



**COMPANY : OMV AUSTRALIA PTY. LTD.**

**WELL : SOLE – 2**

**VERTICAL SEISMIC PROFILE, LOG CALIBRATION AND  
SYNTHETIC SEISMOGRAM REPORT**

**DATA PROCESSED : OCTOBER 2002**



**WELL : SOLE - 2**

**RIG SOURCE VSP, LOG CALIBRATION AND SYNTHETIC SEISMOGRAM REPORT**

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### PROCESSING COMMENT

All depths quoted are measured depths below reference level of RL at 25.0 m above MSL unless stated otherwise.

#### **Data Acquisition (Rig Source Survey)**

A rig source survey was acquired in this well by Schlumberger. The energy source was a 2x150 cu.in. GI gun at a constant pressure of 2000 psi. The source was suspended at a depth of 5m below MSL with a hydrophone positioned 3m from the airguns to monitor the output throughout the survey. The downhole tool was a single Geophone/Accelerometer (GAC). Levels were recorded at approximately 10m depth spacing from 997m up to 646.9m and 50m depth spacing up to the surface.

#### **Data Editing and Preparation**

The recorded data quality is generally good. Times were picked from the first break on the gun hydrophone signal to the first break on the well geophone signal. A total of 43 levels were included in the final computations and the final VSP.

#### **Stacked Geophone Data**

In order to investigate the frequency content of the data an FK analysis was performed on the edited, stacked geophone data aligned at one\_way time, Display VA(FK). This shows the frequency bandwidth of the various prominent wavefields together with any noise with a consistent frequency in the data set. From this the usable bandwidth of the downwave may be established and as a result a 5,10-100,120Hz preliminary filter has been applied to the data.

#### **Geovecteur Parametric Wavefield Separation**

Parametric wavefield separation allows the simultaneous separation of any number of specified wavefields (see appendix: VSP Parametric Wavefield Separation). This has the advantage that the relationships between the wavefields are considered during separation, so that the removal of one wavefield is not detrimental to the data quality of the others. In addition, this method reduces the number of processes performed on the data, minimising distortion and the introduction of noise, characteristic of median separation. The wavefields are defined by their slopes. In this case, one wavefield was identified for separation, P down leaving the upgoing wavefields and residual wavefields.

#### **Downgoing Wavefield**

A plot of the downgoing wavefield is supplied filtered with a seismic match filter 5,10-40,60Hz (Display VB2); this can be used for the identification of multiples (see Appendix).

#### **Upgoing Wavefield**

A deterministic deconvolution has then been applied to the upgoing wavefield using a 600ms operator derived from the downgoing wavefield on a trace by trace basis.

The deconvolved downgoing wavefield (Display VH) also shows the effectiveness of the deconvolution operators in collapsing the downgoing wavefield, within the design window, into the first arrivals, and illustrates the wavelets that will reside in the deconvolved upgoing wavefield.





In order to enhance the upgoing wavefield events, a dip filter with a 7 sample median operator (0 ms/trace dip) has been applied to the deconvolved upgoing wavefield. The dip filter was chosen after running several

tests to best enhance the upgoing events within the VSP without distorting any variation in character or dip present in these events.

### **Filter Determination**

To help design filters for the displays the data has been transformed into F-K space at three stages during the processing sequence. Additionally, several filter tests were applied to the VSP Display VF and the VSP borehole trace display. The maximum bandwidth filter is chosen such that it is the least restrictive filter that can be applied to the upgoing wavefield to remove noise whilst retaining good resolution of the events present. A 5,10-80,100Hz bandpass filter was chosen as optimum for this data set.

### **FK Analysis**

As mentioned previously, the data has been transformed into FK space at three stages during the processing sequence. In order to analyse the upgoing wavefield, the VSP levels 10 to 43 have been selected for the FK transform.

### **VSP Borehole Trace**

The VSP borehole trace represents the reflectivity series at the borehole. A transposed VSP was first derived, consisting of twenty four different 'corridor' traces whereby each one is derived from further into the data. A five trace median is then applied to the transposed VSP to further improve the signal to noise ratio and a single trace is then selected as the borehole trace, trace 3 in this case.

### **Interpreters Composites**

An Interpreters Composite Display (Display VG1) has been included showing the available data, the synthetic seismogram and the enhanced deconvolved upwave plotted against vertical depth to allow a full evaluation of data set to be made. The synthetic seismogram shows primary reflections without transmission loss and primaries plus all order multiples traces, after filtering with the maximum bandwidth filter used for the VSP processing. This display has been produced with zero phase filters and plotted at 10cm/s.

A similar display (Display VL1) has been produced with a lower frequency 5,10-40,60Hz bandpass filter to better match the surface seismic data.

Approved by:

Processed by:

.....  
**Mark Newman**  
Processing Manager

.....  
**Muhamad Taufik**  
Geophysicist

**17<sup>th</sup> October 2002**



**WELL** : **SOLE-2**

**COMPANY** : **OMV AUSTRALIA PTY. LTD.**

**LOCATION** : **5 780 595.42 m N**  
**676 059.05 m E**

**AREA** : **PERMIT VIC/RL3**

**COUNTRY** : **AUSTRALIA**

**ACQUISITION DETAILS**

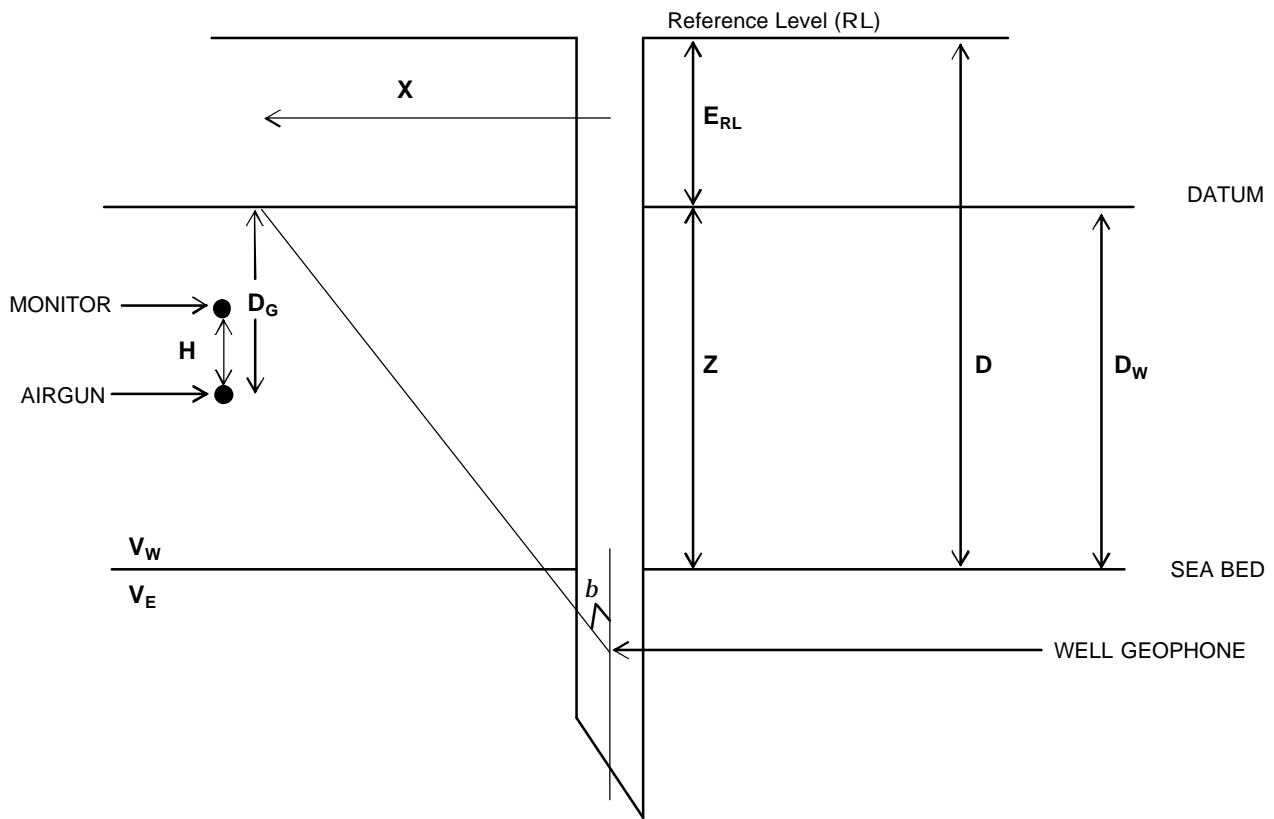
Survey Date : August 2002  
Reference Level : RL at 25.0 m above MSL  
Seismic Datum : MSL  
Water Depth : 124.5 m  
Well Deviation : None

**Rig Source VSP Survey:**

Source : G-Gun, 2000 psi  
Location : 56 m offset from wellhead,  
Bearing 12 degrees North  
Monitor : Near field hydrophone  
Source Depth : 5.0 m below MSL  
Monitor Depth : 3.0 m below MSL

Well Geophone : Schlumberger Geophone/Accelerometer (GAC)  
Recording Equipment : N/A  
Sample Rate : 1 ms

## SCHEMATIC CROSS-SECTION



### KEY

- RL** - Reference Level
- E<sub>RL</sub>** - Elevation of RL above datum
- D'** - Measured Depth of Well Geophone Below RL
- D** - Vertical Depth of Well Geophone Below RL
- Z** - Vertical Depth of Well Geophone Below Datum
- D<sub>G</sub>** - Depth of Gun Below Datum
- H** - Distance between Gun and Gun Hydrophone
- X** - Horizontal distance between Well Geophone and Gun
- b** - Incident Angle at Well Geophone Levels
- T** - Travel-Time from Gun Hydrophone to Well Geophone
- T<sub>V</sub>** - Time from Gun to Well Geophone corrected to vertical  
 [1] by assuming straight line travel paths  

$$= \left( T + \frac{H}{V_W} \right) \cos \beta$$
 or [2] by estimating the true refracted travel paths
- T<sub>E</sub>** - Time correction from gun to datum  

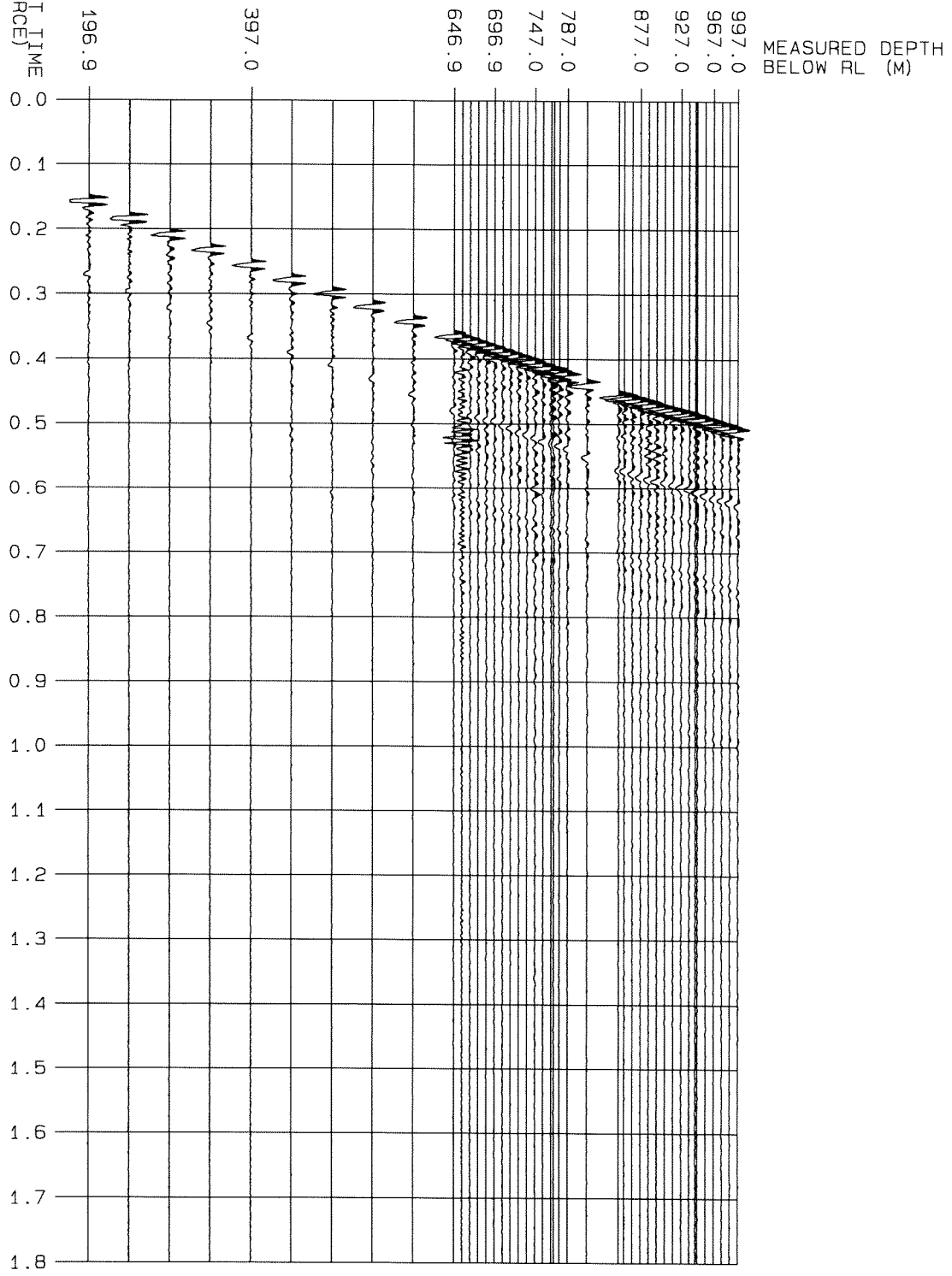
$$= [ \text{Gun Depth} / V_W ]$$
- T<sub>C</sub>** - Corrected travel time between datum and well geophone = T<sub>V</sub> + T<sub>E</sub>
- V<sub>A</sub>** - Z / T<sub>C</sub> (Average Velocity)
- V<sub>I</sub>** - ΔZ / ΔT<sub>C</sub> [Interval Velocity]
- D<sub>W</sub>** - Depth of Water
- V<sub>W</sub>** - Water Velocity
- V<sub>E</sub>** - Correction Velocity

ONE-WAY SLANT TIME  
(S BELOW SOURCE)

WELL : SOLE - 2

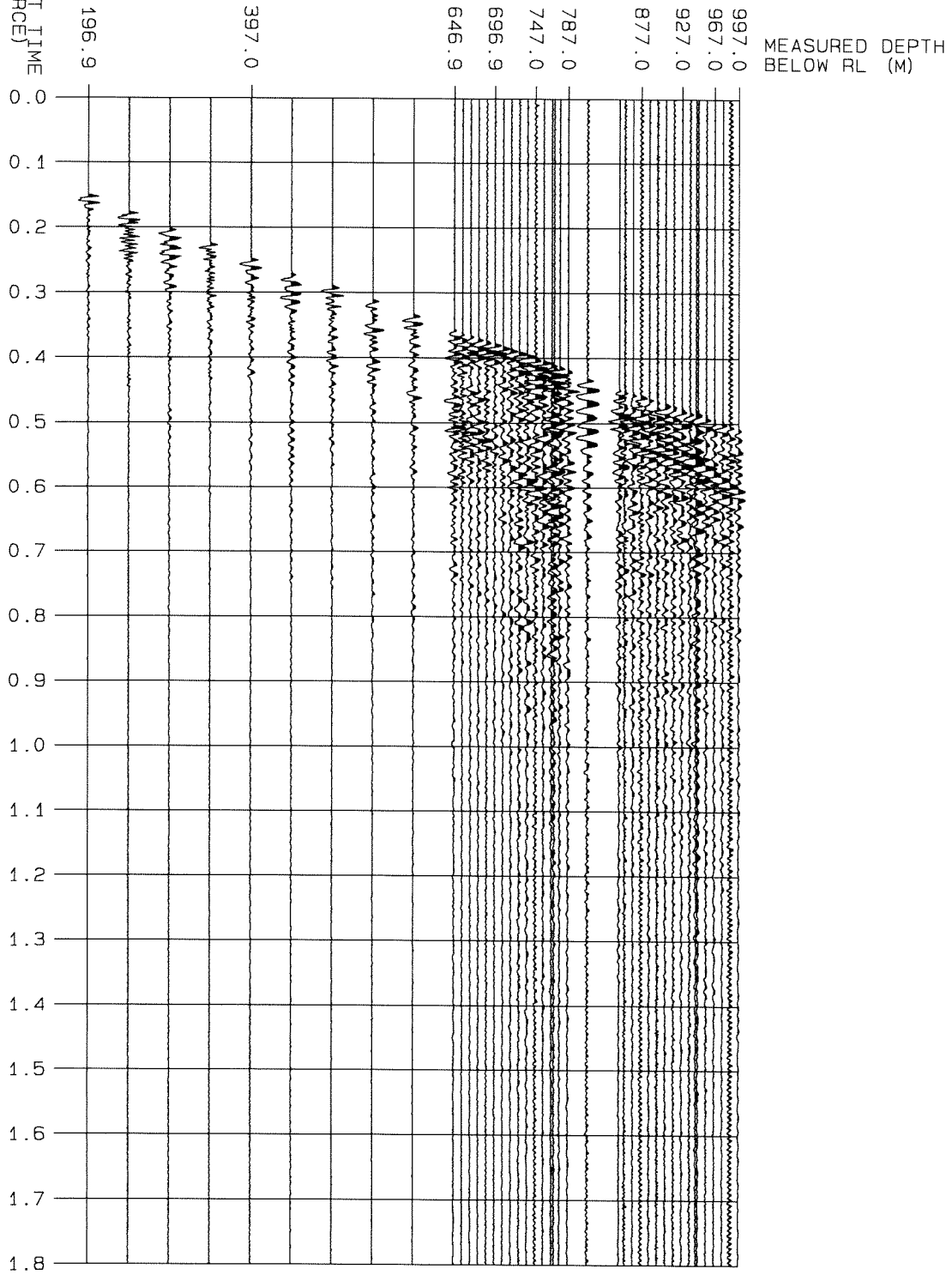
QC PLOT

DISPLAY - ZSTACK



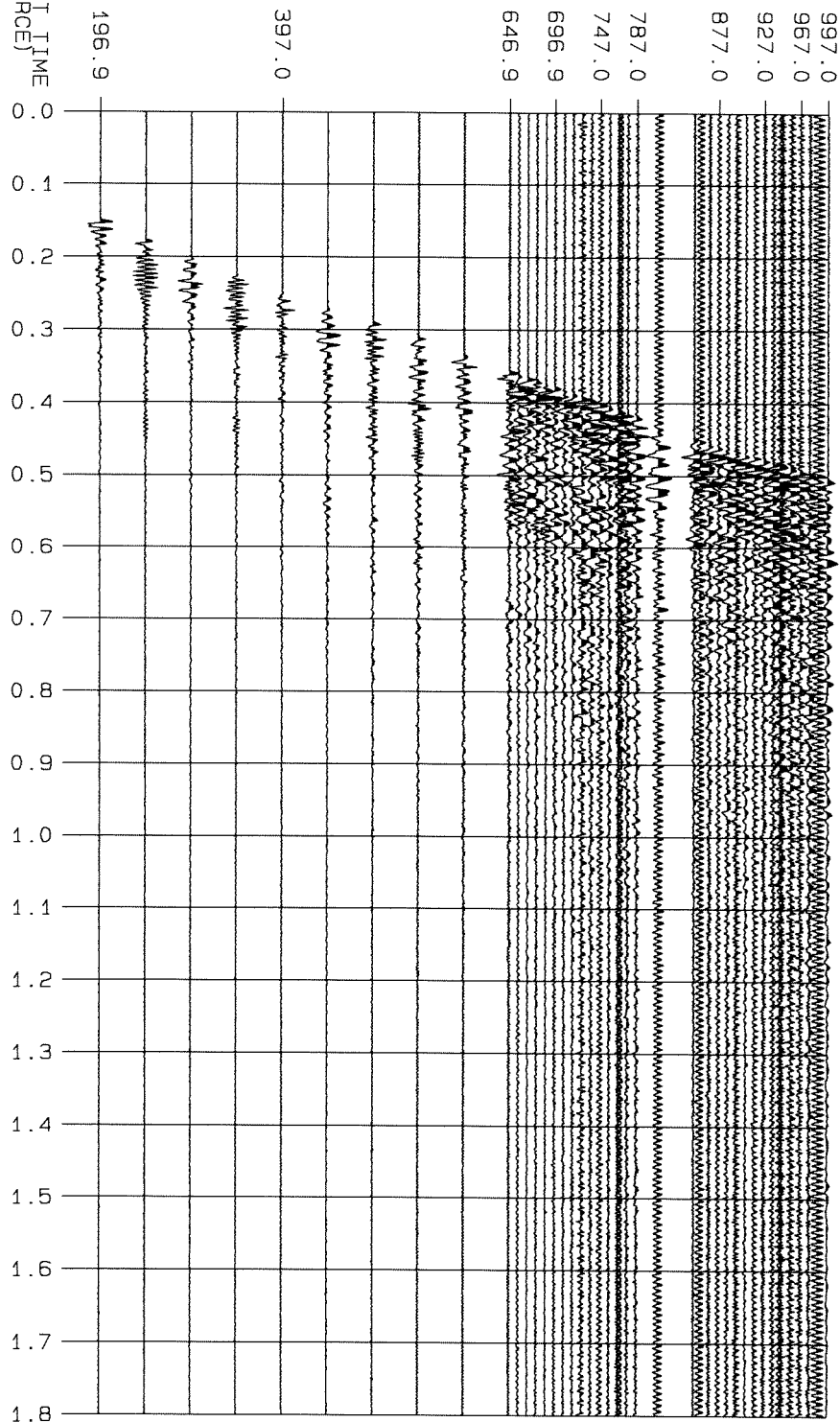
ONE-WAY SLANT TIME  
(S BELOW SOURCE)

# DISPLAY - XSTACK



ONE-MAY SLANT TIME  
(S BELOW SOURCE)

# DISPLAY - YSTACK





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WELL : SOLE - 2

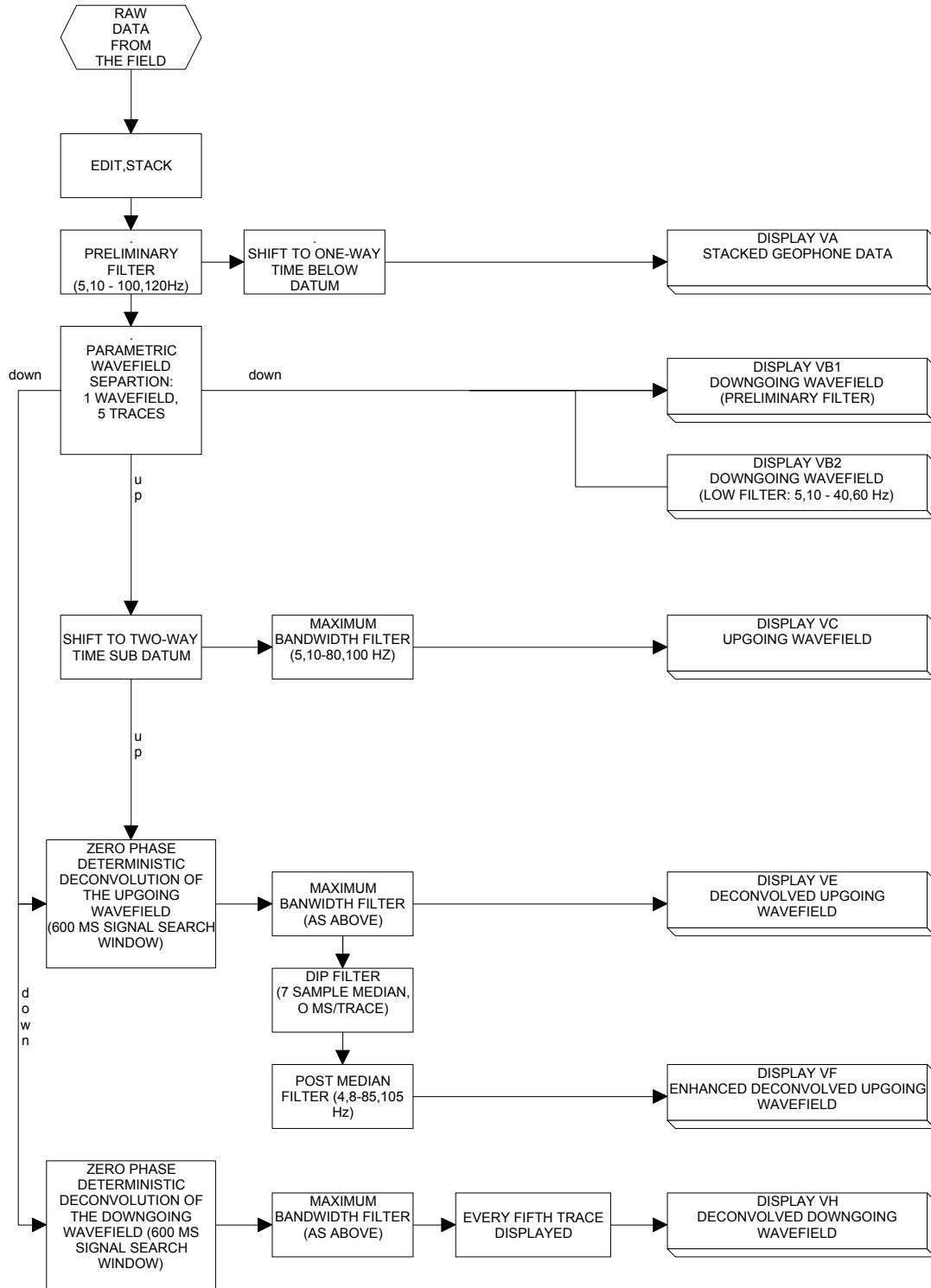
VSP COMPUTATION LISTING

Level No	Measured Depth (m) Below RL	Vertical Depth (m) Below RL	Vertical Depth Below MSL	One-way Time (ms) Below MSL	Two-way Time (ms) Below MSL	No. Of Traces Stacked
1	196.9	196.9	171.9	108.6	217.2	7
2	246.9	246.9	221.9	137.1	274.3	5
3	296.9	296.9	271.9	162.9	325.9	5
4	346.9	346.9	321.9	186.9	373.7	6
5	397.0	397.0	372.0	210.8	421.6	5
6	446.9	446.9	421.9	233.5	466.9	6
7	497.0	497.0	472.0	254.4	508.8	6
8	546.9	546.9	521.9	274.7	549.4	5
9	596.9	596.9	571.9	297.8	595.5	5
10	646.9	646.9	621.9	320.6	641.2	6
11	657.0	657.0	632.0	325.5	650.9	6
12	667.0	667.0	642.0	330.0	660.0	5
13	676.9	676.9	651.9	334.6	669.3	6
14	687.0	687.0	662.0	339.1	678.2	5
15	696.9	696.9	671.9	343.2	686.4	5
16	707.0	707.0	682.0	347.7	695.4	5
17	716.9	716.9	691.9	352.2	704.4	5
18	727.0	727.0	702.0	356.8	713.6	5
19	736.9	736.9	711.9	360.8	721.6	5
20	747.0	747.0	722.0	365.5	731.0	9
21	756.9	756.9	731.9	369.9	739.8	9
22	767.0	767.0	742.0	374.3	748.6	5
23	770.0	770.0	745.0	375.8	751.6	7
24	776.9	776.9	751.9	379.1	758.2	8
25	787.0	787.0	762.0	384.4	768.8	7
26	811.0	811.0	786.0	396.4	792.8	9
27	850.0	850.0	825.0	413.7	827.4	5
28	857.0	857.0	832.0	416.6	833.1	8
29	867.0	867.0	842.0	420.6	841.1	5
30	877.0	877.0	852.0	424.4	848.7	5
31	887.0	887.0	862.0	428.1	856.2	5
32	897.0	897.0	872.0	431.6	863.1	8
33	906.9	906.9	881.9	435.1	870.2	8
34	917.0	917.0	892.0	438.5	877.1	6
35	927.0	927.0	902.0	441.9	883.9	6
36	937.0	937.0	912.0	445.4	890.8	6
37	944.5	944.5	919.5	448.3	896.5	5
38	947.0	947.0	922.0	449.3	898.6	6

<b>Level No</b>	<b>Measured Depth (m) Below RL</b>	<b>Vertical Depth (m) Below RL</b>	<b>Vertical Depth Below MSL</b>	<b>One-way Time (ms) Below MSL</b>	<b>Two-way Time (ms) Below MSL</b>	<b>No. Of Traces Stacked</b>
39	957.0	957.0	932.0	453.3	906.6	5
40	967.0	967.0	942.0	457.5	914.9	7
41	977.0	977.0	952.0	461.7	923.3	7
42	986.9	986.9	961.9	465.7	931.4	6
43	997.0	997.0	972.0	469.4	938.8	6



**VSP PROCESSING ROUTE**  
**FOR WELL : SOLE-2**  
**(RIG SOURCE SURVEY)**





### **DISPLAY VA Stacked Geophone Data at one-way time**

This display indicates the quality of data used in the VSP processing.

