



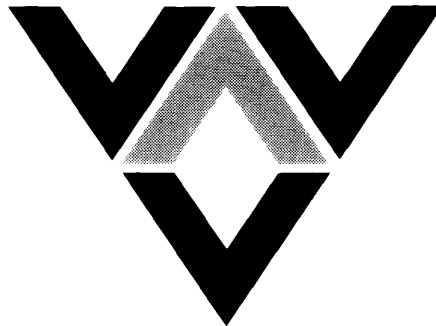
# Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

# APPENDIX 7. VELOCITY SURVEY.

## Velocity Data

DEPT. NAT. RES & ENV  
  
PE903699



WELL VELOCITY SURVEY

PINE LODGE #1

W1034

PEP 105

VICTORIA

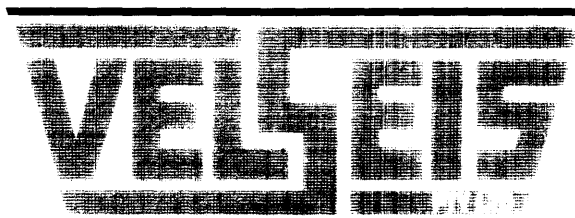
for

GAS and FUEL EXPLORATION NL

recorded by

VELOCITY DATA PTY. LTD.

processed by



**Integrated Seismic Technologies**

Brisbane, Australia

November 22, 1990

## RELEVANT FILES

File No.	Subject

## SYMBOLS FOR ACTION OFFICERS

## EXECUTIVE

Secretary  
Deputy Secretary  
Executive Director Portfolio Management  
Executive Director Performance Evaluation  
Executive Director Primary Industries and Chief Scientist  
Executive Director Catchment Mgt & Sustainable Agriculture  
Executive Director Minerals and Petroleum  
Executive Director Forests Service  
Executive Director Parks, Flora and Fauna  
Executive Director Land Victoria  
Executive Director Regional Services

SEC  
DS  
EDPM  
EDPE  
EDPI,CS  
EDCMSA  
EDMP  
EDFS  
EDPF  
EDLV  
EDRS

## PERFORMANCE EVALUATION

Chief Economist  
Manager Internal Audit & Risk Mgt Policy  
Manager Strategic Quality Assurance

CE  
MIARMP  
MSQA

## CATCHMENT MGT &amp; SUSTAINABLE AGRICULTURE

Program Manager Pest Plants & Animals  
Director Catchment & Water Resources  
Director Sustainable Development  
Director Office of Rural Affairs  
Director Natural Resource Policy

PMPPA  
DCWR  
DSD  
DORA  
DNRP

## CORPORATE MANAGEMENT

General Manager Corporate Services  
Chief Finance Officer  
Manager Information Technology Strategies  
Director Capital Policy  
Director Human Resources  
Director Planning & Budget  
Director Information Technology & Telecommunications  
Director Business Reform  
Manager Business Improvement  
Manager Administrative Policy & Procedures  
Manager Metropolitan Administrative Operations  
Manager Corporate Communications & Information  
Manager Electronic Information Services  
Manager Library & Information Services

GMCS  
CFNO  
MITS  
DCP  
DHR  
DPB  
DITT  
DBR  
MBI  
MAPP  
MMAO  
MCCI  
MEIS  
MLIS

## FORESTS SERVICE

Manager Commercial Forestry  
Chief Fire Officer  
Manager Forest Management  
Manager Regional Forests Agreements

MCF  
CFO  
MFM  
MRFA

## PARKS, FLORA &amp; FAUNA

Manager Parks & Reserves  
Manager Business Management Parks, Flora & Fauna  
Manager Flora & Fauna  
Manager Coasts & Ports

MPR  
MBMPFF  
MFF  
MCP

## LAND VICTORIA

Director Geospatial Information  
Director Resources & Reform  
Surveyor General  
Valuer General  
Director Land Registry  
Director Crown Land Management

DGI  
DRR  
SG  
VG  
DLR  
DCLM

## PORTFOLIO MANAGEMENT

Director Water Agencies  
Manager Portfolio Coordination  
Manager Environmental Policy  
Manager Policy Support  
Director Media

DWA  
MPC  
MEP  
MPOS  
DM

## MINERALS AND PETROLEUM

Manager Petroleum Development  
Manager Geological Survey Victoria  
Manager Mineral & Petroleum Operations  
Manager Minerals Development  
Manager Extractive Industries  
Manager Minerals & Petroleum Titles

MPD  
MGSV  
MMPO  
MMD  
MEI  
MMPT

## PRIMARY INDUSTRIES &amp; CHIEF SCIENTIST

Manager Chemical Standards Branch  
Manager Plant Standards  
Chief Veterinary Officer  
Director Bureau of Animal Welfare  
Director Fisheries  
Director Quality

MCSB  
MPS  
CVO  
DBAW  
DF

## CONTENTS

<b>SUMMARY</b>	...	...	...	1
<b>GENERAL INFORMATION</b>	...	...	...	1
<b>EQUIPMENT</b>	...	...	...	2
<b>RECORDING</b>	...	...	...	3

### **PROCESSING**

Elevation Data	...	...	3
Recorded Data	...	...	4
Correction for Instrument Delay and Shot Offset	...	...	4
Correction to Datum	...	...	4
Calibration of Sonic Log			
Method	...	...	5
Results	...	...	5
Trace Playouts	...	...	6

### **FIGURES**

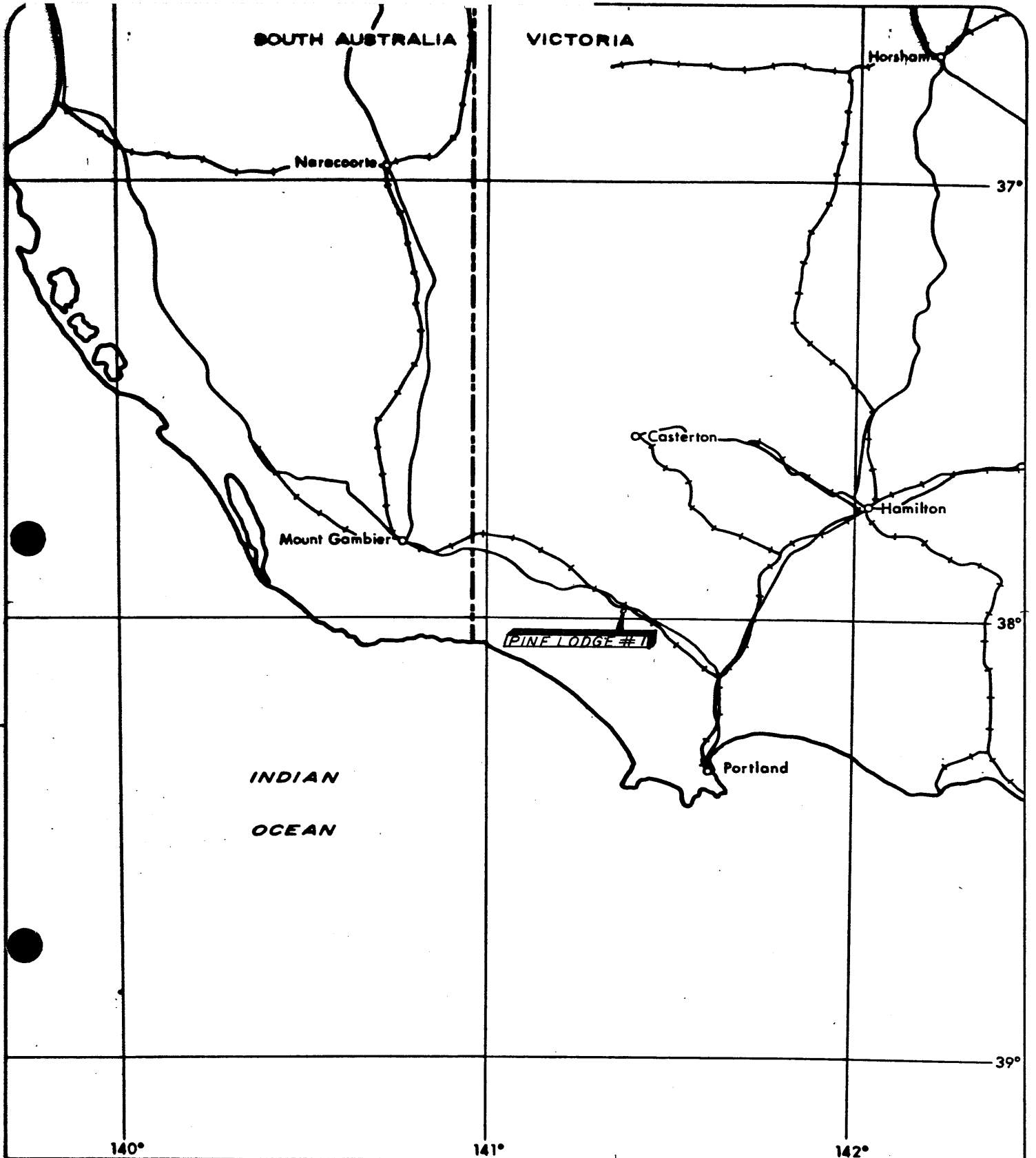
Figure 1	Well location map
Figure 2	Shot location sketch
Figure 3	Time-depth and velocity curves
Figure 4	Trace playouts

