

APPENDIX 4

VELOCITY SURVEY

CONTENTS

	<u>Page</u>
SUMMARY	1
GENERAL INFORMATION	1
EQUIPMENT	2
RECORDING	3
COMPUTING	
Basic Information	3
Recorded Data	4
Correction to Datum	4
Trace Playouts	5

Figures

Figure 1	Well location map
Figure 2	Shot location sketch
Figure 3	Time-depth and velocity curves
Figure 4	Plots of the traces used

Tables

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

Enclosures

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

WELL VELOCITY SURVEY
EAST MEREENIE NO. 13

PL 5
NORTHERN TERRITORY

for

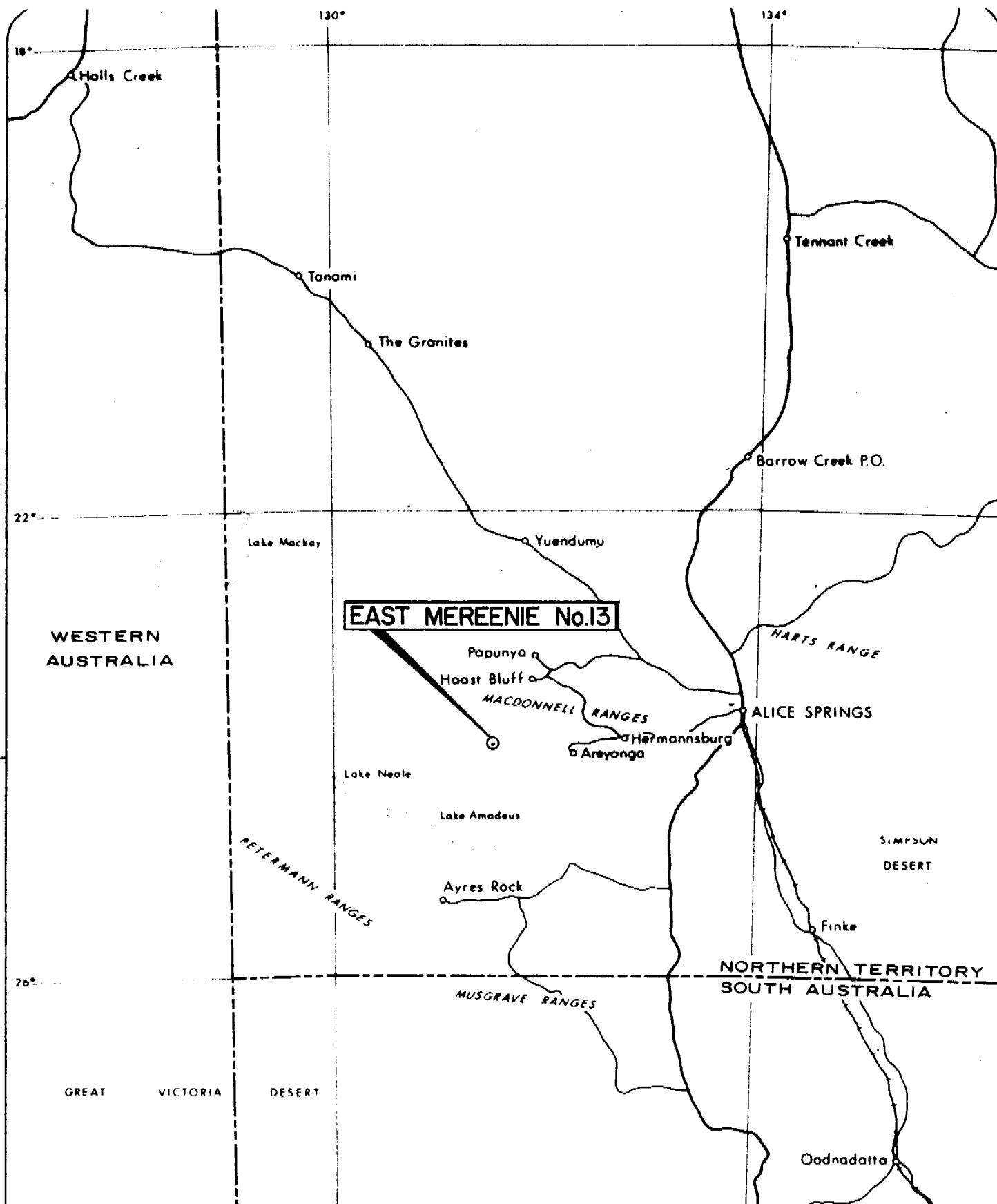
OILMIN N.L.

by

VELOCITY DATA PTY LTD.

Brisbane, Australia

March 13, 1984



OILMIN N.L.
EAST MEREEENIE No.13

WELL LOCATION MAP

Scale 1:5000000

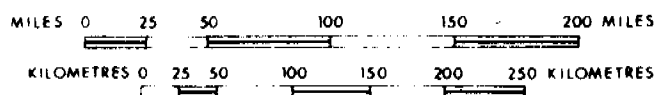
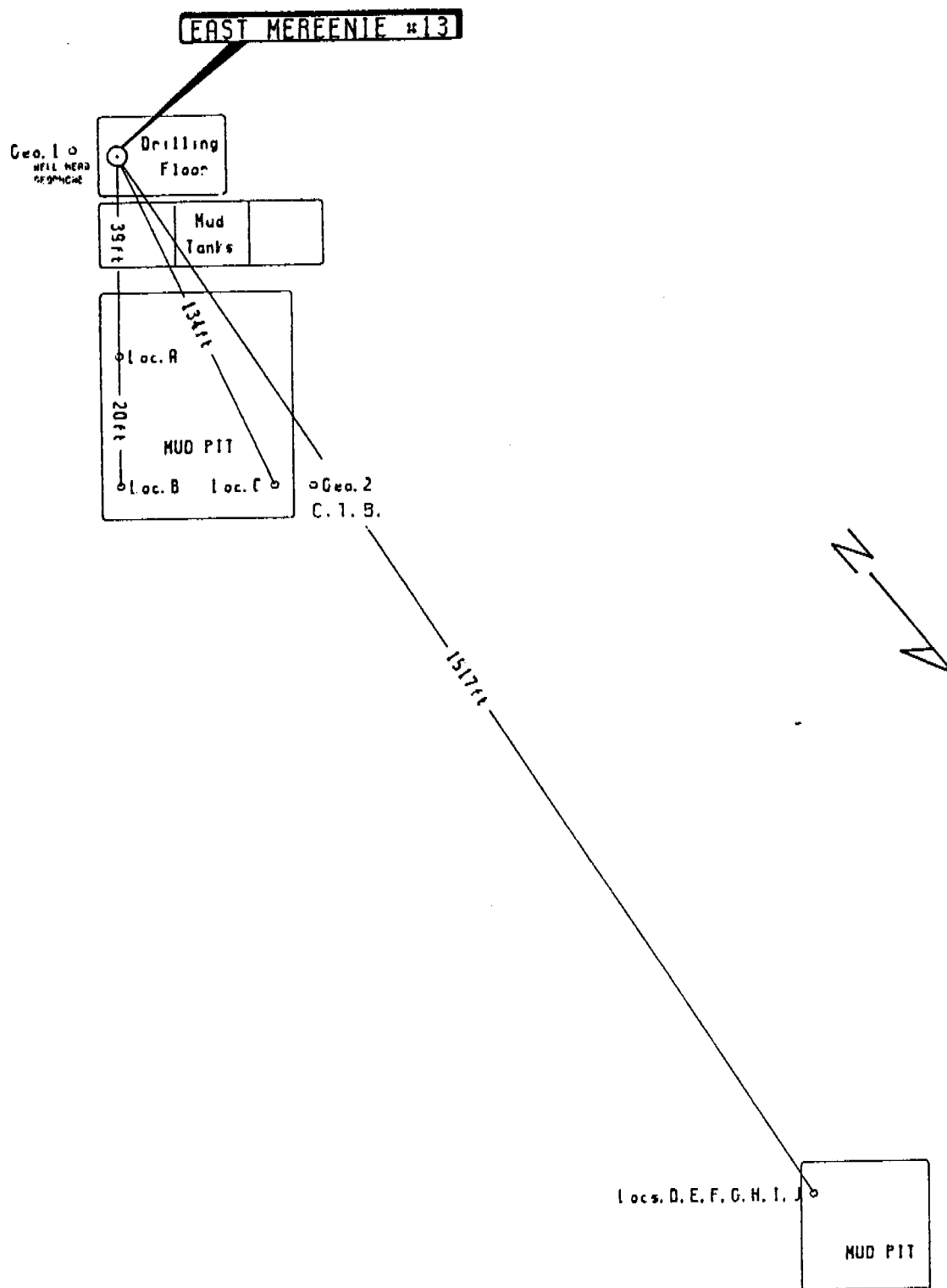


