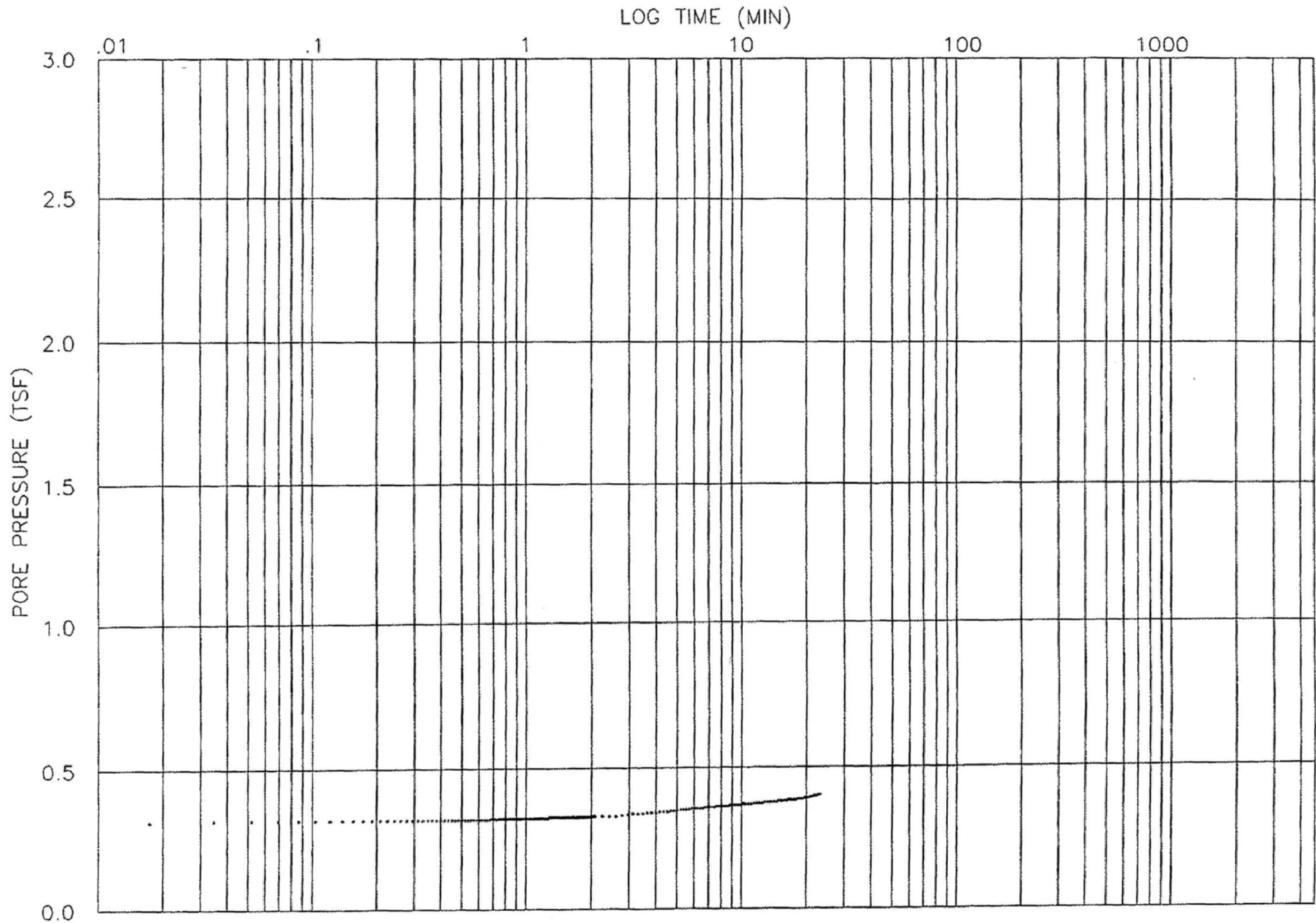


CPT NUMBER: C-2206
JOB NUMBER: 1907-0075

DISSIPATION TEST

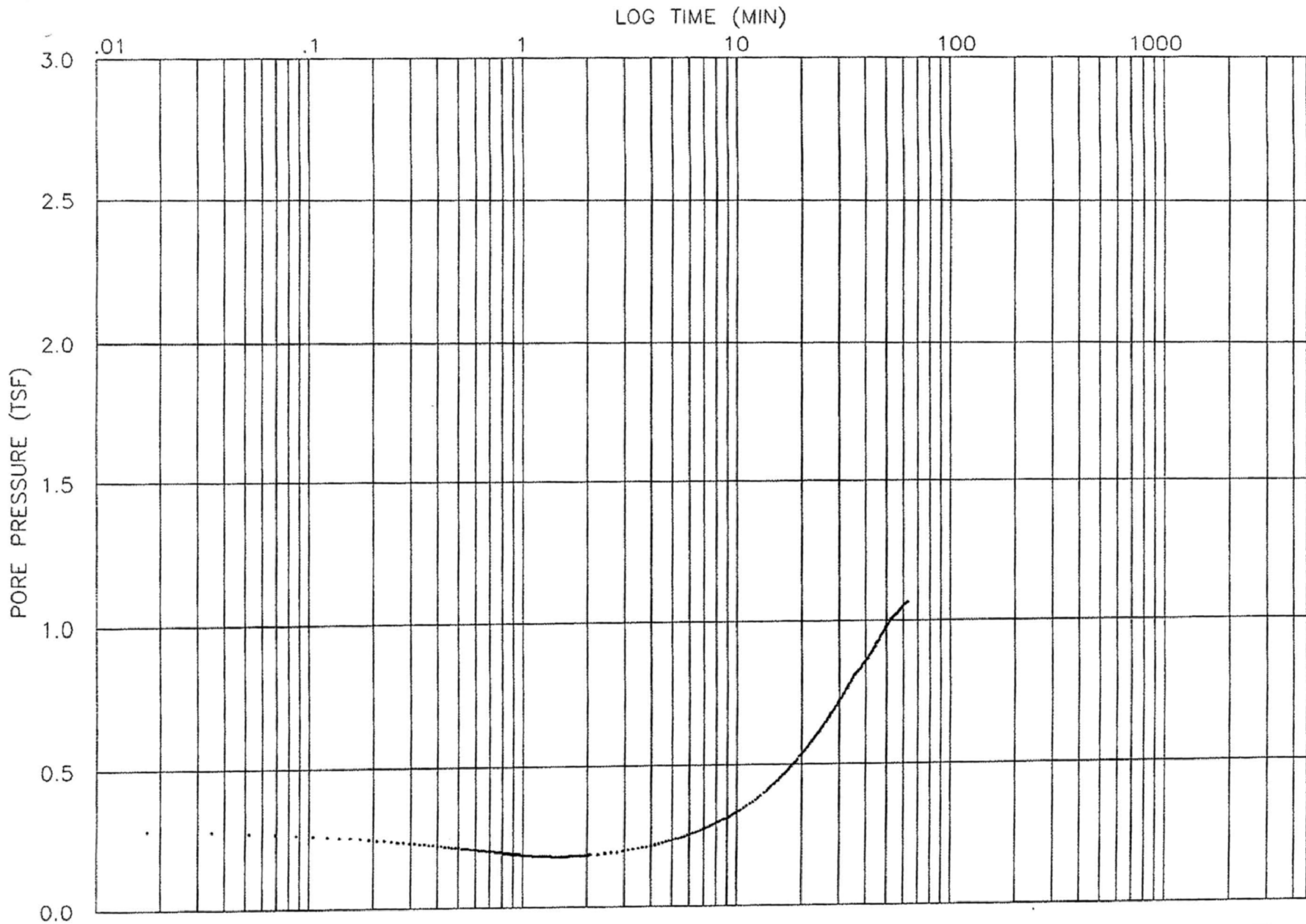
DEPTH: 247.2 FEET
DATE: 12-Dec-2007



CPT NUMBER: C-2207
JOB NUMBER: 1907-0075

DISSIPATION TEST

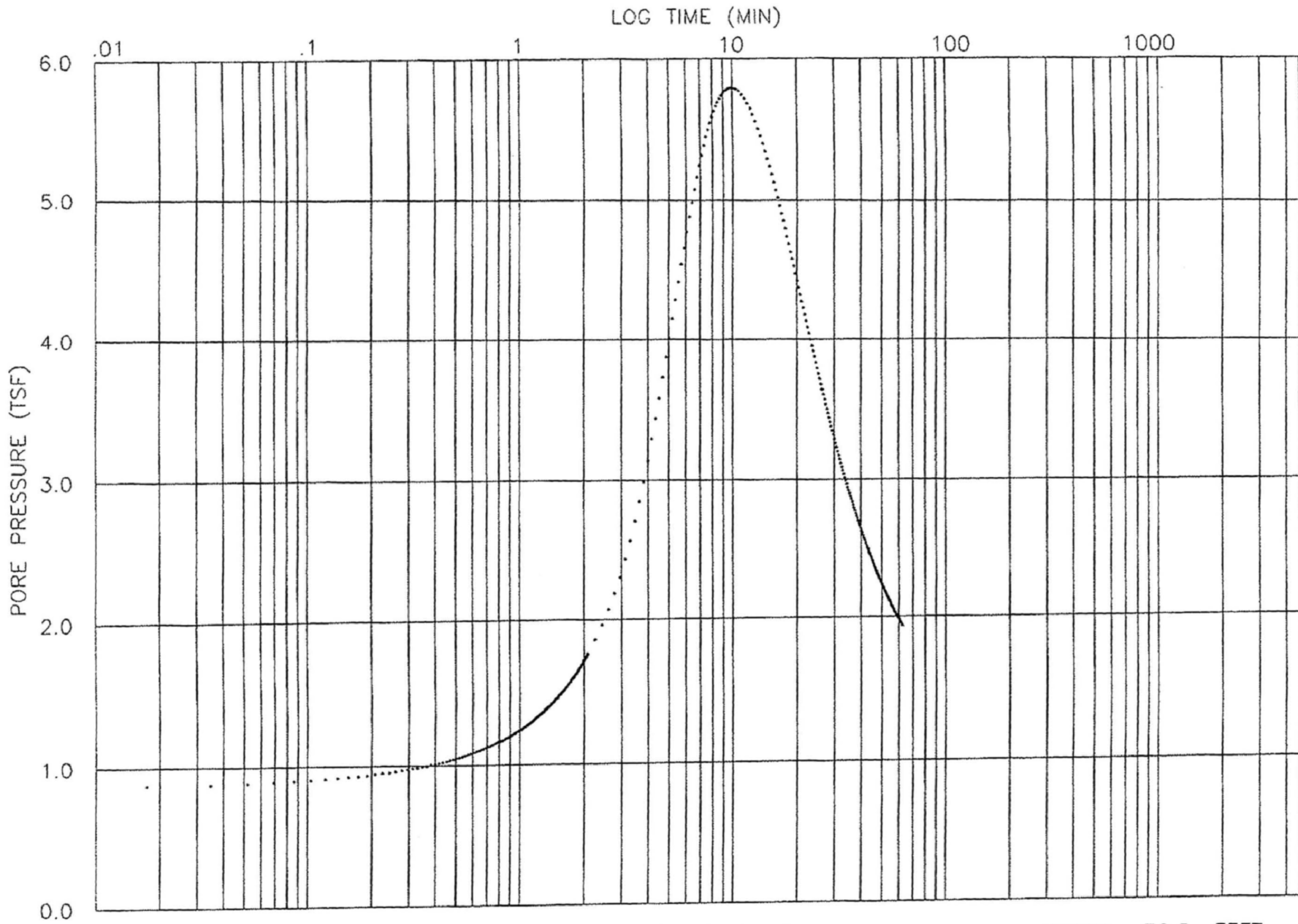
DEPTH: 68.9 FEET
DATE: 27-Nov-2007



CPT NUMBER: C-2207
JOB NUMBER: 1907-0075

