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UNDERWATER BLAST EFFECTS from EXPLOSIVE REMOVAL of PLATFORM LEGS

RESTON, VA 7 Apr 89

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Naval Surface Warfare Center

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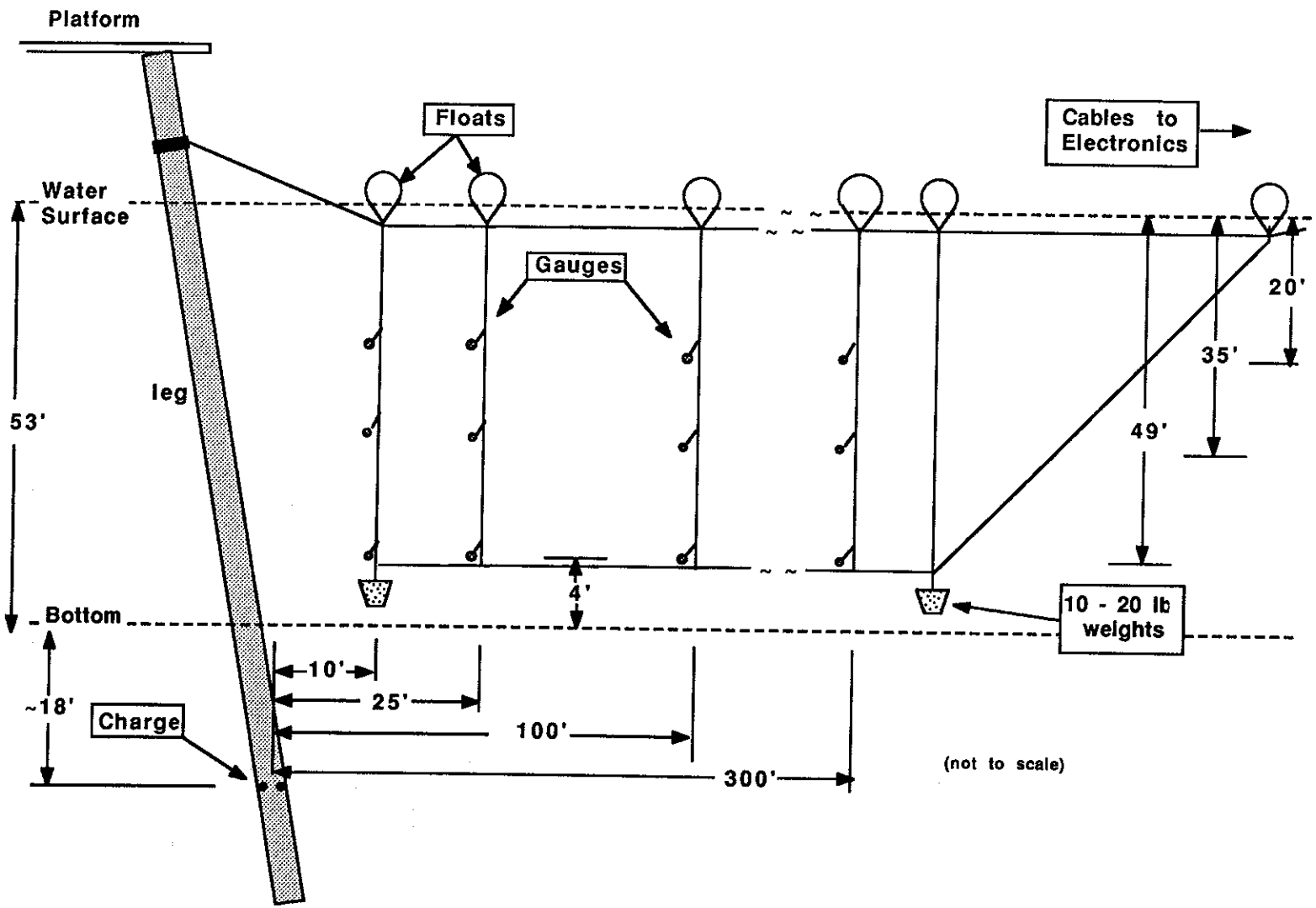
PURPOSE

Determine the characteristics of the underwater shock waves produced during the explosive removal of an oil well platform in the Gulf of Mexico.

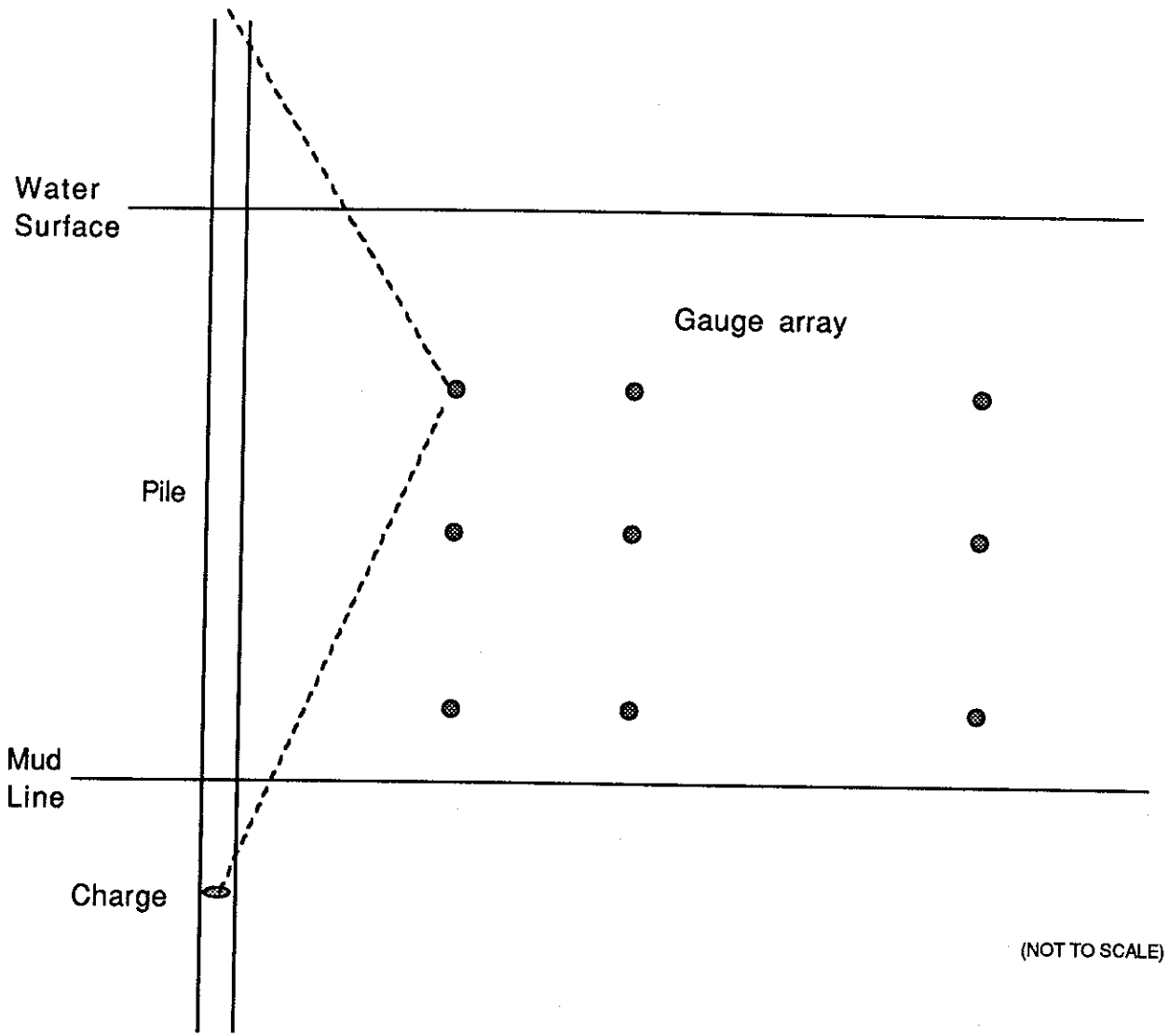
SHOT LOG

Date {1988}	Time	Composition B Charge Weight (pounds)	Charge Depth Below Mud (feet)	Target
12-Dec	11:31	25	18	Well Conductor #8
12-Dec	12:39	25	18	Well Conductor #14
13-Dec	9:00	50	20	Well Conductor #12*
13-Dec	9:00	25	20	Well Conductor # 1
13-Dec	10:10	25	20	Well Conductor #3
13-Dec	10:10	25	20	Well Conductor #5
13-Dec	11:23	50	20	Well Conductor #12
14-Dec	14:03	38	16	North Jacket Leg
14-Dec	14:03	38	16	North Jacket Leg
14-Dec	14:03	38	26	North Jacket Leg
14-Dec	14:03	38	16	North Jacket Leg
14-Dec	14:03	38	16	North Jacket Leg
14-Dec	14:03	38	8	North Jacket Leg
15-Dec	7:25	38	26	2 North Skirt Piles
15-Dec	7:27	38	16	South Jacket-6 legs
15-Dec	8:48	38	16	2 North Skirt Piles
15-Dec	10:15	38	16	2 South Skirt Piles
15-Dec	11:28	38	16	2 South Skirt Piles