Figure 1



EAST MEREENIE #13

OILMIN N. L.
SHOT POINT LOCATION SKETCH



Figure 2

SUMMARY

Velocity Data Pty Ltd. conducted a velocity survey for Oilmin N.L. in the East Mereenie No. 13 well, PL 5, Northern Territory. The date of the survey was March 13, 1984.

The results of the survey are considered to be reliable and have been corrected to True Vertical Depth (TVD), from the results of the deviation survey.

Explosives were used as an energy source with shots being fired in two mud pits. The well was surveyed to a depth of 4998 feet (TVD) below K.B.

GENERAL INFORMATION

Name of Well	: East Mereenie No. 13
Location	: PL 5, Northern Territory
Coordinates	: Latitude 24°01'24"S Longitude 131°35'21"E
Date of Survey	: March 13, 1984
Weather	: Cloudy
Operational Base	: Roma
Operator	: N. Delfos
Client Representative	: D. Warner

EQUIPMENT

Recording Instruments

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 a printer.

Downhole Geophone

Geospace WLS 1050 Wall-lock

Downhole sensors:

6 HS1 4.5Hz-215 ohm, high temperature (300°F) detectors connected in series parallel. Frequency response 8-300Hz within 3db.

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

Reference Geophone

Mark L1 7.5Hz

RECORDING

Energy Source	:	Explosives - AN60
Shot Location	:	Mud Pits
Charge Size	:	1 to 5 (4oz) sticks
Average Depth of Shots	:	4 feet
Reference Sensors	:	Refer Figure 2

Shots were recorded on digital cassette tape and later transcribed to a nine track tape (SEG-Y format) in Velocity Data's Brisbane centre. Print-outs of the shots used are included with this report.

The sampling rate was 1 ms. with $\frac{1}{2}$ ms. sampling over a 200 ms. window encompassing the first arrivals. The scale of the graphic display varies with signal strength and is noted on each payout.

Times were picked from payouts using the numerical value of the signal strength.

COMPUTINGBasic Information

Elevation K.B.	:	2459 feet A.S.L.
Elevation Ground at Wellhead	:	2439 feet A.S.L.
Elevation Seismic Datum	:	2133 feet A.S.L.
Depth Surveyed (TVD)	:	4998 feet below K.B.
Total Depth (TVD)	:	5002 feet below K.B.

COMPUTINGRecorded Data

Number of Shots Used	:	24
Number of Levels	:	18
Data Quality	:	Good
Noise Level	:	Moderate
Rejected Shots	:	2
Shot 21 at 2972 ft.(TVD)	:	Created an anomalously short interval with Shot 6 at 2964 ft. (TVD)
Shot 23 at 2154 ft.(TVD)	:	Created an anomalously short interval with shots at 2133 ft. (TVD)

Correction to Datum

A correction to datum at the wellhead was calculated using a correction velocity of 7200 feet/second, interpolated from shots near datum.

The continuity of results from the wellhead and offset pits suggest an equivalent datum correction at each location. This implies a correction velocity of 9200 feet/second at the offset pit. This velocity would appear to be consistent with the observed geology.

Average vertical correction time at the wellhead	:	.046 seconds
Correction velocity	:	7200 feet/second
Additional corrections	:	An instrument lag of .004 seconds has been taken into consideration when determining the datum correction. The lag is not of consequence for the remainder of the survey since it applied to both datum and downhole shots.

5.

COMPUTING

Trace Playouts

Figure 4A is a plot of all the 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 5Hz- 40Hz filter and a gain recovery function of $t^{2.0}$ applied.



Ken Jenkinson

VELOCITY DATA PTY LTD

WELL SURVEY CALCULATIONS Page 1

Company : OILMIN N.L.
Well : EAST MERENIE #13
Elevations : Datum : 2133.0 Ground : 2439.0 Kelly : 2459.0
Shot data : Location Elevation Offset

Latitude : 024 01 24
Longitude : 131 35 21

Survey date : 13-MAR-84
Survey units : FEET
Times in milliseconds.

Location	Elevation	Offset
A	2439.0	39.0
B	2439.0	59.0
C	2439.0	134.0
D	2526.0	717.0
E	2526.0	3.0
F	2526.0	338.0
G	2526.0	496.0
H	2526.0	793.0
I	2526.0	974.0
J	2526.0	132.0

Rig identification : DIME SL 750
Energy source : AN60
Depths are True Vertical Depths : TVD

