire and Marine Insurance Company

Dear Ms. Davis:

I have enclosed an approved copy of the referenced blanket bond #U1665522 effective July 16, 1993, for all wells operated by Ferrellgas in Arizona.

This letter represents the Oil and Gas Conservation Commission's approval to release the referenced blanket bond #400 GV 7009 effective July 16, 1993.

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Program Administrator

Enclosure

c Ms. Mary T. Flanigan, St. Paul Seaboard, Overland Park, Kansas

State of Arizona
Arizona Geological Survey
845 North Park Avenue, #100
Tucson, Arizona 85719
(602) 882-4795

Fife Symington
Governor

Larry D. Fellows
Director and State Geologist

June 29, 1993

557

Ms. Kathy Cordera
Martin Insurance
P. O. Box 8418
Prairie Village, Kansas 66208-0418

FAX 913-676-9145 one copy of bond from #2 6/29 @ 7:20 am SLR

Dear Ms. Cordera:

In response to your telephone call this morning, I have enclosed two blank copies of the Oil and Gas Conservation Commission's Performance Bond. File two copies of the completed bond form to my attention at the letterhead address.

Our records show that Ferrellgas currently has twelve storage wells and one freshwater well under bond.

Let me know if I can be of further assistance.

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Program Administrator

Enclosures

State of Arizona
Arizona Geological Survey
845 North Park Avenue, #100
Tucson, Arizona 85719
(602) 882-4795

Fife Symington
Governor

Larry D. Fellows
Director and State Geologist

May 20, 1993

557

Ms. Mary T. Flanigan
Attorney-in-Fact
St. Paul Seaboard
P. O. Box 935
Overland Park, Kansas 66201-0935

Re: Ferrellgas, Inc. blanket performance Bond No. 400 GV 7009

Dear Ms. Flanigan:

I received your certified letter No. P 105-228-862 requesting the St. Paul Fire and Marine Insurance Company's release from obligation under the captioned bond because the captioned bond is being replaced by United Pacific Insurance Company Bond #U1665502 effective June 25, 1993.

A.A.C. R12-7-103 requires a performance bond to remain in effect until (1) the wells under the bond have been plugged and abandoned as approved by the Oil and Gas Conservation Commission, or (2) the a new blanket bond is posted for the wells. I have not received or approved a replacement bond for the captioned bond.

As a result, I cannot release St. Paul Fire and Marine Insurance Company's obligation under the captioned bond until the United Pacific Insurance Company Bond #U1665502 is received by this office and approved.

Please let me know if I can be of further assistance in this matter.

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Program Administrator

c Mr. Greg Greer, Ferrellgas, P.O. Box 4644, Houston, Texas 77216
Mr. Dale Thompson, Ferrellgas, P.O. Box 1024, Holbrook, Arizona 86025

ADAMANA VOLUME VERIFICATION SURVEYS
(all by the sonar method)

Permit	Well	Survey Date	Survey Date	Current Status
556	1	4/79	3/92	In compliance
557	2	4/79	2/89	In compliance
602	3	4/79	5/91	In compliance
603	4	4/80	3/92	In compliance
606	5	---	3/89	In compliance
607	6	4/80	5/91	In compliance
646	7	4/80	5/91	In compliance
647	8	4/80	3/92	In compliance
648	9	4/80	3/92	In compliance
671	10	4/79	3/89	In compliance
672	11	---	3/89	In compliance
776	12			CAVERN NOT DEVELOPED

557

Oil and Gas Conservation Commission
STATE OF ARIZONA
3110 N. 19th AVENUE, SUITE 190
PHOENIX, ARIZONA 85015
PHONE: (602) 255-5161

January 11, 1989

Mr. Glenn Mace
Ferrellgas
Granada Building, Suite 216
3316 East 32nd Street
Tulsa, OK 74135

Dear Mr. Mace:

As we discussed during your visit yesterday, Oil and Gas Conservation Commission Rule 12-7-181.1.i requires that "...a flare or other safety system shall be installed at or near each brine pit..." As you know, the Ferrellgas facility at Adamana does not have a flare installed at present since the dismantling of the rusted-out older system.

Thus it appears that your operation is not in compliance with this rule. Therefore, it is necessary for Ferrellgas to install such a device to come into compliance. Failure to comply would cause the Commission to invoke R12-7-181.1.i which involves shutting down the operation.