DISSIPATION TEST

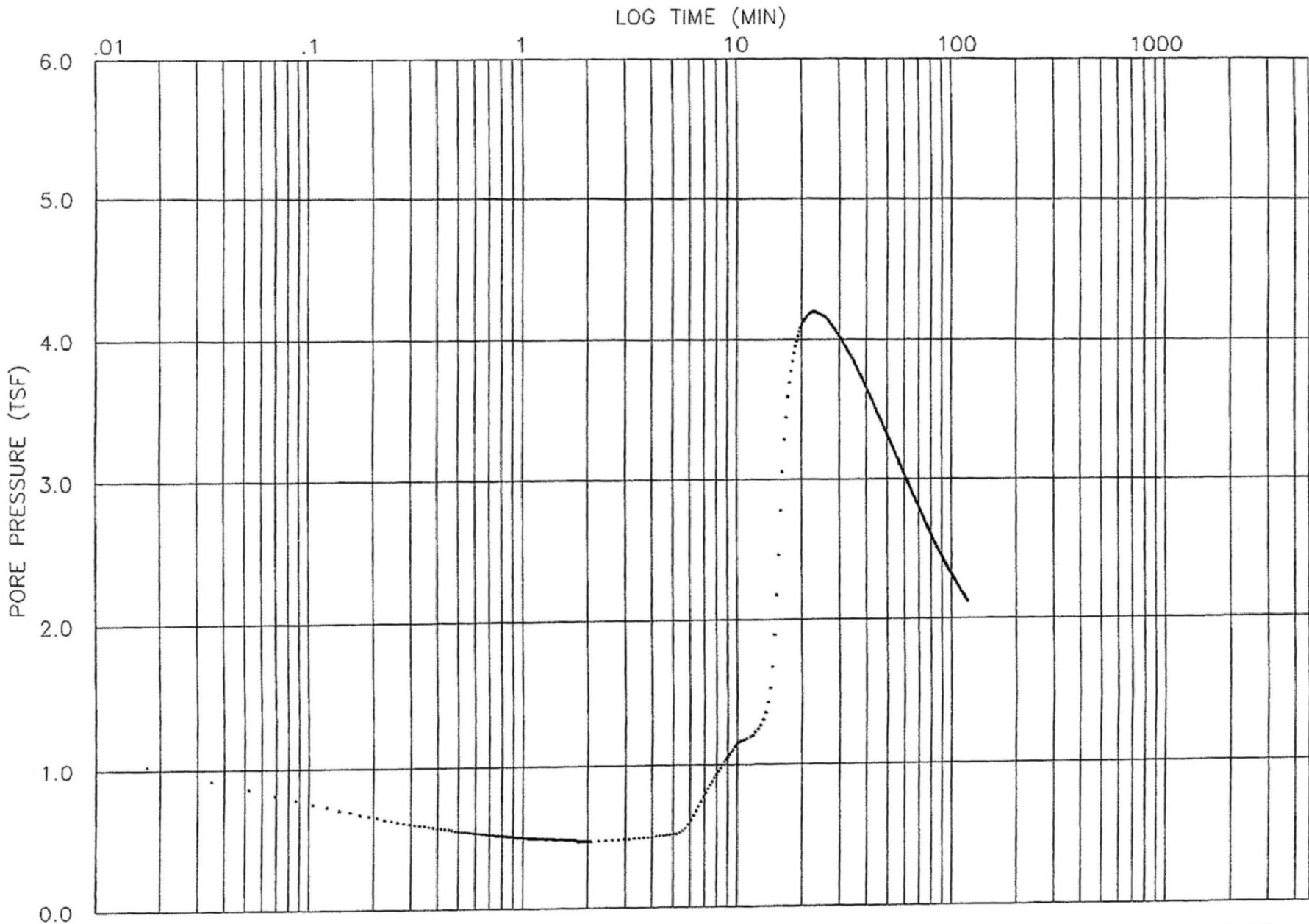
DEPTH: 84.4 FEET
DATE: 27-Nov-2007



CPT NUMBER: C-2213
JOB NUMBER: 1907-0075

DISSIPATION TEST

DEPTH: 78.5 FEET
DATE: 27-Nov-2007

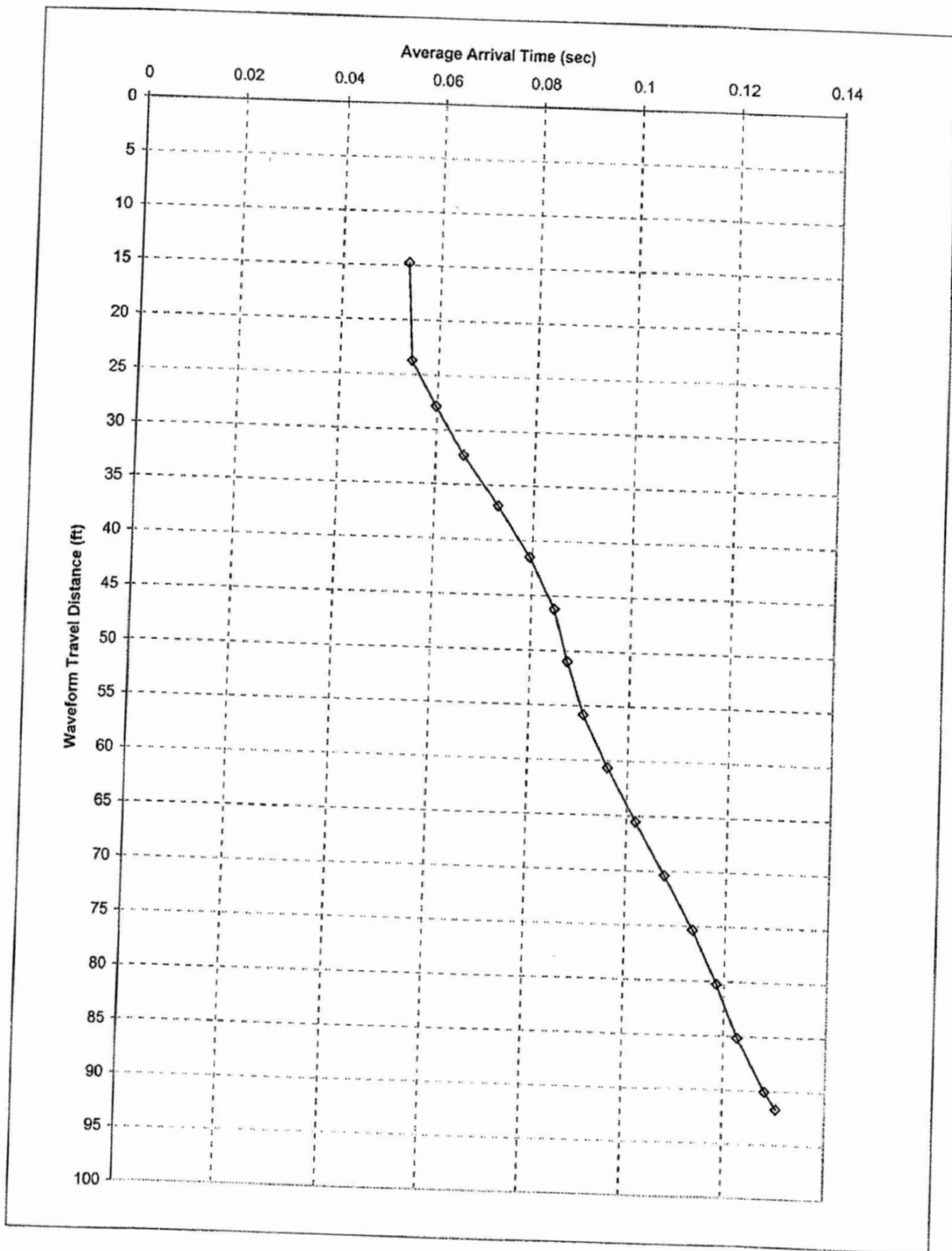


CPT NUMBER: C-2213
JOB NUMBER: 1907-0075

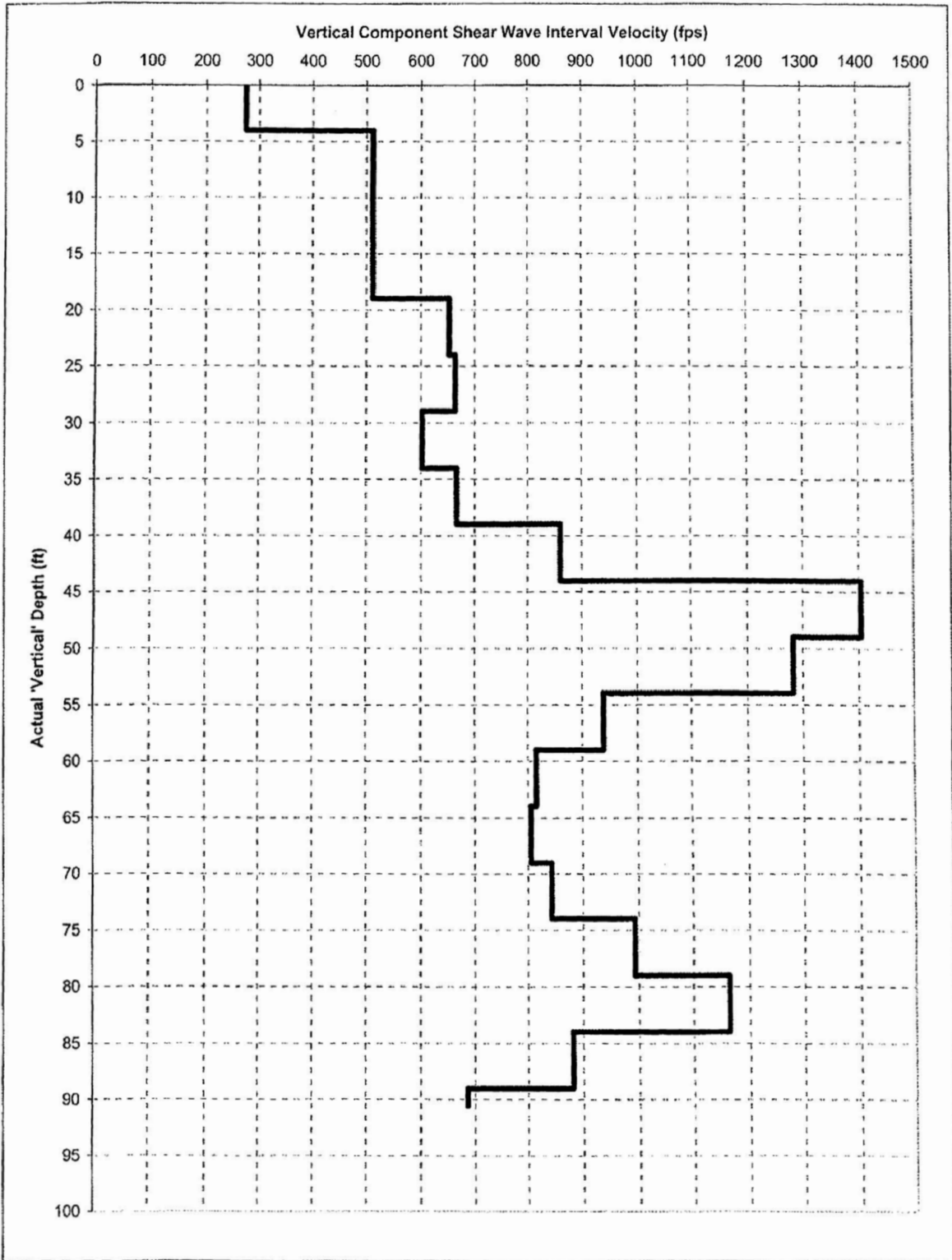
DISSIPATION TEST

DEPTH: 83.5 FEET
DATE: 27-Nov-2007

