APPENDIX-6

NALANGIL-1

VELOCITY SURVEY

W1035

Velocity Data

WELL VELOCITY SURVEY

NALANGIL #1

PEP 100

QUEENSLAND

for

GAS & FUEL EXPLORATION N/L

recorded by

VELOCITY DATA PTY. LTD.

processed by

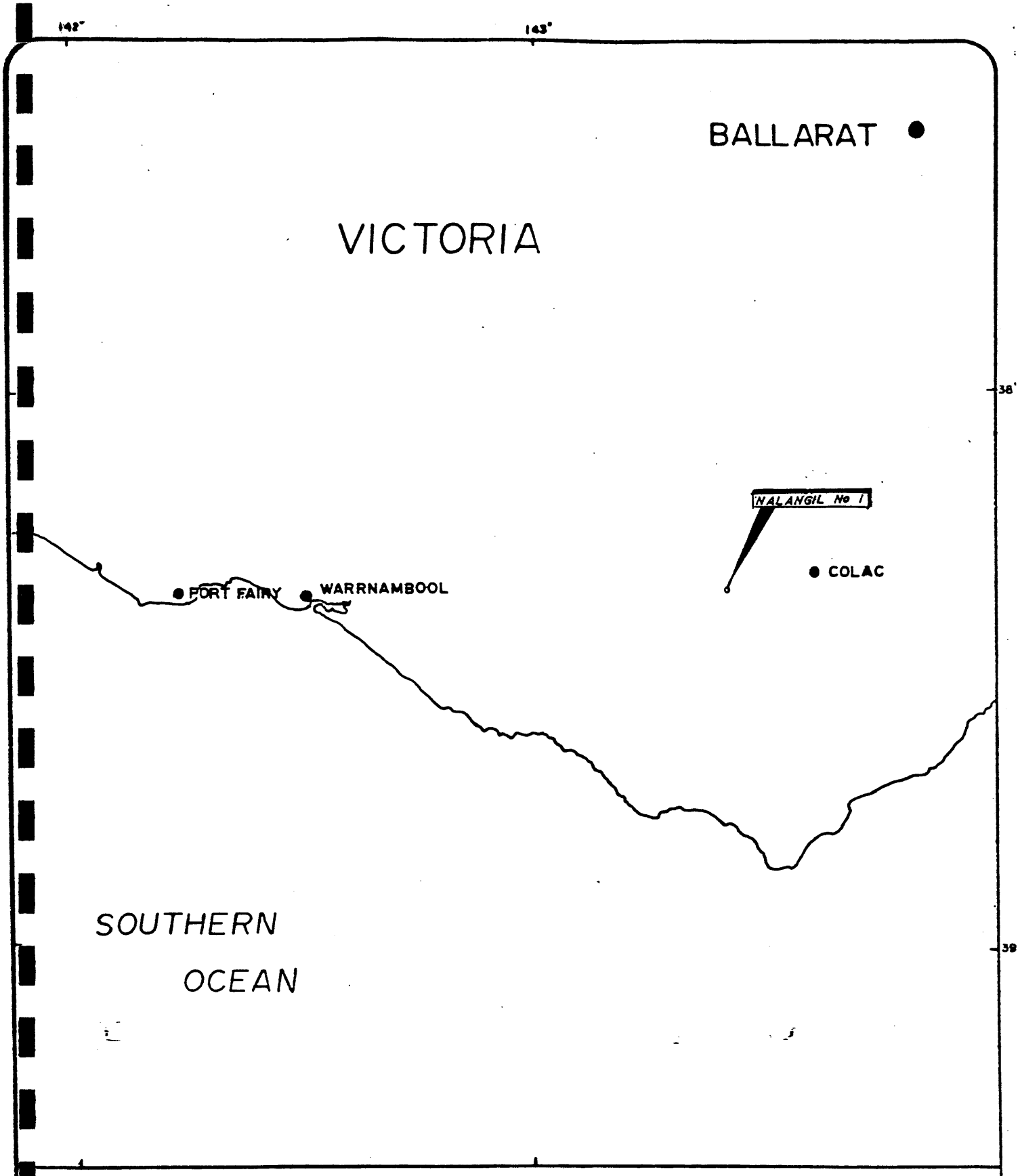
VELSEIS PTY LTD

Integrated Seismic Technologies

Brisbane, Australia

December 13, 1990

CONTENTS



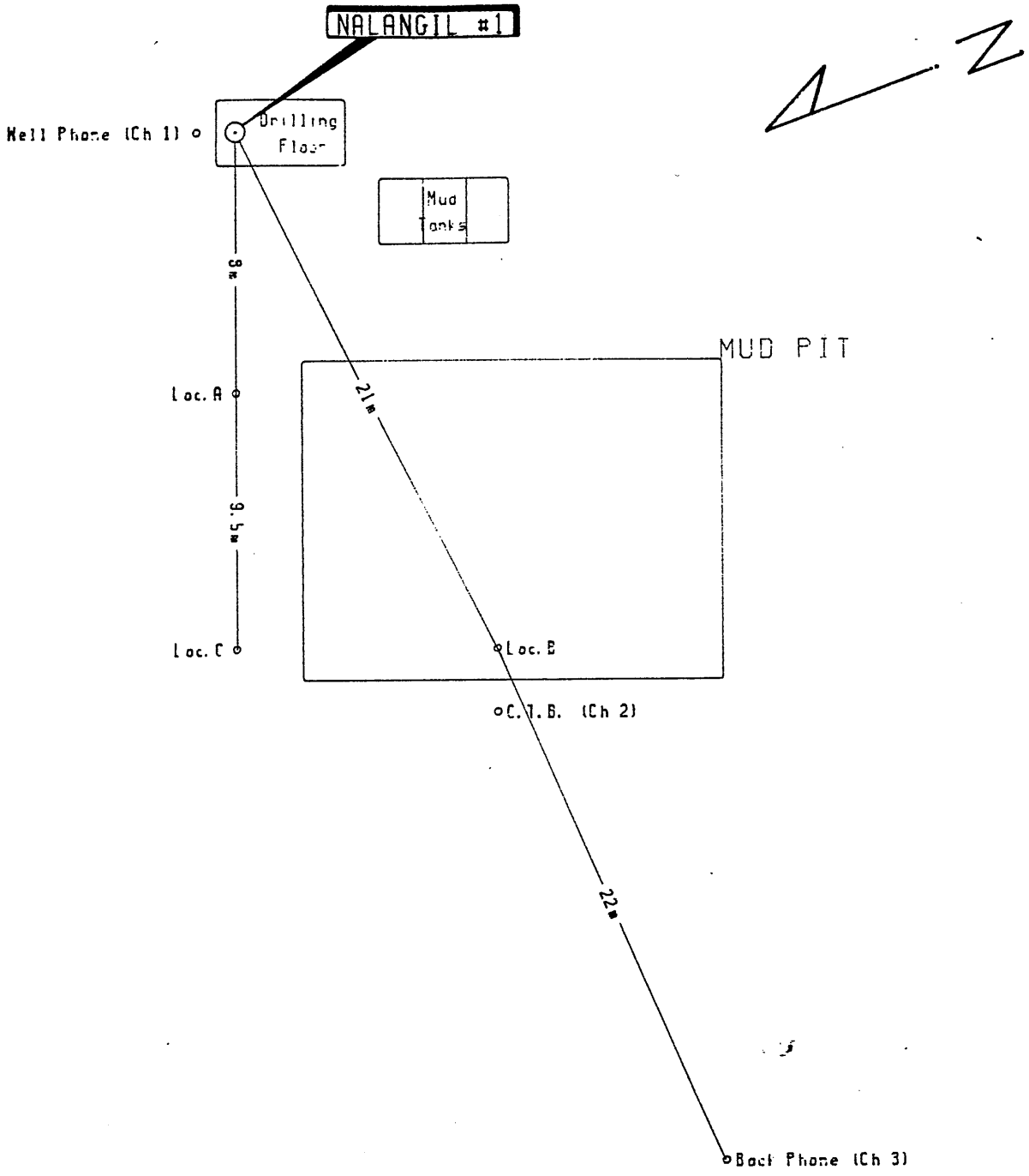
NALANGIL NO. 1

GAS AND FUEL EXPLORATION N.L.

WELL LOCATION MAP

Scale 1:1000 000

Figure 1



NALANGIL #1

GAS and FUEL EXPLORATION N/L

SHOT POINT LOCATION SKETCH

Figure 2

SUMMARY

Velocity Data Pty Ltd conducted a velocity survey for Gas and Fuel Exploration NL in the Nalangil No1 well, PEP_100, Otway Basin, Victoria ,Australia. The date of the survey was the 7th August 1990.

The results of the survey, which are considered to be reliable, have been used to calibrate the sonic log.

Explosives were used as an energy source with shots being fired in the mud pit in the majority of instances.

GENERAL INFORMATION

Name of Well	:	Nalangil #1
Location (Figure 1)	:	PEP 105 , Otway Basin
Coordinates	:	Latitude 038 21 40
	:	Longitude 143 26 17
Date of Survey	:	August 7th, 1990.
Wireline Logging	:	BPB V1030
Weather	:	Fine
Operational Base	:	Brisbane
Operator	:	H.Hunt
Shooter	:	J.Brown
Client Representative	:	Mr J. Foster

EQUIPMENT

Downhole Geophone

Geospace WLS 1050 Wall-lock

Downhole sensors:

6HSI 4.5 Hz - 215 ohm, high temperature (300 F) detectors connected in series parallel. Frequency response 8-300 Hz within 3 db.

Preamplifier:

48 db fixed gain.
Frequency response 5-200 Hz within 3 db.

Reference Geophones

Mark Products L1 (7.5 Hz)

Recording Instrument

VDLS 11/10 software controlled digital recording system utilising SIE OPA-10 floating point amplifiers for digital recording and SIE OPA-4 amplifiers for analog presentation. The system includes a DEC LSI-11 CPU, twin cassette tape unit and printer.

RECORDING

Energy Source	:	Explosive, AN-60
Shot Location	:	Mud pit
Charge Size	:	.25 (125grm) sticks
Average Shot Depth	:	2 metres
Average Shot Offset	:	22.0 metres
Recording Geometry	:	Figure 2

Shots were recorded on digital cassette tape. Printouts of the shots used are included with this report.(Enclosure 2)

The sample rate was 1 ms with 0.5 ms sampling over a 200ms window encompassing the first arrivals. The scale of the graphic display varies with signal strength and is noted on each playout.

The times were picked from the printouts using the numerical value of the signal strength. (Enclosure 2)

PROCESSING

Elevation Data

Elevation of KB	:	146.1m above sea level
Elevation of Ground	:	143.0m above sea level
Elevation of Seismic Datum	:	150.0m above sea level
Depth Surveyed	:	350.0m below KB
Total Depth	:	350.0m below KB
Depth of Casing	:	64.4m below KB
Sonic Log Interval	:	4.6 to 341 m below KB

PROCESSING

Recorded Data

Number of Shots Used	:	26
Number of Levels Recorded	:	23
Data Quality	:	Fair
Noise Level	:	Low

Correction for Instrument Delay and Shot Offset

The 'corrected' times shown on the calculation sheet have been obtained by:

(i) Subtraction of the instrument delay (4msec) from the recorded arrival times
(ii) geometric correction for non-verticality of ray paths resulting from shot offset.
(iii) shot static correction to correct for the depth of shot below ground level at the well head using a correction velocity of 1200 metres/sec
(iv) readdition of the instrument delay (4msec).

Correction to Datum

The datum chosen was 150.0 metres ASL that is 7.0 metres above the ground. A replacement velocity of 1500 metres/sec was applied over this distance in order to calculate a datum static. As all pick times include a delay due to the acquisition system then this value was further modified to allow for this factor. This yielded an effective datum correction time of -0.5msecs (-((7/1500)-4))).

PROCESSING

Calibration of Sonic Log - Method

Sonic times were adjusted to checkshot times using polynomial derived least squares fit correction of the sonic transient times.

These differences arise as the sonic tool measures the local velocity characteristics of the formation with a high frequency signal, whereas the downhole geophone records the bulk velocity character using a signal of significantly lower frequency.

Calibration of Sonic Log - Results (Enclosure 1)

The discrepancies between shot and sonic interval velocities were in general quite acceptable over the very short intervals which tend to magnify the errors.

In aggregate, the shot and sonic interval times differed by 9.3 msec over the logged portion of the well.

PROCESSING

Trace Playouts (Figure 4)

Figure 4A is a plot of all traces used. No filter or gain recovery has been applied.

Figure 4B is a plot to scale in depth and time of selected traces. No filter or gain recovery has been applied.

Figure 4C is a plot to scale in depth and time of selected traces with a 5 Hz - 40 Hz filter and a gain recovery function of t^2 applied.

Figure 4D is a plot of selected surface traces. No filter or gain recovery has been applied.

Geoffrey Bell
Geophysical Analyst.

PE906760

This is an enclosure indicator page.
The enclosure PE906760 is enclosed within the container PE906759 at this location in this document.

The enclosure PE906760 has the following characteristics:

ITEM_BARCODE	PE906760
CONTAINER_BARCODE	PE906759
NAME	Time-Depth and Velocity Curves
BASIN	OTWAY
PERMIT	PEP100
TYPE	WELL
SUBTYPE	VELOCITY_CHART
DESCRIPTION	Time-Depth and Velocity Curves (enclosure from appendix 6--Velocity Survey) for Nalangil-1
REMARKS	
DATE_CREATED	7/08/90
DATE_RECEIVED	16/03/93
W_NO	W1035
WELL_NAME	NALANGIL-1
CONTRACTOR	VELOCITY DATA PTY LTD
CLIENT_OP_CO	GAS AND FUEL EXPORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906761

This is an enclosure indicator page.
The enclosure PE906761 is enclosed within the container PE906759 at this location in this document.

The enclosure PE906761 has the following characteristics:

ITEM_BARCODE	= PE906761
CONTAINER_BARCODE	= PE906759
NAME	= Shot Calculations, 1 of 2
BASIN	= OTWAY
PERMIT	= PEP100
TYPE	= WELL
SUBTYPE	= DIAGRAM
DESCRIPTION	= Shot Calculations, Sheet 1 of 2, (enclosure from appendix 6 --Velocity Survey) Nalangil-1
REMARKS	=
DATE_CREATED	= 7/08/90
DATE_RECEIVED	= 16/03/93
W_NO	= W1035
WELL_NAME	= NALANGIL-1
CONTRACTOR	= VELSEIS PTY LTD
CLIENT_OP_CO	= GAS AND FUEL EXPORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906762

This is an enclosure indicator page.
The enclosure PE906762 is enclosed within the container PE906759 at this location in this document.

The enclosure PE906762 has the following characteristics:

ITEM_BARCODE	= PE906762
CONTAINER_BARCODE	= PE906759
NAME	= Shot Calculations, 2 of 2
BASIN	= OTWAY
PERMIT	= PEP100
TYPE	= WELL
SUBTYPE	= DIAGRAM
DESCRIPTION	= Shot Calculations, Sheet 2 of 2, (enclosure from appendix 6 --Velocity Survey) Nalangil-1
REMARKS	=
DATE_CREATED	= 7/08/90
DATE_RECEIVED	= 16/03/93
W_NO	= W1035
WELL_NAME	= NALANGIL-1
CONTRACTOR	= VELSEIS PTY LTD
CLIENT_OP_CO	= GAS AND FUEL EXPORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906763

This is an enclosure indicator page.
The enclosure PE906763 is enclosed within the container PE906759 at this location in this document.

The enclosure PE906763 has the following characteristics:

ITEM_BARCODE	PE906763
CONTAINER_BARCODE	PE906759
NAME	Sonic Drift Data, 1 of 2
BASIN	OTWAY
PERMIT	PEP100
TYPE	WELL
SUBTYPE	DIAGRAM
DESCRIPTION	Sonic Drift Data, Sheet 1 of 2, (enclosure from appendix 6 --Velocity Survey) Nalangil-1
REMARKS	
DATE_CREATED	7/08/90
DATE_RECEIVED	16/03/93
W_NO	W1035
WELL_NAME	NALANGIL-1
CONTRACTOR	VELSEIS PTY LTD
CLIENT_OP_CO	GAS AND FUEL EXPORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906764

This is an enclosure indicator page.
The enclosure PE906764 is enclosed within the container PE906759 at this location in this document.