You indicated that it will take some time to design, fabricate, and install the flare system. We would hope that this can be completed before the next scheduled inspection of the facility which will be around the end of May 1989.

Although we did not specifically discuss this issue, Rule 12-7-181.1.i.v requires verification of the capacity of each storage cavern every five years. This has not been accomplished since 1979 and 1980. Thus your operation is not in compliance with this rule. It will be necessary for Ferrellgas to begin to verify these capacities very soon. I realize this is the busy season, but as soon as activity declines and caverns are shut in for a few days, the logs can be run.

I was thinking about the possible problem with liquid propane in extremely cold weather. One way to solve the problem is to include an oil-water separator in the flow line from the caverns to the pits. A simple "drip" system might work, or an actual oil-water separator such as is used at gas-condensate wells. We sure don't want to burn up any pit liners.

We will expect to hear from you regularly concerning your progress in the matter of the flare and the sonar.

Very truly yours,

Daniel J. Brennan
Executive Director

June 2, 1978

Mr. Bob Larsen
Williams Energy Company
P.O. Box 3478
Mail Drop #33-1
Tulsa, Oklahoma 74101

Dear Mr. Larsen:

During a visit yesterday to your LPG storage area at Adamana, Mr. Sam Snyder informed me that you have replaced Dan Dougherty as Manager of Storage Terminals.

The purpose of my visit to this terminal was to discuss our Rule 706. This rule was recently adopted by the Arizona Oil and Gas Conservation Commission at a public hearing. Mr. Dougherty attended this hearing.

Rule 706, as adopted, doesn't affect your storage terminal as it now exists, except Sections C and D. These sections primarily pertain to safety features. The safety feature of immediate concern to this commission is the installation of a flare system.

This Commission does not intend to dictate or even recommend a particular design for this system. We do retain the right to approve the system that you select. The system that Mr. Snyder has discussed with you is not acceptable to the Commission.

We are enclosing a copy of Rule 706, together with a copy of the general rules and regulations of the Commission. You will note that some of these general rules also pertain to your operation.

This Commission has enjoyed a very pleasant working relationship with Williams Energy and be assured that we want to cooperate with you and your staff to the fullest extent.

Your prompt attention to the installation of the flare system will be much appreciated.

Let us know if we can be of any help whatsoever.

Very truly yours,

W. E. Allen
Director
Enforcement Section

WEA/vb

Enc.

March 28, 1978

Mr. Dan J. Dougherty
Manager of Storage Terminal
Williams Energy Company
P.O. Box 3478
Tulsa, Oklahoma 74101

Dear Dan:

Recent developments connected with the underground storage of LPG in Arizona have caused this Commission to make a study of various safety devices which would tend to prevent any accidents from occurring during the pumping of LPG into a storage reservoir. It has been concluded that a flare system, properly installed and operated in a proper manner, would be the safest and most economical of all safety systems.

These conclusions make it necessary that this Commission request all operators of LPG storage projects within the State to install a flare system at their respective storage sites as quickly as possible. The Commission does not intend to dictate to the operator the technical design of this system, but does retain the right to approve the system selected.

Your full and early cooperation in the installation of such a safety system is expected.

Very truly yours,

W. E. Allen
Director
Enforcement Section

WEA/vb

WILLIAMS ENERGY COMPANY
9 EAST FOURTH STREET
P. O. BOX 3478
TULSA, OKLAHOMA 74101
PHONE: (918) 583-1711

January 2, 1975

DJD:1:75

Mr. W. E. Allen
Director, Enforcement Section
Oil and Gas Conservation Commission
State of Arizona
4515 North 7th Avenue
Phoenix, Arizona 85013

Dear Bill:

Attached are prints reflecting the well development history for the Adamana underground storage. Please note that wells #1 and #2 had no additional washing since last year report, as 1974 washing activity was concentrated on the smaller new caverns. We have placed LPG in all six wells to meet the 1974/1975 winter demand.

Upon depletion of LPG from wells three through six, it is our intent to initiate washing until resumption of storage in 1975. Should the season not allow time to develop these wells to optimum size, some washing may continue in 1976.