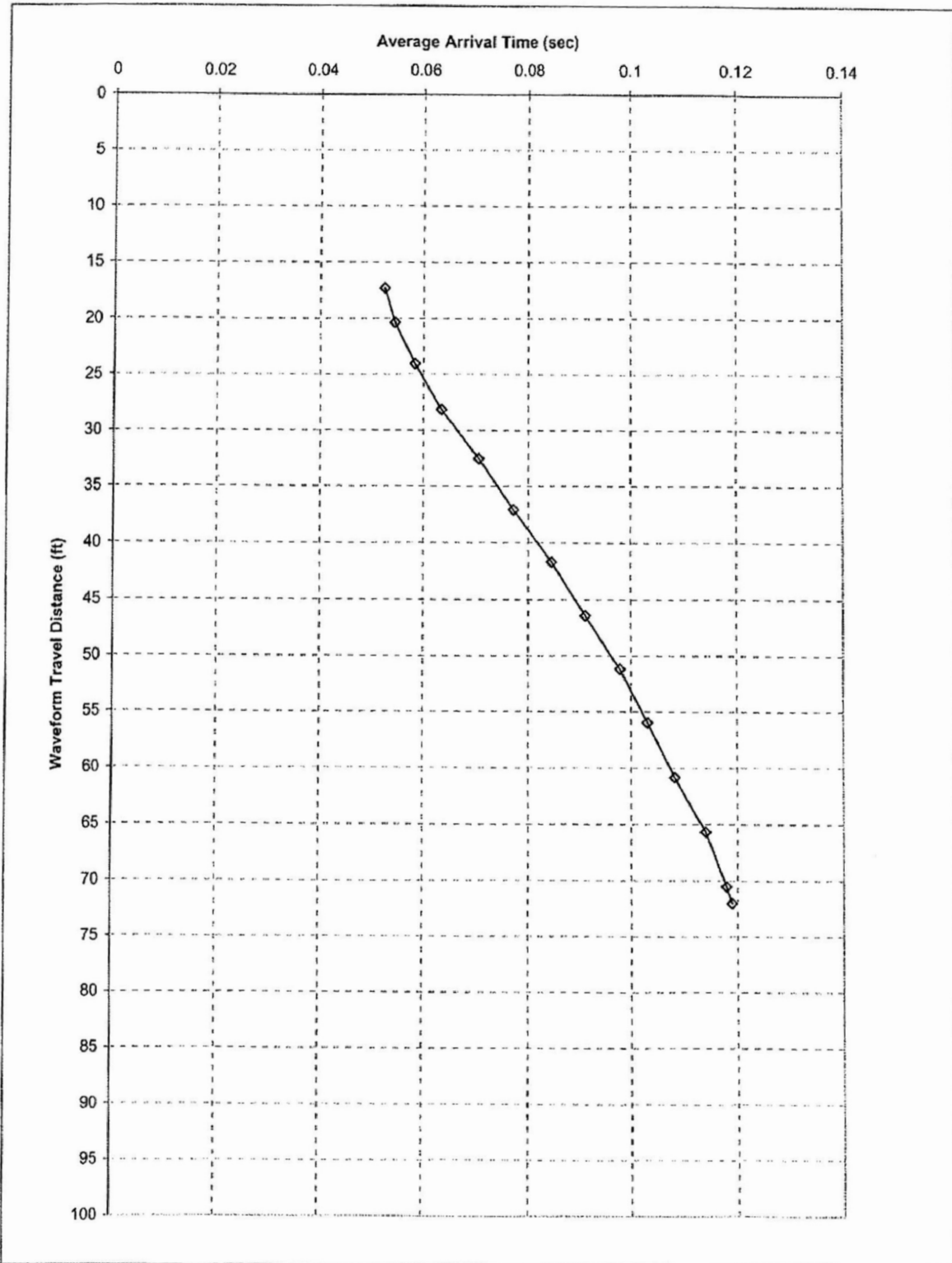
SEISMIC DATA



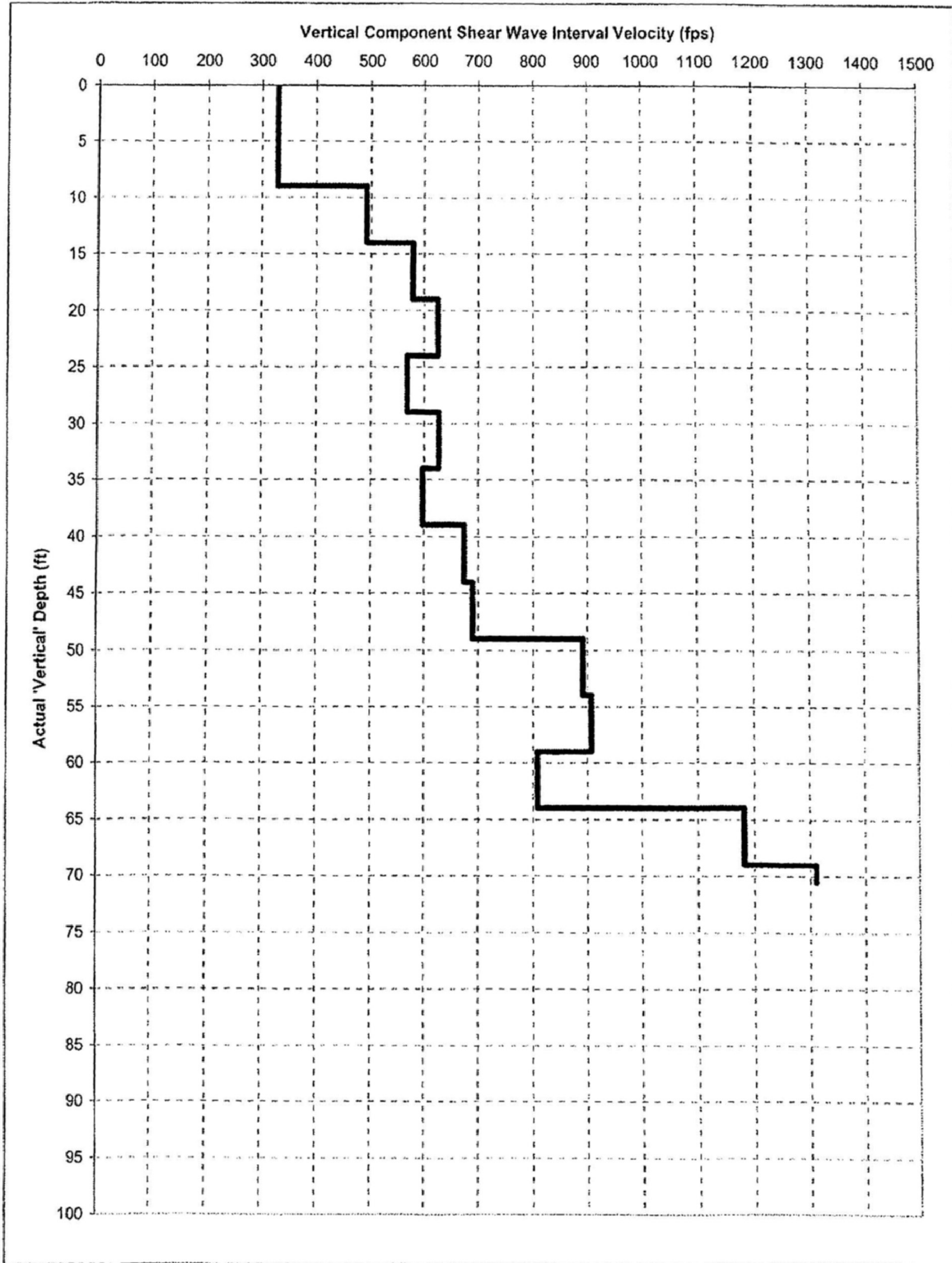
**AVERAGE ARRIVAL TIME VERSUS WAVEFORM TRAVEL DISTANCE
C-2102s**



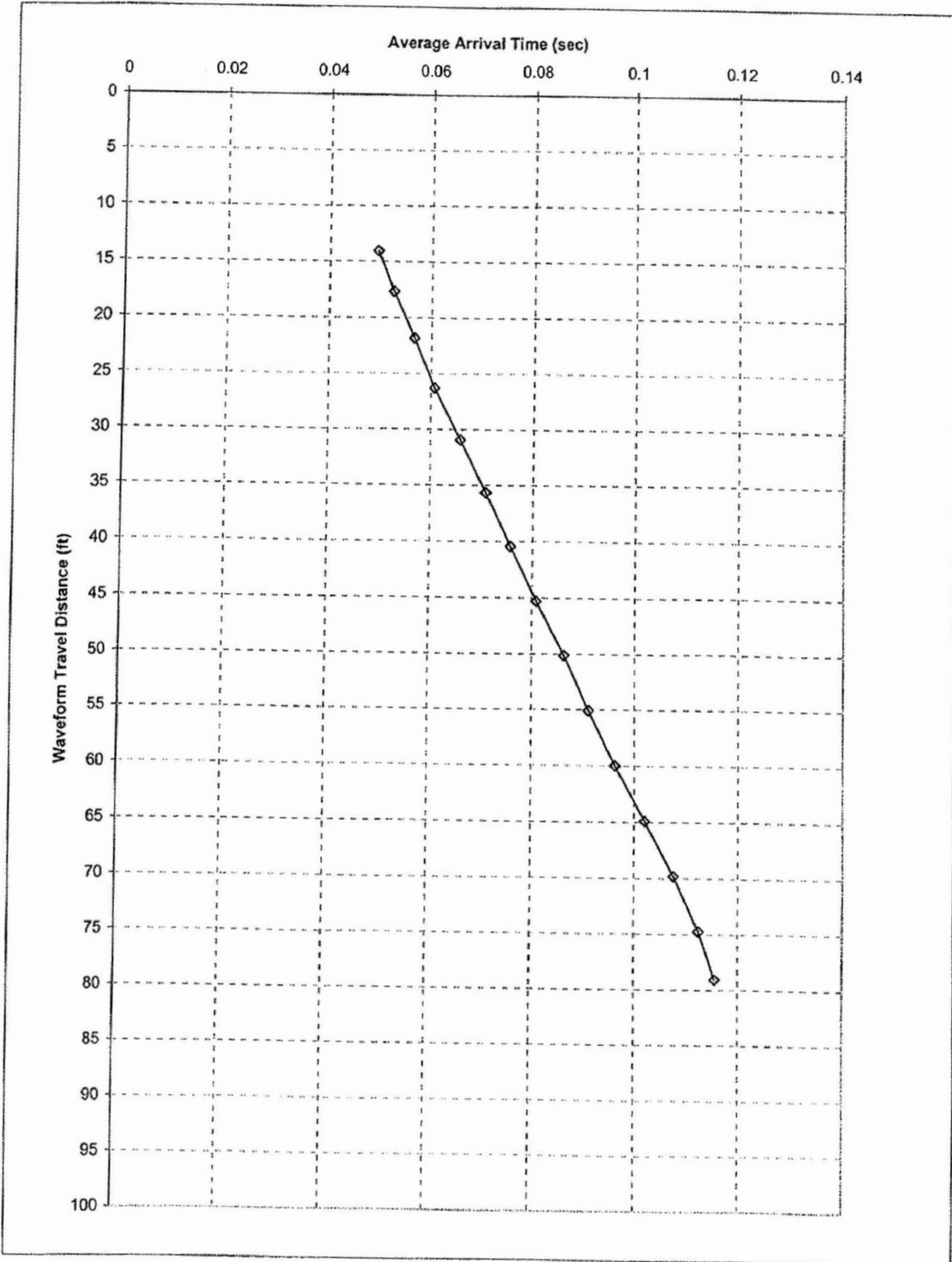
SHEAR WAVE INTERVAL VELOCITY VERSUS VERTICAL DEPTH
C-2102s



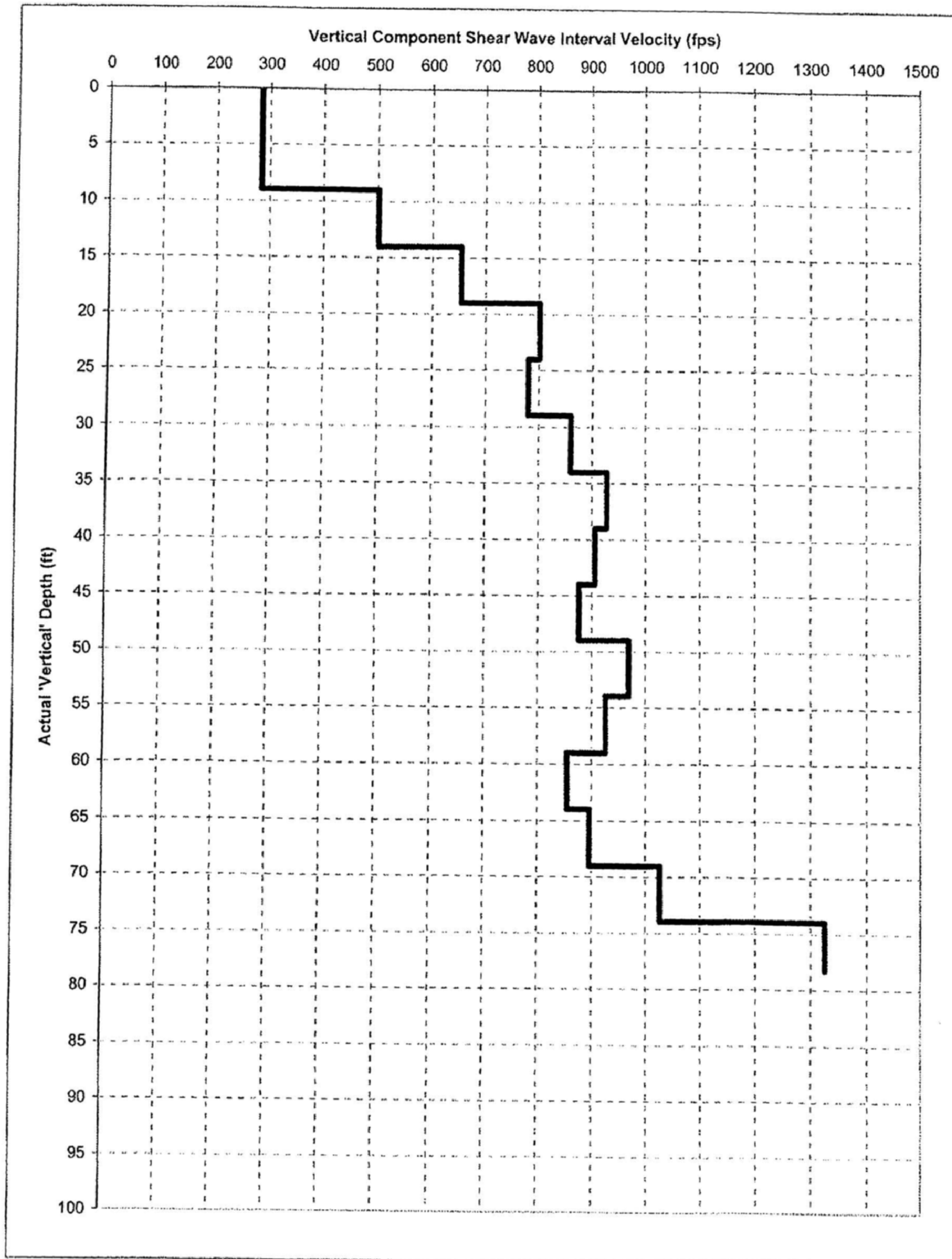
**AVERAGE ARRIVAL TIME VERSUS WAVEFORM TRAVEL DISTANCE
C-2104s**