### **Tables**

Table 1	Time-depth values
---------	-------------------

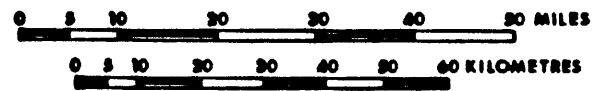
### **Enclosures**

1.	Calculation Sheets
2.	Trace Display and First Arrival Plots

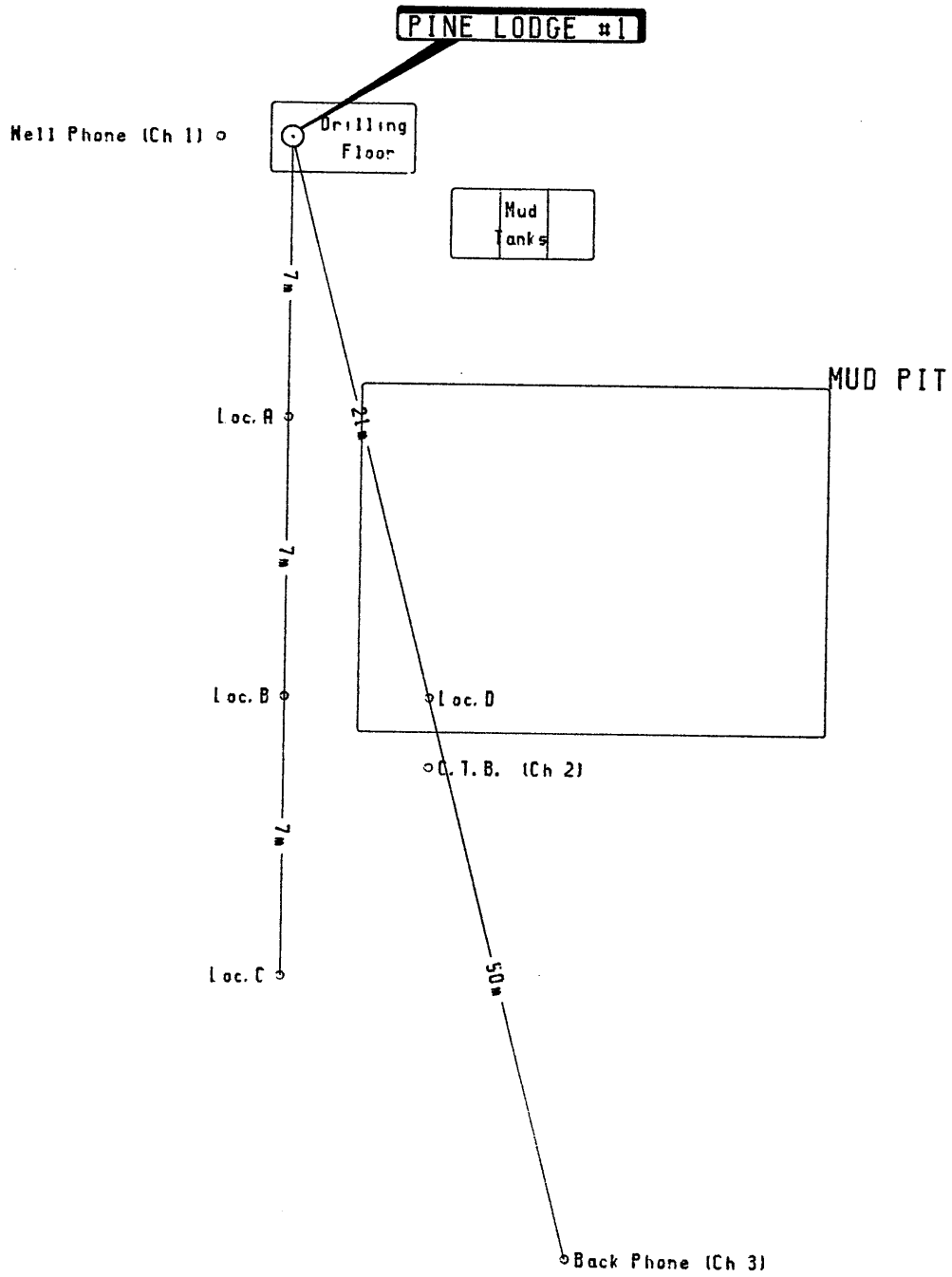


**PINE LODGE #1**  
**GAS AND FUEL EXPLORATION**  
**WELL LOCATION MAP**

Scale 1:1250000 approx. (1 in. = 20 mi.)



**Figure 1**



**PINE LODGE #1**

GAS and FUEL EXPLORATION NL  
 SHOT POINT LOCATION SKETCH



Figure 2

**SUMMARY**

Velocity Data Pty Ltd conducted a velocity survey for Gas and Fuel Exploration NL in the Pine Lodge No1 well, PEP\_105, Otway Basin, Victoria, Australia. The date of the survey was the 29<sup>th</sup> 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	:	Pine Lodge #1
Location (Figure 1)	:	PEP 105 , Otway Basin
Coordinates	:	Latitude 037 58 25.44 Longitude 141 21 41.60
Date of Survey	:	August 29 <sup>th</sup> , 1990.
Wireline Logging	:	Haliburton Unit DDL07
Weather	:	Fine
Operational Base	:	Brisbane
Operator	:	N.Delfos
Shooter	:	J.Brown
Client Representative	:	Dr A. Tabassi

**EQUIPMENT****Downhole Tool**

Veldata Camlock 100 (90 mm)

**Sensors:**

6 HSI 4.5 Hz 215 ohm, high temperature (300 degrees 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 Geophone**

Mark Products L1 4.5 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 : 0.5/1 (125grm) sticks  
Average Shot Depth : 2.0 metres  
Average Shot Offset : 21.0 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 layout.