The edited data is aligned accurately, using cross correlation methods, prior to summation of common depth traces by median stack.

Unless otherwise stated, source signature deconvolution is applied to marine data using the source monitor signal as source signature in order to remove the source bubble and to account for any slight variation in source output.

A broad band (preliminary) filter is applied in order to remove noise without compromising the usable bandwidth of the data.

### **DISPLAY VA(FK) F-K Transformation of Stacked Geophone data at one-way time**

This display is used for analysis of the frequency bandwidth of the data, to aid design of the preliminary filter.

The stacked geophone data (after source signature deconvolution, if appropriate) at one-way time, is transformed into F-K space. It is displayed as wavenumber (K) against frequency, with colour variation indicating amplitude in dB below peak amplitude.

A velocity alignment in T-X space transforms to an alignment in F-K space, rotated through 90°; the various wavefields (velocity alignments) commonly observed in T-X space transform into F-K space as illustrated in Figure 1.

The strongest wavefield will normally be the downgoing wavefield and this transforms into an alignment from zero wave number, zero frequency, sloping in the positive wavenumber direction.

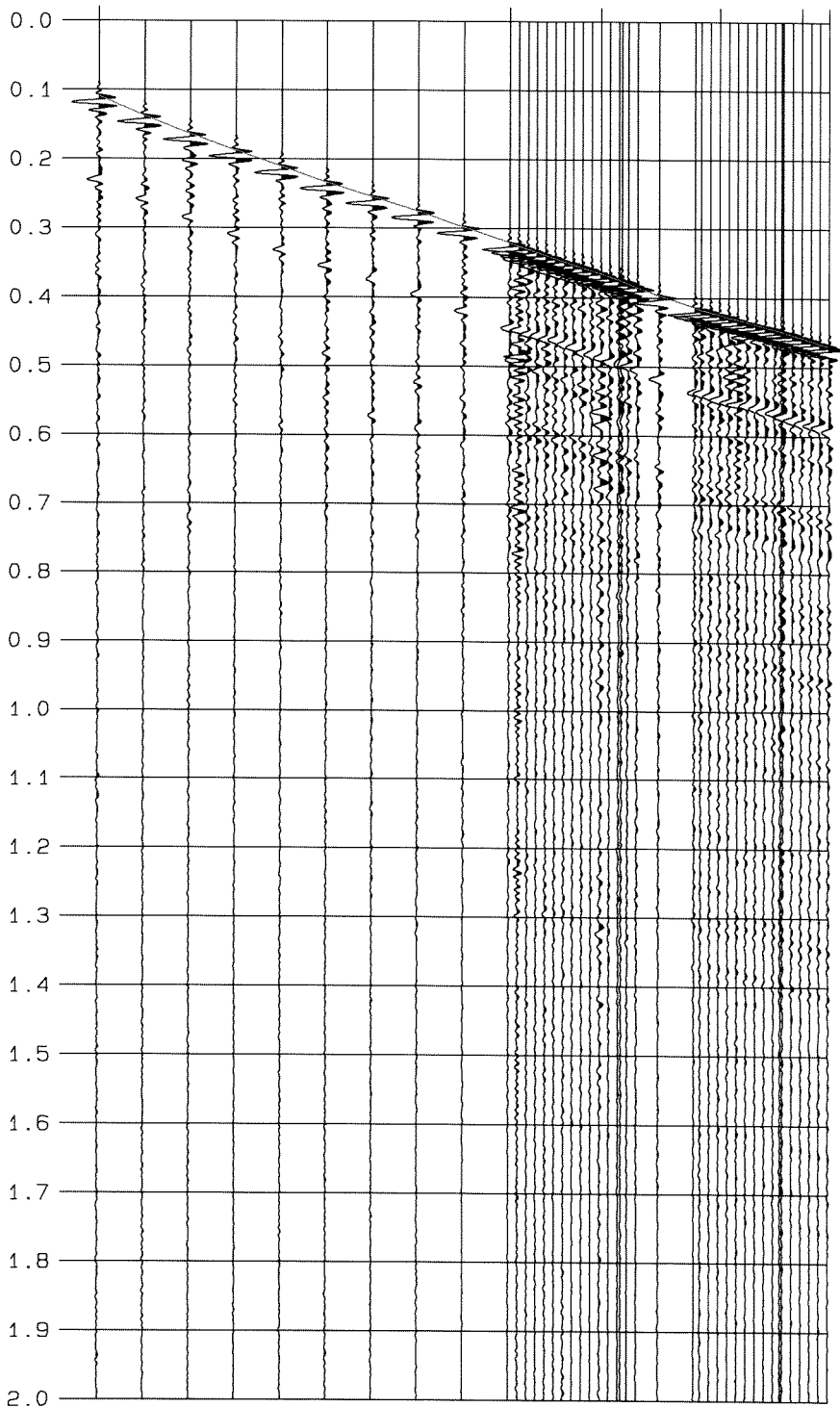
Significant velocity changes in a wavefield will result in multiple alignments in F-K space; it may not be possible to differentiate between the different alignments and the resulting event may be smeared.

WELL : SOLE-2

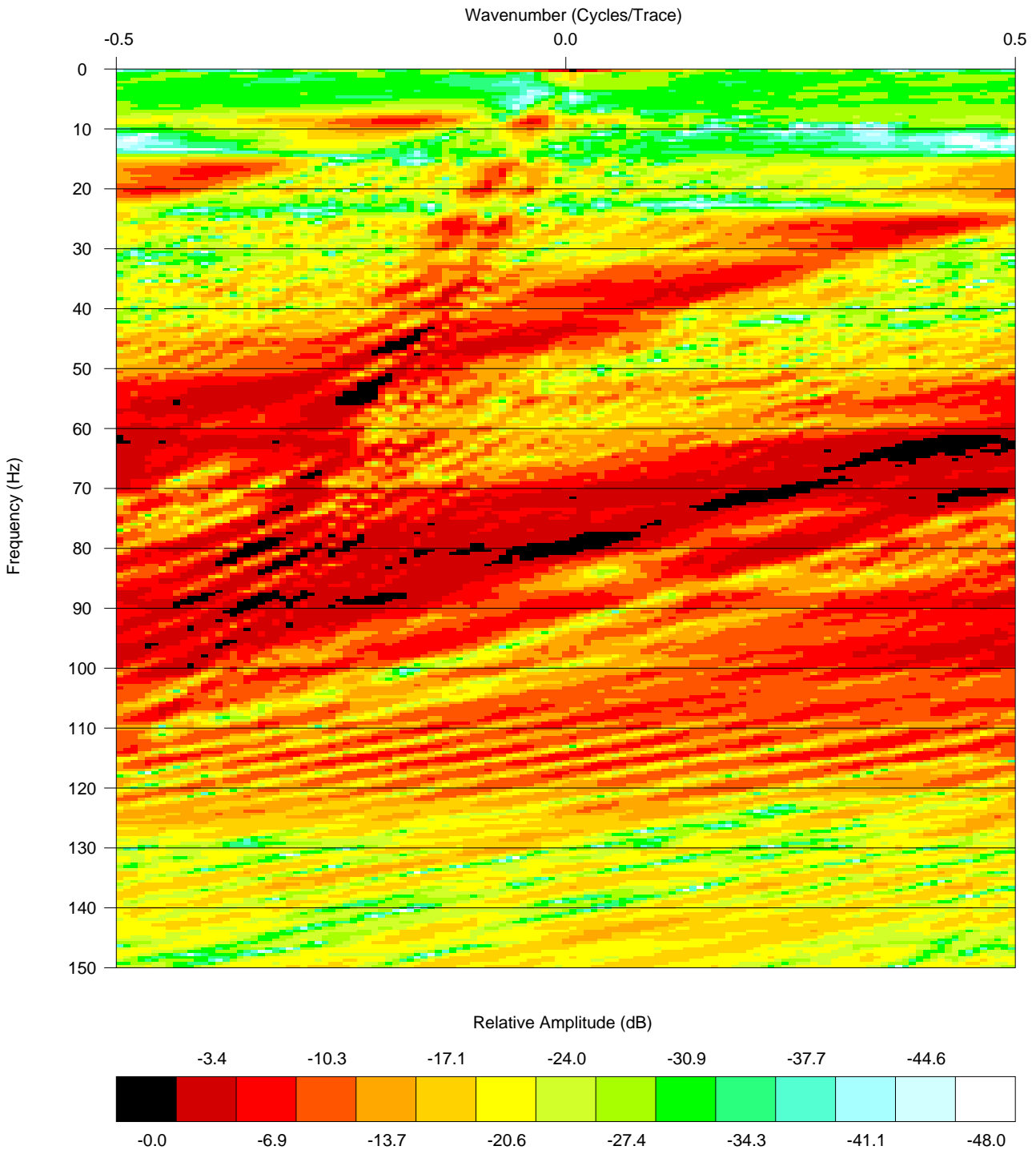
PRELIMINARY FILTER 5, 10 - 100, 120 HZ

DISPLAY - VA

ONE-MAY TIME (S BELOW MSL)	VERTICAL DEPTH BELOW MSL (M)	MEASURED DEPTH BELOW RL (M)	VSP LEVEL NO.
171.899	196.9	1	
621.900	646.9	10	
722.000	747.0	20	
852.000	877.0	30	
942.000	967.0	40	
972.000	997.0	43	



Wellname : SOLE-2  
Display : VA(FK)  
FK Analysis  
Input : Stacked Geophone Data  
(One-Way Time)  
Traces : 1 - 43 (196.900 - 997.000)  
Time : 100 - 2000 ms  
Filter : None





## **DISPLAY VB1**

### **Downgoing Wavefield**

This display shows the data from which the deconvolution operators are derived.

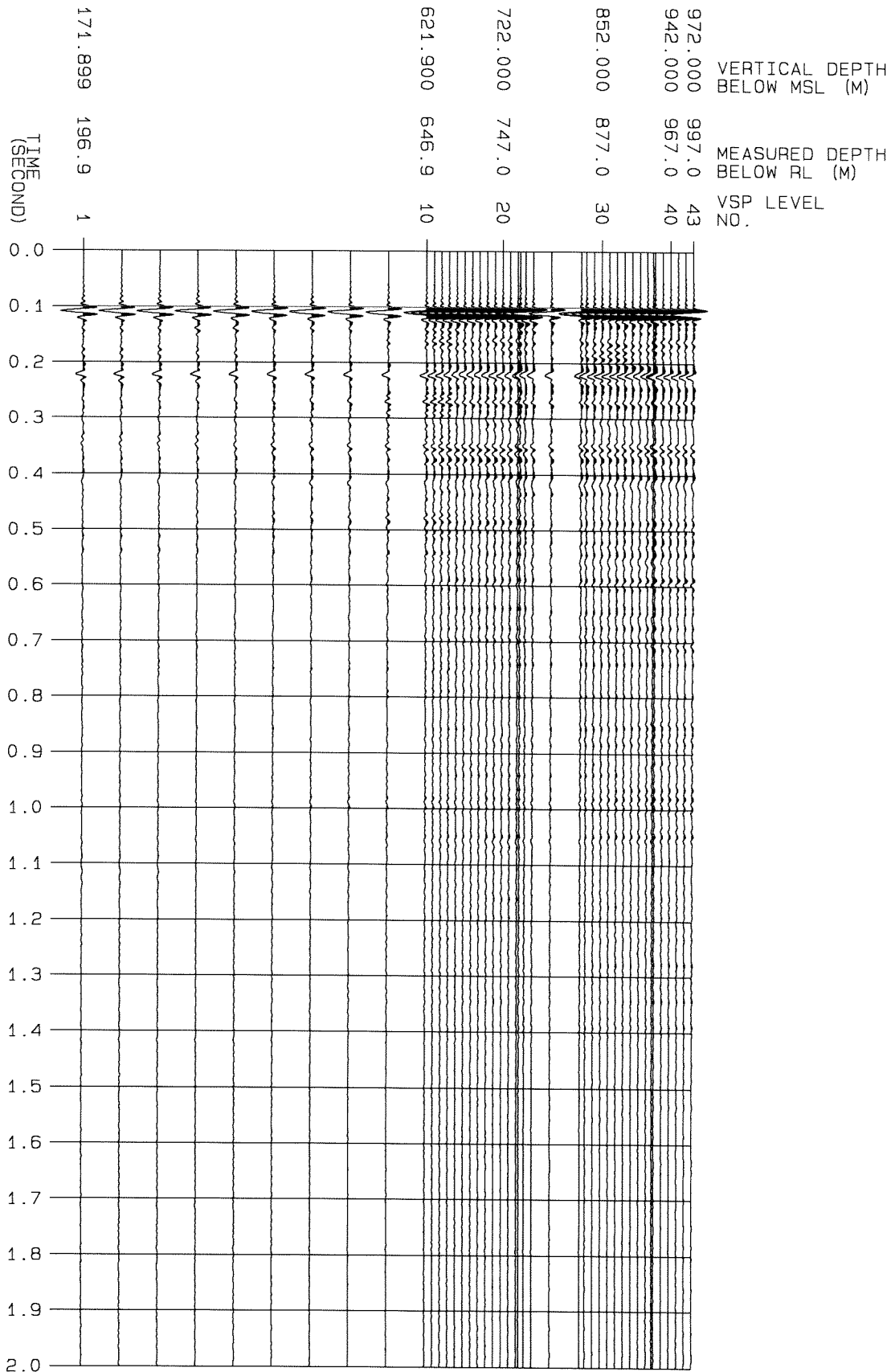
This wavefield is derived from the data shown in display **VA**. Parametric wavefield separation is applied to extract coherent data along defined gradients.

The result represents the downgoing wavefield observed at successive geophone positions and describes fully the multiple systems that will occur as a tail to a reflector at or near that geophone position.

WELL: SOLE-2

PRELIMINARY FILTER 5, 10 - 100, 120 HZ  
PARAMETRIC WAVEFIELD SEPARATION  
(1 WAVEFIELD, 5 TRACES)

DISPLAY - VB1





## **DISPLAY VC**

### **Upgoing Wavefield at two-way time**

This wavefield is derived from the data shown in display **VA**. Parametric wavefield separation is applied to extract coherent data along defined gradients.

This display describes the primary and multiple reflection responses of the subsurface at the borehole location, within and below the depth range of the VSP.

This data is filtered using the 'maximum bandwidth' filter designed after F-K analysis to determine the usable bandwidth of the upgoing wavefield.

In marine data, if source signature deconvolution has been applied, then the input wavelet is zero phase and the wavelet contained in the data is zero phase modified by earth absorption and transmission loss effects (i.e. mixed phase).

Events that reach the time-depth curve are primary and their lithologic significance can be established unequivocally by reference to the calibrated velocity log. Multiples having their last bounce from a primary within the range of the VSP may be identified by observing their termination in the data at the same depth point at which the primary cuts the time-depth curve.

From this display, any dip across the well location can be recognised by moveout of the primary event to shorter time, as the geophone moves up the well and away from the lithology creating the reflection. No azimuth of dip can be computed from this display but true dip can be computed from a measurement of  $\Delta T$  against vertical depth increment.

Unconformities may be recognised by an abrupt change of moveout of adjacent primary events. Topographical features up-dip away from the well may be recognised by an increase in  $\Delta T$  or in the termination of an event away from the time-depth curve. Dip increasing up-dip away from the well can be observed in the data; however, if dip is decreasing up-dip (i.e. crest of an anticline) then the event in question will disappear from the data. For vertical wells, dip can be calculated using the method described in the Appendix contained in this report.

## **DISPLAY VC(FK)**

### **F-K Display of Upgoing Wavefield at two-way time**

This display is used in the design of the 'maximum bandwidth' filter in conjunction with the F-K display of the deconvolved upgoing wavefield and filter trials. It shows the data from the upgoing wavefield at two-way time transformed into F-K space. Any filter applied to the data before transformation is noted on the display.

Since the upgoing wavefield is aligned horizontally, or near horizontally, in T-X space (unless there is steep dip across the well location) it is aligned vertically, through zero wavenumber, in F-K space.

The 'maximum bandwidth' filter is the least restrictive filter that can be applied to the upgoing wavefield to remove noise whilst retaining resolution of the data in the zone of interest. The F-K analysis is therefore performed on data within a window around the zone of interest. Additionally, the data is windowed in time so that data analysed is close to the time-depth curve, where we would expect better resolution.

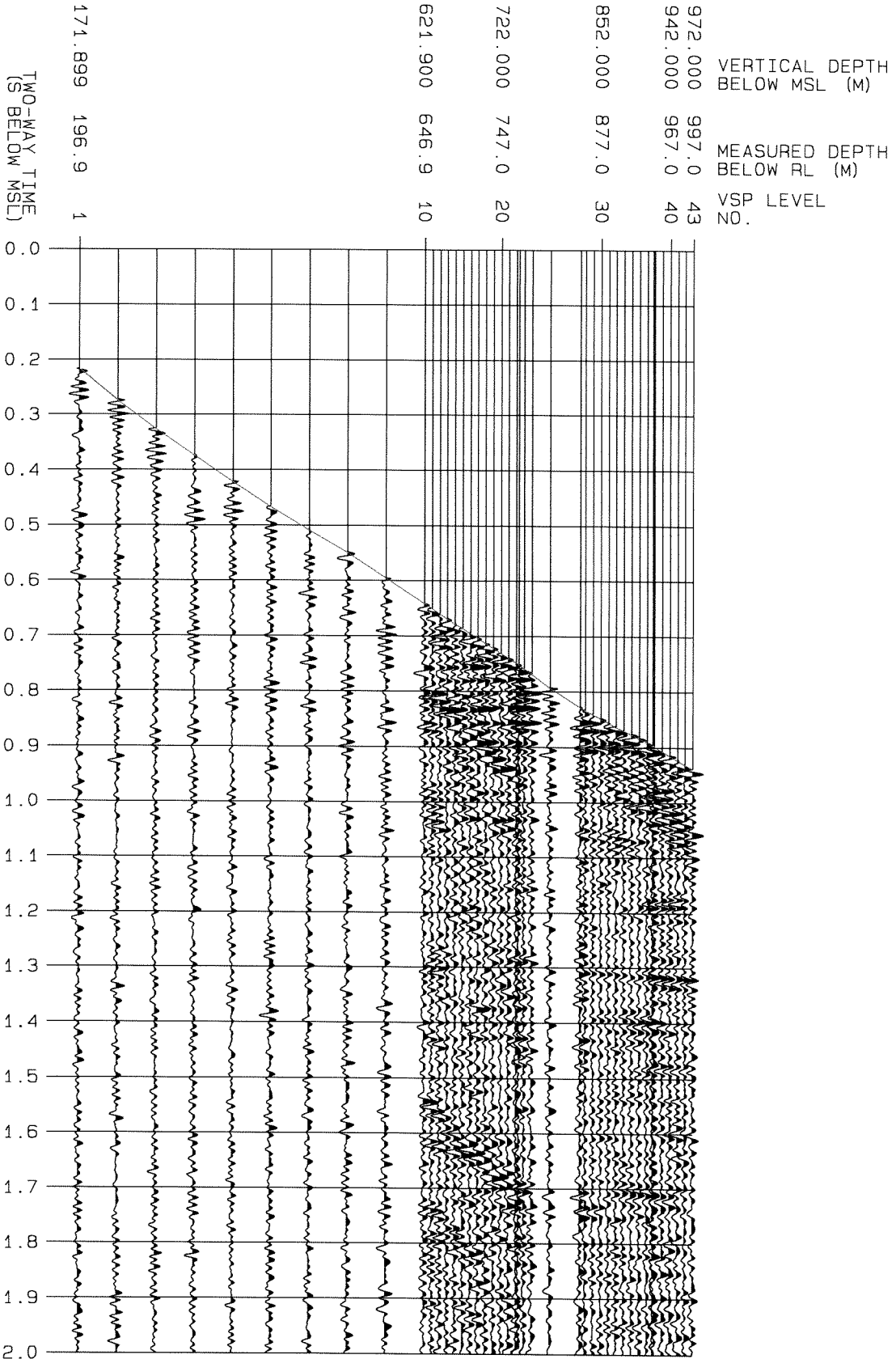
If the zone of interest is not known, it is assumed to be just above T.D. of the well.

WELL: SOLE-2

PRELIMINARY FILTER 5, 10 - 100, 120 HZ  
PARAMETRIC WAVEFIELD SEPARATION  
(1 WAVEFIELD, 5 TRACES)

MAXIMUM BANDWIDTH FILTER 5, 10 - 80, 100 HZ

DISPLAY - VC





Wellname : SOLE-2

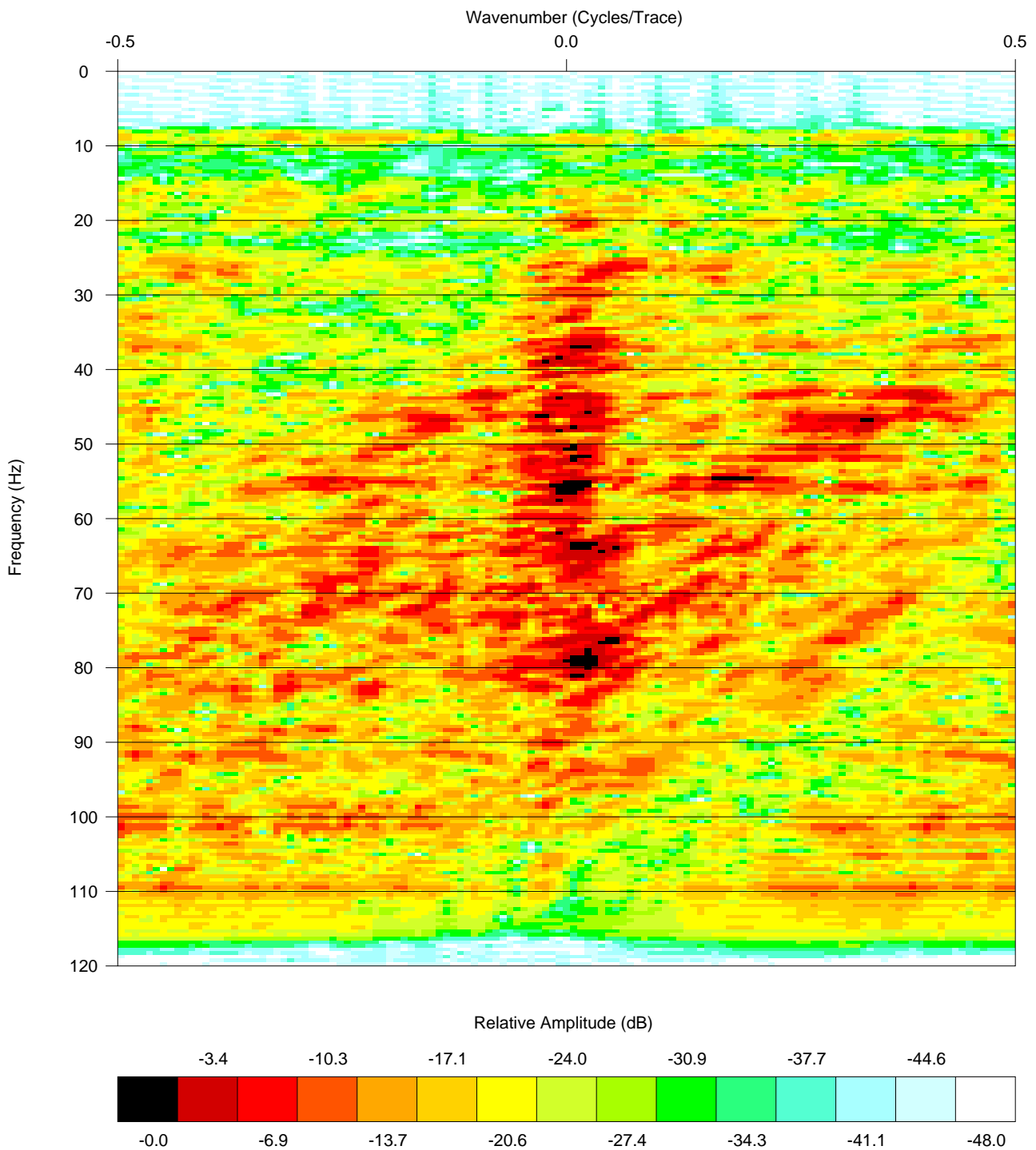
Display : VC(FK)  
FK Analysis

Input : Upgoing Wavefield Data  
(Two-Way Time)

Traces : 10 - 43 (646.900 - 997.000)

Time : 650 - 1800 ms

Filter : 5,10 - 100,120 Hz





## **DISPLAY VE**

### **Deconvolved Upgoing Wavefield at two-way time**

This display describes the primary reflection response of the subsurface at the borehole location, within the depth range of the VSP, and below the deepest VSP level to the limit of the deconvolution window.

It shows the data from display **VC** after application of deterministic deconvolution using operators derived from the downgoing wavefield on a trace by trace basis.

The effect of the deconvolution is to remove all reverberants associated with at least one reflector above the geophone position from which the downgoing wavefield has been extracted.

The deconvolution is applied in spiking mode, unless otherwise stated, and the phase of the resulting data will be a function of the filter applied after deconvolution. This is normally a zero phase filter giving a zero phase result and maximum resolution of the lithology within the band limits.

This data is filtered using the 'maximum bandwidth' filter.

Dip can be recognised from this display as described for display **VC**. For vertical wells, dip can be calculated using the method described in the Appendix contained in this report.

## **DISPLAY VE(FK)**

### **F-K Display of Deconvolved Upgoing Wavefield at two-way time**

This display is used in the design of the 'maximum bandwidth' filter in conjunction with the F-K display of the upgoing wavefield and filter trials.

It shows the data from the deconvolved upgoing wavefield at two-way time transformed into F-K space.

Any filter applied to the data before transformation is noted on the display.