The enclosure PE906764 has the following characteristics:

ITEM_BARCODE	PE906764
CONTAINER_BARCODE	PE906759
NAME	Sonic Drift Data, 2 of 2
BASIN	OTWAY
PERMIT	PEP100
TYPE	WELL
SUBTYPE	DIAGRAM
DESCRIPTION	Sonic Drift Data, Sheet 2 of 2, (enclosure from appendix 6 --Velocity Survey) Nalangil-1
REMARKS	
DATE_CREATED	7/08/90
DATE_RECEIVED	16/03/93
W_NO	W1035
WELL_NAME	NALANGIL-1
CONTRACTOR	VELSEIS PTY LTD
CLIENT_OP_CO	GAS AND FUEL EXPORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906765

This is an enclosure indicator page.
The enclosure PE906765 is enclosed within the container PE906759 at this location in this document.

The enclosure PE906765 has the following characteristics:

ITEM_BARCODE	PE906765
CONTAINER_BARCODE	PE906759
NAME	Sonic Calibrations Data
BASIN	OTWAY
PERMIT	PEP100
TYPE	WELL
SUBTYPE	DIAGRAM
DESCRIPTION	Sonic Calibration Data (enclosure from appendix 6 --Velocity Survey) Nalangil-1
REMARKS	
DATE_CREATED	7/08/90
DATE_RECEIVED	16/03/93
W_NO	W1035
WELL_NAME	NALANGIL-1
CONTRACTOR	VELSEIS PTY LTD
CLIENT_OP_CO	GAS AND FUEL EXPORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

Velocity Data Pty Ltd

WELL VELOCITY SURVEY

CLIENT : GAS A& FUEL EXPLORATION N/L
WELL IDENTIFICATION : NALANGIL #1
SURVEY DATE : 07-AUG-90
SURVEY TIME : 17:53:00
SURVEY UNITS : METRES
AUTHORITY TO PROSPECT : PEP100

WELL LATITUDE : 038 21 40
WELL LONGITUDE : 143 26 17

KELLY ELEVATION : 146.1
GROUND ELEVATION : 143.0

WEATHER : FINE

ENERGY SOURCE : AN60

CLIENT REP : MR A. TABASSI
OBSERVER : H HUNT
SHOOTER : J BROWN

RIG IDENTIFICATION : FLETCHER
CASING DEPTH : 64.4
LOGGING UNIT : BPB

RECORDING INSTRUMENTS : VDLS11/10
SYSTEM DELAY TIME 4 MSEC.

TRACE DISPLAY-

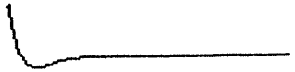
SHOT 2 Time 21:34:37 Level : 64.0 Shot location : B
Shot depth : 2.0 Charge size : CAP
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 3862mV

AUX. CHANNEL 2 Max. 278mV

AUX. CHANNEL 3 Max. 1782mV

AUX. CHANNEL 4 Max. 6518mV



WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 2 Level 64.0

Sample time	Value uV	Well phone data
20.0	-678.	
21.0	-440.	
22.0	-267.	
23.0	-199.	
24.0	-234.	
25.0	-133.	
26.0	29.	
27.0	175.	
28.0	19.	
29.0	-289.	
30.0	343.	
31.0	1368.	
32.0	-56.	
33.0	-3619.	
34.0	-2904.	
35.0	-365.	
36.0	-3312.	
37.0	-13477.	
38.0	-54587.	
39.0	-108933.	
40.0	-238196.	
41.0	-327840.	
42.0	-327840.	
43.0	-251963.	
44.0	-34897.	
45.0	327680.	
46.0	327680.	
47.0	320637.	
48.0	241878.	
49.0	246521.	
50.0	198657.	
51.0	101730.	
52.0	153195.	
53.0	327680.	
54.0	327680.	
55.0	173365.	
56.0	136387.	
57.0	274854.	
58.0	216746.	
59.0	-49344.	
60.0	-293263.	
61.0	-246841.	
62.0	-113255.	
63.0	-25452.	
64.0	35057.	
65.0	103811.	
66.0	127582.	
67.0	3162.	
68.0	-224110.	
69.0	-240277.	
70.0	-115256.	

FIRST ARRIVAL PLOT — Shot 3 Level 146.1

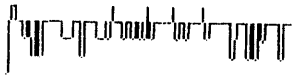
Sample time	Value uV	Well phone data
72.0	-713.	
73.0	-752.	
74.0	-772.	
75.0	-760.	
76.0	-725.	
77.0	-675.	
78.0	-616.	
79.0	-527.	
80.0	-405.	
81.0	-271.	
82.0	-168.	
83.0	-24.	
84.0	38.	
85.0	55.	
86.0	38.	
87.0	20.	
88.0	16.	
89.0	-272.	
90.0	-2043.	
91.0	-5343.	
92.0	-11296.	
93.0	-20250.	
94.0	-14137.	
95.0	-4822.	
96.0	10405.	
97.0	35337.	
98.0	46103.	
99.0	44502.	
100.0	30335.	
101.0	9615.	
102.0	-11946.	
103.0	-42341.	
104.0	-53586.	
105.0	-50865.	
106.0	-34537.	
107.0	-11646.	
108.0	9815.	
109.0	37899.	
110.0	48464.	
111.0	45022.	
112.0	28894.	
113.0	7304.	
114.0	-13607.	
115.0	-40980.	
116.0	-48944.	
117.0	-43701.	
118.0	-27453.	
119.0	-7444.	
120.0	10735.	
121.0	33136.	
122.0	40220.	

TRACE DISPLAY.

SHOT 4 Time 21:59:08 Level : 146.1 Shot location : A
Shot depth : 0.5 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 4121mV

AUX. CHANNEL 2 Max. 14mV



AUX. CHANNEL 3 Max. 63mV

AUX. CHANNEL 4 Max. 6255mV

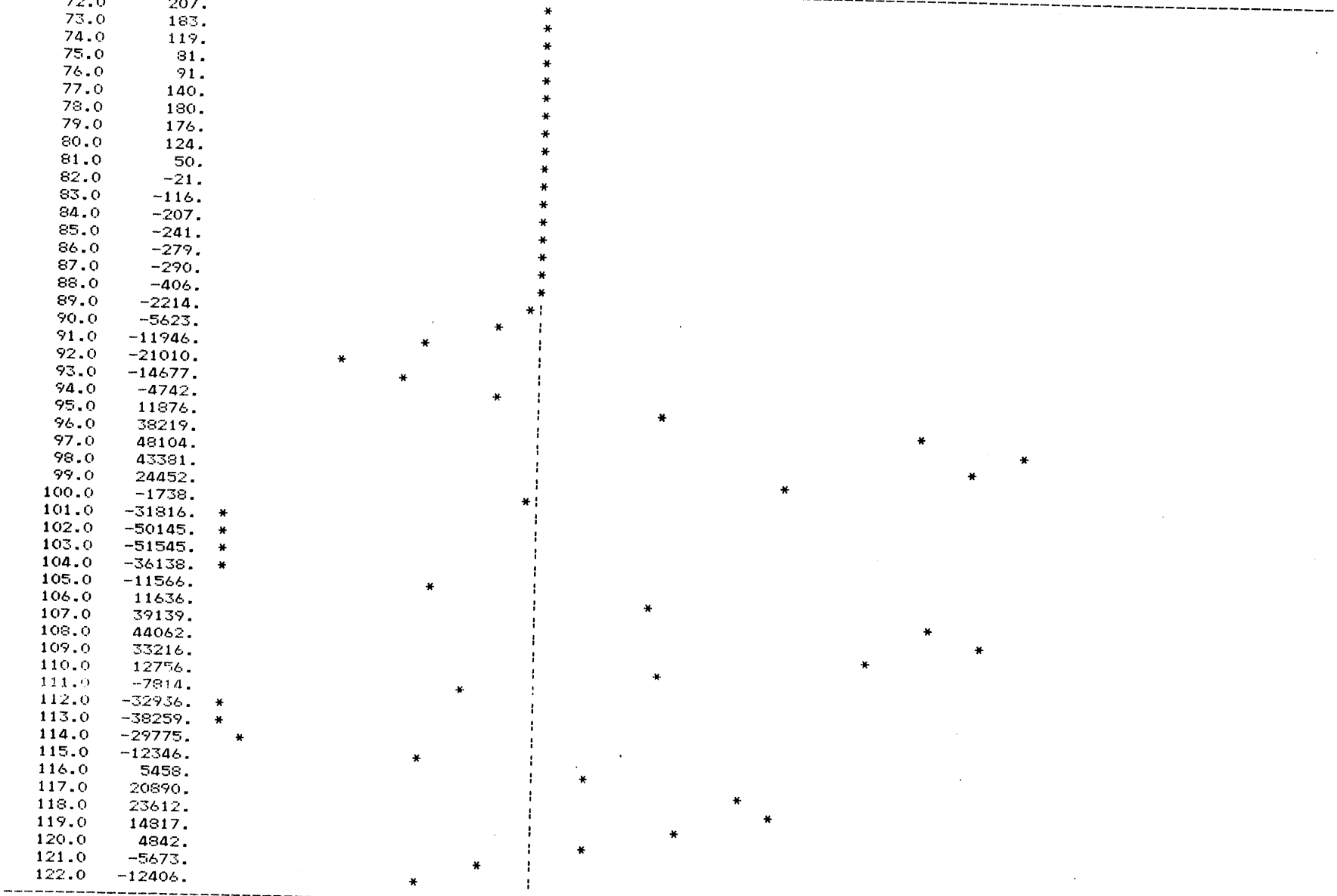
WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 51.545

FIRST ARRIVAL PLOT — Shot 4 Level 146.1

Well phone data

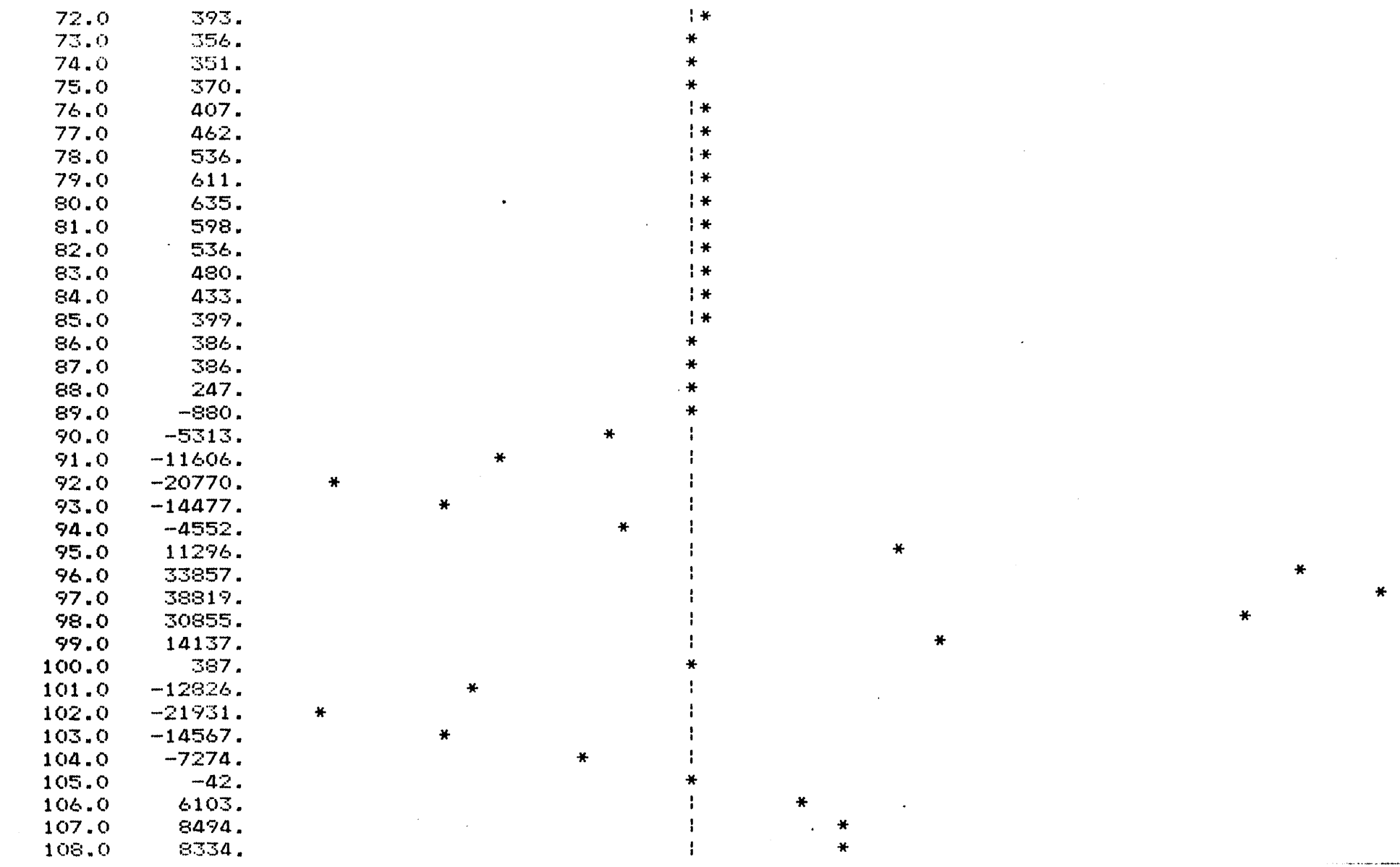
Sample time	Value uV
72.0	207.
73.0	183.
74.0	119.
75.0	81.
76.0	91.
77.0	140.
78.0	180.
79.0	176.
80.0	124.
81.0	50.
82.0	-21.
83.0	-116.
84.0	-207.
85.0	-241.
86.0	-279.
87.0	-290.
88.0	-406.
89.0	-2214.
90.0	-5623.
91.0	-11946.
92.0	-21010.
93.0	-14677.
94.0	-4742.
95.0	11876.
96.0	38219.
97.0	48104.
98.0	43381.
99.0	24452.
100.0	-1738.
101.0	-31816.
102.0	-50145.
103.0	-51545.
104.0	-36138.
105.0	-11566.
106.0	11636.
107.0	39139.
108.0	44062.
109.0	33216.
110.0	12756.
111.0	-7814.
112.0	-32936.
113.0	-38259.
114.0	-29775.
115.0	-12346.
116.0	5458.
117.0	20890.
118.0	23612.
119.0	14817.
120.0	4842.
121.0	-5673.
122.0	-12406.



FIRST ARRIVAL PLOT — Shot 5 Level 146.1

Sample time	Value uV
72.0	393.
73.0	356.
74.0	351.
75.0	370.
76.0	407.
77.0	462.
78.0	536.
79.0	611.
80.0	635.
81.0	598.
82.0	536.
83.0	480.
84.0	433.
85.0	399.
86.0	386.
87.0	386.
88.0	247.
89.0	-880.
90.0	-5313.
91.0	-11606.
92.0	-20770.
93.0	-14477.
94.0	-4552.
95.0	11296.
96.0	33857.
97.0	38819.
98.0	30855.
99.0	14137.
100.0	387.
101.0	-12826.
102.0	-21931.
103.0	-14567.
104.0	-7274.
105.0	-42.
106.0	6103.
107.0	8494.
108.0	8334.

Well phone data

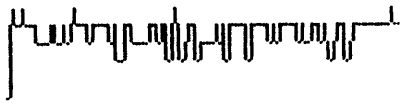


TRACE DISPLAY.