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

**PROCESSING****Elevation Data**

Elevation of KB : 57.3m above sea level  
Elevation of Ground : 51.6m above sea level  
Elevation of Seismic Datum : 0.0m above sea level  
Depth Surveyed : 2142.6m below KB  
Total Depth : 2149.3m below KB  
Depth of Casing : 305.7m below KB  
Sonic Log Interval : 18.9 to 2150.2m below KB



**PROCESSING****Recorded Data**

Number of Shots Used : 25  
Number of Levels Recorded : 20  
Data Quality : Fair  
Noise Level : Low  
Rejected Shots : 7

**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 1100 metres/sec
- (iv) readdition of the instrument delay (4msec).

**Correction to Datum**

The datum chosen was 0.0 metres ASL that is 57.3 metres below ground. This level was not shot during the survey and for the calculations a value of 32.8msecs was interpolated for the effective datum correction using the check shot levels that were taken near to datum. This value includes an instrumentation delay.

## **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 small. The largest adjustment was 41.07  $\mu\text{s}/\text{metre}$  on the interval 1753 to 1865 metres below KB.

In aggregate, the shot and sonic interval times differed by 20.6 msec over the logged portion of the well.

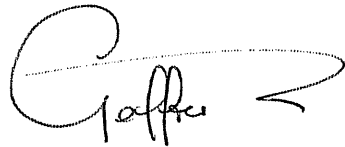
**PROCESSING****Trace Playouts ( Figure 4 )**

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.

A handwritten signature in cursive script, appearing to read 'Geoffrey Bell', with a long horizontal flourish extending to the right.

**Geoffrey Bell**  
**Geophysical Analyst.**

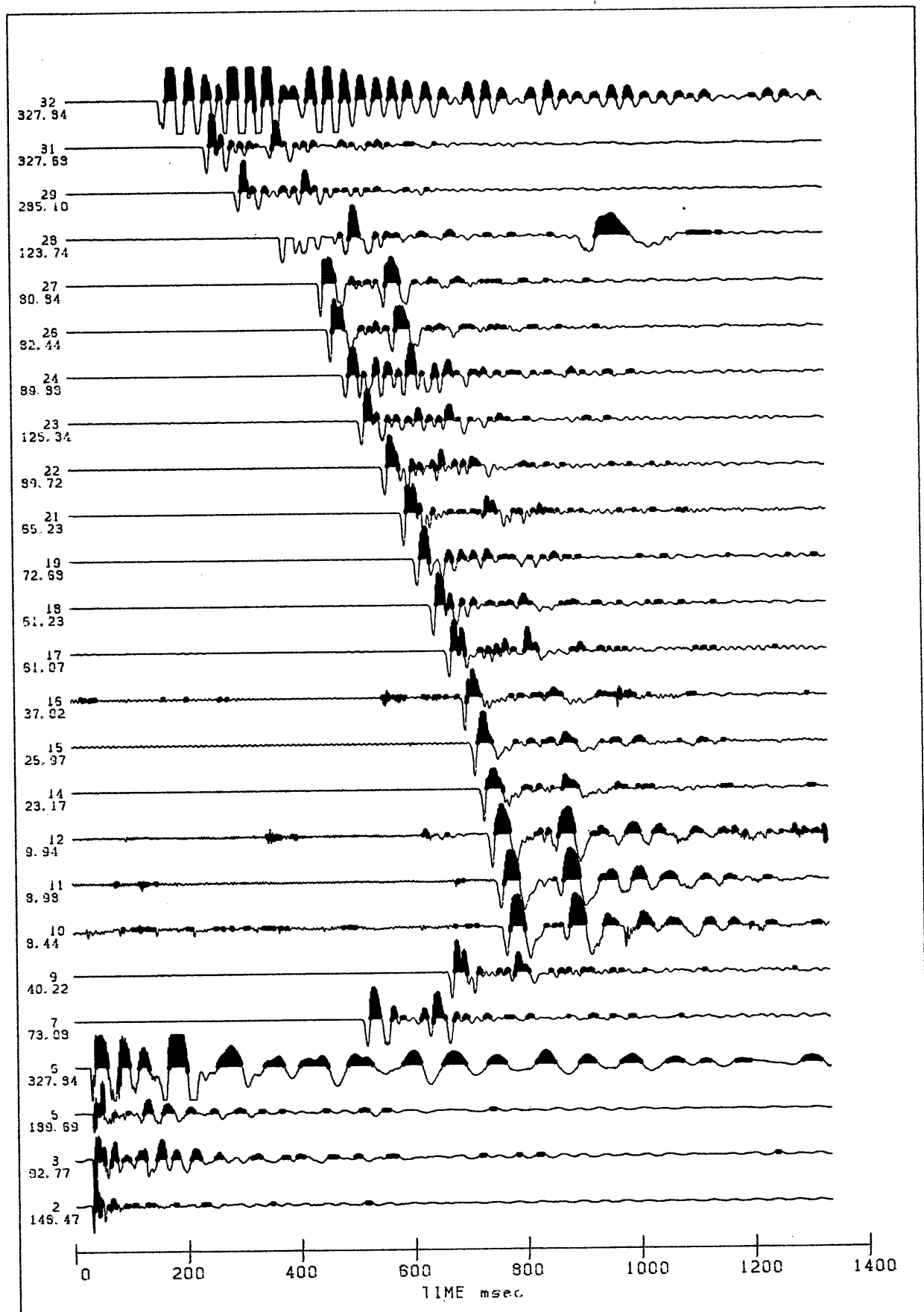
PE903700

This is an enclosure indicator page.  
The enclosure PE903700 is enclosed within the  
container PE903699 at this location in this  
document.

The enclosure PE903700 has the following characteristics:

- ITEM\_BARCODE = PE903700
- CONTAINER\_BARCODE = PE903699
  - NAME = Pine Lodge 1 time-depth and velocity curves
  - BASIN = OTWAY
  - PERMIT = PEP105
  - TYPE = WELL
  - SUBTYPE = VELOCITY\_CHART
- DESCRIPTION = Pine Lodge 1 time-depth and velocity curves (from appendix 7--Velocity Survey--of WCR)
- REMARKS =
- DATE\_CREATED = 29/08/90
- DATE\_RECEIVED =
- W\_NO = W1034
- WELL\_NAME = Pine Lodge-1
- CONTRACTOR = Velocity Data Pty Ltd
- CLIENT\_OP\_CO = Gas and Fuel Exploration N.L

(Inserted by DNRE - Vic Govt Mines Dept)