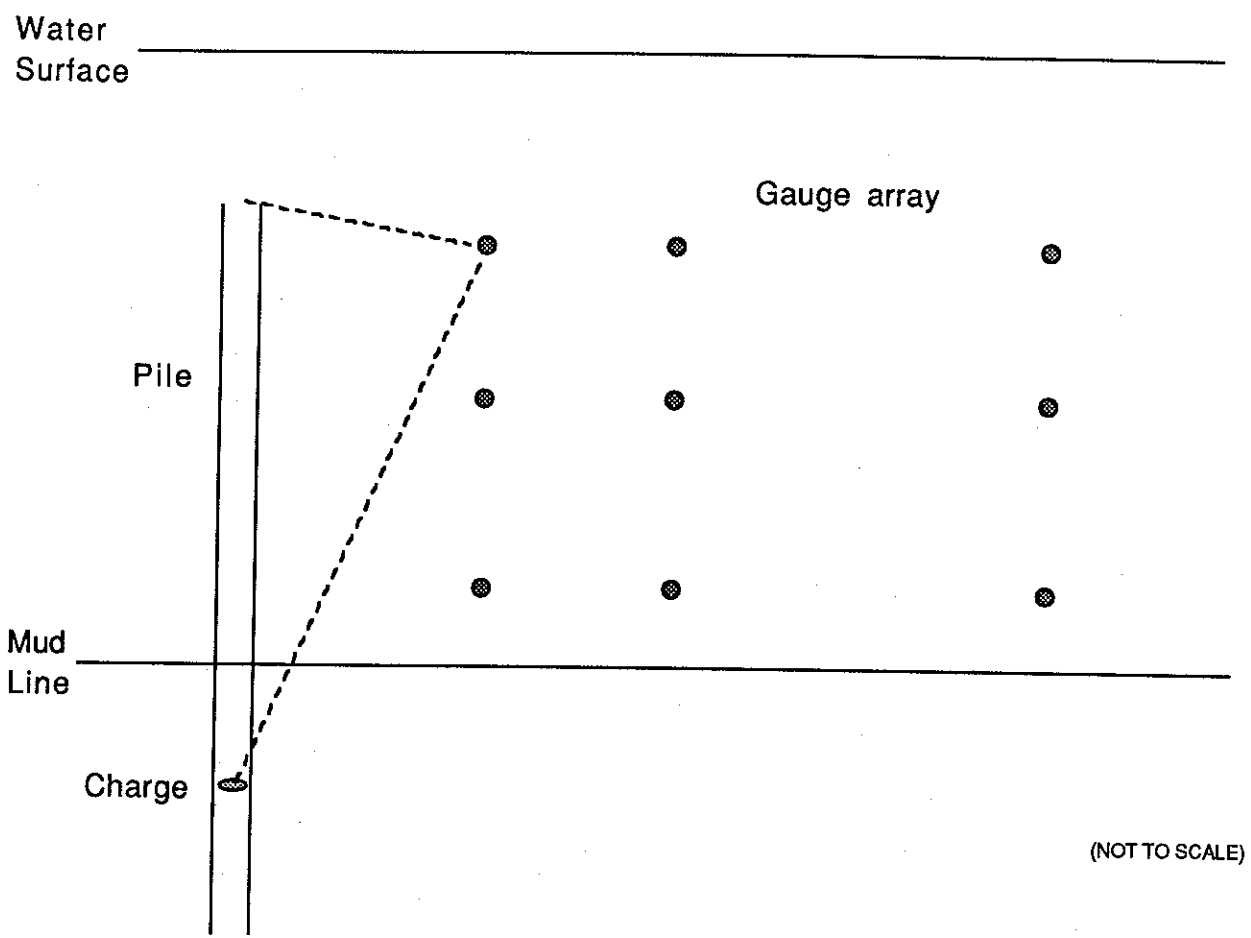
*incomplete detonation



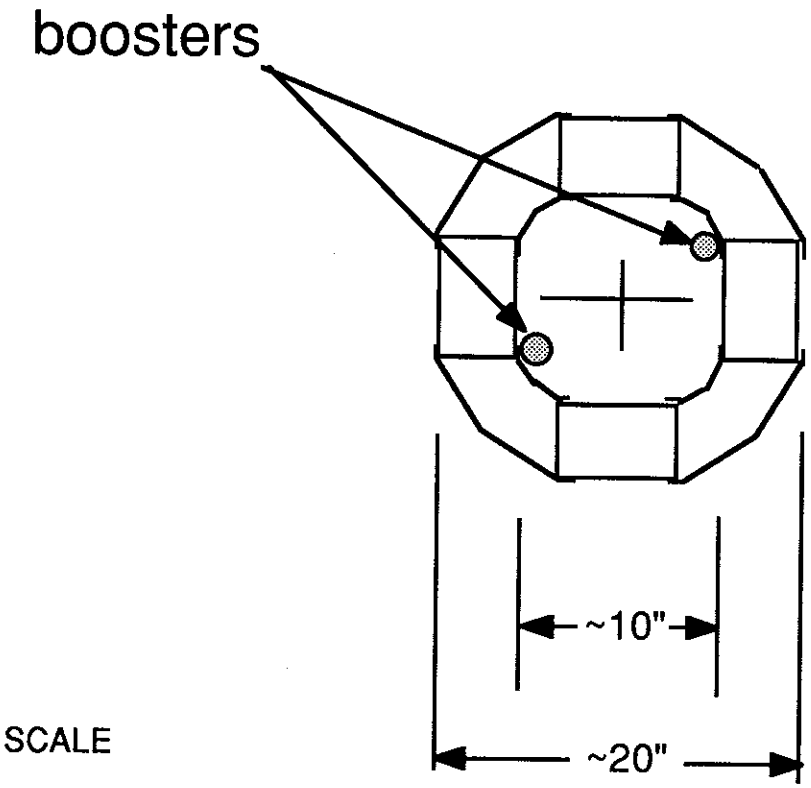
GAUGE RIGGING



AIR VENTING



UNDERWATER VENTING

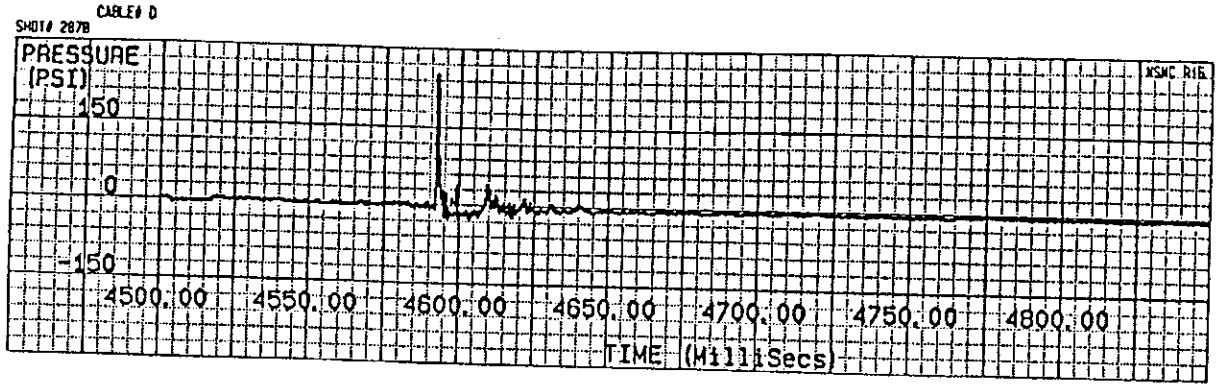


PVC Pipe nipples
and elbows

Filled with 38 lb
Composition B

NOT TO SCALE

OCTAGONAL CHARGES



