

Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
May 27, 2004

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30015-22574
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No. BW-06
7. Lease Name or Unit Agreement Name Eugenie
8. Well Number #1
9. OGRID Number
10. Pool name or Wildcat

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other **Brine Extraction Facility**

2. Name of Operator
ITW INC.

3. Address of Operator
P.O. Box 98 Loco Hills NM 88255

4. Well Location
Unit Letter **M: 995** feet from the **South** line and **641** feet from the **West** line
Section **17** Township **22 S** Range **27 E** NMPM County **EDDY**

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____

Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☒	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
OTHER: RAN SONAR of Wellbore ☒		OTHER: RAN SONAR of Wellbore ☒	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Shut IN + Bled off well. Pulled Tubings August 30th + RAN A CAVERN SURVEY. RAN packer to bottom of CASING, RAN A 300 lb 30 minute chart, tested good. Pulled packer + drilled to bottom. Pulled work string RAN Production Pipe down to 580 Feet, Put wellhead back together + starting pumping Fresh water down well to start ~~making~~ producing brine water, September 1st.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOC guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

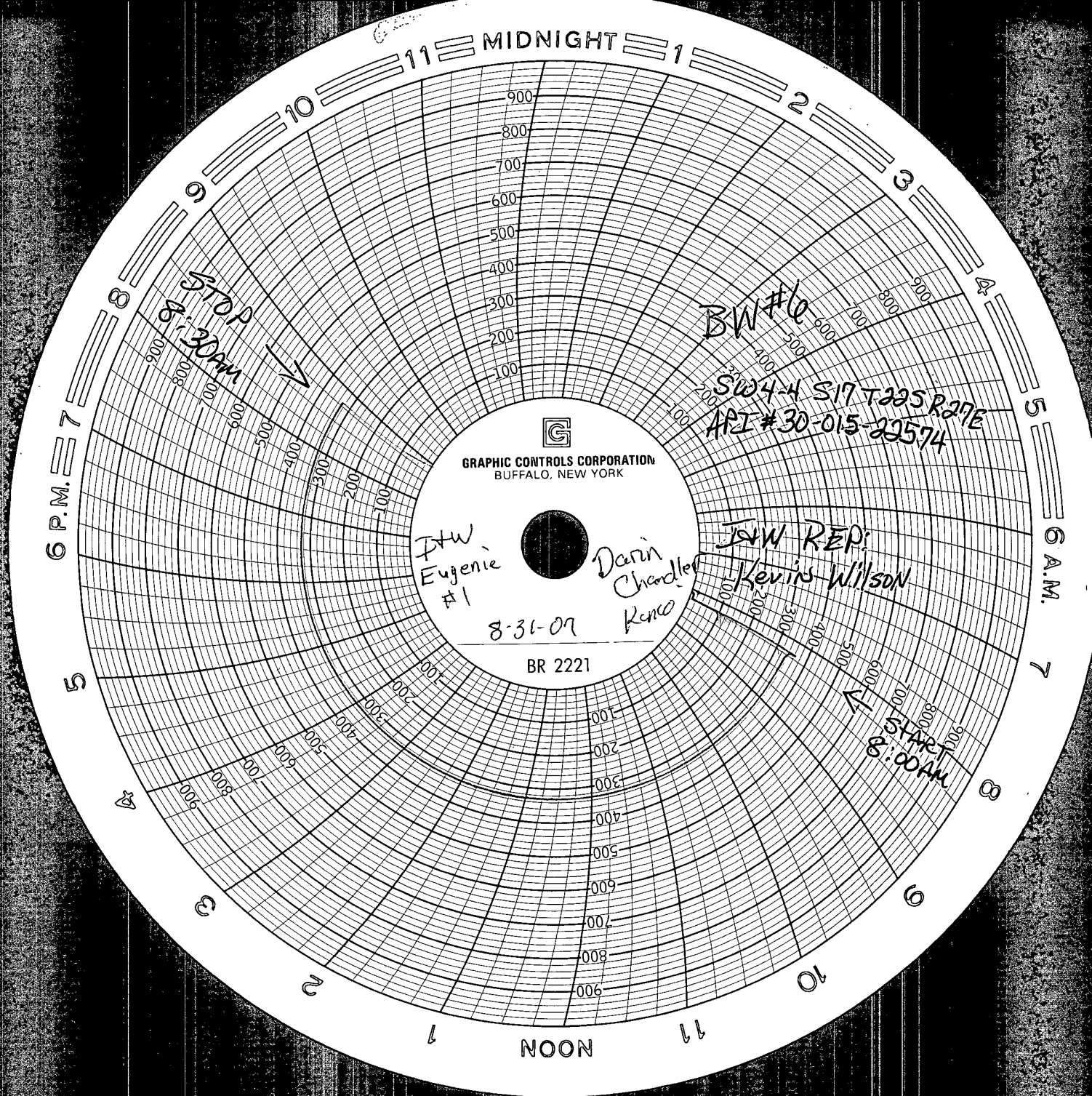
SIGNATURE Kerwin Wilson TITLE Operations Manager DATE 9/5/07

Type or print name
for State Use Only

E-mail address:

Telephone No.

APPROVED BY: _____ TITLE _____ DATE _____
Date of Approval (if any): _____



Chavez, Carl J, EMNRD

From: Lisa Rice [iwcarlsbad@plateautel.net]
Sent: Friday, August 24, 2007 4:10 PM
To: Chavez, Carl J, EMNRD
Subject: I & W, Inc. Eugenie #1 (Sonar)

Mr. Chavez:

We wanted to inform you we will be conducting the Cavern Survey with sonar Thursday, August the 30th 2007. The test will begin at 8:00 am. If you have any question or need additional information please contact us.

Thank you - Lisa Rice & Kevin Wilson

This inbound email has been scanned by the MessageLabs Email Security System.

8/27/2007



SOCON Sonar Well Services, Inc.

ECHO - LOG

I&W Inc.

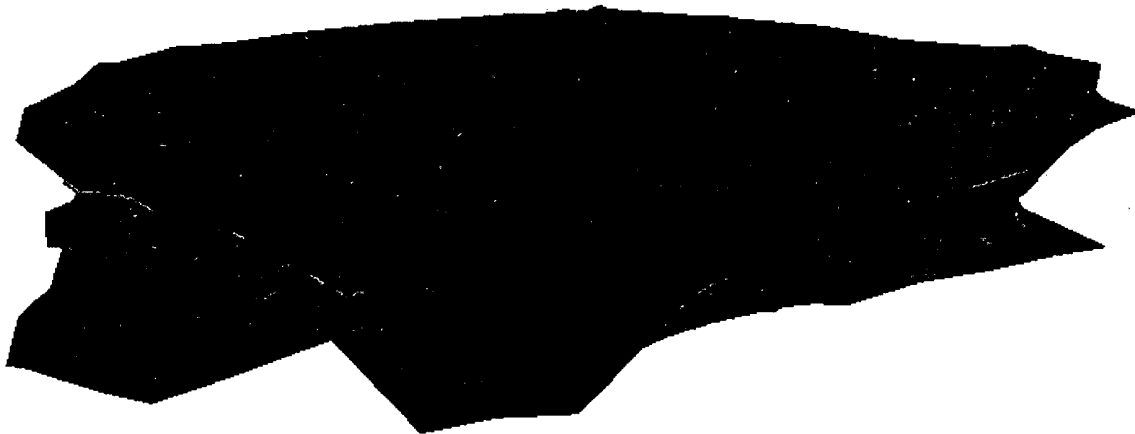
Eugenie #1

Carlsbad, New Mexico

1st. Survey

08/30/2007

073055



SOCON Sonar Well Services, Inc.

11133 I-45 South, Ste. E

Conroe, Texas 77302

Phone (936) 441-5801

Fax (936) 539-6847

e-mail: soconusa@socon.com



SOCON Sonar Well Services, Inc.

Eugenie #1

073055

08/30/2007

Results of the Cavern Survey

By means of Echo-Sounding

In the cavern

Eugenie #1

Date: 08/30/2007

073055

Customer: I&W Inc.

Carlsbad, New Mexico

Responsible for the survey:

Surveyor:	Richard Lawrence
Leadership:	Kevin Wilson
Interpreter:	Gunte Happe
Control:	Richard Lawrence



SOCON Sonar Well Services, Inc.

Eugenie #1

073055

08/30/2007

Contents

Summary of results

Legend

Enclosures:

Volume (diagrams and lists)

Diameter and radii (diagrams and lists)

Perspective views

Maximum plots (top view)

Horizontal sections

Maximum plot (side view)

Vertical sections

Logs



Summary of results

Well details

All depths are given as:	MD
Datum level for all depths:	BHF
Shoe of the cemented 7"-casing:	442 ft
Reference depth for ECHO-LOG:	442 ft
Depth correction:	-4 ft
Pressure at the well head:	0 psi

Details of survey equipment

Measuring vehicle used:	L 110
Tools used:	Echo tool BSF 39, BSF 39

General details

Number of runs:	1
Measured horizontal sections:	12
Measured tilted sections:	42
Lowest survey depth:	466.0 ft



Maximum and minimum dimensions with ref. to the measuring axis

Reference direction:

magnetic north

Determination out of 12 vertical sections derived from horizontally and tilted measured data at 5/15 degree intervals:

Minimum radius:	0.0 ft
Depth:	468.9 ft
Direction:	0°

Maximum radius:	85.5 ft
Depth:	445.0 ft
Direction:	180°

Highest point of cavern:	434.7 ft
Horizontal distance:	4.2 ft
Direction:	240°

Lowest point of cavern:	473.8 ft
Horizontal distance:	71.0 ft
Direction:	300°

Lowest point in the measuring axis:	468.9 ft
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Determination out of 37 horizontal sections in the depths between 444 ft and 473 ft at 5 degree intervals:

Maximum radius:	85.9 ft
Depth:	445.0 ft
Direction:	181°

Maximum diameter:	158.1 ft
Depth:	445.0 ft
Direction:	1 - 181°

Volume

Volume:	47,823 bbls
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Depth range:	444 ft <--> 473 ft
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Interpretation

Supposing a rectilinear propagation of ultrasonic waves all recorded echo travel times were converted into distances by using the subsequent speeds of sound:

1810.0 m/s (5938.3 ft/s) in brine (measured)

In the case of recording several echoes along one trace of echo signals, the representative echo signal was selected according to the level of amplitude, transmission time, and density of measured points and the shape of the cavern.

Horizontal sections

12 horizontal sections at following measured depths are included as graphical plots in this report:

444.0 ft	445.0 ft	450.0 ft	452.0 ft	454.0 ft	456.0 ft	458.0 ft
460.0 ft	462.0 ft	464.0 ft	465.0 ft	466.0 ft		

The following 7 sections are constructed:

467.0 ft	468.0 ft	469.0 ft	470.0 ft	471.0 ft	472.0 ft	473.0 ft
----------	----------	----------	----------	----------	----------	----------

Tilted sections

42 sections recorded with tilted echo-transducer at following measured depths are presented in the vertical sections:

26 sections of these with upwards-tilted echo-transducer:

Depth / Tilting Angle

444.0 / 4	444.0 / 6	455.0 / 8	455.0 / 72	455.0 / 78	455.0 / 84
460.0 / 3	460.0 / 6	460.0 / 8	460.0 / 12	460.0 / 15	460.0 / 18
460.0 / 21	460.0 / 24	460.0 / 27	460.0 / 30	460.0 / 33	460.0 / 39
460.0 / 45	460.0 / 51	460.0 / 57	460.0 / 63	460.0 / 69	460.0 / 75
460.0 / 81	460.0 / 87				

16 sections of these with downwards-tilted echo-transducer:

Depth / Tilting Angle

444.0 / 2	444.0 / 4	444.0 / 6	455.0 / 12	455.0 / 18	455.0 / 24
455.0 / 30	455.0 / 36	455.0 / 42	455.0 / 48	455.0 / 57	455.0 / 63
455.0 / 75	455.0 / 78	455.0 / 81	455.0 / 84		



Vertical sections

The shape of the cavern was determined by interpretation of all horizontally and tilted measured data and is presented by 12 vertical sections in this report.

Maximum plots (top view)

The maximum plot presents the largest extension of the cavern in a top view. The first picture shows the areas of all horizontal sections and the area resulting out of the vertical sections (hatched). The resulting total area is shown in the second picture (cross hatching) together with the largest single area.

In both pictures the total centre of gravity of the cavern is shown with its distance and its direction referring to the measuring axis.

The total centre of gravity is derived out of the envelope, which is the connection line of the largest cavern extension in every direction

Perspective views

Several perspective drawings are included in this report to give a quick review of detailed relations.

Pockets in the cavern wall

Pockets in the cavern wall, which have been identified by the tilted echo-transducer, were transferred from the vertical sections to the respective horizontal sections. The resulting additional areas have been added to the calculated areas.



LEGEND

- Measured point recorded with horizontal adjusted ultrasonic transducer
- Measured point recorded with tilted or vertical orientated ultrasonic transducer
- △ Interpolated point derived from the vertical sections
- Connection line between two measured points in order to calculate the volume
- Assumed connection line (in areas which are not sufficiently covered by measured points)
- N Magnetic north determined with compass inside the tool
(Magnetic compass in areas without tubing)
(Fibre gyro compass in areas with tubing)
- (N) Assumed north direction (for sections in magnetic disturbed surroundings without fibre gyro compass)
- a Longest extension in section
(Without considering of hidden leached pockets)
- b Longest extension in section perpendicular to a
(Without considering of hidden leached pockets)
- a/b Ratio of longest extensions in section which are perpendicular to each other
- (xx m²) Area in actual section resulting from hidden leached pockets
- r~ Average radius
- 021835 29.04 2002 Job number and survey date

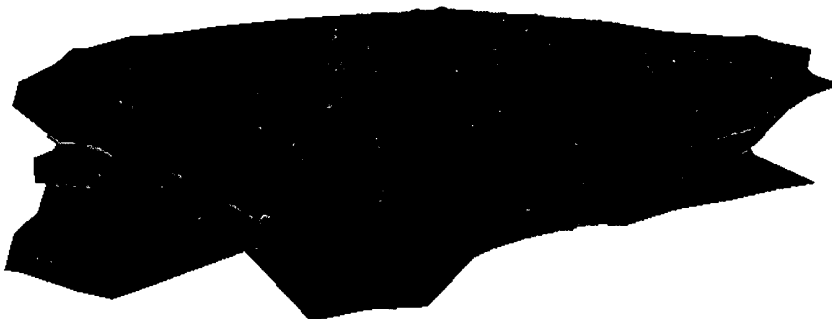


SOCON Sonar Well Services, Inc.