SHOT CALCULATIONS

SHOT CALCULATIONS													
Shot No	Geophone depth		Shot Locn	Shot Depth	(----- TIMES -----)				Check shot interval		----- Velocities -----		
	TVD	-- Datum			Record	- Corr.	----- Avg. -----	- Below datum	Distance	-- Time	Average	-- RMS	-- Interval
PARKE SILTSTONE													
31	93.0	-233.0	C	4.0	39.0	17.9	17.9	17.9					
DATUM													
	326.0	0.0					46.0	0.0					
29	650.0	324.0	C	4.0	70.0	68.4			324.0	23.1			14026.0
30	650.0	324.0	B	2.0	70.0	69.7	69.1	23.1					
26	1720.0	1394.0	C	4.0	148.0	147.5	147.5	101.5	1070.0	78.4	14026.0	14026.0	13648.0
DARMICHAEL SANDSTONE													
25	1879.0	1553.0	C	4.0	156.0	155.6	155.6	109.6	159.0	8.1	13734.0	13734.9	19629.6
1	2133.0	1807.0	A	1.0	176.0	176.0			254.0	19.8	14169.7	14254.2	12828.3
2	2133.0	1807.0	A	1.5	176.0	176.0							
3	2133.0	1807.0	B	1.0	176.0	175.9							
5	2133.0	1807.0	C	1.5	176.0	175.6							
24	2133.0	1807.0	C	4.0	174.0	173.6	175.4	129.4			13964.5	14045.4	
UPPER STOKES SST.													
23	2154.0	1828.0	C	4.0	181.0	180.6 N/U			367.0	26.3			13954.4
22	2500.0	2174.0	C	4.0	202.0	201.7	201.7	155.7					
6	2964.0	2638.0	A	1.5	237.0	237.0	237.0	191.0	464.0	35.3	13962.7	14030.1	13144.5
LOWER STOKES SST.													
21	2972.0	2646.0	C	4.0	237.0	236.8 N/U			225.0	14.0	13811.5	13870.7	16071.4
UPPER STAIRWAY SST.													
20	3189.0	2863.0	A	4.0	251.0	251.0	251.0	205.0			13965.9	14031.9	

VELOCITY DATA PTY LTD

WELL SURVEY CALCULATIONS Page 2

Company : OILMIN N.L.
 Well : EAST MEREEENIE #13
 Elevations : Datum : 2133.0 Ground : 2439.0 Kelly : 2459.0

Latitude : 024 01 24
 Longitude : 131 35 21

Survey date : 13-MAR-84
 Survey units : FEET
 Times in milliseconds.

Shot data : Location Elevation Offset
 A 2439.0 39.0
 B 2439.0 59.0
 C 2439.0 134.0
 D 2526.0 717.0
 E 2526.0 3.0
 F 2526.0 338.0
 G 2526.0 496.0
 H 2526.0 793.0
 I 2526.0 974.0
 J 2526.0 132.0

Rig identification : OIME SL 750

Energy source : AN60

Depths are True Vertical Depths : TVD

SHOT CALCULATIONS

Shot No.	Geophone depth		Shot Locn	Shot Depth	TIMES				Check shot interval		Velocities			
	TVD	-- Datum			Record	- Corr.	---- Avg.	- Below datum	Distance	-- Time	Average	-- RMS	-- Interval	
UPPER STAIRWAY SST.														
20	3189.0	2863.0	A	4.0	251.0	251.0	251.0	205.0			13965.9	14031.9		
											194.0	11.8		16440.7
MIDDLE STAIRWAY SST.														
19	3383.0	3057.0	C	4.0	263.0	262.8	262.8	216.8			14100.6	14173.6		
											354.0	19.1		18534.1
LOWER STAIRWAY SST.														
15	3737.0	3411.0	I	5.0	291.0	281.9	281.9	235.9			14459.5	14575.3		
14	4013.0	3687.0	H	5.0	306.0	300.4	300.4	254.4			14492.9	14600.5	14918.9	
											116.0	9.1		12747.2
PACQUOTA SST. P1 UNIT														
7	4129.0	3803.0	D	5.0	315.0	310.5								
6	4129.0	3803.0	D	5.0	313.0	308.5	309.5	263.5			14432.6	14540.5		
											312.0	20.5		15219.5
PACQUOTA SST. P2 UNIT														
13	4441.0	4115.0	G	5.0	332.0	330.0	330.0	284.0			14489.4	14590.5		
											183.0	11.1		16486.5
PACQUOTA SST. P3 UNIT														
11	4624.0	4298.0	F	5.0	342.0	341.1	341.1	295.1			14564.6	14666.3		
											227.0	14.8		15337.8
PACQUOTA SST. P4 UNIT														
9	4851.0	4525.0	J	5.0	356.0	355.9	355.9	309.9			14601.5	14699.0		
8	4998.0	4672.0	E	5.0	367.0	367.0	367.0	321.0			14554.5	14651.1	13243.2	

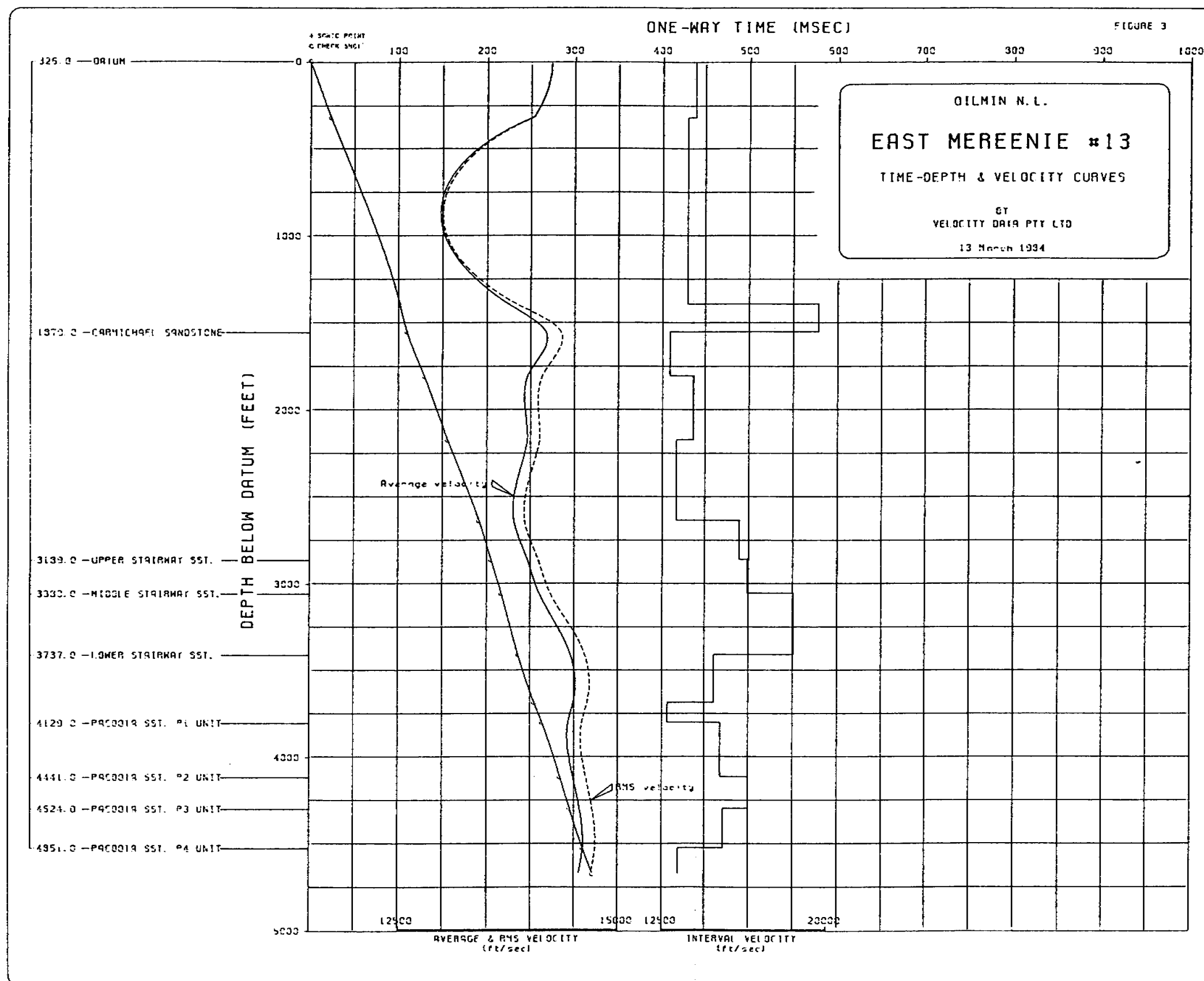


TABLE 1.