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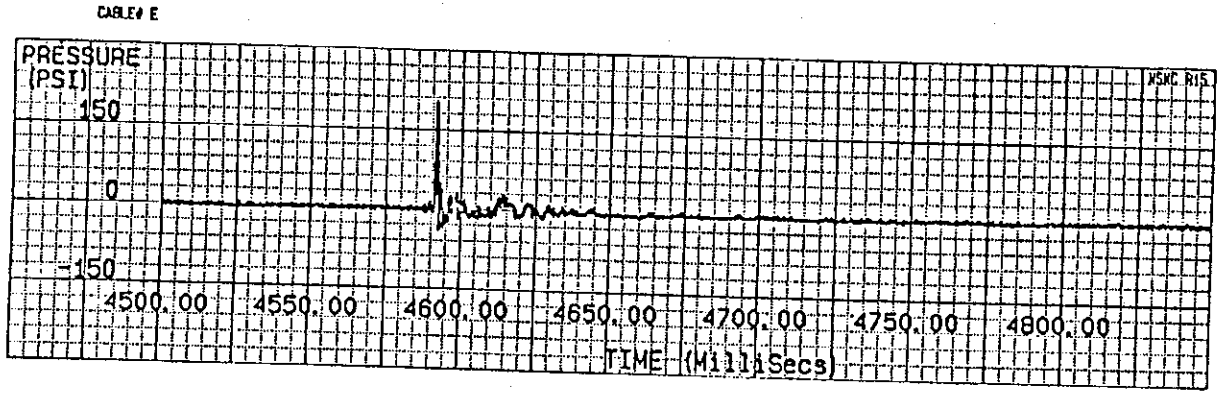
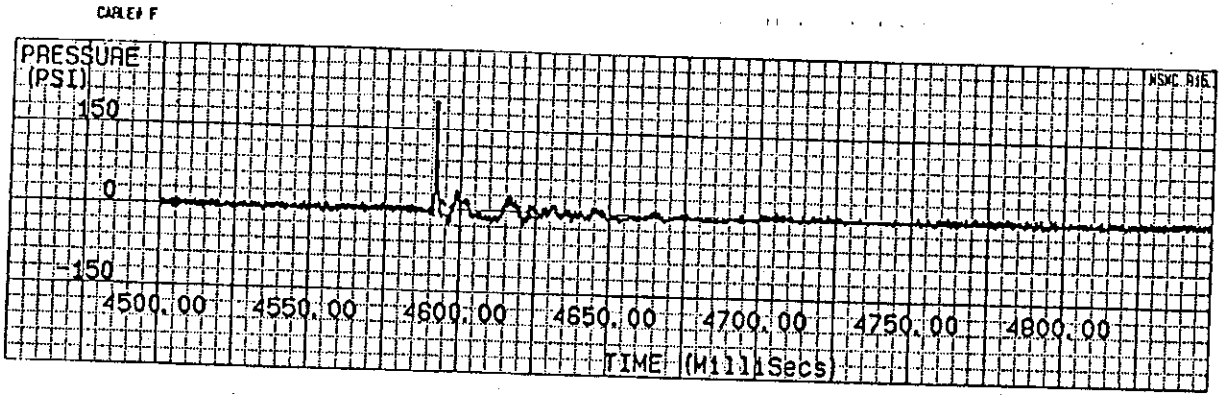


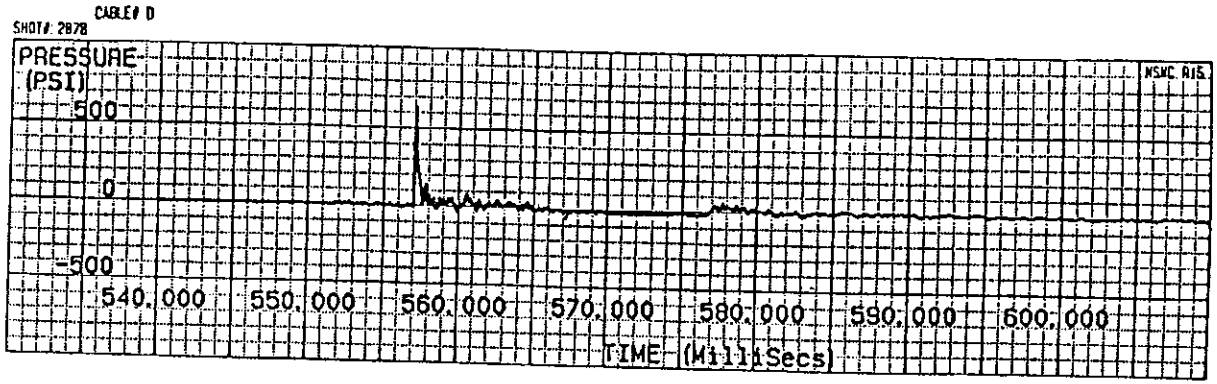
MIDDLE



BOTTOM

NORTH MAIN PILE No. 6
Charge 8 Feet Under Mud

SECOND GAUGE STRING



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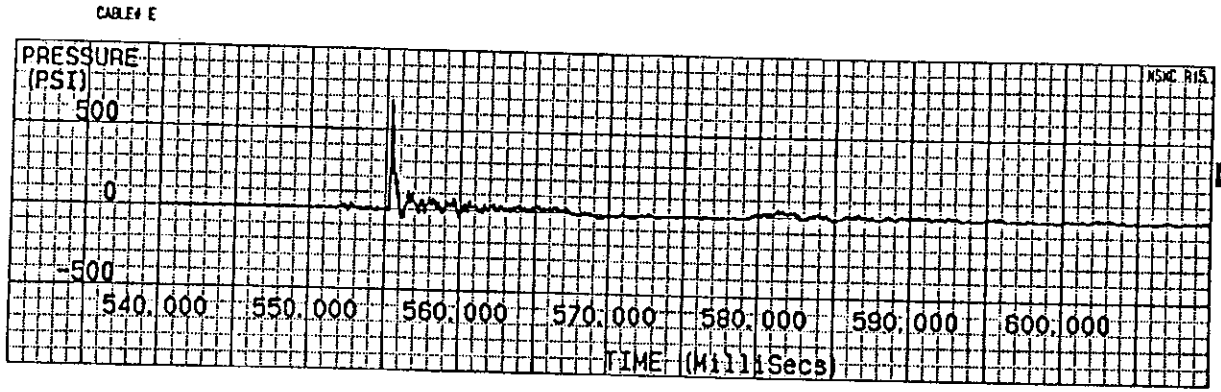