Eugenie #1

073055

08/30/2007



Eugenie #1 --> 0° <--



Eugenie #1 --> 60° <--



Eugenie #1 --> 120° <--

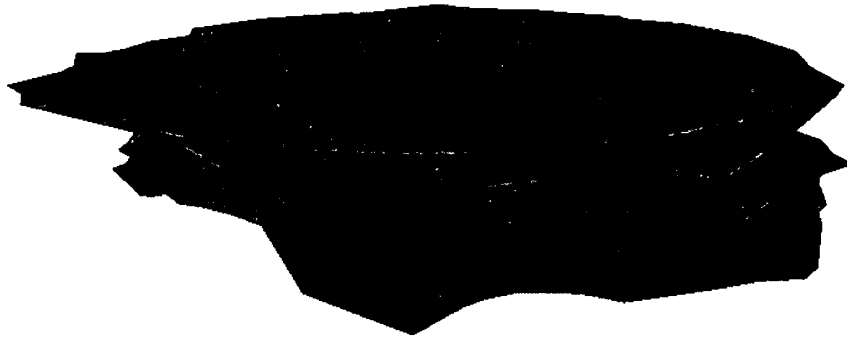


SOCON Sonar Well Services, Inc.

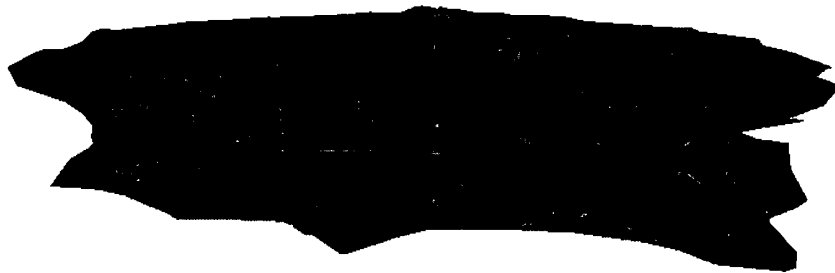
Eugenie #1

073055

08/30/2007



Eugenie #1 --> 180° <--



Eugenie #1 --> 240° <--



Eugenie #1 --> 300° <--

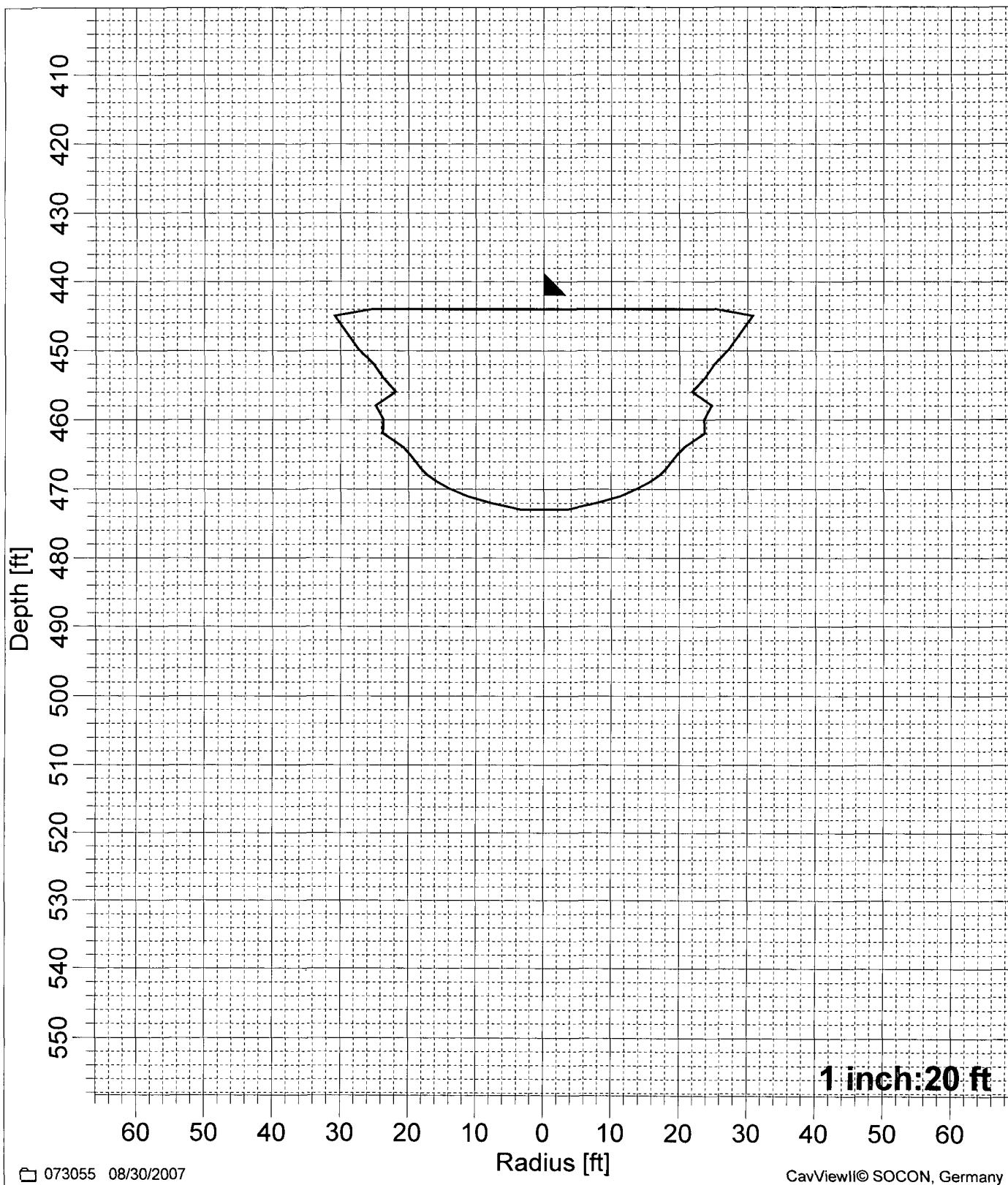


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Eugenie #1

AVERAGE RADIUS

08/30/2007



5 1/2" : 442.0 ft

Average radius (08/30/2007)

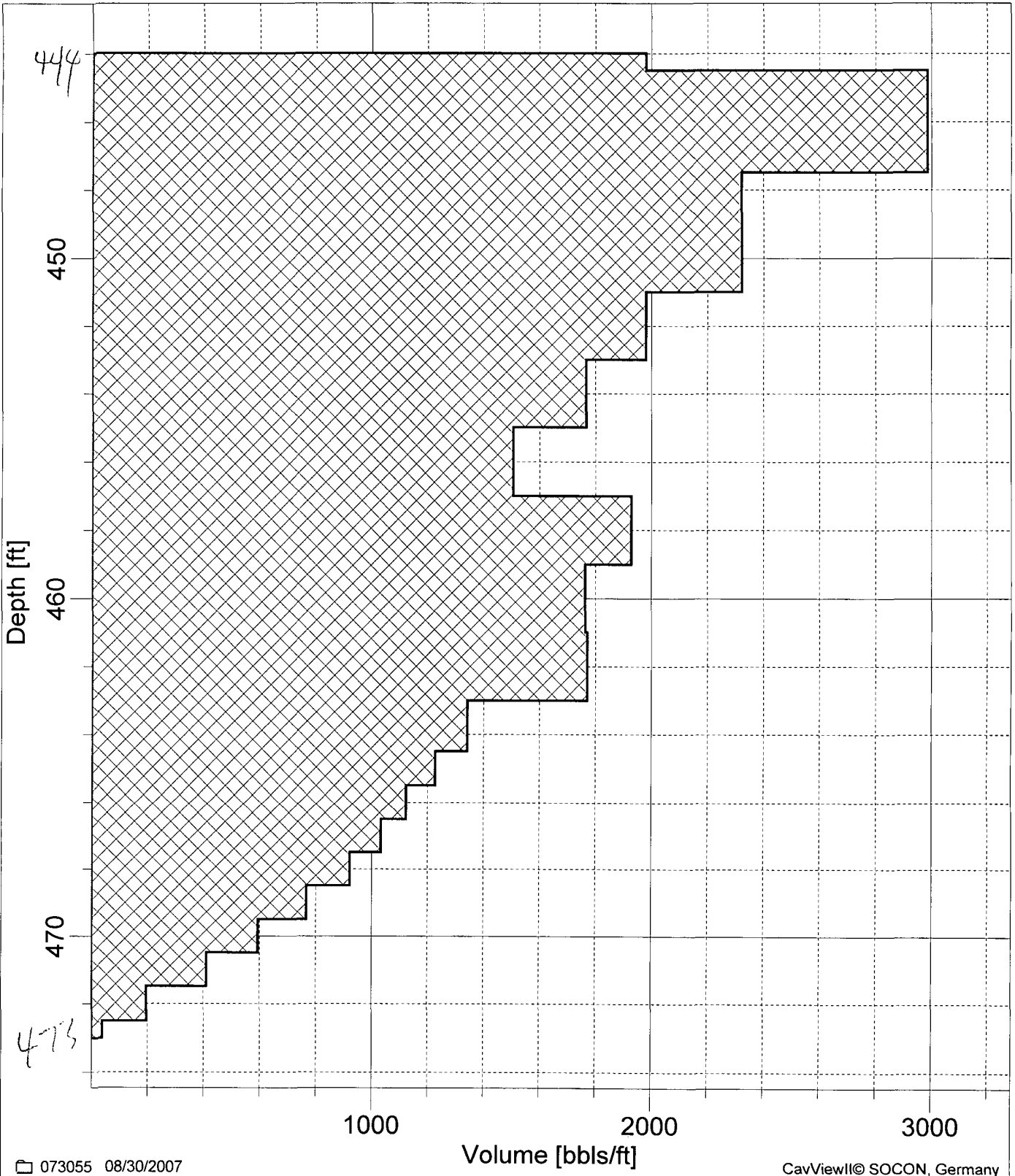


SOCON Sonar Well Services, Inc.

Eugenie #1

PARTIAL VOLUME

08/30/2007



Partial volume



SOCON Sonar Well Services, Inc.

Volume list

Cavern: Eugenie #1

073055

08/30/2007

Depth [ft]	Radius [ft]	Area [ft ²]	Depth range [ft]		Volume [bbbls]	
			from	to	partial	total
444.0	59.5	11126	444.0	444.5	991	991
445.0	73.1	16767	444.5	447.5	8959	9949
450.0	64.4	13044	447.5	451.0	8131	18080
452.0	59.5	11122	451.0	453.0	3962	22042
454.0	56.2	9918	453.0	455.0	3533	25575
456.0	51.9	8454	455.0	457.0	3011	28586
458.0	58.7	10833	457.0	459.0	3859	32445
460.0	56.1	9902	459.0	461.0	3527	35972
462.0	56.3	9946	461.0	463.0	3543	39514
464.0	49.0	7538	463.0	464.5	2014	41528
465.0	46.8	6891	464.5	465.5	1227	42756
466.0	44.8	6304	465.5	466.5	1123	43878
467.0	43.0	5799	466.5	467.5	1033	44911
468.0	40.6	5178	467.5	468.5	922	45833
469.0	37.0	4303	468.5	469.5	766	46600
470.0	32.6	3339	469.5	470.5	595	47195
471.0	27.1	2313	470.5	471.5	412	47606
472.0	18.8	1107	471.5	472.5	197	47804
473.0	8.3	216	472.5	473.0	19	47823

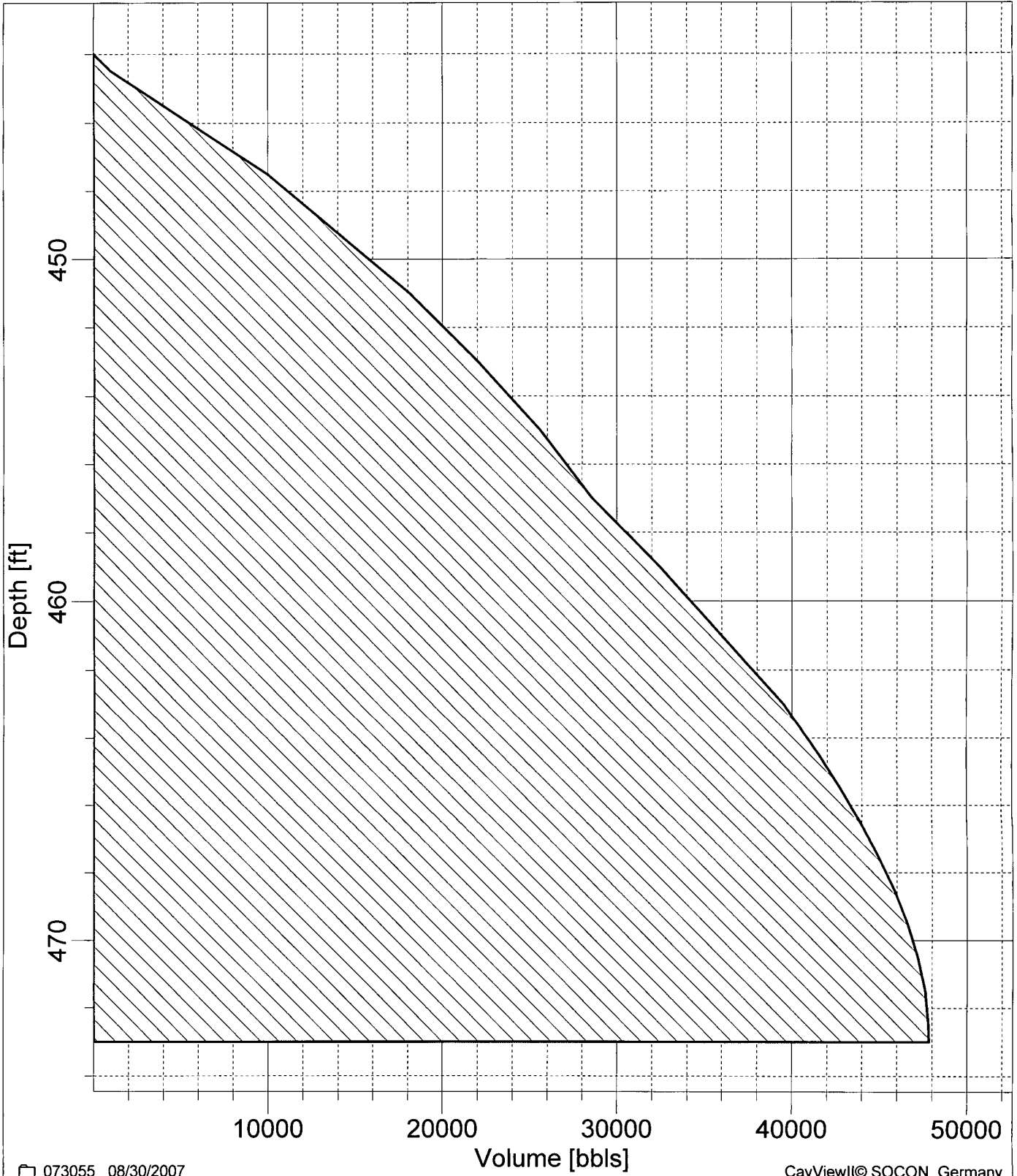


SOCON Sonar Well Services, Inc.

Eugenie #1

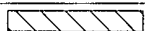
TOTAL VOLUME

08/30/2007



073055 08/30/2007

CavViewII© SOCON, Germany



Total volume = 47822.9 bbls



SOCON Sonar Well Services, Inc.