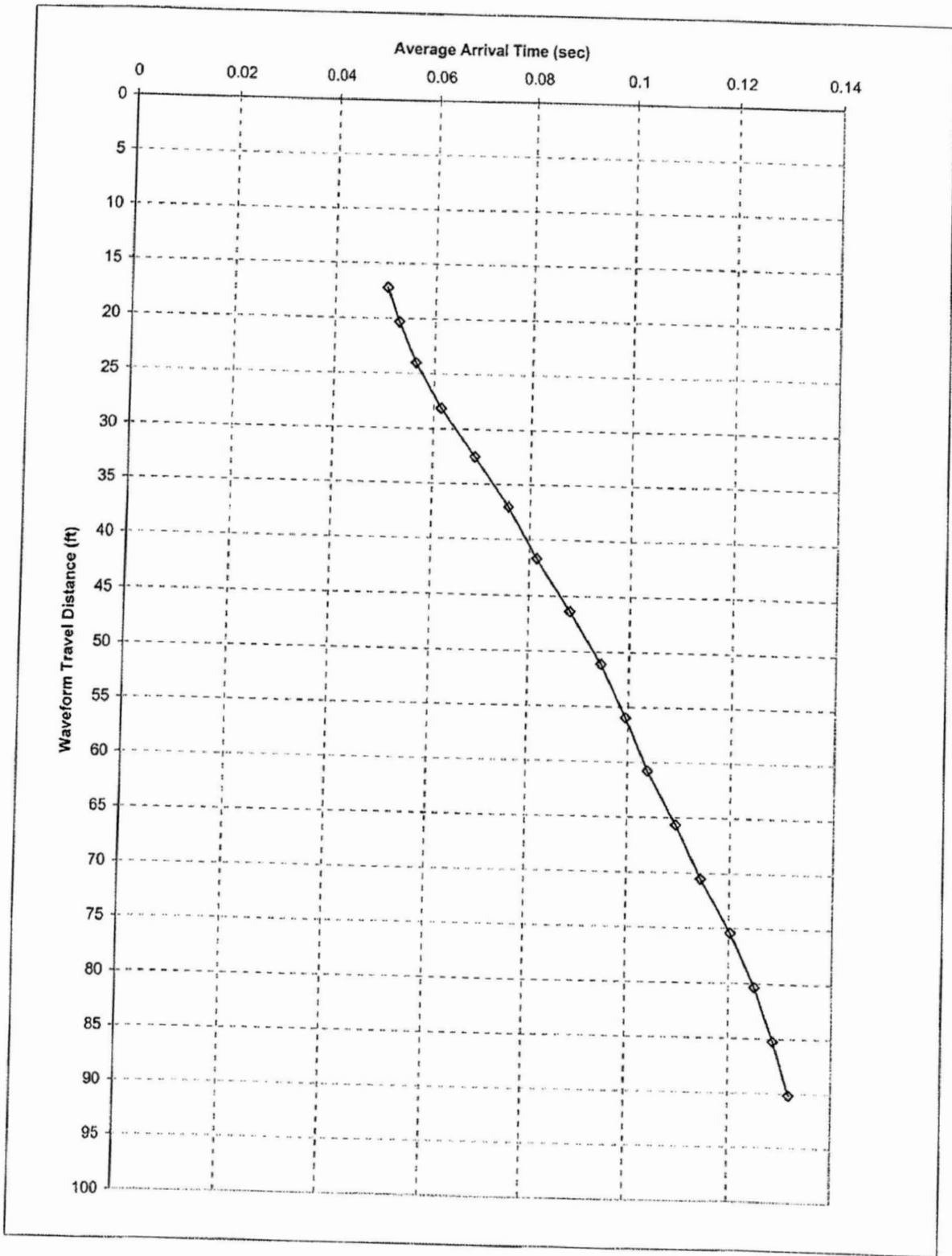
SHEAR WAVE INTERVAL VELOCITY VERSUS VERTICAL DEPTH
C-2104s B



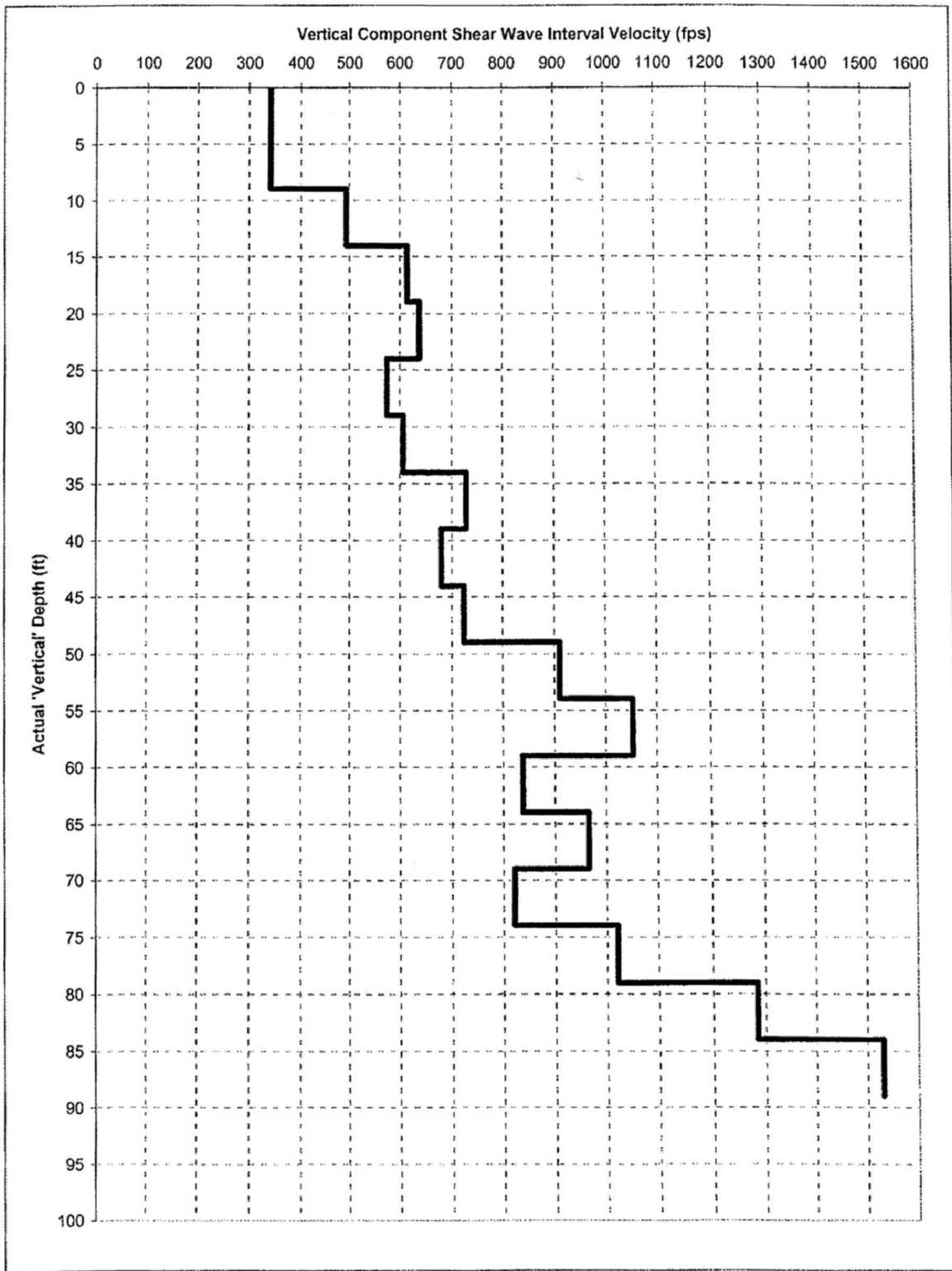
**AVERAGE ARRIVAL TIME VERSUS WAVEFORM TRAVEL DISTANCE
C-2106s**



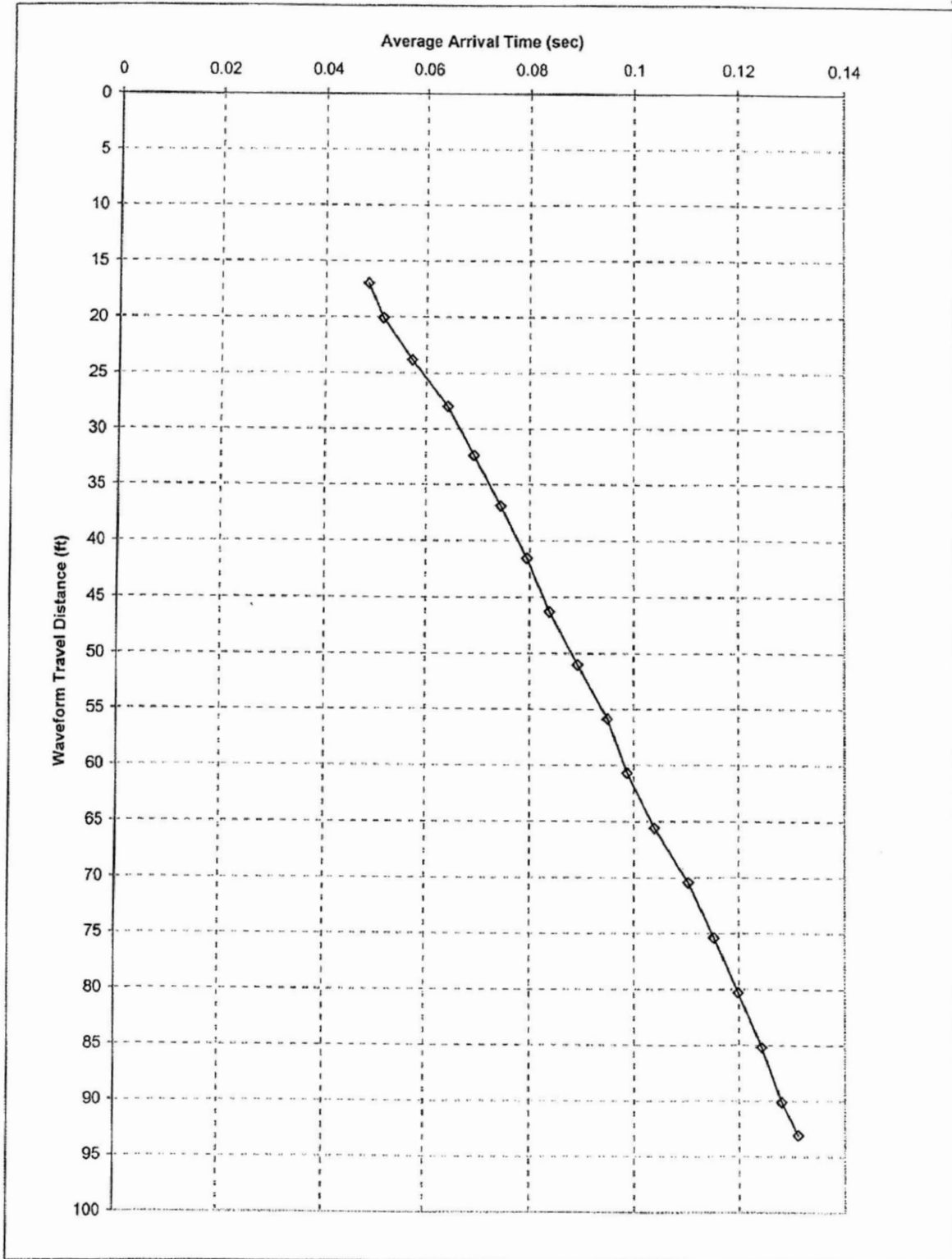
SHEAR WAVE INTERVAL VELOCITY VERSUS VERTICAL DEPTH
C-2106s