Time-Depth curve values

Page 1.

Well : EAST MEREENIE #13

Client : DILMIN N.L.

Survey units : FEET

Datum : 2133.0

Velocities derived from fitted time-depth curve.

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
10.0	0.7	14234	14234	14234	410.0	30.0	13665	13681	12370
20.0	1.4	14233	14233	14233	420.0	30.8	13630	13648	12352
30.0	2.1	14232	14232	14230	430.0	31.6	13597	13616	12335
40.0	2.8	14231	14231	14227	440.0	32.4	13565	13585	12320
50.0	3.5	14229	14229	14222	450.0	33.2	13534	13555	12306
60.0	4.2	14227	14227	14216	460.0	34.1	13505	13526	12294
70.0	4.9	14224	14224	14209	470.0	34.9	13476	13499	12282
80.0	5.6	14221	14221	14200	480.0	35.7	13449	13472	12272
90.0	6.3	14218	14218	14191	490.0	36.5	13422	13446	12264
100.0	7.0	14214	14214	14180	500.0	37.3	13397	13421	12256
110.0	7.7	14210	14210	14168	510.0	38.1	13372	13397	12251
120.0	8.4	14205	14205	14155	520.0	39.0	13348	13374	12246
130.0	9.2	14200	14200	14140	530.0	39.8	13326	13352	12243
140.0	9.9	14195	14195	14125	540.0	40.6	13304	13330	12240
150.0	10.6	14189	14189	14108	550.0	41.4	13283	13310	12240
160.0	11.3	14183	14183	14090	560.0	42.2	13263	13290	12240
170.0	12.0	14176	14176	14072	570.0	43.0	13243	13271	12242
180.0	12.7	14169	14169	14052	580.0	43.9	13225	13252	12245
190.0	13.4	14162	14162	14030	590.0	44.7	13207	13235	12250
200.0	14.1	14154	14154	14008	600.0	45.5	13190	13218	12256
210.0	14.8	14146	14146	13985	610.0	46.3	13174	13202	12263
220.0	15.6	14137	14138	13960	620.0	47.1	13158	13186	12271
230.0	16.3	14128	14129	13935	630.0	47.9	13143	13171	12281
240.0	17.0	14119	14119	13908	640.0	48.7	13129	13157	12292
250.0	17.7	14109	14110	13881	650.0	49.6	13115	13144	12305
260.0	18.4	14099	14100	13852	660.0	50.4	13103	13131	12318
270.0	19.2	14089	14089	13822	670.0	51.2	13090	13118	12333
280.0	19.9	14078	14079	13792	680.0	52.0	13079	13107	12350
290.0	20.6	14067	14068	13760	690.0	52.8	13068	13096	12368
300.0	21.3	14055	14056	13728	700.0	53.6	13058	13085	12387
310.0	22.1	14043	14044	13694	710.0	54.4	13048	13076	12408
320.0	22.8	14031	14032	13659	720.0	55.2	13039	13066	12430
330.0	23.6	13996	13999	12969	730.0	56.0	13031	13058	12453
340.0	24.4	13948	13953	12536	740.0	56.8	13023	13050	12478
350.0	25.2	13903	13910	12508	750.0	57.6	13016	13042	12505
360.0	26.0	13859	13868	12481	760.0	58.4	13009	13036	12533
370.0	26.8	13817	13828	12456	770.0	59.2	13003	13029	12562
380.0	27.6	13776	13789	12433	780.0	60.0	12998	13024	12593
390.0	28.4	13738	13752	12410	790.0	60.8	12993	13019	12625
400.0	29.2	13700	13716	12390	800.0	61.6	12988	13014	12659

TABLE 1. Time-Depth curve values

Page 2.

Well : EAST MEREENIE #13

Client : OILMIN N.L.

Survey units : FEET

Datum : 2133.0

Velocities derived from fitted time-depth curve.

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
810.0	62.4	12985	13010	12695	1210.0	91.1	13286	13320	15931
820.0	63.2	12982	13007	12732	1220.0	91.7	13305	13341	16079
830.0	63.9	12979	13004	12771	1230.0	92.3	13325	13362	16233
840.0	64.7	12977	13001	12812	1240.0	92.9	13345	13385	16391
850.0	65.5	12976	13000	12854	1250.0	93.5	13365	13407	16555
860.0	66.3	12975	12999	12898	1260.0	94.1	13387	13431	16725
870.0	67.1	12974	12998	12943	1270.0	94.7	13409	13456	16901
880.0	67.8	12974	12998	12991	1280.0	95.3	13431	13481	17083
890.0	68.6	12975	12998	13040	1290.0	95.9	13454	13507	17272
900.0	69.4	12977	12999	13091	1300.0	96.5	13478	13534	17467
910.0	70.1	12978	13001	13145	1310.0	97.0	13503	13562	17670
920.0	70.9	12981	13003	13199	1320.0	97.6	13528	13590	17880
930.0	71.6	12984	13006	13257	1330.0	98.1	13554	13620	18099
940.0	72.4	12987	13009	13316	1340.0	98.7	13580	13650	18325
950.0	73.1	12991	13013	13377	1350.0	99.2	13607	13682	18560
960.0	73.9	12996	13017	13440	1360.0	99.7	13635	13714	18805
970.0	74.6	13001	13022	13506	1370.0	100.3	13663	13748	19059
980.0	75.3	13006	13028	13573	1380.0	100.8	13692	13782	19324
990.0	76.1	13012	13034	13644	1390.0	101.3	13722	13817	19599
1000.0	76.8	13019	13040	13716	1400.0	101.8	13753	13856	20222
1010.0	77.5	13026	13048	13791	1410.0	102.3	13786	13896	20720
1020.0	78.3	13034	13055	13868	1420.0	102.8	13820	13937	20910
1030.0	79.0	13042	13064	13948	1430.0	103.2	13853	13978	21023
1040.0	79.7	13051	13073	14031	1440.0	103.7	13886	14018	21052
1050.0	80.4	13061	13082	14116	1450.0	104.2	13918	14058	20999
1060.0	81.1	13070	13092	14204	1460.0	104.7	13950	14097	20865
1070.0	81.8	13081	13103	14295	1470.0	105.1	13981	14134	20653
1080.0	82.5	13092	13115	14389	1480.0	105.6	14011	14169	20367
1090.0	83.2	13104	13126	14486	1490.0	106.1	14039	14202	20014
1100.0	83.9	13116	13139	14586	1500.0	106.6	14065	14233	19601
1110.0	84.6	13128	13152	14689	1510.0	107.2	14090	14261	19136
1120.0	85.2	13142	13166	14796	1520.0	107.7	14113	14286	18628
1130.0	85.9	13155	13181	14906	1530.0	108.3	14133	14308	18085
1140.0	86.6	13170	13196	15021	1540.0	108.8	14151	14327	17515
1150.0	87.2	13185	13212	15138	1550.0	109.4	14166	14342	16926
1160.0	87.9	13200	13228	15260	1560.0	110.0	14176	14352	15998
1170.0	88.5	13216	13245	15385	1570.0	110.7	14183	14358	15338
1180.0	89.2	13233	13263	15515	1580.0	111.4	14187	14361	14876
1190.0	89.8	13250	13281	15649	1590.0	112.1	14189	14362	14467
1200.0	90.4	13268	13301	15788	1600.0	112.8	14188	14360	14103