Table of volumes (foot by foot)

Job-No.: 073055, Name: Eugenie #1, Date: 08/30/2007

depth [ft]	volume [bbls]	depth [ft]	volume [bbls]	depth [ft]	volume [bbls]	depth [ft]	volume [bbls]	depth [ft]	volume [bbls]
								444	0
445	2484	446	5470	447	8456	448	11111	449	13434
450	15757	451	18080	452	20061	453	22042	454	23808
455	25575	456	27081	457	28586	458	30516	459	32445
460	34208	461	35972	462	37743	463	39514	464	40857
465	42142	466	43317	467	44395	468	45372	469	46217
470	46897	471	47400	472	47705	473	47823		

Cavity: Eugenie #1 Report number: 073055 Date: 08/30/2007



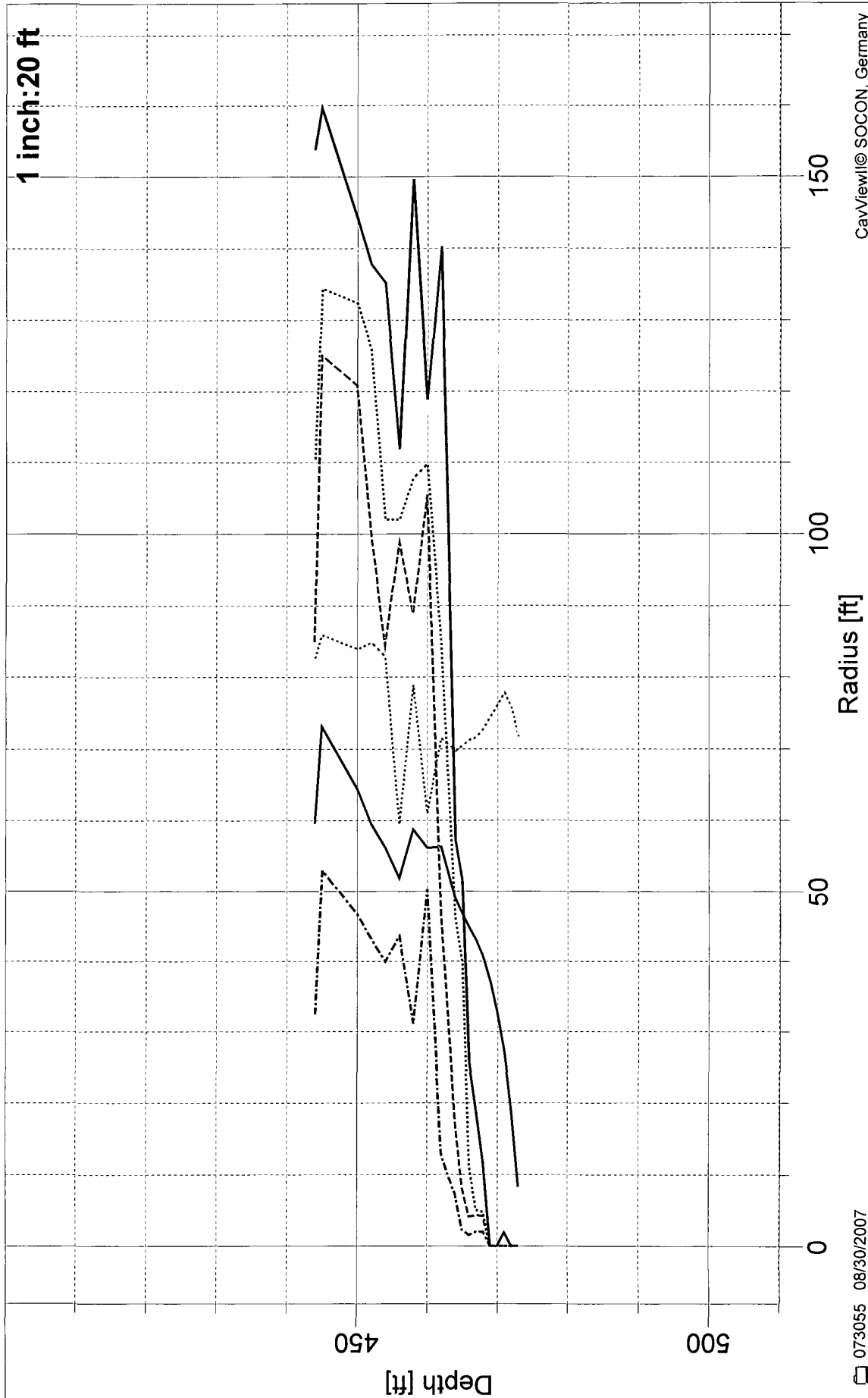
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Eugenie #1

RADII / DIAMETERS

08/30/2007

1 inch:20 ft



073055 08/30/2007

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— Average radius
- - - Minimum diameter
..... Largest perpendicular extension
- . - . Minimum radius
- - - - Maximum diameter
..... Maximum radius
—— Largest extension



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Table of radii and diameters

Cavern: Eugenie #1

073055

08/30/2007

Depth [ft]	Radius [MIN]		Radius [MAX]		Diameter [MIN]		[MAX]	
	[ft]	[°]	[ft]	[°]	[ft]	[°]	[ft]	[°]
444.0	32.5	113	82.6	180	84.9	113 <-> 293	154.6	0 <-> 180
445.0	53.0	72	85.9	181	125.0	76 <-> 256	158.1	1 <-> 181
450.0	46.7	6	83.9	191	120.8	126 <-> 306	139.7	171 <-> 351
452.0	43.2	332	84.9	197	100.0	27 <-> 207	136.1	12 <-> 192
454.0	40.0	31	82.9	196	84.4	26 <-> 206	132.5	16 <-> 196
456.0	43.6	350	59.4	270	98.8	44 <-> 224	110.6	90 <-> 270
458.0	31.1	335	78.9	305	88.9	155 <-> 335	148.1	125 <-> 305
460.0	50.4	33	61.0	263	105.5	33 <-> 213	117.2	83 <-> 263
462.0	12.8	36	71.5	96	46.8	36 <-> 216	139.5	86 <-> 266
464.0	7.2	203	69.7	270	17.5	25 <-> 205	120.1	75 <-> 255
465.0	2.3	34	70.5	270	8.3	14 <-> 194	119.6	0 <-> 180
466.0	1.6	190	71.3	270	4.1	95 <-> 275	121.9	0 <-> 180
467.0	2.0	102	71.7	270	4.3	98 <-> 278	124.2	15 <-> 195
468.0	2.0	100	72.8	240	4.2	98 <-> 278	127.7	15 <-> 195
469.0	0.0	1	74.5	240	0.0	1 <-> 181	127.5	0 <-> 180
470.0	0.0	1	76.1	240	0.0	1 <-> 181	127.8	0 <-> 180
471.0	0.0	1	77.8	240	0.0	1 <-> 181	101.4	120 <-> 300
472.0	0.0	1	75.7	240	0.0	1 <-> 181	99.3	120 <-> 300
473.0	0.0	0	71.7	300	0.0	1 <-> 181	71.7	120 <-> 300



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Table of radii in N-E-S-W-NE-SE-SW-NW presentation

Cavern: Eugenie #1

073055

08/30/2007

Depth	<R>	N	E	S	W	NE	SE	SW	NW
[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]
444.0	59.5	72.0	42.7	82.6	60.0	35.7	46.7	73.0	63.3
445.0	73.1	72.1	59.5	85.5	69.7	61.7	72.6	77.3	69.6
450.0	64.4	50.6	60.8	83.2	66.2	55.7	60.2	68.6	61.5
452.0	59.5	49.6	50.7	74.9	68.6	47.9	58.3	67.9	65.0
454.0	56.2	48.0	49.7	69.1	67.4	42.1	61.2	58.0	66.4
456.0	51.9	44.3	51.1	54.7	59.4	45.7	57.6	53.1	50.5
458.0	58.7	46.5	52.1	55.1	71.3	40.3	65.6	67.6	72.2
460.0	56.1	51.7	56.9	57.4	59.6	54.8	59.1	57.8	53.5
462.0	56.3	56.1	70.3	54.9	68.2	48.4	36.9	56.5	68.7
464.0	49.0	60.4	25.3	56.6	69.7	17.2	29.3	63.5	68.4
465.0	46.8	62.1	23.6	57.5	70.5	10.3	23.6	67.0	68.3
466.0	44.8	63.6	22.6	58.4	71.3	10.3	21.3	69.9	68.3
467.0	43.0	65.0	21.7	59.2	71.7	3.2	20.9	70.9	68.5
468.0	40.6	66.4	20.7	59.6	72.1	3.1	20.4	71.8	68.7
469.0	37.0	67.9	19.7	59.7	72.5	2.9	19.9	72.8	68.9
470.0	32.6	68.0	18.8	59.7	72.9	2.8	19.5	73.8	68.0
471.0	27.1	67.8	0.0	30.1	72.0	0.0	19.0	73.2	66.3
472.0	18.8	67.6	0.0	29.5	70.7	0.0	0.0	70.9	64.6
473.0	8.3	0.0	0.0	28.9	69.5	0.0	0.0	68.6	0.0

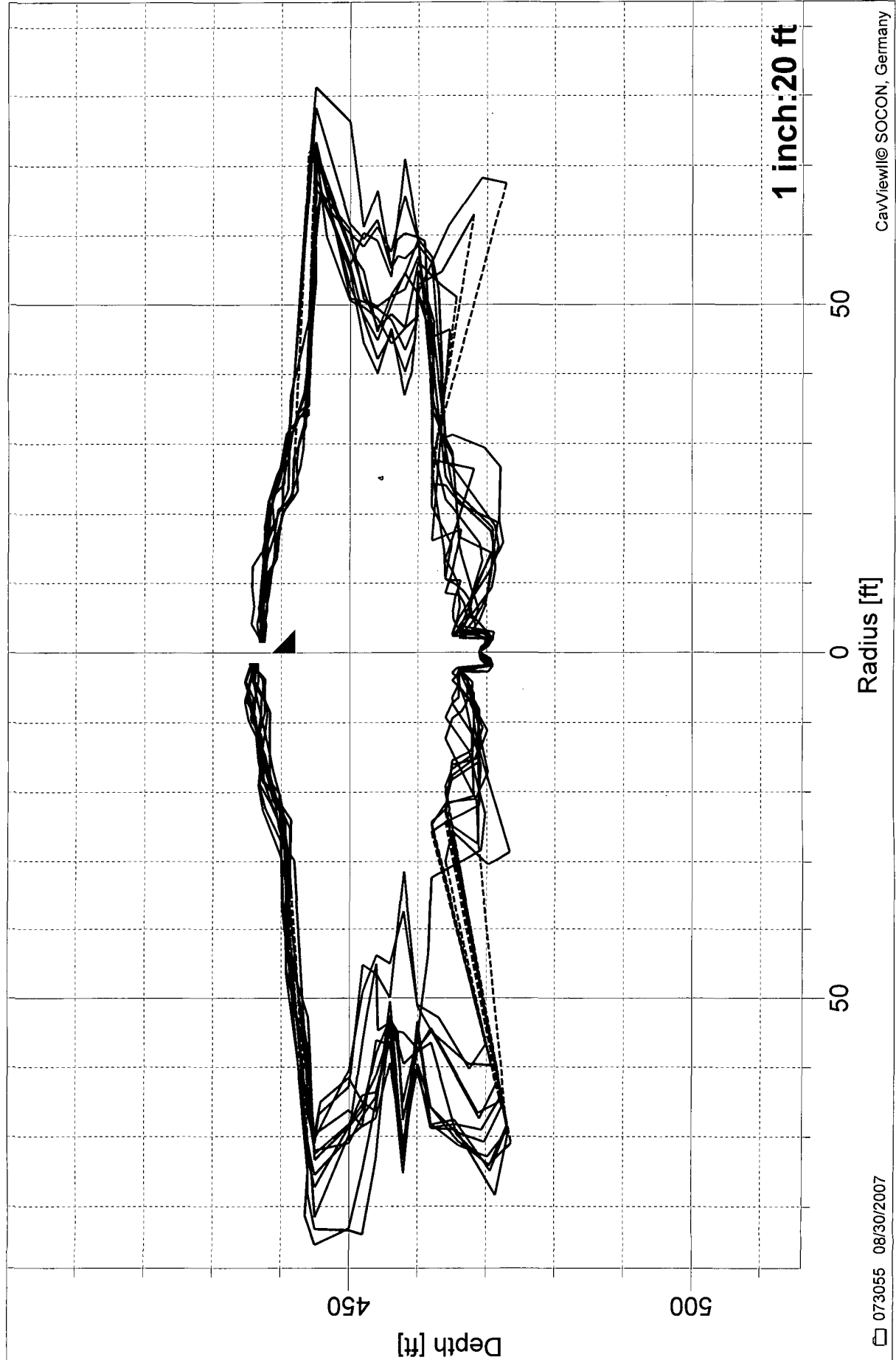


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Eugenie #1

MAXPLOT

08/30/2007

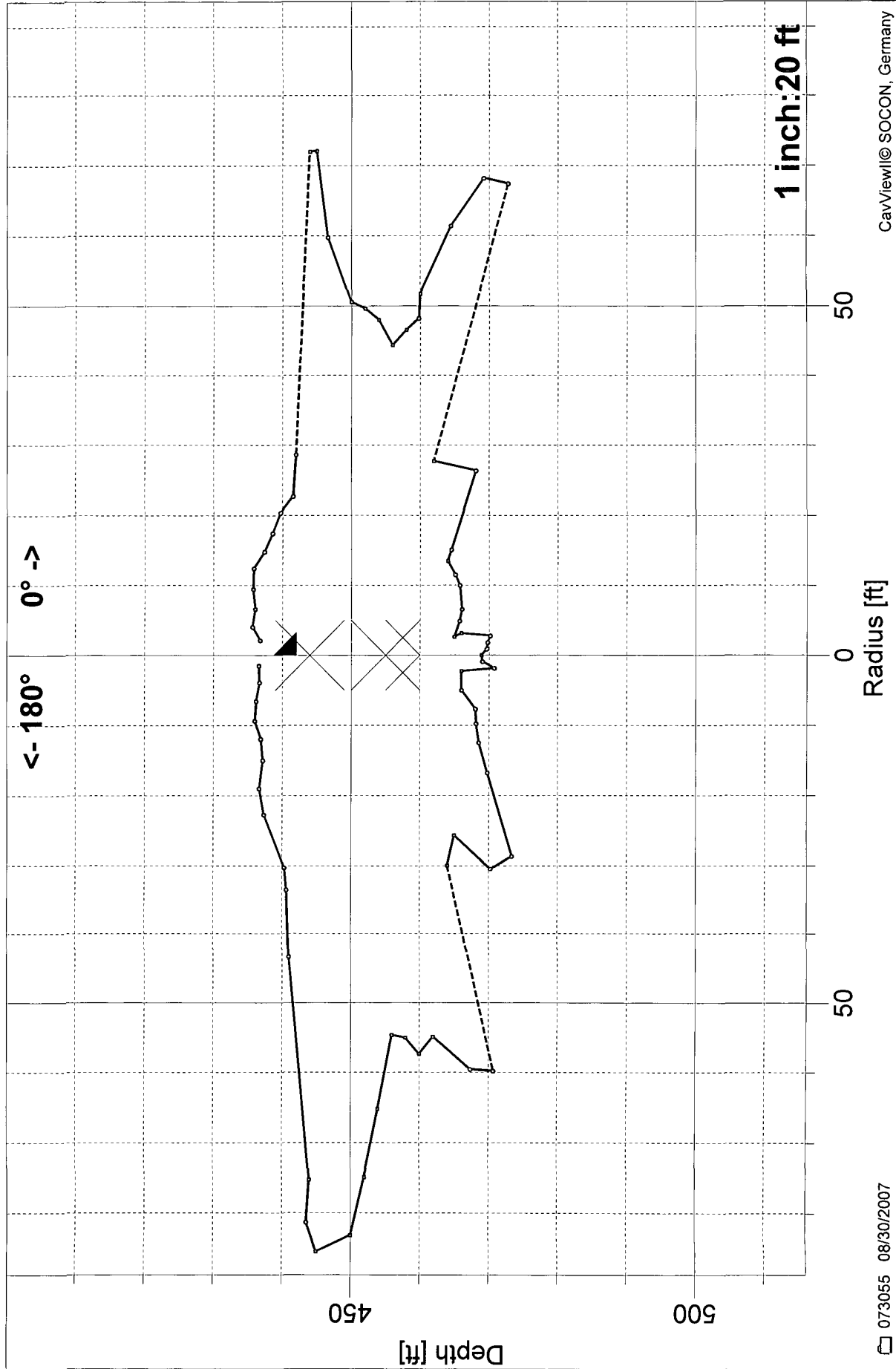




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08/30/2007

Eugenie #1



073055 08/30/2007

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(08/30/2007)