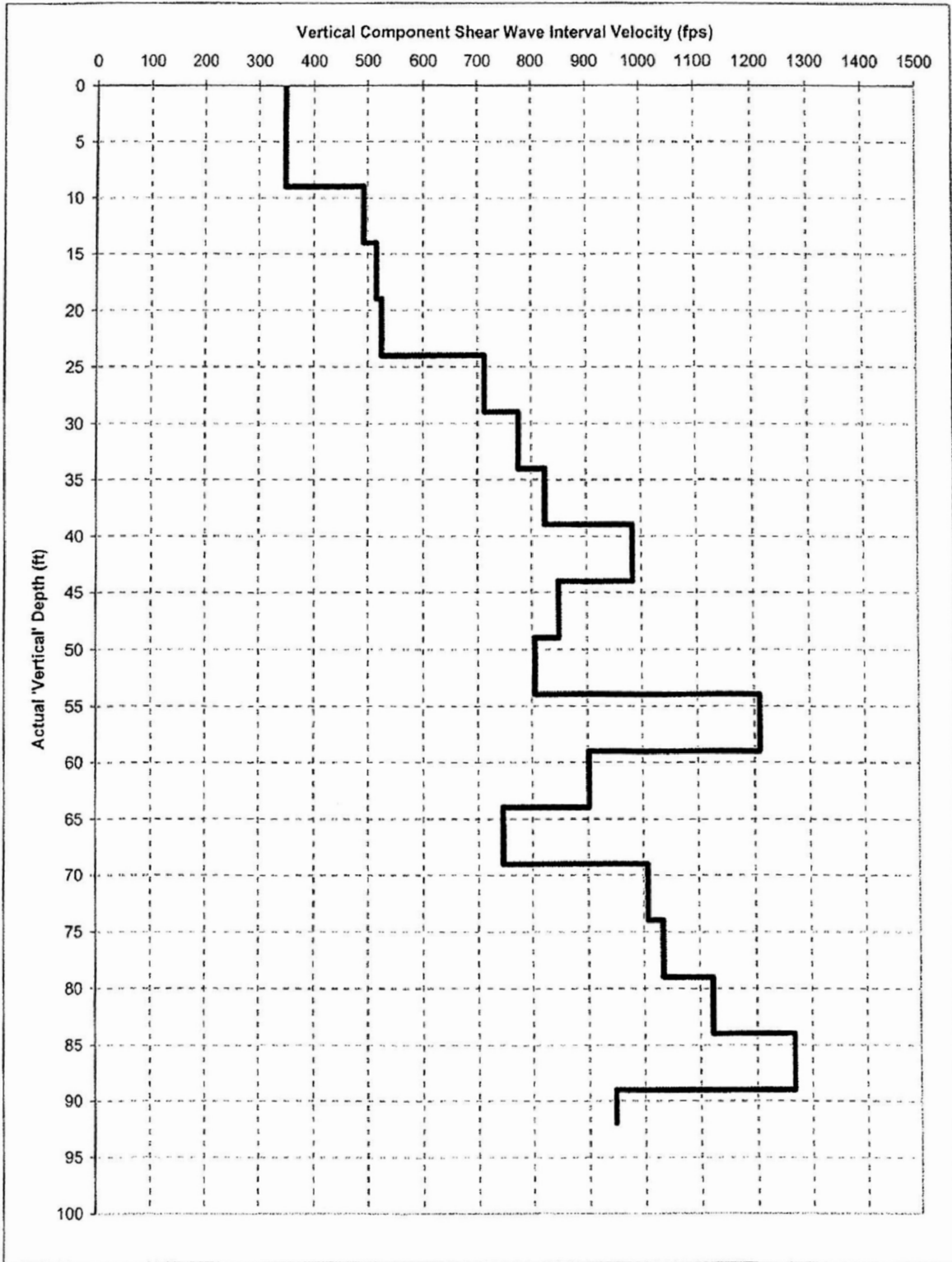
**AVERAGE ARRIVAL TIME VERSUS WAVEFORM TRAVEL DISTANCE
C-2109s**