I wish to thank you for your assistance while I was stationed in Arizona, and I look forward to working with you through my new position in Tulsa.

Very truly yours,

WILLIAMS ENERGY COMPANY

Dan J. Dougherty

Dan J. Dougherty
Operations Department

DJD:ak

RECEIVED
JAN 1975
O & G CONS. COMM.

DOXOL
ONE OF THE WILLIAMS COMPANIES
Uregas

RECEIVED
JAN 0 6 1976
O & G CONS. COMM.

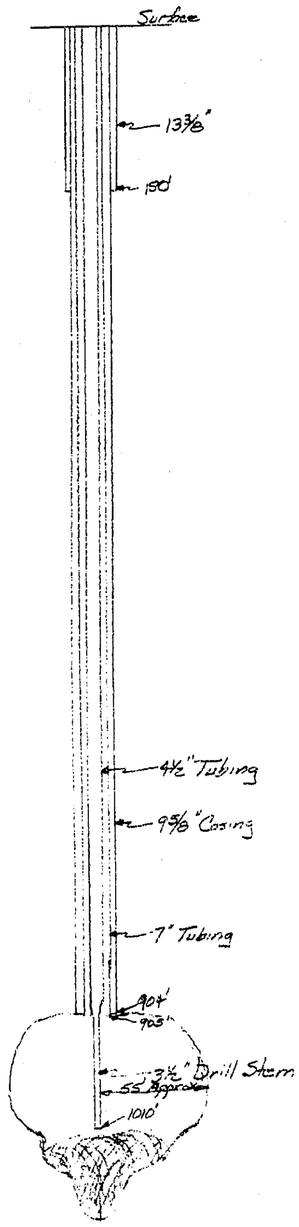
WILLIAMS ENERGY COMPANY
ADAMANA L.P.G. TERMINAL
Well Development History

Vert 1" = 100'
Horz. None

Drawn By R.J. Wirnuth
Date 12/31/73

Well # 2

From 10/13/72
To 12/31/72

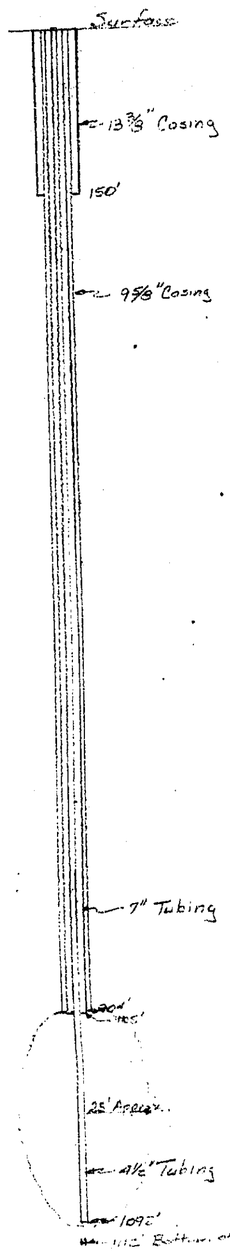


Note: Resumed washing on 3/11/73. Cut 3 1/2" of 1010' on 4/9/73. with capacity of 148,415 Bbls

Scale

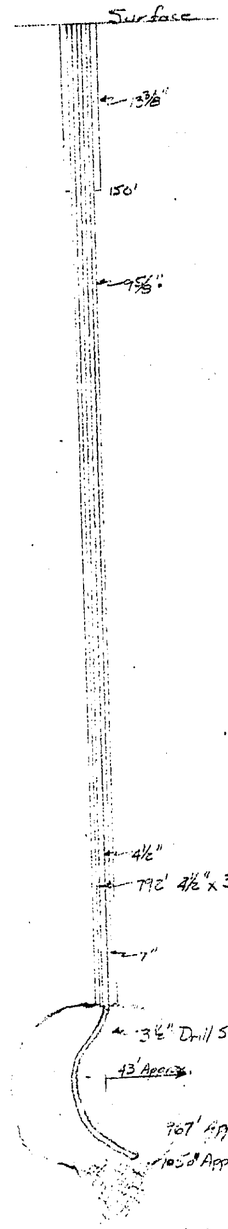
#2 Well

From 8/4/71
To 1/22/72



Note: On Jan 30, 1972 anhydrite stringer caused the 4 1/2" Casing to separate

From 1/22/72
To: 10/12/72



Note: Place 305' of 3 1/2" in well making a total of 1102' of pipe. However top of anhydrite rubble is approx. 1050'

Capacity 131,000 Bbls.