5 1/2" 442.0 ft

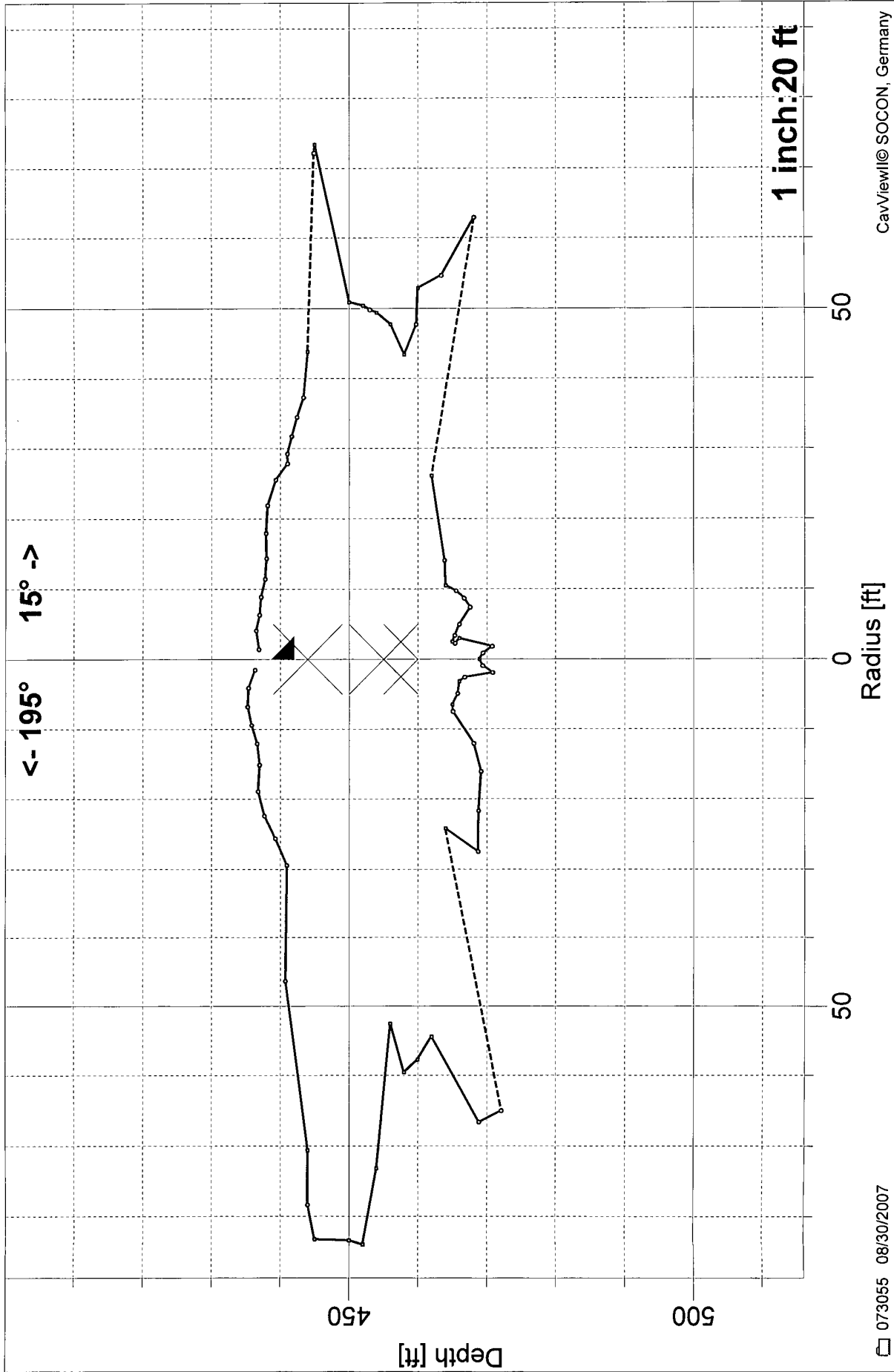
Tiling position



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Eugenie #1

08/30/2007

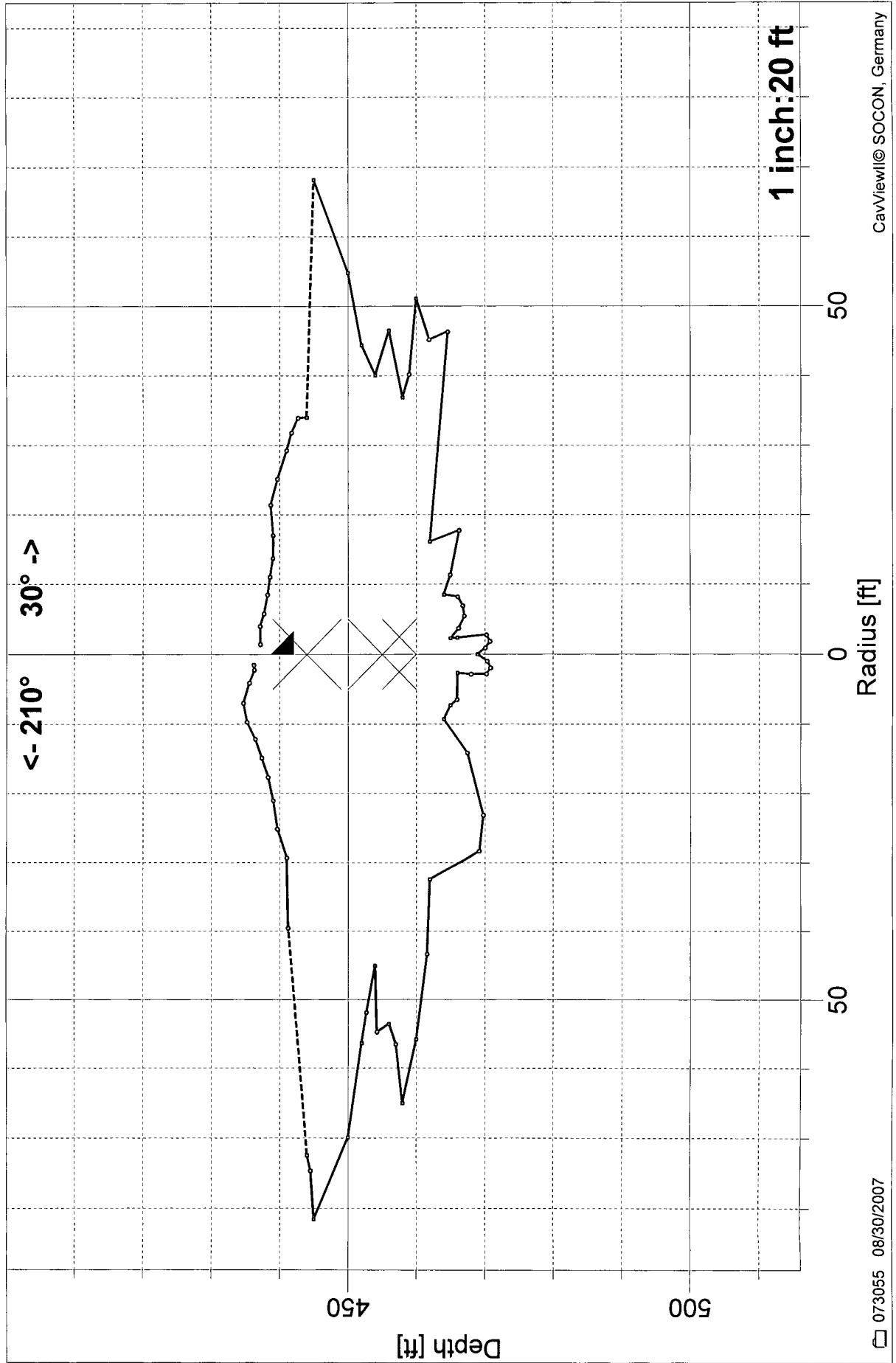




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Eugenie #1

08/30/2007



073055 08/30/2007

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— (08/30/2007)

— 5 1/2" : 442.0 ft

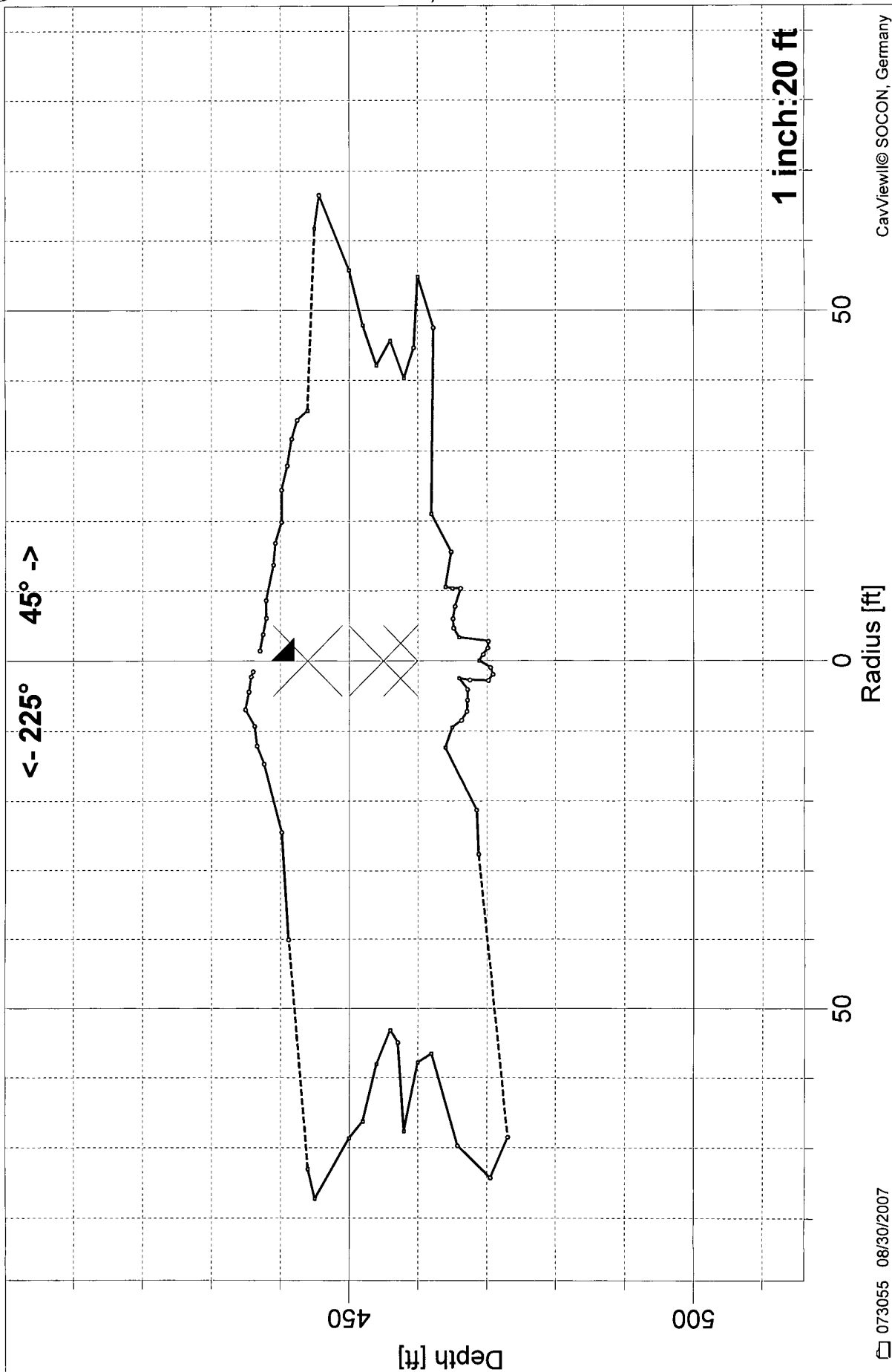
--- Tiling position



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Eugenie #1

08/30/2007



Tiling position

5 1/2" : 442.0 ft

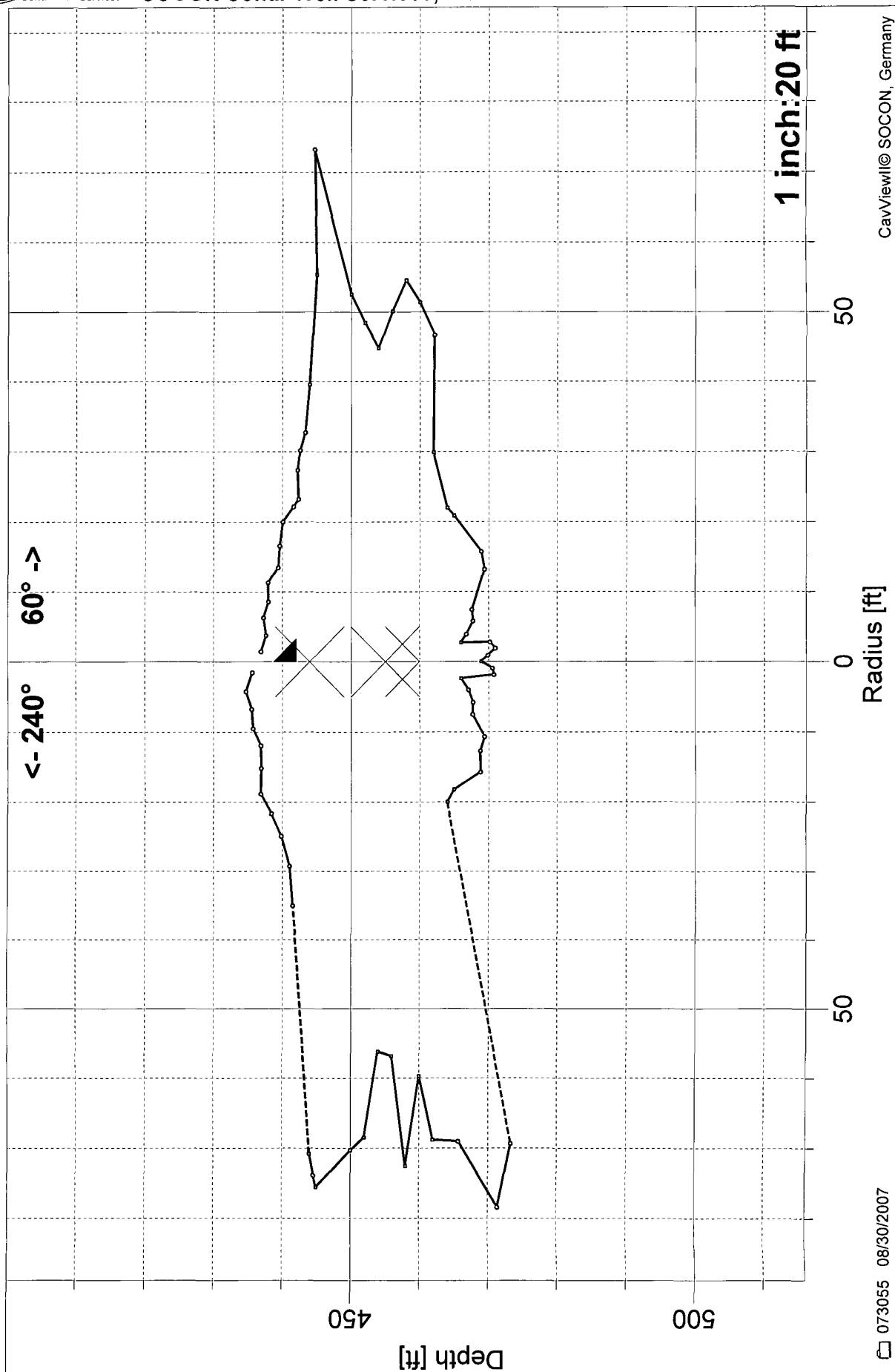
(08/30/2007)