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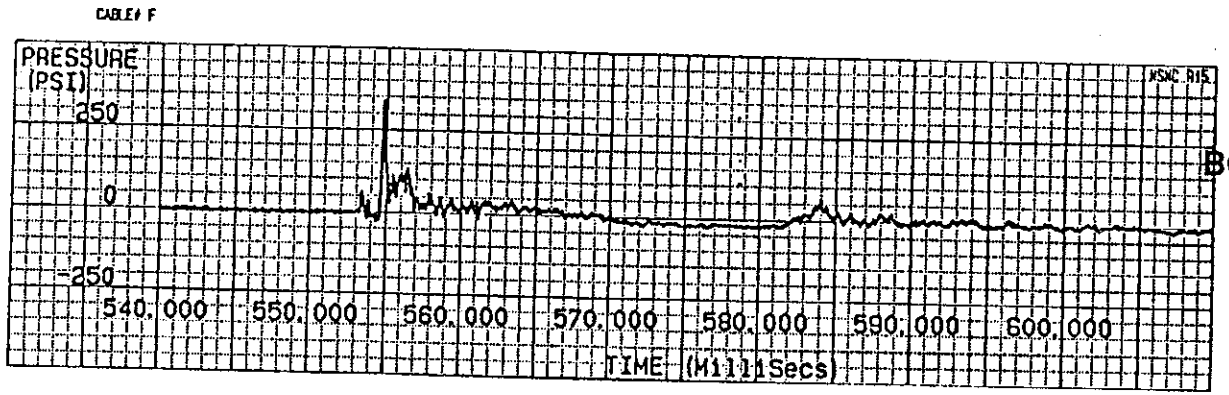
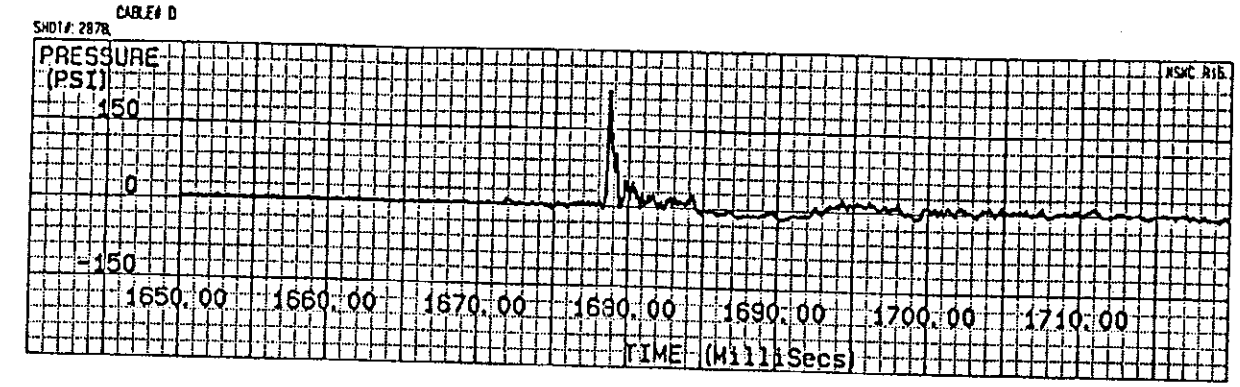


BOTTOM

NORTH MAIN PILE No. 2
Charge 16 Feet Under Mud

SECOND GAUGE STRING



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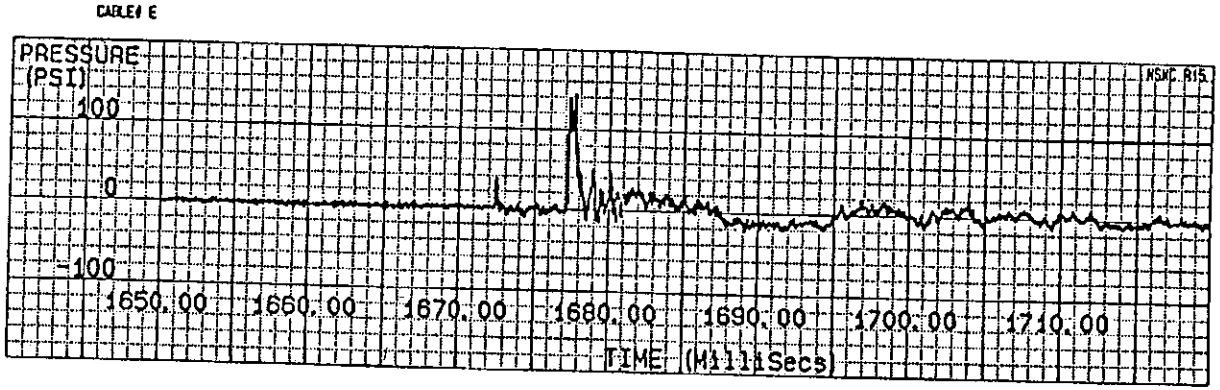

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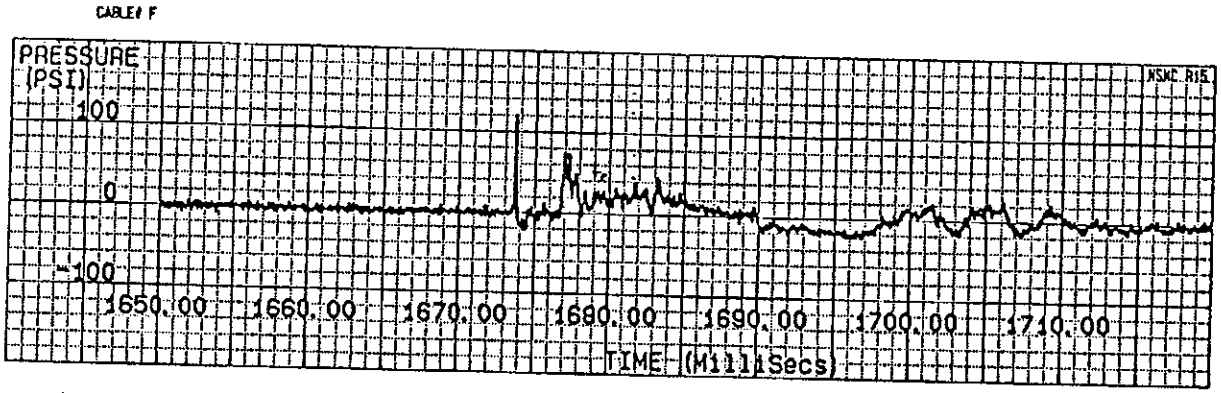


