WELL VELOCITY SURVEY

THOMAS NO. 1

OP 184

NORTHERN TERRITORY

for

ARGONAUT INTERNATIONAL CORPORATION

by

VELOCITY DATA PTY LTD.

Brisbane, Australia

November 6, 1981

PR83-108
VOLUME 2

VELOCITY DATA PTY LTD

WELL VELOCITY SURVEY

ARGONAUT: THOMAS NO.1

PR83/ 10A-E

PART C: (COPIES OF WHAT ARE IN THE WELL COMPLETION REPORT)

These are extra's originals in part b. B

ONSHORE

PR83-108
VOLUME 2

BARCODE N° : P00910

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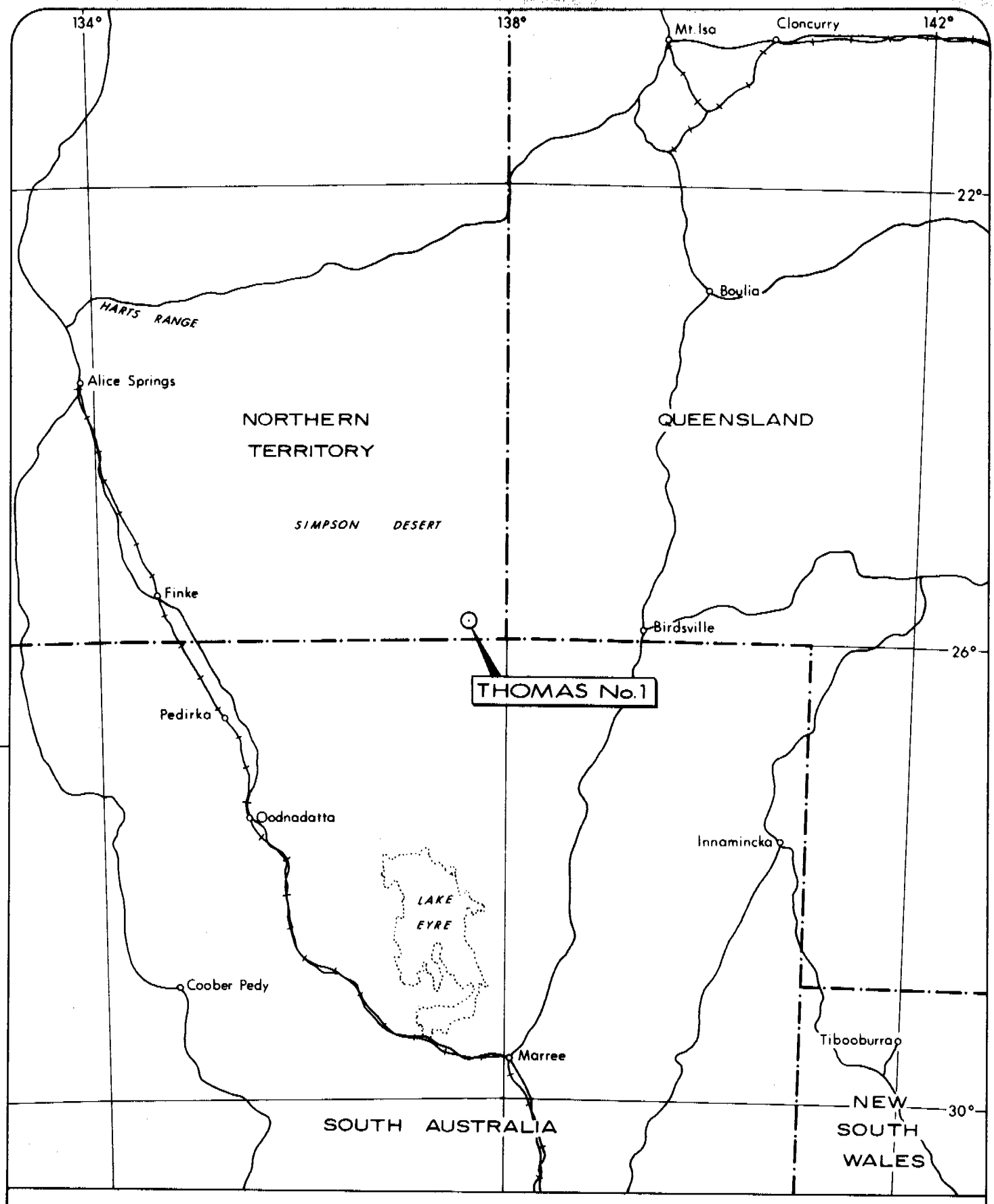


ARGONAUT INTERNATIONAL CORPORATION

THOMAS No.1

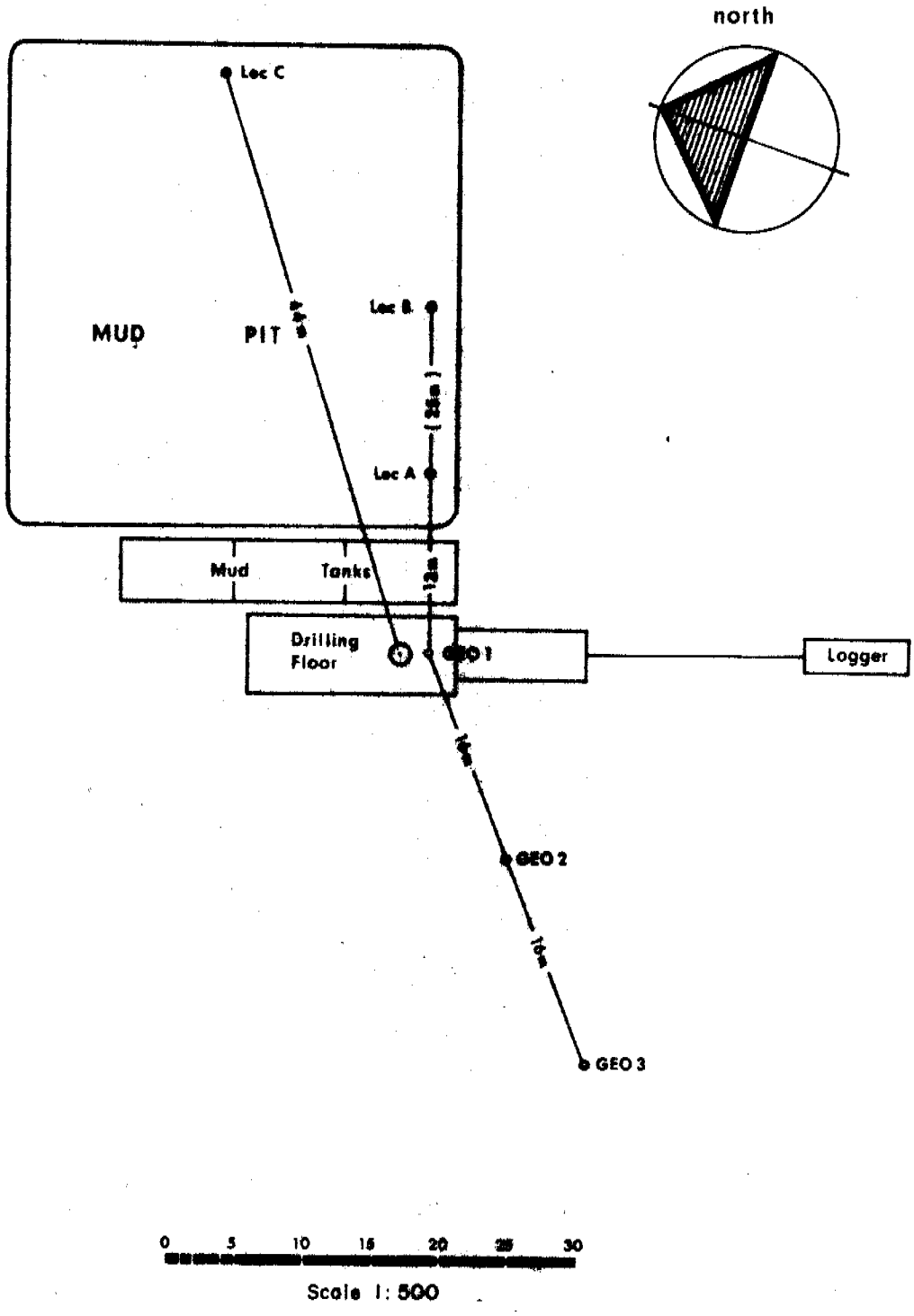
WELL LOCATION MAP

Scale 1:5 000 000

MILES 0 25 50 100 150 200 MILES

KILOMETRES 0 25 50 100 150 200 250 KILOMETRES

Figure 1



ARGONAUT INTERNATIONAL CORPORATION

THOMAS Nº 1

SHOT POINT LOCATION SKETCH

Figure 2

SUMMARY

Velocity Data Pty Ltd. conducted a velocity survey for Argonaut International Corporation in the Thomas No. 1 well, OP 184, Northern Territory. The date of the survey was November 6, 1981.

Twenty-five shots were taken over fifteen levels in the well. Record quality was generally good and the results are considered reliable. Where more than one satisfactory shot was taken at a level, times have been averaged. However, where large discrepancies in times occur at a level, the times from the upward run have been used for consistency.

Explosives were used as an energy source with shots being fired in the mud pit at a depth of two metres and offset forty-four metres from the well head. Charge size ranged up to .5kg of Anzite.

The survey was used to calibrate sonic logs. A depth function $\not{z} = 3146t^{1.649}$ is a good fit to the time-depth curve below the Transition Beds.

The well was surveyed to a depth of 2610 metres below K.B.

GENERAL

Two men and the equipment travelled by charter flight from Brisbane.

Name of Well	:	Thomas No. 1
Location	:	OP 184 Northern Territory
Co-ordinates	:	Latitude 25°51'22"S Longitude 137°38'30"E
Date of Survey	:	November 6, 1981
Elevation K.B.	:	37.4m ASL
Elevation Datum	:	Sea Level
Logging	:	Schlumberger
Weather	:	Fine
Sonic Log Interval	:	170.5 to 2613.5m below K.B.
Depth Surveyed	:	2610m below K.B.
Operator	:	K. Hook

EQUIPMENT

Energy Source	:	Explosives - Anzite
Recording Instruments	:	VDA software controlled Digital Recording System using SIE OPA-10 Floating Point Seismic Amplifiers, and LSI 11 CPU Processor
Downhole Geophone	:	Geospace WLS1050 Wall-lock
Reference Geophone	:	Hall Sears HS1

RECORDING

Charge Size	:	¼ to ½ kgs. Anzite
Depth of shots	:	2 metres
Shot offset	:	44 metres
Reference sensors	:	Refer Figure 2

Downhole sensor:
6 HS1 4.5 Hz-215 ohm, high temperature detectors in series parallel. Frequency response 8-300Hz within 3db.