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Eugenie #1

08/30/2007



073055 08/30/2007

(08/30/2007)

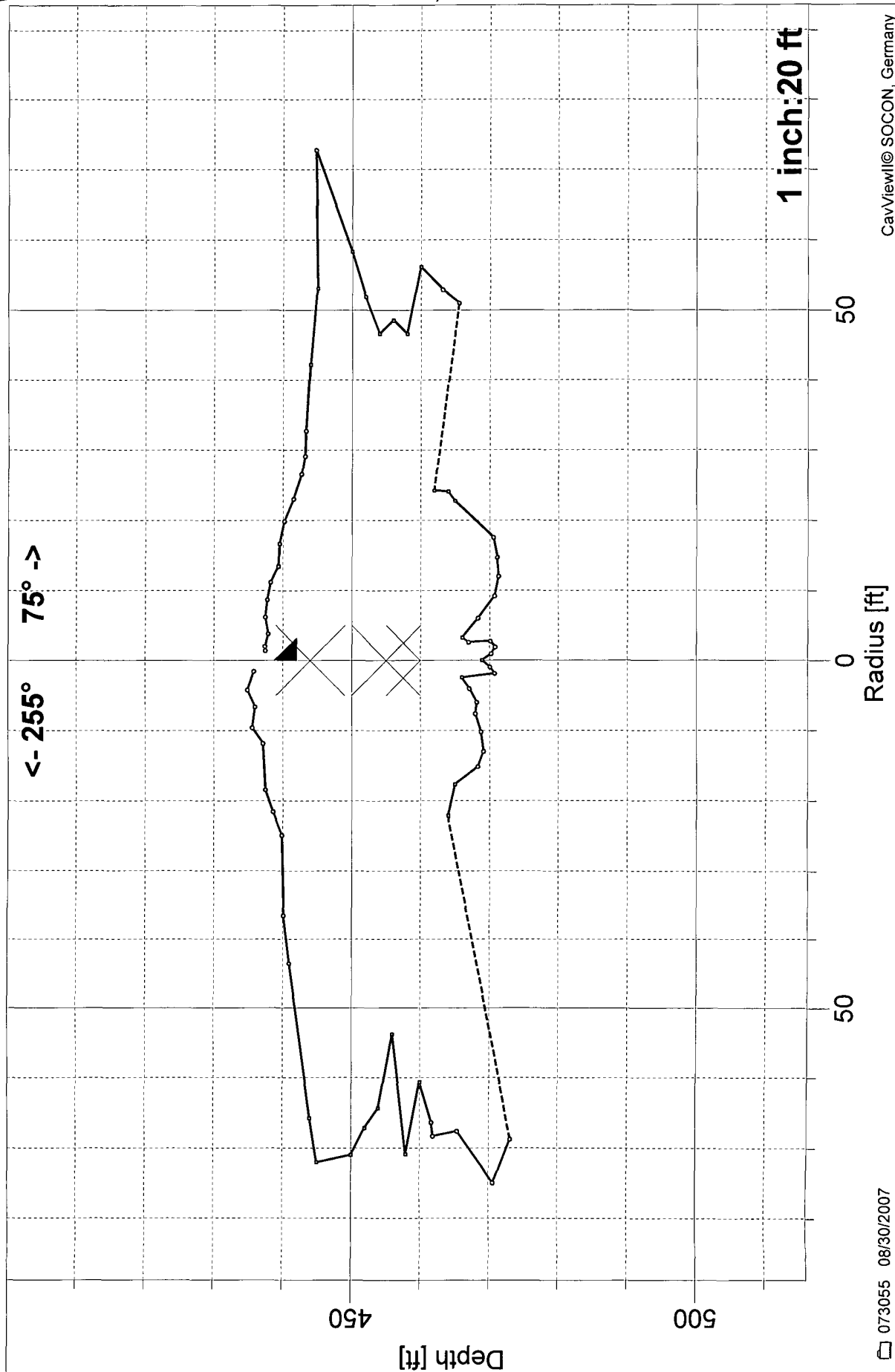
5 1/2" : 442.0 ft

Tilting position

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08/30/2007



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5 1/2" : 442.0 ft

Tilting position

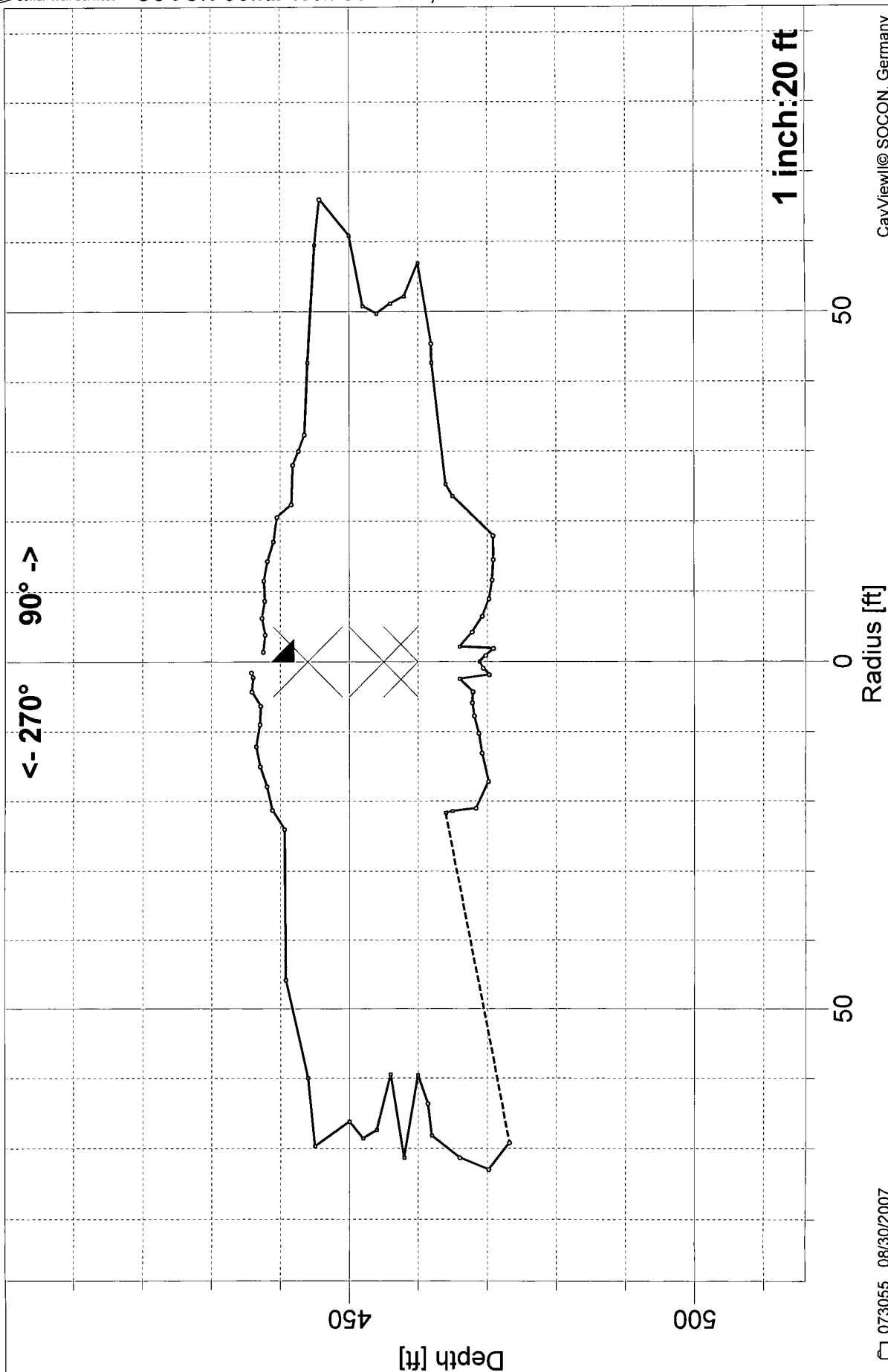
(08/30/2007)