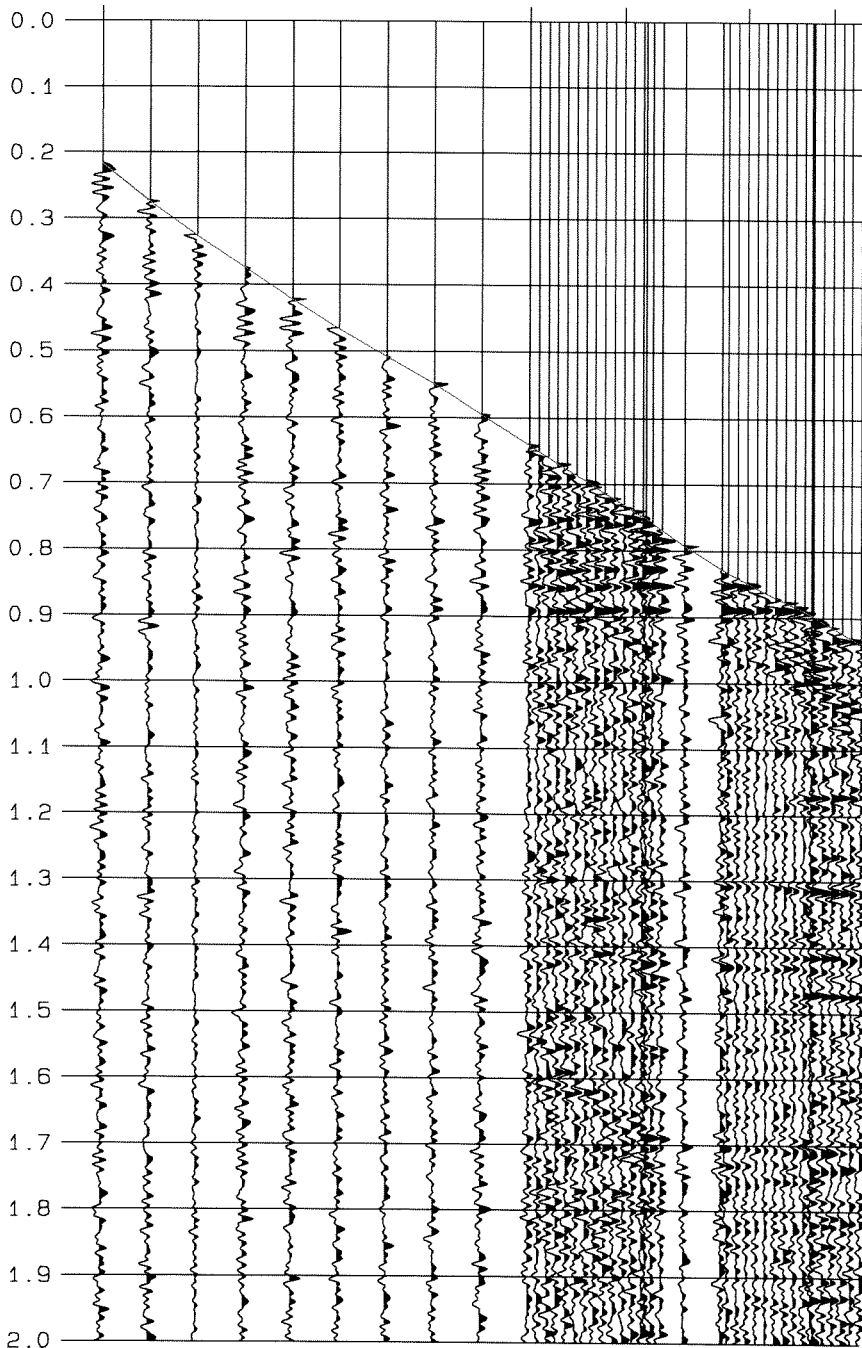
The same analysis window is used as in the production of **VC(FK)**. **VC(FK)** and **VE(FK)** will differ mainly in areas of low amplitude on **VC(FK)** which will be boosted during deconvolution.

WELL: SOLE-2

PRELIMINARY FILTER 5, 10 - 100, 120 HZ  
PARAMETRIC WAVEFIELD SEPARATION  
(1 WAVEFIELD, 5 TRACES)  
ZERO PHASE DETERMINISTIC DECONVOLUTION  
(600 MS SIGNAL SEARCH WINDOW)  
MAXIMUM BANDWIDTH FILTER 5, 10 - 80, 100 HZ

DISPLAY - VE

TWO-WAY TIME (S BELOW MSL)	VERTICAL DEPTH BELOW MSL (M)	MEASURED DEPTH BELOW RL (M)	VSP LEVEL NO.
171.899	196.9	1	
621.900	646.9	10	
722.000	747.0	20	
852.000	877.0	30	
942.000	967.0	40	
972.000	997.0	43	



Wellname : SOLE-2

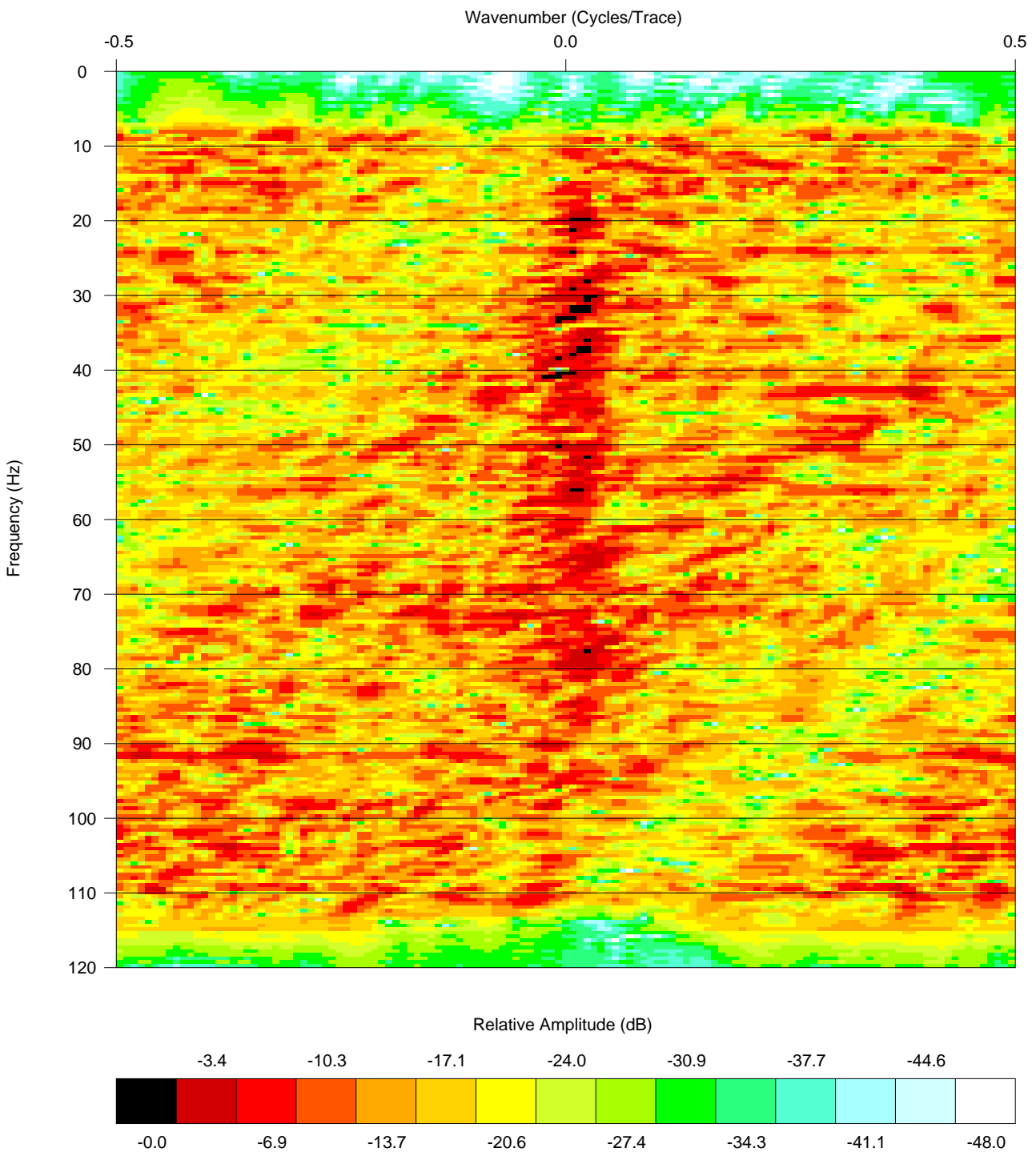
Display : VE(FK)  
FK Analysis

Input : Deconvolved Upgoing Wavefield Data  
(Two-Way Time)

Traces : 10 - 43 (646.900 - 997.000)

Time : 650 - 1800 ms

Filter : 5,10 - 100,120 Hz



**DISPLAY VF****Deconvolved Upgoing Wavefield at two-way time after enhancement**

This display describes the primary reflection response of the subsurface at the borehole location, within the depth range of the VSP, and below the deepest VSP level to the limit of the deconvolution window.

The data from Display **VE** is spatially filtered; this spatial filter is the result of various trials and is chosen to give the best enhancement of the upgoing events (horizontal and/or dipping) observed in the data.

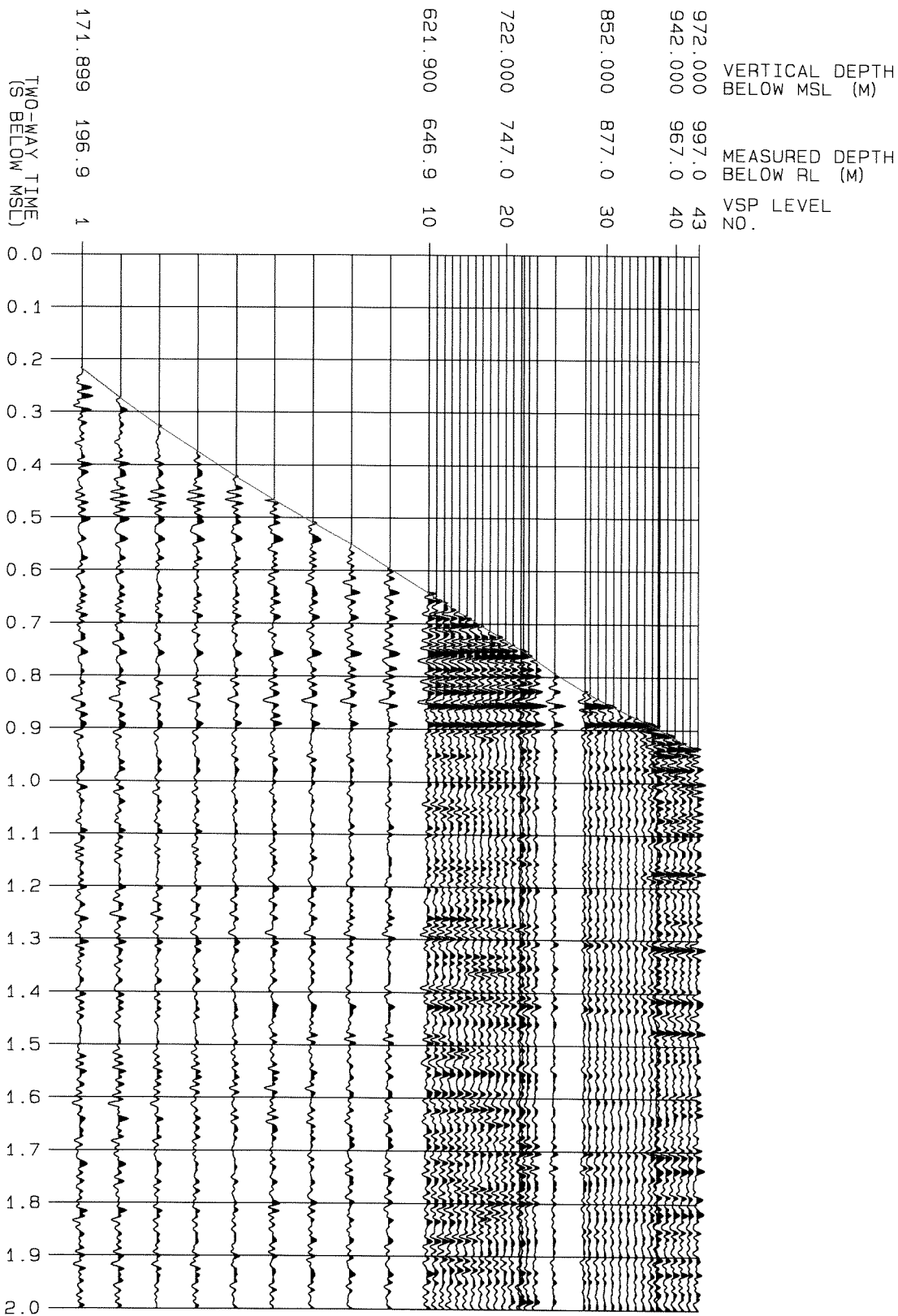
This data is filtered using the 'maximum bandwidth' filter.

Given suitable survey geometry, dip can be recognised from this display as described for Display **VC** and can be calculated using the method described in the Appendix contained in this report.

WELL: SOLE-2

PRELIMINARY FILTER 5, 10 - 100, 120 HZ  
PARAMETRIC WAVEFIELD SEPARATION  
(1 WAVEFIELD, 5 TRACES)  
ZERO PHASE DETERMINISTIC DECONVOLUTION  
(600 MS SIGNAL SEARCH WINDOW)  
MAXIMUM BANDWIDTH FILTER 5, 10 - 80, 100 HZ  
DIP FILTER (7 SAMPLE MEDIAN OPERATOR, 0 MS/TRACE)

DISPLAY - VF





## **DISPLAY VH**

## **Deconvolved Downgoing Wavefield**

This display indicates the quality and consistency of the zero phase wavelet residing in the deconvolved upgoing wavefield.

The inverse operator is used to deconvolve the data from which it has been designed. Selected traces only are displayed.

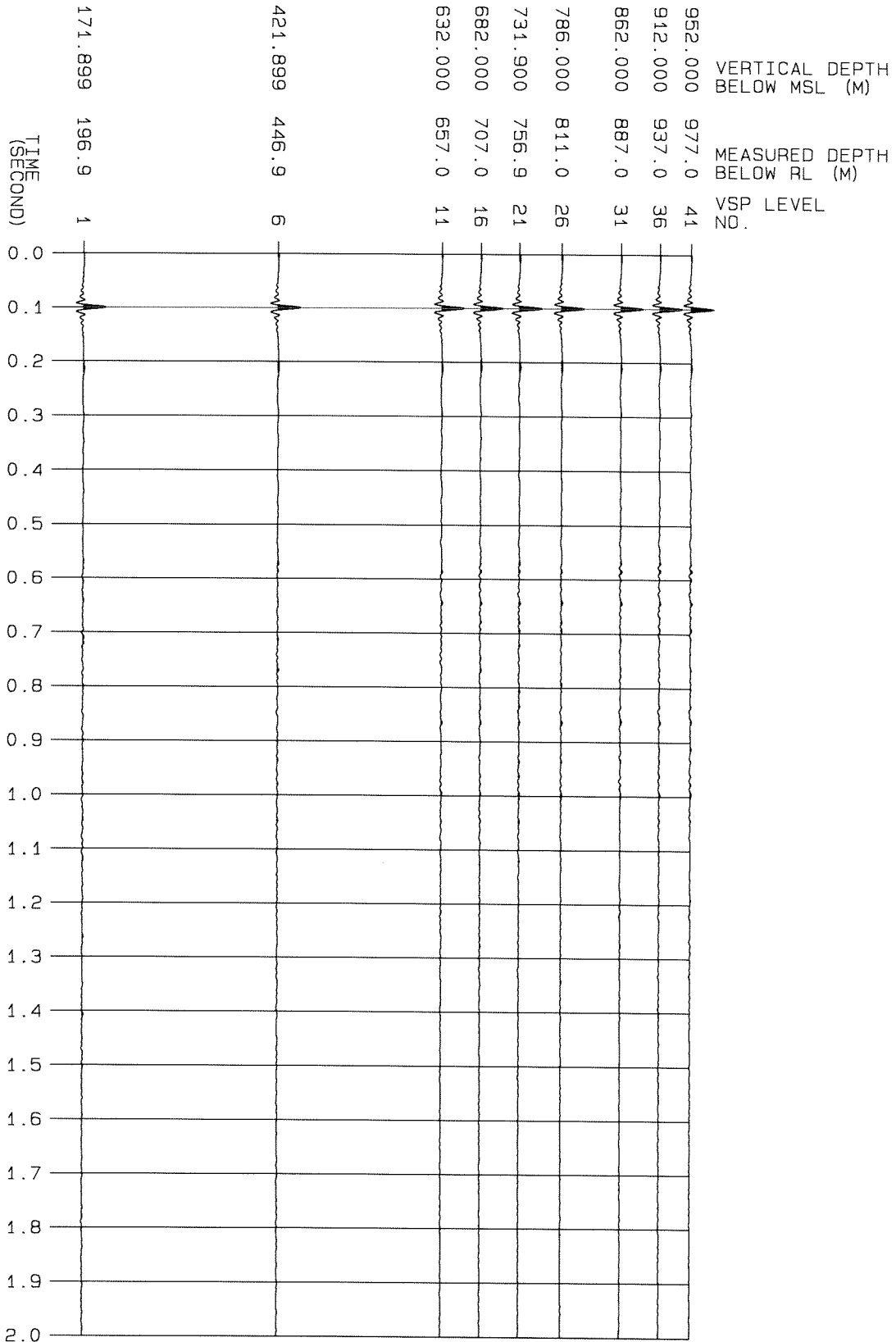
The data is filtered using the 'maximum bandwidth' filter.

Reverberants with periods longer than the operator length used will remain in this data and will indicate some of the multiples that will be retained in displays **VE** and **VF**.

WELL: SOLE-2

PRELIMINARY FILTER 5, 10 - 100, 120 HZ  
PARAMETRIC WAVEFIELD SEPARATION  
(1 WAVEFIELD, 5 TRACES)  
ZERO PHASE DETERMINISTIC DECONVOLUTION  
(600 MS SIGNAL SEARCH WINDOW)  
MAXIMUM BANDWIDTH FILTER 5, 10 - 80, 100 HZ

DISPLAY - VH





CGG - Borehole  
 COMPANY : OMV AUSTRALIA PTY LTD  
 WELL : SOLE-2

**COMPUTATIONS**

ERL = 25.0 m  
 Water Depth = 124.5 m  
 Gun Depth = 5 m

RL = 25.0 m AMSL  
 Source Offset = 56 m  
 Gun Hydrophon Depth = 3 m

Datum = MSL  
 VW = 1524 m/s  
 Monitor Distance from Source = 2 m

**RIG SOURCE SURVEY**

The slant time is the time measured from the first break on the source monitor signal to the first break on the well geophone signal.

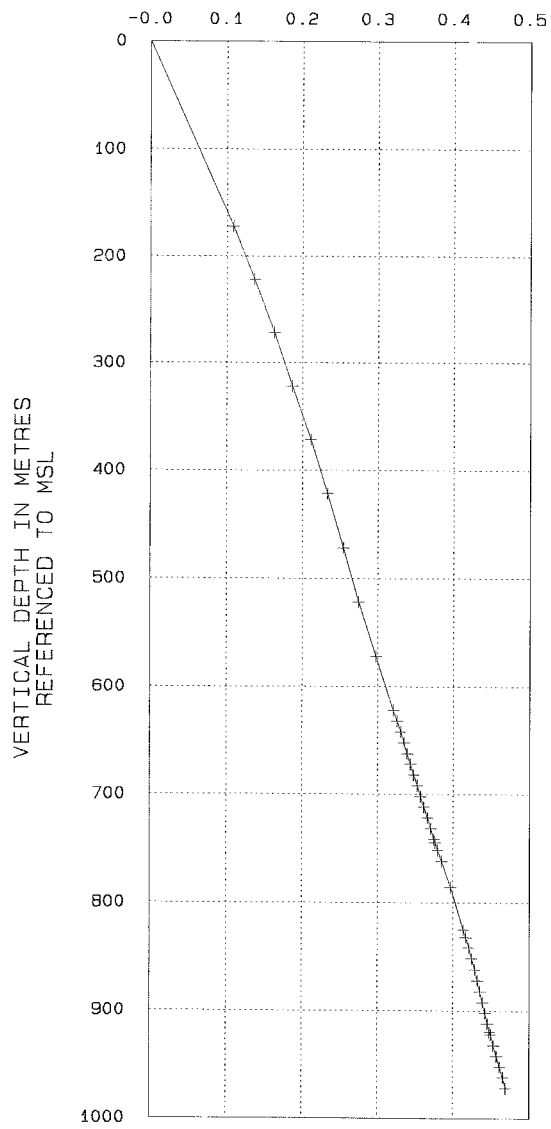
A time correction for the distance between the gun and gun hydrophone at water velocity is added to the slant time before correction to the vertical.

The vertical time is the time from the gun to the well geophone corrected to the vertical

Datum correction = Source depth / Water velocity

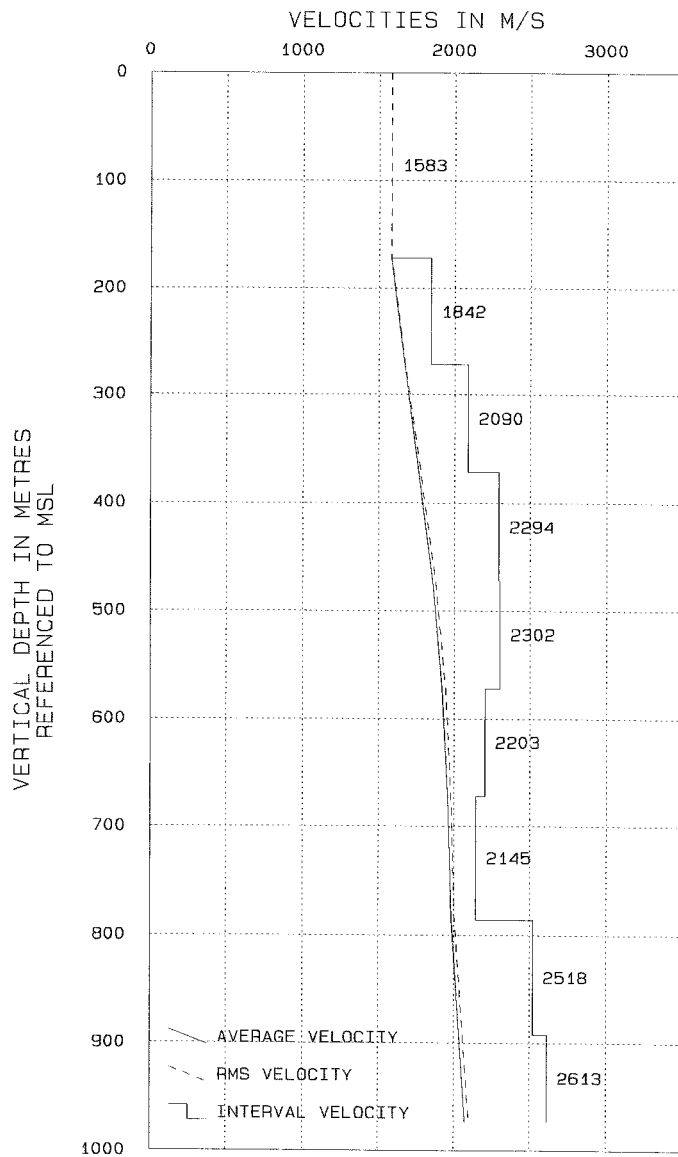
Index	Measured depth / RL (m)	Vertical depth / RL (m)	Vertical depth / MSL (m)	Offset srce to geophone (m)	Slant time (ms)	V. time source - detector (ms)	Source - datum correct. (ms)	Vertical time / MSL (ms)	Average velocity / MSL (m/s)	Interval depth (m)	Interval time (ms)	Interval velocity (m/s)
1	196.9	196.9	171.9	56.0	109.8	105.3	3.3	108.6	1583			
2	246.9	246.9	221.9	56.0	136.9	133.9	3.3	137.1	1618			
3	296.9	296.9	271.9	56.0	161.8	159.6	3.3	162.9	1669	100.0	54.3	1842
4	346.9	346.9	321.9	56.0	185.1	183.6	3.3	186.9	1723			
5	397.0	397.0	372.0	56.0	208.6	207.5	3.3	210.8	1765	100.1	47.9	2090
6	446.9	446.9	421.9	56.0	231.0	230.2	3.3	233.5	1807			
7	497.0	497.0	472.0	56.0	251.6	251.1	3.3	254.4	1856	100.0	43.6	2294
8	546.9	546.9	521.9	56.0	271.7	271.4	3.3	274.7	1900			
9	596.9	596.9	571.9	56.0	294.6	294.5	3.3	297.8	1921	99.9	43.4	2302
10	646.9	646.9	621.9	56.0	317.3	317.3	3.3	320.6	1940			
11	657.0	657.0	632.0	56.0	322.2	322.2	3.3	325.5	1942			
12	667.0	667.0	642.0	56.0	326.7	326.7	3.3	330.0	1945			
13	676.9	676.9	651.9	56.0	331.3	331.4	3.3	334.6	1948			
14	687.0	687.0	662.0	56.0	335.8	335.8	3.3	339.1	1952			
15	696.9	696.9	671.9	56.0	339.8	339.9	3.3	343.2	1958	100.0	45.5	2198
16	707.0	707.0	682.0	56.0	344.3	344.4	3.3	347.7	1961			
17	716.9	716.9	691.9	56.0	348.8	348.9	3.3	352.2	1965			
18	727.0	727.0	702.0	56.0	353.4	353.5	3.3	356.8	1967			
19	736.9	736.9	711.9	56.0	357.3	357.5	3.3	360.8	1973			
20	747.0	747.0	722.0	56.0	362.0	362.2	3.3	365.5	1975			
21	756.9	756.9	731.9	56.0	366.4	366.6	3.3	369.9	1979			
22	767.0	767.0	742.0	56.0	370.8	371.0	3.3	374.3	1982			
23	770.0	770.0	745.0	56.0	372.3	372.5	3.3	375.8	1982			
24	776.9	776.9	751.9	56.0	375.6	375.8	3.3	379.1	1984			
25	787.0	787.0	762.0	56.0	380.9	381.1	3.3	384.4	1982			
26	811.0	811.0	786.0	56.0	392.8	393.1	3.3	396.4	1983	114.1	53.2	2145
27	850.0	850.0	825.0	56.0	410.1	410.4	3.3	413.7	1994			
28	857.0	857.0	832.0	56.0	412.9	413.3	3.3	416.6	1997			
29	867.0	867.0	842.0	56.0	416.9	417.3	3.3	420.6	2002			
30	877.0	877.0	852.0	56.0	420.7	421.1	3.3	424.4	2008			
31	887.0	887.0	862.0	56.0	424.4	424.8	3.3	428.1	2013			
32	897.0	897.0	872.0	56.0	427.9	428.3	3.3	431.6	2021			
33	906.9	906.9	881.9	56.0	431.4	431.8	3.3	435.1	2027			
34	917.0	917.0	892.0	56.0	434.8	435.3	3.3	438.5	2034	106.0	42.2	2512
35	927.0	927.0	902.0	56.0	438.2	438.7	3.3	441.9	2041			
36	937.0	937.0	912.0	56.0	441.6	442.1	3.3	445.4	2048			
37	944.5	944.5	919.5	56.0	444.5	445.0	3.3	448.3	2051			
38	947.0	947.0	922.0	56.0	445.5	446.0	3.3	449.3	2052			
39	957.0	957.0	932.0	56.0	449.5	450.0	3.3	453.3	2056			
40	967.0	967.0	942.0	56.0	453.7	454.2	3.3	457.5	2059			
41	977.0	977.0	952.0	56.0	457.9	458.4	3.3	461.7	2062			
42	986.9	986.9	961.9	56.0	461.9	462.4	3.3	465.7	2066	80.0	30.9	2589
43	997.0	997.0	972.0	56.0	465.6	466.1	3.3	469.4	2071			

CORRECTED GEOPHONE TIME IN SECONDS  
REFERENCED TO MSL



TIME-DEPTH CURVE

WELL : SOLE-2



WELL GEOPHONE VELOCITY CURVES

WELL : SOLE-2



## DESCRIPTION OF SHIFTS USED IN VELOCITY LOG CALIBRATION

Two types of shift may be applied:

- (1) Shifts to lower velocities which are applied linearly.