**SHEAR WAVE INTERVAL VELOCITY VERSUS VERTICAL DEPTH
C-2109s**

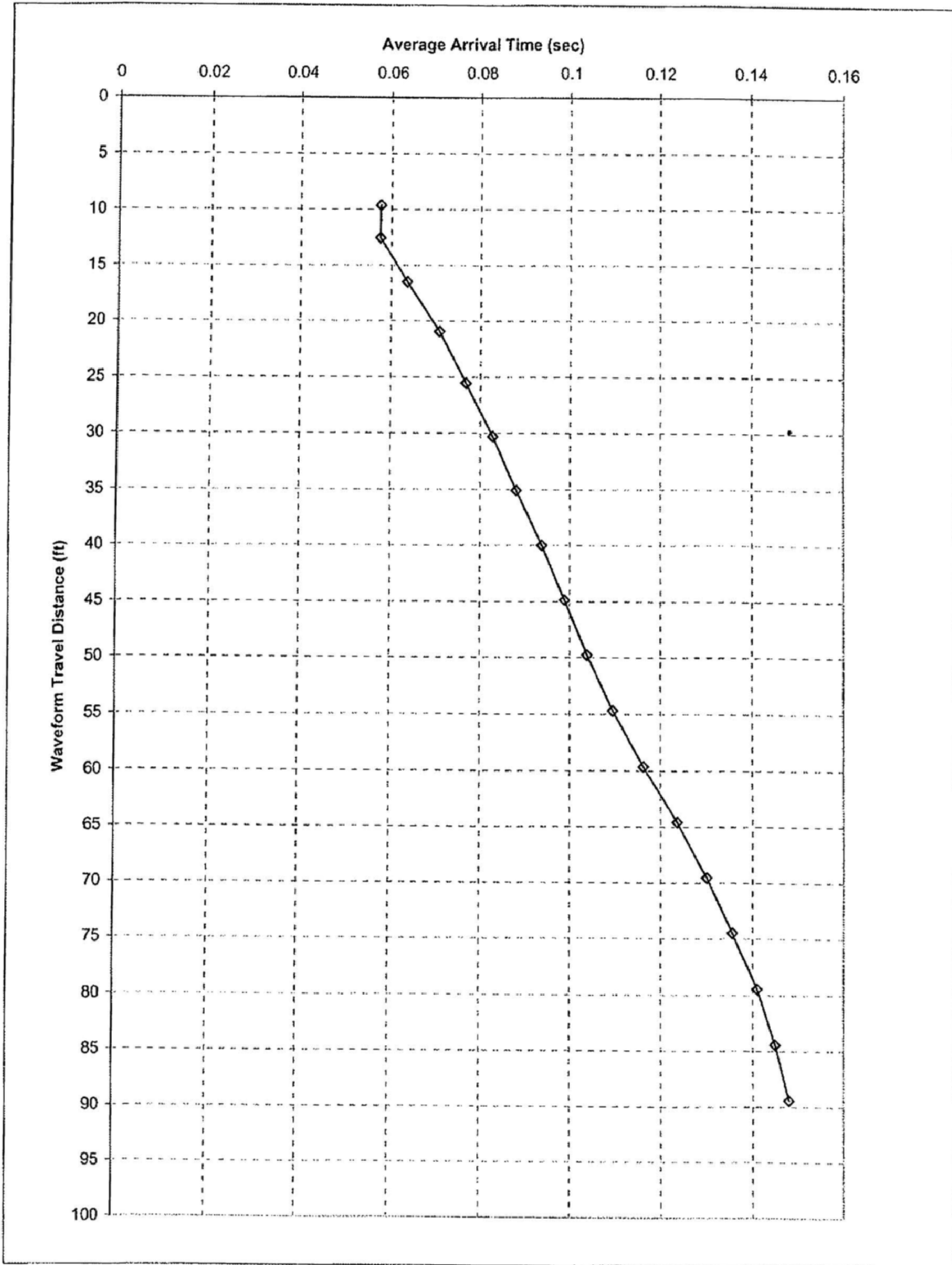


AVERAGE ARRIVAL TIME VERSUS WAVEFORM TRAVEL DISTANCE
C-2202s

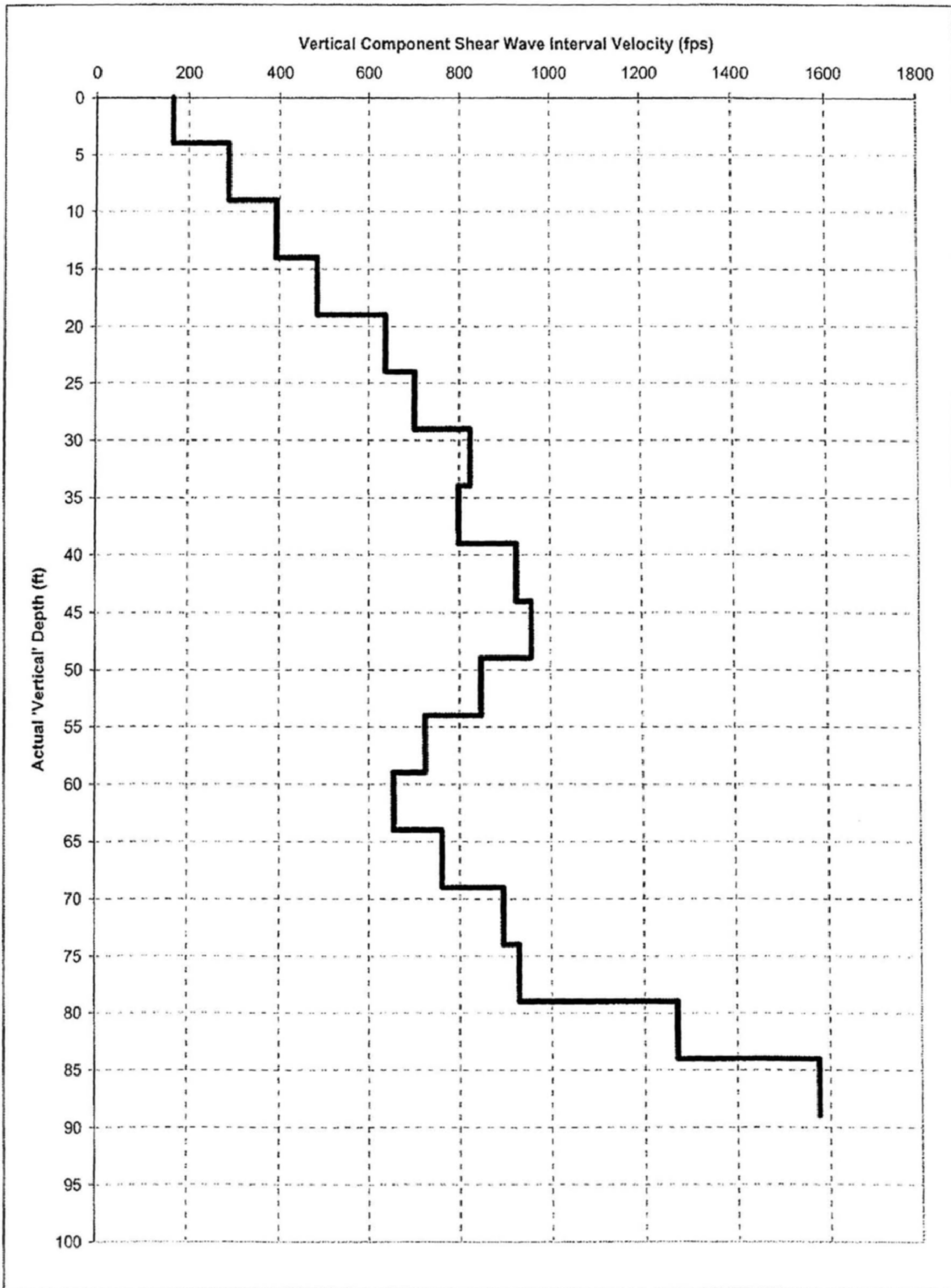


SHEAR WAVE INTERVAL VELOCITY VERSUS VERTICAL DEPTH

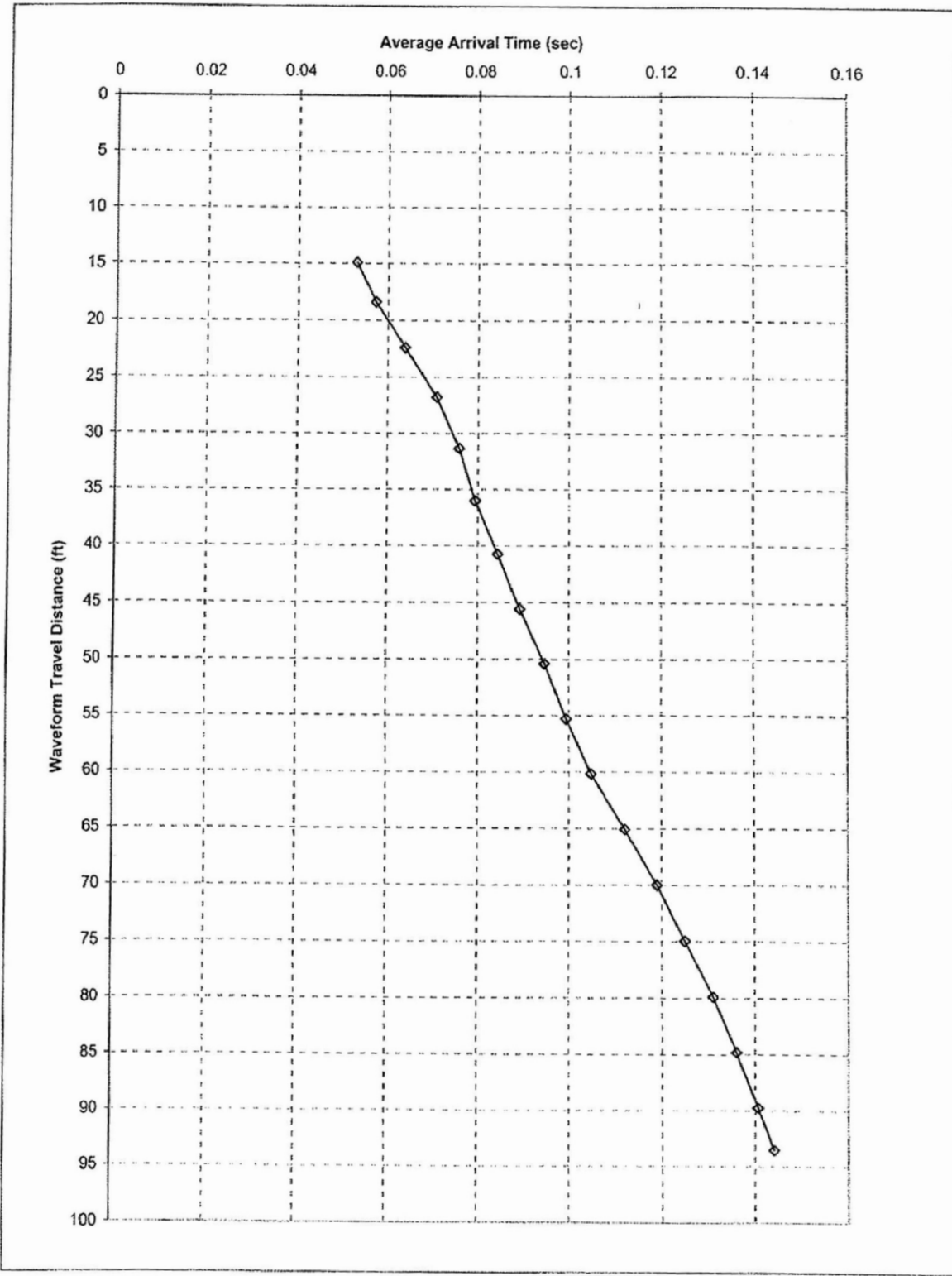
C-2202s



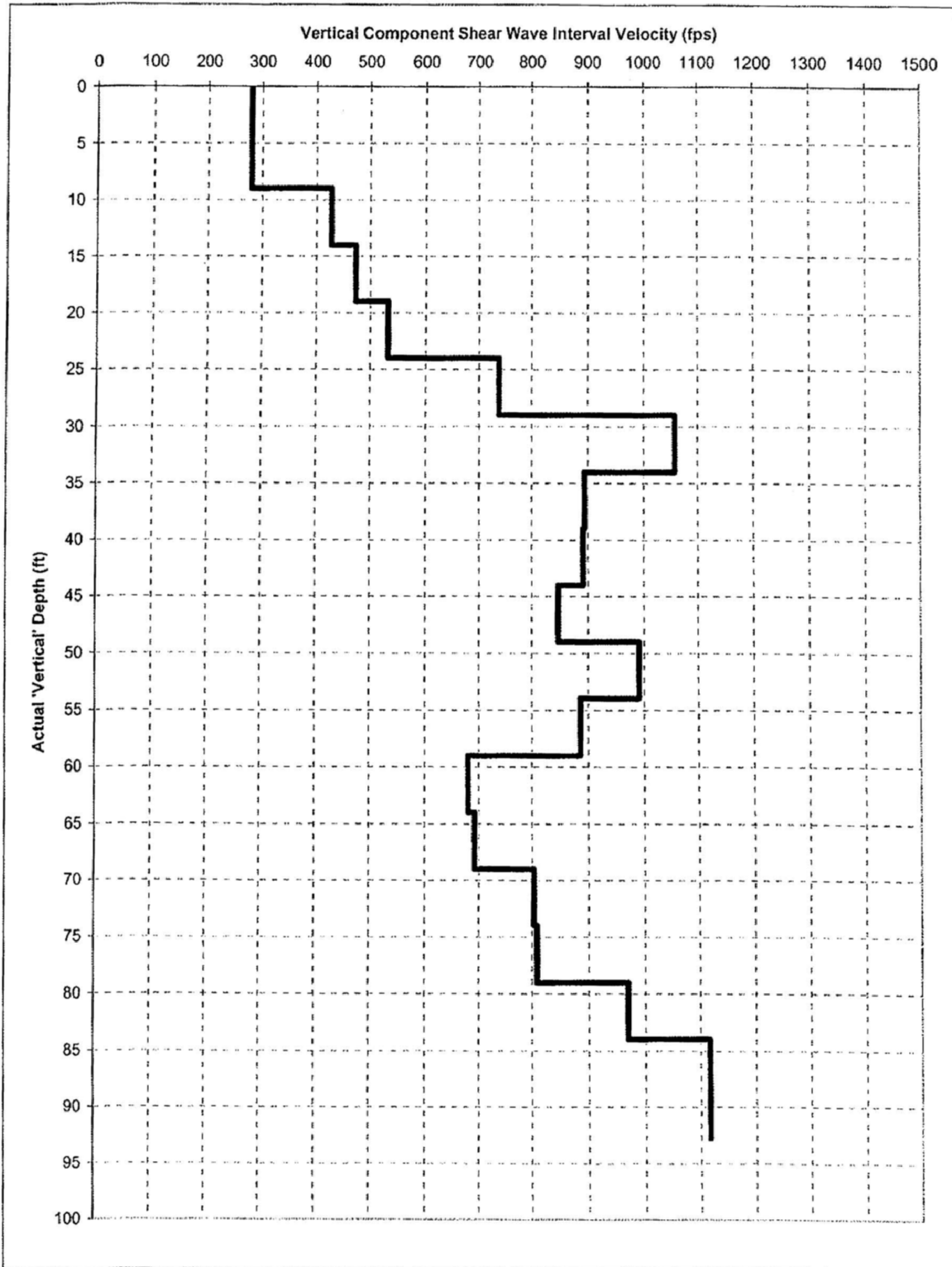
**AVERAGE ARRIVAL TIME VERSUS WAVEFORM TRAVEL DISTANCE
C-2204sB**



SHEAR WAVE INTERVAL VELOCITY VERSUS VERTICAL DEPTH
C-2204sB

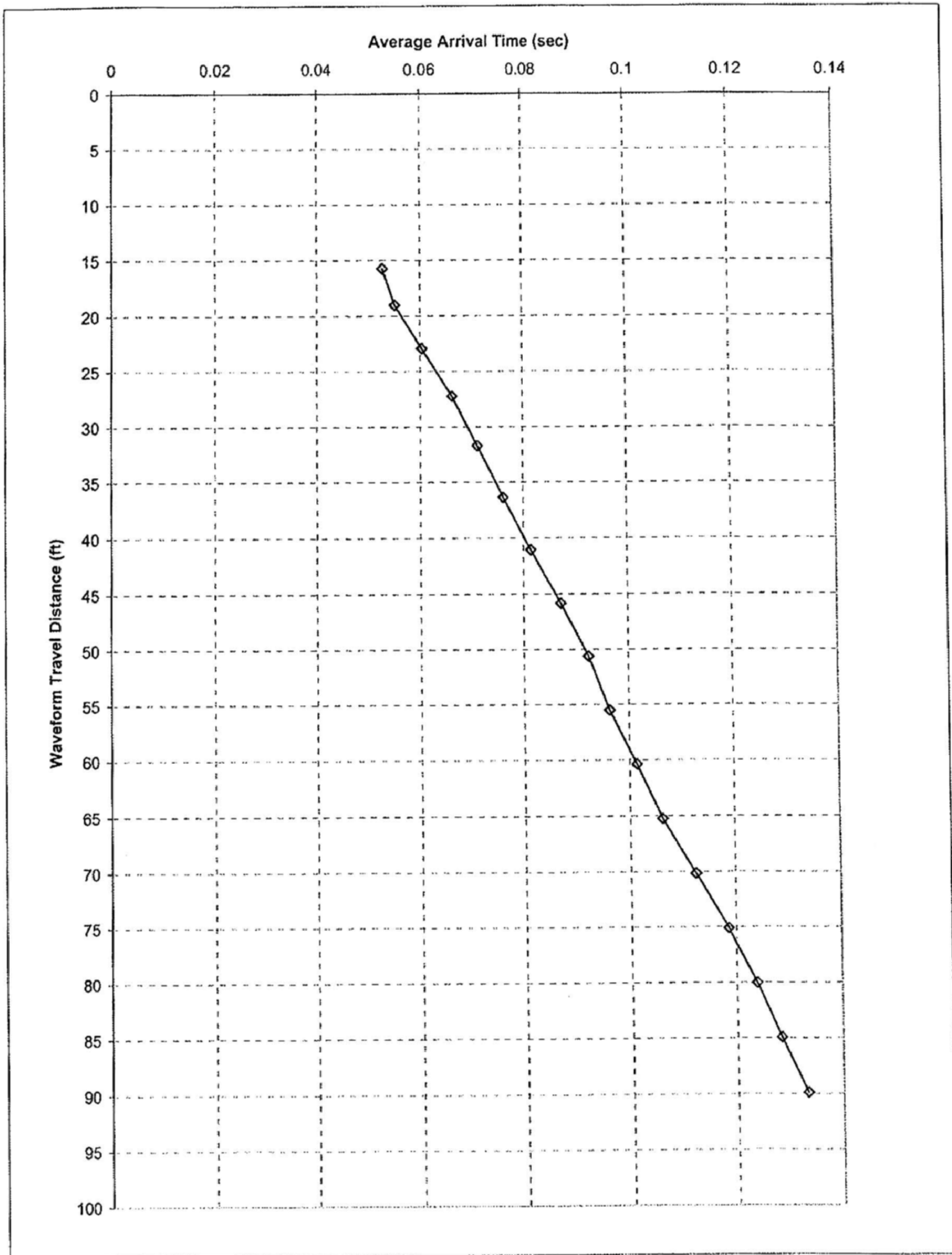


AVERAGE ARRIVAL TIME VERSUS WAVEFORM TRAVEL DISTANCE
C-2206s

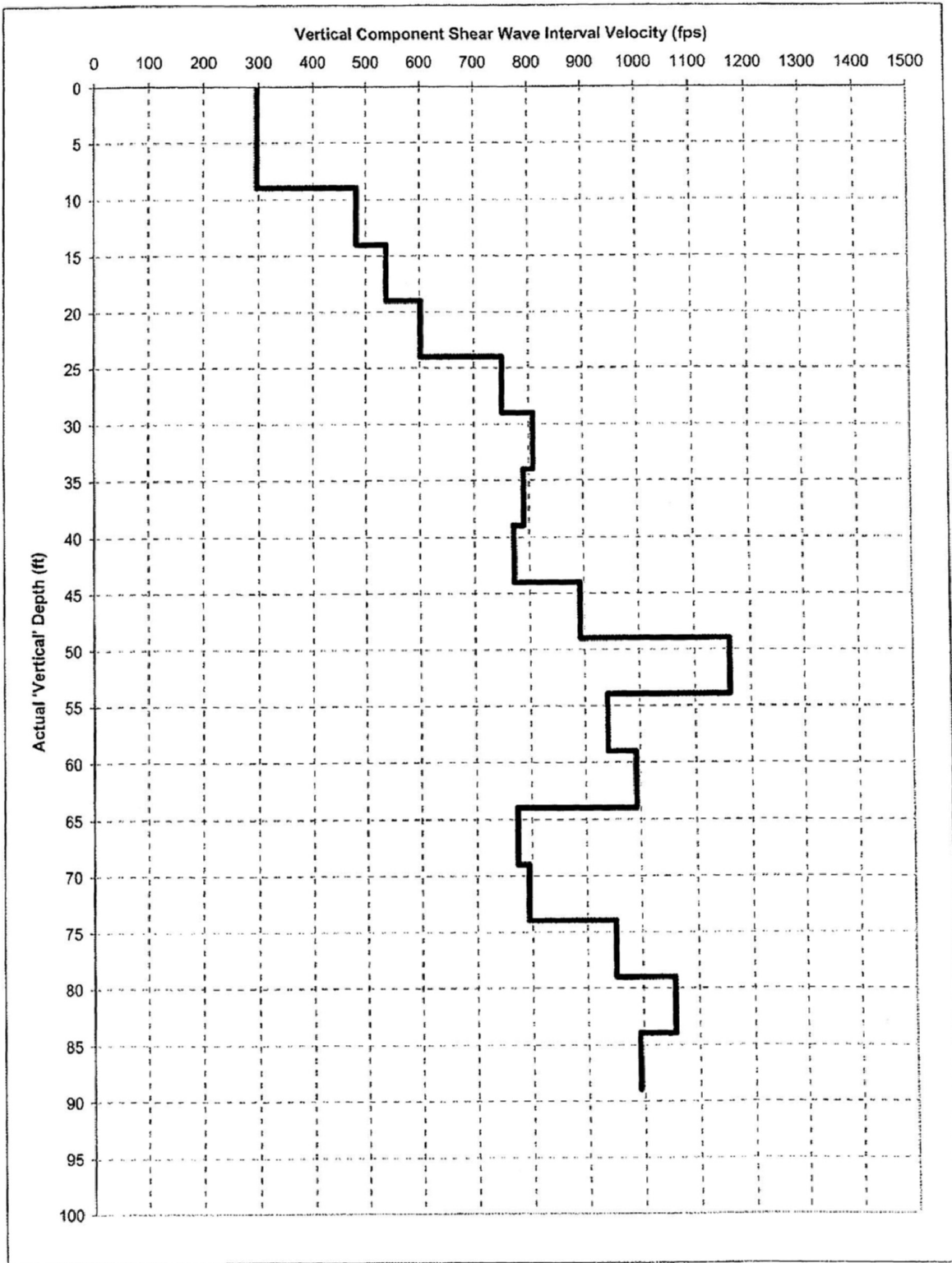


SHEAR WAVE INTERVAL VELOCITY VERSUS VERTICAL DEPTH

C-2206s



**AVERAGE ARRIVAL TIME VERSUS WAVEFORM TRAVEL DISTANCE
C-2209s**



**SHEAR WAVE INTERVAL VELOCITY VERSUS VERTICAL DEPTH
C-2209s**

APPENDIX A
FUGRO'S CONE PENETROMETERS



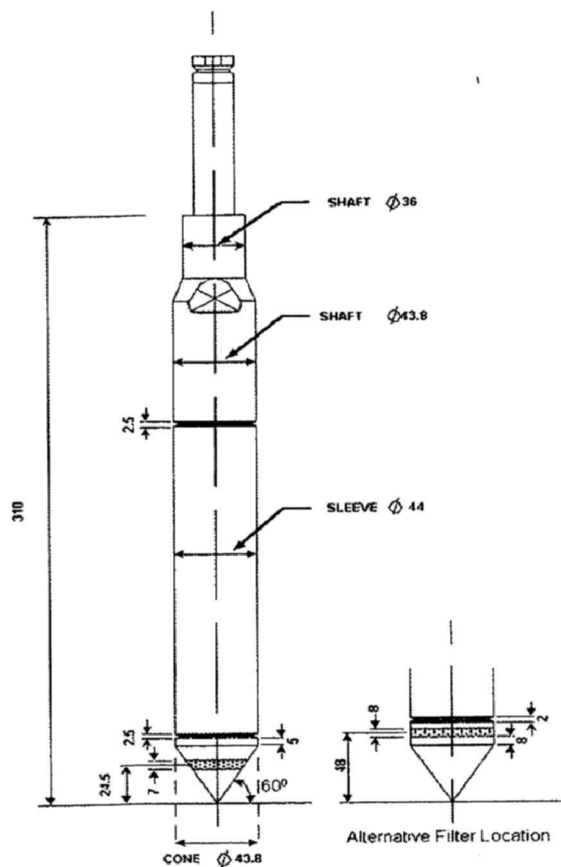
APPENDIX A

FUGRO PENETROMETER TIPS DATA - TYPES FCKE

SPECIFICATIONS LOADCELLS		F5CKE	F10CKE	F7.5CKE F15CKE A15F2.5CKE
CONE LOADCELL				
Base Area	cm ²	10	10	15
Apex Angle	DEG	60	60	60
Full Range	kN	50	100	150
Load Limit	kN	100	100	200
Effect of 10 bar water pressure	N	450	450	880
Output at zero load	mV	< ± 0.5	< ± 0.5	< ± 0.5
Full range output (FRO)	mV	10	10	10
Input resistance	ohm ca.	270	270	270
Output resistance	ohm ca.	240	240	240
Non linearity and hysteresis	%FRO	< 0.1	< 0.1	< 0.1
Calibration accuracy	%FRO	< 0.5	< 0.5	< 0.5
Rated bridge supply voltage	Volt	10	10	10
Maximum bridge supply voltage	Volt	15	15	15
Thermal zero shift	%FRO/10 ⁰ C	< 0.2	< 0.2	< 0.2
Thermal Sensitivity shift	%FRO/10 ⁰ C	< 0.1	< 0.1	< 0.1
Repeatability	%FRO	< 0.1	< 0.1	< 0.1
SLEEVE + CONE LOADCELL				
Sleeve Area	cm ²	150	150	200
Full Range	kN	50	100	150
Load Limit	kN	100	100	200
Effect of 10 bar water pressure	N	300	300	280
Output at zero load	mV	< ± 0.5	< ± 0.5	< ± 0.5
Full range output	mV	10	10	10
Input resistance	ohm ca.	270	270	270
Output resistance	ohm ca.	240	240	240
Non linearity and hysteresis	%FRO	< 0.1	< 0.1	< 0.1
Calibration accuracy	%FRO	< 0.5	< 0.5	< 0.5
Rated bridge supply voltage	Volt	10	10	10
Maximum bridge supply voltage	Volt	15	15	15
Thermal zero shift	%FRO/10 ⁰ C	< 0.2	< 0.2	< 0.2
Thermal Sensitivity shift	%FRO/10 ⁰ C	< 0.1	< 0.1	< 0.1
Repeatability	%FRO	< 0.1	< 0.1	< 0.1
GENERAL				
Friction output at full range load of cone	%FRO	< 2		