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08/30/2007

Eugenie #1



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073055 08/30/2007

5 1/2" : 442.0 ft

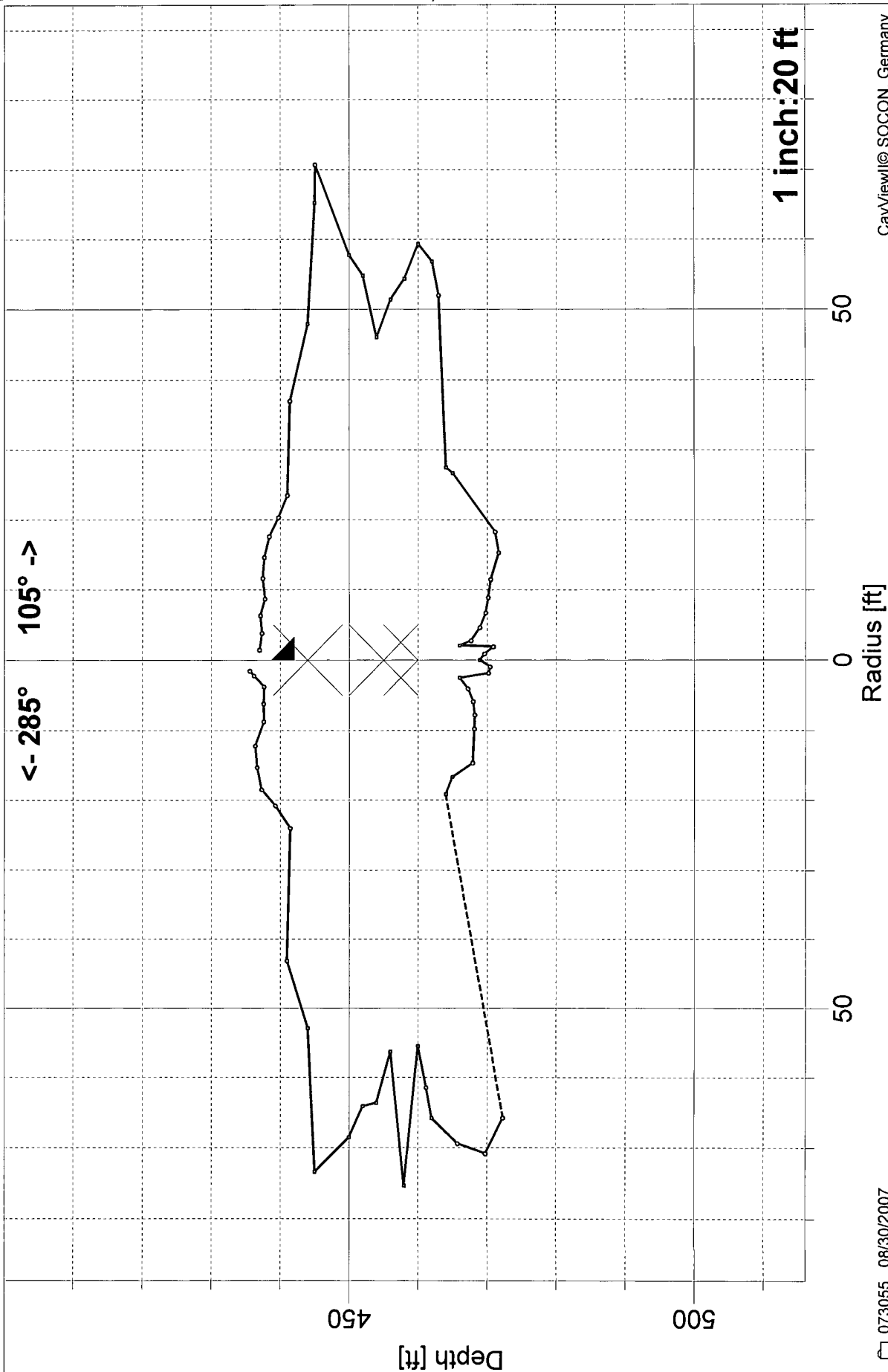
Tilting position



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Eugenie #1

08/30/2007

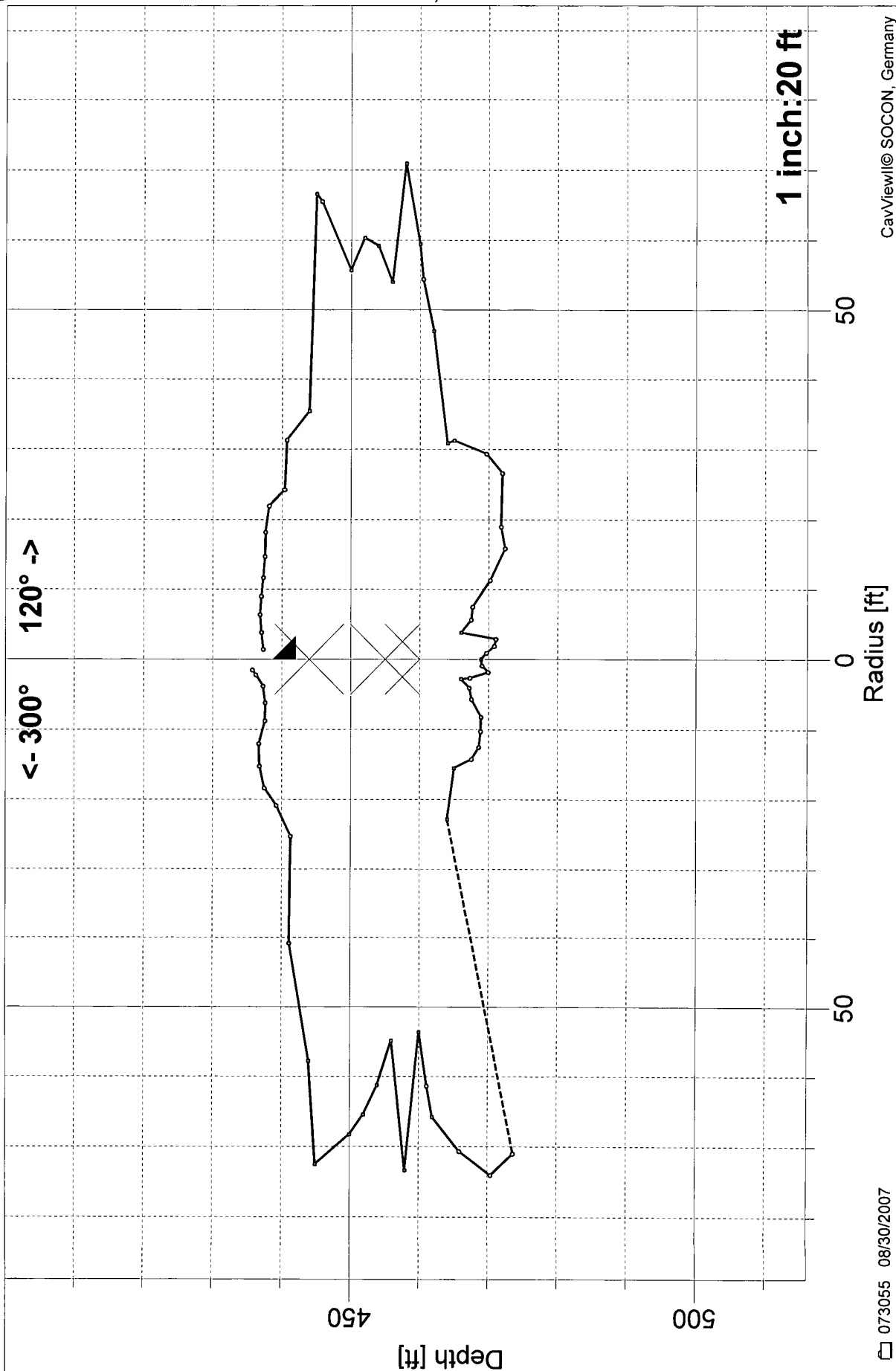




SOCON Sonar Well Services, Inc.

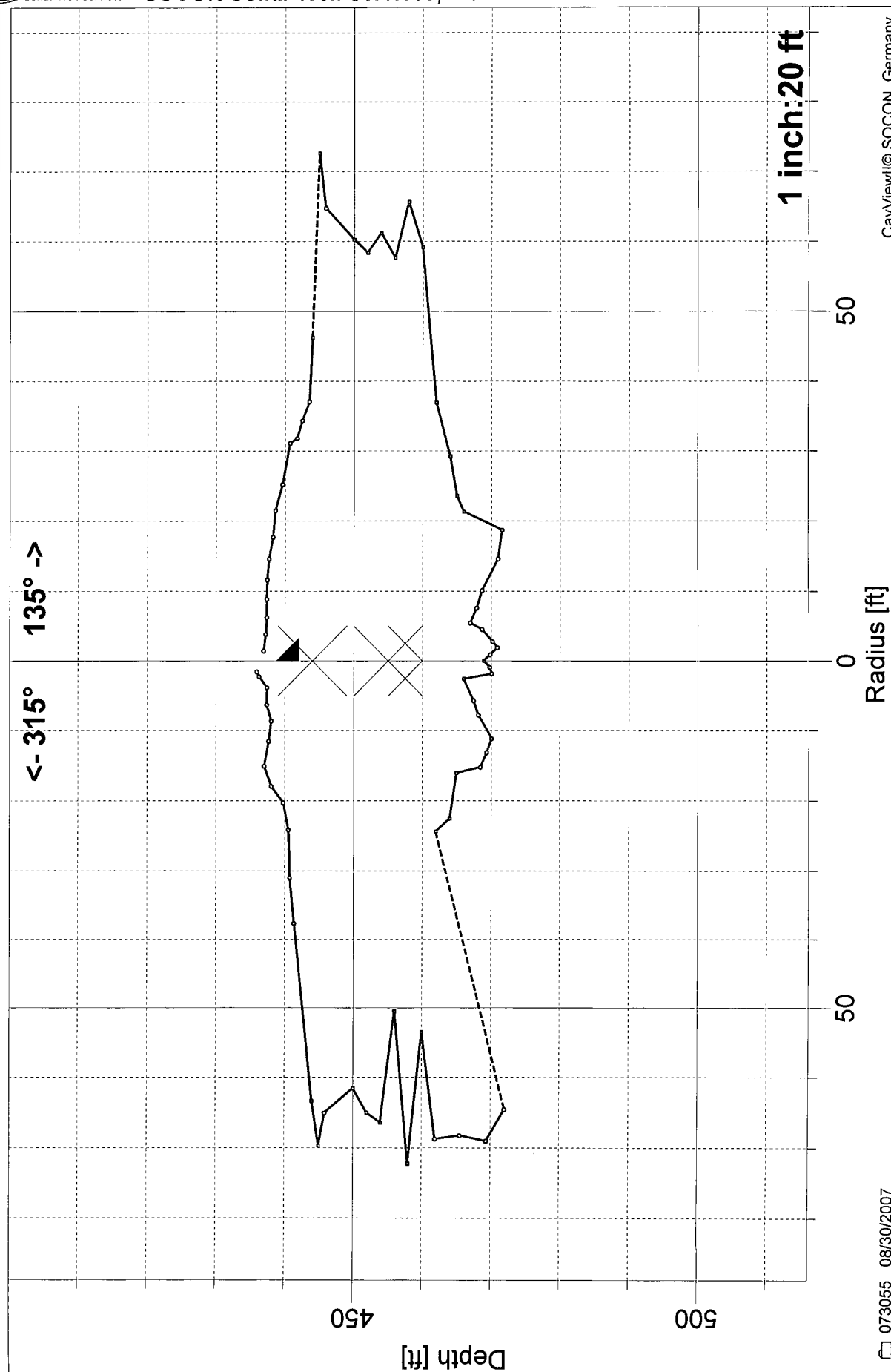
Eugenie #1

08/30/2007





08/30/2007



073055 08/30/2007

CavView!© SOCON, Germany

(08/30/2007)

5 1/2" : 442.0 ft

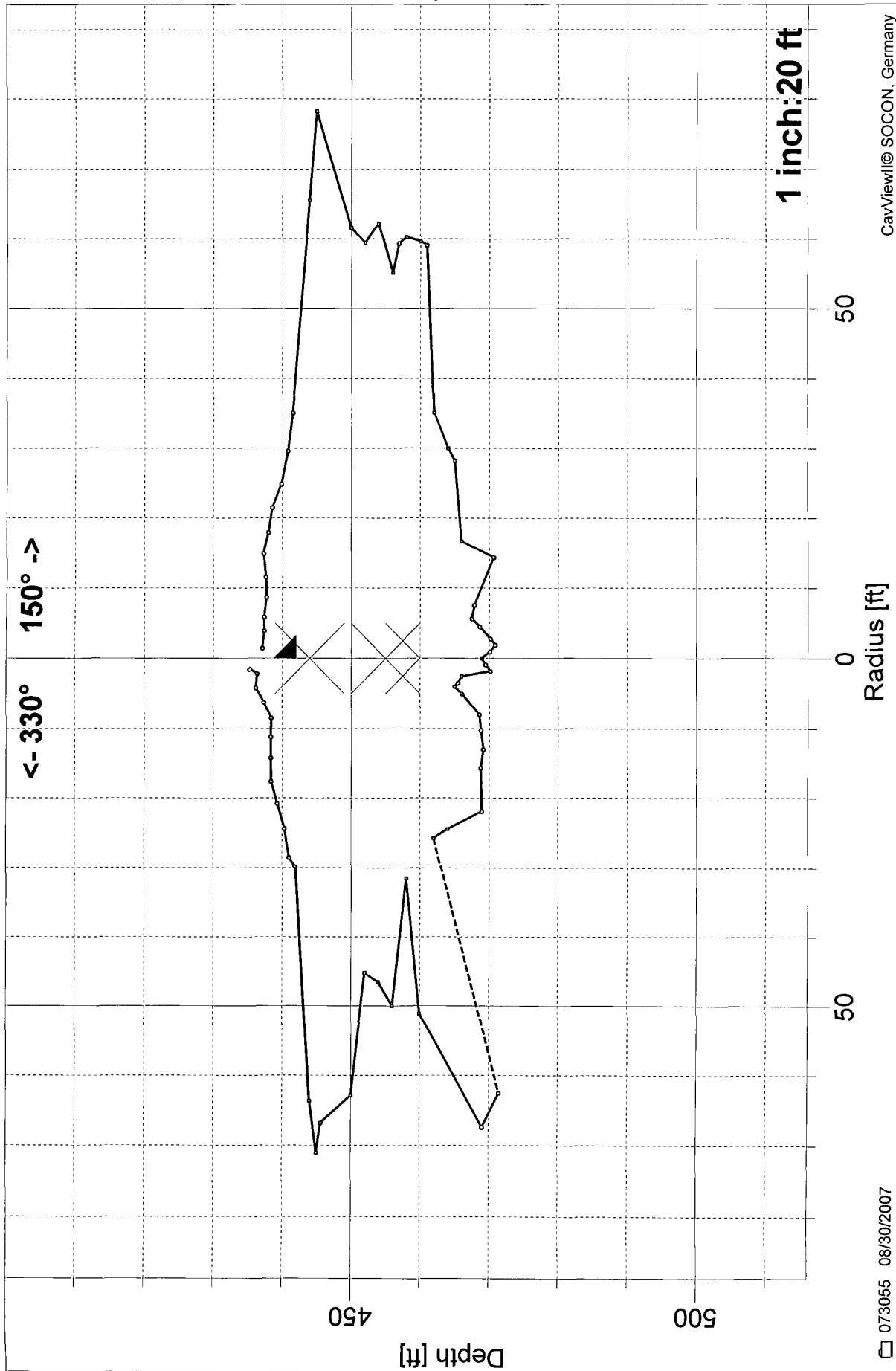
Tilting position



SOCON Sonar Well Services, Inc.

Eugenie #1

08/30/2007



073055 08/30/2007

(08/30/2007)

5 1/2" : 442.0 ft

Tilting position

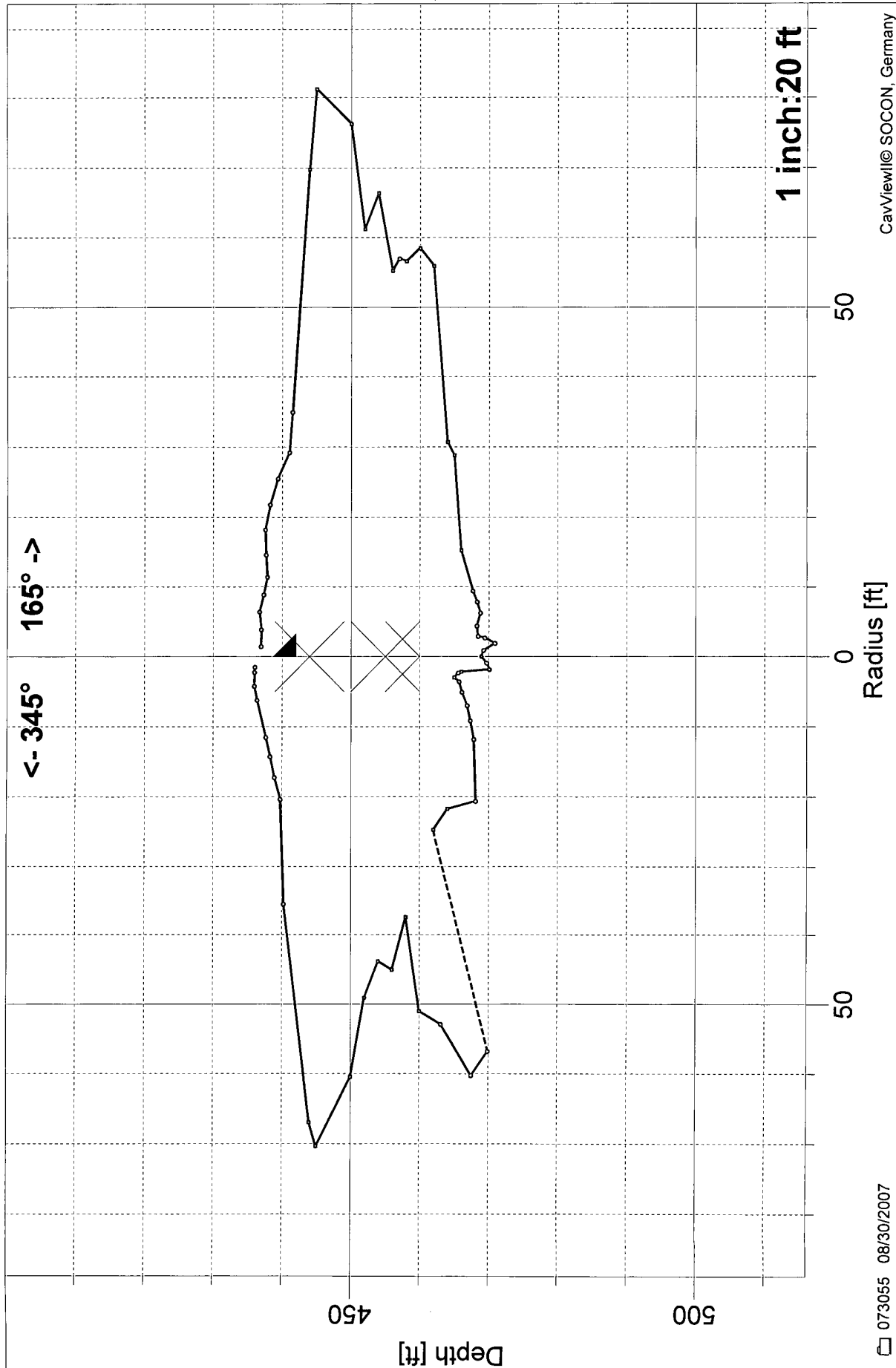
CavView!© SOCON, Germany



SOCON Sonar Well Services, Inc.

Eugenie #1

08/30/2007





SOCON Sonar Well Services, Inc.