These are calculated using the formula:

$$\frac{(T_L - T_C)_2 - (T_L - T_C)_1}{Z_2 - Z_1} \times 10^3$$

where  $T_L$  and  $T_C$  are the travel times to a given check level, measured from the velocity log and well geophone data respectively; and where  $Z$  is the depth of the check level below datum.  $(T_L - T_C)$  is expressed in ms (as on the calibration curve) and the resulting linear shift is expressed in  $\mu\text{s}/\text{ft}$ .

- (2) Shifts to higher velocities which are applied differentially in order to apply larger corrections to lower velocity sections of log. This is based on the assumption that lower velocity sections of log contribute more transit time errors than higher velocity sections due to caving and other borehole effects.

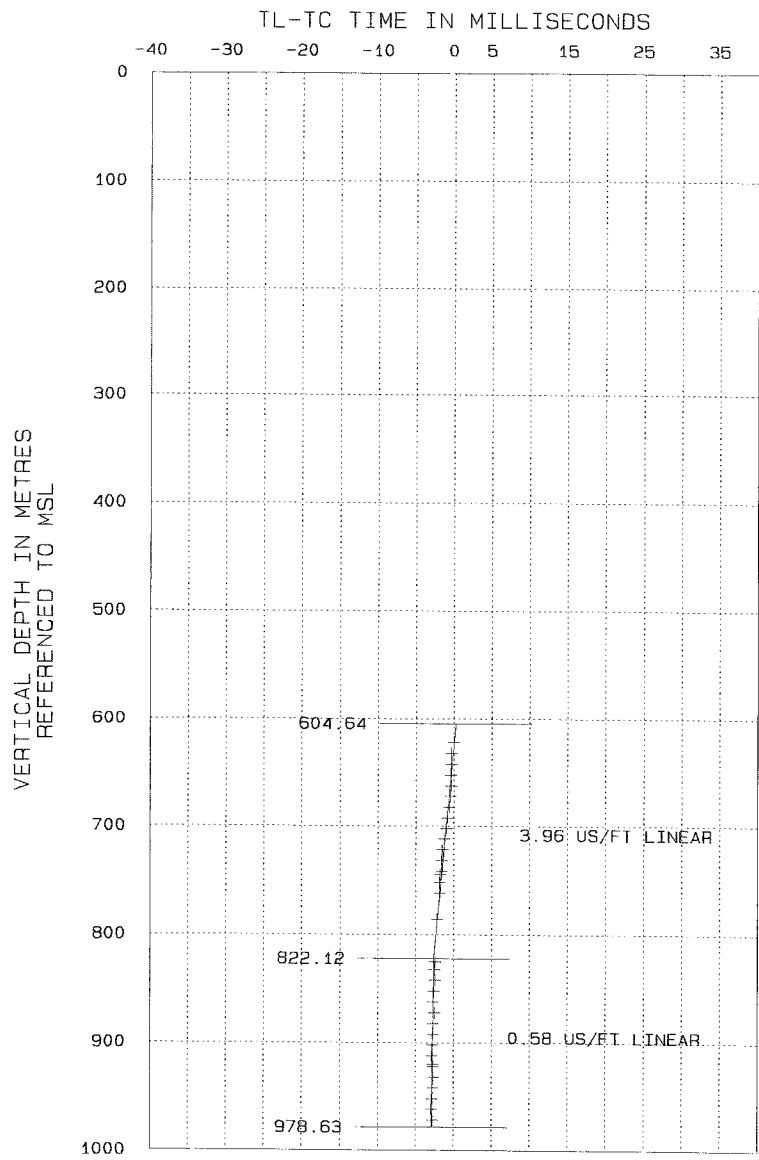
Additionally, this type of shift may be restricted by defining a baseline value such that sections of log recorded at a higher velocity than that of the baseline will receive no shift.

Restricted differential shifts are calculated using the formula:

$$\left[ \frac{(T_{C2} - T_{C1}) - (Z_2 - Z_1) \times \text{baseline value} \times 10^{-6}}{(T_{L2} - T_{L1}) - (Z_2 - Z_1) \times \text{baseline value} \times 10^{-6}} \right] \times 100\%$$

Where  $T_C$  and  $T_L$  are expressed in seconds and the baseline value is expressed in  $\mu\text{s}/\text{ft}$ .

Unrestricted shifts will have a baseline value of zero.



LOG CALIBRATION CURVE  
(UNCORRECTED LOG)

WELL : SOLE-2

Time-Sampled Listing of Calibrated Log Data

Wellname : SOLE-2  
 Company : OMV Australia Pty. Ltd.  
 Survey : Rig Source Survey

Key

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 T1 - Two-Way Time (ms below MSL)  
 Z2 - Vertical Depth (m below RL)  
 Z1 - Vertical Depth (m below MSL)  
 INTV - Interval Velocity (m/s)  
 AVGV - Average Velocity (m/s)  
 RMSV - RMS Velocity (m/s)  
 RHO - Density (gm/cc)

T1	Z2	Z1	INTV	AVGV	RMSV	RHO
-----	-----	-----	-----	-----	-----	-----
626	630.50	605.50	1934.51	1934.51	1934.51	-999.25
627	631.55	606.55	2099.51	1934.77	1934.78	-999.25
628	632.60	607.60	2092.19	1935.02	1935.04	-999.25
629	633.65	608.65	2103.30	1935.29	1935.32	-999.25
630	634.72	609.72	2152.00	1935.63	1935.69	-999.25
631	635.78	610.78	2106.23	1935.90	1935.97	-999.25
632	636.81	611.81	2069.73	1936.12	1936.19	-999.25
633	637.88	612.88	2132.11	1936.42	1936.51	-999.25
634	639.02	614.02	2289.46	1936.98	1937.12	-999.25
635	640.09	615.09	2139.06	1937.30	1937.45	-999.25
636	641.15	616.15	2112.94	1937.58	1937.74	-999.25
637	642.20	617.20	2104.89	1937.84	1938.02	-999.25
638	643.25	618.25	2103.18	1938.10	1938.29	-999.25
639	644.37	619.37	2242.08	1938.57	1938.80	-999.25
640	645.49	620.49	2237.46	1939.04	1939.30	-999.25
641	646.67	621.67	2355.99	1939.69	1940.02	-999.25
642	647.81	622.81	2285.19	1940.23	1940.61	-999.25
643	648.88	623.88	2134.92	1940.53	1940.92	-999.25
644	649.86	624.86	1963.17	1940.57	1940.96	-999.25
645	650.90	625.90	2079.86	1940.78	1941.18	-999.25
646	651.91	626.91	2007.59	1940.89	1941.29	-999.25
647	652.95	627.95	2094.14	1941.12	1941.53	-999.25
648	654.07	629.07	2231.84	1941.57	1942.01	-999.25
649	655.16	630.16	2186.67	1941.95	1942.41	-999.25
650	656.33	631.33	2343.29	1942.57	1943.09	-999.25
651	657.40	632.40	2132.72	1942.86	1943.40	2.18
652	658.43	633.43	2051.66	1943.03	1943.57	2.06
653	659.48	634.48	2107.32	1943.28	1943.83	2.10
654	660.65	635.65	2335.11	1943.88	1944.49	2.22
655	661.76	636.76	2228.30	1944.31	1944.95	2.22
656	662.90	637.90	2267.97	1944.80	1945.49	2.17
657	664.02	639.02	2239.41	1945.25	1945.97	2.15
658	665.10	640.10	2164.45	1945.59	1946.32	2.19
659	666.13	641.13	2060.33	1945.76	1946.50	2.14
660	667.17	642.17	2077.05	1945.96	1946.70	2.14
661	668.22	643.22	2114.16	1946.21	1946.97	2.13
662	669.33	644.33	2205.22	1946.60	1947.38	2.19
663	670.37	645.37	2093.17	1946.83	1947.61	2.12
664	671.43	646.43	2113.80	1947.08	1947.87	2.18
665	672.52	647.52	2177.88	1947.42	1948.24	2.20
666	673.59	648.59	2142.48	1947.72	1948.54	2.13
667	674.65	649.65	2121.73	1947.98	1948.81	2.11
668	675.73	650.73	2153.59	1948.29	1949.14	2.22

T1	Z2	Z1	INTV	AVGV	RMSV	RHO
669	676.79	651.79	2127.71	1948.55	1949.42	2.18
670	677.79	652.79	2006.98	1948.64	1949.50	2.06
671	678.83	653.83	2077.05	1948.83	1949.70	2.18
672	679.88	654.88	2083.76	1949.03	1949.91	2.14
673	680.99	655.99	2225.61	1949.44	1950.34	2.26
674	682.03	657.03	2090.97	1949.65	1950.56	2.16
675	683.08	658.08	2086.57	1949.86	1950.77	2.18
676	684.13	659.13	2102.93	1950.08	1951.00	2.17
677	685.18	660.18	2100.12	1950.31	1951.23	1.97
678	686.38	661.38	2398.59	1950.97	1951.97	2.26
679	687.53	662.53	2294.71	1951.47	1952.52	2.21
680	688.67	663.67	2295.68	1951.98	1953.06	2.16
681	689.83	664.83	2316.91	1952.51	1953.65	2.25
682	691.01	666.01	2350.25	1953.10	1954.29	2.21
683	692.19	667.19	2367.22	1953.70	1954.96	2.18
684	693.52	668.52	2659.21	1954.74	1956.17	2.25
685	694.77	669.77	2499.64	1955.53	1957.08	2.19
686	696.06	671.06	2574.62	1956.43	1958.12	2.32
687	697.21	672.21	2298.86	1956.93	1958.66	2.22
688	698.32	673.32	2228.79	1957.33	1959.08	2.16
689	699.45	674.45	2254.30	1957.76	1959.54	2.23
690	700.56	675.56	2221.45	1958.14	1959.94	2.16
691	701.70	676.70	2282.87	1958.61	1960.45	2.33
692	702.87	677.87	2333.89	1959.15	1961.04	2.19
693	703.98	678.98	2220.24	1959.53	1961.44	2.17
694	705.07	680.07	2193.51	1959.87	1961.79	2.25
695	706.21	681.21	2267.59	1960.31	1962.27	2.23
696	707.32	682.32	2234.28	1960.70	1962.68	2.14
697	708.50	683.50	2345.37	1961.26	1963.29	2.23
698	709.71	684.71	2424.47	1961.92	1964.02	2.27
699	710.81	685.81	2201.56	1962.26	1964.38	2.18
700	711.89	686.89	2157.25	1962.54	1964.67	2.16
701	713.01	688.01	2233.43	1962.93	1965.08	2.16
702	714.13	689.13	2243.19	1963.33	1965.51	2.24
703	715.20	690.20	2150.30	1963.59	1965.78	2.16
704	716.29	691.29	2172.02	1963.89	1966.09	2.21
705	717.39	692.39	2204.62	1964.23	1966.45	2.16
706	718.50	693.50	2223.30	1964.60	1966.84	2.25
707	719.57	694.57	2139.92	1964.84	1967.09	2.13
708	720.69	695.69	2245.02	1965.24	1967.51	2.21
709	721.77	696.77	2153.22	1965.50	1967.79	2.15
710	722.83	697.83	2114.77	1965.72	1968.00	2.13
711	724.00	699.00	2340.97	1966.24	1968.58	2.32
712	725.15	700.15	2309.60	1966.73	1969.10	2.20
713	726.25	701.25	2186.42	1967.03	1969.42	2.22
714	727.37	702.37	2248.44	1967.43	1969.84	2.21
715	728.54	703.54	2346.34	1967.96	1970.41	2.24
716	729.67	704.67	2244.66	1968.34	1970.82	2.16
717	731.01	706.01	2679.48	1969.34	1971.99	2.37
718	732.51	707.51	3006.82	1970.78	1973.81	2.36
719	734.00	709.00	2988.69	1972.20	1975.58	2.33
720	735.32	710.32	2635.78	1973.12	1976.65	2.30
721	736.45	711.45	2246.00	1973.50	1977.05	2.11
722	737.55	712.55	2202.17	1973.81	1977.38	2.21
723	738.71	713.71	2327.79	1974.30	1977.91	2.21
724	739.86	714.86	2308.14	1974.76	1978.40	2.19
725	740.96	715.96	2196.56	1975.07	1978.72	2.16
726	742.06	717.06	2187.28	1975.36	1979.02	2.18
727	743.17	718.17	2234.76	1975.72	1979.40	2.15
728	744.32	719.32	2289.34	1976.15	1979.85	2.22

T1	Z2	Z1	INTV	AVGV	RMSV	RHO
729	745.39	720.39	2142.85	1976.38	1980.09	2.10
730	746.40	721.40	2025.54	1976.45	1980.15	2.06
731	747.44	722.44	2068.39	1976.57	1980.27	2.19
732	748.46	723.46	2049.22	1976.67	1980.37	2.06
733	749.58	724.58	2229.77	1977.02	1980.73	2.23
734	750.64	725.64	2133.45	1977.23	1980.95	2.13
735	751.69	726.69	2092.31	1977.39	1981.10	2.05
736	752.88	727.88	2390.51	1977.95	1981.72	2.31
737	754.33	729.33	2886.76	1979.18	1983.22	2.39
738	755.41	730.41	2165.19	1979.43	1983.48	2.14
739	756.42	731.42	2026.88	1979.50	1983.54	2.02
740	757.57	732.57	2289.09	1979.91	1983.99	2.14
741	758.63	733.63	2120.63	1980.10	1984.18	2.05
742	759.71	734.71	2160.67	1980.35	1984.43	2.12
743	760.80	735.80	2171.90	1980.61	1984.69	1.97
744	762.00	737.00	2415.44	1981.19	1985.33	2.13
745	763.00	738.00	2001.98	1981.22	1985.35	2.04
746	764.17	739.17	2336.70	1981.69	1985.87	2.19
747	765.24	740.24	2132.23	1981.90	1986.07	2.12
748	766.41	741.41	2334.87	1982.37	1986.58	2.35
749	767.57	742.57	2335.11	1982.84	1987.08	2.01
750	768.72	743.72	2302.99	1983.27	1987.54	2.21
751	769.78	744.78	2103.54	1983.43	1987.70	2.24
752	770.83	745.83	2098.42	1983.58	1987.85	2.21
753	771.87	746.87	2098.29	1983.73	1988.00	2.21
754	772.92	747.92	2098.42	1983.88	1988.15	2.20
755	773.97	748.97	2098.17	1984.03	1988.30	2.12
756	775.02	750.02	2098.42	1984.19	1988.45	2.24
757	776.03	751.03	2020.78	1984.23	1988.49	2.10
758	776.97	751.97	1878.44	1984.09	1988.35	2.04
759	777.90	752.90	1846.11	1983.91	1988.17	1.98
760	778.81	753.81	1834.01	1983.72	1987.97	2.00
761	779.72	754.72	1819.36	1983.50	1987.76	1.99
762	780.63	755.63	1818.50	1983.28	1987.55	2.02
763	781.54	756.54	1820.82	1983.07	1987.34	2.01
764	782.46	757.46	1843.54	1982.89	1987.16	2.02
765	783.41	758.41	1884.67	1982.76	1987.03	2.04
766	784.35	759.35	1898.71	1982.65	1986.92	2.04
767	785.33	760.33	1943.38	1982.60	1986.86	2.07
768	786.27	761.27	1888.09	1982.48	1986.73	2.02
769	787.23	762.23	1913.73	1982.39	1986.64	2.04
770	788.20	763.20	1940.21	1982.33	1986.58	2.07
771	789.17	764.17	1942.90	1982.28	1986.53	2.12
772	790.15	765.15	1959.62	1982.25	1986.49	2.12
773	791.13	766.13	1965.12	1982.23	1986.46	2.25
774	792.12	767.12	1970.85	1982.21	1986.44	2.23
775	793.10	768.10	1976.34	1982.21	1986.43	2.12
776	794.10	769.10	1982.08	1982.21	1986.42	2.11
777	795.09	770.09	1987.94	1982.21	1986.43	2.13
778	796.09	771.09	1993.32	1982.23	1986.44	2.19
779	797.09	772.09	1999.29	1982.25	1986.45	2.16
780	798.09	773.09	2005.27	1982.28	1986.48	2.28
781	799.09	774.09	2011.13	1982.32	1986.51	2.24
782	800.10	775.10	2017.00	1982.36	1986.55	2.22
783	801.11	776.11	2022.98	1982.41	1986.59	2.24
784	802.13	777.13	2029.32	1982.47	1986.65	2.22
785	803.15	778.15	2035.30	1982.54	1986.71	2.24
786	804.17	779.17	2041.41	1982.61	1986.78	2.14
787	805.19	780.19	2047.51	1982.70	1986.86	2.18
788	806.22	781.22	2054.10	1982.79	1986.95	2.31



T1	Z2	Z1	INTV	AVGV	RMSV	RHO
789	807.25	782.25	2060.45	1982.89	1987.04	2.31
790	808.28	783.28	2066.80	1982.99	1987.15	2.12
791	809.32	784.32	2073.15	1983.11	1987.26	2.10
792	810.36	785.36	2079.74	1983.23	1987.38	2.15
793	811.40	786.40	2086.45	1983.36	1987.50	2.17
794	812.45	787.45	2093.04	1983.50	1987.64	2.25
795	813.50	788.50	2099.64	1983.64	1987.79	2.25
796	814.55	789.55	2106.59	1983.80	1987.94	2.16
797	815.61	790.61	2113.43	1983.96	1988.10	2.09
798	816.67	791.67	2120.39	1984.13	1988.27	2.20
799	817.73	792.73	2127.35	1984.31	1988.45	2.15
800	818.80	793.80	2134.30	1984.50	1988.64	2.22
801	819.87	794.87	2141.50	1984.69	1988.84	2.25
802	820.94	795.94	2148.83	1984.90	1989.05	2.23
803	822.02	797.02	2156.03	1985.11	1989.26	2.19
804	823.10	798.10	2163.24	1985.33	1989.49	2.16
805	824.19	799.19	2170.80	1985.56	1989.73	2.26
806	825.28	800.28	2178.37	1985.80	1989.97	2.23
807	826.37	801.37	2185.82	1986.05	1990.23	2.22
808	827.47	802.47	2193.63	1986.31	1990.49	2.23
809	828.57	803.57	2201.20	1986.57	1990.76	2.19
810	829.67	804.67	2209.00	1986.85	1991.05	2.18
811	830.78	805.78	2217.19	1987.13	1991.34	2.29
812	831.89	806.89	2225.00	1987.42	1991.65	2.22
813	833.01	808.01	2233.18	1987.73	1991.96	2.05
814	834.13	809.13	2241.24	1988.04	1992.29	2.27
815	835.26	810.26	2249.41	1988.36	1992.62	2.23
816	836.39	811.39	2257.96	1988.69	1992.97	2.23
817	837.52	812.52	2266.39	1989.03	1993.33	2.20
818	838.66	813.66	2275.18	1989.38	1993.70	2.00
819	839.80	814.80	2283.46	1989.74	1994.08	2.14
820	840.94	815.94	2292.27	1990.11	1994.47	1.88
821	842.09	817.09	2301.18	1990.49	1994.87	2.07
822	843.25	818.25	2310.33	1990.87	1995.28	2.07
823	844.41	819.41	2319.37	1991.27	1995.71	2.07
824	845.57	820.57	2328.26	1991.68	1996.15	2.07
825	846.74	821.74	2337.68	1992.10	1996.60	2.07
826	847.95	822.95	2408.72	1992.61	1997.15	2.10
827	849.18	824.18	2468.54	1993.18	1997.78	2.09
828	850.41	825.41	2453.13	1993.74	1998.40	2.09
829	851.64	826.64	2473.66	1994.32	1999.04	2.13
830	852.88	827.88	2464.88	1994.88	1999.66	2.07
831	854.10	829.10	2437.90	1995.42	2000.25	2.04
832	855.33	830.33	2459.50	1995.97	2000.86	2.08
833	856.54	831.54	2436.41	1996.50	2001.44	2.08
834	857.74	832.74	2397.00	1996.98	2001.96	2.03
835	858.91	833.91	2344.76	1997.40	2002.41	2.01
836	860.10	835.10	2373.08	1997.85	2002.89	2.05
837	861.31	836.31	2412.87	1998.35	2003.43	2.02
838	862.52	837.52	2418.47	1998.85	2003.98	2.02
839	863.72	838.72	2406.28	1999.33	2004.51	2.06
840	864.99	839.99	2546.18	1999.98	2005.24	2.14
841	866.25	841.25	2518.10	2000.60	2005.93	2.11
842	867.51	842.51	2507.94	2001.20	2006.60	2.11
843	868.76	843.76	2516.39	2001.81	2007.28	2.13
844	870.04	845.04	2556.80	2002.47	2008.02	2.14
845	871.31	846.31	2537.14	2003.10	2008.73	2.16
846	872.74	847.74	2867.35	2004.12	2009.96	2.36
847	874.25	849.25	3002.79	2005.30	2011.42	2.30
848	875.75	850.75	3007.24	2006.49	2012.89	2.27

T1	Z2	Z1	INTV	AVGV	RMSV	RHO
849	877.12	852.12	2745.03	2007.36	2013.91	2.01
850	878.54	853.54	2834.88	2008.33	2015.07	2.26
851	880.02	855.02	2964.64	2009.45	2016.45	2.17
852	881.46	856.46	2885.49	2010.48	2017.69	2.25
853	882.81	857.81	2696.57	2011.29	2018.61	2.00
854	884.17	859.17	2716.59	2012.11	2019.57	2.21
855	885.44	860.44	2535.92	2012.72	2020.25	2.23
856	886.73	861.73	2577.15	2013.38	2020.99	2.27
857	888.07	863.07	2690.95	2014.17	2021.91	2.27
858	889.37	864.37	2600.62	2014.86	2022.68	2.26
859	890.65	865.65	2547.27	2015.48	2023.37	2.22
860	891.97	866.97	2642.61	2016.21	2024.20	2.22
861	893.44	868.44	2952.01	2017.29	2025.52	2.31
862	894.81	869.81	2728.92	2018.12	2026.48	2.13
863	896.27	871.27	2919.72	2019.16	2027.74	2.28
864	897.79	872.79	3048.38	2020.35	2029.22	2.29
865	899.38	874.38	3171.97	2021.69	2030.91	2.34
866	900.89	875.89	3018.35	2022.84	2032.33	2.27
867	902.40	877.40	3018.72	2023.99	2033.74	2.29
868	903.74	878.74	2680.33	2024.74	2034.60	2.26
869	905.15	880.15	2824.26	2025.66	2035.69	2.26
870	906.61	881.61	2924.42	2026.69	2036.93	2.26
871	908.11	883.11	2994.30	2027.81	2038.29	2.29
872	909.54	884.54	2865.27	2028.77	2039.43	2.09
873	911.01	886.01	2936.56	2029.81	2040.68	2.25
874	912.48	887.48	2939.74	2030.85	2041.94	2.24
875	913.97	888.97	2972.27	2031.92	2043.24	2.31
876	915.47	890.47	3006.63	2033.04	2044.60	2.30
877	916.92	891.92	2895.06	2034.02	2045.77	2.28
878	918.41	893.41	2977.82	2035.09	2047.08	2.30
879	919.89	894.89	2962.75	2036.15	2048.35	2.29
880	921.38	896.38	2982.22	2037.22	2049.65	2.29
881	922.87	897.87	2982.09	2038.30	2050.95	2.33
882	924.42	899.42	3102.21	2039.50	2052.45	2.32
883	925.97	900.97	3099.16	2040.70	2053.94	2.25
884	927.49	902.49	3047.95	2041.84	2055.33	2.27
885	929.01	904.01	3038.61	2042.97	2056.71	2.20
886	930.55	905.55	3080.36	2044.14	2058.15	2.30
887	932.05	907.05	2984.41	2045.20	2059.43	2.24
888	933.49	908.49	2890.37	2046.15	2060.55	2.26
889	934.89	909.89	2798.74	2047.00	2061.53	2.24
890	936.20	911.20	2615.15	2047.64	2062.24	2.21
891	937.50	912.50	2606.72	2048.26	2062.93	2.21
892	938.78	913.78	2559.73	2048.84	2063.55	2.18
893	940.08	915.08	2594.36	2049.45	2064.22	2.19
894	941.34	916.34	2513.09	2049.97	2064.78	2.21
895	942.53	917.53	2388.21	2050.34	2065.17	2.17
896	943.74	918.74	2417.39	2050.75	2065.60	2.28
897	944.96	919.96	2437.90	2051.19	2066.05	2.19
898	946.15	921.15	2388.68	2051.56	2066.44	2.17
899	947.36	922.36	2417.76	2051.97	2066.86	2.23
900	948.58	923.58	2446.69	2052.41	2067.32	2.26
901	949.81	924.81	2453.64	2052.85	2067.79	2.28
902	951.05	926.05	2482.06	2053.33	2068.30	2.30
903	952.30	927.30	2500.76	2053.82	2068.82	2.30
904	953.56	928.56	2524.81	2054.34	2069.38	2.32
905	954.81	929.81	2497.10	2054.83	2069.91	2.26
906	956.05	931.05	2471.83	2055.29	2070.39	2.24
907	957.29	932.29	2479.50	2055.76	2070.89	2.26
908	958.51	933.51	2441.19	2056.19	2071.33	2.32