TABLE 1.

Time-Depth curve values

Page 3.

Well : EAST MEREENIE #13

Client : OILMIN N.L.

Survey units : FEET

Datum : 2133.0

Velocities derived from fitted time-depth curve.

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
1610.0	113.5	14186	14357	13780	2010.0	144.2	13939	14089	14402
1620.0	114.2	14181	14351	13494	2020.0	144.9	13941	14090	14423
1630.0	115.0	14175	14344	13240	2030.0	145.6	13943	14092	14439
1640.0	115.8	14167	14336	13016	2040.0	146.3	13946	14094	14445
1650.0	116.5	14158	14326	12819	2050.0	147.0	13948	14095	14446
1660.0	117.3	14148	14316	12647	2060.0	147.7	13950	14097	14437
1670.0	118.1	14137	14304	12499	2070.0	148.4	13953	14099	14423
1680.0	118.9	14125	14292	12373	2080.0	149.1	13955	14100	14400
1690.0	119.8	14112	14279	12267	2090.0	149.7	13957	14101	14371
1700.0	120.6	14099	14266	12181	2100.0	150.4	13958	14102	14333
1710.0	121.4	14086	14252	12113	2110.0	151.1	13960	14103	14289
1720.0	122.2	14072	14238	12064	2120.0	151.8	13961	14104	14238
1730.0	123.1	14058	14225	12033	2130.0	152.6	13962	14104	14180
1740.0	123.9	14045	14211	12019	2140.0	153.3	13963	14104	14115
1750.0	124.7	14031	14198	12023	2150.0	154.0	13963	14104	14044
1760.0	125.6	14018	14184	12044	2160.0	154.7	13963	14103	13966
1770.0	126.4	14005	14172	12083	2170.0	155.4	13963	14102	13883
1780.0	127.2	13993	14159	12140	2180.0	156.1	13961	14100	13545
1790.0	128.0	13982	14148	12215	2190.0	156.9	13958	14096	13301
1800.0	128.8	13971	14137	12310	2200.0	157.7	13954	14092	13224
1810.0	129.6	13962	14127	12490	2210.0	158.4	13951	14088	13153
1820.0	130.4	13955	14120	12778	2220.0	159.2	13946	14083	13087
1830.0	131.2	13949	14113	12908	2230.0	159.9	13942	14078	13026
1840.0	132.0	13944	14107	13034	2240.0	160.7	13937	14073	12971
1850.0	132.7	13939	14102	13157	2250.0	161.5	13932	14068	12920
1860.0	133.5	13935	14097	13275	2260.0	162.3	13927	14062	12874
1870.0	134.2	13932	14093	13390	2270.0	163.0	13922	14057	12834
1880.0	135.0	13930	14090	13499	2280.0	163.8	13917	14051	12798
1890.0	135.7	13928	14087	13604	2290.0	164.6	13911	14045	12766
1900.0	136.4	13927	14085	13704	2300.0	165.4	13906	14039	12739
1910.0	137.2	13926	14084	13799	2310.0	166.2	13900	14033	12717
1920.0	137.9	13926	14083	13888	2320.0	167.0	13894	14027	12699
1930.0	138.6	13926	14082	13971	2330.0	167.8	13889	14021	12685
1940.0	139.3	13927	14082	14048	2340.0	168.6	13883	14015	12676
1950.0	140.0	13928	14082	14119	2350.0	169.3	13877	14009	12671
1960.0	140.7	13929	14083	14183	2360.0	170.1	13872	14003	12671
1970.0	141.4	13931	14084	14241	2370.0	170.9	13866	13998	12675
1980.0	142.1	13932	14085	14292	2380.0	171.7	13861	13992	12683
1990.0	142.8	13934	14086	14336	2390.0	172.5	13856	13986	12696
2000.0	143.5	13937	14087	14372	2400.0	173.3	13850	13981	12713

TABLE 1.

Time-Depth curve values

Page 4.

Well : EAST MEREENIE #13

Client : OILMIN N.L.

Survey units : FEET

Datum : 2133.0

Velocities derived from fitted time-depth curve.