# PINE LODGE #1

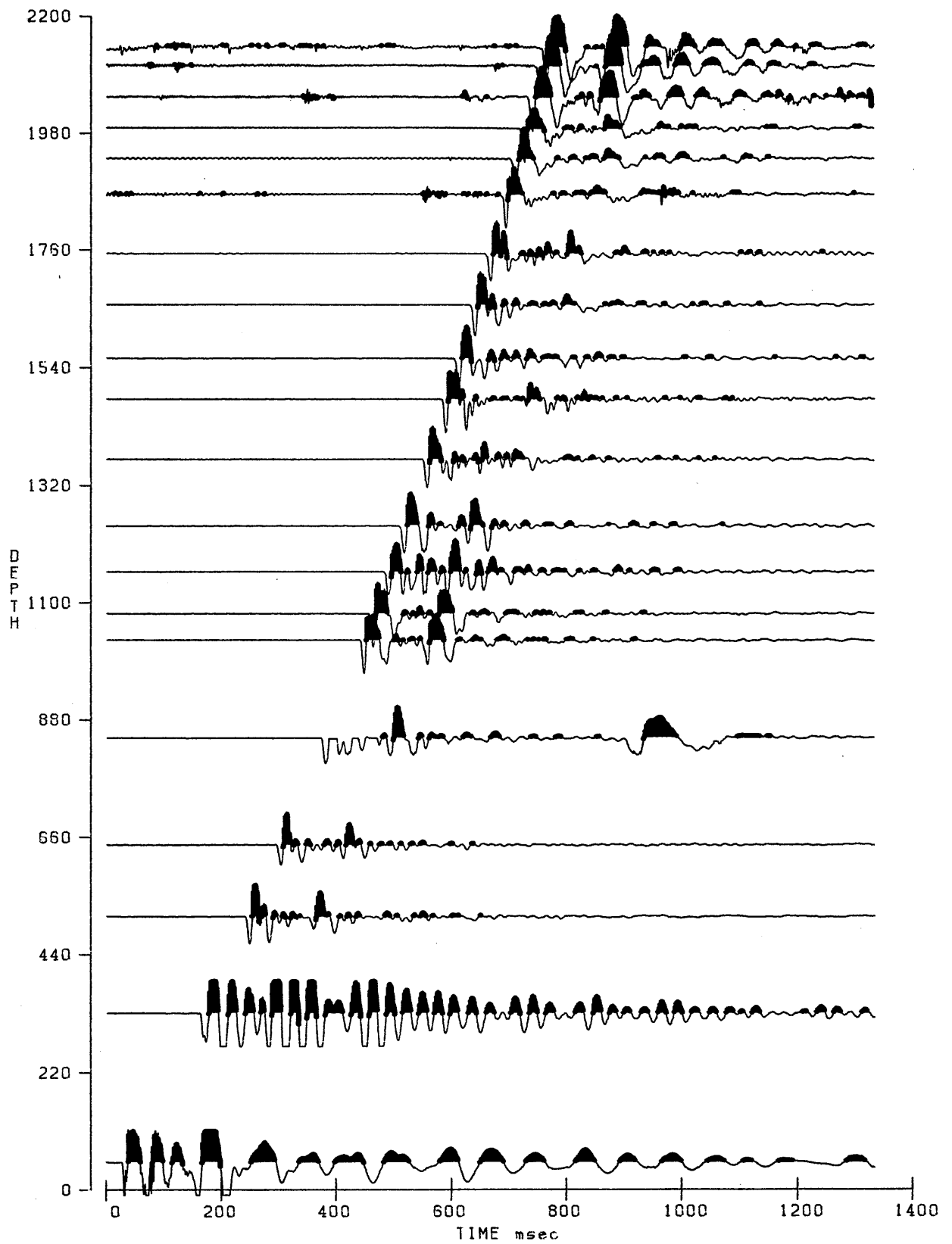
VELOCITY SURVEY TRACE DISPLAY

Filter OUT-OUT

No gain recovery



Figure 4A



# PINE LODGE #1

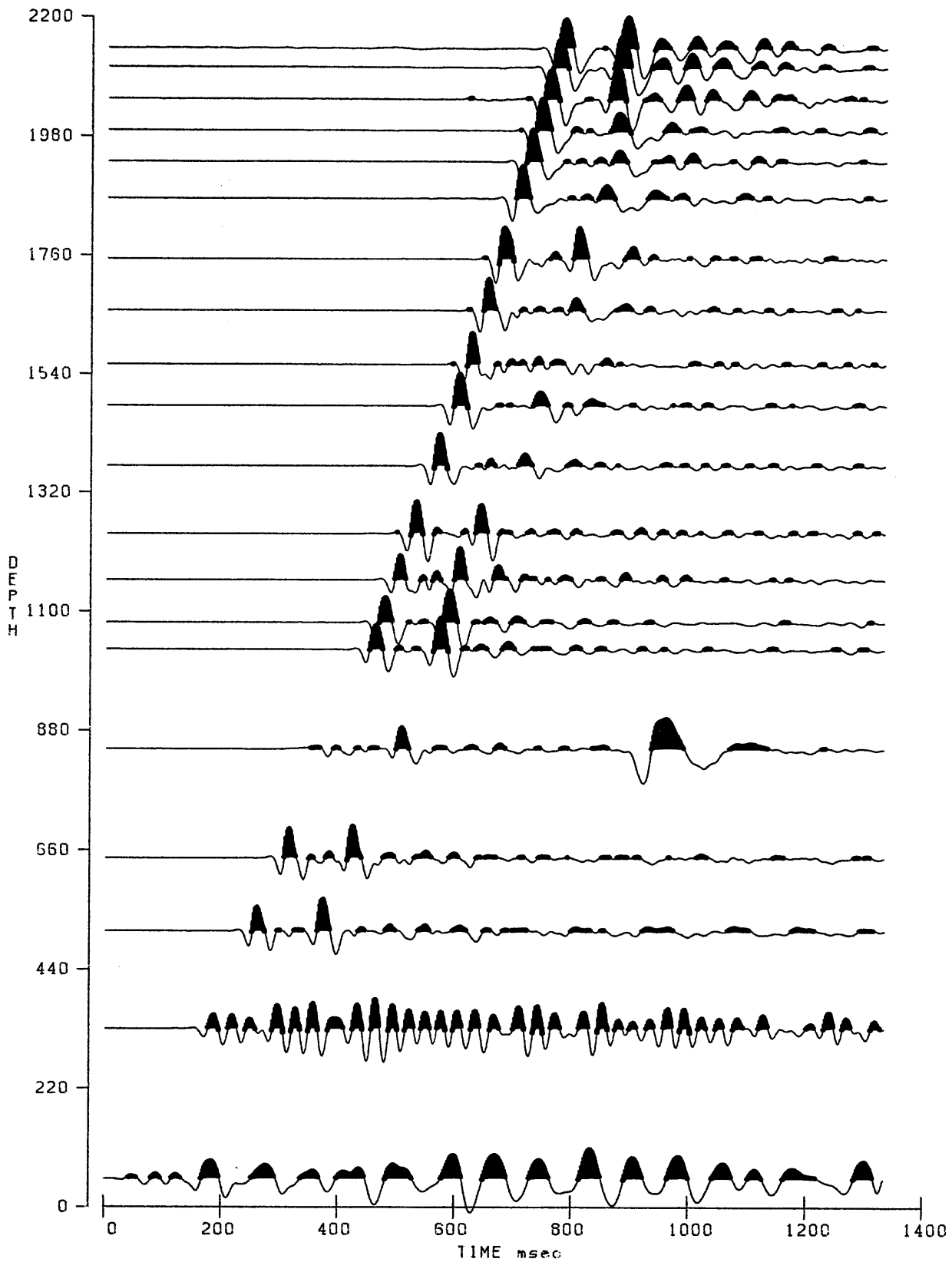
VELOCITY SURVEY TRACE DISPLAY

Filter OUT-OUT

No gain recovery



Figure 4B



# PINE LODGE #1

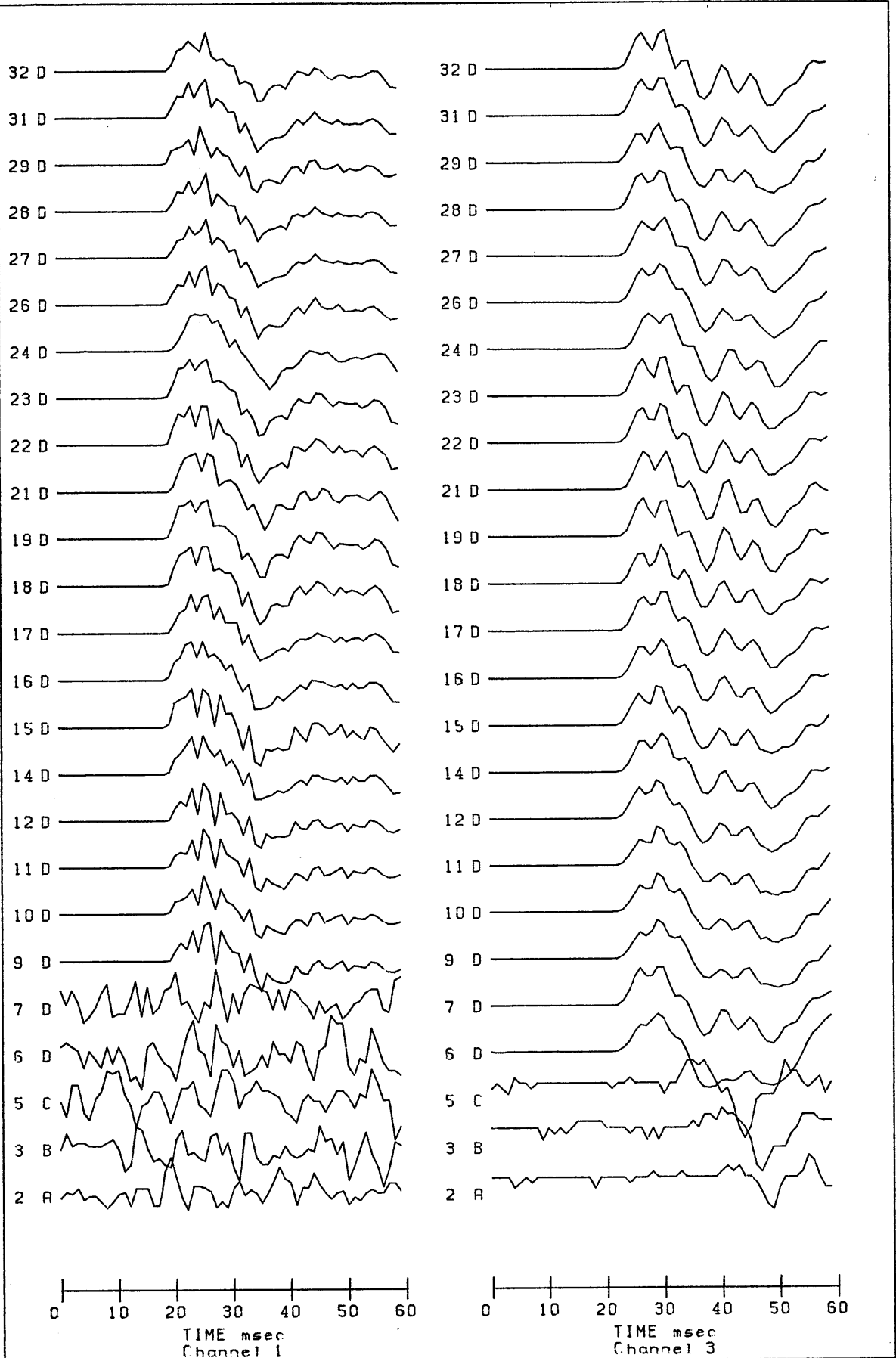
VELOCITY SURVEY TRACE DISPLAY

Filter 5-40

Gain  $T^{2.0}$



Figure 4C



# PINE LODGE N01

VELOCITY SURVEY TRACE DISPLAY  
 Auxiliary channels  
 Filter OUT-OUT



Figure 4D



TABLE 1.

## Time-Depth curve values

Page 1.

Well : PINE LODGE #1

Client : GAS &amp; FUEL EXPLORATION

Survey units : METRES

Datum : 0.0

Calibrated sonic interval velocities used from 275.0 to 2085.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
5.0	2.6	1947	1947	1947	205.0	100.2	2046	2046	2051
10.0	5.1	1972	1972	1997	210.0	102.7	2046	2046	2051
15.0	7.5	1989	1989	2023	215.0	105.1	2046	2046	2051
20.0	10.0	2000	2001	2037	220.0	107.5	2046	2046	2051
25.0	12.4	2009	2009	2044	225.0	110.0	2046	2046	2051
30.0	14.9	2015	2016	2047	230.0	112.4	2046	2046	2051
35.0	17.3	2020	2020	2049	235.0	114.8	2046	2046	2052
40.0	19.8	2024	2024	2050	240.0	117.3	2046	2047	2052
45.0	22.2	2027	2027	2051	245.0	119.7	2047	2047	2053
50.0	24.6	2029	2029	2051	250.0	122.1	2047	2047	2055
55.0	27.1	2031	2031	2051	255.0	124.6	2047	2047	2059
60.0	29.5	2033	2033	2051	260.0	127.0	2047	2047	2067
65.0	32.0	2034	2034	2051	265.0	129.4	2048	2048	2084