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

Records were produced photographically, recorded on a digital cassette tape and later transcribed to a nine track tape in Velocity Data's Brisbane centre. Print-outs of the shots used are included with this report.

A sampling rate of ½ millisecond was used over a 200ms window encompassing the first arrivals. Elsewhere 1ms sampling rate was used. Times were picked from playouts using the numerical change in signal strength. The scale of the graphic display was set automatically according to the signal strength and is noted on the computer playouts.

COMPUTING

Sonic times are adjusted to check-shot times using two methods.

1) A linear correction

$$\frac{(t_{L_2} - t_{R_2}) - (t_{L_1} - t_{R_1})}{Z_2 - Z_1} = \text{correction in } \mu\text{secs./ft.}$$

11) A differential correction

$$100\left(1 - \frac{(t_{R_2} - t_{R_1})}{(t_{L_2} - t_{L_1})}\right) = \% \text{ decrease in interval time}$$

where t_L = sonic log time

t_R = record time

and $Z_2 - Z_1$ = depth interval

Where check-shot interval times are longer than corresponding sonic interval times, errors are assumed to be instrumental and are adjusted using the linear correction. However, if formation characteristics, such as high porosity or the presence of gas are suspected, the differential correction is used.

The differential correction is also applied where check-shot interval times are shorter than corresponding sonic times and these differences are assumed to arise from caving or mud cake effects.

Five shots were taken near datum from varying offset distances. Vertical times are in close agreement and have been averaged. An interpolated datum correction time of -.022 secs was determined. No other corrections have been applied when relating the results to the seismic section.

Shots 6 and 13 were N/R and shots 3 and 4 at the 1390m level and shot 1 at the 1100m level have not been used because of the larger than usual time difference to other shots at the level.

The results have been related to a seismic section in the vicinity of the well site. This has been done with some reservation as the apparent relationships appear in error, possibly because the timing of the section provided was difficult to ascertain.

Discrepancies between shot interval times and corresponding sonic interval times are large over the 1100 to 1470 metre interval. Below this, the discrepancies are small being less than 12 μsecs/metre. Generally, shot interval times are longer than the corresponding sonic times with the exception of the intervals between 1470 over 2070 metres where the reverse is the case.

A calculated depth function $\not{s} = 3146t^{1.649}$ fits the time-depth points below the Transition. Insufficient data points were obtained to determine a function for the shallow section of the well.

Time-depth and velocity plots are included with this report along with a time-depth plot of the recorded times and computer print-outs of the shots.

L.W. Pfitzner

Figure 3

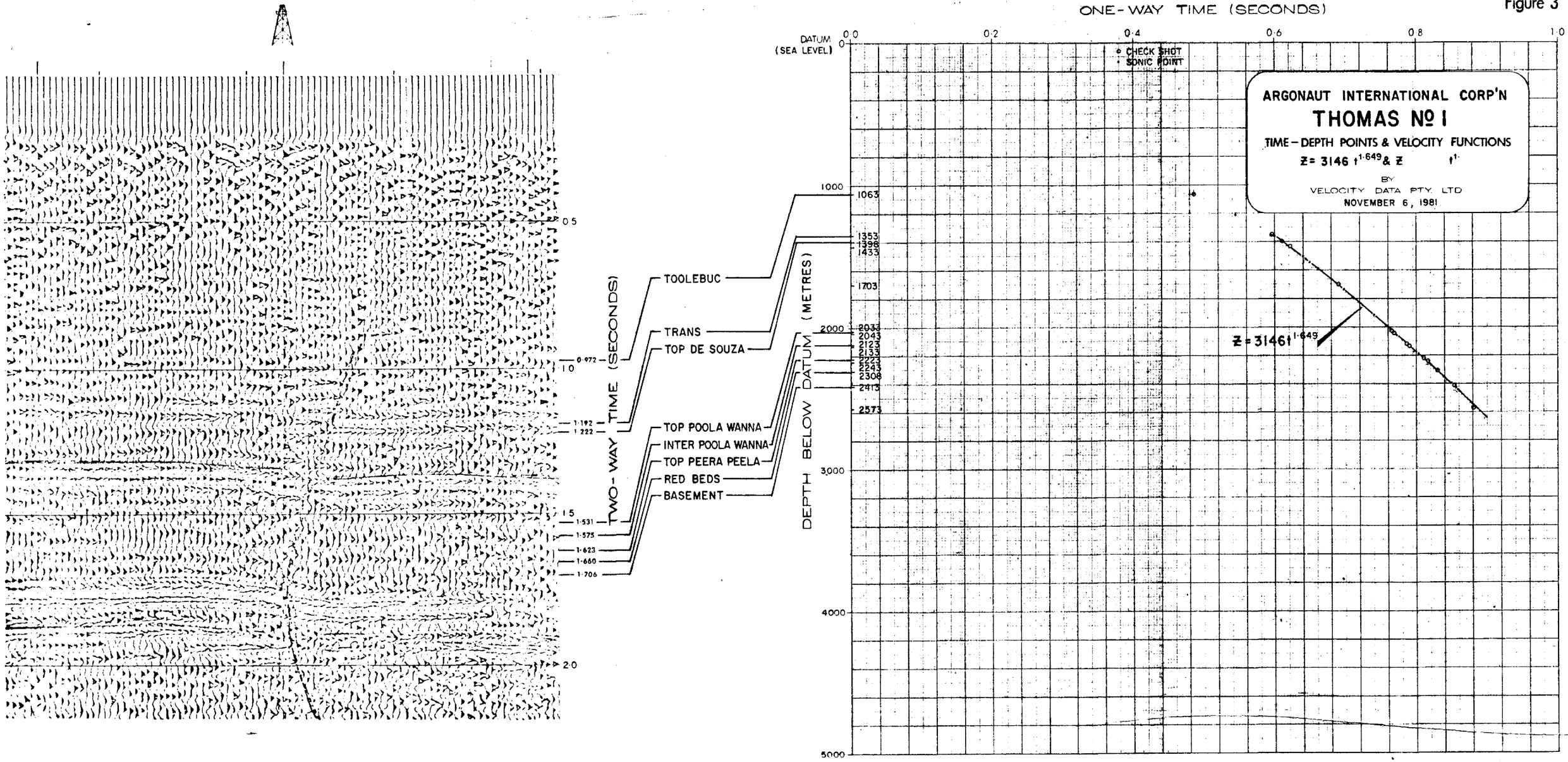

ONE-WAY TIME (SECONDS)
0.0
0.2
0.4
0.6
0.8
1.0
DATUM (SEA LEVEL)
0
CHECK SHOT
SONIC POINT
ARGONAUT INTERNATIONAL CORP'N
THOMAS Nº 1
TIME – DEPTH POINTS & VELOCITY FUNCTIONS
Z= 3146 t^1.649 & Z t^1.
BY
VELOCITY DATA PTY. LTD
NOVEMBER 6, 1981
Z = 31461 t^1.649
TWO-WAY TIME (SECONDS)
DEPTH BELOW DATUM (METRES)
0.5
1.0
1.5
2.0
0.972
1.192
1.222
1.531
1.575
1.623
1.660
1.706
1000
2000
3000
4000
5000
1063
1353
1398
1433
1703
2033
2043
2123
2133
2223
2243
2308
2413
2573
TOOLEBUC
TRANS
TOP DE SOUZA
TOP POOLA WANNA
INTER POOLA WANNA
TOP PEERA PEELA
RED BEDS
BASEMENT

Figure 4

PR 8310 C (5)

ONE-WAY TIME (SECONDS)

0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0

374 (Depth Index x 0.5)

DATUM (SEA LEVEL) 0

o CHECK SHOT
• SONIC POINT

ARGONAUT INTERNATIONAL CORPORATION

THOMAS Nº 1

TIME-DEPTH & VELOCITY CURVES

BY

VELOCITY DATA PTY. LTD.

NOVEMBER 6, 1981.

DEPTH BELOW DATUM (METRES)

1100	TOOLEBUC	1063
		1213
1390	TRANS	1353
		1363
1435	TOP DE SOUZA	1398
		1433
		1505
		1546
		1703
		1737
		1918
2070	TOP POOLA WANNA	2033
		2043
		2060
2160	INTER POOLA WANNA	2123
		2133
		2188
2260	TOP PEERA PEELA	2225
		2245
2345	RED BEDS	2308
		2395
2450	BASEMENT	2415
		2423
		2573

Average Velocity

Interval Velocity

Time-Depth

0 500 1000 1500 2000 2500 3000 3500 4000

2000 2500 3000 2000 3000 4000 5000 6000

AVERAGE VELOCITY

INTERVAL VELOCITY

VELOCITY (METRES PER SECOND)

PR 83/10 C

Velocity Data Pty Ltd

WELL VELOCITY SURVEY

CLIENT : ARGONOUGHT
WELL IDENTIFICATION : THOMAS # 1
SURVEY DATE : 6-11-81
SURVEY TIME : 15:10:00
SURVEY UNITS : METRES
AUTHORITY TO PROSPECT :

WELL LATITUDE :
WELL LONGITUDE :

KELLY ELEVATION : 42.0M
GROUND ELEVATION : 45.0

WEATHER : FINE

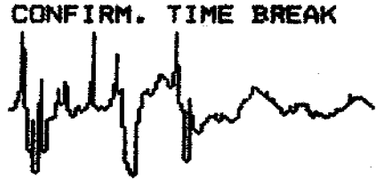
ENERGY SOURCE : ANZITE BLUE

CLIENT REP : MIKE
OBSERVER : K HOOK
SHOOTER : L GORDON

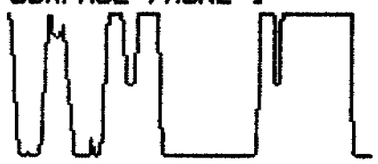
TRACE DISPLAY.