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
2410.0	174.1	13845	13975	12734	2810.0	201.8	13925	14046	16575
2420.0	174.8	13840	13970	12761	2820.0	202.4	13933	14054	16586
2430.0	175.6	13836	13965	12791	2830.0	203.0	13941	14063	16586
2440.0	176.4	13831	13960	12826	2840.0	203.6	13948	14071	16575
2450.0	177.2	13827	13956	12866	2850.0	204.2	13956	14079	16551
2460.0	178.0	13823	13951	12911	2860.0	204.8	13964	14087	16516
2470.0	178.7	13819	13947	12960	2870.0	205.4	13971	14094	16325
2480.0	179.5	13816	13943	13015	2880.0	206.0	13977	14101	16221
2490.0	180.3	13813	13940	13074	2890.0	206.7	13984	14107	16190
2500.0	181.0	13810	13936	13139	2900.0	207.3	13991	14114	16165
2510.0	181.8	13807	13933	13210	2910.0	207.9	13997	14120	16156
2520.0	182.5	13805	13931	13285	2920.0	208.5	14003	14127	16157
2530.0	183.3	13804	13929	13367	2930.0	209.1	14010	14133	16167
2540.0	184.0	13802	13927	13454	2940.0	209.8	14016	14140	16186
2550.0	184.8	13801	13925	13548	2950.0	210.4	14023	14146	16216
2560.0	185.5	13800	13924	13648	2960.0	211.0	14029	14153	16255
2570.0	186.2	13800	13923	13754	2970.0	211.6	14036	14160	16306
2580.0	186.9	13801	13923	13867	2980.0	212.2	14042	14167	16367
2590.0	187.7	13801	13923	13989	2990.0	212.8	14049	14174	16439
2600.0	188.4	13802	13924	14117	3000.0	213.4	14056	14181	16522
2610.0	189.1	13804	13925	14253	3010.0	214.0	14064	14188	16616
2620.0	189.8	13806	13927	14397	3020.0	214.6	14071	14196	16723
2630.0	190.5	13809	13929	14550	3030.0	215.2	14079	14204	16841
2640.0	191.1	13812	13932	14728	3040.0	215.8	14086	14212	16972
2650.0	191.8	13816	13936	14960	3050.0	216.4	14095	14221	17117
2660.0	192.5	13821	13940	15125	3060.0	217.0	14103	14230	17377
2670.0	193.1	13826	13945	15284	3070.0	217.5	14113	14240	17790
2680.0	193.8	13831	13950	15435	3080.0	218.1	14123	14251	17955
2690.0	194.4	13837	13956	15579	3090.0	218.6	14133	14262	18113
2700.0	195.0	13843	13962	15715	3100.0	219.2	14143	14274	18261
2710.0	195.7	13849	13969	15843	3110.0	219.7	14154	14285	18400
2720.0	196.3	13856	13975	15962	3120.0	220.3	14164	14297	18529
2730.0	196.9	13863	13983	16072	3130.0	220.8	14175	14309	18648
2740.0	197.5	13870	13990	16173	3140.0	221.3	14186	14322	18756
2750.0	198.2	13878	13998	16262	3150.0	221.9	14197	14334	18853
2760.0	198.8	13885	14005	16342	3160.0	222.4	14209	14347	18938
2770.0	199.4	13893	14013	16411	3170.0	222.9	14220	14360	19012
2780.0	200.0	13901	14021	16469	3180.0	223.4	14231	14373	19073
2790.0	200.6	13909	14030	16516	3190.0	224.0	14243	14386	19123
2800.0	201.2	13917	14038	16551	3200.0	224.5	14254	14399	19160

TABLE 1.

Time-Depth curve values

Page 5.

Well : EAST MEREENIE #13

Client : OILMIN N.L.

Survey units : FEET

Datum : 2133.0

Velocities derived from fitted time-depth curve.

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
3210.0	225.0	14266	14411	19183	3610.0	248.7	14516	14675	14098
3220.0	225.5	14277	14424	19195	3620.0	249.4	14514	14673	13957
3230.0	226.1	14288	14437	19193	3630.0	250.1	14512	14670	13818
3240.0	226.6	14300	14450	19179	3640.0	250.9	14510	14668	13682
3250.0	227.1	14311	14462	19151	3650.0	251.6	14507	14664	13547
3260.0	227.6	14322	14475	19111	3660.0	252.4	14504	14661	13415
3270.0	228.1	14333	14487	19059	3670.0	253.1	14500	14657	13285
3280.0	228.7	14343	14499	18994	3680.0	253.9	14496	14653	13157
3290.0	229.2	14354	14511	18918	3690.0	254.6	14491	14648	13004
3300.0	229.7	14364	14522	18829	3700.0	255.4	14486	14643	12828
3310.0	230.3	14374	14533	18729	3710.0	256.2	14481	14637	12737
3320.0	230.8	14384	14544	18618	3720.0	257.0	14475	14632	12673
3330.0	231.3	14394	14555	18496	3730.0	257.8	14470	14626	12631
3340.0	231.9	14403	14565	18365	3740.0	258.6	14464	14620	12613
3350.0	232.4	14412	14574	18223	3750.0	259.4	14458	14615	12618
3360.0	233.0	14421	14584	18072	3760.0	260.2	14453	14609	12645
3370.0	233.6	14429	14593	17912	3770.0	260.9	14448	14604	12697
3380.0	234.1	14437	14601	17745	3780.0	261.7	14443	14598	12772
3390.0	234.7	14445	14609	17570	3790.0	262.5	14438	14594	12872
3400.0	235.3	14452	14616	17387	3800.0	263.3	14434	14589	12995
3410.0	235.8	14459	14623	17198	3810.0	264.0	14430	14585	13215
3420.0	236.4	14466	14630	17287	3820.0	264.8	14427	14582	13405
3430.0	237.0	14472	14637	17119	3830.0	265.5	14425	14580	13568
3440.0	237.6	14478	14643	16923	3840.0	266.2	14423	14577	13729
3450.0	238.2	14484	14649	16732	3850.0	267.0	14422	14575	13888
3460.0	238.8	14489	14654	16543	3860.0	267.7	14421	14574	14045
3470.0	239.4	14494	14659	16359	3870.0	268.4	14420	14573	14200
3480.0	240.0	14498	14663	16178	3880.0	269.1	14420	14573	14352
3490.0	240.7	14502	14666	16000	3890.0	269.8	14420	14572	14502
3500.0	241.3	14506	14669	15825	3900.0	270.4	14421	14573	14649
3510.0	241.9	14509	14672	15654	3910.0	271.1	14422	14573	14792
3520.0	242.6	14511	14674	15486	3920.0	271.8	14423	14574	14932
3530.0	243.2	14514	14676	15320	3930.0	272.5	14424	14575	15068
3540.0	243.9	14515	14677	15158	3940.0	273.1	14426	14577	15199
3550.0	244.5	14517	14678	14999	3950.0	273.8	14428	14579	15326
3560.0	245.2	14518	14679	14842	3960.0	274.4	14431	14581	15449
3570.0	245.9	14518	14679	14688	3970.0	275.1	14434	14583	15566
3580.0	246.6	14518	14678	14537	3980.0	275.7	14436	14586	15677
3590.0	247.3	14518	14678	14388	3990.0	276.3	14440	14589	15784
3600.0	248.0	14517	14676	14242	4000.0	277.0	14443	14592	15884

TABLE 1.

Time-Depth curve values

Page 6.