70.0	34.4	2035	2036	2051	270.0	131.8	2049	2049	2117
75.0	36.8	2036	2037	2051	275.0	134.1	2050	2052	2183
80.0	39.3	2037	2037	2051	280.0	136.5	2052	2054	2160
85.0	41.7	2038	2038	2051	285.0	138.6	2057	2059	2344
90.0	44.1	2039	2039	2051	290.0	140.8	2060	2062	2268
95.0	46.6	2039	2040	2051	295.0	142.9	2064	2066	2338
100.0	49.0	2040	2040	2051	300.0	145.1	2067	2069	2263
105.0	51.5	2041	2041	2051	305.0	147.4	2070	2072	2230
110.0	53.9	2041	2041	2051	310.0	149.6	2072	2075	2262
115.0	56.3	2041	2042	2051	315.0	151.7	2076	2079	2318
120.0	58.8	2042	2042	2051	320.0	153.9	2079	2082	2338
125.0	61.2	2042	2042	2051	325.0	156.0	2083	2086	2328
130.0	63.6	2043	2043	2051	330.0	158.2	2086	2090	2344
135.0	66.1	2043	2043	2051	335.0	160.3	2090	2093	2327
140.0	68.5	2043	2043	2051	340.0	162.4	2093	2097	2360
145.0	71.0	2043	2044	2051	345.0	164.6	2096	2100	2302
150.0	73.4	2044	2044	2051	350.0	166.8	2098	2102	2279
155.0	75.8	2044	2044	2051	355.0	168.9	2102	2106	2360
160.0	78.3	2044	2044	2051	360.0	171.0	2105	2110	2420
165.0	80.7	2044	2044	2051	365.0	173.1	2109	2113	2408
170.0	83.1	2045	2045	2051	370.0	175.2	2111	2116	2297
175.0	85.6	2045	2045	2051	375.0	177.4	2113	2118	2274
180.0	88.0	2045	2045	2051	380.0	179.6	2115	2120	2277
185.0	90.5	2045	2045	2051	385.0	181.7	2119	2123	2417
190.0	92.9	2045	2045	2051	390.0	183.8	2122	2126	2354
195.0	95.3	2045	2045	2051	395.0	186.0	2124	2129	2340
200.0	97.8	2045	2046	2051	400.0	188.1	2127	2132	2388

