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PE805162

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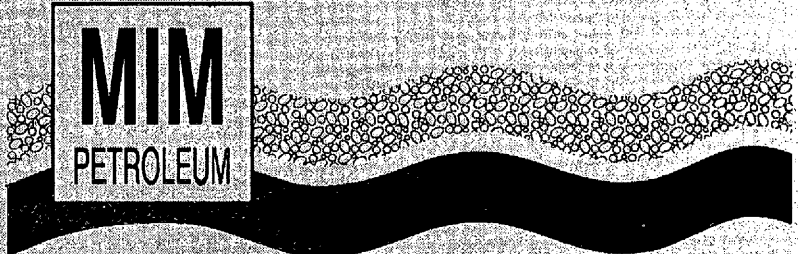
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**VIC/P33  
SEISMIC DATA REPROCESSING  
REPORT  
VARIOUS VINTAGES,  
GIPPSLAND BASIN  
September 1995**

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**VIC/P33**  
**SEISMIC DATA REPROCESSING REPORT**  
**VARIOUS VINTAGES, GIPPSLAND BASIN**  
**SEPTEMBER 1995**

M.I.M. Petroleum Exploration Pty Ltd  
For and on behalf of  
MOUNT ISA MINES LIMITED A.C.N. 009 661 447  
Operator of the VIC/P33 Joint Venture

Report No: MIM077

Prepared by: F R Nicholson

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## 1.0 REPORT

### 1.1 HISTORY

M.I.M. Petroleum Exploration Pty Ltd ("MIMPEX"), for and on behalf of Mount Isa Mines Limited ("MIM"), Operator of the of VIC/P33 Joint Venture, arranged for the reprocessing of 1300 km of data from eight vintages. These data were reprocessed to reduce the multiple interference from:

1. water bottom;
2. long period;
3. short period (pegleg) multiples; and

to provide a more unified data set between vintages and greater control of stacking/migration velocities with regard to known geology, i.e. high velocity infill in the channels.

### 1.2 PROCESSING

The data were reprocessed using a processing sequence from a turkey shoot won by Digital Exploration Limited ("Digicon") in 1992. The processing sequence is described in detail in Enclosure 3. Considerable effort was placed on reducing multiples:

#### 1. Wave Equation Multiple Attenuation

In order to remove multiple energy originating from the water bottom, the multiple energy was predicted using a wave equation algorithm and subsequently subtracted from the data.

#### 2. Signature (Wavelet) Deconvolution

The source signature was estimated over the whole shot record and was subsequently removed from the data; this reduces ghosting and reverberation. The data were then converted to zero phase and output to a storage medium.

#### 3. Deconvolution Before Stack ("DBS")

DBS was run to reduce the reverberatory multiple energy and flatten the amplitude spectrum.

The production parameters used were as follows:

- one window;
- prediction gap was 36 msec and the operator length was 244 msec.

**ENCLOSURES**

- Enclosure 1** Lines to be reprocessed\# kilometres per line
- Enclosure 2** Various Acquisition Parameters - table
- Enclosure 3** Processing Sequence
- Enclosures 4/5** Isovel Cross Section Line #G84A-7067 & # G74A-1087
- Enclosure 6** Shot Point Base Map with Misties
- Enclosure 7** Line G81A-5192 Sp 2620-1940 Preliminary Final Stack
- Enclosure 8** Line G81A-5192 Sp 2620-1940 PSPI Migration @ 80% vels
- Enclosure 9** Line G81A-5192 Sp 2620-1940 PSPI Migration @ 90% vels
- Enclosure 10** Line G81A-5192 Sp 2620-1940 PSPI Migration @ 100% vels
- Enclosure 11** Line G81A-5192 Sp 2620-1940 PSPI Migration @ 110% vels
- Enclosure 12** Line G88A-9060 Sp 2001-2601 Preliminary Final Stack
- Enclosure 13** Line G88A-9060 Sp 2001-2601 Migration @ 80% vels
- Enclosure 14** Line G88A-9060 Sp 2001-2601 Migration @ 90% vels
- Enclosure 15** Line G88A-9060 Sp 2001-2601 Migration @ 100% vels
- Enclosure 16** Line G88A-9060 Sp 2001-2601 Migration @ 110% vels
- Enclosure 17** Line G88A-9060 Sp 2001-2601 100/90% Smoothed Stacking vels
- Enclosure 18** Line G88A-9060 Sp 2001-2601 Horizon Consistent Time Picks
- Enclosure 19** Line G88A-9060 Sp 2001-2601 Horizon Consistent Smoothed vels
- Enclosure 20** Line G88A-9060 Sp 2001-2601 Migration based on Horizon Consistent vels
- Enclosure 21** Line G88A-9060 Sp 2001-2601 Depth Converted Migration Section
- Enclosure 22** Line G88A-9060 Sp 2001-2601 Depth Migration