Eugenie #1

073055

08/30/2007

HORIZONTAL SECTIONS

Cavern: Eugenie #1

Report No.: 073055

Utilized speed of sound: 1810.0 m/s (5938.3 ft/s)

Measuring date: 08/30/2007

Scale: 1: 50

Horizontal sections measured at following depths:

444.0 ft	445.0 ft	450.0 ft	452.0 ft	454.0 ft	456.0 ft	458.0 ft
460.0 ft	462.0 ft	464.0 ft	465.0 ft	466.0 ft		

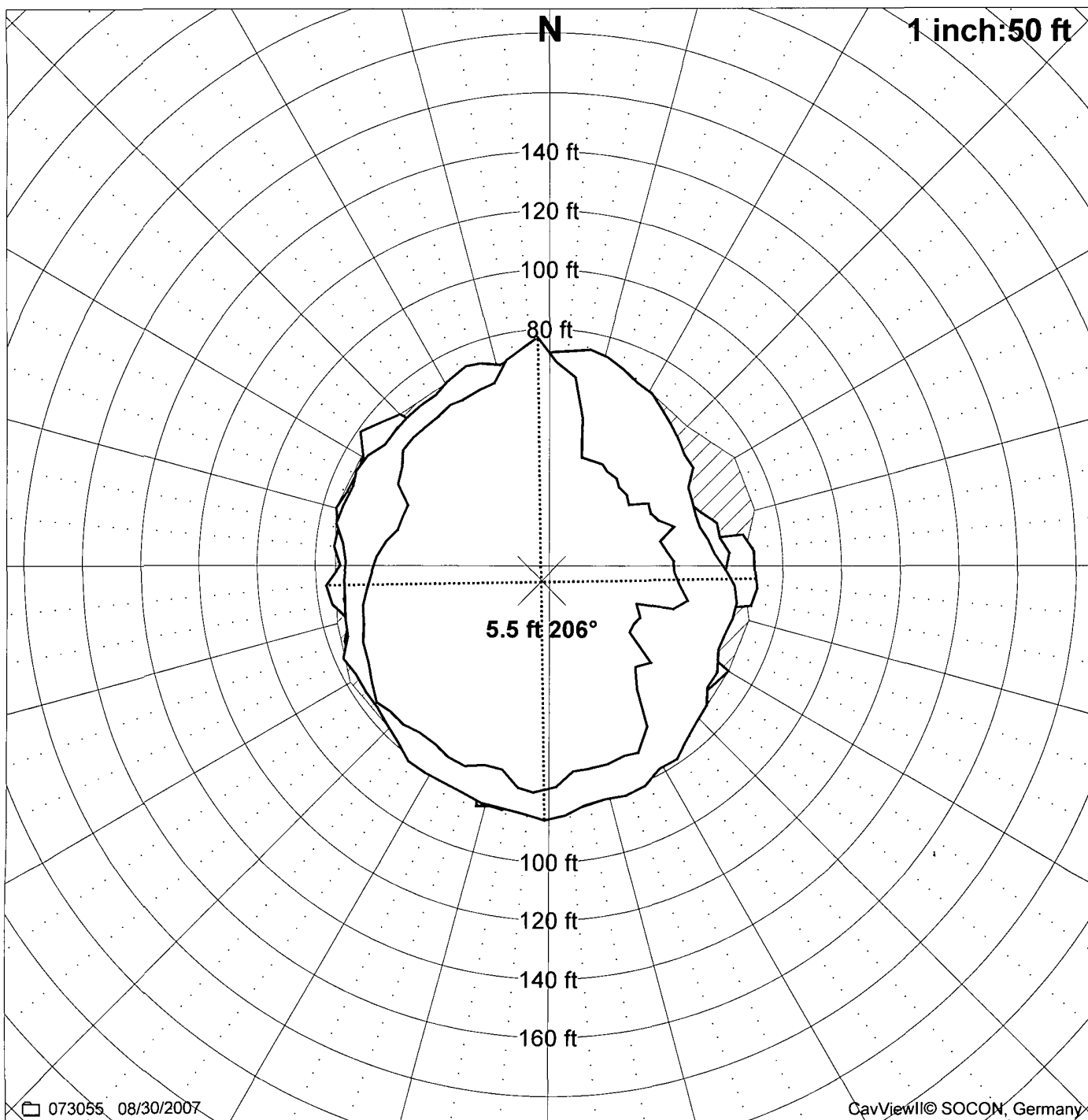
The following 7 sections are constructed:

467.0 ft	468.0 ft	469.0 ft	470.0 ft	471.0 ft	472.0 ft	473.0 ft
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Eugenie #1

MAXPLOT

08/30/2007



Vertical maximum plot

Horizontal sections

..... a/b

Center of gravity

d_{max} : 161.9 ft 177° <--> 357° r_{min} : 66.5 ft -> 43° $r_{\sim}$: 74.8 ft r_{max} : 85.9 ft -> 181°

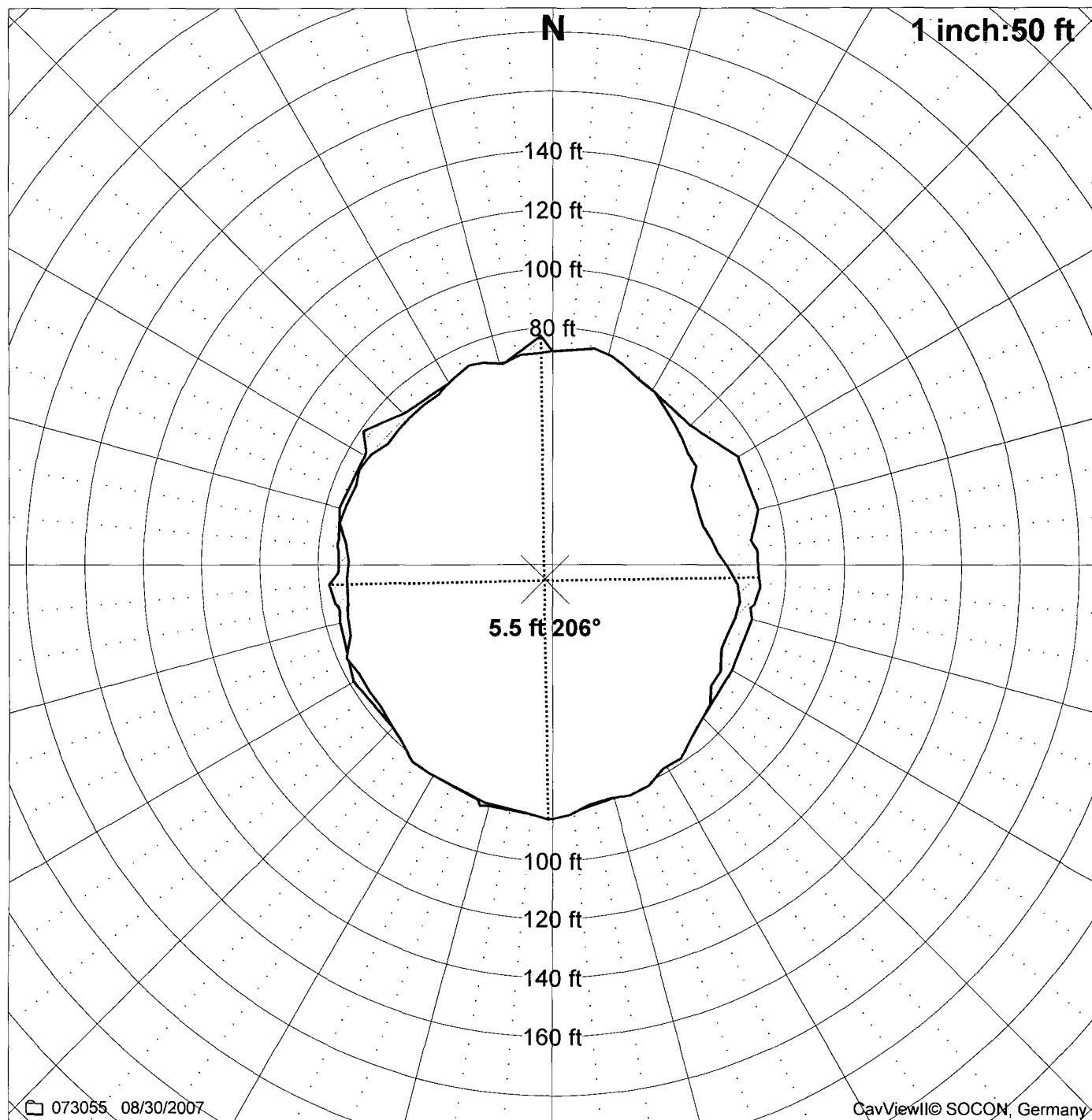
a/b = 1.109 a = 163.0 ft (181°-357°) b = 147.0 ft (93°-265°)

Area from vertical sections: 17217 ft², Area from horizontal and vertical sections: 17559 ft²

Eugenie #1

MAXPLOT

08/30/2007



..... a/b

✕ Center of gravity

□ Horizontal/vertical maximum plot

□ Largest single area

$d_{\max}$: 161.9 ft 177° <--> 357° $r_{\min}$: 66.5 ft -> 43° $r_{\sim}$: 74.8 ft $r_{\max}$: 85.9 ft -> 181°

$a/b = 1.109$ $a = 163.0$ ft (181°-357°) $b = 147.0$ ft (93°-265°)

Largest single area: 16767 ft² in depth: 445.0 ft, Area from horizontal and vertical sections: 17559 ft²



SOCON Sonar Well Services, Inc.

Table of radii

Cavern: Eugenie #1

73055

8/30/2007

Depth: 444.0 ft

[°]

Radii in [ft]

0	72.0	66.5	58.3	43.8	38.3	38.6	38.2	37.5	36.6	35.7
50	35.1	36.3	39.6	39.5	42.0	42.2	39.5	41.3	42.7	43.6
100	46.1	47.9	41.0	33.4	35.5	35.1	37.9	46.7	46.1	53.9
150	65.5	69.7	69.3	69.7	69.8	71.6	75.2	76.5	73.5	70.6
200	71.7	73.2	72.4	71.4	72.0	73.0	73.9	73.2	70.8	69.1
250	67.6	65.8	64.1	61.9	60.0	57.9	55.0	52.9	52.5	54.7
300	59.1	61.2	63.4	63.3	63.0	63.4	63.6	63.6	64.1	66.9
350	72.2	75.6								

Depth: 445.0 ft

[°]

Radii in [ft]

0	72.1	72.8	74.0	73.4	71.5	69.3	68.2	65.9	63.7	61.7
50	59.9	59.4	55.3	53.7	53.1	53.1	54.7	56.4	59.5	62.9
100	65.0	65.2	64.6	64.4	66.6	67.8	70.6	72.6	74.6	77.8
150	78.3	80.6	81.7	81.3	81.6	83.8	85.5	84.5	83.5	83.3
200	82.3	81.7	81.6	81.6	79.2	77.3	75.9	75.7	75.5	76.6
250	73.6	72.0	70.9	70.4	69.7	70.5	73.3	73.4	72.5	73.0
300	72.5	70.0	69.5	69.6	69.7	69.5	71.0	72.6	72.5	70.4
350	71.2	71.4								

Depth: 450.0 ft

[°]

Radii in [ft]

0	50.6	47.2	49.2	50.9	52.0	53.6	54.8	56.6	56.7	55.7
50	54.2	53.4	52.5	52.3	54.5	58.3	59.1	61.3	60.8	59.9
100	59.0	57.7	56.4	55.9	55.7	56.8	58.8	60.2	60.6	60.3
150	61.6	67.7	74.4	76.2	79.4	82.0	83.2	81.5	83.3	83.5
200	80.5	73.9	69.9	68.3	68.2	68.6	68.1	69.0	70.3	70.4
250	71.8	71.0	71.1	64.7	66.2	67.9	67.5	68.5	69.8	70.1
300	68.2	64.4	64.2	61.5	62.0	62.5	62.8	63.6	61.7	60.4
350	59.6	56.6								

Depth: 452.0 ft

[°]

Radii in [ft]

0	49.6	51.1	52.6	51.2	46.8	44.4	44.4	44.8	45.6	47.9
50	49.1	49.2	48.5	48.6	50.8	51.9	50.4	50.0	50.7	51.7
100	53.2	54.8	58.7	61.2	60.3	59.1	58.4	58.3	58.2	58.3
150	59.4	60.9	61.4	61.2	63.3	68.4	74.9	79.4	82.0	84.1
200	64.3	55.6	56.4	60.3	65.4	67.9	70.3	69.6	68.4	68.0
250	67.0	67.1	67.1	68.5	68.6	66.4	65.5	64.1	62.6	62.4
300	65.5	68.7	69.6	65.0	54.9	49.5	45.2	44.4	46.3	49.1
350	50.7	50.0								



SOCON Sonar Well Services, Inc.

Table of radii

Cavern: Eugenie #1

73055

8/30/2007

Depth: 454.0 ft

[°]

Radii in [ft]

0	48.0	47.5	48.5	49.4	48.1	41.9	40.1	40.8	41.7	42.1
50	43.4	44.6	44.8	44.6	45.9	46.6	46.6	49.0	49.7	46.1
100	45.4	46.0	47.9	49.3	59.2	63.0	63.9	61.2	61.1	62.0
150	61.8	68.0	71.0	66.4	63.6	63.9	69.1	73.7	78.3	82.1
200	51.0	44.3	45.1	49.2	56.2	58.0	57.4	56.6	56.2	56.9
250	59.7	64.3	68.4	69.0	67.4	67.0	64.6	63.6	62.1	60.0
300	61.2	63.9	64.0	66.4	54.3	48.3	46.5	44.5	42.8	43.8
350	45.3	46.6								

Depth: 456.0 ft

[°]

Radii in [ft]

0	44.3	45.9	47.4	47.7	46.7	46.6	46.5	46.4	46.3	45.7
50	46.3	47.8	50.1	50.7	49.3	48.6	47.6	46.6	51.1	52.5
100	52.1	51.4	53.9	53.4	54.0	54.8	55.0	57.6	56.0	55.0
150	55.1	56.1	55.8	55.2	56.3	55.5	54.7	55.2	53.1	52.6
200	52.7	53.2	53.6	53.0	52.8	53.1	53.4	54.0	56.8	53.1
250	54.3	53.8	55.0	53.7	59.4	55.3	55.9	56.3	56.2	53.7
300	54.9	54.3	51.7	50.5	50.2	51.6	50.0	46.7	45.9	45.1
350	43.6	44.3								

Depth: 458.0 ft

[°]

Radii in [ft]

0	46.5	46.2	45.1	43.4	37.9	38.9	36.9	41.4	42.7	40.3
50	45.7	49.8	54.5	50.1	48.1	46.6	47.3	54.7	52.1	48.2
100	48.7	54.3	52.6	49.3	70.9	69.2	68.1	65.6	64.0	62.0
150	60.2	57.8	57.5	56.6	55.1	54.7	55.1	56.9	58.5	59.6
200	60.8	63.2	65.0	65.1	65.1	67.6	69.3	70.4	72.5	75.1
250	74.4	70.9	75.3	76.5	71.3	73.7	73.2	75.3	73.4	72.8
300	73.4	78.9	75.3	72.2	57.0	44.4	31.5	31.1	36.8	37.4
350	40.7	45.1								

Depth: 460.0 ft

[°]

Radii in [ft]

0	51.7	51.8	52.9	52.9	52.9	52.4	51.1	50.6	52.0	54.8
50	56.3	54.0	51.4	51.6	53.8	56.1	56.3	56.3	56.9	57.7
100	58.6	59.3	58.8	58.9	59.5	58.5	57.6	59.1	59.5	59.9
150	59.6	59.2	58.7	58.5	58.3	57.5	57.4	57.5	57.4	57.7
200	57.0	56.4	55.8	56.4	58.2	57.8	58.0	59.0	59.7	59.8
250	60.0	60.6	60.8	60.5	59.6	58.6	56.9	55.5	55.5	55.1
300	53.6	52.7	53.0	53.5	53.4	52.4	51.2	51.2	51.1	51.0
350	51.3	51.8								



SOCON Sonar Well Services, Inc.