SHOT 1 Time 15:32:54 Level : 1100 Shot location : C
Shot depth : 2.5M Charge size : 0.5 KG Amplifier gain :
No. surface samples : 128 Down hole sample nos : 313 400 695
Sample rates : 500 1000 usec Delay : 0

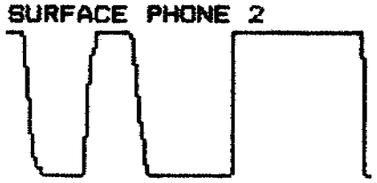
CONFIRM. TIME BREAK



SURFACE PHONE 1

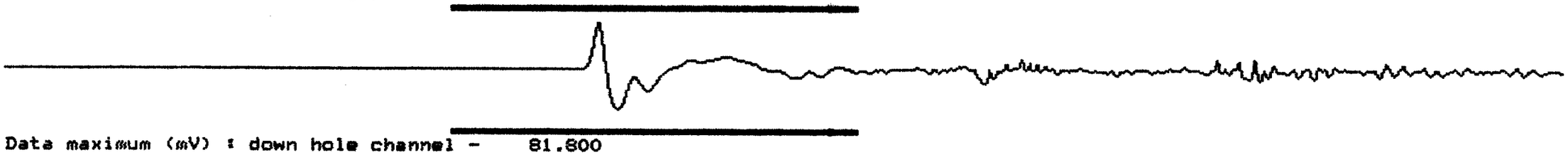


SURFACE PHONE 2



SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 81.600

FIRST BREAK PLOT. SCALE : 0.074 mV/column.

Sample time	Value mV	Well phone data
483.5	286	
484.0	299	
484.5	252	
485.0	170	
485.5	54	
486.0	-104	
486.5	-226	
487.0	-312	
487.5	-328	
488.0	-282	
488.5	-216	
489.0	-132	
489.5	-71	
490.0	-79	
490.5	-152	
491.0	-333	
491.5	-472	
492.0	-717	
492.5	-952	
493.0	-1240	
493.5	-1273	
494.0	-1164	
494.5	-934	
495.0	-572	
495.5	33	
496.0	380	
496.5	837	
497.0	1123	
497.5	1233	
498.0	1128	
498.5	821	
499.0	595	
499.5	-164	
500.0	-690	
500.5	-1528	
501.0	-2018	
501.5	-2326	
502.0	-2438	
502.5	-2346	
503.0	-2133	
503.5	-1875	
504.0	-1658	
504.5	-1615	
505.0	-1850	
505.5	-2501	
506.0	-3689	

COMMENTS : NIL

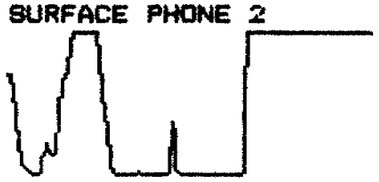
TRACE DISPLAY.

SHOT 2 Time 15:38:20 Level : 1100 Shot location : C
Shot depth : 3 Charge size : .25 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 313 400 495
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

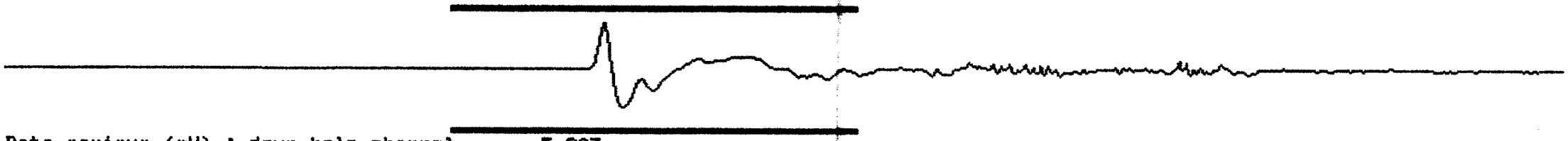
SURFACE PHONE 1

SURFACE PHONE 2



SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 5.903

FIRST BREAK PLOT. SCALE : 0.120 mV/column.

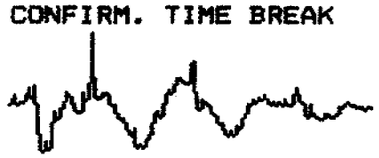
Sample time	Value mV	Well phone data
497.5	-25	*
498.0	-29	*
498.5	-33	*
499.0	-32	*
499.5	-22	*
500.0	4	*
500.5	28	*
501.0	58	*
501.5	81	!*
502.0	79	!*
502.5	56	*
503.0	5	*
503.5	-54	*
504.0	-138	*
504.5	-200	*!
505.0	-237	*!
505.5	-268	*!
506.0	-265	*!
506.5	-245	*!
507.0	-223	*!
507.5	-202	*!
508.0	-197	*!
508.5	-226	*!
509.0	-320	* !
509.5	-412	* !
510.0	-617	* !
510.5	-904	* !
511.0	-1345	* !
511.5	-1803	* !
512.0	-2333	* !
512.5	-2916	* !
513.0	-3551	* !
513.5	-4242	* !
514.0	-4797	* !
514.5	-5242	* !
515.0	-5642	* !
515.5	-5902	* !
516.0	-5982	* !
516.5	-5852	* !
517.0	-5492	* !
517.5	-4812	* !
518.0	-4041	* !
518.5	-3261	* !
519.0	-2263	* !
519.5	-1135	* !
520.0	-402	* !

COMMENTS : NIL

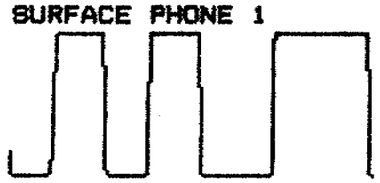
TRACE DISPLAY.

SHOT 3 Time 15:49:37 Level : 1390 Shot location : C
Shot depth : 2 Charge size : .25 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 402 400 606
Sample rates : 500 1000 usec Delay : 0

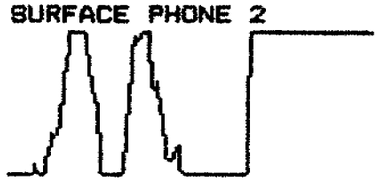
CONFIRM. TIME BREAK



SURFACE PHONE 1

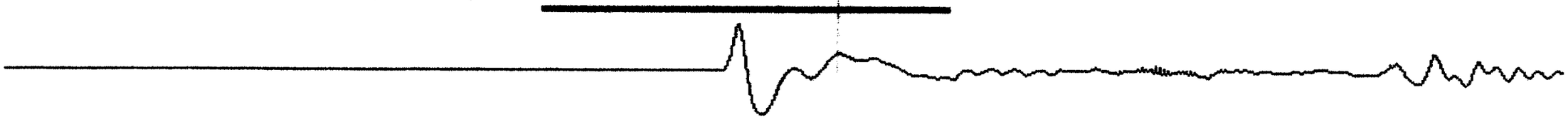


SURFACE PHONE 2



SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 5.163

FIRST BREAK PLOT. SCALE : 0.105 mV/column.

Sample time	Value mV	Well phone data
607.5	0	*
608.0	-3	*
608.5	-7	*
609.0	-11	*
609.5	-14	*
610.0	-16	*
610.5	-15	*
611.0	-14	*
611.5	-12	*
612.0	-11	*
612.5	-10	*
613.0	-10	*
613.5	-10	*
614.0	-9	*
614.5	-8	*
615.0	-7	*
615.5	-9	*
616.0	-13	*
616.5	-22	*
617.0	-34	*
617.5	-59	*
618.0	-108	*
618.5	-171	*!
619.0	-272	* !
619.5	-354	* !
620.0	-505	* !
620.5	-709	* !
621.0	-1043	* !
621.5	-1343	* !
622.0	-1723	* !
622.5	-2171	* !
623.0	-2648	* !
623.5	-3154	* !
624.0	-3674	* !
624.5	-4242	* !
625.0	-4667	* !
625.5	-4997	* !
626.0	-5162	* !
626.5	-5242	* !
627.0	-5162	* !
627.5	-4847	* !
628.0	-4392	* !
628.5	-3816	* !
629.0	-3204	* !
629.5	-2441	* !
630.0	-1613	* !

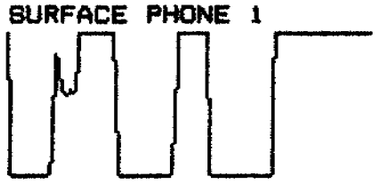
COMMENTS : NIL

TRACE DISPLAY.

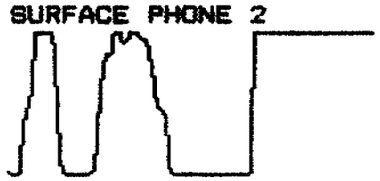
SHOT 4 Time 16:03:05 Level : 1390 Shot location : C
Shot depth : 2 Charge size : .25 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 402 400 606
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

SURFACE PHONE 1



SURFACE PHONE 2



SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 5.203

FIRST BREAK PLOT. SCALE : 0.091 mV/column.

Sample time	Value mV	Well phone data
607.5	6	*
608.0	6	*
608.5	5	*
609.0	2	*
609.5	0	*
610.0	-2	*
610.5	-4	*
611.0	-4	*
611.5	-3	*
612.0	-2	*
612.5	-3	*
613.0	-6	*
613.5	-11	*
614.0	-17	*
614.5	-21	*
615.0	-24	*
615.5	-22	*
616.0	-22	*
616.5	-25	*
617.0	-36	*
617.5	-58	*
618.0	-101	*
618.5	-154	*
619.0	-223	*
619.5	-323	*
620.0	-393	*
620.5	-522	*
621.0	-682	*
621.5	-864	*
622.0	-1143	*
622.5	-1370	*
623.0	-1640	*
623.5	-1960	*
624.0	-2283	*
624.5	-2611	*
625.0	-2971	*
625.5	-3321	*
626.0	-3659	*
626.5	-3986	*
627.0	-4252	*
627.5	-4437	*
628.0	-4532	*
628.5	-4522	*
629.0	-4402	*
629.5	-4187	*
630.0	-3881	*

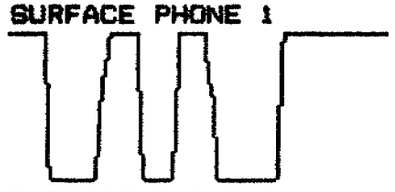
COMMENTS : NIL

TRACE DISPLAY.