#### 4. Multiple Attenuation

Pre-stack multiple attenuation was applied in the tau-p domain via the parabolic radon transform ("PRT") (Digicon PMULT). In PMULT, after the application of normal moveout ("NMO"), each gather is transformed into the tau-p (or ray path) domain via the PRT; the multiples map onto different time/p values than the primaries. Then time variant muting can be applied (set amplitudes equal to zero) to remove the primary energy. This results in a data set containing only multiple energy. The result is then inverse transformed back into the offset-time domain and is subtracted from the original common midpoint gather.

Multiple attenuation techniques based upon velocity separation of the multiple and primary energy are less effective as the source to receiver offset distance approaches zero. This is because there is little or no differential NMO between them. Short period multiples with approximately <6% velocity separation from the primaries are not attenuated by this process.

90% of the first pass velocity field was used to NMO correct the data before the PRT.

#### Dip Moveout ("DMO")

DMO (pre-stack partial migration) was applied to the data to correct areas with conflicting dips.

NMO for a single dipping reflector is:

$$t^2(x) = t^2(0) + \frac{x^2 \cos^2 \emptyset}{v^2}$$

where " $\emptyset$ " is reflector dip, "v" is the velocity of the medium above the reflector, and "x" is the source to receiver offset.

Divide the moveout term into two parts then:

$$t^2(x) = t^2(0) + \frac{x^2}{v^2} - \frac{x^2 \sin^2 \emptyset}{v^2}$$

The first function is zero dip NMO and the second function is DMO since it is related to the reflector dip.

Correcting for the DMO enhances imaging of faults, stacking of conflicting dips and higher frequency stacking (because of less common reflection point smearing); additionally, velocity analysis post-DMO yields a velocity field that is accurately dip corrected under conditions of moderate velocity gradients and therefore more suited to migration. The stacked output trace is a closer approximation of the zero offset trace and will migrate with increased accuracy.

DMO is applied in the common offset domain.

## Velocity Picking

Particular attention was focused on the velocity field especially across channel infill zones. The data were preliminarily interpreted before the final velocity analyses were run and this was used as a guide in velocity picking. The final velocities were tied by comparing iso-velocity cross-sections (Encls 4 and 5) and misties were plotted on a shot point base map. The mistie locations correspond with known channel sequences (Encl. 6).

## Migration

Phase shift with interpolation PSPI was used as it is more accurate in areas with strong lateral velocity variations than conventional finite difference migration. Tests were conducted on lines G81A-5192 and G88A-9060; each line was migrated at 80, 90, 100 and 110% of the smoothed stacking velocity field. Refer to Enclosures 7 to 16.

### Line G88A-9060

Given that the data had been interpreted, a comparison was made of migration using the smoothed horizon consistent velocity field (i.e. interpretation picks on 13 horizons). Refer to Enclosures 17 to 20. This involved digitising the horizons, sending the time picks to Digicon and converting to a velocity field (from the stacking velocities) then smoothing and input to the migration.

Refer to Enclosure 17 (iso-velocity display of the smoothed DMO velocity field (i.e. production)), Enclosure 18 (digitised horizon times), Enclosure 19 (horizon consistent velocity field) and Enclosure 20 (migrated stack using the horizon consistent velocity field).

The line was also:

1. depth converted after migration; and
2. depth migrated using a finite difference algorithm. This was done at Digicon's suggestion, simply to provide a comparison to the conventional time migration as it was not considered a practical option. Refer to Enclosures 21 and 22.

## Results

It was felt that the 100% smoothed velocity migration yielded better results between zero and two seconds; for production processing, the following time variant velocity field was used:

Time (sec)	% Velocity
0 to 2	100
3 to 4	90
Linear interpolation between specified points.	

Comparison of the "horizon consistent velocity" migration to the conventional migrations showed no improvements and was not considered in a production sense. Compare Enclosure 15 to Enclosure 20.