Well : PINE LODGE #1  
Survey units : METRES

Client : GAS & FUEL EXPLORATION

Datum : 0.0

Calibrated sonic interval velocities used from 275.0 to 2085.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
405.0	190.1	2130	2135	2390	605.0	272.5	2220	2229	2436
410.0	192.2	2133	2138	2404	610.0	274.7	2221	2229	2262
415.0	194.3	2136	2141	2375	615.0	276.7	2223	2231	2483
420.0	196.5	2137	2142	2255	620.0	278.5	2226	2235	2728
425.0	198.8	2138	2143	2216	625.0	280.4	2229	2238	2637
430.0	201.0	2139	2144	2281	630.0	282.4	2231	2240	2556
435.0	203.1	2142	2147	2423	635.0	284.2	2234	2244	2750
440.0	205.2	2145	2150	2379	640.0	285.9	2239	2249	2967
445.0	207.2	2148	2153	2433	645.0	287.7	2242	2252	2726
450.0	209.4	2149	2154	2258	650.0	289.5	2245	2256	2837
455.0	211.6	2150	2155	2285	655.0	291.3	2249	2259	2733
460.0	214.0	2149	2155	2074	660.0	293.2	2251	2262	2654
465.0	216.2	2151	2156	2330	665.0	295.0	2254	2265	2690
470.0	218.2	2154	2159	2419	670.0	296.9	2256	2268	2638
475.0	220.2	2157	2163	2520	675.0	298.7	2260	2272	2851
480.0	222.2	2161	2167	2592	680.0	300.4	2264	2276	2902
485.0	224.1	2164	2171	2575	685.0	302.4	2265	2277	2501
490.0	226.1	2167	2174	2510	690.0	304.4	2266	2279	2468
495.0	228.1	2170	2176	2431	695.0	306.5	2268	2280	2459
500.0	230.2	2172	2179	2465	700.0	308.5	2269	2281	2451
505.0	232.2	2175	2182	2474	705.0	310.6	2270	2282	2407
510.0	234.2	2177	2184	2470	710.0	312.5	2272	2284	2632
515.0	236.3	2179	2186	2349	715.0	314.7	2272	2284	2288
520.0	238.4	2181	2188	2432	720.0	316.8	2273	2285	2370
525.0	240.5	2183	2190	2378	725.0	318.9	2274	2285	2393
530.0	242.5	2185	2192	2478	730.0	321.1	2274	2285	2295
535.0	244.5	2188	2195	2492	735.0	323.3	2274	2285	2269
540.0	246.6	2190	2197	2390	740.0	325.4	2274	2286	2380
545.0	248.6	2192	2199	2490	745.0	327.5	2275	2286	2348
550.0	250.6	2195	2202	2532	750.0	329.8	2274	2286	2173
555.0	252.6	2197	2205	2531	755.0	331.8	2275	2287	2432
560.0	254.6	2199	2207	2468	760.0	334.0	2275	2287	2321
565.0	256.6	2202	2210	2549	765.0	336.1	2276	2288	2418
570.0	258.5	2205	2213	2536	770.0	338.1	2278	2289	2486
575.0	260.5	2207	2215	2562	775.0	340.1	2279	2290	2533
580.0	262.4	2210	2218	2574	780.0	341.9	2281	2292	2640
585.0	264.4	2213	2221	2543	785.0	343.9	2283	2294	2558
590.0	266.4	2215	2223	2496	790.0	345.8	2284	2296	2594
595.0	268.4	2217	2225	2524	795.0	347.8	2286	2297	2558
600.0	270.4	2219	2227	2464	800.0	349.5	2289	2301	2917

TABLE 1.

## Time-Depth curve values

Page 3.

Well : PINE LODGE #1

Survey units : METRES

Calibrated sonic interval velocities used from

Client : GAS &amp; FUEL EXPLORATION

Datum : 0.0

275.0 to 2085.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
805.0	351.3	2292	2304	2847	1005.0	421.9	2382	2403	3903
810.0	353.0	2294	2307	2809	1010.0	423.2	2387	2409	3807
815.0	354.9	2297	2309	2707	1015.0	424.5	2391	2414	3715
820.0	356.8	2298	2311	2672	1020.0	425.9	2395	2420	3793
825.0	358.7	2300	2313	2619	1025.0	427.1	2400	2426	4049
830.0	360.6	2302	2315	2640	1030.0	428.7	2403	2429	3226
835.0	362.4	2304	2316	2646	1035.0	430.2	2406	2433	3198
840.0	364.3	2306	2319	2760	1040.0	431.8	2408	2436	3148
845.0	366.0	2308	2321	2798	1045.0	433.7	2410	2437	2700
850.0	367.8	2311	2325	2913	1050.0	435.3	2412	2439	3013
855.0	369.5	2314	2327	2836	1055.0	437.0	2414	2442	3046
860.0	371.3	2316	2330	2771	1060.0	438.6	2417	2444	3074
865.0	373.2	2318	2331	2670	1065.0	440.3	2419	2447	2940
870.0	375.0	2320	2334	2732	1070.0	441.9	2421	2449	3027
875.0	376.8	2322	2336	2799	1075.0	443.6	2423	2451	2938
880.0	378.5	2325	2339	2961	1080.0	445.3	2425	2453	3026
885.0	380.4	2326	2341	2633	1085.0	446.9	2428	2456	3073
890.0	382.3	2328	2342	2655	1090.0	448.5	2430	2459	3153
895.0	384.2	2329	2344	2594	1095.0	450.0	2433	2462	3236
900.0	386.1	2331	2345	2663	1100.0	451.6	2436	2465	3183
905.0	388.0	2333	2347	2632	1105.0	453.3	2438	2467	2955
910.0	390.0	2333	2348	2489	1110.0	455.0	2440	2469	3022
915.0	392.0	2334	2349	2557	1115.0	456.6	2442	2471	3078
920.0	393.8	2336	2351	2721	1120.0	458.2	2444	2474	3050
925.0	395.7	2338	2352	2643	1125.0	459.8	2447	2476	3142
930.0	397.5	2339	2354	2693	1130.0	461.4	2449	2479	3253
935.0	399.4	2341	2356	2747	1135.0	462.9	2452	2482	3188
940.0	401.2	2343	2358	2745	1140.0	464.5	2454	2485	3145
945.0	403.0	2345	2360	2770	1145.0	466.1	2457	2487	3152
950.0	404.8	2347	2362	2824	1150.0	467.8	2458	2489	2937
955.0	406.5	2349	2364	2856	1155.0	469.5	2460	2491	2885
960.0	408.3	2351	2366	2831	1160.0	471.2	2462	2493	3031
965.0	410.0	2354	2369	2863	1165.0	472.8	2464	2495	3050
970.0	411.8	2356	2371	2858	1170.0	474.5	2466	2497	3047
975.0	413.4	2358	2374	3010	1175.0	476.1	2468	2499	3039
980.0	415.0	2362	2378	3281	1180.0	477.7	2470	2502	3186
985.0	416.3	2366	2384	3742	1185.0	479.2	2473	2505	3309
990.0	417.7	2370	2389	3613	1190.0	480.7	2475	2507	3219
995.0	419.1	2374	2393	3458	1195.0	482.3	2478	2510	3193
1000.0	420.6	2378	2397	3371	1200.0	484.0	2480	2512	3044

TABLE 1.

## Time-Depth curve values

Page 4.