T1	Z2	Z1	INTV	AVGV	RMSV	RHO
909	959.71	934.71	2396.64	2056.56	2071.72	2.30
910	960.98	935.98	2545.20	2057.10	2072.30	2.21
911	962.20	937.20	2431.77	2057.51	2072.73	2.25
912	963.34	938.34	2296.42	2057.77	2072.99	2.26
913	964.49	939.49	2282.99	2058.02	2073.23	2.25
914	965.63	940.63	2280.42	2058.26	2073.47	2.22
915	966.80	941.80	2353.42	2058.58	2073.79	2.28
916	967.96	942.96	2323.26	2058.87	2074.08	2.30
917	969.09	944.09	2257.35	2059.09	2074.29	2.15
918	970.28	945.28	2373.44	2059.43	2074.64	2.29
919	971.49	946.49	2416.41	2059.82	2075.04	2.31
920	972.77	947.77	2566.56	2060.37	2075.64	2.25
921	974.06	949.06	2584.47	2060.94	2076.26	2.19
922	975.28	950.28	2438.39	2061.35	2076.69	2.22
923	976.55	951.55	2532.99	2061.86	2077.23	2.18
924	977.83	952.83	2568.27	2062.41	2077.83	2.23
925	979.04	954.04	2422.98	2062.80	2078.23	2.23
926	980.35	955.35	2605.26	2063.38	2078.87	2.27
927	981.64	956.64	2582.06	2063.94	2079.48	2.25
928	982.91	957.91	2539.71	2064.46	2080.03	2.24
929	984.12	959.12	2426.91	2064.85	2080.44	2.27
930	985.33	960.33	2423.59	2065.23	2080.84	2.25
931	986.54	961.54	2422.76	2065.62	2081.23	2.22
932	987.81	962.81	2526.03	2066.11	2081.76	2.39
933	989.11	964.11	2612.70	2066.70	2082.40	2.30
934	990.43	965.43	2631.87	2067.30	2083.07	2.28
935	991.74	966.74	2628.30	2067.90	2083.73	2.29
936	993.06	968.06	2628.45	2068.50	2084.39	2.17
937	994.37	969.37	2628.45	2069.10	2085.04	2.18
938	995.69	970.69	2628.57	2069.69	2085.70	2.16
939	997.00	972.00	2628.30	2070.29	2086.35	2.17
940	998.32	973.32	2628.45	2070.88	2087.00	2.16
941	999.63	974.63	2628.45	2071.48	2087.65	2.15
942	1000.94	975.94	2628.57	2072.07	2088.30	2.16
943	1002.26	977.26	2628.45	2072.66	2088.95	2.16
944	1003.57	978.57	2628.30	2073.25	2089.59	2.12

Depth-Sampled Listing of Log Data

Wellname : SOLE-2  
 Company : OMV Australasia Pty. Ltd.  
 Survey : Rig Source Survey

Key

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 Z1 - Vertical Depth (m below MSL)  
 SON - Adjusted Sonic (us/ft)  
 RAWs - Raw Sonic (us/ft)  
 GAM - Gamma (api)  
 RHO - Density (gm/cc)  
 CAL - Caliper (inches)

Z1	SON	RAWs	GAM	RHO	CAL
0.00	200.00	-999.25	-999.25	1.00	-999.25
0.25	200.00	-999.25	-999.25	1.00	-999.25
0.50	200.00	-999.25	-999.25	1.00	-999.25
0.75	200.00	-999.25	-999.25	1.00	-999.25
1.00	200.00	-999.25	-999.25	1.00	-999.25
1.25	200.00	-999.25	-999.25	1.00	-999.25
1.50	200.00	-999.25	-999.25	1.00	-999.25
1.75	200.00	-999.25	-999.25	1.00	-999.25
2.00	200.00	-999.25	-999.25	1.00	-999.25
2.25	200.00	-999.25	-999.25	1.00	-999.25
2.50	200.00	-999.25	-999.25	1.00	-999.25
2.75	200.00	-999.25	-999.25	1.00	-999.25
3.00	200.00	-999.25	-999.25	1.00	-999.25
3.25	200.00	-999.25	-999.25	1.00	-999.25
3.50	200.00	-999.25	-999.25	1.00	-999.25
3.75	200.00	-999.25	-999.25	1.00	-999.25
4.00	200.00	-999.25	-999.25	1.00	-999.25
4.25	200.00	-999.25	-999.25	1.00	-999.25
4.50	200.00	-999.25	-999.25	1.00	-999.25
4.75	200.00	-999.25	-999.25	1.00	-999.25
5.00	200.00	-999.25	-999.25	1.00	-999.25
5.25	200.00	-999.25	-999.25	1.00	-999.25
5.50	200.00	-999.25	-999.25	1.00	-999.25
5.75	200.00	-999.25	-999.25	1.00	-999.25
6.00	200.00	-999.25	-999.25	1.00	-999.25
6.25	200.00	-999.25	-999.25	1.00	-999.25
6.50	200.00	-999.25	-999.25	1.00	-999.25
6.75	200.00	-999.25	-999.25	1.00	-999.25
7.00	200.00	-999.25	-999.25	1.00	-999.25
7.25	200.00	-999.25	-999.25	1.00	-999.25
7.50	200.00	-999.25	-999.25	1.00	-999.25
7.75	200.00	-999.25	-999.25	1.00	-999.25
8.00	200.00	-999.25	-999.25	1.00	-999.25
8.25	200.00	-999.25	-999.25	1.00	-999.25
8.50	200.00	-999.25	-999.25	1.00	-999.25
8.75	200.00	-999.25	-999.25	1.00	-999.25
9.00	200.00	-999.25	-999.25	1.00	-999.25
9.25	200.00	-999.25	-999.25	1.00	-999.25
9.50	200.00	-999.25	-999.25	1.00	-999.25
9.75	200.00	-999.25	-999.25	1.00	-999.25
10.00	200.00	-999.25	-999.25	1.00	-999.25
10.25	200.00	-999.25	-999.25	1.00	-999.25
10.50	200.00	-999.25	-999.25	1.00	-999.25
10.75	200.00	-999.25	-999.25	1.00	-999.25

















Z1	SON	RAWS	GAM	RHO	CAL
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116.00	200.00	-999.25	-999.25	1.00	-999.25
116.25	200.00	-999.25	-999.25	1.00	-999.25
116.50	200.00	-999.25	-999.25	1.00	-999.25
116.75	200.00	-999.25	-999.25	1.00	-999.25
117.00	200.00	-999.25	-999.25	1.00	-999.25
117.25	200.00	-999.25	-999.25	1.00	-999.25
117.50	200.00	-999.25	-999.25	1.00	-999.25
117.75	200.00	-999.25	-999.25	1.00	-999.25
118.00	200.00	-999.25	-999.25	1.00	-999.25
118.25	200.00	-999.25	-999.25	1.00	-999.25
118.50	200.00	-999.25	-999.25	1.00	-999.25
118.75	200.00	-999.25	-999.25	1.00	-999.25
119.00	200.00	-999.25	-999.25	1.00	-999.25
119.25	200.00	-999.25	-999.25	1.00	-999.25
119.50	200.00	-999.25	-999.25	1.00	-999.25
119.75	200.00	-999.25	-999.25	1.00	-999.25
120.00	200.00	-999.25	-999.25	1.00	-999.25
120.25	200.00	-999.25	-999.25	1.00	-999.25
120.50	200.00	-999.25	-999.25	1.00	-999.25
120.75	200.00	-999.25	-999.25	1.00	-999.25
121.00	200.00	-999.25	-999.25	1.00	-999.25
121.25	200.00	-999.25	-999.25	1.00	-999.25
121.50	200.00	-999.25	-999.25	1.00	-999.25
121.75	200.00	-999.25	-999.25	1.00	-999.25
122.00	200.00	-999.25	-999.25	1.00	-999.25
122.25	200.00	-999.25	-999.25	1.00	-999.25
122.50	200.00	-999.25	-999.25	1.00	-999.25
122.75	200.00	-999.25	-999.25	1.00	-999.25
123.00	200.00	-999.25	-999.25	1.00	-999.25
123.25	200.00	-999.25	-999.25	1.00	-999.25
123.50	200.00	-999.25	-999.25	1.00	-999.25
123.75	200.00	-999.25	-999.25	1.00	-999.25
124.00	200.00	-999.25	-999.25	1.00	-999.25
124.25	198.59	-999.25	-999.25	1.06	-999.25
124.50	190.60	-999.25	-999.25	1.40	-999.25
124.75	182.62	-999.25	-999.25	1.73	-999.25
125.00	174.64	-999.25	-999.25	2.07	-999.25
125.25	173.02	-999.25	-999.25	2.14	-999.25
125.50	173.02	-999.25	-999.25	2.14	-999.25
125.75	173.02	-999.25	-999.25	2.14	-999.25
126.00	173.02	-999.25	-999.25	2.14	-999.25
126.25	173.02	-999.25	-999.25	2.14	-999.25
126.50	173.02	-999.25	-999.25	2.14	-999.25
126.75	173.02	-999.25	-999.25	2.14	-999.25
127.00	173.02	-999.25	-999.25	2.14	-999.25
127.25	173.02	-999.25	-999.25	2.14	-999.25
127.50	173.02	-999.25	-999.25	2.14	-999.25
127.75	173.02	-999.25	-999.25	2.14	-999.25
128.00	173.02	-999.25	-999.25	2.14	-999.25
128.25	173.02	-999.25	-999.25	2.14	-999.25
128.50	173.02	-999.25	-999.25	2.14	-999.25
128.75	173.02	-999.25	-999.25	2.14	-999.25
129.00	173.02	-999.25	-999.25	2.14	-999.25
129.25	173.02	-999.25	-999.25	2.14	-999.25
129.50	173.02	-999.25	-999.25	2.14	-999.25
129.75	173.02	-999.25	-999.25	2.14	-999.25
130.00	173.02	-999.25	-999.25	2.14	-999.25
130.25	173.02	-999.25	-999.25	2.14	-999.25
130.50	173.02	-999.25	-999.25	2.14	-999.25
130.75	173.02	-999.25	-999.25	2.14	-999.25





















Z1	SON	RAWS	GAM	RHO	CAL
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266.00	165.51	-999.25	-999.25	2.14	-999.25
266.25	165.51	-999.25	-999.25	2.14	-999.25
266.50	165.51	-999.25	-999.25	2.14	-999.25
266.75	165.51	-999.25	-999.25	2.14	-999.25
267.00	165.51	-999.25	-999.25	2.14	-999.25
267.25	165.51	-999.25	-999.25	2.14	-999.25
267.50	165.51	-999.25	-999.25	2.14	-999.25
267.75	165.51	-999.25	-999.25	2.14	-999.25
268.00	165.51	-999.25	-999.25	2.14	-999.25
268.25	165.51	-999.25	-999.25	2.14	-999.25
268.50	165.51	-999.25	-999.25	2.14	-999.25
268.75	165.51	-999.25	-999.25	2.14	-999.25
269.00	165.51	-999.25	-999.25	2.14	-999.25
269.25	165.51	-999.25	-999.25	2.14	-999.25
269.50	165.51	-999.25	-999.25	2.14	-999.25
269.75	165.51	-999.25	-999.25	2.14	-999.25
270.00	165.51	-999.25	-999.25	2.14	-999.25
270.25	165.51	-999.25	-999.25	2.14	-999.25
270.50	165.51	-999.25	-999.25	2.14	-999.25
270.75	165.51	-999.25	-999.25	2.14	-999.25
271.00	165.51	-999.25	-999.25	2.14	-999.25
271.25	164.12	-999.25	-999.25	2.14	-999.25
271.50	158.89	-999.25	-999.25	2.14	-999.25
271.75	153.67	-999.25	-999.25	2.14	-999.25
272.00	148.44	-999.25	-999.25	2.14	-999.25
272.25	145.83	-999.25	-999.25	2.14	-999.25
272.50	145.83	-999.25	-999.25	2.14	-999.25
272.75	145.83	-999.25	-999.25	2.14	-999.25
273.00	145.83	-999.25	-999.25	2.14	-999.25
273.25	145.83	-999.25	-999.25	2.14	-999.25
273.50	145.83	-999.25	-999.25	2.14	-999.25
273.75	145.83	-999.25	-999.25	2.14	-999.25
274.00	145.83	-999.25	-999.25	2.14	-999.25
274.25	145.83	-999.25	-999.25	2.14	-999.25
274.50	145.83	-999.25	-999.25	2.14	-999.25
274.75	145.83	-999.25	-999.25	2.14	-999.25
275.00	145.83	-999.25	-999.25	2.14	-999.25
275.25	145.83	-999.25	-999.25	2.14	-999.25
275.50	145.83	-999.25	-999.25	2.14	-999.25
275.75	145.83	-999.25	-999.25	2.14	-999.25
276.00	145.83	-999.25	-999.25	2.14	-999.25
276.25	145.83	-999.25	-999.25	2.14	-999.25
276.50	145.83	-999.25	-999.25	2.14	-999.25
276.75	145.83	-999.25	-999.25	2.14	-999.25
277.00	145.83	-999.25	-999.25	2.14	-999.25
277.25	145.83	-999.25	-999.25	2.14	-999.25
277.50	145.83	-999.25	-999.25	2.14	-999.25
277.75	145.83	-999.25	-999.25	2.14	-999.25
278.00	145.83	-999.25	-999.25	2.14	-999.25
278.25	145.83	-999.25	-999.25	2.14	-999.25
278.50	145.83	-999.25	-999.25	2.14	-999.25
278.75	145.83	-999.25	-999.25	2.14	-999.25
279.00	145.83	-999.25	-999.25	2.14	-999.25
279.25	145.83	-999.25	-999.25	2.14	-999.25
279.50	145.83	-999.25	-999.25	2.14	-999.25
279.75	145.83	-999.25	-999.25	2.14	-999.25
280.00	145.83	-999.25	-999.25	2.14	-999.25
280.25	145.83	-999.25	-999.25	2.14	-999.25
280.50	145.83	-999.25	-999.25	2.14	-999.25
280.75	145.83	-999.25	-999.25	2.14	-999.25

















































Z1	SON	RAWS	GAM	RHO	CAL
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596.00	137.83	-999.25	-999.25	2.14	-999.25
596.25	137.83	-999.25	-999.25	2.14	-999.25
596.50	137.83	-999.25	-999.25	2.14	-999.25
596.75	137.83	-999.25	-999.25	2.14	-999.25
597.00	137.83	-999.25	-999.25	2.14	-999.25
597.25	137.83	-999.25	-999.25	2.14	-999.25
597.50	137.83	-999.25	-999.25	2.14	-999.25
597.75	137.83	-999.25	-999.25	2.14	-999.25
598.00	137.83	-999.25	-999.25	2.14	-999.25
598.25	137.83	-999.25	-999.25	2.14	-999.25
598.50	137.83	-999.25	-999.25	2.14	-999.25
598.75	137.83	-999.25	-999.25	2.14	-999.25
599.00	137.83	-999.25	-999.25	2.14	-999.25
599.25	137.83	-999.25	-999.25	2.14	-999.25
599.50	137.83	-999.25	-999.25	2.14	-999.25
599.75	137.83	-999.25	-999.25	2.14	-999.25
600.00	137.83	-999.25	-999.25	2.14	-999.25
600.25	137.83	-999.25	-999.25	2.14	-999.25
600.50	137.83	-999.25	-999.25	2.14	-999.25
600.75	137.83	-999.25	-999.25	2.14	-999.25
601.00	137.83	-999.25	-999.25	2.14	-999.25
601.25	137.83	-999.25	-999.25	2.14	-999.25
601.50	137.83	-999.25	-999.25	2.14	-999.25
601.75	137.83	-999.25	-999.25	2.14	-999.25
602.00	137.83	-999.25	-999.25	2.14	-999.25
602.25	137.83	-999.25	-999.25	2.14	-999.25
602.50	137.83	-999.25	-999.25	2.14	-999.25
602.75	137.83	-999.25	-999.25	2.14	-999.25
603.00	137.83	-999.25	-999.25	2.14	-999.25
603.25	137.83	-999.25	-999.25	2.14	-999.25
603.50	137.83	-999.25	-999.25	2.14	-999.25
603.75	137.83	-999.25	-999.25	2.14	-999.25
604.00	137.83	-999.25	-999.25	2.14	-999.25
604.25	137.83	-999.25	-999.25	2.14	-999.25
604.50	137.96	-999.25	-999.25	2.14	-999.25
604.75	138.88	-999.25	-999.25	2.14	-999.25
605.00	139.80	-999.25	-999.25	2.14	-999.25
605.25	140.72	-999.25	-999.25	2.14	-999.25
605.50	141.63	-999.25	-999.25	2.14	-999.25
605.75	143.30	139.35	-999.25	2.14	-999.25
606.00	145.09	141.14	-999.25	2.14	-999.25
606.25	146.88	142.93	-999.25	2.14	-999.25
606.50	148.67	144.72	-999.25	2.14	-999.25
606.75	148.59	144.63	-999.25	2.14	-999.25
607.00	147.59	143.63	-999.25	2.14	-999.25
607.25	146.59	142.63	-999.25	2.14	-999.25
607.50	145.59	141.63	-999.25	2.14	-999.25
607.75	144.61	140.65	-999.25	2.14	-999.25
608.00	143.65	139.70	-999.25	2.14	-999.25
608.25	142.70	138.74	-999.25	2.14	-999.25
608.50	141.74	137.78	-999.25	2.14	-999.25
608.75	141.35	137.40	-999.25	2.14	-999.25
609.00	142.50	138.55	-999.25	2.14	-999.25
609.25	143.65	139.69	-999.25	2.14	-999.25
609.50	144.80	140.84	-999.25	2.14	-999.25
609.75	145.95	141.99	-999.25	2.14	-999.25
610.00	145.48	141.52	-999.25	2.14	-999.25
610.25	144.96	141.00	-999.25	2.14	-999.25
610.50	144.43	140.48	-999.25	2.14	-999.25
610.75	143.91	139.96	-999.25	2.14	-999.25

Z1	SON	RAWS	GAM	RHO	CAL
611.00	144.43	140.47	-999.25	2.14	-999.25
611.25	145.28	141.32	-999.25	2.14	-999.25
611.50	146.12	142.16	-999.25	2.14	-999.25
611.75	146.97	143.01	-999.25	2.14	-999.25
612.00	145.67	141.71	-999.25	2.14	-999.25
612.25	143.07	139.12	-999.25	2.14	-999.25
612.50	140.47	136.52	-999.25	2.14	-999.25
612.75	137.88	133.92	-999.25	2.14	-999.25
613.00	136.65	132.69	40.30	2.14	-999.25
613.25	138.01	134.05	39.51	2.14	-999.25
613.50	139.36	135.41	38.72	2.14	-999.25
613.75	140.72	136.76	37.93	2.14	-999.25
614.00	142.08	138.12	37.13	2.14	-999.25
614.25	143.35	139.39	37.03	2.14	-999.25
614.50	144.60	140.64	37.12	2.14	-999.25
614.75	145.85	141.89	37.21	2.14	-999.25
615.00	147.10	143.14	37.30	2.14	-999.25
615.25	146.81	142.86	37.59	2.14	-999.25
615.50	145.00	141.04	38.09	2.14	-999.25
615.75	143.19	139.23	38.58	2.14	-999.25
616.00	141.38	137.42	39.08	2.14	-999.25
616.25	140.59	136.63	39.42	2.14	-999.25
616.50	142.60	138.65	39.35	2.14	-999.25
616.75	144.62	140.66	39.27	2.14	-999.25
617.00	146.63	142.67	39.19	2.14	-999.25
617.25	148.40	144.44	39.11	2.14	-999.25
617.50	146.77	142.81	38.87	2.14	-999.25
617.75	145.14	141.19	38.64	2.14	-999.25
618.00	143.52	139.56	38.40	2.14	-999.25
618.25	141.89	137.93	38.16	2.14	-999.25
618.50	141.13	137.17	37.97	2.14	-999.25
618.75	140.52	136.56	37.78	2.14	-999.25
619.00	139.91	135.95	37.58	2.14	-999.25
619.25	139.29	135.34	37.39	2.14	-999.25
619.50	138.09	134.14	37.26	2.14	-999.25
619.75	135.87	131.91	37.22	2.14	-999.25
620.00	133.65	129.69	37.18	2.14	-999.25
620.25	131.42	127.46	37.14	2.14	-999.25
620.50	129.20	125.24	37.11	2.14	-999.25
620.75	129.71	125.76	37.23	2.14	12.28
621.00	130.60	126.64	37.38	2.14	12.28
621.25	131.49	127.53	37.52	2.14	12.28
621.50	132.37	128.42	37.67	2.14	12.28
621.75	133.38	129.42	37.64	2.14	12.28
622.00	134.93	130.97	36.75	2.14	12.29
622.25	136.48	132.53	35.86	2.14	12.30
622.50	138.04	134.08	34.97	2.14	12.31
622.75	139.59	135.63	34.08	2.14	12.32
623.00	141.18	137.22	34.82	2.14	12.37
623.25	142.80	138.84	36.58	2.14	12.45
623.50	144.41	140.45	38.35	2.14	12.52
623.75	146.03	142.07	40.11	2.14	12.60
624.00	148.13	144.17	42.09	2.14	12.74
624.25	151.14	147.19	44.45	2.14	12.99
624.50	154.16	150.20	46.81	2.14	13.24
624.75	157.17	153.22	49.17	2.14	13.49
625.00	157.38	153.43	50.79	2.14	14.37
625.25	153.90	149.94	51.45	2.14	16.09
625.50	150.42	146.46	52.10	2.14	17.80
625.75	146.94	142.98	52.76	2.14	19.51

Z1	SON	RAWS	GAM	RHO	CAL
626.00	144.89	140.93	53.20	2.14	21.01
626.25	146.97	143.01	53.03	2.14	21.87
626.50	149.05	145.10	52.85	2.14	22.74
626.75	151.14	147.18	52.68	2.14	23.61
627.00	152.09	148.13	52.47	2.14	24.25
627.25	149.67	145.71	52.12	2.14	24.21
627.50	147.25	143.30	51.78	2.14	24.17
627.75	144.84	140.88	51.43	2.14	24.13
628.00	142.39	138.43	51.02	2.14	24.02
628.25	139.46	135.51	49.38	2.14	22.64
628.50	136.54	132.58	47.73	2.14	21.26
628.75	133.61	129.66	46.09	2.14	19.88
629.00	130.69	126.73	44.44	2.14	18.51
629.25	130.51	126.55	45.78	2.14	18.03
629.50	132.34	128.38	49.30	2.14	18.22
629.75	134.18	130.22	52.81	2.14	18.41
630.00	136.01	132.05	56.33	2.14	18.60
630.25	137.62	133.66	58.88	2.14	18.65
630.50	138.38	134.42	57.84	2.14	18.18
630.75	139.14	135.19	56.79	2.14	17.71
631.00	139.91	135.95	55.74	2.14	17.24
631.25	140.67	136.71	54.69	2.14	16.77
631.50	141.44	137.48	53.37	2.14	16.31
631.75	142.21	138.26	51.79	2.15	15.86
632.00	142.99	139.03	50.22	2.16	15.40
632.25	143.77	139.81	48.65	2.17	14.95
632.50	144.61	140.65	48.14	2.17	14.58
632.75	145.63	141.67	50.56	2.15	14.44
633.00	146.65	142.69	52.98	2.12	14.29
633.25	147.67	143.71	55.40	2.09	14.15
633.50	147.83	143.87	57.23	2.07	14.01
633.75	143.70	139.74	56.15	2.08	13.91
634.00	139.56	135.60	55.07	2.09	13.82
634.25	135.43	131.47	53.98	2.10	13.72
634.50	131.30	127.34	52.90	2.11	13.63
634.75	132.83	128.87	52.98	2.13	13.54
635.00	134.75	130.79	53.15	2.15	13.45
635.25	136.67	132.71	53.31	2.17	13.36
635.50	138.59	134.63	53.47	2.20	13.27
635.75	139.51	135.55	53.09	2.22	13.21
636.00	137.81	133.85	51.28	2.22	13.19
636.25	136.11	132.15	49.47	2.22	13.18
636.50	134.40	130.44	47.66	2.23	13.17
636.75	132.70	128.74	45.84	2.23	13.16
637.00	132.53	128.57	46.39	2.22	13.15
637.25	132.73	128.77	47.49	2.21	13.14
637.50	132.92	128.96	48.60	2.20	13.14
637.75	133.11	129.16	49.70	2.19	13.13
638.00	133.58	129.62	50.96	2.18	13.12
638.25	134.77	130.81	52.62	2.17	13.10
638.50	135.95	131.99	54.29	2.16	13.08
638.75	137.14	133.18	55.96	2.15	13.06
639.00	138.32	134.37	57.63	2.15	13.03
639.25	140.13	136.18	58.22	2.15	13.03
639.50	142.10	138.14	58.55	2.16	13.03
639.75	144.06	140.10	58.88	2.17	13.03
640.00	146.02	142.07	59.20	2.18	13.03
640.25	146.99	143.03	59.44	2.18	13.04
640.50	146.87	142.91	59.57	2.17	13.05
640.75	146.76	142.80	59.71	2.16	13.07

Z1	SON	RAWS	GAM	RHO	CAL
641.00	146.64	142.68	59.85	2.15	13.08
641.25	146.49	142.53	59.71	2.14	13.09
641.50	146.27	142.31	59.09	2.14	13.07
641.75	146.05	142.09	58.46	2.14	13.06
642.00	145.83	141.87	57.84	2.14	13.04
642.25	145.28	141.33	57.42	2.14	13.03
642.50	143.45	139.49	57.78	2.14	13.02
642.75	141.62	137.66	58.14	2.14	13.01
643.00	139.78	135.83	58.50	2.14	13.00
643.25	137.95	133.99	58.86	2.14	12.99
643.50	139.27	135.31	58.76	2.15	12.99
643.75	140.70	136.74	58.64	2.15	12.99
644.00	142.12	138.16	58.52	2.16	12.99
644.25	143.54	139.59	58.41	2.17	13.00
644.50	144.35	140.39	58.21	2.17	13.00
644.75	144.66	140.71	57.96	2.15	13.00
645.00	144.98	141.02	57.71	2.14	13.00
645.25	145.30	141.34	57.45	2.13	13.00
645.50	145.33	141.37	57.03	2.12	13.00
645.75	144.87	140.91	56.34	2.14	12.98
646.00	144.41	140.46	55.65	2.15	12.97
646.25	143.96	140.00	54.95	2.17	12.96
646.50	143.37	139.41	54.29	2.18	12.94
646.75	142.05	138.09	53.80	2.19	12.93
647.00	140.73	136.77	53.31	2.20	12.92
647.25	139.40	135.44	52.82	2.20	12.91
647.50	138.08	134.12	52.32	2.21	12.90
647.75	138.70	134.74	52.86	2.20	12.89
648.00	139.84	135.88	53.67	2.18	12.89
648.25	140.98	137.02	54.49	2.16	12.89
648.50	142.12	138.16	55.30	2.14	12.89
648.75	142.81	138.85	55.38	2.13	12.89
649.00	143.08	139.12	54.75	2.13	12.90
649.25	143.34	139.38	54.13	2.12	12.90
649.50	143.60	139.65	53.50	2.12	12.90
649.75	143.65	139.69	52.83	2.12	12.90
650.00	143.09	139.13	52.00	2.15	12.91
650.25	142.53	138.57	51.17	2.17	12.91
650.50	141.97	138.01	50.34	2.20	12.92
650.75	141.41	137.45	49.52	2.22	12.92
651.00	142.22	138.26	49.50	2.22	12.91
651.25	143.09	139.13	49.52	2.21	12.91
651.50	143.96	140.00	49.54	2.20	12.90
651.75	144.83	140.88	49.56	2.19	12.89
652.00	146.37	142.41	50.87	2.16	12.94
652.25	148.18	144.22	52.73	2.13	13.01
652.50	149.99	146.04	54.58	2.10	13.08
652.75	151.81	147.85	56.44	2.07	13.15
653.00	151.01	147.06	56.35	2.08	13.14
653.25	149.09	145.13	55.41	2.11	13.08
653.50	147.16	143.21	54.47	2.14	13.03
653.75	145.24	141.28	53.53	2.17	12.97
654.00	144.39	140.44	53.73	2.18	12.95
654.25	144.49	140.53	54.91	2.16	12.96
654.50	144.58	140.62	56.10	2.15	12.97
654.75	144.68	140.72	57.29	2.14	12.98
655.00	143.97	140.02	56.96	2.15	12.97
655.25	141.91	137.95	54.03	2.18	12.95
655.50	139.84	135.88	51.11	2.20	12.92
655.75	137.77	133.81	48.19	2.23	12.89