Compensated temperature range	⁰ C	- 10 to + 40		
Maximum temperature	⁰ C	80		
Insulation resistance	10 ⁹ ohm	> 5		
Slope sensor built-in		on request		

NOTES: The friction sleeve is located immediately above the cone.
 Standard delivery includes: cone, calibration sheet, and connector tube.
 The accuracy during field use will depend on: field calibrations, treatment during testing, readout equipment, abrasion and maintenance.

TYPE F7.5CKEW/V



DIMENSIONS

CONE BASE AREA	(mm ²)	: 1,500
SLEEVE AREA	(mm ²)	: 20,000
α FACTOR		: 0.59

SPECIFICATIONS

CONE LOAD CELL

- FULL SCALE RANGE	(kN)	: 75
- OVERLOAD CAPACITY	(kN)	: 200

CONE PLUS SLEEVE LOAD CELL

- FULL SCALE RANGE	(kN)	: 75
- OVERLOAD CAPACITY	(kN)	: 200

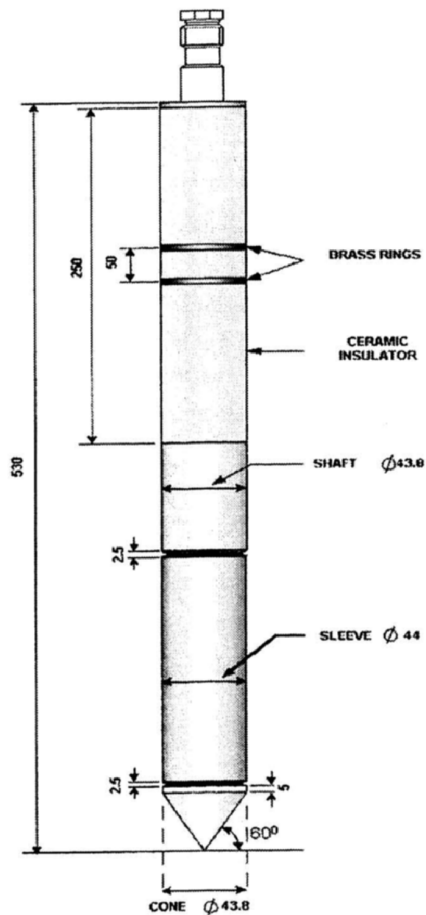
PORE PRESSURE TRANSDUCER

- FULL SCALE RANGE	(Mpa)	: 5.0
- BURST PRESSURE	(Mpa)	: 12.5

NOTES:

1. LOAD CELLS/TRANSDUCERS MAY BE CALIBRATED FOR LOWER RANGES
2. UNEQUAL SLEEVE END AREAS
3. SUBTRACTION TYPE
4. ALL DIMENSIONS IN mm
5. BUILT-IN AMPLIFIERS
6. SLOPE SENSOR INCORPORATED
7. THREADED END : INTERNAL, CONICAL

TYPE F7.5CKEG/V



DIMENSIONS

CONE BASE AREA	(mm ²)	: 1,500
SLEEVE AREA	(mm ²)	: 20,000
α FACTOR		: 0.59

SPECIFICATIONS

CONE LOAD CELL

- FULL SCALE RANGE	(kN)	: 75
- OVERLOAD CAPACITY	(kN)	: 200

CONE PLUS SLEEVE LOAD CELL

- FULL SCALE RANGE	(kN)	: 75
- OVERLOAD CAPACITY	(kN)	: 200

PORE PRESSURE TRANSDUCER

- FULL SCALE RANGE	(Mpa)	: 5.0
- BURST PRESSURE	(Mpa)	: 12.5

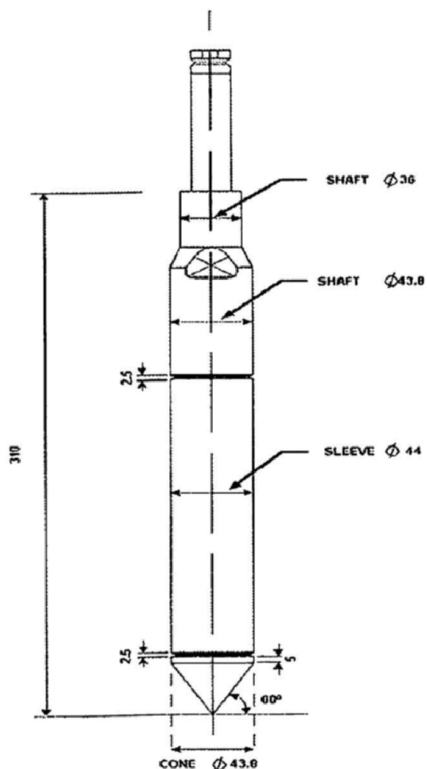
ELECTRICAL CONDUCTIVITY

- FULL SCALE RANGE	(S/m)	: 1.0
- MAXIMUM RANGE	(S/m)	: 5.0

NOTES:

1. LOAD CELLS/TRNSDUCERS MAY BE CALIBRATED FOR LOWER RANGES
2. UNEQUAL SLEEVE END AREAS
3. SUBTRACTION TYPE
4. ALL DIMENSIONS IN mm
5. BUILT-IN AMPLIFIERS
6. SLOPE SENSOR INCORPORATED
7. THREADED END : EXTERNAL. M28 x 2

TYPE F7.5CKE/V



DIMENSIONS

CONE BASE AREA	(mm ²)	: 1,500
SLEEVE AREA	(mm ²)	: 20,000
α FACTOR		: 0.59

SPECIFICATIONS

CONE LOAD CELL

- FULL SCALE RANGE	(kN)	: 75
- OVERLOAD CAPACITY	(kN)	: 200

CONE PLUS SLEEVE LOAD CELL

- FULL SCALE RANGE	(kN)	: 75
- OVERLOAD CAPACITY	(kN)	: 200

NOTES:

1. LOAD CELLS/TRANSDUCERS MAY BE CALIBRATED FOR LOWER RANGES
2. UNEQUAL SLEEVE END AREAS
3. SUBTRACTION TYPE
4. ALL DIMENSIONS IN mm
5. BUILT-IN AMPLIFIERS
6. SLOPE SENSOR INCORPORATED
7. THREADED END : INTERNAL, CONICAL