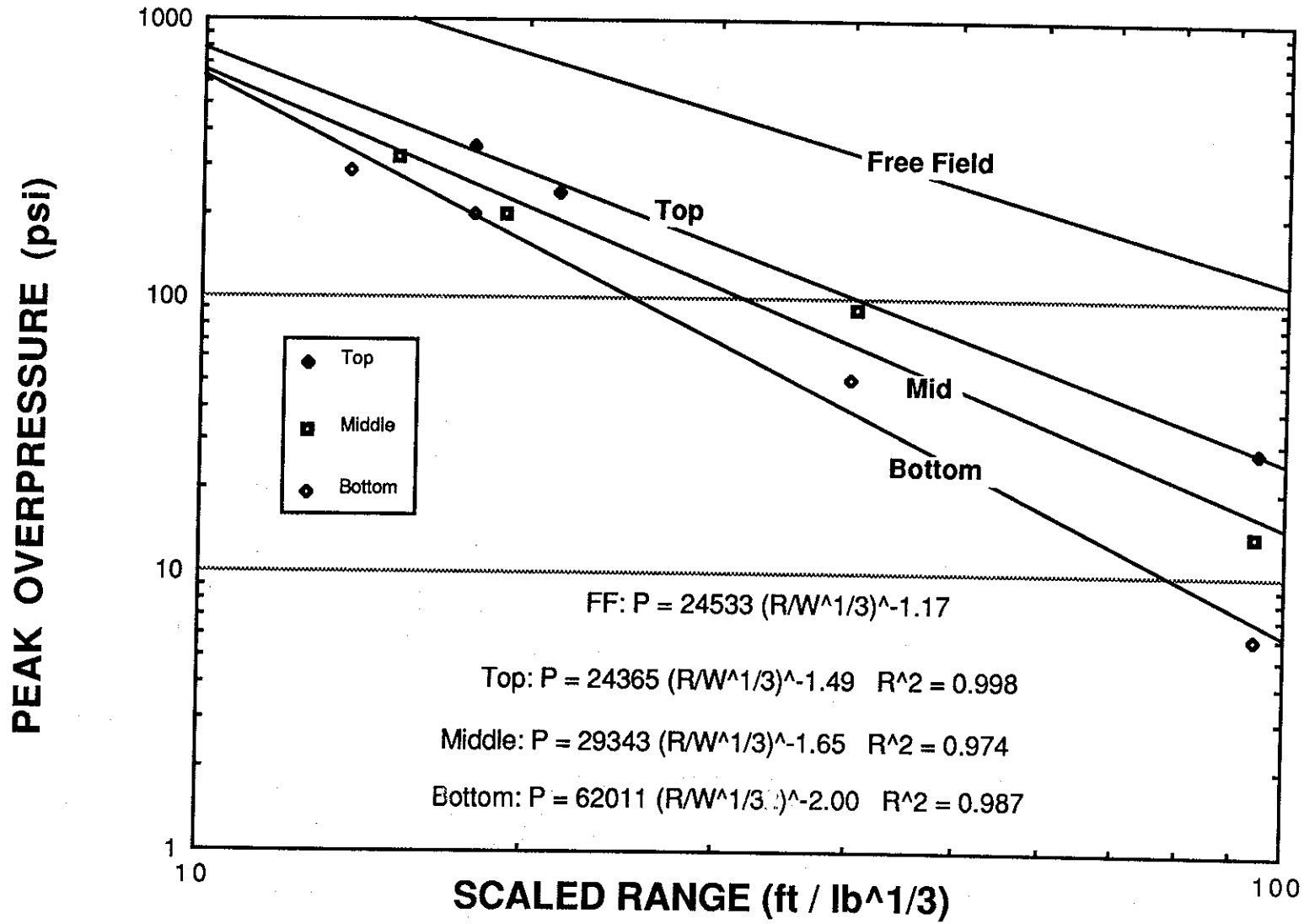
BOTTOM

NORTH MAIN PILE No. 3
Charge 26 Feet Under Mud

SECOND GAUGE STRING

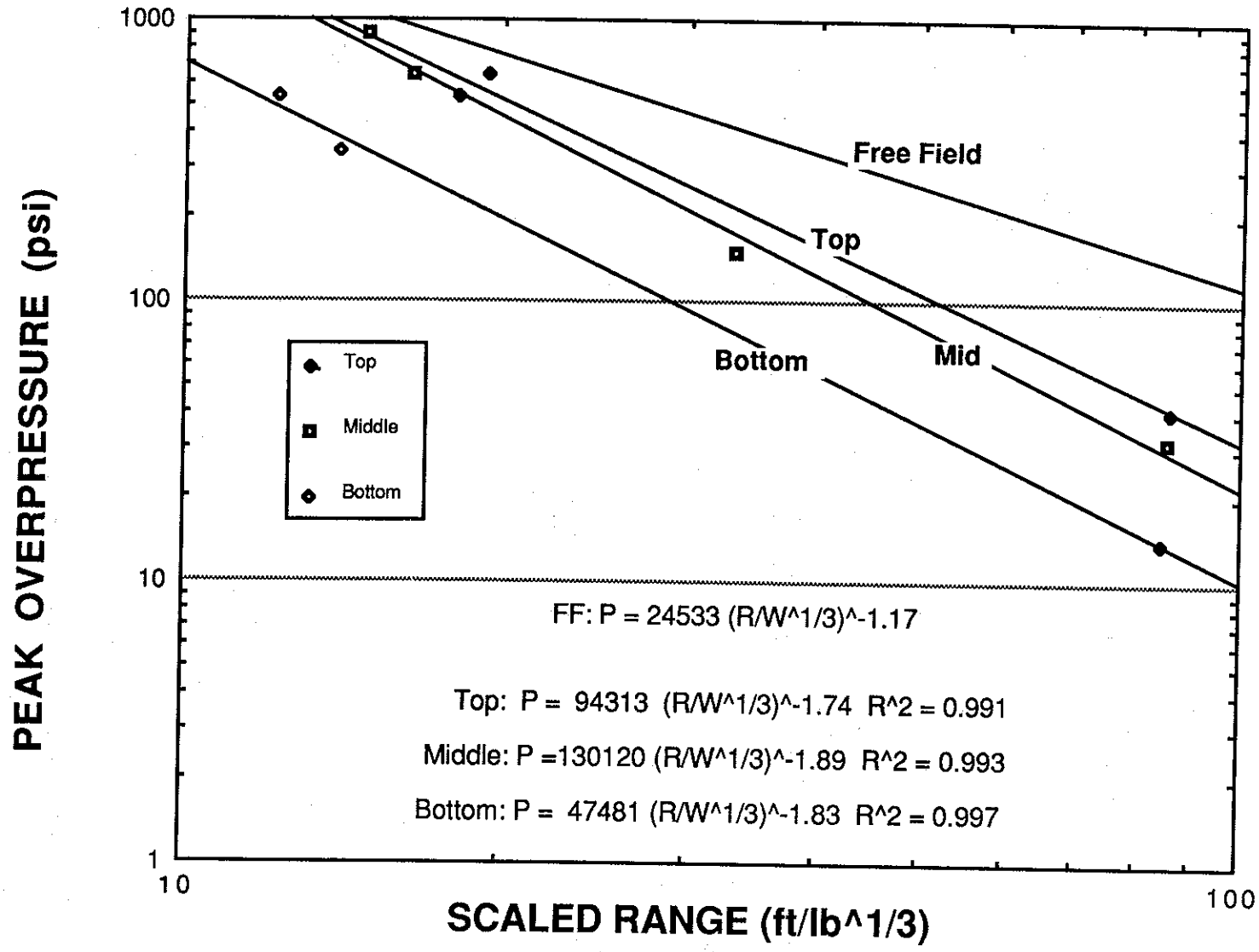
NORTH MAIN PILE No. 6

Charge 8 ft below mud line



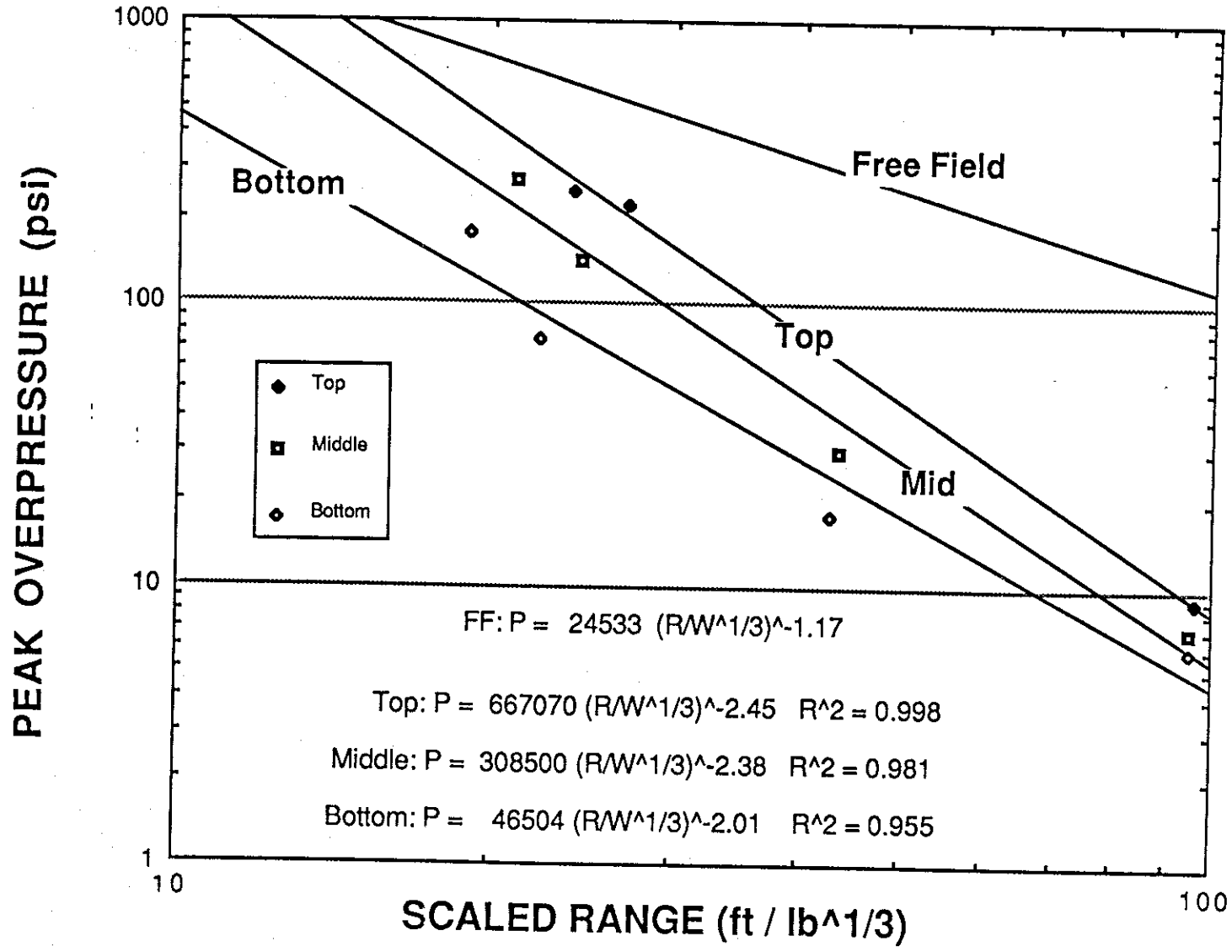
NORTH MAIN PILE No. 2

Charge 16 ft below mud line



NORTH MAIN PILE No. 3