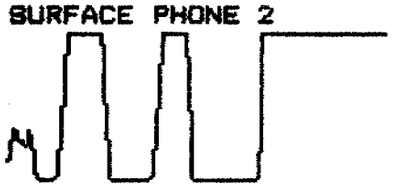
SHOT 5 Time 16:28:48 Level : 2070 Shot location : C
Shot depth : 2 Charge size : .25 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 293 0 1115
Sample rates : 1000 1000 usec Delay : 300

CONFIRM. TIME BREAK

SURFACE PHONE 1



SURFACE PHONE 2



SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 2.164

FIRST BREAK PLOT. SCALE : 0.043 mV/column.

Sample time	Value mV	Well phone data
478.0	-3	
479.0	-3	
480.0	0	
481.0	7	
482.0	15	
483.0	19	
484.0	22	
485.0	24	
486.0	18	
487.0	0	
488.0	-27	
489.0	-80	
490.0	-152	
491.0	-273	
492.0	-402	
493.0	-594	
494.0	-804	
495.0	-1029	
496.0	-1200	
497.0	-1350	
498.0	-1440	
499.0	-1458	
500.0	-1400	
501.0	-1265	
502.0	-1031	
503.0	-748	
504.0	-352	
505.0	154	
506.0	584	
507.0	1064	
508.0	1430	
509.0	1750	
510.0	1973	
511.0	2101	
512.0	2163	
513.0	2141	
514.0	2038	
515.0	1870	
516.0	1650	
517.0	1385	
518.0	1086	
519.0	831	
520.0	539	
521.0	271	
522.0	113	
523.0	13	

COMMENTS : NIL

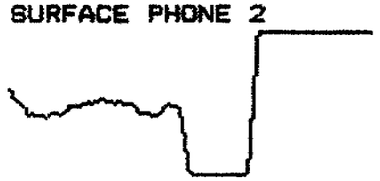
TRACE DISPLAY.

SHOT 7 Time 16:50:14 Level : 2610 Shot location : C
Shot depth : 1.5 Charge size : .5 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 430 0 978
Sample rates : 1000 1000 usec Delay : 300

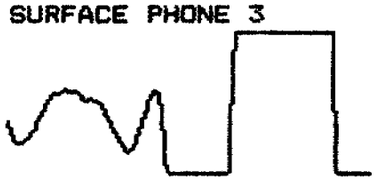
CONFIRM. TIME BREAK

SURFACE PHONE 1

SURFACE PHONE 2



SURFACE PHONE 3



WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 1.528

FIRST BREAK PLOT. SCALE : 0.031 mV/column.

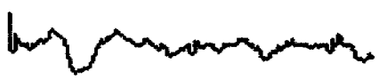
Sample time	Value mV	Well phone data
595.0	-18	
596.0	-16	
597.0	-11	
598.0	-9	
599.0	-9	
600.0	-10	
601.0	-12	
602.0	-19	
603.0	-28	
604.0	-46	
605.0	-90	
606.0	-150	
607.0	-234	
608.0	-325	
609.0	-448	
610.0	-585	
611.0	-725	
612.0	-856	
613.0	-970	
614.0	-1025	
615.0	-1048	
616.0	-997	
617.0	-908	
618.0	-731	
619.0	-493	
620.0	-170	
621.0	153	
622.0	452	
623.0	777	
624.0	1050	
625.0	1269	
626.0	1418	
627.0	1508	
628.0	1528	
629.0	1513	
630.0	1428	
631.0	1288	
632.0	1111	
633.0	938	
634.0	725	
635.0	523	
636.0	345	
637.0	177	
638.0	57	
639.0	-12	
640.0	-44	

COMMENTS : NIL

TRACE DISPLAY.

SHOT 8 Time 17:00:20 Level : 2450 Shot location : C
Shot depth : 2 Charge size : .5 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 704 400 308
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

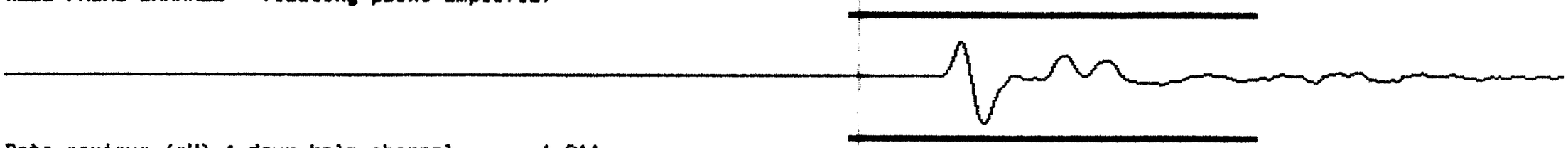


SURFACE PHONE 1

SURFACE PHONE 2

SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 1.911

FIRST BREAK PLOT. SCALE : 0.029 mV/column.

Sample time	Value mV	Well phone data
868.5	2	*
869.0	4	*
869.5	5	*
870.0	3	*
870.5	1	*
871.0	-1	*
871.5	-4	*
872.0	-5	*
872.5	-7	*
873.0	-7	*
873.5	-6	*
874.0	-6	*
874.5	-6	*
875.0	-8	*
875.5	-11	*
876.0	-16	*
876.5	-22	*
877.0	-33	*
877.5	-48	*
878.0	-74	*
878.5	-100	*
879.0	-138	*
879.5	-182	*
880.0	-249	*
880.5	-323	*
881.0	-380	*
881.5	-475	*
882.0	-580	*
882.5	-695	*
883.0	-815	*
883.5	-930	*
884.0	-1059	*
884.5	-1164	*
885.0	-1264	*
885.5	-1335	*
886.0	-1390	*
886.5	-1420	*
887.0	-1433	*
887.5	-1405	*
888.0	-1355	*
888.5	-1258	*
889.0	-1150	*
889.5	-1015	*
890.0	-902	*
890.5	-727	*
891.0	-531	*

COMMENTS : NIL

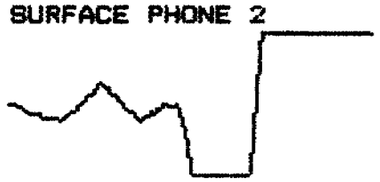
TRACE DISPLAY.

SHOT 9 Time 17:09:07 Level : 2345 Shot location : C
Shot depth : 2.5 Charge size : .5 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 574 400 434
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

SURFACE PHONE 1

SURFACE PHONE 2



SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 2.028

FIRST BREAK PLOT. SCALE : 0.030 mV/column.

Sample time	Value mV	Well phone data
845.5	-7	*
846.0	-6	*
846.5	-5	*
847.0	-3	*
847.5	-1	*
848.0	-1	*
848.5	-1	*
849.0	-1	*
849.5	-1	*
850.0	-2	*
850.5	-2	*
851.0	-2	*
851.5	-3	*
852.0	-5	*
852.5	-10	*
853.0	-21	*
853.5	-31	*
854.0	-47	*|
854.5	-66	*|
855.0	-90	* |
855.5	-122	* |
856.0	-163	* |
856.5	-209	* |
857.0	-275	* |
857.5	-345	* |
858.0	-396	* |
858.5	-482	* |
859.0	-580	* |
859.5	-685	* |
860.0	-796	* |
860.5	-909	* |
861.0	-1050	* |
861.5	-1163	* |
862.0	-1255	* |
862.5	-1340	* |
863.0	-1410	* |
863.5	-1465	* |
864.0	-1500	* |
864.5	-1520	* |
865.0	-1513	* |
865.5	-1483	* |
866.0	-1410	* |
866.5	-1353	* |
867.0	-1230	* |
867.5	-1104	* |
868.0	-961	* |

COMMENTS : NIL

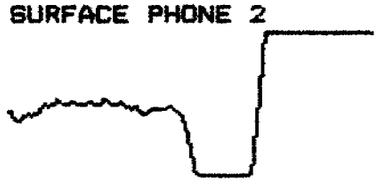
TRACE DISPLAY.

SHOT 10 Time 17:16:34 Level : 2280 Shot location : C
Shot depth : 2 Charge size : .5 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 505 600 308
Sample rates : 500 1000 usec Delay : 0

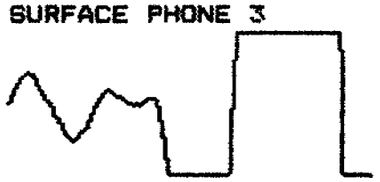
CONFIRM. TIME BREAK

SURFACE PHONE 1

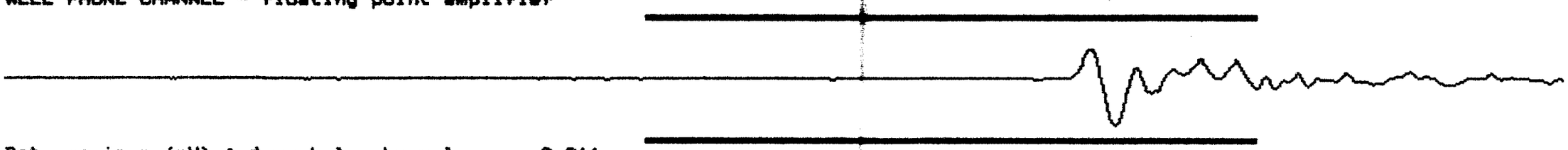
SURFACE PHONE 2



SURFACE PHONE 3



WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 2.861

FIRST BREAK PLOT. SCALE : 0.037 mV/column.

Sample time	Value mV	Well phone data
831.5	31	
832.0	31	
832.5	29	
833.0	27	
833.5	26	
834.0	25	
834.5	25	
835.0	23	
835.5	22	
836.0	18	
836.5	15	
837.0	13	
837.5	11	
838.0	8	
838.5	2	
839.0	-5	
839.5	-18	
840.0	-29	
840.5	-49	
841.0	-84	
841.5	-117	
842.0	-155	
842.5	-203	
843.0	-264	
843.5	-325	
844.0	-370	
844.5	-446	
845.0	-530	
845.5	-622	
846.0	-723	
846.5	-829	
847.0	-937	
847.5	-1270	
848.0	-1378	
848.5	-1480	
849.0	-1583	
849.5	-1678	
850.0	-1750	
850.5	-1815	
851.0	-1853	
851.5	-1863	
852.0	-1865	
852.5	-1830	
853.0	-1773	
853.5	-1665	
854.0	-1528	

COMMENTS : NIL

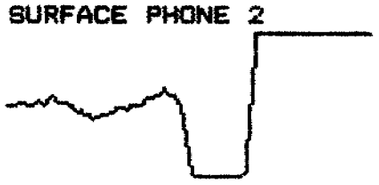
TRACE DISPLAY.