Well : EAST MERREENIE #13

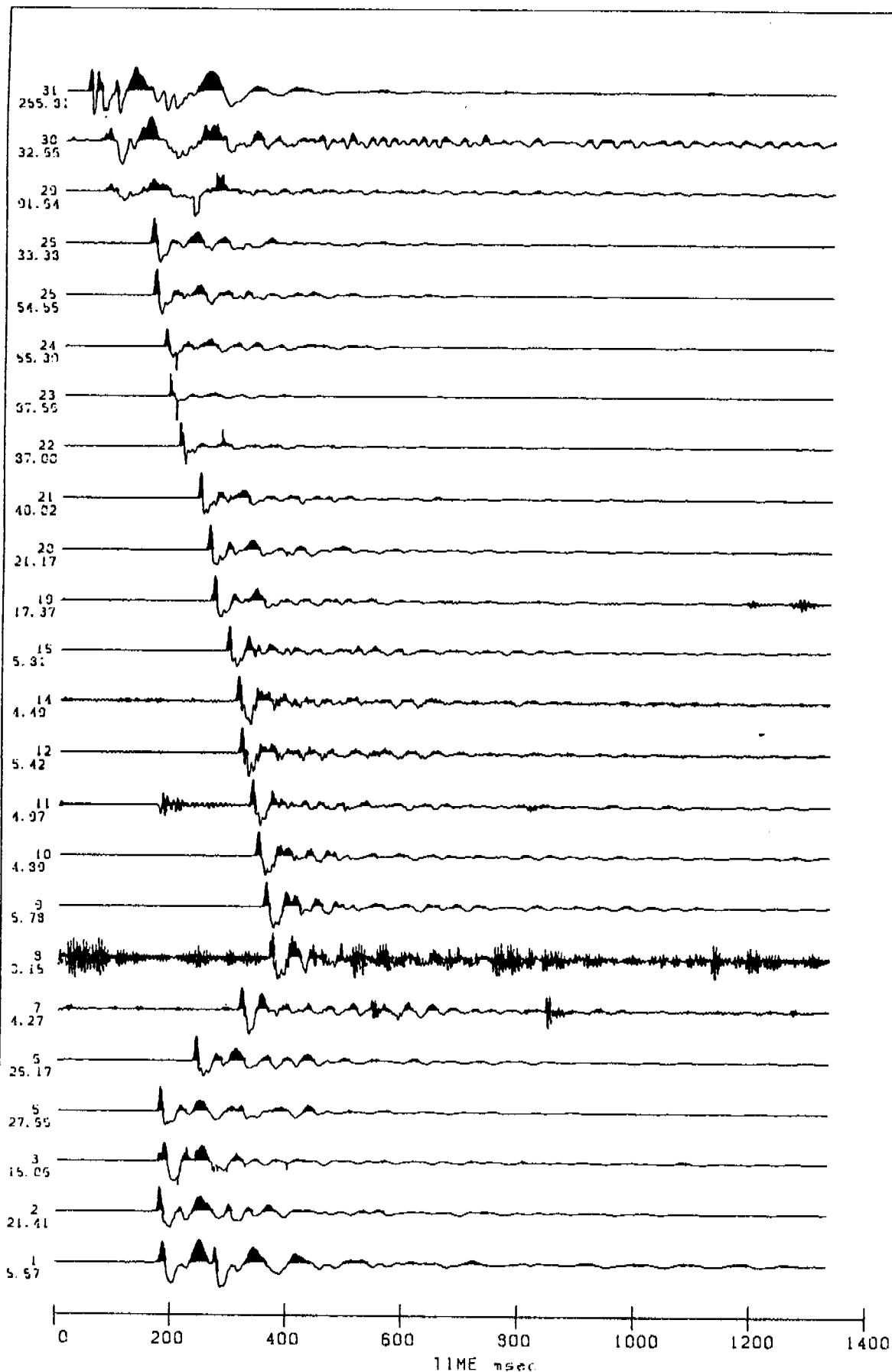
Client : DILMIN N.L.

Survey units : FEET

Datum : 2133.0

Velocities derived from fitted time-depth curve.

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
4010.0	277.6	14446	14595	15979	4340.0	297.7	14580	14726	16211
4020.0	278.2	14450	14598	16067	4350.0	298.3	14583	14729	16132
4030.0	278.8	14454	14602	16148	4360.0	298.9	14586	14732	16050
4040.0	279.4	14458	14606	16223	4370.0	299.5	14589	14734	15960
4050.0	280.1	14462	14610	16291	4380.0	300.2	14592	14737	15865
4060.0	280.7	14466	14614	16350	4390.0	300.8	14594	14739	15764
4070.0	281.3	14470	14618	16405	4400.0	301.4	14596	14741	15658
4080.0	281.9	14474	14622	16451	4410.0	302.1	14598	14743	15547
4090.0	282.5	14478	14626	16488	4420.0	302.7	14600	14744	15431
4100.0	283.1	14483	14631	16519	4430.0	303.4	14602	14745	15311
4110.0	283.7	14487	14635	16541	4440.0	304.0	14603	14746	15187
4120.0	284.3	14492	14639	16565	4450.0	304.7	14604	14747	15058
4130.0	284.9	14496	14644	16586	4460.0	305.4	14605	14747	14926
4140.0	285.5	14501	14648	16591	4470.0	306.1	14605	14748	14790
4150.0	286.1	14505	14652	16593	4480.0	306.7	14605	14747	14651
4160.0	286.7	14509	14657	16592	4490.0	307.4	14605	14747	14505
4170.0	287.3	14514	14661	16588	4500.0	308.1	14604	14746	14365
4180.0	287.9	14518	14665	16580	4510.0	308.8	14603	14745	14218
4190.0	288.5	14522	14670	16568	4520.0	309.5	14602	14743	14068
4200.0	289.1	14527	14674	16555	4530.0	310.3	14601	14741	13937
4210.0	289.7	14531	14678	16536	4540.0	311.0	14599	14739	13805
4220.0	290.3	14535	14682	16514	4550.0	311.7	14597	14737	13676
4230.0	290.9	14539	14686	16491	4560.0	312.5	14594	14734	13555
4240.0	291.6	14543	14690	16462	4570.0	313.2	14591	14731	13446
4250.0	292.2	14547	14694	16432	4580.0	313.9	14589	14728	13347
4260.0	292.8	14551	14698	16397	4590.0	314.7	14585	14725	13261
4270.0	293.4	14555	14701	16360	4600.0	315.5	14582	14721	13184
4280.0	294.0	14558	14705	16319	4610.0	316.2	14578	14718	13118
4290.0	294.6	14562	14708	16277	4620.0	317.0	14575	14714	13061
4300.0	295.2	14565	14712	16274	4630.0	317.8	14571	14710	13013
4310.0	295.8	14569	14715	16406	4640.0	318.5	14567	14706	12976
4320.0	296.4	14573	14719	16348	4650.0	319.3	14563	14702	12947
4330.0	297.1	14576	14722	16283	4660.0	320.1	14559	14698	12927