SHOT 5 Time 22:04:20 Level : 146.1 Shot location : C
Shot depth : 0.5 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 258mV

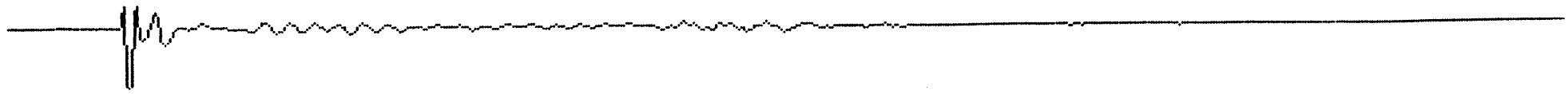
AUX. CHANNEL 2 Max. 19mV



AUX. CHANNEL 3 Max. 63mV

AUX. CHANNEL 4 Max. 7632mV

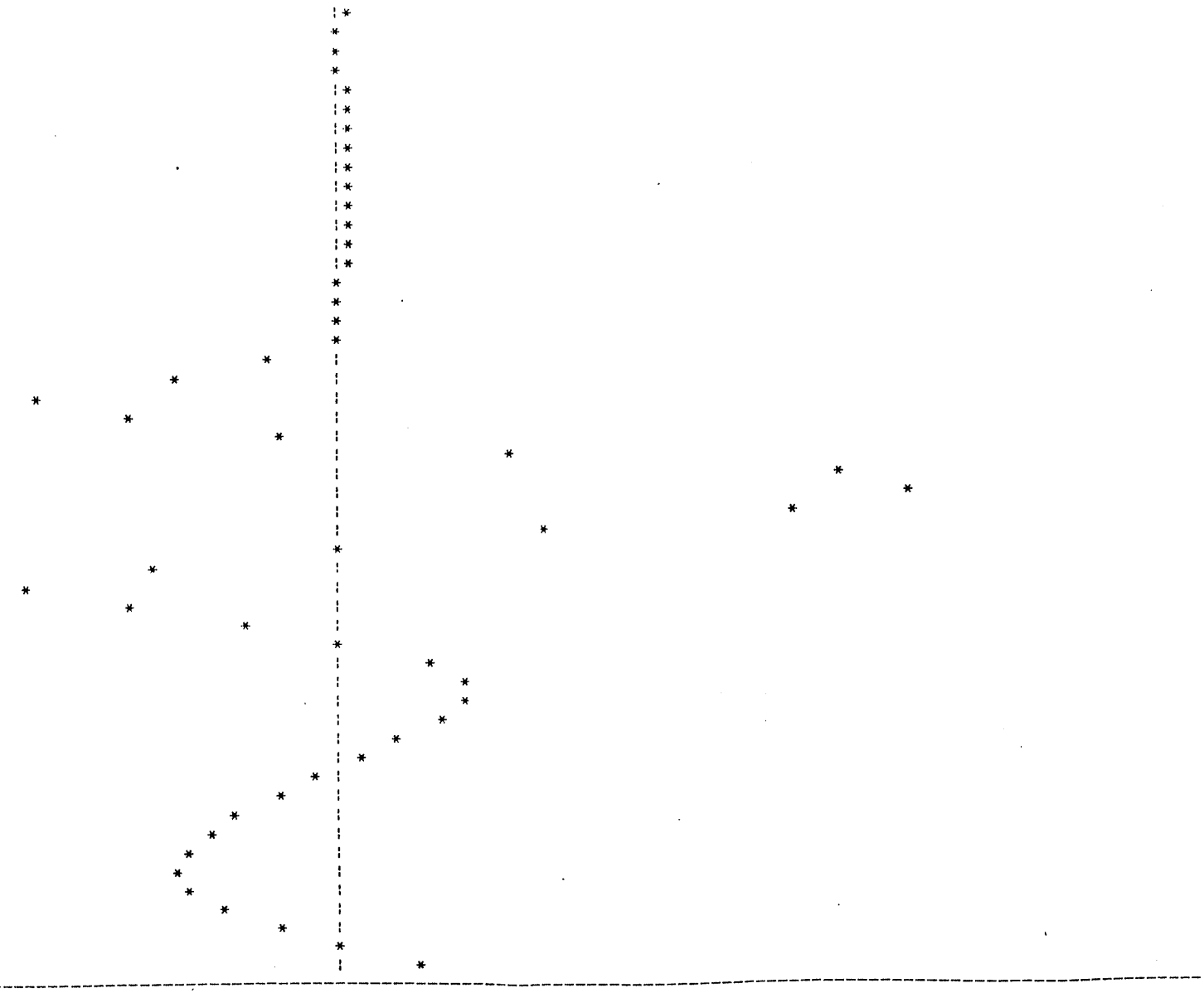
WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 38.819

FIRST ARRIVAL PLOT — Shot 5 Level 146.1

Sample time	Value uV
72.0	393.
73.0	396.
74.0	351.
75.0	370.
76.0	407.
77.0	462.
78.0	536.
79.0	611.
80.0	635.
81.0	598.
82.0	536.
83.0	480.
84.0	433.
85.0	399.
86.0	386.
87.0	386.
88.0	247.
89.0	-880.
90.0	-5313.
91.0	-11606.
92.0	-20770.
93.0	-14477.
94.0	-4552.
95.0	11296.
96.0	33857.
97.0	38819.
98.0	30855.
99.0	14137.
100.0	387.
101.0	-12806.
102.0	-21931.
103.0	-14567.
104.0	-7274.
105.0	-42.
106.0	6103.
107.0	8494.
108.0	8334.
109.0	6643.
110.0	4132.
111.0	1188.
112.0	-2639.
113.0	-4782.
114.0	-7414.
115.0	-9555.
116.0	-10955.
117.0	-11396.
118.0	-10725.
119.0	-8574.
120.0	-4732.
121.0	-58.
122.0	5223.



FIRST ARRIVAL PLOT — Shot 6 Level 350.0

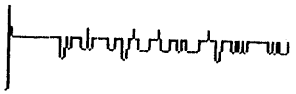
Sample time	Value uV	Well phone data
166.0	-96.	*
166.5	-96.	*
167.0	-106.	*
167.5	-131.	*
168.0	-168.	*
168.5	-211.	*
169.0	-206.	*
169.5	-236.	*
170.0	-252.	*
170.5	-275.	*
171.0	-299.	*
171.5	-320.	*
172.0	-335.	*
172.5	-336.	*
173.0	-323.	*
173.5	-294.	*
174.0	-254.	*
174.5	-186.	*
175.0	-175.	*
175.5	-101.	*
176.0	-16.	*
176.5	47.	*
177.0	136.	*
177.5	213.	*
178.0	231.	*
178.5	260.	*
179.0	298.	*
179.5	325.	*
180.0	341.	*
180.5	347.	*
181.0	344.	*
181.5	331.	*
182.0	306.	*
182.5	248.	*
183.0	-32.	*
183.5	-299.	*
184.0	-2199.	*
184.5	-4112.	*
185.0	-9174.	*¦

TRACE DISPLAY.

SHOT 3 Time 21:48:31 Level : 146.1 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

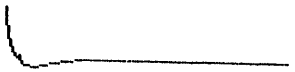
AUX. CHANNEL 1 Max. 874mV

AUX. CHANNEL 2 Max. 24mV

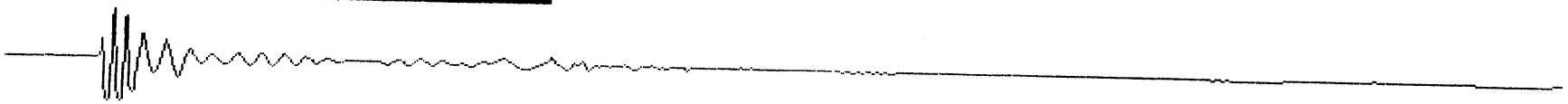


AUX. CHANNEL 3 Max. 43mV

AUX. CHANNEL 4 Max. 10000mV



WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 50.865

TRACE DISPLAY.

SHOT 6 Time 22:25:34 Level : 350.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

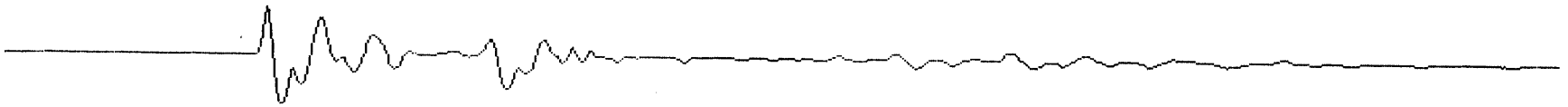
AUX. CHANNEL 1 Max. 9599mV

AUX. CHANNEL 2 Max. 688mV

AUX. CHANNEL 3 Max. 4751mV

AUX. CHANNEL 4 Max. 8403mV

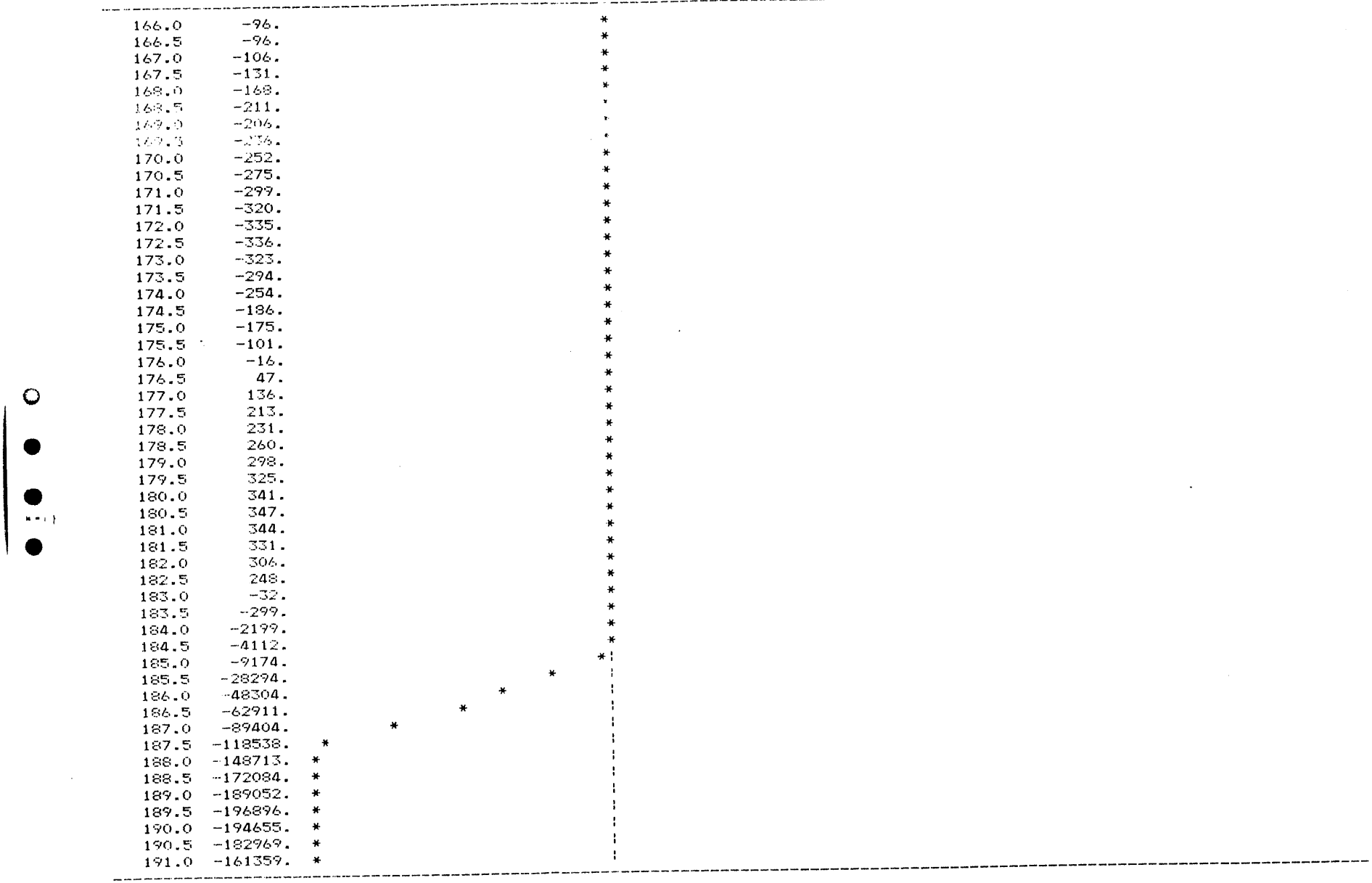
WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 202.019

FIRST ARRIVAL PLOT — Shot 6 Level 350.0

Sample time	Value uV
166.0	-96.
166.5	-96.
167.0	-106.
167.5	-131.
168.0	-168.
168.5	-211.
169.0	-206.
169.5	-236.
170.0	-252.
170.5	-275.
171.0	-299.
171.5	-320.
172.0	-335.
172.5	-336.
173.0	-323.
173.5	-294.
174.0	-254.
174.5	-186.
175.0	-175.
175.5	-101.
176.0	-16.
176.5	47.
177.0	136.
177.5	213.
178.0	231.
178.5	260.
179.0	298.
179.5	325.
180.0	341.
180.5	347.
181.0	344.
181.5	331.
182.0	306.
182.5	248.
183.0	-32.
183.5	-299.
184.0	-2199.
184.5	-4112.
185.0	-9174.
185.5	-28294.
186.0	-48304.
186.5	-62911.
187.0	-89404.
187.5	-118538.
188.0	-148713.
188.5	-172084.
189.0	-189052.
189.5	-196896.
190.0	-194655.
190.5	-182969.
191.0	-161359.



TRACE DISPLAY

SHOT 7 Time 22:33:57 Level : 350.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 8179mV

AUX. CHANNEL 2 Max. 532mV

AUX. CHANNEL 3 Max. 3598mV

AUX. CHANNEL 4 Max. 8906mV

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 178.487

FIRST ARRIVAL PLOT - Shot 7 Level 350.0

FIRST ARRIVAL PLOT — Shot 7 Level 350.0

Sample time	Value uV	Well phone data
166.0	-12.	*
166.5	-22.	*
167.0	-32.	*
167.5	-39.	*
168.0	-43.	*
168.5	-47.	*
169.0	-53.	*
169.5	-87.	*
170.0	-105.	*
170.5	-125.	*
171.0	-142.	*
171.5	-149.	*
172.0	-142.	*
172.5	-123.	*
173.0	-93.	*
173.5	-44.	*
174.0	-12.	*
174.5	16.	*
175.0	41.	*
175.5	80.	*
176.0	103.	*
176.5	123.	*
177.0	142.	*
177.5	162.	*
178.0	187.	*
178.5	214.	*
179.0	195.	*
179.5	214.	*
180.0	229.	*
180.5	240.	*
181.0	246.	*
181.5	252.	*
182.0	247.	*
182.5	196.	*
183.0	110.	*
183.5	-318.	*
184.0	-781.	*
184.5	-3717.	*
185.0	-6163.	*
185.5	-12466.	*
186.0	-34737.	*
186.5	-55027.	*
187.0	-67473.	*
187.5	-91325.	*
188.0	-115256.	*
188.5	-139908.	*
189.0	-156236.	*
189.5	-166001.	*
190.0	-167922.	*
190.5	-161359.	*
191.0	-146472.	*

TRACE DISPLAY.

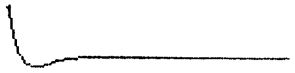
SHOT 8 Time 22:40:36 Level : 342.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 8677mV

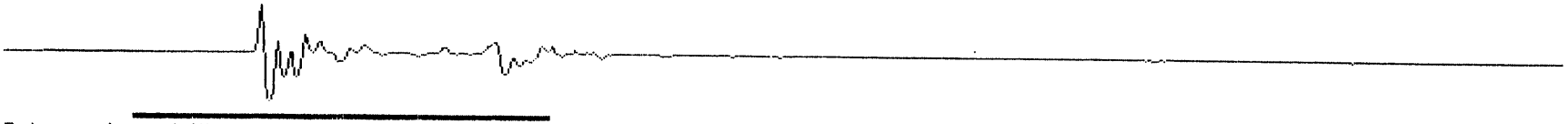
AUX. CHANNEL 2 Max. 546mV

AUX. CHANNEL 3 Max. 3813mV

AUX. CHANNEL 4 Max. 6372mV



WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 327.680

FIRST ARRIVAL PLOT - Shot 8 Level 342.0

Sample time	Value uV	Well phone data
162.0	31.	*
162.5	38.	*
163.0	38.	*
163.5	38.	*
164.0	38.	*
164.5	38.	*
165.0	38.	*
165.5	38.	*
166.0	38.	*
166.5	38.	*
167.0	38.	*
167.5	38.	*
168.0	38.	*
168.5	38.	*
169.0	38.	*
169.5	38.	*
170.0	38.	*
170.5	38.	*
171.0	38.	*
171.5	38.	*
172.0	38.	*
172.5	38.	*
173.0	38.	*
173.5	38.	*
174.0	38.	*
174.5	38.	*
175.0	38.	*
175.5	38.	*
176.0	28.	*
176.5	20.	*
177.0	15.	*
177.5	13.	*
178.0	8.	*
178.5	-3.	*
179.0	-17.	*
179.5	-62.	*
180.0	-392.	*
180.5	-894.	*
181.0	-4552.	*
181.5	-8964.	*
182.0	-34177.	* |
182.5	-59469.	* |
183.0	-99409.	* |
183.5	-160879.	* |
184.0	-223949.	* |
184.5	-280137.	* |
185.0	-317435.	* |
185.5	-322398.	* |
186.0	-287341.	* |
186.5	-211143.	* |
187.0	-116137.	* |

TRACE DISPLAY.