SHOT 11 Time 17:23:05 Level : 2260 Shot location : C
Shot depth : 2 Charge size : .5 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 499 600 309
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

SURFACE PHONE 1

SURFACE PHONE 2



SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 3.219

FIRST BREAK PLOT. SCALE : 0.037 mV/column.

Sample time	Value mV	Well phone data
826.5	4	*
827.0	5	*
827.5	6	*
828.0	7	*
828.5	6	*
829.0	5	*
829.5	5	*
830.0	5	*
830.5	6	*
831.0	7	*
831.5	8	*
832.0	7	*
832.5	5	*
833.0	0	*
833.5	-4	*
834.0	-12	*
834.5	-21	*
835.0	-32	*
835.5	-47	*
836.0	-72	*!
836.5	-94	* !
837.0	-125	* !
837.5	-163	* !
838.0	-208	* !
838.5	-270	* !
839.0	-335	* !
839.5	-384	* !
840.0	-467	* !
840.5	-562	* !
841.0	-664	* !
841.5	-776	* !
842.0	-899	* !
842.5	-1038	* !
843.0	-1180	* !
843.5	-1303	* !
844.0	-1420	* !
844.5	-1540	* !
845.0	-1628	* !
845.5	-1720	* !
846.0	-1798	* !
846.5	-1830	* !
847.0	-1848	* !
847.5	-1810	* !
848.0	-1763	* !
848.5	-1668	* !
849.0	-1525	* !

COMMENTS : NIL

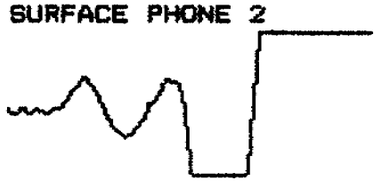
TRACE DISPLAY.

SHOT 12 Time 17:31:11 Level : 2170 Shot location : C
Shot depth : 2.5 Charge size : .5 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 473 600 335
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

SURFACE PHONE 1

SURFACE PHONE 2



SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 1.836

FIRST BREAK PLOT. SCALE : 0.026 mV/column.

Sample time	Value mV	Well phone data
803.5	-44	*|
804.0	-52	*|
804.5	-23	*
805.0	10	*
805.5	36	|*
806.0	55	| *
806.5	87	| *
807.0	51	| *
807.5	30	|*
808.0	-3	*
808.5	-21	*
809.0	-40	*|
809.5	-50	*|
810.0	-52	*|
810.5	-49	*|
811.0	-46	*|
811.5	-47	*|
812.0	-56	*|
812.5	-56	*|
813.0	-82	* |
813.5	-114	* |
814.0	-151	* |
814.5	-197	* |
815.0	-261	* |
815.5	-334	* |
816.0	-392	* |
816.5	-492	* |
817.0	-602	* |
817.5	-711	* |
818.0	-819 *	|
818.5	-921 *	|
819.0	-1046 *	|
819.5	-1140 *	|
820.0	-1211 *	|
820.5	-1273 *	|
821.0	-1318 *	|
821.5	-1320 *	|
822.0	-1315 *	|
822.5	-1293 *	|
823.0	-1249 *	|
823.5	-1201 *	|
824.0	-1150 *	|
824.5	-1089 *	|
825.0	-1009 *	|
825.5	-920 *	|
826.0	-812 *	|

COMMENTS : NIL

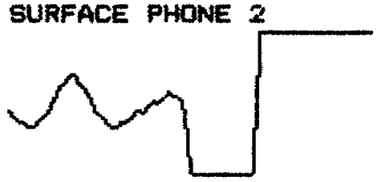
TRACE DISPLAY.

SHOT 13 Time 17:36:33 Level : 2160 Shot location : C
Shot depth : 2.5 Charge size : .5 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 470 600 338
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

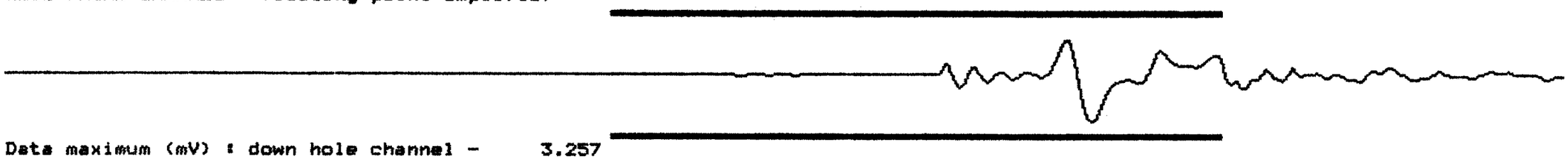
SURFACE PHONE 1

SURFACE PHONE 2



SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 3.257

FIRST BREAK PLOT. SCALE : 0.049 mV/column.

Sample time	Value mV	Well phone data
800.5	-131	
801.0	-180	
801.5	-217	
802.0	-245	
802.5	-258	
803.0	-256	
803.5	-248	
804.0	-222	
804.5	-190	
805.0	-150	
805.5	-102	
806.0	-54	
806.5	14	
807.0	50	
807.5	101	
808.0	139	
808.5	167	
809.0	185	
809.5	190	
810.0	181	
810.5	156	
811.0	116	
811.5	53	
812.0	-6	
812.5	-98	
813.0	-171	
813.5	-313	
814.0	-393	
814.5	-516	
815.0	-654	
815.5	-800	
816.0	-949	
816.5	-1135	
817.0	-1289	
817.5	-1445	
818.0	-1605	
818.5	-1773	
819.0	-1940	
819.5	-2108	
820.0	-2198	
820.5	-2318	
821.0	-2411	
821.5	-2463	
822.0	-2463	
822.5	-2443	
823.0	-2366	

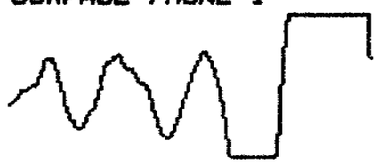
COMMENTS : NOISY

TRACE DISPLAY.

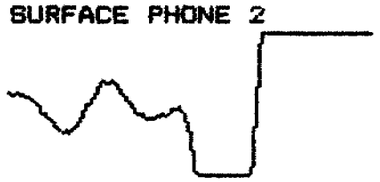
SHOT 14 Time 17:43:31 Level : 2080 Shot location : C
Shot depth : 2 Charge size : .5 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 446 600 362
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

SURFACE PHONE 1

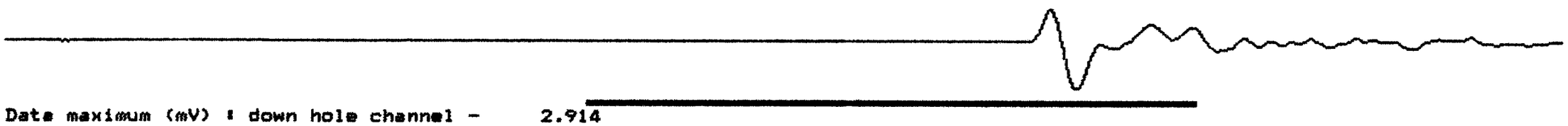


SURFACE PHONE 2



SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 2.914

FIRST BREAK PLOT. SCALE = 0.041 mV/column.

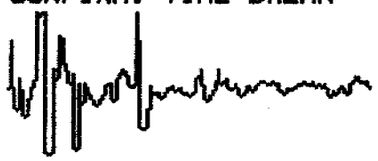
Sample time	Value mV	Well phone data
782.5	5	*
783.0	0	*
783.5	-3	*
784.0	-7	*
784.5	-10	*
785.0	-11	*
785.5	-11	*
786.0	-9	*
786.5	-7	*
787.0	-4	*
787.5	-4	*
788.0	-4	*
788.5	-6	*
789.0	-9	*
789.5	-13	*
790.0	-19	*
790.5	-25	*
791.0	-35	*
791.5	-48	*
792.0	-72	*|
792.5	-99	*|
793.0	-136	* |
793.5	-183	* |
794.0	-239	* |
794.5	-316	* |
795.0	-368	* |
795.5	-459	* |
796.0	-564	* |
796.5	-679	* |
797.0	-810	* |
797.5	-951	* |
798.0	-1124	* |
798.5	-1284	* |
799.0	-1400	* |
799.5	-1560	* |
800.0	-1708	* |
800.5	-1828	* |
801.0	-1923	* |
801.5	-2005	* |
802.0	-2048	* |
802.5	-2043	* |
803.0	-2025	* |
803.5	-1950	* |
804.0	-1868	* |
804.5	-1735	* |
805.0	-1580	* |

COMMENTS : NIL

TRACE DISPLAY.

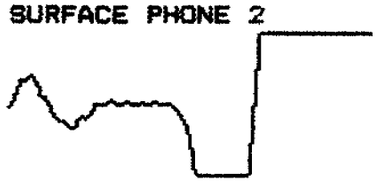
SHOT 15 Time 17:49:36 Level : 2070 Shot location : C
Shot depth : 2 Charge size : .5 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 443 600 365
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK



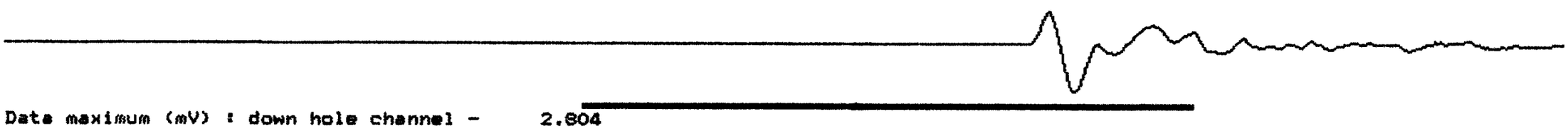
SURFACE PHONE 1

SURFACE PHONE 2



SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 2.804

FIRST BREAK PLOT. SCALE : 0.040 mV/column.