Charge 26 ft below mud line



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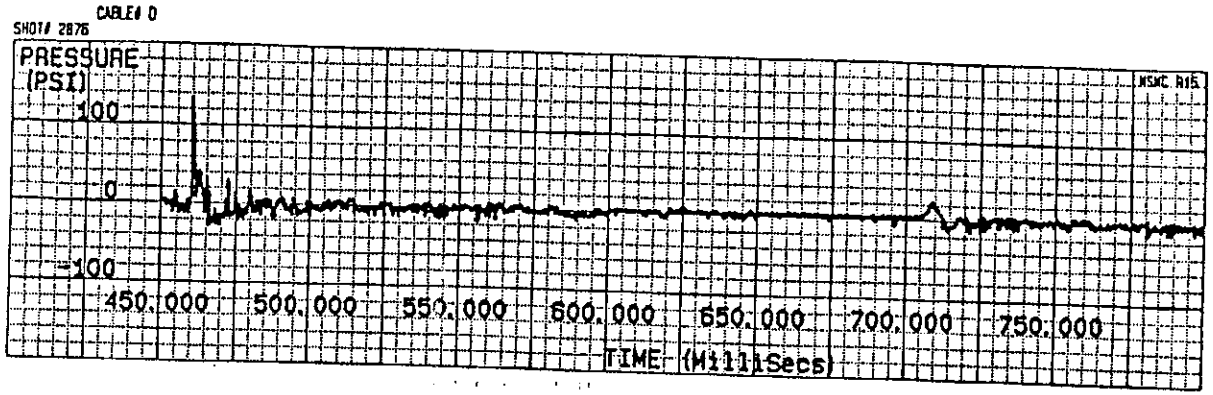

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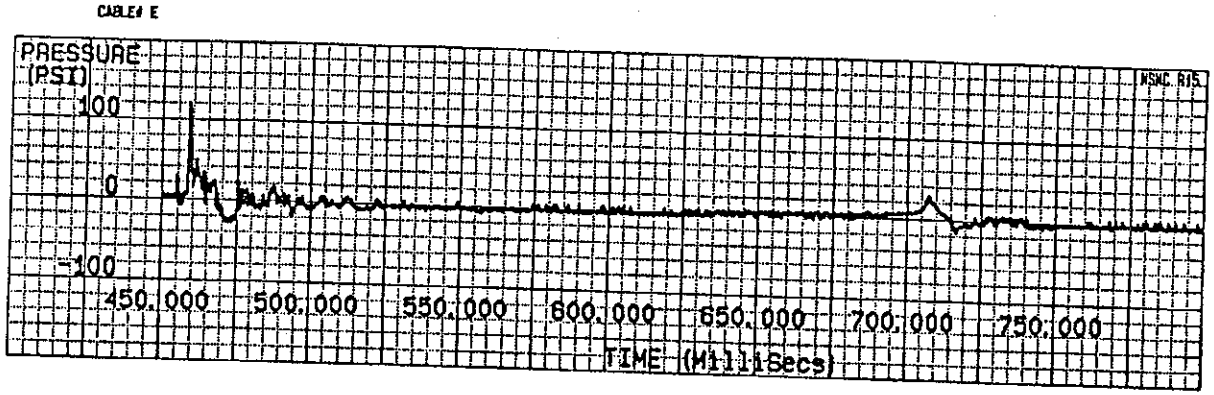

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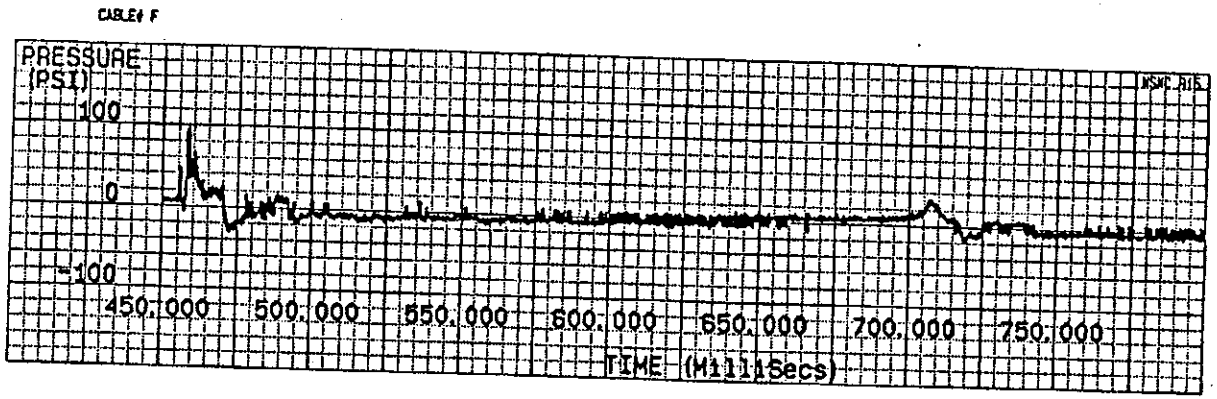
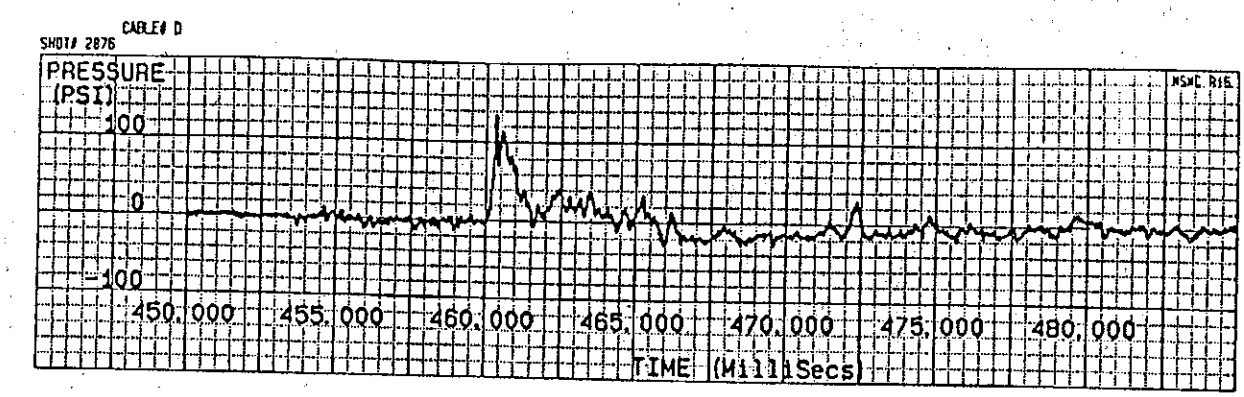