SHOT 9 Time 22:48:00 Level : 317.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

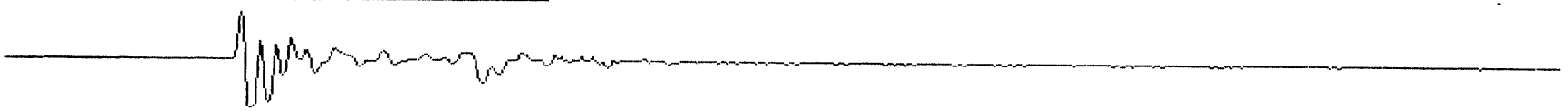
AUX. CHANNEL 1 Max. 9390mV

AUX. CHANNEL 2 Max. 581mV

AUX. CHANNEL 3 Max. 4360mV

AUX. CHANNEL 4 Max. 4375mV

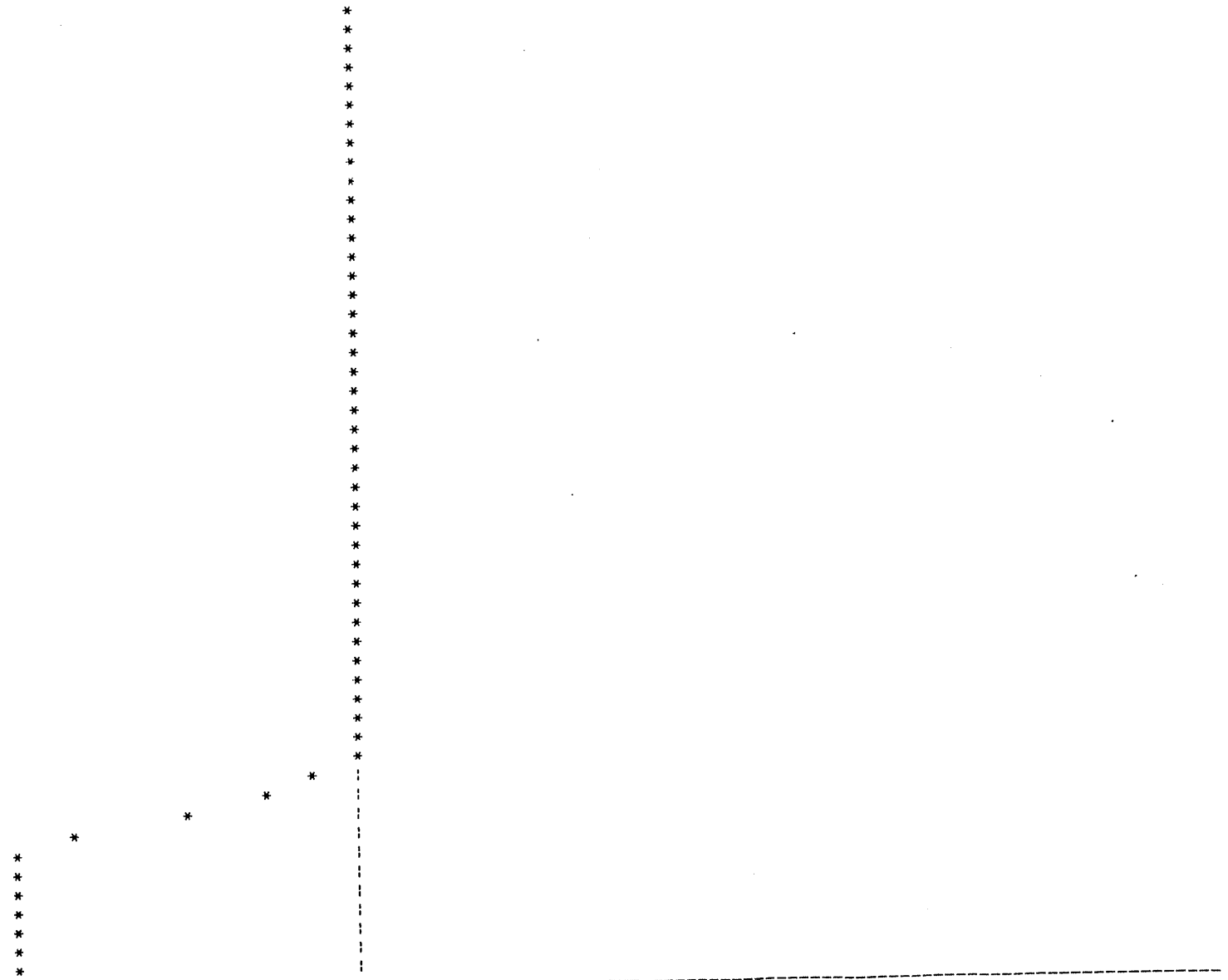
WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 9 Level 317.0

Sample time	Value uV
152.0	12.
152.5	12.
153.0	12.
153.5	12.
154.0	12.
154.5	12.
155.0	12.
155.5	-6.
156.0	-17.
156.5	-22.
157.0	-24.
157.5	-19.
158.0	-9.
158.5	5.
159.0	12.
159.5	12.
160.0	12.
160.5	12.
161.0	12.
161.5	12.
162.0	12.
162.5	12.
163.0	12.
163.5	12.
164.0	12.
164.5	12.
165.0	12.
165.5	12.
166.0	12.
166.5	12.
167.0	12.
167.5	12.
168.0	7.
168.5	-22.
169.0	-52.
169.5	-87.
170.0	-256.
170.5	-926.
171.0	-4797.
171.5	-9174.
172.0	-34777.
172.5	-59469.
173.0	-103250.
173.5	-168402.
174.0	-235155.
174.5	-294704.
175.0	-327840.
175.5	-327840.
176.0	-327840.
176.5	-287661.
177.0	-205540.



TRACE DISPLAY.

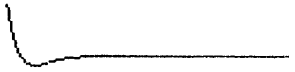
SHOT 10 Time 22:56:36 Level : 295.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 8960mV

AUX. CHANNEL 2 Max. 493mV

AUX. CHANNEL 3 Max. 3491mV

AUX. CHANNEL 4 Max. 8867mV



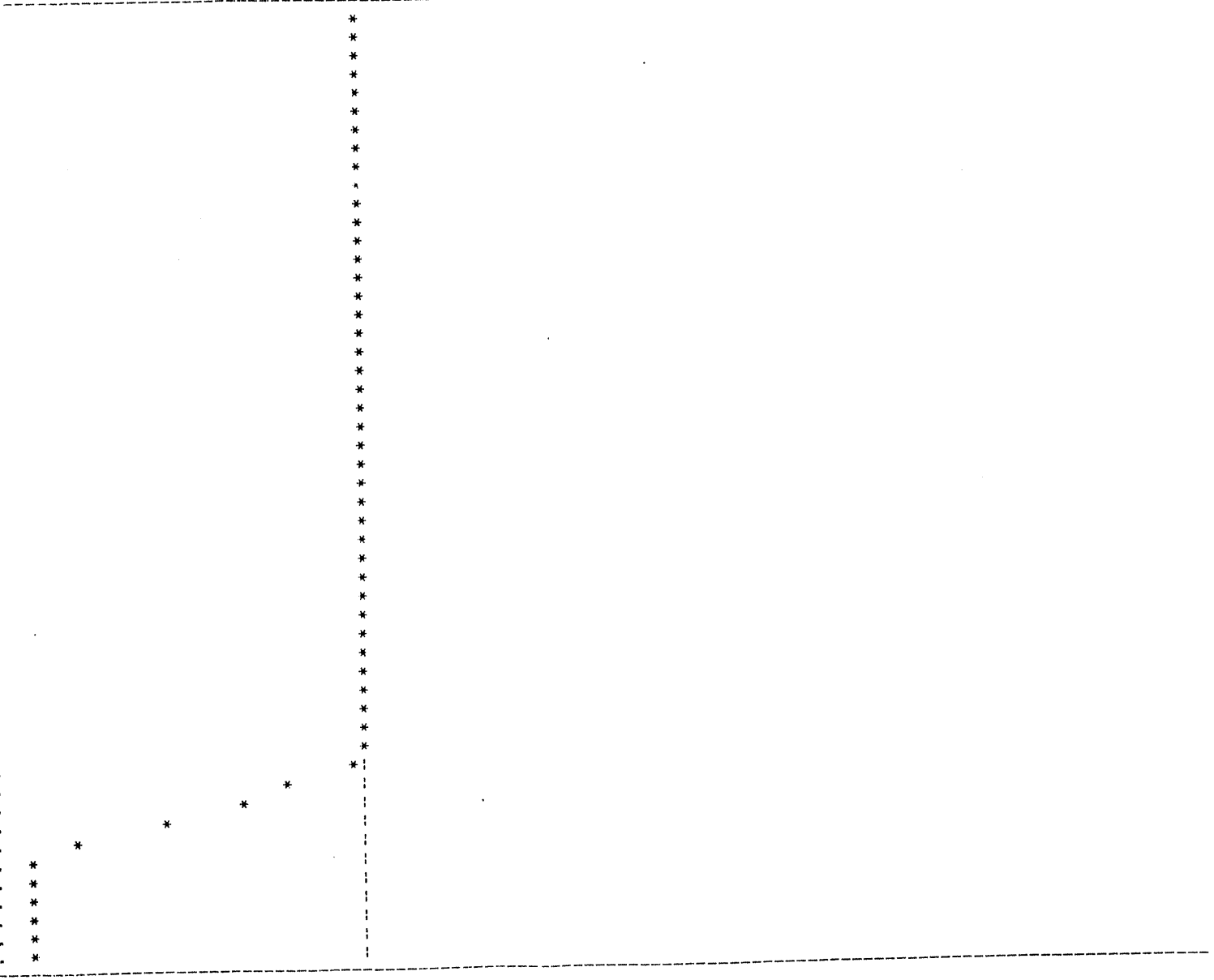
WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.680

FIRST ARRIVAL PLOT — Shot 10 Level 295.0

Well phone data

Sample time	Value uV
142.0	-189.
142.5	-192.
143.0	-191.
143.5	-191.
144.0	-186.
144.5	-181.
145.0	-176.
145.5	-168.
146.0	-156.
146.5	-139.
147.0	-115.
147.5	-56.
148.0	-34.
148.5	-9.
149.0	5.
149.5	13.
150.0	12.
150.5	12.
151.0	2.
151.5	-10.
152.0	-19.
152.5	-33.
153.0	-45.
153.5	-52.
154.0	-55.
154.5	-56.
155.0	-57.
155.5	-106.
156.0	-130.
156.5	-168.
157.0	-214.
157.5	-213.
158.0	-243.
158.5	-259.
159.0	-292.
159.5	-351.
160.0	-483.
160.5	-870.
161.0	-2936.
161.5	-5513.
162.0	-13116.
162.5	-43221.
163.0	-64832.
163.5	-98448.
164.0	-142630.
164.5	-181849.
165.0	-216106.
165.5	-243319.
166.0	-260767.
166.5	-266050.
167.0	-257566.



TRACE DISPLAY.

SHOT 11 Time 23:04:35 Level : 289.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

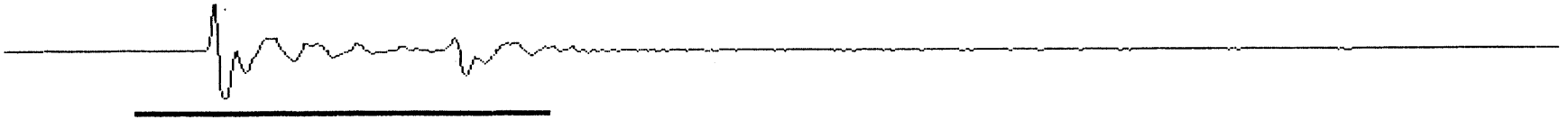
AUX. CHANNEL 1 Max. 9643mV

AUX. CHANNEL 2 Max. 742mV

AUX. CHANNEL 3 Max. 3852mV

AUX. CHANNEL 4 Max. 7514mV

WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT – Shot [redacted] Label [redacted]

Well phone data

Sample time	Value uV
140.0	-168.
140.5	-235.
141.0	-233.
141.5	-244.
142.0	-222.
142.5	-227.
143.0	-149.
143.5	-40.
144.0	8.
144.5	20.
145.0	13.
145.5	-12.
146.0	-27.
146.5	-37.
147.0	-36.
147.5	-28.
148.0	-22.
148.5	-24.
149.0	-35.
149.5	-56.
150.0	-147.
150.5	-186.
151.0	-226.
151.5	-212.
152.0	-236.
152.5	-247.
153.0	-260.
153.5	-263.
154.0	-257.
154.5	-241.
155.0	-222.
155.5	-241.
156.0	-283.
156.5	-443.
157.0	-716.
157.5	-1273.
158.0	-2259.
158.5	-4197.
159.0	-7694.
159.5	-30495.
160.0	-55707.
160.5	-102210.
161.0	-175766.
161.5	-246681.
162.0	-309751.
162.5	-327840.
163.0	-327840.
163.5	-327840.
164.0	-281418.
164.5	-194975.
165.0	-100449.

TRACE DISPLAY-

SHOT 12 Time 23:17:20 Level : 274.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

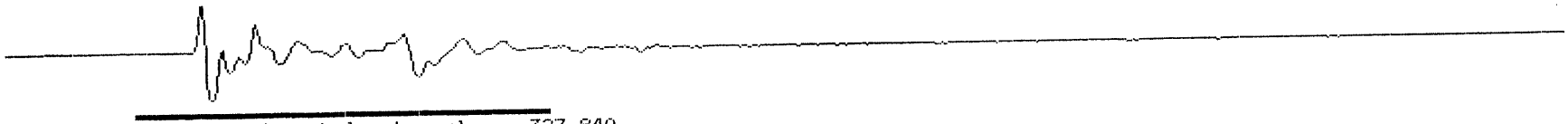
AUX. CHANNEL 1 Max. 8340mV

AUX. CHANNEL 2 Max. 571mV

AUX. CHANNEL 3 Max. 3286mV

AUX. CHANNEL 4 Max. 7075mV

WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 12 Level 274.0

Sample time	Value uV	Well phone data
132.0	242.	*
132.5	244.	*
133.0	234.	*
133.5	220.	*
134.0	205.	*
134.5	192.	*
135.0	231.	*
135.5	226.	*
136.0	227.	*
136.5	231.	*
137.0	234.	*
137.5	237.	*
138.0	237.	*
138.5	233.	*
139.0	225.	*
139.5	214.	*
140.0	202.	*
140.5	188.	*
141.0	178.	*
141.5	173.	*
142.0	174.	*
142.5	182.	*
143.0	190.	*
143.5	200.	*
144.0	204.	*
144.5	202.	*
145.0	191.	*
145.5	177.	*
146.0	162.	*
146.5	150.	*
147.0	144.	*
147.5	145.	*
148.0	144.	*
148.5	142.	*
149.0	131.	*
149.5	46.	*
150.0	-20.	*
150.5	-60.	*
151.0	-245.	*
151.5	-472.	*
152.0	-2809.	*
152.5	-5092.	*
153.0	-12576.	*
153.5	-45382.	*
154.0	-74516.	*
154.5	-132865.	*
155.0	-195776.	*
155.5	-260127.	*
156.0	-314874.	*
156.5	-327840.	*
157.0	-327840.	*

- TRACE DISPLAY -

SHOT 13 Time 23:25:43 Level : 257.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

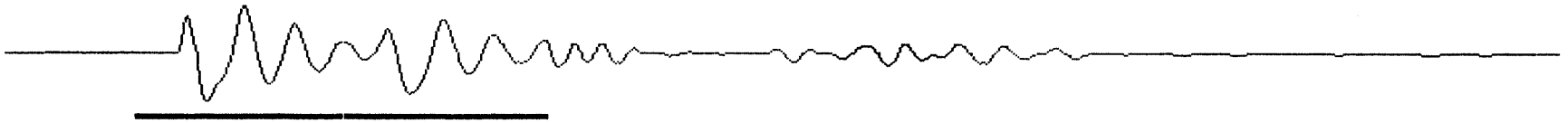
AUX. CHANNEL 1 Max. 7837mV

AUX. CHANNEL 2 Max. 561mV

AUX. CHANNEL 3 Max. 3017mV

AUX. CHANNEL 4 Max. 6928mV

WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 272.293

FIRST ARRIVAL PLOT - Shot 13 Level 257.0

Sample time	Value uV	Well phone data
124.0	295.	*
124.5	285.	*
125.0	275.	*
125.5	265.	*
126.0	251.	*
126.5	226.	*
127.0	200.	*
127.5	216.	*
128.0	173.	*
128.5	128.	*
129.0	81.	*
129.5	32.	*
130.0	-3.	*
130.5	-26.	*
131.0	-51.	*
131.5	-93.	*
132.0	-118.	*
132.5	-144.	*
133.0	-175.	*
133.5	-208.	*
134.0	-199.	*
134.5	-226.	*
135.0	-240.	*
135.5	-263.	*
136.0	-281.	*
136.5	-291.	*
137.0	-296.	*
137.5	-300.	*
138.0	-297.	*
138.5	-295.	*
139.0	-297.	*
139.5	-303.	*
140.0	-306.	*
140.5	-309.	*
141.0	-310.	*
141.5	-320.	*
142.0	-344.	*
142.5	-394.	*
143.0	-517.	*
143.5	-859.	*
144.0	-3149.	*
144.5	-5813.	*
145.0	-13997.	*
145.5	-46943.	*
146.0	-70114.	*
146.5	-104531.	*
147.0	-143430.	*
147.5	-172084.	*
148.0	-192894.	*
148.5	-204740.	*
149.0	-209222.	*

TRACE DISPLAY.