Sample time	Value mV	Well phone data
780.5	5	*
781.0	4	*
781.5	3	*
782.0	2	*
782.5	1	*
783.0	1	*
783.5	0	*
784.0	-1	*
784.5	-2	*
785.0	-3	*
785.5	-4	*
786.0	-3	*
786.5	-3	*
787.0	-5	*
787.5	-10	*
788.0	-22	*
788.5	-33	*
789.0	-50	*
789.5	-80	*!
790.0	-106	* !
790.5	-141	* !
791.0	-183	* !
791.5	-235	* !
792.0	-307	* !
792.5	-359	* !
793.0	-447	* !
793.5	-554	* !
794.0	-676	* !
794.5	-812	* !
795.0	-956	* !
795.5	-1144	* !
796.0	-1285	* !
796.5	-1443	* !
797.0	-1593	* !
797.5	-1730	* !
798.0	-1845	* !
798.5	-1923	* !
799.0	-1985	* !
799.5	-2003	* !
800.0	-1990	* !
800.5	-1945	* !
801.0	-1838	* !
801.5	-1718	* !
802.0	-1585	* !
802.5	-1355	* !
803.0	-1125	* !

COMMENTS : NIL

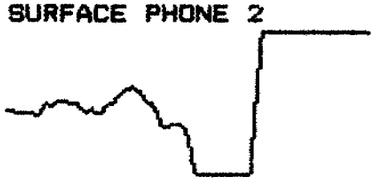
TRACE DISPLAY.

SHOT 16 Time 18:02:22 Level : 1740 Shot location : C
Shot depth : 2 Charge size : .5 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 348 600 460
Sample rates : 500 1000 usec Delay : 0

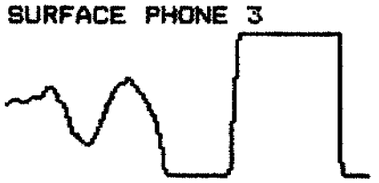
CONFIRM. TIME BREAK

SURFACE PHONE 1

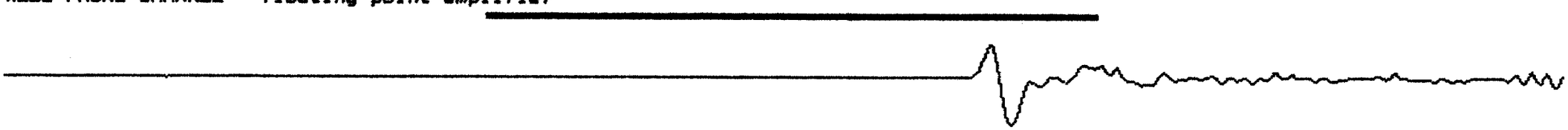
SURFACE PHONE 2



SURFACE PHONE 3



WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 4.942

FIRST BREAK PLOT. SCALE : 0.070 mV/column.

Sample time	Value mV	Well phone data
703.5	-17	*
704.0	-16	*
704.5	-14	*
705.0	-13	*
705.5	-12	*
706.0	-11	*
706.5	-11	*
707.0	-10	*
707.5	-11	*
708.0	-12	*
708.5	-13	*
709.0	-15	*
709.5	-17	*
710.0	-19	*
710.5	-21	*
711.0	-26	*
711.5	-34	*
712.0	-47	*
712.5	-72	*
713.0	-96	*
713.5	-132	*¦
714.0	-178	* ¦
714.5	-238	* ¦
715.0	-323	* ¦
715.5	-380	* ¦
716.0	-488	* ¦
716.5	-617	* ¦
717.0	-772	* ¦
717.5	-953	* ¦
718.0	-1200	* ¦
718.5	-1408	* ¦
719.0	-1668	* ¦
719.5	-1918	* ¦
720.0	-2178	* ¦
720.5	-2456	* ¦
721.0	-2703	* ¦
721.5	-2933	* ¦
722.0	-3161	* ¦
722.5	-3336	* ¦
723.0	-3449	* ¦
723.5	-3506	* ¦
724.0	-3491	* ¦
724.5	-3409	* ¦
725.0	-3229	* ¦
725.5	-2978	* ¦
726.0	-2671	* ¦

COMMENTS : NIL

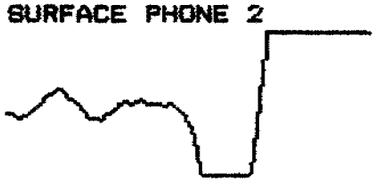
TRACE DISPLAY.

SHOT 17 Time 18:13:35 Level : 1470 Shot location : C
Shot depth : 2 Charge size : .5 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 276 600 532
Sample rates : 500 1000 usec Delay : 0

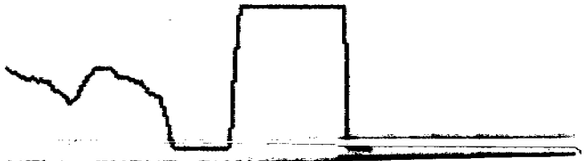
CONFIRM. TIME BREAK

SURFACE PHONE 1

SURFACE PHONE 2



SURFACE PHONE 3



WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 5.062

FIRST BREAK PLOT. SCALE : 0.081 mV/column.

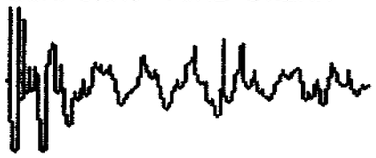
Sample time	Value mV	Well phone data
635.5	84	
636.0	81	
636.5	73	
637.0	63	
637.5	53	
638.0	38	
638.5	22	
639.0	5	
639.5	-9	
640.0	-20	
640.5	-30	
641.0	-35	
641.5	-37	
642.0	-36	
642.5	-32	
643.0	-27	
643.5	-25	
644.0	-28	
644.5	-40	
645.0	-73	
645.5	-110	
646.0	-166	
646.5	-238	
647.0	-342	
647.5	-418	
648.0	-545	
648.5	-700	
649.0	-879	
649.5	-1095	
650.0	-1318	
650.5	-1570	
651.0	-1843	
651.5	-2111	
652.0	-2391	
652.5	-2686	
653.0	-2973	
653.5	-3221	
654.0	-3514	
654.5	-3701	
655.0	-3896	
655.5	-4001	
656.0	-4031	
656.5	-3926	
657.0	-3784	
657.5	-3511	
658.0	-3139	

COMMENTS : NIL

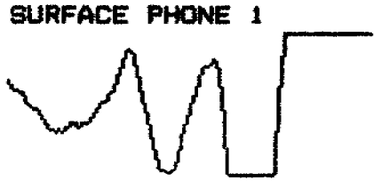
TRACE DISPLAY.

SHOT 18 Time 18:20:56 Level : 1435 Shot location : C
Shot depth : 2 Charge size : .5 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 265 600 543
Sample rates : 500 1000 usec Delay : 0

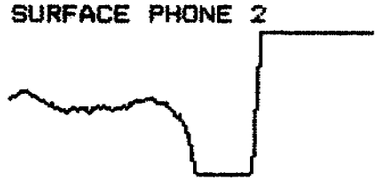
CONFIRM. TIME BREAK



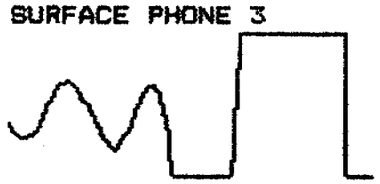
SURFACE PHONE 1



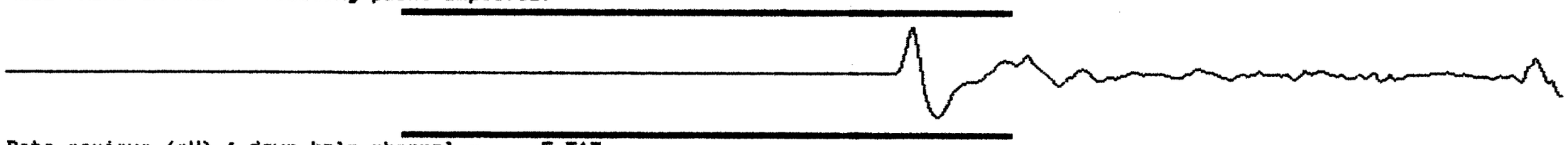
SURFACE PHONE 2



SURFACE PHONE 3



WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 5.513

FIRST BREAK PLOT. SCALE : 0.111 mV/column.

Sample time	Value mV	Well phone data
624.5	-23	*
625.0	-19	*
625.5	-16	*
626.0	-9	*
626.5	-2	*
627.0	3	*
627.5	10	*
628.0	20	*
628.5	27	*
629.0	36	*
629.5	43	*
630.0	47	*
630.5	46	*
631.0	42	*
631.5	33	*
632.0	22	*
632.5	5	*
633.0	-12	*
633.5	-32	*
634.0	-61	*
634.5	-101	*
635.0	-157	*
635.5	-235	*|
636.0	-356	* |
636.5	-444	* |
637.0	-613	* |
637.5	-829	* |
638.0	-1173	* |
638.5	-1465	* |
639.0	-1828	* |
639.5	-2246	* |
640.0	-2701	* |
640.5	-3179	* |
641.0	-3679	* |
641.5	-4242	* |
642.0	-4707	* |
642.5	-5082	* |
643.0	-5332	* |
643.5	-5512	* |
644.0	-5572	* |
644.5	-5462	* |
645.0	-5212	* |
645.5	-4652	* |
646.0	-4046	* |
646.5	-3446	* |
647.0	-2676	* |

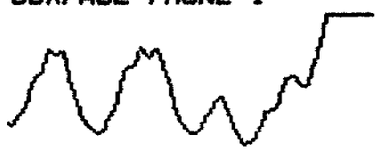
COMMENTS : NIL

TRACE DISPLAY.

SHOT 19 Time 18:26:15 Level : 1390 Shot location : C
Shot depth : 3 Charge size : .25 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 252 600 556
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

SURFACE PHONE 1



SURFACE PHONE 2

SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 2.886

FIRST BREAK PLOT. SCALE : 0.048 mV/column.