BOTTOM

WELL CONDUCTOR No. 5
TOP IN AIR

SECOND GAUGE STRING



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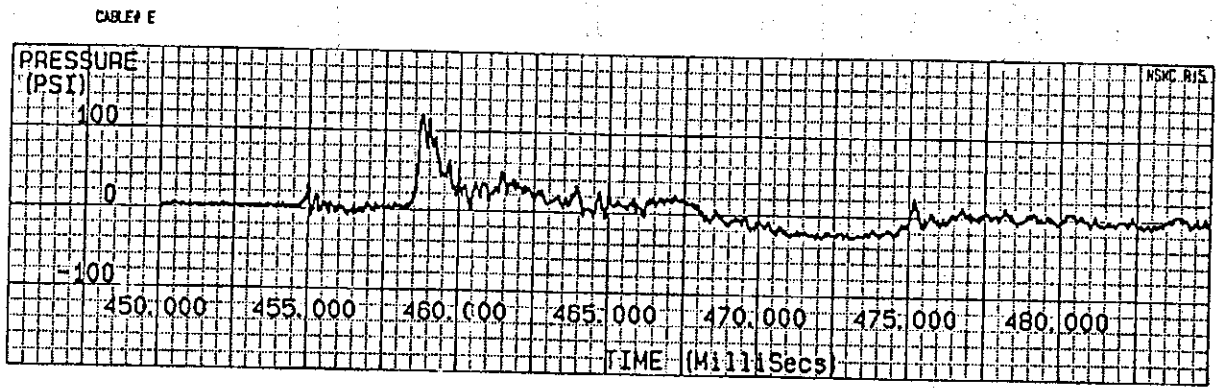

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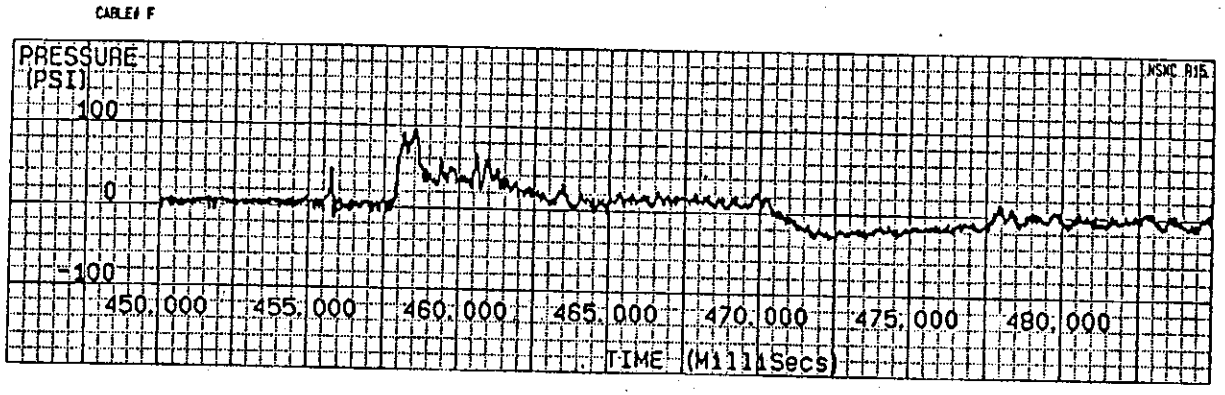
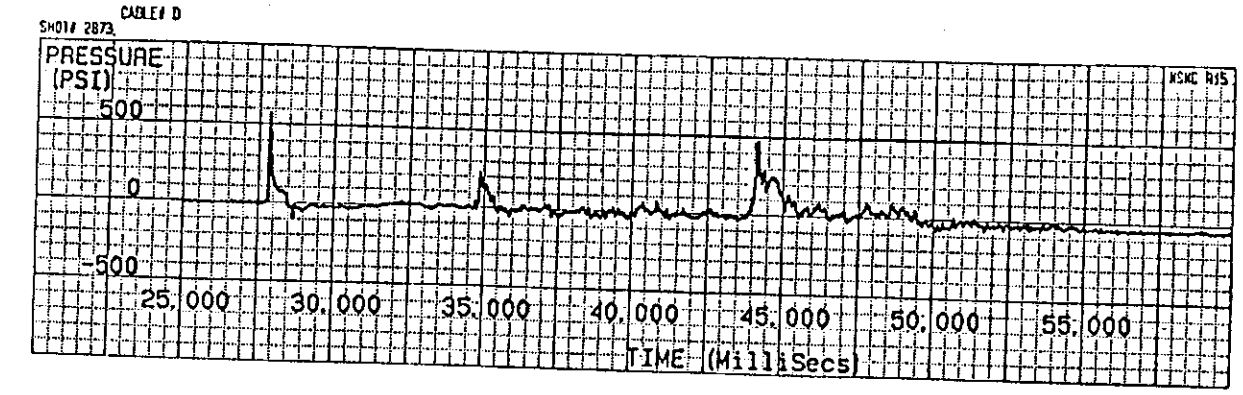


BOTTOM

WELL CONDUCTOR No. 5
TOP IN AIR

SECOND GAUGE STRING

16.



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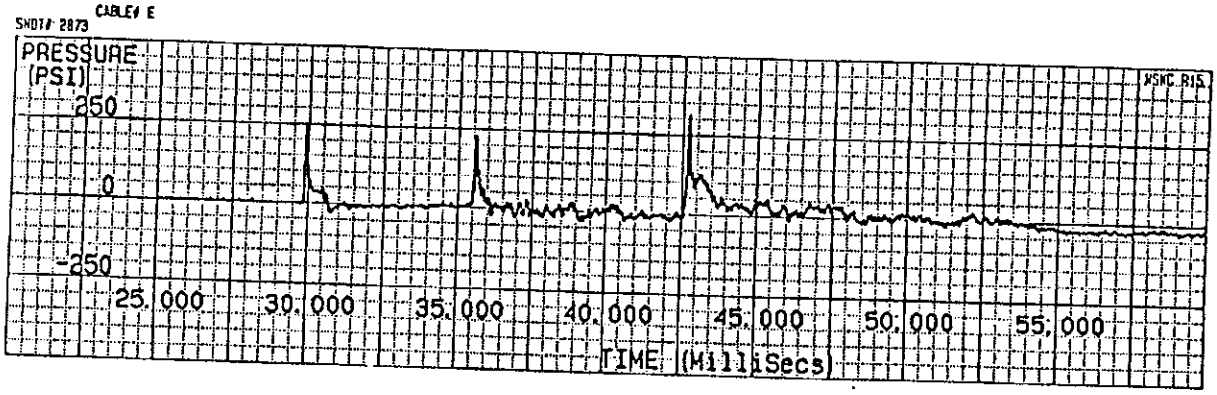