Well : PINE LODGE #1

Client : GAS &amp; FUEL EXPLORATION

Survey units : METRES

Datum : 0.0

Calibrated sonic interval velocities used from 275.0 to 2085.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
1205.0	485.6	2482	2514	3080	1405.0	546.0	2573	2614	3565
1210.0	487.2	2484	2516	3105	1410.0	547.5	2575	2617	3325
1215.0	488.8	2486	2518	3145	1415.0	548.9	2578	2620	3553
1220.0	490.4	2488	2521	3135	1420.0	550.3	2580	2622	3438
1225.0	492.0	2490	2523	3163	1425.0	551.7	2583	2625	3567
1230.0	493.5	2492	2526	3259	1430.0	553.2	2585	2627	3463
1235.0	495.0	2495	2528	3267	1435.0	554.6	2588	2630	3664
1240.0	496.5	2497	2531	3335	1440.0	556.1	2590	2632	3284
1245.0	498.0	2500	2534	3282	1445.0	557.5	2592	2635	3443
1250.0	499.6	2502	2536	3227	1450.0	559.0	2594	2638	3517
1255.0	501.2	2504	2538	3136	1455.0	560.5	2596	2639	3190
1260.0	502.7	2507	2541	3382	1460.0	561.9	2598	2642	3615
1265.0	504.2	2509	2544	3236	1465.0	563.3	2601	2645	3660
1270.0	505.8	2511	2546	3184	1470.0	564.7	2603	2647	3431
1275.0	507.3	2513	2548	3202	1475.0	566.2	2605	2650	3436
1280.0	508.9	2515	2551	3279	1480.0	567.6	2607	2652	3468
1285.0	510.4	2517	2553	3159	1485.0	569.1	2609	2654	3402
1290.0	512.1	2519	2555	3095	1490.0	570.4	2612	2657	3792
1295.0	513.6	2521	2557	3258	1495.0	571.9	2614	2660	3356
1300.0	515.1	2524	2559	3303	1500.0	573.3	2617	2662	3639
1305.0	516.7	2526	2562	3235	1505.0	574.8	2618	2664	3281
1310.0	518.2	2528	2564	3204	1510.0	576.3	2620	2666	3363
1315.0	519.7	2530	2567	3462	1515.0	577.7	2622	2668	3481
1320.0	521.2	2533	2569	3301	1520.0	579.1	2625	2671	3518
1325.0	522.7	2535	2572	3278	1525.0	580.6	2627	2673	3395
1330.0	524.2	2537	2574	3280	1530.0	582.1	2629	2675	3421
1335.0	525.7	2539	2576	3291	1535.0	583.6	2630	2677	3366
1340.0	527.1	2542	2580	3654	1540.0	585.1	2632	2679	3362
1345.0	528.6	2544	2582	3358	1545.0	586.5	2634	2681	3372
1350.0	530.1	2547	2585	3318	1550.0	588.1	2636	2683	3260
1355.0	531.6	2549	2587	3326	1555.0	589.5	2638	2685	3534
1360.0	533.1	2551	2590	3451	1560.0	590.9	2640	2688	3585
1365.0	534.5	2554	2593	3576	1565.0	592.3	2642	2690	3587
1370.0	536.0	2556	2595	3288	1570.0	593.7	2645	2693	3599
1375.0	537.4	2558	2598	3457	1575.0	595.0	2647	2695	3670
1380.0	538.9	2561	2600	3381	1580.0	596.4	2649	2698	3609
1385.0	540.4	2563	2603	3462	1585.0	597.7	2652	2700	3755
1390.0	541.8	2566	2606	3517	1590.0	599.0	2655	2704	4055
1395.0	543.2	2568	2609	3531	1595.0	600.2	2657	2707	3957
1400.0	544.6	2571	2612	3604	1600.0	601.4	2661	2711	4378

Well : PINE LODGE #1  
Survey units : METRES

Client : GAS & FUEL EXPLORATION  
Datum : 0.0

Calibrated sonic interval velocities used from 275.0 to 2085.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
1605.0	602.6	2664	2715	4190	1805.0	656.5	2750	2811	4089
1610.0	603.8	2667	2719	4217	1810.0	657.6	2752	2814	4312
1615.0	604.9	2670	2723	4389	1815.0	658.7	2755	2818	4590
1620.0	606.2	2672	2726	3870	1820.0	659.9	2758	2821	4137
1625.0	607.5	2675	2729	3734	1825.0	661.2	2760	2824	4010
1630.0	608.8	2677	2731	3885	1830.0	662.4	2763	2827	3990
1635.0	610.2	2679	2734	3547	1835.0	663.7	2765	2829	3948
1640.0	611.6	2681	2736	3583	1840.0	664.9	2767	2832	4043
1645.0	612.9	2684	2739	3811	1845.0	666.2	2769	2834	3798
1650.0	614.4	2686	2741	3509	1850.0	667.6	2771	2836	3623
1655.0	615.8	2688	2743	3555	1855.0	669.0	2773	2838	3696
1660.0	617.1	2690	2745	3630	1860.0	670.3	2775	2840	3661
1665.0	618.6	2692	2747	3419	1865.0	671.7	2777	2842	3735
1670.0	620.1	2693	2749	3363	1870.0	673.1	2778	2844	3573
1675.0	621.5	2695	2750	3481	1875.0	674.4	2780	2846	3920
1680.0	623.0	2697	2752	3505	1880.0	675.6	2783	2849	4109
1685.0	624.3	2699	2755	3635	1885.0	676.8	2785	2852	4152
1690.0	625.7	2701	2757	3587	1890.0	678.0	2788	2854	4154
1695.0	627.2	2703	2759	3442	1895.0	679.2	2790	2857	3948
1700.0	628.5	2705	2761	3837	1900.0	680.5	2792	2859	3921
1705.0	629.9	2707	2763	3572	1905.0	681.9	2794	2861	3714
1710.0	631.3	2709	2765	3518	1910.0	683.1	2796	2864	4009
1715.0	632.7	2711	2767	3559	1915.0	684.4	2798	2866	4030
1720.0	634.1	2712	2769	3502	1920.0	685.6	2801	2869	4105
1725.0	635.5	2714	2771	3653	1925.0	686.8	2803	2871	3964
1730.0	636.9	2716	2773	3541	1930.0	688.1	2805	2874	3956
1735.0	638.4	2718	2775	3374	1935.0	689.3	2807	2877	4287
1740.0	639.8	2720	2777	3588	1940.0	690.5	2810	2879	4125
1745.0	641.1	2722	2779	3815	1945.0	691.7	2812	2882	4062
1750.0	642.4	2724	2782	3874	1950.0	692.9	2814	2884	4057
1755.0	643.7	2727	2785	3871	1955.0	694.2	2816	2887	3973
1760.0	645.0	2729	2787	3887	1960.0	695.4	2818	2889	4072
1765.0	646.3	2731	2790	3838	1965.0	696.7	2820	2892	3941
1770.0	647.5	2734	2793	4157	1970.0	698.0	2823	2894	3959
1775.0	648.8	2736	2795	3692	1975.0	699.3	2824	2896	3737
1780.0	650.1	2738	2797	3780	1980.0	700.6	2826	2898	3972
1785.0	651.4	2740	2800	3932	1985.0	701.8	2828	2900	3955
1790.0	652.7	2742	2803	3938	1990.0	703.1	2830	2902	3940
1795.0	654.0	2745	2805	3892	1995.0	704.3	2833	2905	4301
1800.0	655.2	2747	2808	3942	2000.0	705.5	2835	2908	4068

Well : PINE LODGE #1

Client : GAS &amp; FUEL EXPLORATION

Survey units : METRES

Datum : 0.0

Calibrated sonic interval velocities used from 275.0 to 2085.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
2005.0	706.7	2837	2910	4077	2045.0	716.4	2855	2930	4492
2010.0	707.9	2839	2913	4173	2050.0	717.6	2857	2933	4166
2015.0	709.1	2842	2915	4117	2055.0	718.8	2859	2935	4129
2020.0	710.4	2844	2917	3945	2060.0	720.0	2861	2938	4167
2025.0	711.6	2846	2920	4094	2065.0	721.3	2863	2940	3927
2030.0	712.8	2848	2922	4042	2070.0	722.6	2864	2941	3611
2035.0	714.1	2850	2924	4041	2075.0	723.9	2867	2943	4148
2040.0	715.3	2852	2927	4237	2080.0	725.2	2868	2945	3693

PE903701

This is an enclosure indicator page.  
The enclosure PE903701 is enclosed within the  
container PE903699 at this location in this  
document.