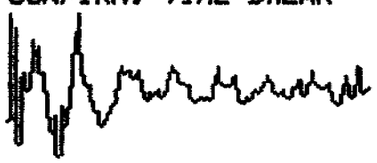
Sample time	Value mV	Well phone data
609.5	-14	*
610.0	-11	*
610.5	-6	*
611.0	-1	*
611.5	1	*
612.0	4	*
612.5	6	*
613.0	8	*
613.5	11	*
614.0	12	*
614.5	14	*
615.0	16	*
615.5	16	*
616.0	15	*
616.5	13	*
617.0	10	*
617.5	0	*
618.0	-5	*
618.5	-27	*
619.0	-58	*
619.5	-105	*|
620.0	-154	* |
620.5	-213	* |
621.0	-294	* |
621.5	-343	* |
622.0	-433	* |
622.5	-530	* |
623.0	-641	* |
623.5	-759	* |
624.0	-889	* |
624.5	-1044	* |
625.0	-1195	* |
625.5	-1335	* |
626.0	-1485	* |
626.5	-1650	* |
627.0	-1810	* |
627.5	-1965	* |
628.0	-2108	* |
628.5	-2231	* |
629.0	-2333	* |
629.5	-2398	* |
630.0	-2418	* |
630.5	-2406	* |
631.0	-2336	* |
631.5	-2228	* |
632.0	-2076	* |

COMMENTS : NIL

TRACE DISPLAY.

SHOT 20 Time 18:34:16 Level : 1100 Shot location : C
Shot depth : 2 Charge size : .25 Amplifier gain : 7
No. surface samples : 128 Down hole sample nos : 163 600 645
Sample rates : 500 1000 usec Delay : 0

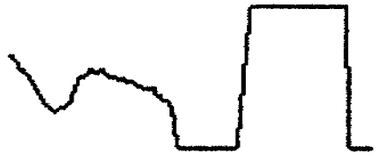
CONFIRM. TIME BREAK



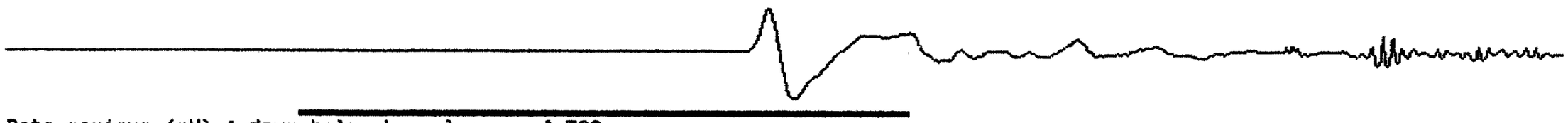
SURFACE PHONE 1

SURFACE PHONE 2

SURFACE PHONE 3



WELL PHONE CHANNEL - floating point amplifier



Data maximum (mV) : down hole channel - 4.792

FIRST BREAK PLOT. SCALE : 0.089 mV/column.

Sample time	Value mV	Well phone data
499.5	-13	*
500.0	-14	*
500.5	-17	*
501.0	-20	*
501.5	-25	*
502.0	-29	*
502.5	-30	*
503.0	-30	*
503.5	-27	*
504.0	-20	*
504.5	-9	*
505.0	2	*
505.5	8	*
506.0	11	*
506.5	9	*
507.0	-3	*
507.5	-19	*
508.0	-38	*
508.5	-69	*
509.0	-95	*
509.5	-123	*
510.0	-149	*¦
510.5	-175	*¦
511.0	-201	*¦
511.5	-236	* ¦
512.0	-288	* ¦
512.5	-329	* ¦
513.0	-406	* ¦
513.5	-506	* ¦
514.0	-629	* ¦
514.5	-783	* ¦
515.0	-1012	* ¦
515.5	-1225	* ¦
516.0	-1440	* ¦
516.5	-1698	* ¦
517.0	-2000	* ¦
517.5	-2316	* ¦
518.0	-2648	* ¦
518.5	-2973	* ¦
519.0	-3321	* ¦
519.5	-3644	* ¦
520.0	-3976	* ¦
520.5	-4202	* ¦
521.0	-4372	* ¦
521.5	-4457	* ¦
522.0	-4442	* ¦

COMMENTS : NIL

TRACE DISPLAY.

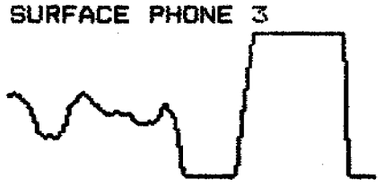
SHOT 21 Time 18:56:11 Level : 42 Shot location : C
Shot depth : 2 Charge size : .25 Amplifier gain : 5
No. surface samples : 128 Down hole sample nos : 0 600 808
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

SURFACE PHONE 1

SURFACE PHONE 2

SURFACE PHONE 3



WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 103.811

FIRST BREAK PLOT. SCALE : 0.213 mV/column.

Sample time	Value mV	Well phone data
31.0	188	
32.0	-6	
33.0	-226	
34.0	-344	
35.0	-404	
36.0	-432	
37.0	-431	
38.0	-365	
39.0	-260	
40.0	-189	
41.0	-129	
42.0	-98	
43.0	-192	
44.0	-470	
45.0	-986	
46.0	-1610	
47.0	-2391	
48.0	-3479	
49.0	-5257	
50.0	-7103	
51.0	-9124	
52.0	-10395	
53.0	-10485	
54.0	-9444	
55.0	-7513	
56.0	-4602	
57.0	-1655	
58.0	1643	
59.0	4867	
60.0	7113	
61.0	8914	
62.0	9994	
63.0	10545	
64.0	10645	
65.0	10325	
66.0	9664	
67.0	8724	
68.0	7853	
69.0	7153	
70.0	6513	
71.0	5872	
72.0	5262	
73.0	4732	
74.0	4252	
75.0	3724	
76.0	3181	

COMMENTS : NOISY
DATUM SHOT

TRACE DISPLAY.

SHOT 22 Time 19:02:03 Level : 42 Shot location : C
Shot depth : 2 Charge size : .125 Amplifier gain : 1
No. surface samples : 128 Down hole sample nos : 0 600 808
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

SURFACE PHONE 1

SURFACE PHONE 2

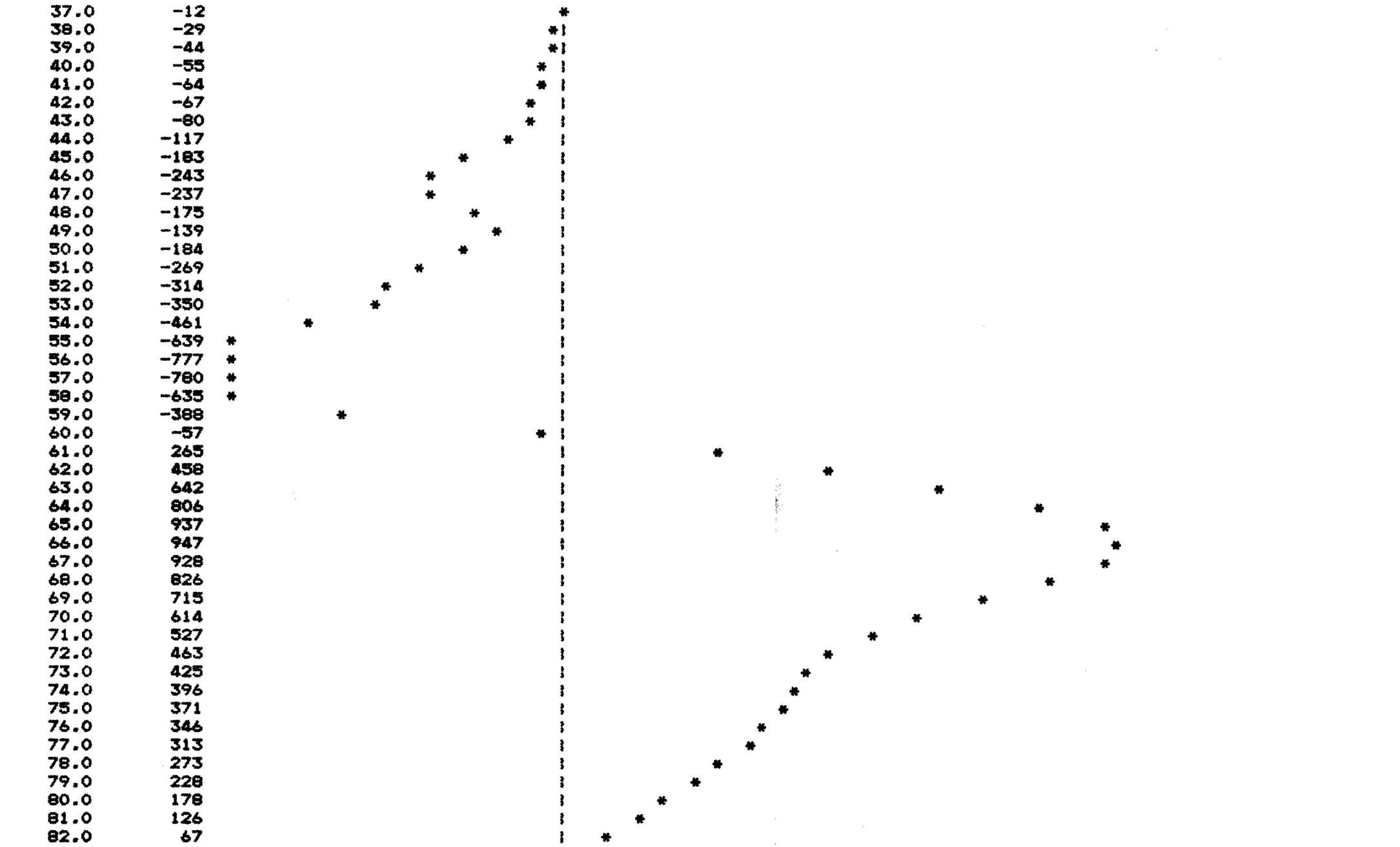
SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 8.374

FIRST BREAK PLOT. SCALE : 0.019 mV/column.