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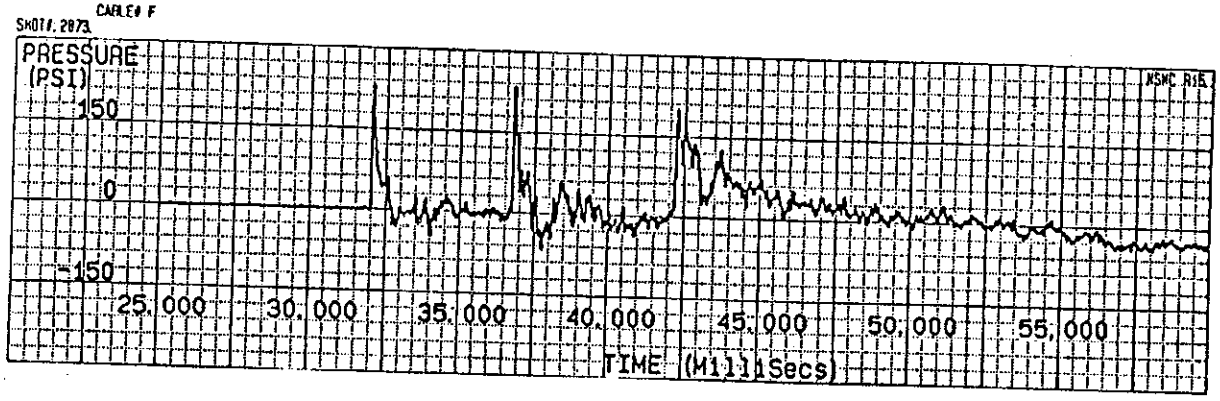
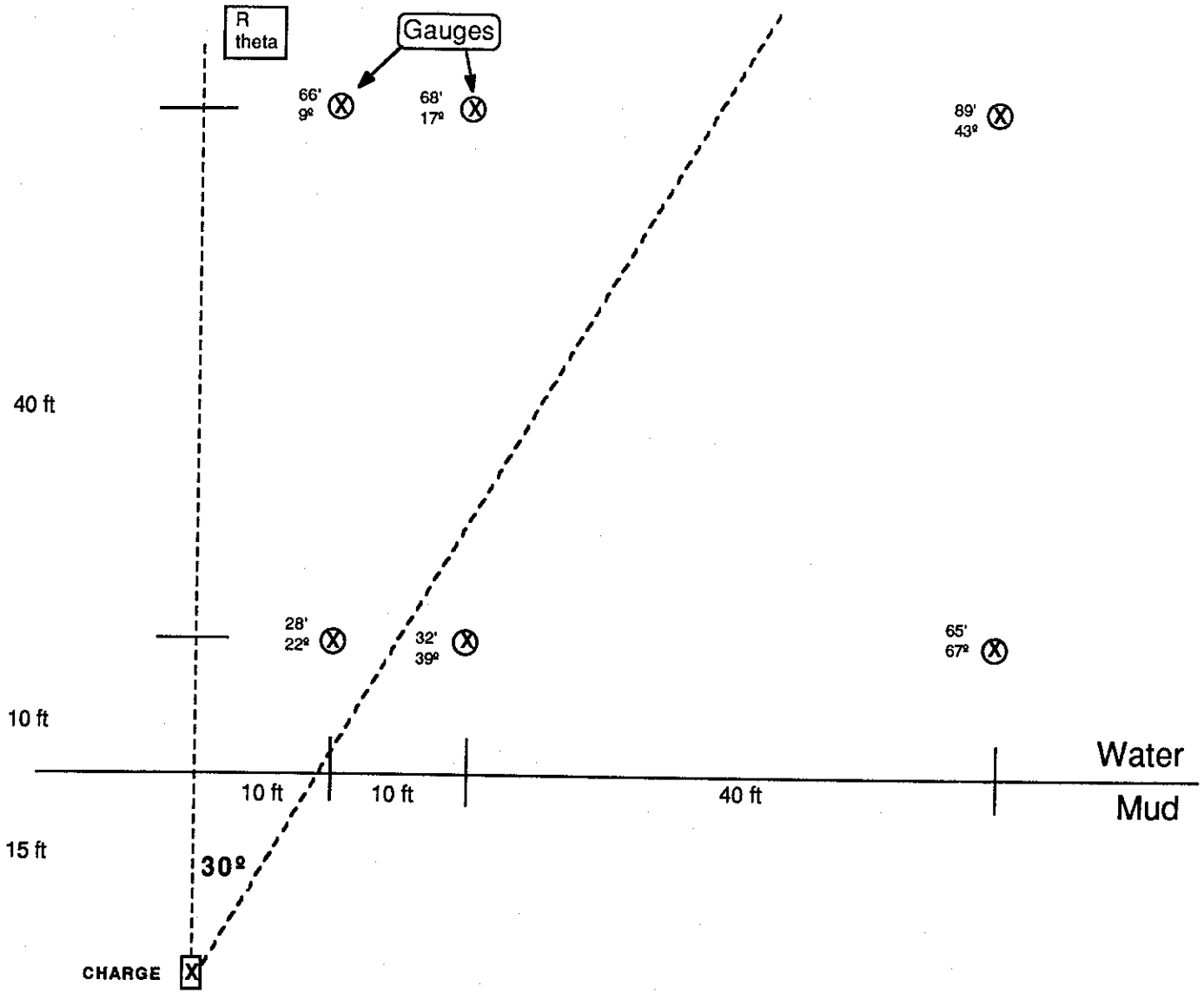
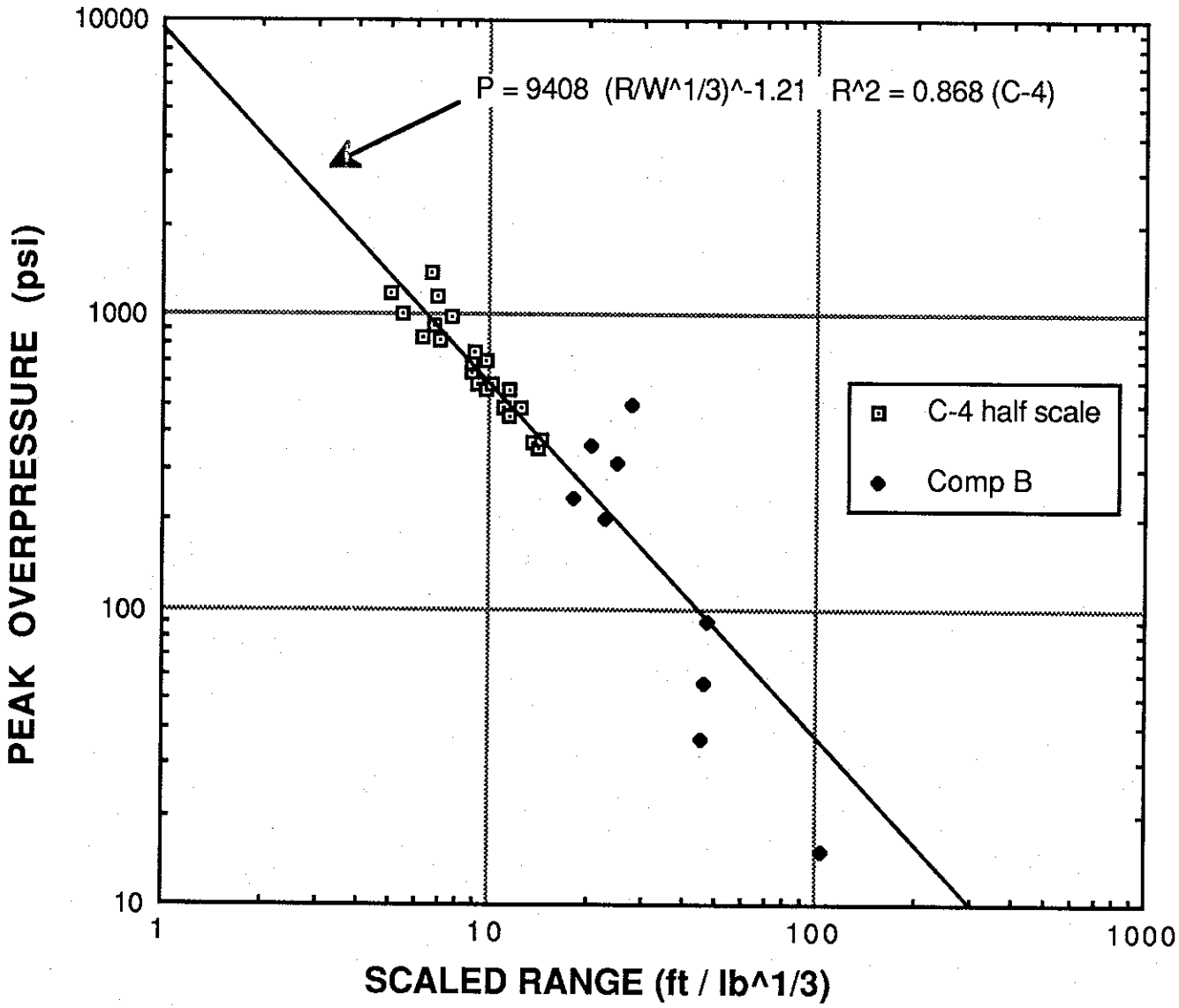


BOTTOM

WELL CONDUCTOR No. 8
TOP UNDERWATER

SECOND GAUGE STRING



CHARGE - GAUGE GEOMETRY

COMPARISON of C-4 DATA WITH COMPOSITION B