The enclosure PE903701 has the following characteristics:

- ITEM\_BARCODE = PE903701
- CONTAINER\_BARCODE = PE903699
- NAME = Pine Lodge 1 well survey calculations
- BASIN = OTWAY
- PERMIT = PEP105
- TYPE = WELL
- SUBTYPE = VELOCITY\_CHART
- DESCRIPTION = Pine Lodge 1 well survey calculation,  
page 1 of 6, (from appendix 7--Velocity  
Survey--of WCR)
- REMARKS =
- DATE\_CREATED = 29/08/90
- DATE\_RECEIVED =
- W\_NO = W1034
- WELL\_NAME = Pine Lodge-1
- CONTRACTOR = Velseis Pty Ltd
- CLIENT\_OP\_CO = Gas and Fuel Exploration N.L

(Inserted by DNRE - Vic Govt Mines Dept)

PE906559

This is an enclosure indicator page.  
The enclosure PE906559 is enclosed within the  
container PE903699 at this location in this  
document.

The enclosure PE906559 has the following characteristics:

ITEM\_BARCODE = PE906559  
CONTAINER\_BARCODE = PE903699  
    NAME = Shot Calculations Table  
    BASIN = OTWAY  
    PERMIT = PEP105  
    TYPE = WELL  
    SUBTYPE = VELOCITY\_CHART  
DESCRIPTION = Shot Calculations Table, Pine Lodge-1,  
              page 2 of 6 (from appendix 7 of  
              WCR--Velocity Survey)  
REMARKS =  
DATE\_CREATED = 29/08/1990  
DATE\_RECEIVED =  
    W\_NO = W1034  
    WELL\_NAME = PINE LODGE-1  
    CONTRACTOR = VELSEIS PTY LTD  
    CLIENT\_OP\_CO = GAS AND FUEL EXPLORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)



PE906560

This is an enclosure indicator page.  
The enclosure PE906560 is enclosed within the  
container PE903699 at this location in this  
document.

The enclosure PE906560 has the following characteristics:

ITEM\_BARCODE = PE906560  
CONTAINER\_BARCODE = PE903699  
    NAME = Sonic Drift Table  
    BASIN = OTWAY  
    PERMIT = PEP105  
    TYPE = WELL  
    SUBTYPE = VELOCITY\_CHART  
DESCRIPTION = Sonic Drift Table, Pine Lodge-1, page 3  
              of 6, (from appendix 7 of WCR--Velocity  
              Survey)  
REMARKS =  
DATE\_CREATED = 29/08/1990  
DATE\_RECEIVED =  
    W\_NO = W1034  
    WELL\_NAME = PINE LODGE-1  
    CONTRACTOR = VELSEIS PTY LTD  
    CLIENT\_OP\_CO = GAS AND FUEL EXPLORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906561

This is an enclosure indicator page.  
The enclosure PE906561 is enclosed within the  
container PE903699 at this location in this  
document.

The enclosure PE906561 has the following characteristics:

ITEM\_BARCODE = PE906561  
CONTAINER\_BARCODE = PE903699  
NAME = Sonic Drift Table  
BASIN = OTWAY  
PERMIT = PEP105  
TYPE = WELL  
SUBTYPE = VELOCITY\_CHART  
DESCRIPTION = Sonic Drift Table, page 4 of 6, Pine  
Lodge-1 (from appendix 7 of  
WCR--Velocity Survey)  
REMARKS =  
DATE\_CREATED = 29/08/1990  
DATE\_RECEIVED =  
W\_NO = W1034  
WELL\_NAME = PINE LODGE-1  
CONTRACTOR = VELSEIS PTY LTD  
CLIENT\_OP\_CO = GAS AND FUEL EXPLORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906562

This is an enclosure indicator page.  
The enclosure PE906562 is enclosed within the  
container PE903699 at this location in this  
document.

The enclosure PE906562 has the following characteristics:

- ITEM\_BARCODE = PE906562
- CONTAINER\_BARCODE = PE903699
  - NAME = Sonic Calibration Table
  - BASIN = OTWAY
  - PERMIT = PEP105
  - TYPE = WELL
  - SUBTYPE = VELOCITY\_CHART
- DESCRIPTION = Sonic Calibration Table , Pine lodge-1,  
page 5 of 6, (from appendix 7 of WCR)
- REMARKS =
- DATE\_CREATED = 29/08/1990
- DATE\_RECEIVED =
- W\_NO = W1034
- WELL\_NAME = PINE LODGE-1
- CONTRACTOR = VELSEIS PTY LTD
- CLIENT\_OP\_CO = GAS AND FUEL EXPLORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906563

This is an enclosure indicator page.  
The enclosure PE906563 is enclosed within the  
container PE903699 at this location in this  
document.

The enclosure PE906563 has the following characteristics:

ITEM\_BARCODE = PE906563  
CONTAINER\_BARCODE = PE903699  
    NAME = Sonic Calibration Table  
    BASIN = OTWAY  
    PERMIT = PEP105  
    TYPE = WELL  
    SUBTYPE = VELOCITY\_CHART  
DESCRIPTION = Sonic Calibration, page 6 of 6, Pine  
              Lodge-1 (from appendix 7 of  
              WCR--Velocity Survey)  
REMARKS =  
DATE\_CREATED = 29/08/1990  
DATE\_RECEIVED =  
    W\_NO = W1034  
    WELL\_NAME = PINE LODGE-1  
    CONTRACTOR = VELSEIS PTY LTD  
    CLIENT\_OP\_CO = GAS AND FUEL EXPLORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE602522

This is an enclosure indicator page.  
The enclosure PE602522 is enclosed within the  
container PE903699 at this location in this  
document.

The enclosure PE602522 has the following characteristics:

ITEM\_BARCODE = PE602522  
CONTAINER\_BARCODE = PE903699  
NAME = Pine Lodge 1 well velocity survey data  
BASIN = OTWAY  
PERMIT = PEP105  
TYPE = WELL  
SUBTYPE = VELOCITY\_RPT  
DESCRIPTION = Pine Lodge 1 Well Velocity Survey Data  
(from appendix 7 of WCR--Velocity  
Survey)  
REMARKS = all pages are joined (computer paper)  
DATE\_CREATED = 29/08/90  
DATE\_RECEIVED =  
W\_NO = W1034  
WELL\_NAME = Pine Lodge-1  
CONTRACTOR = Velocity Data Pty Ltd  
CLIENT\_OP\_CO = Gas and Fuel Exploration N.L

(Inserted by DNRE - Vic Govt Mines Dept)