Z1	SON	RAWS	GAM	RHO	CAL
656.00	135.70	131.75	45.26	2.26	12.87
656.25	138.79	134.83	47.91	2.24	12.87
656.50	142.39	138.44	51.12	2.22	12.87
656.75	146.00	142.04	54.33	2.19	12.88
657.00	149.60	145.64	57.54	2.17	12.89
657.25	149.23	145.28	57.50	2.17	12.89
657.50	147.47	143.51	56.32	2.18	12.90
657.75	145.71	141.75	55.14	2.18	12.90
658.00	143.95	139.99	53.96	2.19	12.91
658.25	143.73	139.78	53.75	2.19	12.93
658.50	144.73	140.77	54.29	2.19	12.95
658.75	145.72	141.76	54.84	2.18	12.98
659.00	146.71	142.75	55.38	2.18	13.01
659.25	146.22	142.26	55.51	2.16	13.10
659.50	143.09	139.13	54.89	2.11	13.28
659.75	139.95	135.99	54.28	2.07	13.47
660.00	136.82	132.86	53.66	2.03	13.66
660.25	134.06	130.10	53.07	2.00	13.80
660.50	133.48	129.52	52.61	2.05	13.61
660.75	132.91	128.95	52.16	2.11	13.41
661.00	132.33	128.38	51.70	2.16	13.22
661.25	131.76	127.80	51.25	2.22	13.03
661.50	131.31	127.35	50.96	2.25	12.91
661.75	131.09	127.13	51.00	2.24	12.91
662.00	130.87	126.91	51.03	2.23	12.92
662.25	130.65	126.69	51.07	2.22	12.93
662.50	130.43	126.47	51.10	2.20	12.93
662.75	131.16	127.20	52.60	2.19	12.94
663.00	132.19	128.24	54.57	2.18	12.94
663.25	133.23	129.27	56.54	2.17	12.94
663.50	134.26	130.31	58.51	2.16	12.95
663.75	135.05	131.10	59.72	2.15	12.95
664.00	134.64	130.69	57.18	2.17	12.97
664.25	134.23	130.28	54.63	2.19	12.99
664.50	133.82	129.87	52.09	2.21	13.01
664.75	133.41	129.46	49.55	2.23	13.03
665.00	132.42	128.47	48.79	2.24	13.04
665.25	130.93	126.97	49.61	2.23	13.03
665.50	129.43	125.47	50.43	2.22	13.03
665.75	127.94	123.98	51.25	2.21	13.02
666.00	126.44	122.48	52.06	2.21	13.02
666.25	125.77	121.82	53.70	2.20	13.01
666.50	125.28	121.33	55.50	2.19	12.99
666.75	124.79	120.83	57.31	2.19	12.98
667.00	124.30	120.34	59.11	2.18	12.96
667.25	123.69	119.73	60.51	2.18	12.95
667.50	121.84	117.88	57.75	2.19	12.96
667.75	119.98	116.02	54.99	2.21	12.96
668.00	118.13	114.17	52.23	2.22	12.97
668.25	116.27	112.31	49.47	2.24	12.97
668.50	114.42	110.46	46.71	2.26	12.98
668.75	115.87	111.91	47.44	2.25	12.98
669.00	118.39	114.43	49.30	2.23	12.98
669.25	120.91	116.95	51.16	2.22	12.99
669.50	123.43	119.47	53.02	2.20	12.99
669.75	125.95	121.99	54.88	2.19	12.99
670.00	127.03	123.08	53.97	2.20	12.99
670.25	127.70	123.74	52.25	2.23	12.99
670.50	128.36	124.40	50.52	2.25	12.99
670.75	129.02	125.06	48.80	2.27	12.98



Z1	SON	RAWS	GAM	RHO	CAL
671.00	129.68	125.72	47.08	2.30	12.98
671.25	130.45	126.49	47.13	2.29	12.99
671.50	131.29	127.33	48.24	2.28	13.00
671.75	132.12	128.17	49.36	2.26	13.01
672.00	132.96	129.00	50.47	2.24	13.02
672.25	133.79	129.83	51.54	2.22	13.03
672.50	134.39	130.44	51.24	2.20	13.02
672.75	135.00	131.04	50.93	2.19	13.02
673.00	135.61	131.65	50.63	2.18	13.01
673.25	136.21	132.25	50.33	2.17	13.01
673.50	136.16	132.20	50.20	2.17	13.01
673.75	135.63	131.67	50.21	2.19	13.01
674.00	135.10	131.15	50.22	2.20	13.01
674.25	134.58	130.62	50.23	2.22	13.02
674.50	134.18	130.22	50.34	2.23	13.02
674.75	135.54	131.58	51.93	2.21	13.01
675.00	136.89	132.94	53.51	2.19	13.00
675.25	138.25	134.30	55.10	2.18	13.00
675.50	139.61	135.65	56.68	2.16	12.99
675.75	138.71	134.75	56.38	2.18	12.99
676.00	136.49	132.54	54.98	2.21	13.01
676.25	134.28	130.32	53.58	2.25	13.02
676.50	132.06	128.10	52.18	2.29	13.04
676.75	129.98	126.03	50.86	2.33	13.05
677.00	130.36	126.40	50.74	2.30	13.03
677.25	130.74	126.78	50.63	2.27	13.01
677.50	131.11	127.15	50.51	2.24	12.99
677.75	131.49	127.53	50.40	2.21	12.97
678.00	132.60	128.64	50.96	2.19	12.95
678.25	134.85	130.90	52.59	2.19	12.95
678.50	137.11	133.15	54.21	2.18	12.96
678.75	139.37	135.41	55.84	2.18	12.96
679.00	141.63	137.67	57.47	2.17	12.96
679.25	140.06	136.10	57.08	2.19	12.98
679.50	138.33	134.37	56.61	2.21	13.01
679.75	136.60	132.64	56.14	2.23	13.03
680.00	134.87	130.91	55.67	2.25	13.06
680.25	134.42	130.46	55.08	2.25	13.07
680.50	134.95	130.99	54.41	2.25	13.06
680.75	135.49	131.53	53.74	2.24	13.05
681.00	136.02	132.07	53.06	2.23	13.05
681.25	136.51	132.56	52.47	2.23	13.04
681.50	135.60	131.64	54.33	2.21	13.04
681.75	134.69	130.73	56.19	2.19	13.05
682.00	133.78	129.82	58.05	2.17	13.05
682.25	132.87	128.91	59.91	2.15	13.05
682.50	132.01	128.05	59.75	2.15	13.06
682.75	131.19	127.23	57.99	2.17	13.09
683.00	130.37	126.41	56.24	2.19	13.11
683.25	129.55	125.60	54.48	2.21	13.13
683.50	128.74	124.78	52.73	2.23	13.15
683.75	128.81	124.85	53.16	2.24	13.15
684.00	129.03	125.07	53.94	2.24	13.14
684.25	129.25	125.29	54.71	2.25	13.13
684.50	129.46	125.51	55.48	2.26	13.12
684.75	129.71	125.76	56.24	2.27	13.12
685.00	132.01	128.05	56.10	2.25	13.11
685.25	134.30	130.34	55.96	2.23	13.11
685.50	136.59	132.63	55.81	2.21	13.10
685.75	138.88	134.93	55.67	2.19	13.10

Z1	SON	RAWS	GAM	RHO	CAL
686.00	139.76	135.80	55.61	2.17	13.10
686.25	139.78	135.82	55.61	2.17	13.12
686.50	139.80	135.85	55.61	2.16	13.14
686.75	139.83	135.87	55.61	2.16	13.15
687.00	139.61	135.65	55.56	2.15	13.17
687.25	138.84	134.89	55.38	2.16	13.18
687.50	138.08	134.12	55.21	2.16	13.20
687.75	137.32	133.36	55.04	2.16	13.21
688.00	136.56	132.60	54.87	2.17	13.22
688.25	136.49	132.53	55.17	2.18	13.22
688.50	136.56	132.60	55.56	2.20	13.21
688.75	136.62	132.67	55.95	2.21	13.20
689.00	136.69	132.73	56.34	2.23	13.20
689.25	137.28	133.32	57.01	2.23	13.20
689.50	138.84	134.88	58.19	2.21	13.20
689.75	140.40	136.45	59.37	2.20	13.21
690.00	141.96	138.01	60.55	2.18	13.21
690.25	143.35	139.39	61.57	2.16	13.22
690.50	141.93	137.97	59.85	2.17	13.21
690.75	140.52	136.56	58.14	2.19	13.21
691.00	139.10	135.14	56.42	2.20	13.20
691.25	137.68	133.72	54.71	2.21	13.19
691.50	137.04	133.08	53.50	2.20	13.20
691.75	136.71	132.75	52.50	2.19	13.21
692.00	136.38	132.42	51.51	2.18	13.22
692.25	136.06	132.10	50.51	2.17	13.23
692.50	136.23	132.27	50.29	2.17	13.24
692.75	137.57	133.61	51.91	2.19	13.23
693.00	138.92	134.96	53.52	2.21	13.22
693.25	140.26	136.30	55.14	2.23	13.22
693.50	141.60	137.65	56.76	2.25	13.21
693.75	140.54	136.58	56.28	2.23	13.23
694.00	139.07	135.11	55.46	2.20	13.25
694.25	137.60	133.65	54.63	2.18	13.28
694.50	136.14	132.18	53.81	2.15	13.30
694.75	135.97	132.02	53.83	2.15	13.30
695.00	136.79	132.83	54.50	2.17	13.28
695.25	137.61	133.65	55.17	2.18	13.25
695.50	138.42	134.47	55.83	2.20	13.23
695.75	139.25	135.30	56.47	2.21	13.21
696.00	140.22	136.26	56.82	2.20	13.22
696.25	141.19	137.23	57.17	2.18	13.24
696.50	142.15	138.20	57.52	2.17	13.25
696.75	143.12	139.16	57.87	2.15	13.26
697.00	143.21	139.25	57.54	2.15	13.28
697.25	143.06	139.10	57.02	2.14	13.31
697.50	142.91	138.95	56.50	2.14	13.33
697.75	142.76	138.80	55.97	2.13	13.36
698.00	140.24	136.28	54.45	2.16	13.35
698.25	135.78	131.82	52.13	2.20	13.33
698.50	131.33	127.37	49.80	2.24	13.31
698.75	126.87	122.91	47.47	2.28	13.28
699.00	122.42	118.46	45.14	2.32	13.26
699.25	125.35	121.39	46.93	2.30	13.25
699.50	129.61	125.65	49.46	2.28	13.25
699.75	133.87	129.91	51.98	2.25	13.25
700.00	138.13	134.17	54.51	2.22	13.24
700.25	141.12	137.16	56.19	2.20	13.24
700.50	140.30	136.35	55.34	2.21	13.24
700.75	139.49	135.53	54.50	2.21	13.24

Z1	SON	RAWS	GAM	RHO	CAL
701.00	138.67	134.71	53.66	2.22	13.24
701.25	137.85	133.89	52.81	2.23	13.24
701.50	136.32	132.36	53.03	2.22	13.24
701.75	134.68	130.72	53.39	2.22	13.24
702.00	133.04	129.08	53.76	2.21	13.24
702.25	131.40	127.44	54.13	2.21	13.24
702.50	130.56	126.60	54.26	2.21	13.25
702.75	131.08	127.13	53.99	2.21	13.26
703.00	131.61	127.66	53.71	2.22	13.28
703.25	132.14	128.19	53.44	2.23	13.29
703.50	132.67	128.72	53.17	2.24	13.31
703.75	132.49	128.53	54.23	2.23	13.33
704.00	131.96	128.01	55.92	2.21	13.37
704.25	131.44	127.48	57.62	2.19	13.40
704.50	130.92	126.96	59.31	2.17	13.44
704.75	129.62	125.66	59.86	2.16	13.46
705.00	124.98	121.02	55.45	2.20	13.44
705.25	120.33	116.38	51.04	2.24	13.42
705.50	115.69	111.73	46.63	2.28	13.40
705.75	111.05	107.09	42.23	2.32	13.38
706.00	106.40	102.45	37.82	2.35	13.36
706.25	104.15	100.19	37.87	2.36	13.36
706.50	102.51	98.55	39.08	2.36	13.36
706.75	100.87	96.91	40.29	2.36	13.36
707.00	99.23	95.27	41.50	2.36	13.36
707.25	97.60	93.64	42.71	2.36	13.36
707.50	95.96	92.00	43.92	2.36	13.35
707.75	96.94	92.99	44.58	2.36	13.35
708.00	98.75	94.79	45.06	2.35	13.33
708.25	100.56	96.60	45.54	2.35	13.32
708.50	102.37	98.41	46.01	2.34	13.31
708.75	104.18	100.22	46.49	2.34	13.30
709.00	105.98	102.02	46.97	2.33	13.29
709.25	109.76	105.80	47.93	2.32	13.34
709.50	114.02	110.06	49.01	2.32	13.42
709.75	118.27	114.32	50.09	2.31	13.49
710.00	122.53	118.57	51.17	2.30	13.56
710.25	126.79	122.83	52.25	2.29	13.63
710.50	130.24	126.28	52.44	2.26	13.60
710.75	133.06	129.10	51.94	2.22	13.51
711.00	135.88	131.92	51.44	2.18	13.41
711.25	138.70	134.75	50.94	2.15	13.31
711.50	141.11	137.15	50.50	2.11	13.23
711.75	138.98	135.02	50.67	2.14	13.22
712.00	136.85	132.89	50.84	2.17	13.22
712.25	134.71	130.76	51.01	2.19	13.21
712.50	132.58	128.62	51.17	2.22	13.21
712.75	131.39	127.43	50.36	2.23	13.20
713.00	130.66	126.70	49.06	2.23	13.18
713.25	129.93	125.97	47.76	2.22	13.16
713.50	129.20	125.25	46.46	2.22	13.14
713.75	128.50	124.54	45.19	2.22	13.12
714.00	129.85	125.89	46.44	2.22	13.12
714.25	131.20	127.24	47.70	2.21	13.12
714.50	132.55	128.59	48.95	2.20	13.12
714.75	133.90	129.94	50.20	2.20	13.12
715.00	135.20	131.24	51.17	2.19	13.12
715.25	136.44	132.48	51.71	2.18	13.11
715.50	137.68	133.72	52.25	2.17	13.10
715.75	138.91	134.96	52.79	2.16	13.09

Z1	SON	RAWS	GAM	RHO	CAL
716.00	140.12	136.17	53.32	2.16	13.09
716.25	139.53	135.58	53.54	2.16	13.09
716.50	138.95	134.99	53.77	2.16	13.10
716.75	138.36	134.40	53.99	2.17	13.11
717.00	137.77	133.81	54.21	2.17	13.12
717.25	136.93	132.97	53.77	2.17	13.13
717.50	135.95	131.99	52.96	2.16	13.13
717.75	134.97	131.02	52.14	2.16	13.14
718.00	134.00	130.04	51.33	2.15	13.15
718.25	133.39	129.43	50.75	2.15	13.16
718.50	134.67	130.72	51.37	2.17	13.17
718.75	135.96	132.00	51.99	2.18	13.17
719.00	137.25	133.29	52.61	2.20	13.18
719.25	138.54	134.58	53.23	2.21	13.18
719.50	140.24	136.28	54.40	2.20	13.20
719.75	142.24	138.28	55.94	2.17	13.22
720.00	144.24	140.28	57.49	2.14	13.25
720.25	146.24	142.28	59.04	2.11	13.27
720.50	147.77	143.81	60.12	2.09	13.29
720.75	148.27	144.31	60.18	2.08	13.31
721.00	148.76	144.80	60.24	2.07	13.33
721.25	149.26	145.30	60.29	2.06	13.35
721.50	149.56	145.61	60.12	2.07	13.38
721.75	149.34	145.38	59.30	2.10	13.39
722.00	149.11	145.15	58.48	2.13	13.41
722.25	148.88	144.92	57.66	2.16	13.43
722.50	148.48	144.52	57.07	2.18	13.45
722.75	146.92	142.97	58.14	2.15	13.43
723.00	145.37	141.41	59.21	2.12	13.42
723.25	143.81	139.85	60.28	2.09	13.41
723.50	142.26	138.30	61.25	2.06	13.39
723.75	140.80	136.84	57.72	2.10	13.37
724.00	139.34	135.38	54.19	2.14	13.34
724.25	137.88	133.92	50.67	2.18	13.32
724.50	136.42	132.46	47.14	2.21	13.29
724.75	137.19	133.23	46.83	2.22	13.28
725.00	139.74	135.78	49.10	2.19	13.29
725.25	142.29	138.34	51.37	2.16	13.30
725.50	144.85	140.89	53.63	2.14	13.30
725.75	146.71	142.75	55.85	2.12	13.34
726.00	146.95	142.99	57.95	2.10	13.43
726.25	147.19	143.23	60.05	2.08	13.53
726.50	147.43	143.47	62.15	2.07	13.62
726.75	146.44	142.48	63.57	2.06	13.70
727.00	136.01	132.06	59.69	2.12	13.66
727.25	125.59	121.63	55.81	2.18	13.62
727.50	115.16	111.20	51.92	2.24	13.58
727.75	104.73	100.77	48.04	2.30	13.54
728.00	98.87	94.92	45.22	2.34	13.52
728.25	105.05	101.09	45.18	2.35	13.54
728.50	111.22	107.27	45.15	2.36	13.57
728.75	117.40	113.44	45.11	2.36	13.59
729.00	123.57	119.62	45.08	2.37	13.62
729.25	129.75	125.79	45.04	2.38	13.65
729.50	134.96	131.00	47.07	2.35	13.70
729.75	139.37	135.41	50.83	2.29	13.79
730.00	143.78	139.82	54.58	2.23	13.88
730.25	148.19	144.23	58.33	2.17	13.96
730.50	150.81	146.85	60.88	2.12	14.03
730.75	147.53	143.57	59.46	2.10	14.07

Z1	SON	RAWS	GAM	RHO	CAL
731.00	144.24	140.29	58.04	2.07	14.10
731.25	140.96	137.00	56.63	2.05	14.14
731.50	138.38	134.42	55.44	2.03	14.17
731.75	139.23	135.28	55.39	2.05	14.16
732.00	140.09	136.13	55.34	2.08	14.15
732.25	140.95	136.99	55.30	2.10	14.14
732.50	141.81	137.85	55.25	2.12	14.14
732.75	142.16	138.21	55.50	2.12	14.17
733.00	142.18	138.22	55.97	2.11	14.23
733.25	142.19	138.23	56.43	2.09	14.28
733.50	142.20	138.24	56.89	2.07	14.34
733.75	142.34	138.38	57.20	2.07	14.38
734.00	142.72	138.77	57.23	2.08	14.39
734.25	143.11	139.15	57.26	2.09	14.41
734.50	143.49	139.53	57.29	2.10	14.42
734.75	143.69	139.74	57.31	2.11	14.43
735.00	138.52	134.56	56.95	2.08	14.56
735.25	133.34	129.38	56.59	2.05	14.69
735.50	128.17	124.21	56.23	2.02	14.82
735.75	122.99	119.03	55.87	1.99	14.95
736.00	125.39	121.44	55.40	2.00	14.86
736.25	131.58	127.62	54.88	2.03	14.66
736.50	137.76	133.80	54.35	2.06	14.46
736.75	143.94	139.98	53.82	2.08	14.26
737.00	150.13	146.17	53.30	2.11	14.05
737.25	147.74	143.78	52.72	2.10	14.14
737.50	144.00	140.04	52.14	2.09	14.27
737.75	140.26	136.30	51.56	2.07	14.40
738.00	136.52	132.56	50.98	2.05	14.53
738.25	136.95	132.99	52.35	2.07	14.45
738.50	138.15	134.20	54.07	2.10	14.33
738.75	139.36	135.40	55.80	2.13	14.22
739.00	140.56	136.61	57.53	2.15	14.10
739.25	141.61	137.65	58.97	2.17	14.02
739.50	141.90	137.94	59.01	2.16	14.15
739.75	142.19	138.23	59.06	2.15	14.28
740.00	142.48	138.52	59.10	2.13	14.41
740.25	142.77	138.81	59.15	2.12	14.54
740.50	137.49	133.53	57.41	2.17	14.41
740.75	131.69	127.73	55.51	2.21	14.26
741.00	125.88	121.92	53.61	2.26	14.11
741.25	120.08	116.12	51.70	2.31	13.95
741.50	116.81	112.85	50.64	2.33	13.83
741.75	122.87	118.91	52.70	2.26	13.83
742.00	128.93	124.97	54.76	2.19	13.83
742.25	134.99	131.03	56.81	2.11	13.83
742.50	141.04	137.09	58.87	2.04	13.83
742.75	143.57	139.61	58.85	2.03	13.85
743.00	143.48	139.53	57.29	2.07	13.87
743.25	143.40	139.44	55.74	2.11	13.89
743.50	143.31	139.35	54.18	2.15	13.92
743.75	143.23	139.27	52.63	2.19	13.94
744.00	143.69	139.73	52.84	2.20	13.99
744.25	144.17	140.21	53.11	2.21	14.03
744.50	144.65	140.69	53.39	2.22	14.08
744.75	145.13	141.17	53.66	2.23	14.13
745.00	145.25	141.29	53.66	2.23	14.74
745.25	145.25	141.29	53.58	2.23	15.53
745.50	145.25	141.29	53.49	2.22	16.31
745.75	145.25	141.29	53.41	2.21	17.10

Z1	SON	RAWS	GAM	RHO	CAL
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746.00	145.25	141.29	52.65	2.21	18.36
746.25	145.25	141.29	51.39	2.21	19.99
746.50	145.25	141.29	50.13	2.21	21.61
746.75	145.25	141.29	48.86	2.21	23.24
747.00	145.25	141.29	49.39	2.21	24.25
747.25	145.25	141.29	52.96	2.20	24.24
747.50	145.25	141.29	56.53	2.20	24.22
747.75	145.25	141.29	60.09	2.20	24.20
748.00	145.25	141.29	62.01	2.20	23.76
748.25	145.25	141.29	56.10	2.18	21.27
748.50	145.25	141.29	50.19	2.16	18.78
748.75	145.25	141.29	44.28	2.14	16.29
749.00	145.25	141.29	38.36	2.13	13.80
749.25	145.25	141.29	42.23	2.16	13.84
749.50	145.25	141.29	46.32	2.19	13.94
749.75	145.25	141.29	50.41	2.22	14.03
750.00	145.25	141.29	54.50	2.24	14.13
750.25	148.84	144.89	62.25	2.22	13.89
750.50	153.45	149.49	71.03	2.18	13.56
750.75	158.06	154.10	79.81	2.13	13.22
751.00	162.67	158.71	88.58	2.09	12.89
751.25	163.69	159.73	88.40	2.07	12.78
751.50	163.54	159.59	85.29	2.06	12.76
751.75	163.40	159.44	82.18	2.05	12.73
752.00	163.25	159.29	79.06	2.04	12.70
752.25	164.01	160.06	81.33	2.02	12.68
752.50	164.78	160.83	83.61	2.01	12.66
752.75	165.55	161.59	85.89	1.99	12.64
753.00	166.03	162.07	87.67	1.98	12.62
753.25	165.85	161.89	88.31	1.98	12.61
753.50	165.67	161.71	88.95	1.99	12.59
753.75	165.49	161.54	89.58	2.00	12.58
754.00	166.00	162.04	88.97	2.00	12.57
754.25	166.89	162.93	87.65	1.99	12.57
754.50	167.78	163.82	86.33	1.99	12.56
754.75	168.67	164.71	85.02	1.99	12.56
755.00	168.32	164.37	88.86	1.99	12.56
755.25	167.98	164.02	92.70	2.00	12.57
755.50	167.64	163.68	96.55	2.01	12.57
755.75	167.29	163.33	98.41	2.02	12.58
756.00	166.95	162.99	96.81	2.02	12.59
756.25	166.61	162.65	95.21	2.01	12.60
756.50	166.27	162.31	93.60	2.01	12.61
756.75	166.05	162.10	93.76	2.01	12.62
757.00	165.88	161.92	94.60	2.02	12.63
757.25	165.71	161.75	95.44	2.02	12.64
757.50	165.48	161.52	96.28	2.02	12.65
757.75	163.51	159.55	97.13	2.03	12.67
758.00	161.54	157.58	97.98	2.03	12.69
758.25	159.57	155.61	98.83	2.04	12.71
758.50	158.28	154.32	100.17	2.04	12.72
758.75	158.94	154.98	102.94	2.04	12.72
759.00	159.60	155.64	105.72	2.04	12.71
759.25	160.26	156.30	108.49	2.04	12.71
759.50	160.17	156.21	109.39	2.04	12.71
759.75	159.19	155.23	108.14	2.05	12.72
760.00	158.22	154.26	106.89	2.06	12.73
760.25	157.24	153.29	105.63	2.07	12.74
760.50	157.84	153.89	104.12	2.07	12.75
760.75	159.61	155.66	102.41	2.06	12.77

Z1	SON	RAWS	GAM	RHO	CAL
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761.00	161.39	157.43	100.70	2.04	12.78
761.25	163.16	159.20	98.99	2.03	12.79
761.50	161.74	157.78	102.34	2.03	12.83
761.75	159.53	155.57	106.93	2.03	12.88
762.00	157.32	153.37	111.53	2.04	12.92
762.25	155.12	151.16	116.13	2.04	12.97
762.50	156.06	152.10	107.57	2.05	13.19
762.75	157.10	153.15	98.58	2.06	13.42
763.00	158.15	154.19	89.60	2.06	13.64
763.25	159.02	155.06	80.93	2.07	13.85
763.50	158.15	154.19	75.43	2.09	13.80
763.75	157.29	153.33	69.93	2.10	13.76
764.00	156.42	152.47	64.43	2.12	13.72
764.25	155.71	151.76	59.48	2.13	13.66
764.50	155.60	151.64	56.70	2.13	13.51
764.75	155.49	151.53	53.92	2.13	13.36
765.00	155.38	151.42	51.14	2.12	13.20
765.25	155.27	151.31	49.68	2.13	13.11
765.50	155.16	151.20	51.60	2.16	13.15
765.75	155.05	151.09	53.51	2.20	13.20
766.00	154.93	150.98	55.42	2.23	13.25
766.25	154.82	150.87	57.54	2.25	13.30
766.50	154.71	150.75	60.04	2.24	13.37
766.75	154.60	150.64	62.54	2.24	13.44
767.00	154.49	150.53	65.04	2.23	13.51
767.25	154.38	150.42	65.36	2.21	13.74
767.50	154.27	150.31	62.56	2.19	14.22
767.75	154.16	150.20	59.75	2.16	14.70
768.00	154.04	150.09	56.95	2.13	15.17
768.25	153.93	149.98	55.93	2.12	15.39
768.50	153.82	149.86	57.02	2.11	15.30
768.75	153.71	149.75	58.12	2.11	15.21
769.00	153.60	149.64	59.22	2.11	15.12
769.25	153.49	149.53	59.40	2.11	14.90
769.50	153.38	149.42	58.63	2.11	14.54
769.75	153.27	149.31	57.86	2.12	14.18
770.00	153.15	149.20	57.09	2.12	13.82
770.25	153.04	149.09	59.08	2.14	13.67
770.50	152.93	148.97	63.63	2.15	13.71
770.75	152.82	148.86	68.18	2.17	13.76
771.00	152.71	148.75	72.74	2.18	13.80
771.25	152.60	148.64	71.20	2.19	13.88
771.50	152.49	148.53	64.25	2.18	14.00
771.75	152.38	148.42	57.30	2.18	14.13
772.00	152.26	148.31	50.35	2.17	14.25
772.25	152.15	148.20	46.92	2.18	14.36
772.50	152.04	148.08	46.59	2.21	14.46
772.75	151.93	147.97	46.26	2.24	14.56
773.00	151.82	147.86	45.93	2.27	14.65
773.25	151.71	147.75	45.96	2.28	14.95
773.50	151.60	147.64	46.31	2.27	15.42
773.75	151.49	147.53	46.67	2.26	15.89
774.00	151.37	147.42	47.02	2.25	16.36
774.25	151.26	147.31	47.46	2.24	16.78
774.50	151.15	147.19	47.99	2.23	17.14
774.75	151.04	147.08	48.52	2.23	17.50
775.00	150.93	146.97	49.04	2.23	17.87
775.25	150.82	146.86	49.27	2.23	18.29
775.50	150.71	146.75	49.15	2.23	18.77
775.75	150.60	146.64	49.03	2.24	19.25