### Time Variant Filtering

This was applied to the migrated output to establish the optimum signal bandwidth; filter tests were run on a portion of the final stacked data for each vintage and the following time/bandwidths chosen:

88 & 85 Vintage		
Low cut	8 Hz/18 db-oct	O-E.O.R.
High cut	90 Hz/72db-oct	0-500 msec
	70 Hz/72db-oct	1000 msec
	69 Hz/60db-oct	1500-2000 msec
	50 Hz/48db-oct	2500 msec
	40 Hz/48db-oct	3000-4000 msec

(Linear interpolation between specified filters)

For all other vintages the high-cut filter was changed to 80 Hz from 0-500 msec; other filter settings remained the same. For data longer than 4000 msec the high-cut was lowered to 30 Hz/36 db-oct at 4500 msec to E.O.R.

### Trace Equalisation

Multigate expanding window balance was applied to equalise the data prior to display.

Note that Digicon personnel went to considerable lengths to "custom design" a multigate expanding window balance. This was requested in an effort to preserve the low amplitude reflections immediately below the coal sequences. This was not used in production as the "character" of the coal reflections was being lost.



## 2.0 CONCLUSION

Data quality of the reprocessing is regarded as a considerable improvement with much more detail in the high velocity Miocene channel zones and better fault imaging after migration.

Interpretation to date has indicated that the shallow data have been considerably improved with better high frequency multiple attenuation, revealing primaries with better continuity and character. M.I.M. Petroleum Exploration Pty Ltd personnel are able to confidently map deeper events which exhibit all the characteristics of being primaries. This was impossible on the earlier data sets.

### 2.1 IMPROVEMENTS

While the migration results are a noticeable improvement over previous data, there are limits to what pre or post-stack time migration can achieve. Since the reprocessing, selected lines have been pre-stack depth migrated. The results were very good considering the limits of the seismic resolution. Imaging and resolution in and below the channels were improved.

## 3.0 SEG-Y EXABYTE TAPE LISTING

Contractor Tape No.	MIMPEX Tape No.	Description
EXA-1262	VICP33 22	Raw final stacks (contains all reprocessed lines)
EXA-1194	VICP33 23	Filtered/scaled migrations (contains all reprocessed lines)
EXA-1258	WA235 24	Raw migration (contains all reprocessed lines)
EXA-1192	VICP33 27	Pre-stack cdp gathers G77A-3057, 3117, 3091, 3118, 3093, 3123, 3032, 3115 G80A-4129, 4130, 4135 1 of 10
EXA-1293	VICP33 28	Pre-stack cdp gathers G81A-5069, 5071, 5191, 5193, 5041, 5065, 5070 2 of 10
EXA-1294	VICP33 29	Pre-stack cdp gathers G81A-5072, 5076, 5190, 5073, 5179, 5074, 5181, 5075, 5184 3 of 10
EXA-1380	VICP33 30	Pre-stack cdp gathers G81A-5192, 5067, 5036, 5068, 5183, 5038, 5178, 5066, 5180 4 of 10
EXA-1384	VICP33 31	Pre-stack cdp gathers G84A-7025, 7026, 7028, 7067, 85D-02, 02A, 04, 06, 07, 85G-05, 07 5 of 10
EXA-1382	VICP33 32	Pre-stack cdp gathers G81A-5185, 5189, 5195, G82B-6040 6 of 10
EXA-1383	VICP33 33	Pre-stack cdp gathers G88A-9050, 9052, 9053, 9054, 9057, 9058, 9059, 9060, 9061, 9063 7 of 10
EXA-1385	VICP33 35	Pre-stack cdp gathers G84A-7024, 7027, 7032 G88A-9051, 9055, 9056, 9062 9 of 10
EXA-1392	VICP33 36	Pre-stack cdp gathers G74A and G77A lines 10 of 10