EAST MEREENIE #13

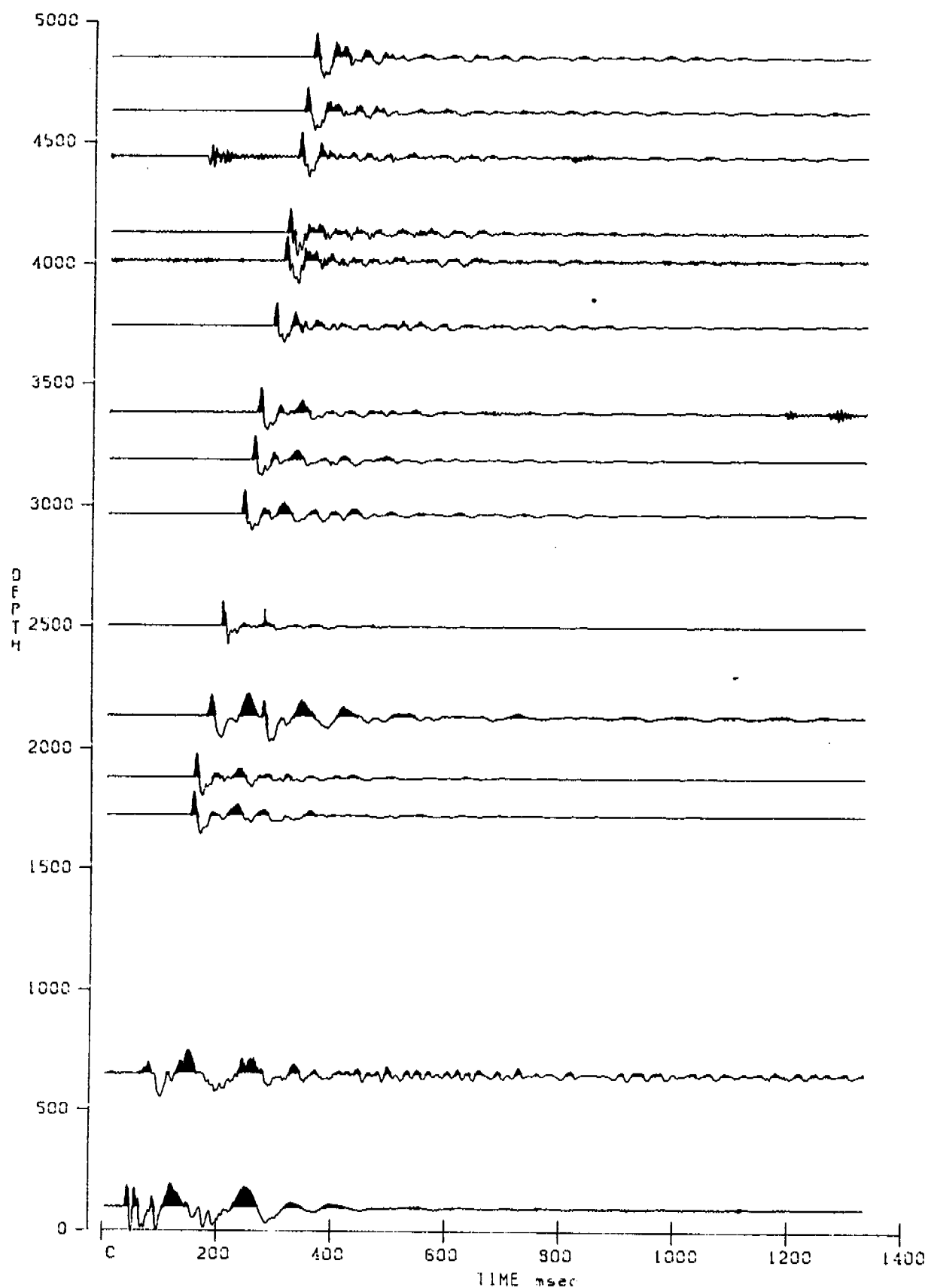
VELOCITY SURVEY TRACE DISPLAY

Filter OUT-OUT

No gain recovery

Figure 4A





EAST MEREENIE #13

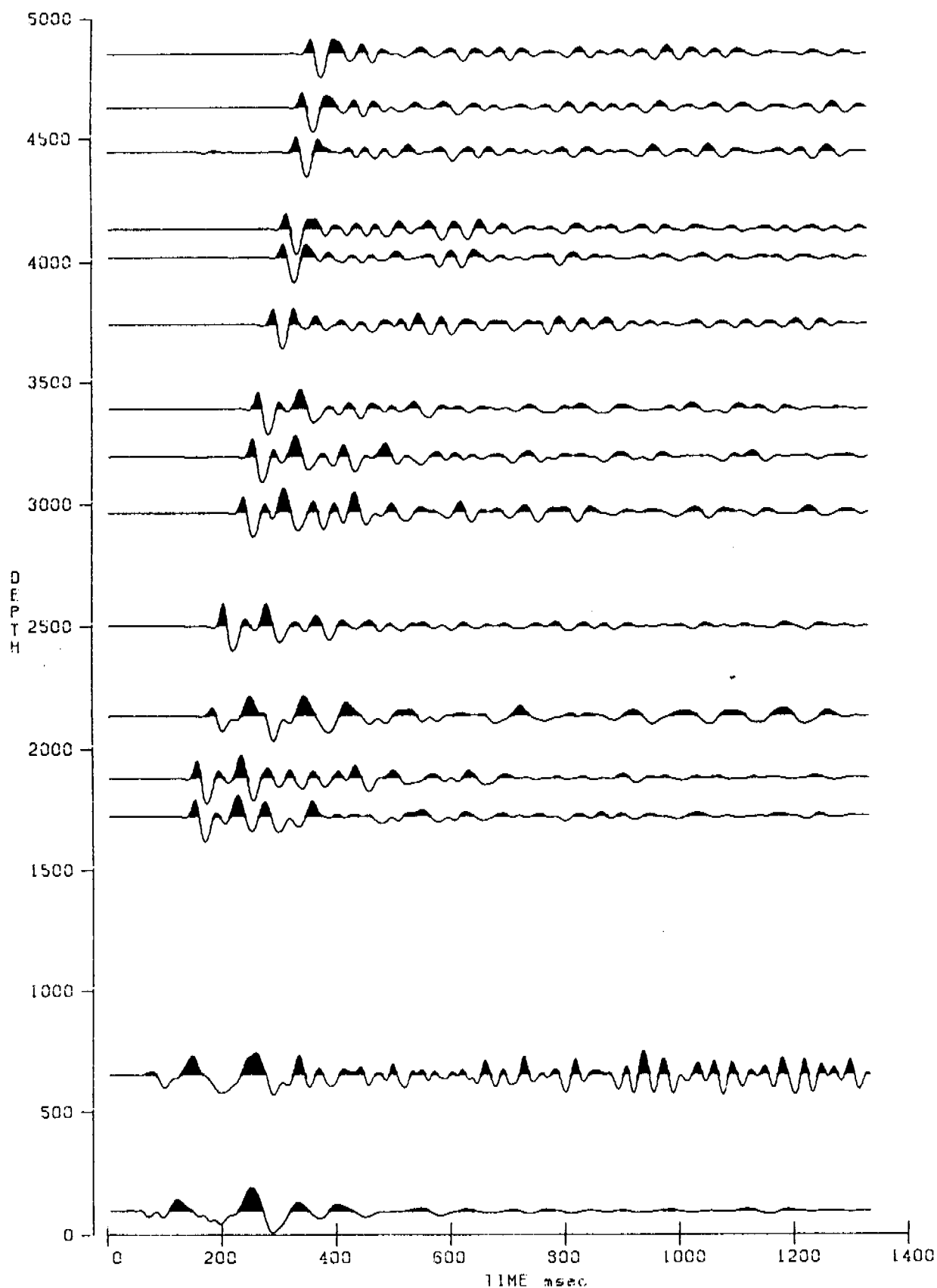
VELOCITY SURVEY TRACE DISPLAY

Filter OUT-OUT

No gain recovery



Figure 4B



EAST MEREENIE #13

VELOCITY SURVEY TRACE DISPLAY

Filter 5-40

Gain $T^{2.0}$



Figure 4C