WILLIAMS ENERGY COMPANY
ADAMANA L.P.G. TERMINAL
Well Development History

Drawn By: R. J. Wirruth
Date: 12/13/72

Scale: 1" = 100'
Scale: Not to Scale

RECEIVED
JAN 0 1975
O & G CONS. COMM.

OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

April 16, 1973

Mr. D. J. Doughtery
Williams Energy Company
P. O. Box 35
Holbrook, Arizona 86025

RE: LPG STORAGE PROJECT

Dear Mr. Doughtery:

On a recent visit to your storage project at Adamana, it was noticed that at times brine was allowed to flow directly from the well to the ground. This brine or salt water then collected in a low spot just north of your fence line and also just north of the railroad right of way. This is in violation of Rule 306 and 307 of the Rules and Regulations of the Oil and Gas Conservation Commission. This situation has been called to the attention of both Mr. Greer and Mr. Sam Snyder.

If at times it is necessary to purge your wells in this manner, the brine or salt water must be contained in a suitable vessel or pit that has been prepared in such a manner that it is impervious to seepage.

Please instruct your employees to stop the practice of allowing the brines or salt water to escape to the ground.

Should you have any questions regarding this matter, please feel free to contact this office.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/rlb

Enclosure

557

WILLIAMS ENERGY COMPANY
NATIONAL BANK OF TULSA BUILDING
P.O. BOX 3478
TULSA, OKLAHOMA 74101
PHONE: (918) 583-1711

October 16, 1972

RJW:318:72

Mr. W. E. Allen, Director
Enforcement Section
Oil and Gas Conservation Commission
4515 North 7th Avenue
Phoenix, Arizona 85013

Dear Mr. Allen:

In reply to your October 3 letter, I have developed a sketch showing the development history of the #1 and #2 wells. As you can see, we experienced considerable difficulty with the anhydride stringers which are in the salt bed. However, these sketches depict what I feel is a reasonable estimate of the cavern configuration.

Williams Energy Company plans to resume washing operations on these two wells sometime in February 1973 when the propane now in storage has been removed. It is our intention to increase both wells to 150,000 barrels of usable capacity.

Very truly yours,

WILLIAMS ENERGY COMPANY

R. J. Wiruth
Manager of Operations

RJW:sw

Enclosure

557 - See file # 556 for diagramatic sketch

October 5, 1971

Mr. Robert J. Wiruth
Manager of Operation
Suburban Companies
P. O. Box 3478
Tulsa, Oklahoma 74101

Re: Suburban Companies #1 Fee Strat
SW/NW Sec. 8-T18N-R24E
Apache County
Our File #556

Suburban Companies #2 Fee Strat
NW/NW Section 8-T18N-R24E
Apache County
Our File #557

Dear Mr. Wiruth:

Completion Reports (Form 4) have been submitted on the above referenced wells. These reports were submitted pertaining only to the drilling aspect of the wells. At such time as the storage reservoirs are completed, please furnish this office information listing the approximate capacity of each reservoir together with a diagrammatic sketch of the size and shape of said reservoir. We will also require data relating to various tests that you may perform prior to the actual storage of LPG.

Your cooperation in this matter will be appreciated.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/rlb

September 13, 1971

Mr. Robert J. Wiruth
Manager of Operation
Suburban Companies
P. O. Box 3478
Tulsa, Oklahoma 74101

Re: Suburban Companies #1 Fee Strat
SW/NW Sec. 8-T18n-R24E
Apache County
Our File #556

Suburban Companies Core Test #1
NW/NW Section 8-T18N-R24E
Apache Cpunty
Our File #554

Re: Suburban Companies #2 Fee Strat
NW/NW Section 8-T18N-R24E
Apache County
Our File #557

Dear Mr. Wiruth:

According to our records we have received samples from your #1 Core Test located at 1170' FNL and 100' FWL, Section 8-T-18N-R24E, Apache County, permit #554 and your #2 Fee Strat located 600'FWL and 1220'FNL, Section 8-T-18N-R24E, Apache County, permit #557. However, we have not received samples fromyyour #1 Fee Strat located 150' FWL and 1500'FNL Section 8-T-18N-R24E, Apache County, permit #556.