LINE	KM
G74A-1076	8.2
G74A-1077	8.2
G74A-1078	8.3
G74A-1079	8.3
G74A-1081	8.3
G74A-1082	10.2
G74A-1084	12.2
G74A-1085	14.3
G74A-1086	13.2
G74A-1087	13.0
G74A-1113	6.7
G74A-1114	6.7
G74A-1115	7.7
G74A-1118	8.0
G77A-3005	12.4
G77A-3032	9.0
G77A-3057	9.5
G77A-3091	19.0
G77A-3093	17.0
G77A-3094	8.0
G77A-3109	5.5
G77A-3114	8.9
G77A-3115	10.0
G77A-3116	10.5
G77A-3117	14.0
G77A-3118	11.9
G77A-3119	10.7
G77A-3123	15.0
G77A-3127	14.0
G80A-4129	42.8
G80A-4130	13.8
G80A-4135	16.0
G81A-5036	13.5
G81A-5038	21.5
G81A-5041	8.0
G81A-5065	8.7
G81A-5066	11.0
G81A-5067	10.4
G81A-5068	20.1
G81A-5069	9.5
G81A-5070	18.9
G81A-5071	19.0
G81A-5072	14.5
G81A-5073	14.9
G81A-5074	12.3
G81A-5075	19.1
G81A-5076	21.9
G81A-5178	15.3

LINE	KM
G81A-5179	14.8
G81A-5180	14.0
G81A-5181	9.9
G81A-5182	11.0
G81A-5183	11.0
G81A-5184	11.9
G81A-5185	8.0
G81A-5189	31.9
G81A-5190	9.1
G81A-5191	35.5
G81A-5192	17.0
G81A-5193	11.8
G81A-5195	22.2
G82B-6040	6.0
G84A-7024	10.2
G84A-7025	11.3
G84A-7026	8.8
G84A-7027	5.9
G84A-7028	9.2
G84A-7032	19.0
G84A-7067	11.6
G85D-02	9.2
G85D-02A	7.0
G85D-04	12.1
G85D-06	12.7
G85D-07	16.0
G85G-05	14.8
G85G-07	9.1
G88A-9050	9.7
G88A-9051	12.8
G88A-9052	13.5
G88A-9053	12.9
G88A-9054	12.9
G88A-9055	11.6
G88A-9056	11.4
G88A-9057	11.0
G88A-9058	10.4
G88A-9059	11.4
G88A-9060	15.0
G88A-9061	8.6
G88A-9062	31.5
G88A-9063	15.6
G88A-9064	19.0
G88A-9065	6.1
G88A-9066	39.7
G88A-9067	11.4
G88A-9068	9.2
G88A-9069	10.2
G88A-9070	6.5
G88A-9198	21.2
TOTAL	1302.4

VIC/P33  
**SEISMIC DATA REPROCESSING REPORT**  
**VARIOUS VINTAGES, GIPPSLAND BASIN**

**ACQUISITION PARAMETERS, 1993 SEISMIC DATA REPROCESSING**

Vintage	G74A	G77A	G80A	G81A
Contractor	G.S.I.	G.S.I.	G.S.I.	G.S.I.
Source	Airgun 1200 cu in	Airgun 2000 psi 1450 cu in	VSX Sleeve 1450 cu in	VSX Sleeve Airgun 2000 psi 2000 cu in
Source Interval	50 m (2 pops/Sp)	22.5 m (1 pop/Sp)	25 m (1 pop/Sp)	20 m (1 pop/Sp)
				30 m (1 pop/Sp)
Steamer	48 CH Analogue TI-ACH	48 CH Analogue	96 CH	96 CH
				EXXON 192CN
Hydrophones/Group	30	17	30	15/17
Group Interval	50 m	45 m	25 m	25 m 15 m
Acquisition Fold	48	48	48	48 48
Near Trace Offset	272 m	264 m	202 m	282 m 199 m
Far Trace Offset	2622 m	2379 m	2577 m	2657 m 3064 m
Acquisition System	TI-DFS 111	DFS 1V	DFS V	DFS V
Field Filters	8-124	8-62	8-128	8-90
Recording Sample Rate	2 ms	4 ms	2 ms	4 ms
Field Record/Length	5 sec	4 sec	4 sec	4 sec

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enclosure 2

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Vintage	G82B	G84A	G85D/G	G88A
Contractor	G.S.I.	G.S.I.	G.S.I.	G.S.I.
Source	Airgun 2000 psi 2775 cu in	VSX Sleeve Airgun 2000 psi 4075 cu in	VSX Sleeve Airgun 2000 psi 4075 cu in	VSX Sleeve Airgun 1950 psi 2180 cu in
Source Interval	25 m (1 pop/Sp)	30 m (1 pop/Sp)	30 m (1 pop/Sp)	25 m (1 pop/Sp)
Steamer	96 CH	G51 Multiplexor 192 CH	192 CH	Digital Fibre Optic 300 CH
Hydrophones/ Group	15	40		32
Group Interval	25 m	15 m	15 m	12.5 m
Acquisition Fold	48	48	48	75
Near Trace Offset	253 m	187 m	189 m	115 m
Far Trace Offset	2628 m	3052 m	3054 m	3852.5 m
Acquisition System	DFS V	TSR 001	TSR 001	Field Computer System III
Field Filters	OUT-90	8-90	8-90	8-128
Recording Sample Rate	4 ms	4 ms	4 ms	2 ms
Field Record/Length	4 sec	4 sec	6 sec	4 sec