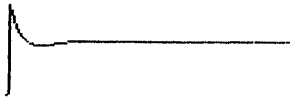
SHOT 14 Time 23:33:51 Level : 250.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 8159mV

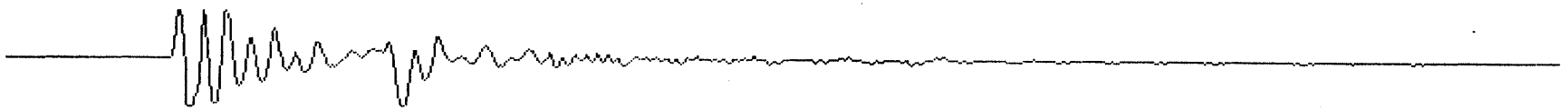
AUX. CHANNEL 2 Max. 625mV

AUX. CHANNEL 3 Max. 3149mV

AUX. CHANNEL 4 Max. 3012mV



WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 14 Level 250.0

Sample time	Value uV	Well phone data
120.0	-1.	*
121.0	16.	*
122.0	32.	*
123.0	34.	*
124.0	21.	*
124.5	17.	*
125.0	18.	*
125.5	26.	*
126.0	39.	*
126.5	51.	*
127.0	59.	*
127.5	59.	*
128.0	49.	*
128.5	33.	*
129.0	13.	*
129.5	-13.	*
130.0	-26.	*
130.5	-39.	*
131.0	-46.	*
131.5	-45.	*
132.0	-41.	*
132.5	-34.	*
133.0	-30.	*
133.5	-28.	*
134.0	-29.	*
134.5	-31.	*
135.0	-33.	*
135.5	-38.	*
136.0	-44.	*
136.5	-54.	*
137.0	-102.	*
137.5	-152.	*
138.0	-237.	*
138.5	-259.	*
139.0	-400.	*
139.5	-742.	*
140.0	-2884.	*
140.5	-5813.	*
141.0	-14807.	*¦
141.5	-56067.	* ¦
142.0	-90284.	* ¦
142.5	-155596.	* ¦
143.0	-220748.	* ¦
143.5	-282378.	* ¦
144.0	-327840.	* ¦
144.5	-327840.	* ¦
145.0	-327840.	* ¦
145.5	-327840.	* ¦
146.0	-323358.	* ¦
146.5	-290702.	* ¦
147.0	-240598.	* ¦

TRACE DISPLAY.

SHOT 15 Time 23:38:27 Level : 240.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 7402mV

AUX. CHANNEL 2 Max. 502mV

AUX. CHANNEL 3 Max. 3081mV

AUX. CHANNEL 4 Max. 7768mV

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT - Shot 15 Level 240.0

Well phone data

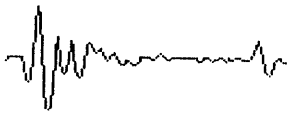
Sample time	Value uV
114.0	-32.
115.0	-32.
116.0	-32.
117.0	-258.
118.0	-265.
119.0	-271.
120.0	-290.
121.0	-308.
122.0	-328.
123.0	-337.
124.0	-331.
124.5	-330.
125.0	-330.
125.5	-331.
126.0	-331.
126.5	-327.
127.0	-319.
127.5	-308.
128.0	-300.
128.5	-296.
129.0	-300.
129.5	-312.
130.0	-327.
130.5	-344.
131.0	-362.
131.5	-383.
132.0	-409.
132.5	-451.
133.0	-517.
133.5	-610.
134.0	-739.
134.5	-940.
135.0	-1203.
135.5	-3619.
136.0	-7184.
136.5	-31255.
137.0	-55067.
137.5	-95647.
138.0	-154796.
138.5	-210823.
139.0	-264609.
139.5	-309431.
140.0	-327840.
140.5	-327840.
141.0	-327840.
141.5	-327840.
142.0	-298226.
142.5	-255325.
143.0	-203139.
143.5	-134306.
144.0	-63391.

TRACE DISPLAY.

SHOT 16 Time 23:46:10 Level : 222.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

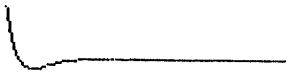
AUX. CHANNEL 1 Max. 7461mV

AUX. CHANNEL 2 Max. 483mV

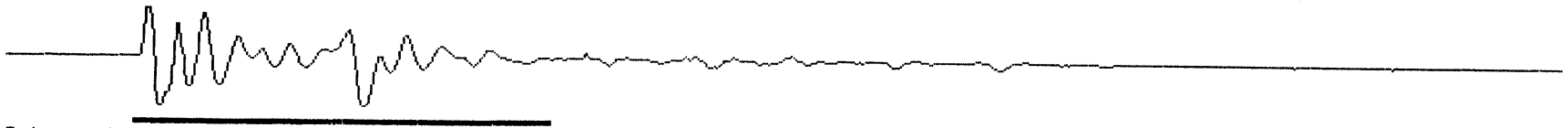


AUX. CHANNEL 3 Max. 2631mV

AUX. CHANNEL 4 Max. 8022mV



WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 16 Level 222.0

Sample time	Value uV	Well phone data
106.0	96.	
107.0	22.	
108.0	-25.	
109.0	-95.	
110.0	-140.	
111.0	-139.	
112.0	-108.	
113.0	-57.	
114.0	-30.	
115.0	-9.	
116.0	-6.	
117.0	-15.	
118.0	-19.	
119.0	-12.	
120.0	1.	
121.0	-8.	
122.0	-34.	
123.0	-160.	
124.0	-280.	
124.5	-401.	
125.0	-673.	
125.5	-2229.	
126.0	-4162.	
126.5	-11566.	
127.0	-46063.	
127.5	-80759.	
128.0	-143270.	
128.5	-209863.	
129.0	-271493.	
129.5	-319356.	
130.0	-327840.	
130.5	-327840.	
131.0	-327840.	
131.5	-327840.	
132.0	-311032.	
132.5	-283178.	
133.0	-240438.	
133.5	-173205.	
134.0	-97007.	
134.5	11866.	
135.0	690.	
135.5	246040.	
136.0	326880.	
136.5	327680.	
137.0	327680.	
137.5	327680.	
138.0	315034.	
138.5	280937.	
139.0	258206.	
139.5	247641.	
140.0	245400.	

TRACE DISPLAY.

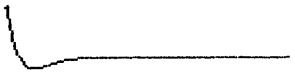
SHOT 17 Time 23:59:59 Level : 192.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 7871mV

AUX. CHANNEL 2 Max. 576mV

AUX. CHANNEL 3 Max. 3120mV

AUX. CHANNEL 4 Max. 7104mV

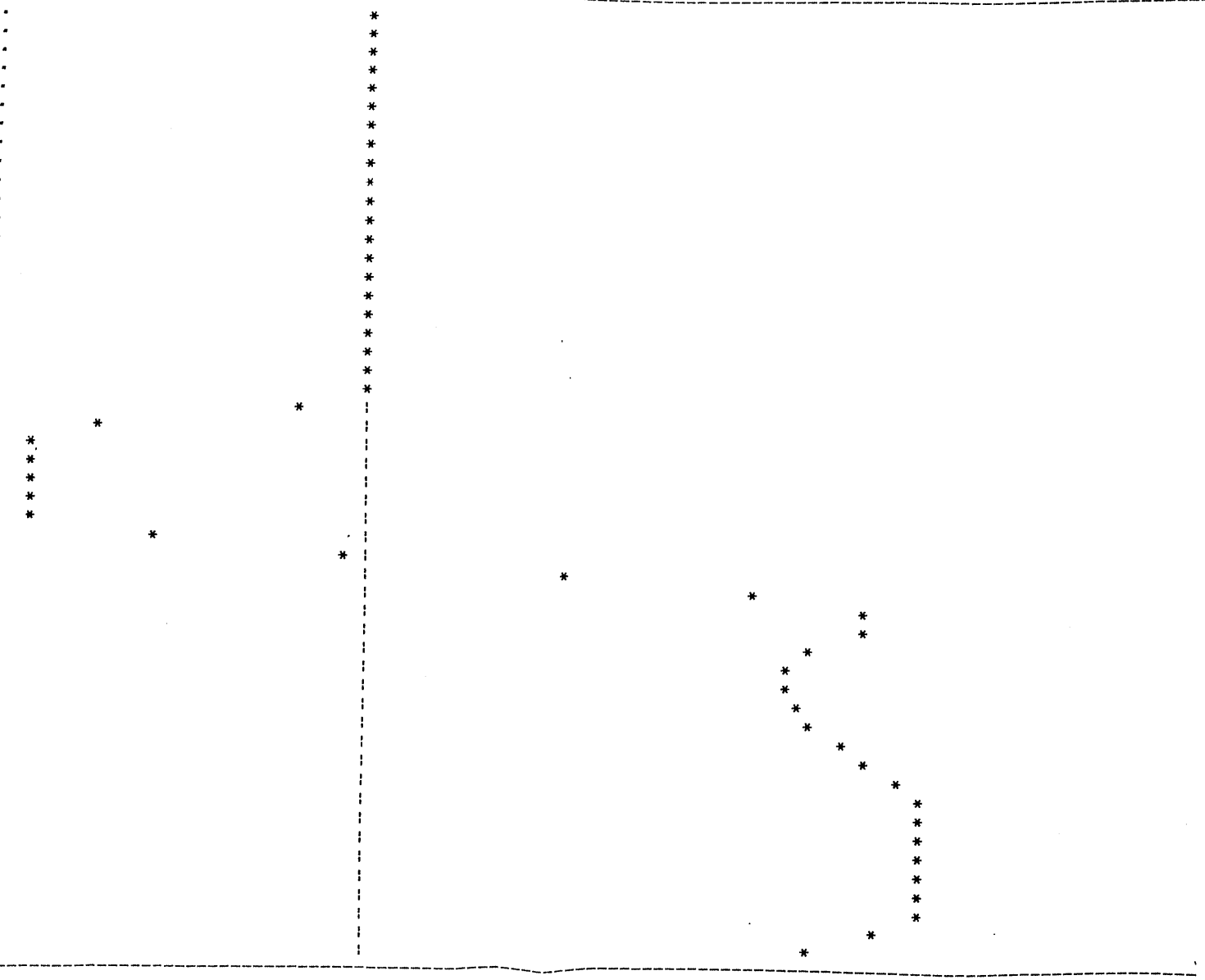


WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 17 Level 192.0

Sample time	Value uV
90.0	307.
91.0	297.
92.0	260.
93.0	199.
94.0	196.
95.0	157.
96.0	119.
97.0	58.
98.0	-7.
99.0	-44.
100.0	-93.
101.0	-130.
102.0	-173.
103.0	-224.
104.0	-218.
105.0	-223.
106.0	-219.
107.0	-258.
108.0	-421.
109.0	-767.
110.0	-4697.
111.0	-45302.
112.0	-164881.
113.0	-313273.
114.0	-327840.
115.0	-327840.
116.0	-297746.
117.0	-242038.
118.0	-132545.
119.0	-18089.
120.0	117337.
121.0	229392.
122.0	296625.
123.0	297585.
124.0	262688.
124.5	249722.
125.0	248602.
125.5	254364.
126.0	265250.
126.5	279977.
127.0	297906.
127.5	317755.
128.0	327680.
128.5	327680.
129.0	327680.
129.5	327680.
130.0	327680.
130.5	327680.
131.0	327680.
131.5	299827.
132.0	261248.

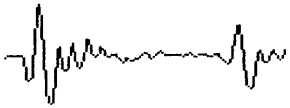


TRACE DISPLAY.

SHOT 18 Time 00:06:09 Level : 167.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

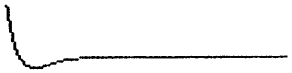
AUX. CHANNEL 1 Max. 9184mV

AUX. CHANNEL 2 Max. 590mV



AUX. CHANNEL 3 Max. 3462mV

AUX. CHANNEL 4 Max. 7905mV



WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 18 Level 167.0

Sample time	Value uV	Well phone data
78.0	-24.	
79.0	-136.	
80.0	-206.	
81.0	-288.	
82.0	-398.	
83.0	-518.	
84.0	-631.	
85.0	-718.	
86.0	-777.	
87.0	-810.	
88.0	-816.	
89.0	-799.	
90.0	-770.	
91.0	-741.	
92.0	-714.	
93.0	-698.	
94.0	-722.	
95.0	-827.	
96.0	-1478.	
97.0	-4482.	
98.0	-40940.	
99.0	-159278.	
100.0	-315514.	
101.0	-327840.	
102.0	-327840.	
103.0	-307190.	
104.0	-282858.	
105.0	-138308.	
106.0	-849.	
107.0	327680.	
108.0	327680.	
109.0	282058.	
110.0	235795.	
111.0	243479.	
112.0	247641.	
113.0	194015.	
114.0	43141.	
115.0	-182809.	
116.0	-273894.	
117.0	-213384.	
118.0	-95327.	
119.0	-4072.	
120.0	87403.	
121.0	81880.	
122.0	27253.	
123.0	-96447.	
124.0	-236436.	
124.5	-310552.	
125.0	-327840.	
125.5	-327840.	
126.0	-327840.	

TRACE DISPLAY.

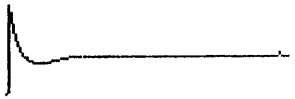
SHOT 19 Time 00:14:41 Level : 150.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 8574mV

AUX. CHANNEL 2 Max. 483mV

AUX. CHANNEL 3 Max. 3086mV

AUX. CHANNEL 4 Max. 2534mV



WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT - Shot 19 Level 150.0

Sample time	Value uV	Well phone data
62.0	-210.	
63.0	-136.	
64.0	-92.	
65.0	-48.	
66.0	-50.	
67.0	-57.	
68.0	-94.	
69.0	-96.	
70.0	-99.	
71.0	-101.	
72.0	-55.	
73.0	-17.	
74.0	31.	
75.0	105.	
76.0	155.	
77.0	179.	
78.0	160.	
79.0	92.	
80.0	-13.	
81.0	-169.	
82.0	-257.	
83.0	-353.	
84.0	-525.	
85.0	-713.	
86.0	-774.	
87.0	-3789.	
88.0	-40940.	
89.0	-165361.	
90.0	-324799.	
91.0	-327840.	
92.0	-327840.	
93.0	-305269.	
94.0	-272773.	
95.0	-110054.	
96.0	243319.	
97.0	327680.	
98.0	327680.	
99.0	56187.	
100.0	233714.	
101.0	196736.	
102.0	48184.	
103.0	-303508.	
104.0	-327840.	
105.0	-316155.	
106.0	-113976.	
107.0	706.	
108.0	327680.	
109.0	327680.	
110.0	327680.	
111.0	134786.	
112.0	-378.	

TRACE DISPLAY.