Will you please arrange to have these samples sent either to us or to Four Corner Sample Cut in Farmington, New Mexico. Directives giving instructions for handling samples is attached.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/rlb

Enc.

557

THE suburban COMPANIES
LP GAS DIVISION
P.O. BOX 3478
TULSA, OKLAHOMA 74101
918-583-1711

September 8, 1971

Oil & Gas Conservation Commission
State of Arizona
4515 N. 7th Avenue
Phoenix, Arizona 85013

Gentlemen:

Please send us a supply of your "Transporters & Storers Monthly Report", Gas (Form 28) as outlined in Rule 705 of "Proposed Amendments to the Arizona State Wide Rules Pertaining to Oil & Gas".

Very truly yours,

M. J. Kunard

M. J. Kunard
Fuel Accountant

MJK: jp

556
557

RECEIVED
SEP 10 1971
O & G CONS. COMM.

August 11, 1971

Mr. H. H. Holloway
Fenix & Scisson, Inc
5805 East Fifteenth Street
Tulsa, Oklahoma

RE: Suburban Companies Core Test #1
NW NW Section 8 T18NR24E
Apache County
Our File 554

RE: Suburban Companies #1 Fee Strat
SW NW Section 8 T18N 24E
Apache County
Our File 556

RE: Suburban Companies #2 Fee Strat
NW NW Section 8 T18N R24E
Apache County
Our file 557

Dear Mr. Holloway:

We have received from Suburban the completion reports on your #1 and #2 wells. We have also received the application to drill water well, however, we are holding this application until such time as we receive a copy of the certified plat designating the location of this well. We have advised Mr. Wiruth of our need for this plat.

This office realizes that your #1 and #2 wells were drilled for storage purposes and not as strat tests, however, for the sake of simplicity and to adhere to our rules and regulations, they have designated for this office as strat tests.

Thank you very much for your past cooperation.

Very truly yours,

W. E. Allen
Director, Enforcement Section

WEA/rlb

557

FENIX & SCISSON, INC.
5805 EAST FIFTEENTH STREET
TULSA, OKLAHOMA

PLEASE REPLY TO:
P. O. Box 15609
TULSA, OKLAHOMA 74115

PHONE (918) 835-8471
TELEX NO. (918) 823-3131
CABLE ADDRESS: FENSON TULSA

August 9, 1971

Mr. W. E. Allen
Oil and Gas Conservation Commission
State of Arizona
4515 North 7th Avenue
Phoenix, Arizona 85013

Dear Mr. Allen:

In answer to your letter of August 5 concerning the wells drilled at Adamana for the Suburban Companies, I should like to offer the following information.

The core test has been plugged and abandoned in accordance with your verbal instructions issued to our Mr. Johnson. Our Engineering Department was to have filed the reports on the core hole, but apparently failed to do so. I have checked with them on this and the necessary reports will be filed immediately.

With respect to the Suburban Companies' Nos. 1 and 2 strat tests, I am assuming you mean the Nos. 1 and 2 solution wells drilled for salt storage. The completion reports on these two wells have been submitted to Mr. Wiruth with the Suburban Companies for his signature and transmittal to you. If my assumption here is incorrect, there must be some misunderstanding for to my knowledge no strat tests as such were drilled.

The application to drill the fresh water well and the completion report on this well were also transmitted to Mr. Wiruth on August 2 and August 3 for his signature and transmittal to you.

Very truly yours,

H. H. Holloway

HHH:wi

cc: Mr. R. J. Wiruth

RECEIVED
AUG 1 1 1971
O & G CONS. COMM.

Permits. 554-556 & 557

8

OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

August 5, 1971

Mr. H. H. Holloway
Fenix & Scisson, Incorporated
P. O. Box 15609
Tulsa, Oklahoma 74115

Re: Suburban Companies #1 Fee Strat
SW/4 NW/4 Sec. 8-T18N-R24E
Apache County
Our File #556

Suburban Companies #2 Fee Strat
NW/4 NW/4 Sec. 8-T18N-R24E
Apache County
Our File #557

Suburban Companies Core Test #1
NW/4 NW/4 Sec. 8-T18N-R24E
Apache County
Our File #554

Suburban Companies Water Well #1
Sec. 8-T18N-R24E
Apache County

Dear Mr. Holloway:

Please furnish this Commission a Completion Report (Form 4) on your #1 and #2 strat tests as quickly as possible.