APPENDIX B
FUGRO'S DEPLOYMENT SYSTEMS



APPENDIX C
ZERO READINGS

CPT Zero Readings

CPT	Date	Cone Type	Cone S/N	Tip Start	Tip Stop	Sleeve Start	Sleeve Stop	Piezo Start	Piezo End	Slope Start	Slope End
C-2101	12-Nov-2007	F7.5CKEW2/B	1701-1832	0.027087	0.027710	0.022327	0.022420	-0.004883	-0.004688	0.017848	0.018581
C-2102s	13-Nov-2007	F2.5CKEW2/B	1701-1788	0.029797	0.025757	0.038855	0.006510	-0.004873	-0.005762	0.010805	0.010625
C-2103	13-Nov-2007	F7.5CKEW2/B	1701-1832	0.029163	0.029663	0.023975	0.024170	-0.004688	-0.004688	0.017496	0.017747
C-2104s	14-Nov-2007	F2.5CKEW2/B	1701-1788	0.030286	0.028076	0.010559	-0.010783	-0.004336	-0.006966	0.010859	0.010586
C-2204sA	17-Nov-2007	F2.5CKEW2/B	1701-1788	0.032581	0.030151	-0.001575	-0.007935	-0.003184	-0.005762	0.010992	0.010729
C-2204sB	10-Jan-2008	F2.5CKEW2/B	1701-1788	0.032312	0.029215	0.003210	-0.001383	-0.004248	-0.006217	0.010855	0.011146
C-2105	13-Nov-2007	F7.5CKEW2/B	1701-1832	0.030017	0.032471	0.024133	0.018066	-0.004688	-0.003516	0.017434	0.017435
C-2106s	15-Nov-2007	F2.5CKEW2/B	1701-1788	0.032312	0.028483	0.000049	-0.012939	-0.003027	-0.005241	0.010898	0.010703
C-2106a	02-Dec-2007	F7.5CKEW2/B	1701-1831	0.029187	0.034709	0.024109	0.028809	-0.004004	-0.004199	0.013125	0.012839
C-2106b	03-Dec-2007	F7.5CKEW2/B	1701-1831	0.030518	0.028646	0.025586	0.021525	-0.003809	-0.003711	0.012828	0.013008
C-2106c	03-Dec-2007	F7.5CKEW2/B	1701-1831	0.029724	0.030518	0.023816	0.026001	-0.005234	-0.003678	0.012734	0.012930
C-2106d	04-Dec-2007	F7.5CKEW2/B	1701-1831	0.029163	0.028809	0.020129	0.019572	-0.003809	-0.003711	0.013047	0.013125
C-2106e	05-Dec-2007	F7.5CKEW2/B	1701-1831	0.031006	0.032715	0.022290	0.028524	-0.003740	-0.004395	0.013242	0.013620
C-2106f	05-Dec-2007	F7.5CKEW2/B	1701-1831	0.031006	0.032715	0.022290	0.028524	-0.003740	-0.004395	0.013242	0.013620
C-2107	29-Nov-2007	F7.5CKEW2/B	1701-1832	0.040771	0.034139	0.020801	0.013550	-0.004297	-0.004883	0.017191	0.017214
C-2108	30-Nov-2007	F7.5CKEW2/B	1701-1831	0.035266	0.041748	0.029028	0.031779	-0.004102	-0.003320	0.013156	0.013008
C-2109s	14-Nov-2007	F2.5CKEW2/B	1701-1788	0.028027	0.030680	-0.006860	-0.006836	-0.006416	-0.007194	0.010711	0.010625
C-2110	30-Nov-2007	F7.5CKEW2/B	1701-1831	0.027930	0.025757	0.031213	0.027669	-0.003906	-0.004199	0.012902	0.012852
C-2111	29-Nov-2007	F7.5CKEW2/B	1701-1832	0.035645	0.036418	0.017493	0.017090	-0.004395	-0.004297	0.017184	0.017201
C-2111a	29-Nov-2007	F7.5CKEW2/B	1701-1832	0.036487	0.035807	0.018408	0.018066	-0.004492	-0.004980	0.017469	0.017422
C-2111b	30-Nov-2007	F7.5CKEW2/B	1701-1831	0.027258	0.026449	0.030518	0.028320	-0.003809	-0.003841	0.012805	0.013724
C-2111c	30-Nov-2007	F7.5CKEW2/B	1701-1831	0.027539	0.026367	0.029688	0.021159	-0.003809	-0.003809	0.012734	0.012917
C-2111d	30-Nov-2007	F7.5CKEW2/B	1701-1831	0.026489	0.029622	0.021057	0.023682	-0.003809	-0.003516	0.012813	0.018750
C-2112	29-Nov-2007	F7.5CKEW2/B	1701-1832	0.037231	0.036174	0.020618	0.022868	-0.004482	-0.004785	0.016953	0.018464
C-2113	29-Nov-2007	F7.5CKEW2/B	1701-1832	0.040381	0.036051	0.020251	0.016927	-0.004199	-0.004655	0.017023	0.017227
C-2201	04-Dec-2007	F7.5CKEW2/B	1701-1831	0.030530	0.024902	0.022864	0.017985	-0.003125	-0.004102	0.013008	0.012813
C-2202s	15-Nov-2007	F2.5CKEW2/B	1701-1788	0.029419	0.027954	-0.010095	-0.012329	-0.004502	-0.004753	0.010781	0.010703
C-2203	28-Nov-2007	F7.5CKEW2/B	1701-1832	0.037305	0.040283	0.019312	0.020142	-0.004297	-0.004785	0.017488	0.017266
C-2204s	10-Jan-2008	F2.5CKEW2/B	1701-1788	0.032312	0.029215	0.003210	-0.001383	-0.004248	-0.006217	0.010855	0.011146
C-2205	28-Nov-2007	F7.5CKEW2/B	1701-1832	0.039832	0.036825	0.021960	0.018026	-0.004297	-0.004492	0.017141	0.017643
C-2206s	17-Nov-2007	F2.5CKEW2/B	1701-1788	0.029675	0.031331	-0.006824	-0.007121	-0.005322	-0.005534	0.011547	0.010664
C-2206a	12-Dec-2007	F7.5CKEW2/B	1701-1831	0.037695	0.037557	0.031653	0.028931	-0.004102	-0.004102	0.012852	0.012773
C-2206b	12-Dec-2007	F7.5CKEW2/B	1701-1831	0.033594	0.033285	0.028601	0.025309	-0.006104	-0.004199	0.012758	0.012773
C-2206c	13-Dec-2007	F7.5CKEW2/B	1701-1831	0.032556	0.034180	0.026978	0.027629	-0.003838	-0.004199	0.012852	0.012773
C-2206d	13-Dec-2007	F7.5CKEW2/B	1701-1831	0.034424	0.035238	0.030103	0.029093	-0.004102	-0.004102	0.012930	0.013008
C-2206e	14-Dec-2007	F7.5CKEW2/B	1701-1831	0.034314	0.033813	0.030676	0.028035	-0.004395	-0.004590	0.012773	0.012773
C-2206f	14-Dec-2007	F7.5CKEW2/B	1701-1831	0.034314	0.035767	0.029126	0.031006	-0.004492	-0.004590	0.012945	0.013073
C-2207	27-Nov-2007	F7.5CKEW2/B	1701-1832	0.037415	0.035075	0.023462	0.016561	-0.004199	-0.004492	0.017645	0.018281
C-2208	18-Nov-2007	F7.5CKEW2/B	1701-1832	0.033813	0.033732	0.021619	0.021200	-0.004600	-0.004688	0.017285	0.017318
C-2209s	16-Nov-2007	F2.5CKEW2/B	1701-1788	0.033911	0.027629	-0.002429	-0.012085	-0.000469	-0.004264	0.011074	0.010768
C-2210	18-Nov-2007	F7.5CKEW2/B	1701-1832	0.035754	0.032959	0.023560	0.021729	-0.004688	-0.004785	0.017449	0.017461

CPT Zero Readings

CPT	Date	Cone Type	Cone S/N	Tip Start	Tip Stop	Sleeve Start	Sleeve Stop	Piezo Start	Piezo End	Slope Start	Slope End
C-2210a	18-Nov-2007	F7.5CKEW2/B	1701-1832	0.032043	0.037598	0.022815	0.021484	-0.004688	-0.004590	0.017090	0.016953
C-2211	18-Nov-2007	F7.5CKEW2/B	1701-1832	0.031836	0.034058	0.020996	0.021322	-0.005078	-0.004883	0.017348	0.019701
C-2212	18-Nov-2007	F7.5CKEW2/B	1701-1832	0.034778	0.033325	0.022241	0.021362	-0.004590	-0.004785	0.017102	0.017096
C-2213	27-Nov-2007	F7.5CKEW2/B	1701-1832	0.038184	0.037394	0.020129	0.018270	-0.004248	-0.004395	0.016984	0.017617
C-2214	29-Nov-2007	F7.5CKEW2/B	1701-1832	0.041748	0.037760	0.022473	0.017253	-0.004199	-0.004590	0.017059	0.017031
C-2215	28-Nov-2007	F7.5CKEW2/B	1701-1832	0.039929	0.039958	0.020386	0.019694	-0.004590	-0.004688	0.017039	0.016992
C-2216	04-Dec-2007	F7.5CKEW2/B	1701-1831	0.030396	0.027913	0.022534	0.019287	-0.004102	-0.004004	0.012930	0.012734



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January 24, 2008
Report Number 1907-0075

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Raleigh, North Carolina 27616

Attention: Mr. Scot Auger, P.E., PMP

**CALIBRATION VERIFICATION REPORT
FOR SEISMIC PIEZOCONE PENETRATION TESTING
EXELON TEXAS COL
VICTORIA, TEXAS
MACTEC PROJECT #6468071777**

Dear Mr. Auger:

Please find enclosed herewith the calibration verification results for the instruments used in the above referenced project. The data has been reviewed and has undergone the appropriate QA/QC process. These post calibrations checks were performed on cones F7.5CKEW2/B 1701-1832, F7.5CKESW2/B 1701-1788, and F7.5CKEW2/B 1701-1498. Post calibration checks on cone F7.5CKEW2/B 1701-1831 which was damaged attempting to perform a CPT through drill pipe.

Fugro's cone penetrometer manufacturing and calibration procedures include ISO 9001, ASTM D5778-2000 and European cone penetrometer standards. Cone penetrometers are tested and calibrated for the following:

Mechanical Calibration

- Cross Talk Check
- Dimension Check
- Seal/O-Ring Check

Electronic Calibration

- Temperature effect
- Pre and Post test voltage readings (zeros)
- Full scale output load readings
- Pore Pressure transducer calibration
- Slope indicator calibration

Calibration Verification Methodology

Manufactured and calibrated according to ISO 9001, the calibration values of the electric cone penetrometers used for this project were verified before and after fieldwork utilizing the following A2LA and/or ANSI/NCSL approved verification systems.



Tip and Friction (Up To 10,000 lbs.)

Load cell: Indicator system
Calibrated by: Interface (A2LA approved)
Calibration date: March 9, 2007
Load cell model: 1211EX-10KB, Serial No. 113655
Capacity: 10,000 lbs.
Indicator: Interface 9820-000-1, Serial No. M2635

Tip (Up To 20,000 lbs.)

Load cell: Geotac
Calibrated by: Applied Technical Services (A2LA approved)
Calibration date: November 28, 2006 and March 14, 2008 ZHU 4/29/08
Load cell model: 560K
Capacity: 50,000K

Pore Pressure Transducer

Digital Pressure Indicator
Calibrated by: GD Sensing (ANSI/NCSL approved)
Manufactured by: Eaton
Model number: UPS 3000CC
Serial number: A0813
Calibration date: September 15, 2006

Cone Penetrometer Temperature

Digital Thermometer
Calibrated by: Houston Precision (ANSI/NCSL approved)
Manufactured by: Cole Parmer
Model Number: Degi-sence Type K
Serial Number: TD-001
Calibration date: November 16, 2007

Utilizing the above systems each was load and pressure tested as follows:

Tip: 0-20,000 lb.
Friction: 0-7,500 lb.
Pore Pressure: 0:350 PSI
Temperature effect 30 Degrees Fahrenheit – 115 Degrees Fahrenheit

Under each load/pressure increment, the cone penetrometer readings are recorded in millivolts (mV). Load/pressure (pounds/psi) load increments and corresponding cone readings in mV are input into **HGL Instrument Verificaton** software to obtain linear regression and correlation coefficient (R^2) values (See attached **HGL Instrument Verification** Forms).

Additionally, load/pressure increments and cone readings were also input into a calibration **Verification Certificate Program** to calculate each cone penetrometer's calibration value in MPa units (See attached **Calibration Verification Certificates** for each cone penetrometer). The last column in these forms represents the calibration values of tip, friction and pore pressure.