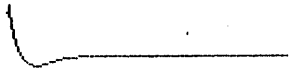
SHOT 20 Time 00:22:14 Level : 146.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 7002mV

AUX. CHANNEL 2 Max. 405mV

AUX. CHANNEL 3 Max. 2534mV

AUX. CHANNEL 4 Max. 5776mV



WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 20 Level 146.0

Sample time	Value uV	Well phone data
62.0	191.	
63.0	256.	
64.0	333.	
65.0	363.	
66.0	367.	
67.0	335.	
68.0	267.	
69.0	205.	
70.0	71.	
71.0	-30.	
72.0	-145.	
73.0	-174.	
74.0	-132.	
75.0	-47.	
76.0	2.	
77.0	21.	
78.0	29.	
79.0	-14.	
80.0	-153.	
81.0	-328.	
82.0	-755.	
83.0	-1598.	
84.0	-2796.	
85.0	-9014.	
86.0	-80039.	
87.0	-239637.	
88.0	-327840.	
89.0	-327840.	
90.0	-320317.	
91.0	-301587.	
92.0	-252443.	
93.0	-50505.	
94.0	286380.	
95.0	327680.	
96.0	327680.	
97.0	253084.	
98.0	233234.	
99.0	220748.	
100.0	95327.	
101.0	-221708.	
102.0	-327840.	
103.0	-327840.	
104.0	-212424.	
105.0	-95327.	
106.0	-588.	
107.0	327680.	
108.0	327680.	
109.0	327680.	
110.0	189853.	
111.0	17689.	
112.0	-276775.	

TRACE DISPLAY.

SHOT 21 Time 00:34:07 Level : 130.0 Shot location : B
Shot depth : 2.0 Charge size : 1/4
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 6675mV

AUX. CHANNEL 2 Max. 424mV

AUX. CHANNEL 3 Max. 2485mV

AUX. CHANNEL 4 Max. 8598mV

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 21 Level 130.0

Sample time	Value, uV	Well phone data
54.0	-293.	*
55.0	-150.	*
56.0	18.	*
57.0	203.	*
58.0	284.	*
59.0	411.	*
60.0	523.	*
61.0	621.	*
62.0	706.	*
63.0	760.	*
64.0	772.	*
65.0	763.	*
66.0	748.	*
67.0	707.	*
68.0	627.	*
69.0	532.	*
70.0	416.	*
71.0	276.	*
72.0	41.	*
73.0	-378.	*
74.0	-932.	*
75.0	-2564.	*
76.0	-10105.	*
77.0	-93086.	*
78.0	-262528.	*
79.0	-327840.	*
80.0	-327840.	*
81.0	-315194.	*
82.0	-305109.	*
83.0	-295504.	*
84.0	-188412.	*
85.0	29975.	*
86.0	318716.	*
87.0	327680.	*
88.0	302068.	*
89.0	59629.	*
90.0	229712.	*
91.0	247321.	*
92.0	271653.	*
93.0	276455.	*
94.0	179128.	*
95.0	-18089.	*
96.0	-244119.	*
97.0	-246521.	*
98.0	-141989.	*
99.0	-83161.	*
100.0	-87243.	*
101.0	-117337.	*
102.0	-126142.	*
103.0	-69154.	*
104.0	-947.	*

TRACE DISPLAY-

SHOT 22 Time 00:42:49 Level : 105.0 Shot location : B
Shot depth : 2.0 Charge size : 1/8
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 4858mV

AUX. CHANNEL 2 Max. 346mV

AUX. CHANNEL 3 Max. 3061mV

AUX. CHANNEL 4 Max. 8481mV

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 22 Level 105.0

Sample time	Value uV	Well phone data
38.0	-204.	*
39.0	-131.	*
40.0	8.	*
41.0	145.	*
42.0	257.	*
43.0	360.	*
44.0	451.	*
45.0	476.	*
46.0	465.	*
47.0	436.	*
48.0	368.	*
49.0	266.	*
50.0	179.	*
51.0	48.	*
52.0	-105.	*
53.0	-216.	*
54.0	-320.	*
55.0	-483.	*
56.0	-690.	*
57.0	-894.	*
58.0	-1358.	*
59.0	-1868.	*
60.0	-2531.	*
61.0	-3594.	*
62.0	-7494.	*
63.0	-65072.	* |
64.0	-219467. *	|
65.0	-327840. *	|
66.0	-327840. *	|
67.0	-323838. *	|
68.0	-304309. *	|
69.0	-284459. *	|
70.0	-125341. *	|
71.0	1280.	* |
72.0	327680.	| *
73.0	327680.	| *
74.0	57548.	| *
75.0	229232.	| *
76.0	238036.	| *
77.0	202499.	| *
78.0	56027.	| *
79.0	-214345. *	|
80.0	-327840. *	|
81.0	-281258. *	|
82.0	-88923. *	|
83.0	150313.	| *
84.0	295665.	| *
85.0	303348.	| *
86.0	182169.	| *
87.0	20210.	| *
88.0	-222189. *	|

TRACE DISPLAY.

SHOT 23 Time 00:49:05 Level : 81.0 Shot location : B
Shot depth : 2.0 Charge size : 1/6
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 5717mV

AUX. CHANNEL 2 Max. 366mV

AUX. CHANNEL 3 Max. 3735mV

AUX. CHANNEL 4 Max. 5039mV

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 23 Level 81.0

Sample time	Value uV	Well phone data
30.0	1908.	
31.0	1483.	
32.0	813.	
33.0	328.	
34.0	-334.	
35.0	-769.	
36.0	-1598.	
37.0	-2139.	
38.0	-2564.	
39.0	-2849.	
40.0	-2974.	
41.0	-2959.	
42.0	-2841.	
43.0	-2621.	
44.0	-2344.	
45.0	-2064.	
46.0	-1886.	
47.0	-2141.	
48.0	-3832.	
49.0	-10835.	
50.0	-74036.	
51.0	-226191.	
52.0	-327840.	
53.0	-327840.	
54.0	-323838.	
55.0	-305910.	
56.0	-315034.	
57.0	-299667.	
58.0	-174485.	
59.0	36818.	
60.0	285740.	
61.0	327680.	
62.0	289902.	
63.0	232594.	
64.0	225070.	
65.0	246040.	
66.0	56748.	
67.0	324479.	
68.0	327680.	
69.0	327680.	
70.0	327680.	
71.0	327680.	
72.0	327680.	
73.0	327680.	
74.0	327040.	
75.0	149033.	
76.0	13286.	
77.0	-171764.	
78.0	-194655.	
79.0	-174966.	
80.0	-183290.	

TRACE DISPLAY-

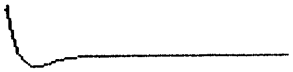
SHOT 24 Time 00:56:03 Level : 69.0 Shot location : B
Shot depth : 2.0 Charge size : 1/8
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 5405mV

AUX. CHANNEL 2 Max. 288mV

AUX. CHANNEL 3 Max. 3125mV

AUX. CHANNEL 4 Max. 5986mV



WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 24 Level 69.0

Sample time	Value uV	Well phone data
22.0	-866.	*
23.0	-542.	*
24.0	42.	*
25.0	578.	*
26.0	1033.	*
27.0	1096.	*
28.0	849.	*
29.0	416.	*
30.0	-66.	*
31.0	-145.	*
32.0	133.	*
33.0	341.	*
34.0	543.	*
35.0	712.	*
36.0	869.	*
37.0	885.	*
38.0	693.	*
39.0	265.	*
40.0	-350.	*
41.0	-930.	*
42.0	-5493.	*
43.0	-58028.	* |
44.0	-207942. *	|
45.0	-327840. *	|
46.0	-327840. *	|
47.0	-327840. *	|
48.0	-304789. *	|
49.0	-306550. *	|
50.0	-217386. *	|
51.0	25893.	| *
52.0	327680.	| *
53.0	327680.	| *
54.0	290542.	| *
55.0	224430.	| *
56.0	226351.	| *
57.0	153995.	| *
58.0	-20490.	* |
59.0	-327840. *	|
60.0	-327840. *	|
61.0	-243159. *	|
62.0	-57948.	* |
63.0	232274.	| *
64.0	327680.	| *
65.0	327680.	| *
66.0	266850.	| *
67.0	121259.	| *
68.0	-173045. *	|
69.0	-327840. *	|
70.0	-327840. *	|
71.0	-327840. *	|
72.0	-258206. *	|

TRACE DISPLAY.

SHOT 25 Time 01:00:57 Level : 50.0 Shot location : B
Shot depth : 2.0 Charge size : 1/6
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 5078mV

AUX. CHANNEL 2 Max. 273mV

AUX. CHANNEL 3 Max. 2573mV

AUX. CHANNEL 4 Max. 8042mV

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 25 Level 50.0

Sample time	Value uV	Well phone data
10.0	59.	
11.0	301.	
12.0	283.	
13.0	-29.	
14.0	23.	
15.0	310.	
16.0	358.	
17.0	190.	
18.0	204.	
19.0	190.	
20.0	89.	
21.0	4.	
22.0	8.	
23.0	-35.	
24.0	-119.	
25.0	-27.	
26.0	-4.	
27.0	-266.	
28.0	-1538.	
29.0	-3912.	
30.0	-27413.	
31.0	-94366.	
32.0	-242519.	
33.0	-327840.	
34.0	-327840.	
35.0	-321917.	
36.0	-278856.	
37.0	-112215.	
38.0	256.	
39.0	327680.	
40.0	314554.	
41.0	255645.	
42.0	265250.	
43.0	56988.	
44.0	264289.	
45.0	288141.	
46.0	327680.	
47.0	327680.	
48.0	327680.	
49.0	327680.	
50.0	327680.	
51.0	203780.	
52.0	101890.	
53.0	102530.	
54.0	40740.	
55.0	-110694.	
56.0	-115737.	
57.0	16008.	
58.0	66352.	
59.0	39.	
60.0	-54827.	

TRACE DISPLAY.

SHOT 26 Time 01:07:25 Level : 35.0 Shot location : B
Shot depth : 2.0 Charge size : 1/6
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 5547mV

AUX. CHANNEL 2 Max. 346mV

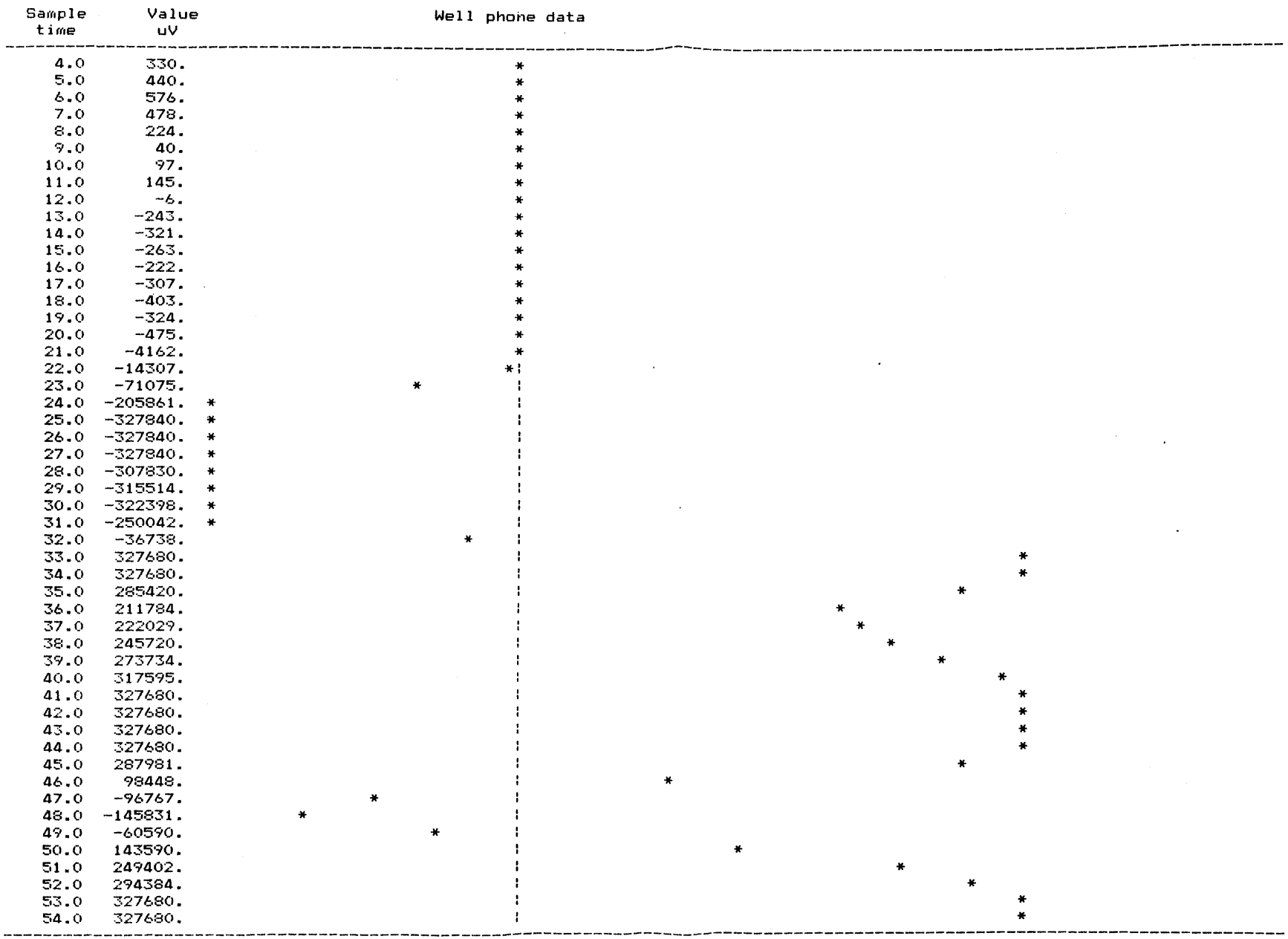
AUX. CHANNEL 3 Max. 3720mV

AUX. CHANNEL 4 Max. 5844mV

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 26 Level 35.0



TRACE DISPLAY.