Also, advise what your intentions are on your #1 core test. If this well is to be used as a future water well, we will need a Completion Report (Form 4). If it is to be plugged and abandoned, we will, of course, need an Application to Plug (Form 9) stating the methods you intend to use in plugging this well. Following the plugging we will need a Plugging Report (Form 10) and a Completion Report (Form 4).

We are still waiting for the Application to Drill your water well; and, we will also need a Completion Report (Form 4) on this well.

May we have the above information as quickly as possible.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA:jd

THE suburban COMPANIES
LP GAS DIVISION
P.O. BOX 3478
TULSA, OKLAHOMA 74101
918-583-1711

August 5, 1971

Oil & Gas Conservation Commission
Mr. W. E. Allen
4515 North 7th Avenue
Phoenix, Arizona 85013

Dear Mr. Allen:

Attached is the completion reports and one copy of the logs for our storage wells #1 and #2, Apache County, Arizona. The drilling time and bit record have been mailed to you under separate cover from H. H. Johnson, Fenix and Scisson.

Also enclosed is our application to drill a water well at our location. You will find our $25.00 permit fee attached. We have also enclosed the well completion report. We had previously obtained our permit to drill the water well from the Arizona State Land Department. I am sorry for the oversight on our part but I didn't realize that your department also had jurisdiction over water wells.

This should complete our drilling program in Arizona for the present. We appreciate the assistance you have given us during the project. I trust that we have submitted sufficient data to keep us in compliance with the state requirement and we desire that all data supplied remain "confidential".

Sincerely,

R. J. Wiruth

R. J. Wiruth
Mgr., of Operations

RJW:jp
Attachment

file #557

Permit 556 & 557 - 567

FENIX & SCISSON, INC.
5805 EAST FIFTEENTH STREET
TULSA, OKLAHOMA

PLEASE REPLY TO:
P. O. BOX 15609
TULSA, OKLAHOMA 74115

PHONE (918) 835-9471
TELEX NO. (918) 923-3131
CABLE ADDRESS: FENSON TULSA

August 3, 1971

Oil and Gas Conservation Commission
State of Arizona
4515 North 7th Avenue
Phoenix, Arizona 85013

Attention: Mr. W. E. Allen

Gentlemen:

We have recently completed the drilling of 2 LPG storage wells for The Suburban Companies in Apache County, Arizona. For your information and record I am attaching a copy of the bit records of these 2 wells.

If you desire additional information, please let me know.

Very truly yours,

H. H. Holloway

HHH:wi
Encl.

cc: Mr. R. J. Wiruth
The Suburban Companies

RECEIVED
AUG 5 1971
O & G CONS. COMM.

557

June 16, 1971

Mr. Robert J. Wiruth
Manager of Operation
Suburban Companies
P. O. Box 3478
Tulsa, Oklahoma 74101

Re: Suburban Companies #1 Fee Strat
SW/4 NW/4 Sec. 8-T18N-R24E
Apache County
Our File #556

Suburban Companies #2 Fee Strat
NW/4 NW/4 Sec. 8-T18N-R24E
Apache County
Our File #557

Dear Mr. Wiruth:

Enclosed please find Receipt No. 2890 and 2891 covering the two $25 filing fees, copies of your approved Application for Permit to Drill, and Permit To Drill No. 556 and 557.

Very truly yours,

W. E. Allen, Director
Enforcement Section

jd
Enc.

June 9, 1971

Greer Engineering Company
1000 8th Avenue
P. O. Drawer T
Holbrook, Arizona 86025

Attn: Mr. Lacy C. Greer

Re: Suburban Companies locations in Section 8-T18N-R24E,
Apache County

Gentlemen:

In conversation with representatives of Suburban we were informed that you had or were in the process of staking two locations for this company in the above referenced section; and, that as quickly as the locations were staked you would forward this office certified plats indicating their exact location. Would you please forward these plats as quickly as possible.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA:jd