- [1] **TRANSCRIPTION AND RESAMPLE 1:-**  
SEG-Y TAPE COPY FORMAT TO DIGICON INTERNAL FORMAT  
MINIMUM PHASE ANTI-ALIAS FILTER APPLIED PRIOR TO  
RESAMPLE (BUTTERWORTH LOW PASS: 0/0 - 110/72 HZ/DB/OCT)  
DATA LENGTH.... 5 SEC      SAMPLE RATE.... 4 MS
- [2] **TRUE AMPLITUDE RECOVERY 1:-**  
SPHERICAL DIVERGENCE CORRECTION [ (V\*\*2)\*T ]
- [3] **SHOT DOMAIN VELOCITY FILTER 1:-**  
PASS RANGE : -25.0 MS/TRACE. +25.0 MS/TRACE  
              (-2.00 KM/SEC.    +2.00 KM/SEC)  
WITH COSINE TAPERING.
- [4] **STATIC CORRECTIONS :-**  
GUN DELAY                    ..... -14.00 MS  
SOURCE CORRECTION         ..... +5.067 MS  
STREAMER CORRECTION       ..... +8.000 MS  
TOTAL STATIC =             ..... -0.933 MS
- [5] **MULTIPLE ATTENUATION (SHOT DOMAIN) :-**  
WAVE EQUATION TECHNIQUE (WEMA)
- [6] **WAVELET DECONVOLUTION 1:-**  
OFFSET DEPENDENT DEFLAT  
NO. OF OPERATORS PER SHOT = 1  
DETERMINISTIC COMPENSATION FOR INSTRUMENT RESPONSE  
AND SOURCE/STREAMER GHOSTS  
DESIGN GATE    NEAR : 300 MS - 3100 MS  
                  FAR : 1825 MS - 5000 MS  
APPLICATION GATE : WHOLE TRACE  
DESIRED OUTPUT : ZERO PHASE 5 - 90HZ
- [7] **COMMON DEPTH POINT GATHER 1:-**  
MAXIMUM FOLD : 48
- [8] **VELOCITY ANALYSIS 1:-**  
2.0 KM INTERVAL USING DIGICON'S "VELFAN" ROUTINE  
OVER 21 ALTERNATE CDPS & 11 VELOCITY FUNCTIONS.  
QC BY MIM PETROLEUM
- [9] **PREDICTIVE DECONVOLUTION 1:-**  
GAP LENGTH: 36MS.      OPERATOR: 244MS..  
NO OF FILTERS: 1.      % WHITE NOISE: 0.1.  
DESIGN GATES : NEAR OFFSET      FAR OFFSET  
                  [1] 200 - 300MS      1300 - 3000MS  
APPLICATION GATES: NEAR OFFSET      FAR OFFSET  
                  [1] 0 - 5000MS      0 - 5000MS
- [10] **MULTIPLE ATTENUATION 1:-**  
RADON TRANSFORM TECHNIQUE "MULT" USING 90% OF  
FIRST PASS VELOCITY FIELD DERIVED FROM STEP (8)
- [11] **DIP MOVEOUT CORRECTION (DMO) 1:-**  
F-K METHOD
- [12] **VELOCITY ANALYSIS 1:-**  
1.0 KM INTERVAL USING DIGICON'S "VELFAN" ROUTINE  
OVER 21 ALTERNATE CDPS & 11 VELOCITY FUNCTIONS  
QC BY MIM PETROLEUM
- [13] **N.M.O. CORRECTION 1:-**  
USING VELOCITY FIELD ANNOTATED ABOVE SECTION  
FROM STEP [12].
- [14] **PRE-STACK MUTE 1:-**  
OUTER TRACE MUTE  
OFFSET (M) : 309      444      1029      2640  
TIME (MSEC) : 20      300      700      2500
- [15] **COMMON DEPTH POINT STACK 1:-**  
MAXIMUM FOLD : 48
- [16] **SHOT EDIT 1:-**  
CERTAIN SHOTS EDITED DUE TO FIELD DATA PROBLEMS.  
THESE SHOTS HAVE LIVE ODD TRACES ONLY AND ARE  
MUTED TO 400MS.
- [17] **MIGRATION 1:-**  
PSPI  
0 - 2000MS    100% SMOOTHED VELOCITY STACK  
3000 - 4000MS    90% SMOOTHED VELOCITY STACK  
TRACE PADDING AT LINE ENDS: 80 TRACES RANDOM DATA
- [18] **TIME VARIANT BANDPASS FILTER 1:-**  
TIME (SECS.)      PASSBAND/SLOPE (DB/CYCLE)  
0.0                    8/18 - 80/72 HZ  
0.5                    8/18 - 80/72 HZ  
1.0                    8/18 - 70/72 HZ  
1.5                    8/18 - 60/60 HZ  
2.5                    8/18 - 50/48 HZ  
4.0                    8/18 - 40/48 HZ  
5.0                    8/18 - 30/36 HZ
- [19] **TRACE EQUALIZATION 1:-**  
GATE START (MSEC.)      GATE END (MSEC.)  
0                        200  
100                      300  
200                      400  
300                      500  
400                      600  
500                      750  
650                      900  
800                      1100  
950                      1250  
1100                     1400  
1400                     2000  
1600                     2500  
2300                     5000