Z1	SON	RAWS	GAM	RHO	CAL
776.00	150.48	146.53	48.91	2.24	19.73
776.25	150.37	146.42	48.61	2.24	20.04
776.50	150.26	146.30	48.05	2.24	20.11
776.75	150.15	146.19	47.49	2.23	20.18
777.00	150.04	146.08	46.93	2.22	20.26
777.25	149.93	145.97	46.84	2.22	20.43
777.50	149.82	145.86	47.56	2.23	20.78
777.75	149.71	145.75	48.28	2.23	21.13
778.00	149.59	145.64	49.01	2.24	21.49
778.25	149.48	145.53	50.06	2.23	21.75
778.50	149.37	145.41	51.92	2.21	21.78
778.75	149.26	145.30	53.79	2.18	21.81
779.00	149.15	145.19	55.65	2.15	21.84
779.25	149.04	145.08	56.80	2.13	21.82
779.50	148.93	144.97	55.17	2.14	21.57
779.75	148.82	144.86	53.54	2.16	21.33
780.00	148.70	144.75	51.91	2.17	21.09
780.25	148.59	144.64	50.38	2.18	20.86
780.50	148.48	144.52	49.63	2.22	20.73
780.75	148.37	144.41	48.89	2.25	20.59
781.00	148.26	144.30	48.15	2.29	20.45
781.25	148.15	144.19	47.40	2.32	20.32
781.50	148.04	144.08	47.28	2.32	19.96
781.75	147.93	143.97	47.15	2.32	19.60
782.00	147.81	143.86	47.03	2.31	19.25
782.25	147.70	143.75	46.90	2.31	18.89
782.50	147.59	143.63	60.19	2.27	18.67
782.75	147.48	143.52	75.35	2.22	18.47
783.00	147.37	143.41	90.50	2.18	18.27
783.25	147.26	143.30	105.65	2.13	18.06
783.50	147.15	143.19	102.90	2.12	17.75
783.75	147.04	143.08	93.98	2.12	17.39
784.00	146.92	142.97	85.07	2.11	17.03
784.25	146.81	142.86	76.16	2.11	16.67
784.50	146.70	142.74	72.45	2.12	16.52
784.75	146.59	142.63	72.25	2.13	16.51
785.00	146.48	142.52	72.05	2.14	16.49
785.25	146.37	142.41	71.85	2.15	16.48
785.50	146.26	142.30	69.90	2.16	16.71
785.75	146.15	142.19	65.69	2.16	17.26
786.00	146.03	142.08	61.48	2.17	17.80
786.25	145.92	141.97	57.27	2.17	18.35
786.50	145.81	141.85	53.81	2.18	18.78
786.75	145.70	141.74	52.40	2.20	18.92
787.00	145.59	141.63	51.00	2.22	19.05
787.25	145.48	141.52	49.59	2.23	19.18
787.50	145.37	141.41	48.35	2.25	19.30
787.75	145.26	141.30	49.09	2.25	19.33
788.00	145.14	141.19	49.82	2.25	19.36
788.25	145.03	141.08	50.56	2.25	19.38
788.50	144.92	140.96	51.29	2.25	19.41
788.75	144.81	140.85	54.43	2.23	19.47
789.00	144.70	140.74	57.90	2.21	19.53
789.25	144.59	140.63	61.38	2.19	19.60
789.50	144.48	140.52	64.85	2.17	19.66
789.75	144.37	140.41	67.37	2.15	19.60
790.00	144.25	140.30	69.40	2.13	19.48
790.25	144.14	140.19	71.43	2.11	19.35
790.50	144.03	140.07	73.46	2.09	19.23
790.75	143.92	139.96	71.61	2.09	19.24



Z1	SON	RAWS	GAM	RHO	CAL
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791.00	143.81	139.85	64.76	2.12	19.41
791.25	143.70	139.74	57.92	2.15	19.58
791.50	143.59	139.63	51.07	2.18	19.76
791.75	143.48	139.52	45.49	2.20	19.89
792.00	143.36	139.41	45.09	2.19	19.84
792.25	143.25	139.30	44.68	2.18	19.79
792.50	143.14	139.18	44.28	2.16	19.74
792.75	143.03	139.07	43.88	2.15	19.70
793.00	142.92	138.96	44.86	2.17	19.78
793.25	142.81	138.85	45.92	2.18	19.87
793.50	142.70	138.74	46.99	2.20	19.96
793.75	142.59	138.63	48.06	2.21	20.05
794.00	142.47	138.52	47.84	2.22	20.14
794.25	142.36	138.41	46.99	2.23	20.23
794.50	142.25	138.29	46.14	2.23	20.32
794.75	142.14	138.18	45.30	2.24	20.41
795.00	142.03	138.07	44.44	2.24	20.61
795.25	141.92	137.96	43.55	2.24	21.01
795.50	141.81	137.85	42.66	2.24	21.40
795.75	141.70	137.74	41.77	2.23	21.79
796.00	141.58	137.63	41.13	2.23	22.15
796.25	141.47	137.52	43.10	2.22	22.17
796.50	141.36	137.40	45.06	2.21	22.19
796.75	141.25	137.29	47.03	2.20	22.20
797.00	141.14	137.18	48.99	2.20	22.22
797.25	141.03	137.07	49.34	2.19	21.90
797.50	140.92	136.96	49.23	2.18	21.48
797.75	140.81	136.85	49.12	2.17	21.06
798.00	140.69	136.74	49.00	2.16	20.64
798.25	140.58	136.63	48.48	2.16	20.32
798.50	140.47	136.51	47.45	2.19	20.11
798.75	140.36	136.40	46.43	2.21	19.89
799.00	140.25	136.29	45.40	2.23	19.68
799.25	140.14	136.18	44.44	2.25	19.50
799.50	140.03	136.07	44.06	2.25	19.63
799.75	139.92	135.96	43.67	2.24	19.76
800.00	139.80	135.85	43.28	2.24	19.88
800.25	139.69	135.74	42.89	2.23	20.01
800.50	139.58	135.62	42.81	2.23	20.34
800.75	139.47	135.51	42.83	2.23	20.74
801.00	139.36	135.40	42.85	2.23	21.14
801.25	139.25	135.29	42.87	2.23	21.53
801.50	139.14	135.18	43.10	2.23	21.78
801.75	139.03	135.07	43.67	2.23	21.78
802.00	138.91	134.96	44.24	2.23	21.78
802.25	138.80	134.85	44.80	2.23	21.78
802.50	138.69	134.73	45.37	2.23	21.78
802.75	138.58	134.62	46.17	2.22	22.04
803.00	138.47	134.51	46.96	2.21	22.30
803.25	138.36	134.40	47.76	2.20	22.57
803.50	138.25	134.29	48.56	2.19	22.83
803.75	138.14	134.18	48.33	2.19	23.00
804.00	138.02	134.07	47.39	2.18	23.09
804.25	137.91	133.96	46.44	2.18	23.19
804.50	137.80	133.84	45.50	2.17	23.28
804.75	137.69	133.73	45.15	2.17	23.30
805.00	137.58	133.62	47.67	2.20	22.95
805.25	137.47	133.51	50.19	2.23	22.60
805.50	137.36	133.40	52.71	2.25	22.25
805.75	137.25	133.29	55.24	2.28	21.90

Z1	SON	RAWS	GAM	RHO	CAL
806.00	137.13	133.18	53.94	2.27	22.13
806.25	137.02	133.07	51.26	2.26	22.56
806.50	136.91	132.95	48.59	2.24	22.99
806.75	136.80	132.84	45.91	2.23	23.43
807.00	136.69	132.73	44.19	2.21	23.70
807.25	136.58	132.62	44.85	2.17	23.59
807.50	136.47	132.51	45.51	2.13	23.47
807.75	136.36	132.40	46.17	2.09	23.36
808.00	136.24	132.29	46.83	2.05	23.24
808.25	136.13	132.18	52.96	2.08	23.11
808.50	136.02	132.06	60.30	2.14	22.97
808.75	135.91	131.95	67.64	2.19	22.83
809.00	135.80	131.84	74.98	2.24	22.70
809.25	135.69	131.73	77.64	2.27	22.59
809.50	135.58	131.62	71.02	2.26	22.55
809.75	135.47	131.51	64.40	2.25	22.50
810.00	135.35	131.40	57.79	2.24	22.45
810.25	135.24	131.29	51.17	2.23	22.41
810.50	135.13	131.17	48.71	2.23	22.67
810.75	135.02	131.06	47.07	2.23	23.00
811.00	134.91	130.95	45.42	2.23	23.33
811.25	134.80	130.84	43.78	2.24	23.65
811.50	134.69	130.73	42.82	2.24	23.90
811.75	134.58	130.62	43.30	2.23	23.98
812.00	134.46	130.51	43.79	2.23	24.07
812.25	134.35	130.40	44.28	2.22	24.15
812.50	134.24	130.28	44.77	2.22	24.23
812.75	134.13	130.17	45.14	2.17	24.25
813.00	134.02	130.06	45.48	2.12	24.25
813.25	133.91	129.95	45.83	2.07	24.25
813.50	133.80	129.84	46.17	2.02	24.25
813.75	133.69	129.73	46.41	1.99	24.26
814.00	133.57	129.62	46.33	2.02	24.26
814.25	133.46	129.51	46.25	2.05	24.26
814.50	133.35	129.39	46.17	2.08	24.26
814.75	133.24	129.28	46.09	2.12	24.26
815.00	133.13	129.17	45.96	2.09	24.25
815.25	133.02	129.06	45.80	2.03	24.25
815.50	132.91	128.95	45.64	1.98	24.25
815.75	132.80	128.84	45.49	1.92	24.25
816.00	132.68	128.73	45.37	1.87	24.25
816.25	132.57	128.62	45.76	1.91	24.25
816.50	132.46	128.50	46.14	1.96	24.25
816.75	132.35	128.39	46.52	2.00	24.26
817.00	132.24	128.28	46.90	2.04	24.26
817.25	132.13	128.17	47.23	2.07	24.26
817.50	132.02	128.06	47.49	2.07	24.26
817.75	131.91	127.95	47.75	2.07	24.26
818.00	131.79	127.84	48.01	2.07	24.26
818.25	131.68	127.73	48.27	2.07	24.26
818.50	131.57	127.61	48.84	2.07	24.26
818.75	131.46	127.50	49.47	2.07	24.25
819.00	131.35	127.39	50.09	2.07	24.25
819.25	131.24	127.28	50.72	2.07	24.25
819.50	131.13	127.17	50.90	2.07	24.25
819.75	131.02	127.06	49.51	2.07	24.25
820.00	130.90	126.95	48.13	2.07	24.25
820.25	130.79	126.84	46.74	2.07	24.25
820.50	130.68	126.72	45.35	2.07	24.25
820.75	130.57	126.61	46.49	2.07	24.25

Z1	SON	RAWS	GAM	RHO	CAL
821.00	130.46	126.50	49.59	2.07	24.25
821.25	130.35	126.39	52.70	2.07	24.26
821.50	130.24	126.28	55.80	2.07	24.26
821.75	130.13	126.17	58.90	2.07	24.26
822.00	128.77	125.44	64.33	2.07	23.28
822.25	127.26	124.62	70.06	2.08	22.16
822.50	125.75	123.81	75.79	2.09	21.05
822.75	124.24	123.00	81.52	2.09	19.94
823.00	122.83	122.25	86.78	2.10	18.87
823.25	123.05	122.46	84.75	2.10	18.57
823.50	123.26	122.68	82.73	2.10	18.26
823.75	123.48	122.89	80.70	2.10	17.96
824.00	123.69	123.11	78.67	2.10	17.65
824.25	123.87	123.29	76.84	2.09	17.32
824.50	123.80	123.22	76.40	2.09	16.78
824.75	123.74	123.15	75.96	2.09	16.23
825.00	123.67	123.08	75.52	2.09	15.69
825.25	123.60	123.01	75.07	2.09	15.15
825.50	123.54	122.96	74.56	2.10	14.66
825.75	123.54	122.95	73.80	2.10	14.33
826.00	123.53	122.95	73.03	2.11	14.01
826.25	123.53	122.94	72.27	2.12	13.68
826.50	123.52	122.94	71.50	2.13	13.35
826.75	123.60	123.02	71.70	2.13	13.09
827.00	123.90	123.31	74.51	2.12	12.99
827.25	124.20	123.61	77.31	2.10	12.88
827.50	124.50	123.91	80.12	2.09	12.78
827.75	124.80	124.21	82.92	2.08	12.68
828.00	124.95	124.36	85.83	2.07	12.60
828.25	124.81	124.23	88.94	2.06	12.59
828.50	124.68	124.09	92.06	2.06	12.57
828.75	124.54	123.96	95.17	2.05	12.55
829.00	124.41	123.82	98.28	2.05	12.54
829.25	124.37	123.78	99.73	2.05	12.49
829.50	124.43	123.85	99.27	2.06	12.42
829.75	124.50	123.92	98.82	2.06	12.35
830.00	124.57	123.99	98.36	2.07	12.27
830.25	124.64	124.06	97.91	2.08	12.20
830.50	124.73	124.15	95.89	2.08	12.19
830.75	124.85	124.26	92.58	2.08	12.24
831.00	124.96	124.37	89.28	2.08	12.29
831.25	125.07	124.48	85.97	2.08	12.35
831.50	125.18	124.60	82.67	2.08	12.40
831.75	125.84	125.25	82.31	2.07	12.62
832.00	126.75	126.17	83.38	2.06	12.93
832.25	127.67	127.08	84.45	2.05	13.24
832.50	128.59	128.00	85.51	2.05	13.55
832.75	129.50	128.92	86.58	2.04	13.85
833.00	129.81	129.22	87.97	2.03	13.97
833.25	130.03	129.44	89.40	2.03	14.07
833.50	130.25	129.67	90.83	2.02	14.16
833.75	130.48	129.89	92.26	2.02	14.26
834.00	130.46	129.88	92.81	2.02	14.35
834.25	129.49	128.90	89.82	2.03	14.41
834.50	128.51	127.93	86.82	2.03	14.48
834.75	127.54	126.96	83.83	2.04	14.54
835.00	126.57	125.98	80.83	2.05	14.61
835.25	126.01	125.42	78.80	2.05	14.55
835.50	125.96	125.37	77.98	2.04	14.35
835.75	125.91	125.33	77.16	2.04	14.15

Z1	SON	RAWS	GAM	RHO	CAL
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836.00	125.86	125.28	76.34	2.03	13.95
836.25	125.81	125.23	75.51	2.02	13.75
836.50	126.03	125.45	75.68	2.02	13.70
836.75	126.41	125.83	76.46	2.02	13.74
837.00	126.79	126.21	77.23	2.02	13.78
837.25	127.17	126.59	78.01	2.02	13.83
837.50	127.56	126.97	78.79	2.01	13.87
837.75	126.50	125.91	81.81	2.02	13.86
838.00	125.04	124.46	85.45	2.03	13.85
838.25	123.59	123.01	89.09	2.04	13.83
838.50	122.14	121.56	92.72	2.05	13.82
838.75	120.69	120.10	96.36	2.07	13.81
839.00	120.54	119.95	98.06	2.08	13.49
839.25	120.43	119.85	99.70	2.09	13.16
839.50	120.33	119.75	101.33	2.11	12.83
839.75	120.23	119.65	102.96	2.12	12.51
840.00	120.13	119.54	104.59	2.14	12.18
840.25	120.35	119.76	101.02	2.13	12.12
840.50	120.62	120.03	96.67	2.13	12.10
840.75	120.88	120.30	92.33	2.12	12.09
841.00	121.15	120.57	87.98	2.11	12.07
841.25	121.42	120.84	83.64	2.11	12.05
841.50	121.56	120.97	82.16	2.11	12.07
841.75	121.67	121.08	81.23	2.11	12.09
842.00	121.78	121.19	80.31	2.11	12.12
842.25	121.88	121.30	79.38	2.11	12.15
842.50	121.99	121.41	78.46	2.11	12.17
842.75	121.54	120.95	79.26	2.11	12.19
843.00	120.96	120.37	80.45	2.12	12.20
843.25	120.37	119.79	81.63	2.12	12.21
843.50	119.79	119.21	82.82	2.12	12.22
843.75	119.21	118.63	84.00	2.12	12.23
844.00	119.38	118.80	83.58	2.13	12.26
844.25	119.76	119.18	82.71	2.13	12.29
844.50	120.14	119.55	81.84	2.13	12.32
844.75	120.51	119.93	80.98	2.14	12.35
845.00	120.89	120.31	80.11	2.14	12.38
845.25	120.37	119.78	79.85	2.15	12.43
845.50	119.41	118.82	79.89	2.15	12.50
845.75	118.44	117.86	79.93	2.16	12.56
846.00	117.48	116.90	79.96	2.16	12.62
846.25	116.52	115.94	80.00	2.17	12.69
846.50	114.64	114.06	77.96	2.19	12.81
846.75	112.14	111.56	74.51	2.22	12.98
847.00	109.64	109.05	71.06	2.25	13.14
847.25	107.14	106.55	67.60	2.28	13.31
847.50	104.63	104.05	64.15	2.31	13.47
847.75	102.13	101.55	60.70	2.34	13.64
848.00	102.06	101.48	60.60	2.34	13.62
848.25	102.47	101.88	61.17	2.34	13.57
848.50	102.87	102.29	61.74	2.33	13.52
848.75	103.28	102.70	62.31	2.32	13.47
849.00	103.69	103.11	62.88	2.31	13.42
849.25	104.10	103.51	63.44	2.30	13.37
849.50	104.06	103.47	63.15	2.30	13.46
849.75	103.93	103.34	62.69	2.29	13.57
850.00	103.80	103.21	62.23	2.29	13.69
850.25	103.67	103.08	61.77	2.28	13.80
850.50	103.54	102.95	61.30	2.28	13.92
850.75	103.41	102.82	60.84	2.27	14.03

Z1	SON	RAWS	GAM	RHO	CAL
851.00	105.93	105.35	59.60	2.23	14.46
851.25	109.05	108.47	58.19	2.18	14.95
851.50	112.17	111.59	56.78	2.13	15.44
851.75	115.29	114.70	55.37	2.08	15.93
852.00	118.41	117.82	53.96	2.03	16.42
852.25	119.41	118.83	54.37	2.02	16.49
852.50	116.56	115.98	58.10	2.06	15.77
852.75	113.71	113.13	61.84	2.11	15.06
853.00	110.86	110.27	65.57	2.15	14.35
853.25	108.01	107.42	69.31	2.20	13.64
853.50	105.15	104.57	73.04	2.24	12.93
853.75	104.10	103.52	74.86	2.25	12.70
854.00	103.99	103.40	75.69	2.24	12.72
854.25	103.87	103.28	76.53	2.22	12.74
854.50	103.75	103.16	77.36	2.21	12.77
854.75	103.63	103.04	78.19	2.20	12.79
855.00	103.51	102.93	79.03	2.19	12.81
855.25	104.02	103.43	77.90	2.19	12.88
855.50	104.75	104.17	76.05	2.21	12.96
855.75	105.49	104.91	74.20	2.22	13.04
856.00	106.23	105.64	72.35	2.23	13.11
856.25	106.96	106.38	70.49	2.24	13.19
856.50	107.70	107.12	68.64	2.25	13.27
856.75	107.40	106.81	69.44	2.21	13.74
857.00	107.05	106.47	70.34	2.17	14.21
857.25	106.71	106.13	71.24	2.13	14.69
857.50	106.37	105.79	72.14	2.09	15.16
857.75	106.03	105.44	73.04	2.04	15.64
858.00	107.55	106.96	77.79	2.05	15.58
858.25	110.48	109.89	85.45	2.08	15.12
858.50	113.40	112.82	93.10	2.11	14.66
858.75	116.33	115.75	100.75	2.14	14.19
859.00	119.26	118.68	108.41	2.18	13.73
859.25	121.70	121.11	115.28	2.20	13.33
859.50	121.55	120.97	117.99	2.21	13.31
859.75	121.41	120.83	120.71	2.22	13.28
860.00	121.27	120.68	123.43	2.22	13.26
860.25	121.12	120.54	126.14	2.23	13.23
860.50	120.86	120.28	128.64	2.23	13.21
860.75	119.39	118.80	128.75	2.24	13.26
861.00	117.92	117.33	128.86	2.25	13.30
861.25	116.44	115.86	128.98	2.26	13.34
861.50	114.97	114.39	129.09	2.27	13.38
861.75	113.50	112.91	129.20	2.27	13.43
862.00	113.22	112.64	128.03	2.28	13.43
862.25	113.04	112.46	126.74	2.28	13.44
862.50	112.87	112.28	125.46	2.28	13.44
862.75	112.69	112.11	124.17	2.28	13.44
863.00	112.52	111.93	122.89	2.28	13.45
863.25	113.47	112.88	121.65	2.27	13.39
863.50	115.39	114.80	120.45	2.27	13.28
863.75	117.30	116.72	119.25	2.26	13.17
864.00	119.22	118.64	118.05	2.26	13.06
864.25	121.14	120.55	116.85	2.25	12.95
864.50	122.16	121.58	112.59	2.25	13.08
864.75	121.54	120.96	102.68	2.24	13.65
865.00	120.92	120.34	92.78	2.24	14.22
865.25	120.30	119.71	82.87	2.23	14.79
865.50	119.68	119.09	72.97	2.22	15.35
865.75	118.73	118.15	65.30	2.22	15.83

Z1	SON	RAWS	GAM	RHO	CAL
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866.00	116.84	116.26	64.21	2.22	16.01
866.25	114.95	114.37	63.12	2.22	16.18
866.50	113.06	112.48	62.04	2.22	16.36
866.75	111.17	110.59	60.95	2.23	16.54
867.00	109.28	108.70	59.86	2.23	16.72
867.25	108.23	107.65	59.89	2.24	16.61
867.50	107.22	106.64	59.98	2.25	16.48
867.75	106.21	105.63	60.07	2.26	16.36
868.00	105.21	104.62	60.16	2.27	16.23
868.25	104.20	103.61	60.25	2.28	16.10
868.50	103.29	102.70	60.35	2.29	15.98
868.75	104.76	104.18	60.58	2.26	15.82
869.00	106.24	105.65	60.82	2.23	15.67
869.25	107.71	107.13	61.06	2.20	15.51
869.50	109.19	108.61	61.30	2.17	15.36
869.75	110.67	110.08	61.53	2.15	15.21
870.00	110.30	109.72	61.08	2.15	15.22
870.25	108.68	108.09	60.15	2.17	15.36
870.50	107.06	106.47	59.23	2.20	15.49
870.75	105.43	104.85	58.30	2.22	15.63
871.00	103.81	103.22	57.38	2.25	15.76
871.25	102.18	101.60	56.45	2.27	15.89
871.50	101.29	100.70	56.92	2.28	15.86
871.75	100.64	100.06	57.88	2.28	15.76
872.00	100.00	99.42	58.85	2.28	15.66
872.25	99.36	98.78	59.81	2.29	15.56
872.50	98.72	98.13	60.78	2.29	15.46
872.75	98.08	97.49	61.74	2.29	15.37
873.00	98.20	97.61	62.91	2.30	15.25
873.25	98.75	98.17	64.21	2.30	15.12
873.50	99.31	98.72	65.51	2.31	14.99
873.75	99.86	99.28	66.80	2.32	14.86
874.00	100.42	99.84	68.10	2.32	14.73
874.25	100.98	100.39	69.39	2.33	14.60
874.50	101.54	100.96	69.88	2.33	14.59
874.75	102.13	101.54	68.44	2.32	14.83
875.00	102.71	102.13	67.00	2.31	15.07
875.25	103.30	102.72	65.56	2.30	15.32
875.50	103.89	103.30	64.12	2.29	15.56
875.75	104.47	103.89	62.68	2.28	15.80
876.00	105.14	104.55	61.75	2.28	15.95
876.25	106.02	105.43	62.18	2.28	15.84
876.50	106.90	106.32	62.62	2.28	15.72
876.75	107.78	107.20	63.06	2.28	15.61
877.00	108.66	108.08	63.50	2.28	15.50
877.25	109.55	108.96	63.94	2.29	15.39
877.50	110.29	109.70	63.99	2.29	15.34
877.75	110.58	109.99	62.75	2.28	15.51
878.00	110.87	110.28	61.51	2.28	15.68
878.25	111.15	110.57	60.28	2.28	15.85
878.50	111.44	110.86	59.04	2.27	16.02
878.75	111.73	111.15	57.80	2.27	16.20
879.00	110.60	110.02	58.35	2.27	16.19
879.25	109.28	108.70	59.13	2.26	16.16
879.50	107.96	107.38	59.92	2.26	16.14
879.75	106.64	106.06	60.70	2.26	16.11
880.00	105.32	104.74	61.49	2.26	16.08
880.25	104.21	103.62	62.68	2.26	15.95
880.50	103.81	103.23	65.31	2.26	15.49
880.75	103.42	102.84	67.95	2.26	15.02