Table of radii

Cavern: Eugenie #1

73055

8/30/2007

Depth: 462.0 ft

[°]

Radii in [ft]

0	29.1	29.7	25.2	26.1	27.5	26.8	17.6	13.4	13.1	21.0
50	26.3	26.4	29.9	27.8	25.6	24.2	49.4	69.6	70.3	71.2
100	70.5	56.8	52.7	49.6	46.9	43.3	40.4	36.9	33.4	31.8
150	35.1	52.7	58.6	55.9	54.5	54.0	54.9	56.5	58.0	59.4
200	33.8	31.5	32.5	33.7	36.0	56.5	66.9	67.8	68.8	67.7
250	67.7	68.3	69.4	69.3	68.2	68.0	66.2	65.8	65.7	66.1
300	65.8	31.4	24.8	24.3	25.7	25.5	25.2	24.1	24.4	24.8
350	26.6	28.7								

Depth: 464.0 ft

[°]

Radii in [ft]

0	13.5	11.5	10.7	10.5	10.3	9.5	8.5	9.0	9.9	10.5
50	12.2	15.4	22.0	25.1	25.1	24.1	23.9	24.3	25.3	25.6
100	26.0	27.5	31.1	32.6	30.9	30.5	30.8	29.3	26.7	27.8
150	30.0	30.6	30.1	30.7	31.3	30.5	30.0	28.1	31.7	58.0
200	7.3	8.0	9.3	9.4	10.3	12.4	16.6	19.8	20.0	19.6
250	19.9	22.1	23.8	23.2	21.7	19.8	18.5	19.1	21.5	23.7
300	22.9	21.3	21.2	22.6	24.0	24.3	24.5	23.6	27.0	54.4
350	16.2	15.1								

Depth: 465.0 ft

[°]

Radii in [ft]

0	2.6	2.7	2.4	2.5	2.7	2.5	2.3	2.3	2.8	10.3
50	12.2	13.1	20.8	22.0	23.2	22.7	22.4	22.5	23.6	24.0
100	25.7	26.7	28.6	29.3	31.2	30.9	29.7	23.6	24.8	25.8
150	28.2	28.4	28.8	28.8	27.7	27.8	25.7	23.2	14.8	6.0
200	6.9	7.0	7.3	8.1	8.6	9.4	10.8	18.5	18.2	17.9
250	17.2	17.7	20.9	21.7	21.4	19.4	17.8	16.6	16.0	16.0
300	15.5	15.7	18.0	68.3	5.7	4.4	4.0	3.8	3.3	3.0
350	2.8	2.7								

Depth: 466.0 ft

[°]

Radii in [ft]

0	63.6	2.6	3.0	59.2	2.6	2.7	17.6	2.6	2.4	10.3
50	2.8	3.5	19.5	2.8	4.5	21.8	5.3	6.2	22.6	2.0
100	2.0	25.3	2.7	3.6	30.8	19.0	21.6	21.3	19.2	17.3
150	16.6	16.1	15.6	15.3	14.8	14.1	58.4	1.7	1.6	61.5
200	3.4	3.4	30.2	2.6	2.8	69.9	2.7	2.3	69.5	2.4
250	2.4	68.4	2.2	2.2	71.3	2.1	2.4	69.5	2.3	2.7
300	70.7	3.3	3.8	68.3	2.4	3.0	61.9	2.6	2.0	57.7
350	2.9	3.4								

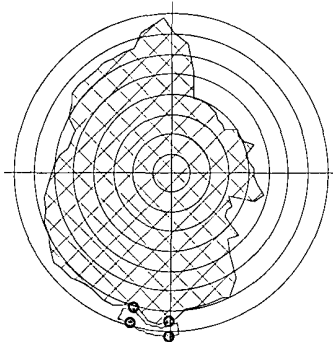


SOCON Sonar Well Services, Inc.

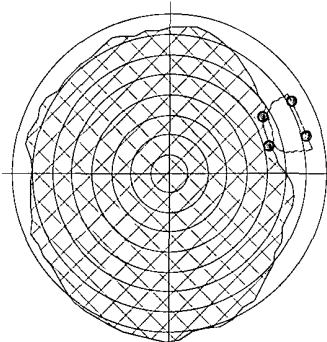
Horizontal slices 1 - 12



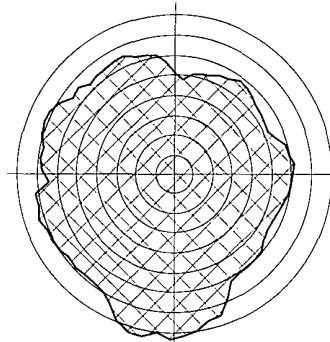
Cavity: Eugenie #1 Report number: 073055 Date: 08/30/2007



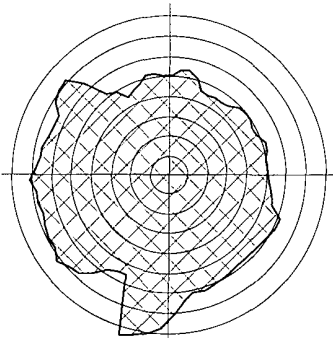
444.0 ft / 10820 ft²



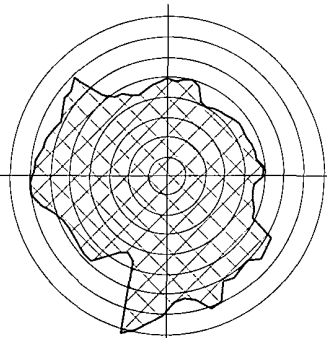
445.0 ft / 16175 ft²



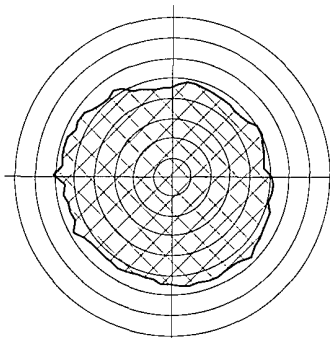
450.0 ft / 13044 ft²



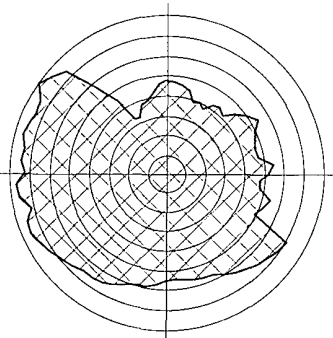
452.0 ft / 11122 ft²



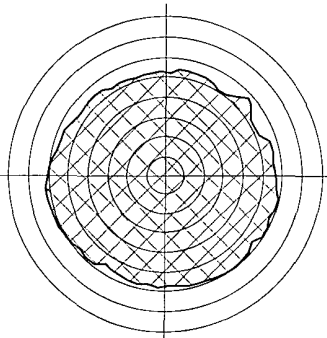
454.0 ft / 9918 ft²



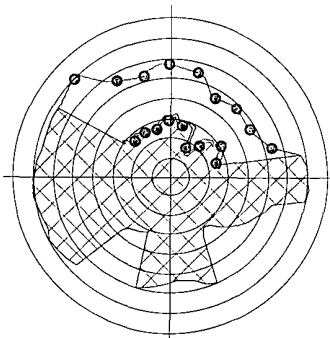
456.0 ft / 8454 ft²



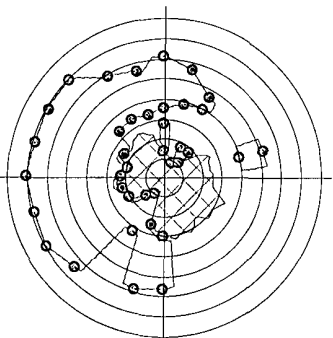
458.0 ft / 10833 ft²



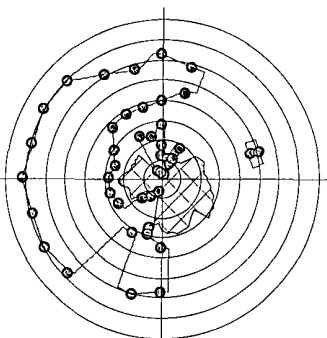
460.0 ft / 9902 ft²



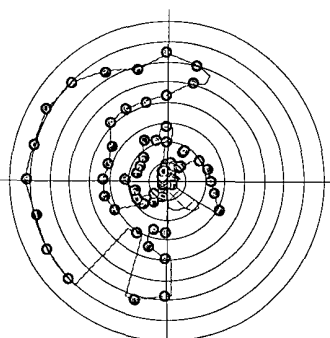
462.0 ft / 7260 ft²



464.0 ft / 1563 ft²



465.0 ft / 1086 ft²



466.0 ft / 168 ft²

The distance between 2 circles equals 10 ft

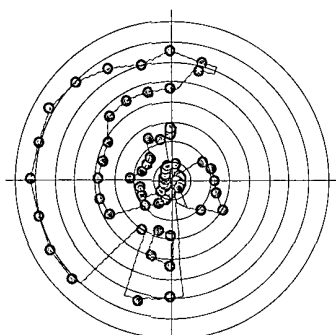


SOCON Sonar Well Services, Inc.

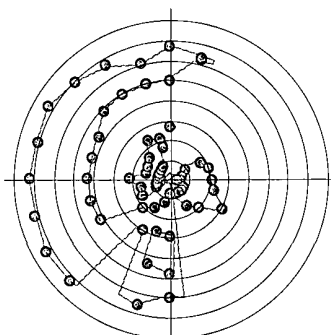
Horizontal slices 13 - 19



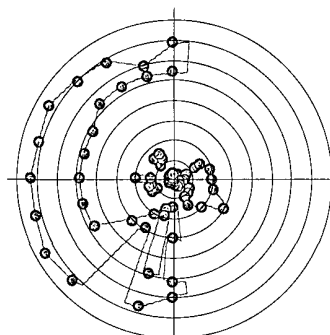
Cavity: Eugenie #1 Report number: 073055 Date: 08/30/2007



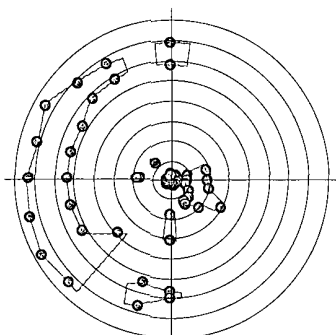
467.0 ft / 69 ft²



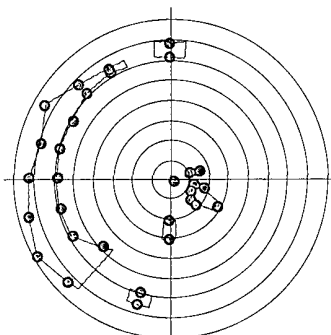
468.0 ft / 32 ft²



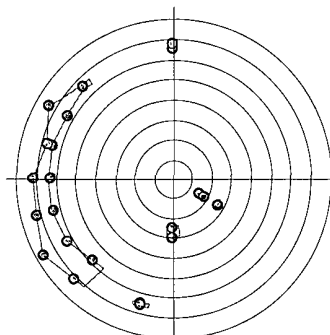
469.0 ft / 0 ft²



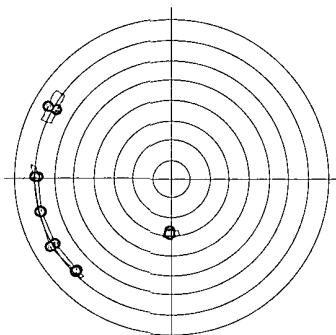
470.0 ft / 0 ft²



471.0 ft / 11 ft²



472.0 ft / 0 ft²



473.0 ft / 0 ft²

The distance between 2 circles equals 10 ft

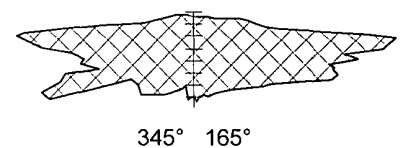
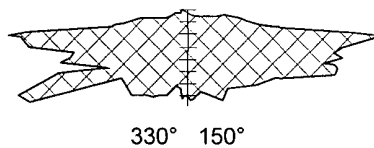
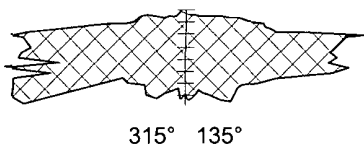
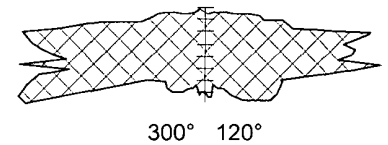
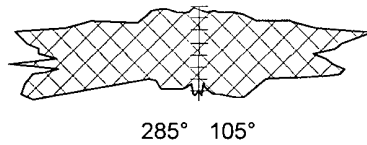
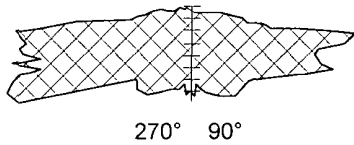
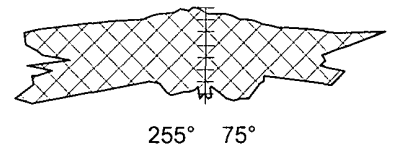
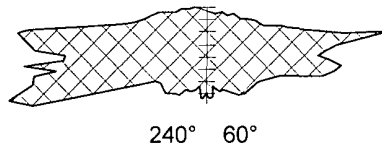
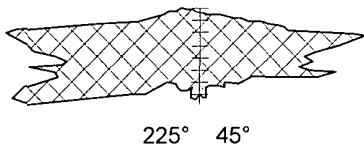
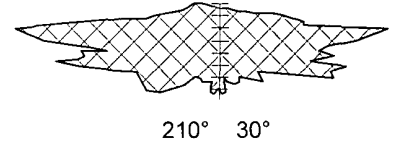
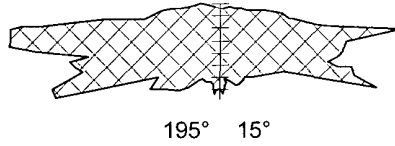
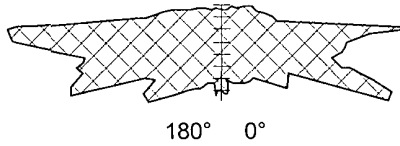


SOCON Sonar Well Services, Inc.

Vertical slices 1 - 12



Cavity: Eugenie #1 Report number: 073055 Date: 08/30/2007



Range from 434 ft to 473 ft, step 5 ft