PE805163

This is an enclosure indicator page.  
The enclosure PE805163 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805163 has the following characteristics:

ITEM\_BARCODE = PE805163  
CONTAINER\_BARCODE = PE805162  
    NAME = Isovel Cross Section Diagram  
    BASIN = GIPPSLAND  
    OFFSHORE? = N  
    DATA\_TYPE = SEISMIC  
    DATA\_SUB\_TYPE = DIAGRAM  
    DESCRIPTION = VIC/P33 Isovel Cross Section Diagram  
                  Line G84A-7067. By MIM Petroleum  
                  Exploration Pty Ltd. Enclosure 4  
    REMARKS =  
    DATE\_WRITTEN =  
    DATE\_PROCESSED =  
    DATE\_RECEIVED =  
    RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
    WELL\_NAME =  
    CONTRACTOR =  
    AUTHOR =  
    ORIGINATOR =  
    TOP\_DEPTH =  
    BOTTOM\_DEPTH =  
    ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)



PE805164

This is an enclosure indicator page.  
The enclosure PE805164 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805164 has the following characteristics:

ITEM\_BARCODE = PE805164  
CONTAINER\_BARCODE = PE805162  
NAME = Isovel Cross Section Diagram  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = DIAGRAM  
DESCRIPTION = VIC/P33 Isovel Cross Section Diagram  
Line G74A-1087. By MIM Petroleum  
Exploration Pty Ltd. Enclosure 5  
REMARKS =  
DATE\_WRITTEN =  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805165

This is an enclosure indicator page.  
The enclosure PE805165 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805165 has the following characteristics:

ITEM\_BARCODE = PE805165  
CONTAINER\_BARCODE = PE805162  
NAME = Shot Point Base Map  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = NAV\_MAP  
DESCRIPTION = VIC/P33 Shot Point Base Map, Lines  
being reprocessed. By MIM Petroleum  
Exploration Pty Ltd. Enclosure 6, Scale  
1:50000  
REMARKS =  
DATE\_WRITTEN = 01-APR-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805166

This is an enclosure indicator page.  
The enclosure PE805166 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805166 has the following characteristics:

ITEM\_BARCODE = PE805166  
CONTAINER\_BARCODE = PE805162  
NAME = Seismic Section G81A-5192  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = SECTION  
DESCRIPTION = VIC/P33 Seismic Section G81A-5192. By  
by Digicon for MIM Petroleum  
Exploration Pty Ltd. Enclosure 7  
REMARKS =  
DATE\_WRITTEN = 01-APR-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805167

This is an enclosure indicator page.  
The enclosure PE805167 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805167 has the following characteristics:

ITEM\_BARCODE = PE805167  
CONTAINER\_BARCODE = PE805162  
NAME = Seismic Section G81A-5192  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = SECTION  
DESCRIPTION = VIC/P33 Seismic Section G81A-5192. By  
MIM Petroleum Exploration Pty Ltd.  
Enclosure 8  
REMARKS =  
DATE\_WRITTEN = 01-APR-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805168