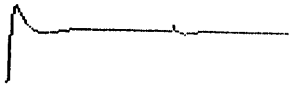
SHOT 27 Time 01:12:45 Level : 21.0 Shot location : B
Shot depth : 2.0 Charge size : 1/8
No. surface samples : 124 Down hole sample nos : 0 400 1028
Sample rates : 500 1000 usec Delay : 0

AUX. CHANNEL 1 Max. 4829mV

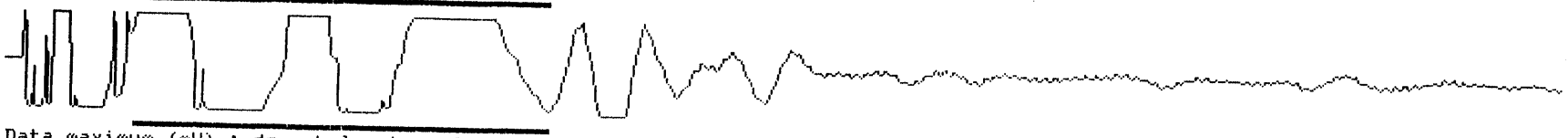
AUX. CHANNEL 2 Max. 307mV

AUX. CHANNEL 3 Max. 2675mV

AUX. CHANNEL 4 Max. 1342mV



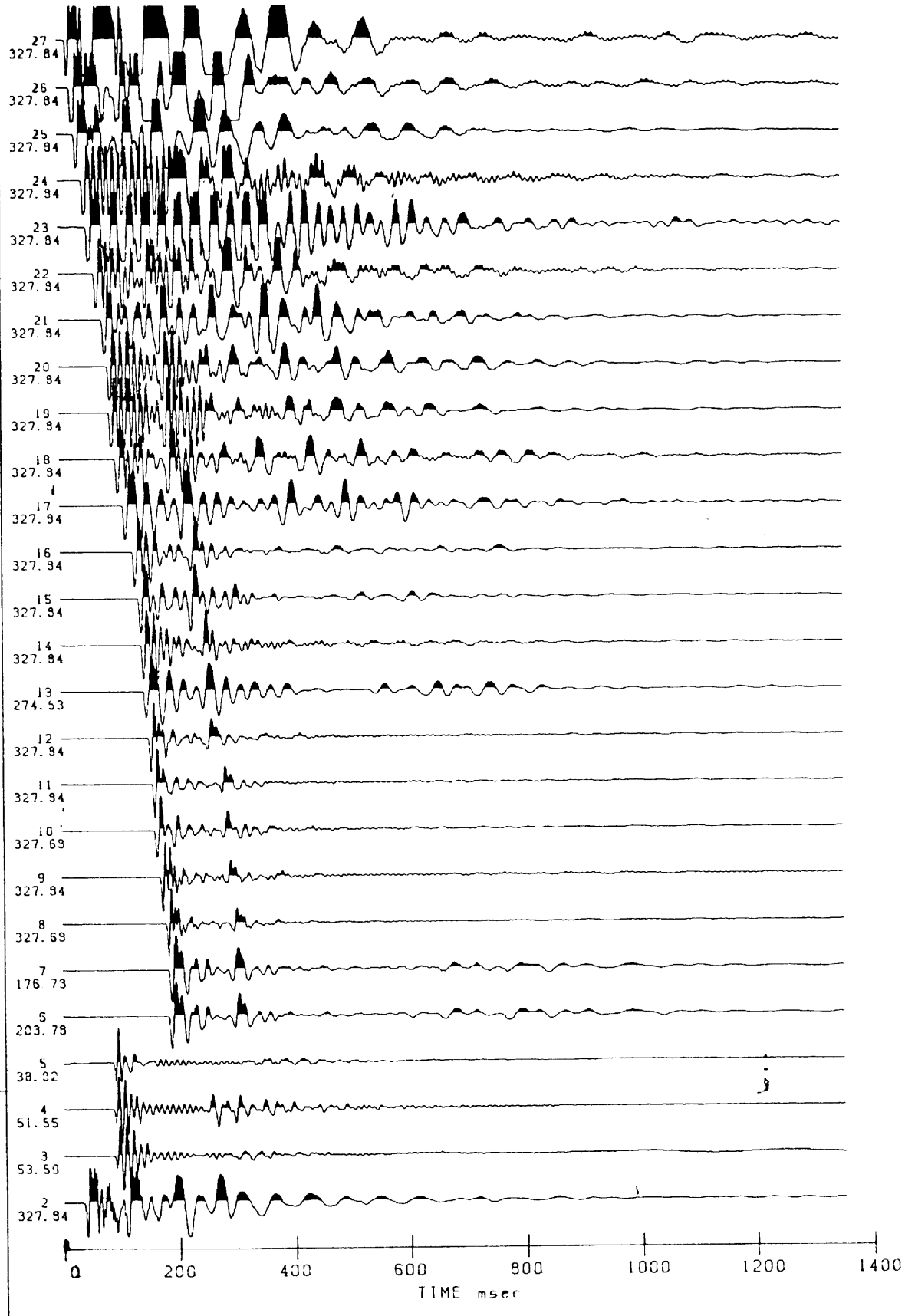
WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 327.840

FIRST ARRIVAL PLOT — Shot 27 Level 21.0

Sample time	Value uV	Well phone data
0.0	0.	
1.0	1791.	
2.0	2204.	
3.0	929.	
4.0	-877.	
5.0	-1663.	
6.0	267.	
7.0	3594.	
8.0	2804.	
9.0	-850.	
10.0	-1341.	
11.0	573.	
12.0	3077.	
13.0	1858.	
14.0	291.	
15.0	-1281.	
16.0	-42861.	
17.0	-189533.	
18.0	-327840.	
19.0	-327840.	
20.0	-327840.	
21.0	-255965.	
22.0	-67953.	
23.0	291182.	
24.0	327680.	
25.0	327680.	
26.0	55467.	
27.0	240758.	
28.0	257886.	
29.0	57428.	
30.0	306230.	
31.0	327680.	
32.0	327680.	
33.0	327680.	
34.0	327680.	
35.0	327680.	
36.0	327680.	
37.0	273094.	
38.0	72836.	
39.0	-150954.	
40.0	-177367.	
41.0	-48344.	
42.0	235795.	
43.0	313913.	
44.0	160558.	
45.0	-10925.	
46.0	-276135.	
47.0	-327840.	
48.0	-327840.	
49.0	-327840.	
50.0	-327840.	



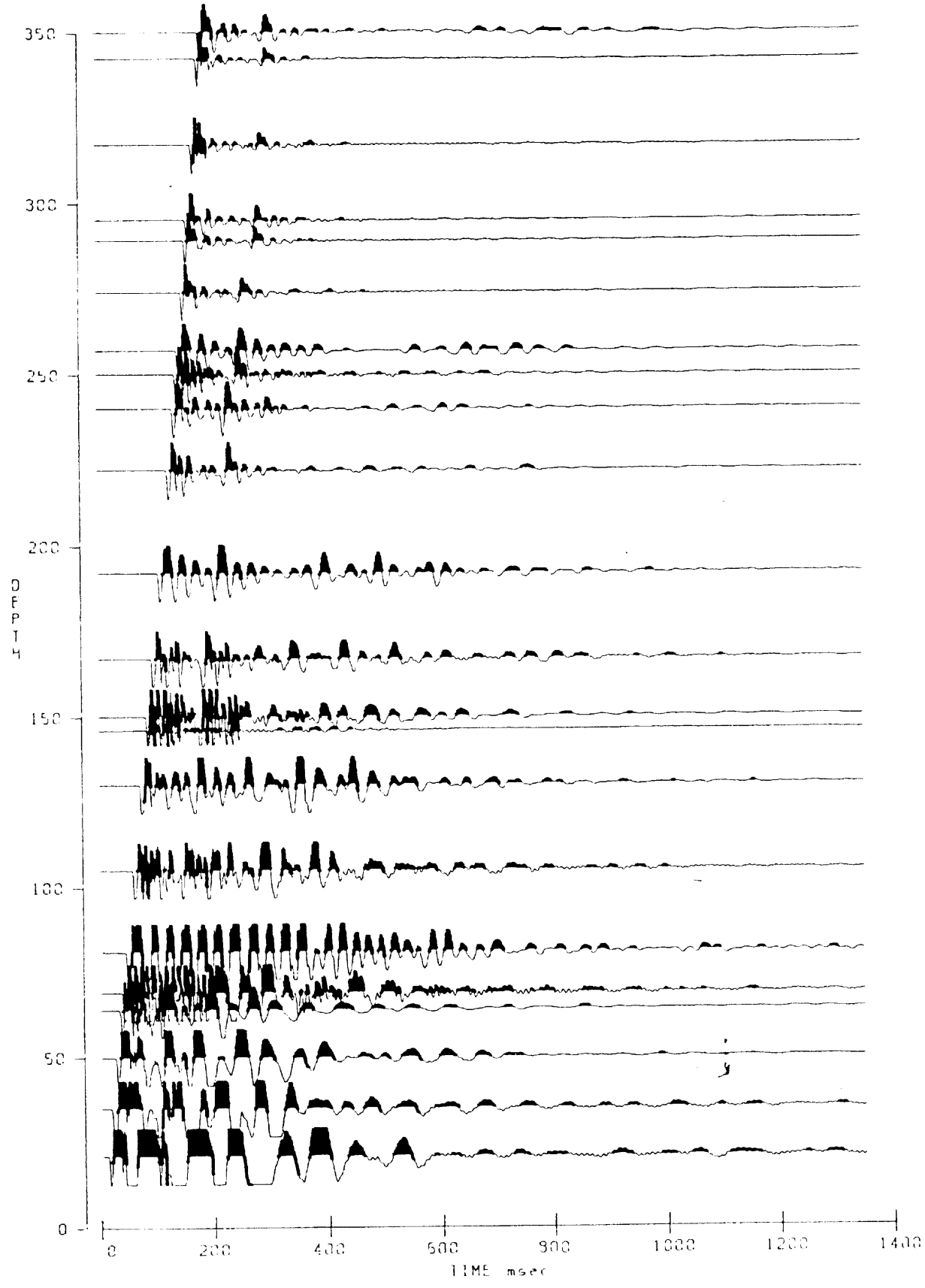
NALANGIL #1

VELOCITY SURVEY TRACE DISPLAY

Filter OUT-OUT

No gain recovery

Figure 4A



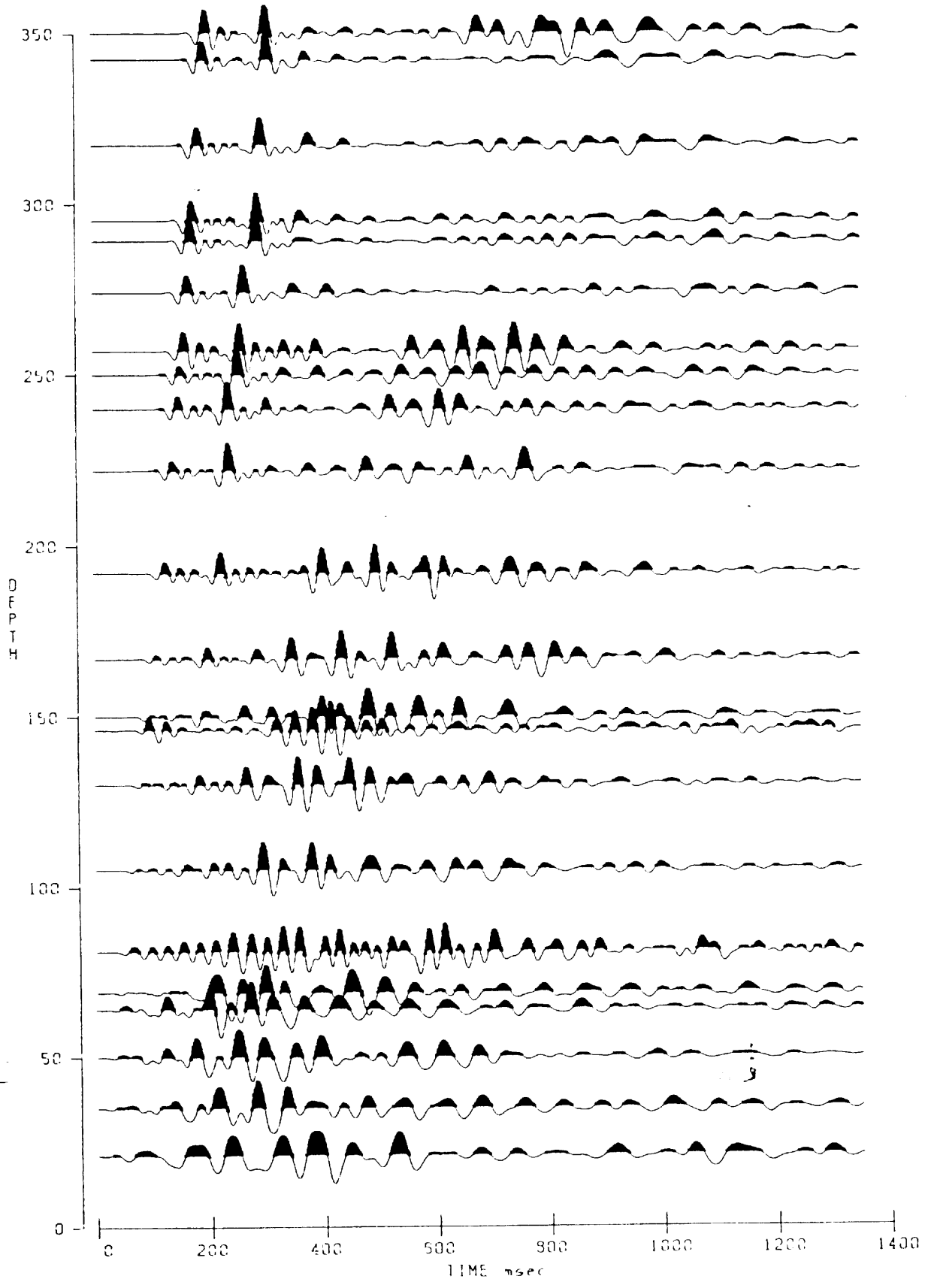
NALANGIL #1

VELOCITY SURVEY TRACE DISPLAY

Filter OUT-OUT

No gain recovery

Figure 45



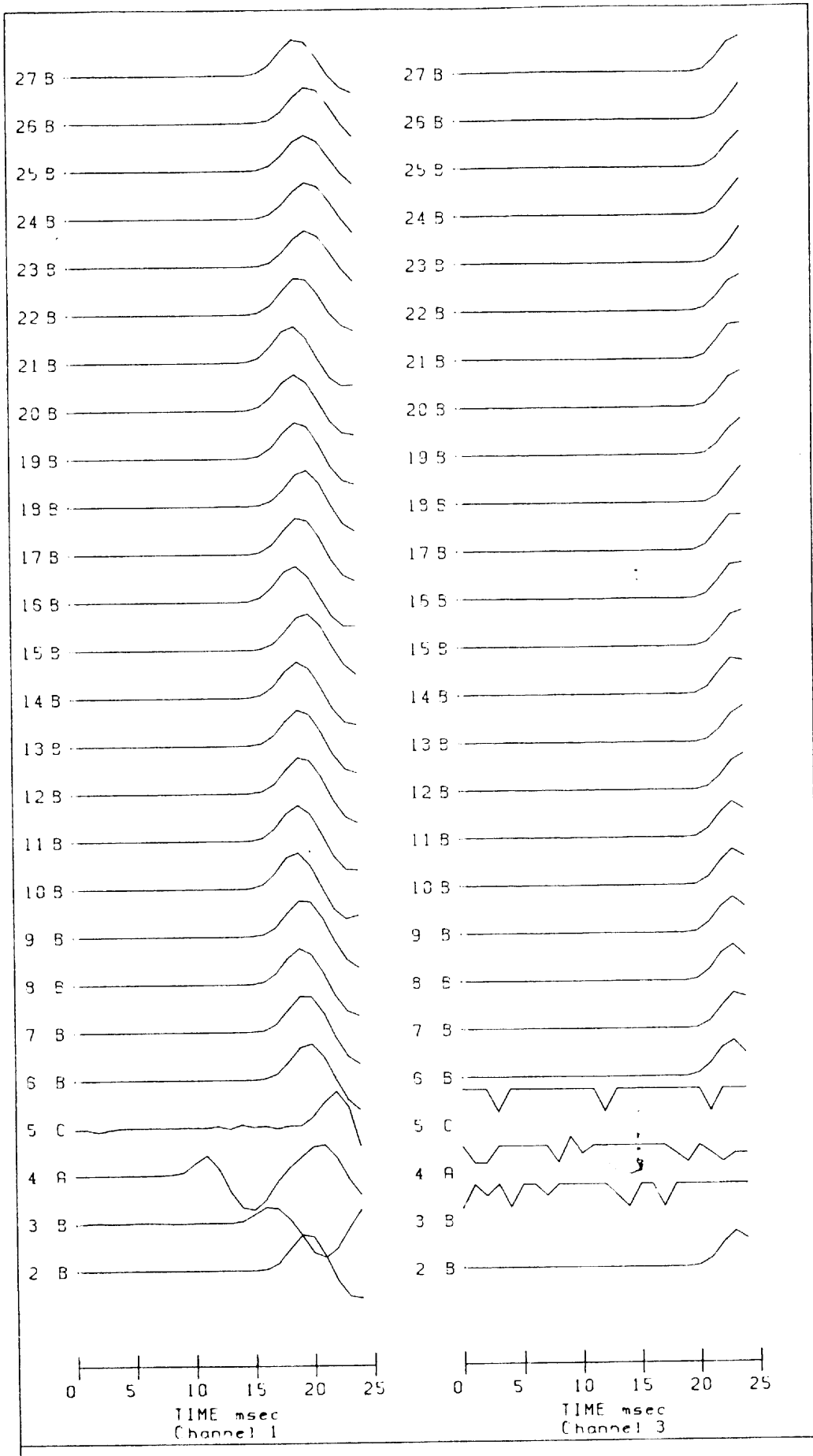
NALANGIL #1

VELOCITY SURVEY TRACE DISPLAY

Filter 5 - 40

Gain I^2.0

Figure 4C



NALANGIL ¤1

VELOCITY SURVEY TRACE DISPLAY

Auxiliary channels

Filter OUT - OUT

Figure 40

TABLE 1. Time-Depth curve values

Well : NALANGIL #1 Client : GAS A& FUEL EXPLORATION N/L
Survey units : METRES Datum : 150.0
Calibrated sonic interval velocities used from 73.0 to 353.0