Sample time	Value mV
37.0	-12
38.0	-29
39.0	-44
40.0	-55
41.0	-64
42.0	-67
43.0	-80
44.0	-117
45.0	-183
46.0	-243
47.0	-237
48.0	-175
49.0	-139
50.0	-184
51.0	-269
52.0	-314
53.0	-350
54.0	-461
55.0	-639
56.0	-777
57.0	-780
58.0	-635
59.0	-388
60.0	-57
61.0	265
62.0	458
63.0	642
64.0	806
65.0	937
66.0	947
67.0	928
68.0	826
69.0	715
70.0	614
71.0	527
72.0	463
73.0	425
74.0	396
75.0	371
76.0	346
77.0	313
78.0	273
79.0	228
80.0	178
81.0	126
82.0	67



COMMENTS : DATUM SHOT

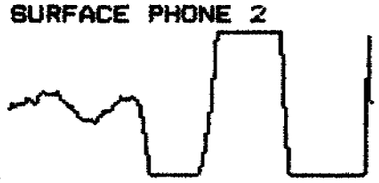
TRACE DISPLAY.

SHOT 23 Time 19:08:43 Level : 42 Shot location : B
Shot depth : 1 Charge size : .125 Amplifier gain : 1
No. surface samples : 128 Down hole sample nos : 0 600 808
Sample rates : 500 1000 usec Delay : 0

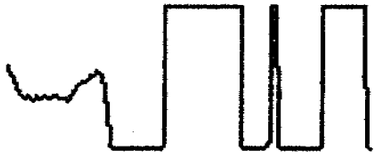
CONFIRM. TIME BREAK

SURFACE PHONE 1

SURFACE PHONE 2



SURFACE PHONE 3



WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 7.684

FIRST BREAK PLOT. SCALE = 0.092 mV/column.

Sample time	Value mV	Well phone data
22.0	3	*
23.0	21	*
24.0	40	*
25.0	63	|*
26.0	81	|*
27.0	87	|*
28.0	85	|*
29.0	77	|*
30.0	64	|*
31.0	50	|*
32.0	24	*
33.0	-81	*
34.0	-394	* |
35.0	-941	* |
36.0	-2118	* |
37.0	-3459	* |
38.0	-4547	* |
39.0	-4597	* |
40.0	-3269	* |
41.0	-889	* |
42.0	1250	| *
43.0	2336	| *
44.0	2366	| *
45.0	1805	| *
46.0	1229	| *
47.0	980	| *
48.0	940	| *
49.0	785	| *
50.0	522	| *
51.0	231	| *
52.0	45	*
53.0	-148	*|
54.0	-188	*|
55.0	20	*
56.0	347	| *
57.0	649	| *
58.0	1040	| *
59.0	1348	| *
60.0	1605	| *
61.0	1790	| *
62.0	1973	| *
63.0	2133	| *
64.0	2211	| *
65.0	2143	| *
66.0	1898	| *
67.0	1565	| *

COMMENTS : DATUM SHOT

TRACE DISPLAY.

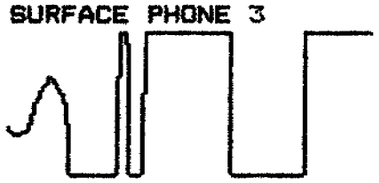
SHOT 24 Time 19:14:32 Level : 42 Shot location : A
Shot depth : .75 Charge size : .05 Amplifier gain : 1
No. surface samples : 128 Down hole sample nos : 0 600 808
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

SURFACE PHONE 1

SURFACE PHONE 2

SURFACE PHONE 3



WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 3.384

FIRST BREAK PLOT. SCALE : 0.037 mV/column.

Sample time	Value mV	Well phone data
19.0	47	
20.0	14	
21.0	-14	
22.0	-39	
23.0	-58	
24.0	-79	
25.0	-89	
26.0	-99	
27.0	-103	
28.0	-107	
29.0	-126	
30.0	-181	
31.0	-323	
32.0	-528	
33.0	-881	
34.0	-1300	
35.0	-1608	
36.0	-1803	
37.0	-1860	
38.0	-1725	
39.0	-1448	
40.0	-1188	
41.0	-939	
42.0	-652	
43.0	-182	
44.0	160	
45.0	383	
46.0	580	
47.0	747	
48.0	847	
49.0	874	
50.0	870	
51.0	851	
52.0	784	
53.0	685	
54.0	621	
55.0	598	
56.0	587	
57.0	593	
58.0	650	
59.0	736	
60.0	867	
61.0	944	
62.0	1024	
63.0	1074	
64.0	1064	

COMMENTS : DATUM SHOT

TRACE DISPLAY.

SHOT 25 Time 19:20:42 Level : 42 Shot location : C
Shot depth : 2 Charge size : .25 Amplifier gain : 1
No. surface samples : 128 Down hole sample nos : 0 600 808
Sample rates : 500 1000 usec Delay : 0

CONFIRM. TIME BREAK

SURFACE PHONE 1

SURFACE PHONE 2

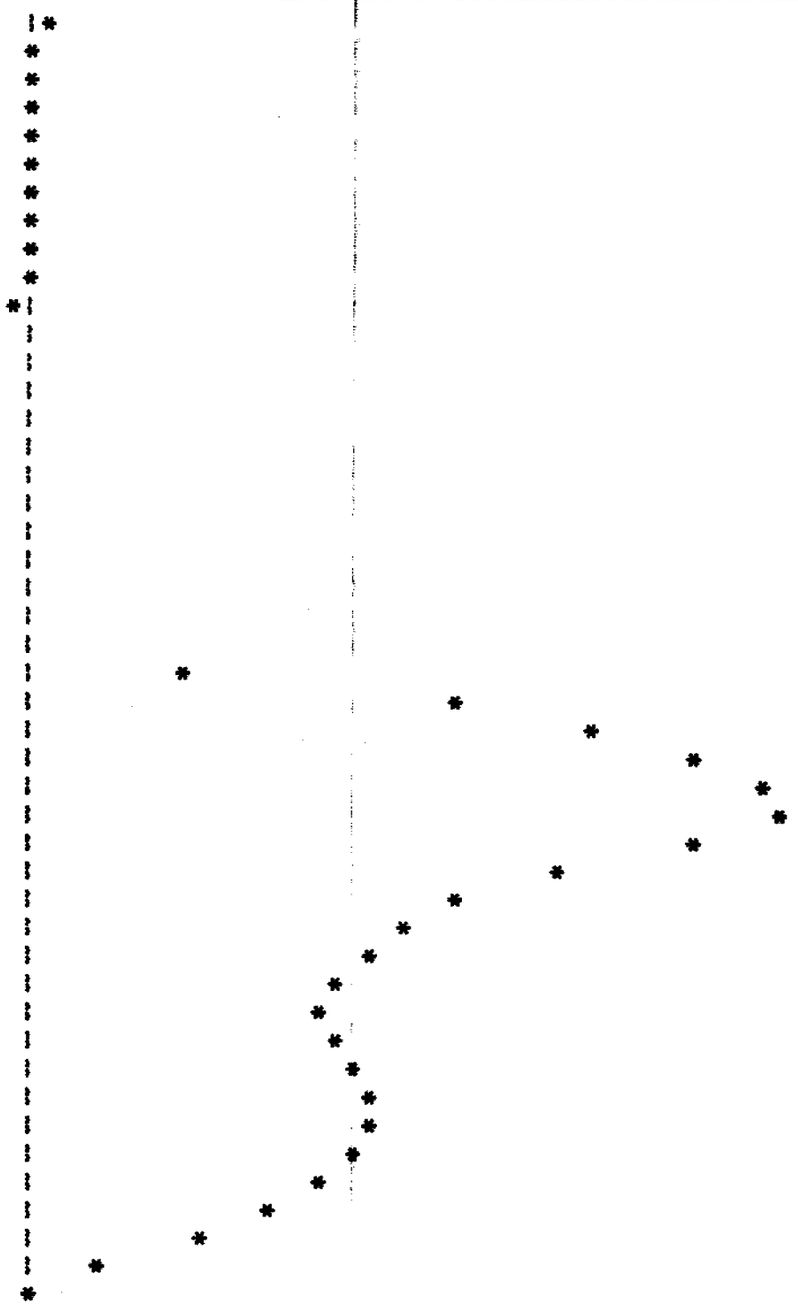
SURFACE PHONE 3

WELL PHONE CHANNEL - floating point amplifier

Data maximum (mV) : down hole channel - 10.535

FIRST BREAK PLOT. SCALE : 0.056 mV/column.

Sample time	Value mV
34.0	42
35.0	16
36.0	-7
37.0	-26
38.0	-38
39.0	-45
40.0	-52
41.0	-54
42.0	-56
43.0	-76
44.0	-130
45.0	-239
46.0	-370
47.0	-540
48.0	-782
49.0	-1284
50.0	-1898
51.0	-2521
52.0	-2811
53.0	-2678
54.0	-2186
55.0	-1415
56.0	-519
57.0	530
58.0	1378
59.0	1860
60.0	2211
61.0	2441
62.0	2448
63.0	2173
64.0	1763
65.0	1428
66.0	1238
67.0	1106
68.0	1021
69.0	980
70.0	1015
71.0	1091
72.0	1141
73.0	1136
74.0	1085
75.0	951
76.0	779
77.0	551
78.0	245
79.0	-17



COMMENTS : DATUM SHOT
LAST SHOT OF SURVEY

Figure 4

ONE-WAY TIME (SECONDS)

0·0 0·1 0·2 0·3 0·4 0·5 0·6 0·7 0·8 0·9 1·0

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3:4 (Depth below K B)

DATUM (SEA LEVEL) 0

* CHECK SHOT
+ SONIC POINT

ARGONAUT INTERNATIONAL CORPORATION

THOMAS Nº 1

TIME-DEPTH & VELOCITY CURVES

BY

VELOCITY DATA PTY. LTD.

NOVEMBER 6, 1981.

DEPTH BELOW DATUM (METRES)

500
1000
1500
2000
2500
3000
3500
4000

1100 — TOOLEBUC — 1063
1213
1390 — TRANS — 1353
1363
1435 — TOP DE SOUZA — 1398
1433
1505
1546
1705
1737
1918
2070 — TOP POOLA WANNA — 2033
2043
2060
2160 — INTER POOLA WANNA — 2123
2133
2188
2260 — TOP PEERA PEELA — 2225
2243
2345 — RED BEDS — 2308
2395
2450 — BASEMENT — 2415
2423
2573

Time-Depth

Average Velocity

Interval Velocity

2000 2500 3000 — AVERAGE VELOCITY

2000 3000 4000 5000 6000 — INTERVAL VELOCITY

VELOCITY (METRES PER SECOND)

PE 831108

ARGONAUT INTERNATIONAL CORPORATION

THOMAS No. 1

WELL PROGRESS CHART