This is an enclosure indicator page.  
The enclosure PE805168 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805168 has the following characteristics:

ITEM\_BARCODE = PE805168  
CONTAINER\_BARCODE = PE805162  
NAME = Seismic Section G81A-5192  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = SECTION  
DESCRIPTION = VIC/P33 Seismic Section G81A-5192. By  
MIM Petroleum Exploration Pty Ltd.  
Enclosure 9  
REMARKS =  
DATE\_WRITTEN = 01-APR-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805169

This is an enclosure indicator page.  
The enclosure PE805169 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805169 has the following characteristics:

ITEM\_BARCODE = PE805169  
CONTAINER\_BARCODE = PE805162  
NAME = Seismic Section G81A-5192  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = SECTION  
DESCRIPTION = VIC/P33 Seismic Section G81A-5192. By  
MIM Petroleum Exploration Pty Ltd.  
Enclosure 10  
REMARKS =  
DATE\_WRITTEN = 01-APR-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805170

This is an enclosure indicator page.  
The enclosure PE805170 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805170 has the following characteristics:

ITEM\_BARCODE = PE805170  
CONTAINER\_BARCODE = PE805162  
NAME = Seismic Section G81A-5192  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = SECTION  
DESCRIPTION = VIC/P33 Seismic Section G81A-5192. By  
MIM Petroleum Exploration Pty Ltd.  
Enclosure 11  
REMARKS =  
DATE\_WRITTEN = 01-APR-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805171

This is an enclosure indicator page.  
The enclosure PE805171 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805171 has the following characteristics:

ITEM\_BARCODE = PE805171  
CONTAINER\_BARCODE = PE805162  
NAME = Seismic Section Line G88A-9060  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = SECTION  
DESCRIPTION = VIC/P33 Seismic Section Line G88A-9060.  
By Digicon for MIM Petroleum  
Exploration Pty Ltd. Enclosure 12  
REMARKS =  
DATE\_WRITTEN = 01-MAY-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)



PE805172

This is an enclosure indicator page.  
The enclosure PE805172 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805172 has the following characteristics:

ITEM\_BARCODE = PE805172  
CONTAINER\_BARCODE = PE805162  
NAME = Seismic Section Line G88A-9060  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = SECTION  
DESCRIPTION = VIC/P33 Seismic Section Line G88A-9060.  
By Digicon for MIM Petroleum  
Exploration Pty Ltd. Enclosure 13  
REMARKS =  
DATE\_WRITTEN = 01-MAY-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805173

This is an enclosure indicator page.  
The enclosure PE805173 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805173 has the following characteristics:

ITEM\_BARCODE = PE805173  
CONTAINER\_BARCODE = PE805162  
    NAME = Seismic Section Line G88A-9060  
    BASIN = GIPPSLAND  
    OFFSHORE? = N  
    DATA\_TYPE = SEISMIC  
    DATA\_SUB\_TYPE = SECTION  
    DESCRIPTION = VIC/P33 Seismic Section Line G88A-9060.  
                  By Digicon for MIM Petroleum  
                  Exploration Pty Ltd. Enclosure 14  
    REMARKS =  
    DATE\_WRITTEN = 01-MAY-1993  
    DATE\_PROCESSED =  
    DATE\_RECEIVED =  
    RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
    WELL\_NAME =  
    CONTRACTOR =  
    AUTHOR =  
    ORIGINATOR =  
    TOP\_DEPTH =  
    BOTTOM\_DEPTH =  
    ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805174

This is an enclosure indicator page.  
The enclosure PE805174 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805174 has the following characteristics:

ITEM\_BARCODE = PE805174  
CONTAINER\_BARCODE = PE805162  
NAME = Seismic Section Line G88A-9060  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = SECTION  
DESCRIPTION = VIC/P33 Seismic Section Line G88A-9060.  
By Digicon for MIM Petroleum  
Exploration Pty Ltd. Enclosure 15  
REMARKS =  
DATE\_WRITTEN = 01-MAY-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805175

This is an enclosure indicator page.  
The enclosure PE805175 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805175 has the following characteristics:

ITEM\_BARCODE = PE805175  
CONTAINER\_BARCODE = PE805162  
    NAME = Seismic Section Line G88A-9060  
    BASIN = GIPPSLAND  
    OFFSHORE? = N  
    DATA\_TYPE = SEISMIC  
    DATA\_SUB\_TYPE = SECTION  
    DESCRIPTION = VIC/P33 Seismic Section Line G88A-9060.  
                  By Digicon for MIM Petroleum  
                  Exploration Pty Ltd. Enclosure 16  
    REMARKS =  
    DATE\_WRITTEN = 01-MAY-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
    WELL\_NAME =  
    CONTRACTOR =  
    AUTHOR =  
    ORIGINATOR =  
    TOP\_DEPTH =  
    BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805176

This is an enclosure indicator page.  
The enclosure PE805176 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805176 has the following characteristics:

ITEM\_BARCODE = PE805176  
CONTAINER\_BARCODE = PE805162  
NAME = Production Migration Isovel Display  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = DIAGRAM  
DESCRIPTION = VIC/P33 Production Migration Isovel  
Display for Line G88A-9060. Enclosure  
17  
REMARKS =  
DATE\_WRITTEN = 01-MAY-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805177

This is an enclosure indicator page.  
The enclosure PE805177 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805177 has the following characteristics:

ITEM\_BARCODE = PE805177  
CONTAINER\_BARCODE = PE805162  
    NAME = Horizon Consistent time picks diagram  
    BASIN = GIPPSLAND  
    OFFSHORE? = N  
    DATA\_TYPE = SEISMIC  
    DATA\_SUB\_TYPE = DIAGRAM  
    DESCRIPTION = VIC/P33 Horizon Consistent time picks  
    diagram for Line G88A-9060. Produced  
    for Migration Velocity Conditioning.  
    Enclosure 18  
    REMARKS =  
    DATE\_WRITTEN = 01-MAY-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805178

This is an enclosure indicator page.  
The enclosure PE805178 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805178 has the following characteristics:

ITEM\_BARCODE = PE805178  
CONTAINER\_BARCODE = PE805162  
NAME = Horizon Consistent smoothed vel.  
diagram  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = DIAGRAM  
DESCRIPTION = VIC/P33 Horizon Consistent smoothed  
velocities diagram for Line G88A-9060.  
Enclosure 19  
REMARKS =  
DATE\_WRITTEN = 01-MAY-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805179

This is an enclosure indicator page.  
The enclosure PE805179 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805179 has the following characteristics:

ITEM\_BARCODE = PE805179  
CONTAINER\_BARCODE = PE805162  
    NAME = Seismic Section Line G88A-9060  
    BASIN = GIPPSLAND  
    OFFSHORE? = N  
    DATA\_TYPE = SEISMIC  
    DATA\_SUB\_TYPE = SECTION  
    DESCRIPTION = VIC/P33 Seismic Section Line G88A-9060,  
                  Migration based on horizon consistent  
                  velocities. Enclosure 20  
    REMARKS =  
    DATE\_WRITTEN = 01-MAY-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
    WELL\_NAME =  
    CONTRACTOR =  
    AUTHOR =  
    ORIGINATOR =  
    TOP\_DEPTH =  
    BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)



PE805180

This is an enclosure indicator page.  
The enclosure PE805180 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805180 has the following characteristics:

ITEM\_BARCODE = PE805180  
CONTAINER\_BARCODE = PE805162  
NAME = Seismic Section Line G88A-9060  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = SECTION  
DESCRIPTION = VIC/P33 Seismic Section Line G88A-9060,  
depth converted migration section.  
Enclosure 21  
REMARKS =  
DATE\_WRITTEN = 01-MAY-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE805181

This is an enclosure indicator page.  
The enclosure PE805181 is enclosed within the  
container PE805162 at this location in this  
document.

The enclosure PE805181 has the following characteristics:

ITEM\_BARCODE = PE805181  
CONTAINER\_BARCODE = PE805162  
NAME = Seismic Section Line G88A-9060  
BASIN = GIPPSLAND  
OFFSHORE? = N  
DATA\_TYPE = SEISMIC  
DATA\_SUB\_TYPE = SECTION  
DESCRIPTION = VIC/P33 Seismic Section Line G88A-9060,  
depth migrated section. Enclosure 22  
REMARKS =  
DATE\_WRITTEN = 01-MAY-1993  
DATE\_PROCESSED =  
DATE\_RECEIVED =  
RECEIVED\_FROM = MIM Petroleum Exploration Pty Ltd  
WELL\_NAME =  
CONTRACTOR =  
AUTHOR =  
ORIGINATOR =  
TOP\_DEPTH =  
BOTTOM\_DEPTH =  
ROW\_CREATED\_BY = LG00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)