Datum Depth	One-way time(ms)	-----VELOCITIES----- Average	RMS	Interval	Datum Depth	One-way time(ms)	-----VELOCITIES----- Average	RMS	Interval
1.0	0.5	1981	1981	1981	41.0	20.8	1975	1975	1973
2.0	1.0	1980	1980	1978	42.0	21.3	1975	1975	1973
3.0	1.5	1979	1979	1977	43.0	21.8	1975	1975	1973
4.0	2.0	1978	1978	1976	44.0	22.3	1975	1975	1973
5.0	2.5	1978	1978	1976	45.0	22.8	1975	1975	1973
6.0	3.0	1978	1978	1976	46.0	23.3	1975	1975	1972
7.0	3.5	1977	1977	1976	47.0	23.8	1975	1975	1972
8.0	4.0	1977	1977	1976	48.0	24.3	1975	1975	1971
9.0	4.6	1977	1977	1976	49.0	24.8	1974	1974	1969
10.0	5.1	1977	1977	1976	50.0	25.3	1974	1974	1963
11.0	5.6	1977	1977	1976	51.0	25.8	1974	1974	1952
12.0	6.1	1977	1977	1976	52.0	26.4	1973	1973	1927
13.0	6.6	1977	1977	1976	53.0	26.9	1971	1971	1873
14.0	7.1	1977	1977	1976	54.0	27.5	1967	1967	1763
15.0	7.6	1977	1977	1976	55.0	28.1	1959	1960	1619
16.0	8.1	1976	1976	1976	56.0	28.7	1950	1952	1547
17.0	8.6	1976	1976	1976	57.0	29.4	1940	1943	1518
18.0	9.1	1976	1976	1976	58.0	30.0	1930	1934	1505
19.0	9.6	1976	1976	1976	59.0	30.7	1921	1926	1499
20.0	10.1	1976	1976	1976	60.0	31.4	1912	1918	1496
21.0	10.6	1976	1976	1976	61.0	32.1	1903	1910	1495
22.0	11.1	1976	1976	1976	62.0	32.7	1895	1902	1495
23.0	11.6	1976	1976	1976	63.0	33.4	1887	1895	1495
24.0	12.1	1976	1976	1975	64.0	34.1	1879	1888	1495
25.0	12.7	1976	1976	1975	65.0	34.7	1872	1881	1495
26.0	13.2	1976	1976	1974	66.0	35.4	1865	1875	1495
27.0	13.7	1976	1976	1973	67.0	36.1	1858	1868	1496
28.0	14.2	1976	1976	1973	68.0	36.7	1851	1862	1497
29.0	14.7	1976	1976	1973	69.0	37.4	1845	1856	1500
30.0	15.2	1976	1976	1973	70.0	38.1	1839	1851	1508
31.0	15.7	1976	1976	1973	71.0	38.7	1834	1846	1525
32.0	16.2	1976	1976	1973	72.0	39.4	1829	1842	1566
33.0	16.7	1975	1975	1973	73.0	39.8	1833	1840	1664
34.0	17.2	1975	1975	1973	74.0	40.2	1843	1853	3146
35.0	17.7	1975	1975	1973	75.0	40.5	1853	1867	3104
36.0	18.2	1975	1975	1973	76.0	40.8	1863	1879	3021
37.0	18.7	1975	1975	1973	77.0	41.1	1872	1891	2978
38.0	19.2	1975	1975	1973	78.0	41.5	1880	1900	2823
39.0	19.7	1975	1975	1973	79.0	41.9	1887	1909	2653
40.0	20.3	1975	1975	1973	80.0	42.3	1893	1916	2626

TABLE 1. Time-Depth curve values

Well : NALANGIL #1 Client : GAS A& FUEL EXPLORATION N/L
Survey units : METRES Datum : 150.0
Calibrated sonic interval velocities used from 73.0 to 353.0

Datum Depth	One-way time(ms)	-----VELOCITIES----- Average	RMS	Interval	Datum Depth	One-way time(ms)	-----VELOCITIES----- Average	RMS	Interval
81.0	42.6	1900	1923	2575	121.0	65.5	1847	1872	1576
82.0	43.0	1905	1929	2500	122.0	66.3	1841	1867	1341
83.0	43.5	1910	1935	2409	123.0	67.0	1837	1863	1450
84.0	43.9	1914	1939	2309	124.0	67.6	1834	1860	1496
85.0	44.3	1918	1943	2306	125.0	68.2	1833	1859	1761
86.0	44.8	1921	1946	2245	126.0	68.8	1831	1857	1619
87.0	45.2	1924	1949	2209	127.0	69.4	1829	1855	1585
88.0	45.7	1926	1951	2177	128.0	70.1	1827	1852	1565
89.0	46.1	1929	1953	2129	129.0	70.7	1824	1850	1551
90.0	46.6	1930	1954	2096	130.0	71.4	1822	1847	1551
91.0	47.1	1932	1955	2055	131.0	72.0	1819	1844	1497
92.0	47.6	1932	1956	2009	132.0	72.7	1815	1841	1484
93.0	48.1	1933	1956	1978	133.0	73.4	1812	1838	1485
94.0	48.6	1933	1956	1949	134.0	74.1	1809	1835	1483
95.0	49.1	1933	1956	1934	135.0	74.7	1806	1832	1476
96.0	49.7	1933	1955	1896	136.0	75.4	1804	1830	1507
97.0	50.2	1932	1955	1885	137.0	76.0	1802	1828	1547
98.0	50.8	1931	1953	1824	138.0	76.7	1799	1825	1548
99.0	51.3	1930	1952	1816	139.0	77.3	1797	1823	1565
100.0	51.9	1925	1948	1572	140.0	77.9	1796	1822	1637
101.0	52.5	1923	1945	1697	141.0	78.5	1795	1821	1694
102.0	53.2	1918	1940	1516	142.0	79.2	1793	1819	1552
103.0	53.9	1913	1935	1508	143.0	79.8	1793	1818	1672
104.0	54.5	1907	1930	1447	144.0	80.4	1791	1816	1605
105.0	55.3	1900	1924	1403	145.0	81.0	1789	1815	1559
106.0	55.9	1895	1919	1443	146.0	81.6	1788	1813	1637
107.0	56.7	1888	1913	1407	147.0	82.2	1787	1812	1682
108.0	57.3	1884	1909	1517	148.0	82.8	1787	1811	1676
109.0	57.9	1883	1908	1802	149.0	83.4	1786	1811	1687
110.0	58.5	1881	1905	1621	150.0	84.1	1785	1809	1616
111.0	59.1	1877	1902	1583	151.0	84.7	1783	1808	1603
112.0	59.8	1874	1899	1559	152.0	85.3	1782	1806	1614
113.0	60.4	1871	1896	1543	153.0	86.0	1779	1804	1433
114.0	61.1	1867	1892	1537	154.0	86.7	1777	1801	1455
115.0	61.7	1864	1889	1556	155.0	87.3	1775	1800	1609
116.0	62.3	1860	1886	1551	156.0	87.9	1775	1799	1717
117.0	63.0	1857	1882	1540	157.0	88.5	1775	1799	1770
118.0	63.7	1853	1879	1497	158.0	89.1	1774	1798	1635
119.0	64.3	1852	1877	1679	159.0	89.7	1772	1796	1515
120.0	64.9	1849	1875	1608	160.0	90.3	1772	1796	1725

TABLE 1. Time-Depth curve values

Well : NALANGIL #1 Client : GAS A& FUEL EXPLORATION N/L
Survey units : METRES Datum : 150.0
Calibrated sonic interval velocities used from 73.0 to 353.0

Datum Depth	One-way time(ms)	-----VELOCITIES----- Average	RMS	Interval	Datum Depth	One-way time(ms)	-----VELOCITIES----- Average	RMS	Interval
161.0	90.9	1771	1795	1618	201.0	113.3	1775	1796	2090
162.0	91.6	1769	1793	1575	202.0	113.7	1776	1797	2210
163.0	92.2	1769	1792	1630	203.0	114.2	1778	1799	2138
164.0	92.7	1769	1792	1795	204.0	114.7	1779	1800	2105
165.0	93.3	1769	1792	1826	205.0	115.2	1780	1801	2021
166.0	93.9	1769	1792	1724	206.0	115.7	1781	1802	1895
167.0	94.4	1768	1791	1691	207.0	116.2	1781	1802	1902
168.0	95.0	1768	1791	1710	208.0	116.7	1782	1803	1905
169.0	95.6	1768	1791	1753	209.0	117.3	1782	1803	1937
170.0	96.2	1768	1790	1756	210.0	117.8	1783	1804	1992
171.0	96.7	1768	1791	1869	211.0	118.3	1784	1805	2009
172.0	97.2	1769	1791	1882	212.0	118.7	1785	1806	2022
173.0	97.8	1769	1791	1709	213.0	119.2	1786	1807	2022
174.0	98.4	1768	1790	1670	214.0	119.7	1787	1808	1999
175.0	99.0	1768	1790	1709	215.0	120.2	1788	1809	2008
176.0	99.6	1767	1789	1708	216.0	120.7	1789	1810	2098
177.0	100.2	1767	1788	1652	217.0	121.2	1790	1811	2030
178.0	100.8	1766	1788	1656	218.0	121.7	1791	1812	2033
179.0	101.4	1766	1787	1727	219.0	122.3	1791	1811	1740
180.0	102.0	1765	1787	1690	220.0	122.9	1790	1811	1616
181.0	102.6	1765	1786	1706	221.0	123.5	1789	1809	1561
182.0	103.1	1765	1786	1756	222.0	124.2	1788	1808	1624
183.0	103.7	1764	1785	1623	223.0	124.8	1787	1807	1604
184.0	104.3	1764	1785	1726	224.0	125.4	1786	1806	1574
185.0	104.9	1764	1785	1886	225.0	126.0	1786	1806	1681
186.0	105.4	1765	1786	1919	226.0	126.5	1787	1807	2022
187.0	105.9	1766	1787	1991	227.0	127.0	1788	1808	2059
188.0	106.4	1768	1789	2070	228.0	127.5	1789	1809	2091
189.0	106.8	1770	1791	2368	229.0	127.9	1790	1810	2071
190.0	107.2	1772	1794	2374	230.0	128.4	1791	1811	2123
191.0	107.7	1773	1795	1981	231.0	128.9	1792	1812	2133
192.0	108.3	1772	1794	1599	232.0	129.4	1793	1814	2120
193.0	109.0	1771	1792	1530	233.0	129.8	1795	1815	2204
194.0	109.6	1770	1791	1556	234.0	130.3	1796	1817	2236
195.0	110.2	1769	1790	1619	235.0	130.7	1798	1818	2236
196.0	110.8	1770	1791	1953	236.0	131.2	1799	1820	2174
197.0	111.2	1771	1792	2037	237.0	131.7	1800	1821	2058
198.0	111.8	1772	1793	1970	238.0	132.1	1801	1822	2105
199.0	112.3	1772	1793	1913	239.0	132.6	1803	1823	2268
200.0	112.8	1773	1794	1958	240.0	133.0	1805	1825	2315

TABLE 1. Time-Depth curve values

Well : NALANGIL #1 Client : GAS A& FUEL EXPLORATION N/L
Survey units : METRES Datum : 150.0
Calibrated sonic interval velocities used from 73.0 to 353.0

Datum Depth	One-way time(ms)	-----VELOCITIES----- Average	RMS	Interval	Datum Depth	One-way time(ms)	-----VELOCITIES----- Average	RMS	Interval
241.0	133.4	1806	1827	2273	281.0	154.1	1823	1844	1963
242.0	133.9	1808	1829	2273	282.0	154.5	1825	1845	2405
243.0	134.3	1809	1830	2228	283.0	155.0	1826	1847	2328
244.0	134.8	1810	1831	2213	284.0	155.4	1828	1849	2456
245.0	135.2	1812	1833	2205	285.0	155.7	1830	1851	2626
246.0	135.8	1811	1833	1753	286.0	156.2	1831	1852	2176
247.0	136.3	1812	1833	1846	287.0	156.7	1831	1852	1883
248.0	136.9	1812	1833	1870	288.0	157.2	1832	1853	2082
249.0	137.3	1813	1834	2135	289.0	157.6	1833	1855	2377
250.0	137.9	1813	1834	1860	290.0	158.0	1835	1856	2449
251.0	138.5	1813	1833	1703	291.0	158.4	1837	1858	2507
252.0	139.1	1812	1833	1701	292.0	158.8	1839	1861	2738
253.0	139.7	1811	1832	1576	293.0	159.1	1842	1865	3564
254.0	140.3	1811	1831	1739	294.0	159.5	1843	1867	2407
255.0	140.9	1810	1831	1717	295.0	160.0	1844	1867	1994
256.0	141.4	1810	1830	1708	296.0	160.5	1844	1867	1821
257.0	142.0	1810	1830	1752	297.0	161.1	1843	1867	1764
258.0	142.6	1810	1830	1797	298.0	161.7	1843	1866	1652
259.0	143.1	1809	1830	1723	299.0	162.3	1842	1865	1678
260.0	143.7	1809	1829	1720	300.0	162.8	1843	1866	2094
261.0	144.3	1809	1829	1779	301.0	163.2	1844	1867	2229
262.0	144.8	1809	1829	1878	302.0	163.7	1845	1868	2223
263.0	145.4	1809	1829	1820	303.0	164.1	1846	1869	2209
264.0	145.9	1810	1830	1984	304.0	164.6	1847	1870	2191
265.0	146.4	1810	1830	2035	305.0	165.1	1848	1871	2094
266.0	146.9	1811	1831	1894	306.0	165.5	1848	1872	2141
267.0	147.4	1811	1831	1908	307.0	166.0	1849	1872	2105
268.0	147.9	1812	1831	1974	308.0	166.5	1850	1873	2010
269.0	148.4	1812	1832	1927	309.0	167.0	1850	1873	1887
270.0	149.0	1813	1832	1963	310.0	167.5	1850	1873	2070
271.0	149.4	1814	1834	2313	311.0	168.0	1851	1874	2187
272.0	149.8	1816	1836	2645	312.0	168.4	1852	1875	2222
273.0	150.2	1818	1838	2426	313.0	168.9	1853	1876	2236
274.0	150.6	1819	1840	2348	314.0	169.3	1854	1878	2249
275.0	151.1	1820	1840	1916	315.0	169.8	1855	1879	2302
276.0	151.6	1820	1841	1955	316.0	170.2	1857	1880	2272
277.0	152.1	1821	1842	2256	317.0	170.6	1858	1881	2263
278.0	152.5	1823	1843	2196	318.0	171.1	1859	1882	2244
279.0	153.1	1823	1843	1876	319.0	171.5	1860	1883	2270
280.0	153.6	1823	1843	1902	320.0	172.0	1861	1884	2298

TABLE 1. Time-Depth curve values

Well : NALANGIL #1 Client : GAS A& FUEL EXPLORATION N/L
Survey units : METRES Datum : 150.0
Calibrated sonic interval velocities used from 73.0 to 353.0

Datum Depth	One-way time(ms)	-----VELOCITIES----- Average	RMS	Interval	Datum Depth	One-way time(ms)	-----VELOCITIES----- Average	RMS	Interval
321.0	172.3	1863	1887	2831	337.0	179.2	1881	1906	2330
322.0	172.8	1864	1887	2163	338.0	179.6	1882	1907	2443
323.0	173.2	1864	1888	2176	339.0	180.0	1883	1908	2475
324.0	173.7	1865	1889	2248	340.0	180.4	1884	1910	2438
325.0	174.1	1867	1891	2321	341.0	180.8	1886	1911	2538
326.0	174.5	1868	1892	2399	342.0	181.2	1887	1913	2542
327.0	175.0	1869	1893	2376	343.0	181.6	1889	1914	2492
328.0	175.4	1870	1895	2406	344.0	182.0	1890	1916	2482
329.0	175.8	1872	1896	2388	345.0	182.4	1891	1917	2526
330.0	176.2	1873	1897	2332	346.0	182.8	1893	1919	2545
331.0	176.6	1874	1898	2348	347.0	183.2	1894	1921	2565
332.0	177.1	1875	1899	2318	348.0	183.6	1896	1922	2587
333.0	177.5	1876	1901	2344	349.0	184.0	1897	1924	2610
334.0	177.9	1877	1902	2361	350.0	184.3	1899	1926	2636
335.0	178.3	1878	1903	2404	351.0	184.7	1900	1927	2663
336.0	178.8	1880	1904	2358	352.0	185.1	1902	1929	2693