Z1	SON	RAWS	GAM	RHO	CAL
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881.00	103.03	102.44	70.58	2.26	14.55
881.25	102.63	102.05	73.21	2.26	14.08
881.50	102.24	101.65	75.85	2.26	13.62
881.75	102.07	101.49	77.45	2.26	13.26
882.00	102.30	101.72	77.28	2.27	13.11
882.25	102.53	101.95	77.11	2.27	12.96
882.50	102.76	102.18	76.93	2.27	12.81
882.75	102.99	102.40	76.76	2.28	12.65
883.00	103.22	102.63	76.58	2.28	12.50
883.25	103.42	102.83	75.97	2.27	12.51
883.50	103.56	102.98	74.63	2.24	12.78
883.75	103.71	103.12	73.30	2.20	13.04
884.00	103.85	103.27	71.97	2.17	13.31
884.25	104.00	103.42	70.63	2.14	13.58
884.50	104.15	103.56	69.30	2.10	13.84
884.75	103.82	103.23	70.91	2.11	14.01
885.00	103.23	102.65	74.09	2.14	14.13
885.25	102.64	102.06	77.27	2.16	14.25
885.50	102.06	101.48	80.45	2.19	14.37
885.75	101.47	100.89	83.63	2.21	14.49
886.00	100.89	100.30	86.81	2.24	14.61
886.25	101.02	100.44	87.38	2.25	14.79
886.50	101.37	100.78	87.18	2.25	14.99
886.75	101.71	101.13	86.97	2.24	15.19
887.00	102.05	101.47	86.77	2.24	15.39
887.25	102.40	101.81	86.57	2.24	15.59
887.50	102.74	102.16	86.36	2.24	15.79
887.75	102.88	102.30	86.02	2.25	15.33
888.00	103.00	102.41	85.66	2.26	14.79
888.25	103.11	102.53	85.30	2.27	14.25
888.50	103.23	102.64	84.94	2.28	13.71
888.75	103.34	102.76	84.58	2.29	13.17
889.00	103.46	102.87	84.23	2.31	12.63
889.25	103.15	102.56	83.98	2.31	12.77
889.50	102.81	102.23	83.74	2.30	12.93
889.75	102.48	101.90	83.51	2.30	13.10
890.00	102.15	101.57	83.27	2.30	13.27
890.25	101.82	101.23	83.03	2.30	13.43
890.50	101.49	100.90	82.79	2.30	13.60
890.75	102.05	101.47	84.37	2.30	13.61
891.00	102.68	102.10	86.07	2.29	13.61
891.25	103.32	102.73	87.77	2.29	13.61
891.50	103.95	103.36	89.47	2.29	13.61
891.75	104.58	103.99	91.17	2.28	13.61
892.00	105.07	104.48	92.65	2.28	13.62
892.25	104.76	104.17	92.95	2.28	13.62
892.50	104.45	103.87	93.25	2.28	13.62
892.75	104.14	103.56	93.54	2.29	13.62
893.00	103.84	103.25	93.84	2.29	13.63
893.25	103.53	102.94	94.14	2.29	13.63
893.50	103.20	102.62	94.07	2.30	13.59
893.75	102.78	102.20	92.47	2.29	13.36
894.00	102.36	101.78	90.86	2.29	13.12
894.25	101.94	101.36	89.26	2.29	12.89
894.50	101.52	100.94	87.66	2.29	12.66
894.75	101.11	100.52	86.06	2.29	12.43
895.00	100.87	100.29	84.86	2.29	12.30
895.25	101.16	100.57	84.83	2.29	12.47
895.50	101.44	100.86	84.79	2.29	12.64
895.75	101.72	101.14	84.75	2.29	12.82

Z1	SON	RAWS	GAM	RHO	CAL
896.00	102.01	101.42	84.71	2.29	12.99
896.25	102.29	101.71	84.68	2.29	13.16
896.50	102.37	101.79	84.60	2.29	13.29
896.75	102.00	101.41	84.42	2.30	13.36
897.00	101.62	101.04	84.24	2.30	13.42
897.25	101.25	100.66	84.06	2.31	13.48
897.50	100.87	100.29	83.88	2.32	13.54
897.75	100.50	99.91	83.70	2.32	13.61
898.00	99.93	99.35	84.00	2.33	13.60
898.25	99.00	98.41	85.25	2.33	13.46
898.50	98.06	97.47	86.49	2.33	13.31
898.75	97.12	96.54	87.74	2.33	13.17
899.00	96.18	95.60	88.99	2.33	13.02
899.25	95.24	94.66	90.24	2.33	12.88
899.50	94.50	93.91	91.58	2.33	12.75
899.75	95.20	94.61	93.70	2.32	12.73
900.00	95.89	95.31	95.82	2.30	12.72
900.25	96.59	96.00	97.93	2.29	12.70
900.50	97.29	96.70	100.05	2.28	12.69
900.75	97.98	97.40	102.16	2.27	12.67
901.00	98.68	98.09	104.28	2.26	12.66
901.25	98.44	97.86	103.64	2.26	12.75
901.50	98.13	97.54	102.80	2.26	12.84
901.75	97.82	97.23	101.95	2.26	12.94
902.00	97.51	96.92	101.11	2.26	13.04
902.25	97.20	96.61	100.26	2.27	13.14
902.50	96.89	96.30	99.41	2.27	13.24
902.75	97.30	96.72	97.10	2.26	13.48
903.00	97.87	97.28	94.49	2.25	13.75
903.25	98.43	97.85	91.88	2.24	14.01
903.50	99.00	98.42	89.26	2.23	14.28
903.75	99.57	98.98	86.65	2.22	14.55
904.00	100.13	99.55	84.04	2.22	14.82
904.25	100.63	100.05	85.25	2.22	14.68
904.50	101.11	100.53	87.68	2.24	14.41
904.75	101.59	101.01	90.11	2.25	14.14
905.00	102.07	101.49	92.54	2.27	13.87
905.25	102.55	101.97	94.97	2.28	13.60
905.50	103.03	102.45	97.40	2.29	13.33
905.75	103.83	103.25	97.51	2.29	13.23
906.00	104.85	104.27	96.08	2.28	13.25
906.25	105.87	105.28	94.64	2.27	13.27
906.50	106.88	106.30	93.21	2.26	13.28
906.75	107.90	107.31	91.78	2.24	13.30
907.00	108.91	108.33	90.35	2.23	13.32
907.25	108.55	107.97	90.45	2.23	13.35
907.50	107.44	106.85	91.40	2.24	13.40
907.75	106.32	105.73	92.35	2.24	13.44
908.00	105.20	104.61	93.29	2.25	13.49
908.25	104.08	103.50	94.24	2.26	13.54
908.50	102.96	102.38	95.19	2.26	13.58
908.75	104.74	104.15	93.08	2.26	13.41
909.00	107.02	106.43	90.44	2.26	13.19
909.25	109.30	108.71	87.80	2.25	12.98
909.50	111.58	110.99	85.16	2.24	12.77
909.75	113.86	113.27	82.52	2.24	12.55
910.00	115.57	114.99	80.11	2.23	12.39
910.25	115.78	115.19	78.32	2.23	12.36
910.50	115.99	115.40	76.53	2.22	12.33
910.75	116.20	115.61	74.75	2.22	12.31



Z1	SON	RAWS	GAM	RHO	CAL
911.00	116.41	115.82	72.96	2.21	12.28
911.25	116.64	116.06	71.21	2.21	12.25
911.50	117.37	116.79	70.44	2.21	12.27
911.75	118.11	117.52	69.66	2.21	12.29
912.00	118.84	118.26	68.88	2.21	12.30
912.25	119.58	118.99	68.11	2.21	12.32
912.50	120.31	119.73	67.33	2.21	12.34
912.75	119.96	119.37	67.56	2.20	12.33
913.00	119.39	118.81	67.98	2.20	12.33
913.25	118.83	118.25	68.41	2.19	12.32
913.50	118.27	117.68	68.83	2.19	12.32
913.75	117.70	117.12	69.26	2.18	12.31
914.00	117.69	117.11	68.08	2.18	12.36
914.25	117.90	117.31	66.26	2.19	12.43
914.50	118.11	117.52	64.44	2.19	12.50
914.75	118.32	117.73	62.61	2.19	12.58
915.00	118.53	117.94	60.79	2.19	12.65
915.25	119.64	119.06	62.52	2.19	12.66
915.50	121.58	120.99	67.43	2.20	12.63
915.75	123.51	122.93	72.34	2.20	12.60
916.00	125.45	124.86	77.25	2.21	12.56
916.25	127.38	126.79	82.17	2.21	12.53
916.50	128.17	127.58	83.84	2.21	12.49
916.75	127.87	127.29	82.43	2.20	12.43
917.00	127.58	126.99	81.02	2.19	12.38
917.25	127.28	126.69	79.61	2.18	12.32
917.50	126.98	126.40	78.20	2.18	12.27
917.75	126.84	126.26	77.59	2.19	12.28
918.00	126.76	126.18	77.26	2.21	12.31
918.25	126.68	126.10	76.94	2.23	12.34
918.50	126.60	126.02	76.62	2.25	12.37
918.75	126.52	125.93	76.30	2.28	12.40
919.00	126.54	125.95	76.79	2.26	12.38
919.25	126.57	125.98	77.37	2.24	12.34
919.50	126.60	126.01	77.95	2.23	12.31
919.75	126.63	126.05	78.53	2.21	12.28
920.00	126.66	126.08	79.08	2.19	12.25
920.25	126.67	126.08	78.49	2.19	12.29
920.50	126.67	126.09	77.89	2.18	12.33
920.75	126.68	126.09	77.29	2.18	12.37
921.00	126.68	126.10	76.70	2.17	12.41
921.25	126.58	125.99	76.18	2.17	12.44
921.50	126.13	125.54	75.88	2.19	12.42
921.75	125.68	125.10	75.59	2.20	12.40
922.00	125.23	124.65	75.30	2.21	12.38
922.25	124.78	124.20	75.01	2.23	12.36
922.50	124.64	124.06	75.08	2.24	12.33
922.75	124.95	124.37	75.68	2.24	12.30
923.00	125.26	124.68	76.29	2.25	12.27
923.25	125.58	124.99	76.89	2.25	12.23
923.50	125.89	125.30	77.49	2.25	12.20
923.75	125.88	125.30	77.94	2.26	12.18
924.00	125.59	125.00	78.24	2.26	12.19
924.25	125.29	124.71	78.53	2.26	12.19
924.50	125.00	124.41	78.83	2.26	12.19
924.75	124.70	124.12	79.13	2.27	12.19
925.00	124.12	123.54	78.44	2.27	12.20
925.25	123.35	122.77	77.12	2.28	12.20
925.50	122.59	122.01	75.80	2.28	12.21
925.75	121.82	121.24	74.48	2.29	12.22

Z1	SON	RAWS	GAM	RHO	CAL
926.00	121.06	120.47	73.16	2.30	12.23
926.25	121.17	120.58	72.90	2.30	12.24
926.50	121.77	121.18	73.24	2.30	12.25
926.75	122.36	121.78	73.58	2.30	12.25
927.00	122.96	122.38	73.93	2.30	12.26
927.25	123.56	122.98	74.27	2.30	12.27
927.50	123.36	122.78	73.92	2.30	12.27
927.75	122.71	122.12	73.19	2.30	12.26
928.00	122.05	121.47	72.46	2.31	12.26
928.25	121.40	120.82	71.73	2.31	12.25
928.50	120.75	120.16	71.01	2.31	12.24
928.75	120.68	120.10	71.51	2.31	12.24
929.00	121.03	120.44	72.87	2.30	12.24
929.25	121.37	120.79	74.24	2.29	12.23
929.50	121.72	121.14	75.61	2.28	12.23
929.75	122.07	121.48	76.98	2.27	12.23
930.00	122.44	121.86	77.94	2.26	12.23
930.25	122.84	122.26	78.64	2.25	12.22
930.50	123.24	122.65	79.34	2.25	12.22
930.75	123.64	123.05	80.04	2.25	12.21
931.00	124.03	123.45	80.74	2.24	12.21
931.25	124.22	123.64	80.93	2.24	12.21
931.50	124.30	123.71	80.85	2.24	12.21
931.75	124.37	123.79	80.77	2.25	12.21
932.00	124.45	123.87	80.69	2.25	12.21
932.25	124.53	123.94	80.61	2.25	12.21
932.50	124.73	124.14	80.76	2.26	12.20
932.75	124.99	124.40	81.02	2.27	12.20
933.00	125.24	124.66	81.28	2.29	12.20
933.25	125.50	124.92	81.54	2.30	12.19
933.50	125.76	125.17	81.80	2.31	12.19
933.75	125.60	125.01	82.13	2.31	12.17
934.00	125.34	124.76	82.49	2.31	12.14
934.25	125.08	124.50	82.84	2.30	12.12
934.50	124.83	124.24	83.20	2.30	12.09
934.75	124.55	123.97	83.50	2.30	12.07
935.00	123.43	122.85	81.20	2.28	12.07
935.25	122.31	121.73	78.90	2.26	12.07
935.50	121.19	120.60	76.60	2.24	12.07
935.75	120.07	119.48	74.30	2.23	12.08
936.00	118.94	118.36	72.00	2.21	12.08
936.25	121.61	121.03	73.86	2.21	12.10
936.50	124.60	124.01	76.08	2.22	12.12
936.75	127.58	127.00	78.30	2.23	12.14
937.00	130.57	129.98	80.51	2.24	12.16
937.25	133.31	132.73	82.65	2.25	12.18
937.50	133.16	132.58	83.86	2.25	12.17
937.75	133.02	132.43	85.07	2.25	12.15
938.00	132.87	132.28	86.28	2.26	12.13
938.25	132.72	132.14	87.48	2.26	12.12
938.50	132.75	132.16	87.59	2.26	12.11
938.75	132.95	132.37	86.53	2.26	12.12
939.00	133.16	132.58	85.47	2.25	12.12
939.25	133.37	132.78	84.40	2.25	12.13
939.50	133.57	132.99	83.34	2.24	12.14
939.75	133.30	132.72	84.05	2.24	12.13
940.00	132.99	132.40	84.93	2.23	12.13
940.25	132.67	132.09	85.80	2.23	12.12
940.50	132.36	131.78	86.67	2.23	12.12
940.75	131.93	131.34	86.76	2.23	12.12

Z1	SON	RAWS	GAM	RHO	CAL
941.00	131.28	130.70	85.43	2.24	12.14
941.25	130.64	130.06	84.09	2.25	12.16
941.50	130.00	129.41	82.76	2.26	12.17
941.75	129.35	128.77	81.43	2.27	12.19
942.00	129.85	129.26	80.52	2.28	12.16
942.25	130.97	130.38	79.85	2.28	12.12
942.50	132.08	131.50	79.18	2.29	12.08
942.75	133.20	132.62	78.51	2.30	12.03
943.00	134.31	133.73	77.85	2.30	11.99
943.25	133.35	132.77	79.78	2.27	12.00
943.50	132.40	131.81	81.72	2.23	12.02
943.75	131.44	130.86	83.65	2.20	12.03
944.00	130.48	129.90	85.58	2.16	12.04
944.25	129.95	129.36	86.46	2.16	12.05
944.50	129.86	129.27	86.22	2.19	12.06
944.75	129.77	129.18	85.98	2.22	12.07
945.00	129.68	129.09	85.74	2.25	12.08
945.25	129.59	129.00	85.50	2.27	12.10
945.50	128.61	128.03	84.96	2.29	12.11
945.75	127.32	126.74	84.31	2.29	12.12
946.00	126.03	125.45	83.65	2.30	12.13
946.25	124.74	124.16	83.00	2.30	12.14
946.50	123.45	122.87	82.35	2.31	12.15
946.75	122.41	121.83	80.74	2.30	12.16
947.00	121.40	120.81	79.03	2.29	12.18
947.25	120.38	119.80	77.31	2.28	12.19
947.50	119.37	118.79	75.60	2.26	12.20
947.75	118.36	117.77	73.88	2.25	12.22
948.00	118.64	118.06	73.33	2.24	12.21
948.25	119.34	118.76	73.16	2.23	12.19
948.50	120.04	119.45	72.98	2.21	12.17
948.75	120.74	120.15	72.80	2.20	12.15
949.00	121.44	120.85	72.63	2.19	12.14
949.25	121.91	121.32	72.96	2.19	12.14
949.50	122.22	121.64	73.65	2.20	12.16
949.75	122.53	121.95	74.35	2.20	12.17
950.00	122.85	122.26	75.04	2.21	12.19
950.25	123.16	122.57	75.73	2.21	12.21
950.50	122.10	121.51	75.39	2.21	12.21
950.75	120.49	119.91	74.64	2.21	12.20
951.00	118.89	118.31	73.90	2.20	12.19
951.25	117.29	116.71	73.15	2.19	12.18
951.50	115.69	115.10	72.41	2.19	12.17
951.75	116.76	116.18	72.92	2.19	12.18
952.00	119.32	118.74	74.12	2.20	12.20
952.25	121.88	121.30	75.33	2.21	12.22
952.50	124.45	123.86	76.54	2.21	12.24
952.75	127.01	126.42	77.75	2.22	12.27
953.00	127.07	126.49	78.13	2.23	12.28
953.25	124.85	124.26	77.75	2.23	12.28
953.50	122.62	122.04	77.37	2.23	12.29
953.75	120.40	119.81	76.99	2.23	12.29
954.00	118.17	117.59	76.61	2.23	12.30
954.25	117.39	116.80	76.48	2.24	12.31
954.50	117.34	116.75	76.47	2.24	12.32
954.75	117.29	116.70	76.47	2.25	12.34
955.00	117.23	116.65	76.47	2.26	12.35
955.25	117.18	116.60	76.46	2.27	12.36
955.50	117.28	116.70	76.46	2.27	12.37
955.75	117.56	116.97	76.46	2.27	12.36

Z1	SON	RAWS	GAM	RHO	CAL
956.00	117.84	117.25	76.46	2.26	12.36
956.25	118.11	117.53	76.46	2.26	12.35
956.50	118.39	117.81	76.46	2.25	12.35
956.75	118.87	118.28	76.46	2.25	12.34
957.00	119.83	119.24	76.46	2.25	12.32
957.25	120.79	120.20	76.46	2.25	12.31
957.50	121.75	121.16	76.46	2.24	12.29
957.75	122.71	122.12	76.46	2.24	12.27
958.00	123.62	123.03	76.46	2.25	12.26
958.25	124.33	123.75	76.46	2.25	12.25
958.50	125.05	124.47	76.46	2.26	12.25
958.75	125.77	125.18	76.46	2.26	12.24
959.00	126.48	125.90	76.46	2.26	12.23
959.25	126.68	126.10	76.46	2.27	12.23
959.50	125.98	125.39	76.46	2.26	12.24
959.75	125.27	124.69	76.46	2.26	12.25
960.00	124.57	123.98	76.46	2.25	12.27
960.25	123.86	123.28	76.46	2.25	12.28
960.50	123.86	123.28	76.46	2.24	12.28
960.75	124.53	123.94	76.46	2.24	12.28
961.00	125.19	124.61	76.46	2.23	12.28
961.25	125.86	125.27	76.46	2.23	12.28
961.50	126.52	125.94	76.46	2.22	12.28
961.75	125.66	125.08	76.46	2.24	12.28
962.00	124.06	123.47	76.46	2.28	12.29
962.25	122.45	121.87	76.46	2.31	12.29
962.50	120.84	120.26	76.46	2.35	12.30
962.75	119.24	118.66	76.46	2.39	12.30
963.00	118.27	117.69	76.46	2.39	12.30
963.25	117.71	117.13	76.46	2.37	12.29
963.50	117.15	116.56	76.46	2.35	12.28
963.75	116.59	116.00	76.46	2.33	12.27
964.00	116.02	115.44	76.46	2.31	12.26
964.25	115.70	115.11	76.46	2.30	12.25
964.50	115.75	115.17	76.46	2.29	12.25
964.75	115.81	115.22	76.46	2.29	12.25
965.00	115.86	115.27	76.46	2.28	12.25
965.25	115.91	115.33	76.46	2.27	12.25
965.50	115.96	115.38	76.46	2.27	12.25
965.75	115.96	115.38	76.46	2.27	12.24
966.00	115.96	115.38	76.46	2.27	12.23
966.25	115.96	115.38	76.46	2.28	12.22
966.50	115.96	115.38	76.46	2.28	12.21
966.75	115.96	115.38	76.46	2.28	12.20
967.00	115.96	115.38	76.46	2.26	12.19
967.25	115.96	115.38	76.46	2.24	12.17
967.50	115.96	115.38	76.46	2.22	12.16
967.75	115.96	115.38	76.46	2.20	12.15
968.00	115.96	115.38	76.46	2.18	12.14
968.25	115.96	115.38	76.46	2.17	12.13
968.50	115.96	115.38	76.46	2.18	12.12
968.75	115.96	115.38	76.46	2.18	12.11
969.00	115.96	115.38	76.46	2.18	12.10
969.25	115.96	115.38	76.46	2.18	12.09
969.50	115.96	115.38	76.46	2.18	12.09
969.75	115.96	115.38	76.46	2.18	12.10
970.00	115.96	115.38	76.46	2.17	12.11
970.25	115.96	115.38	76.46	2.17	12.12
970.50	115.96	115.38	76.46	2.16	12.14
970.75	115.96	115.38	76.46	2.16	12.15

Z1	SON	RAWS	GAM	RHO	CAL
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971.00	115.96	115.38	76.46	2.16	12.13
971.25	115.96	115.38	76.46	2.17	12.11
971.50	115.96	115.38	76.46	2.17	12.09
971.75	115.96	115.38	76.46	2.17	12.08
972.00	115.96	115.38	76.46	2.17	12.06
972.25	115.96	115.38	76.46	2.17	12.04
972.50	115.96	115.38	76.46	2.17	12.03
972.75	115.96	115.38	76.46	2.17	12.01
973.00	115.96	115.38	76.46	2.16	12.00
973.25	115.96	115.38	76.46	2.16	11.98
973.50	115.96	115.38	76.46	2.16	11.80
973.75	115.96	115.38	76.46	2.16	11.50
974.00	115.96	115.38	76.46	2.16	11.20
974.25	115.96	115.38	76.46	2.15	10.90
974.50	115.96	115.38	76.46	2.15	10.60
974.75	115.96	115.38	76.46	2.15	10.39
975.00	115.96	115.38	76.46	2.15	10.38
975.25	115.96	115.38	76.46	2.16	10.37
975.50	115.96	115.38	76.46	2.16	10.37
975.75	115.96	115.38	76.46	2.16	10.36
976.00	115.96	115.38	76.46	2.16	10.35
976.25	115.96	115.38	76.46	2.16	10.35
976.50	115.96	115.38	76.46	2.16	10.35
976.75	115.96	115.38	76.46	2.16	10.35
977.00	115.96	115.38	76.46	2.16	10.35
977.25	115.96	115.38	76.46	2.16	10.35
977.50	115.96	115.38	-999.25	2.16	10.35
977.75	115.96	115.38	-999.25	2.16	10.35
978.00	115.96	115.38	-999.25	2.16	10.35
978.25	115.96	115.38	-999.25	2.16	10.34
978.50	115.96	115.38	-999.25	2.16	10.34

Time-Sampled Listing of Log Data

Wellname : SOLE-2  
 Company : OMV Australia Pty. Ltd.  
 Survey : Rig Source Survey

Key

- T1 - Two-Way Travel Time (ms below MSL)  
 SON - Adjusted Sonic (us/ft)  
 GAM - Gamma (api)  
 RHO - Density (gm/cc)  
 CAL - Caliper (inches)  
 RHOV - Acoustic Impedance (acoustic megaohm)  
 REF - Reflection Coefficients  
 P30 - Primaries Without Transmission Loss + 30 Hz ZP Ricker Wavelet  
 P40 - Primaries Without Transmission Loss + 40 Hz ZP Ricker Wavelet  
 P50 - Primaries Without Transmission Loss + 50 Hz ZP Ricker Wavelet

T1	SON	GAM	RHO	CAL	RHOV	REF	P30	P40	P50
0	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
1	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
2	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
3	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
4	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
5	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
6	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
7	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
8	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
9	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
10	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
11	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
12	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
13	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
14	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
15	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
16	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
17	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
18	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
19	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
20	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
21	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
22	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
23	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
24	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
25	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
26	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
27	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
28	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
29	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
30	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
31	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
32	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
33	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
34	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
35	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
36	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
37	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000
38	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0000	0.0000	0.0000







T1	SON	GAM	RHO	CAL	RHOV	REF	P30	P40	P50
159	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0739	0.0457	0.0169
160	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.0923	0.0739	0.0530
161	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.1066	0.0976	0.0865
162	200.00	-999.25	1.00	-999.25	1.52	0.0000	0.1158	0.1134	0.1103
163	200.00	-999.25	1.00	-999.25	1.52	0.2685	0.1190	0.1190	0.1190
164	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.1158	0.1134	0.1103
165	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.1066	0.0976	0.0865
166	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0923	0.0739	0.0530
167	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0739	0.0457	0.0169
168	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0530	0.0169	-0.0150
169	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0311	-0.0092	-0.0380
170	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0100	-0.0300	-0.0504
171	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0092	-0.0442	-0.0529
172	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0254	-0.0516	-0.0483
173	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0380	-0.0529	-0.0397
174	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0467	-0.0497	-0.0299
175	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0516	-0.0434	-0.0208
176	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0531	-0.0358	-0.0135
177	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0518	-0.0280	-0.0082
178	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0483	-0.0208	-0.0047
179	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0434	-0.0148	-0.0025
180	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0377	-0.0101	-0.0013
181	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0318	-0.0066	-0.0006
182	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0261	-0.0041	-0.0003
183	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0208	-0.0025	-0.0001
184	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0162	-0.0015	0.0000
185	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0123	-0.0008	0.0000
186	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0091	-0.0004	0.0000
187	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0066	-0.0002	0.0000
188	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0047	-0.0001	0.0000
189	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0032	-0.0001	0.0000
190	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0022	0.0000	0.0000
191	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0015	0.0000	0.0000
192	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0009	0.0000	0.0000
193	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0006	0.0000	0.0000
194	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0004	0.0000	0.0000
195	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0002	0.0000	0.0000
196	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0001	0.0000	0.0000
197	173.02	-999.25	2.14	-999.25	3.76	0.0000	-0.0001	0.0000	0.0000
198	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
199	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
200	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
201	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
202	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
203	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
204	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
205	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
206	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
207	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
208	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
209	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
210	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
211	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
212	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
213	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
214	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
215	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
216	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
217	173.02	-999.25	2.14	-999.25	3.76	0.0000	0.0000	0.0000	0.0000
218	165.51	-999.25	2.14	-999.25	3.93	0.0000	0.0000	0.0000	0.0000













T1	SON	GAM	RHO	CAL	RHOV	REF	P30	P40	P50
579	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
580	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
581	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
582	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
583	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
584	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
585	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
586	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
587	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
588	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
589	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
590	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
591	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
592	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
593	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
594	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
595	132.40	-999.25	2.14	-999.25	4.91	0.0000	0.0000	0.0000	0.0000
596	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0000	0.0000	0.0000
597	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0000	0.0000	0.0000
598	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0001	0.0000	0.0000
599	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0001	0.0000	0.0000
600	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0002	0.0000	0.0000
601	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0002	0.0000	0.0000
602	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0003	0.0000	0.0000
603	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0004	0.0000	0.0000
604	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0005	0.0000	0.0000
605	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0007	0.0001	0.0000
606	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0008	0.0001	0.0000
607	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0010	0.0002	0.0000
608	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0011	0.0003	0.0000
609	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0013	0.0005	0.0001
610	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0013	0.0007	0.0002
611	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0013	0.0010	0.0003
612	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0012	0.0012	0.0005
613	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0009	0.0015	0.0007
614	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0005	0.0016	0.0011
615	137.83	-999.25	2.14	-999.25	4.72	0.0000	0.0000	0.0016	0.0014
616	137.83	-999.25	2.14	-999.25	4.72	0.0000	-0.0007	0.0014	0.0017
617	137.83	-999.25	2.14	-999.25	4.72	0.0000	-0.0016	0.0009	0.0019
618	137.83	-999.25	2.14	-999.25	4.72	0.0000	-0.0024	0.0001	0.0016
619	137.83	-999.25	2.14	-999.25	4.72	0.0000	-0.0033	-0.0009	0.0010
620	137.83	-999.25	2.14	-999.25	4.72	0.0000	-0.0041	-0.0022	-0.0002
621	137.83	-999.25	2.14	-999.25	4.72	0.0000	-0.0047	-0.0036	-0.0017
622	137.83	-999.25	2.14	-999.25	4.72	0.0000	-0.0051	-0.0048	-0.0035
623	137.83	-999.25	2.14	-999.25	4.72	0.0000	-0.0052	-0.0058	-0.0050
624	137.83	-999.25	2.14	-999.25	4.72	0.0000	-0.0048	-0.0063	-0.0060
625	137.83	-999.25	2.14	-999.25	4.72	0.0000	-0.0041	-0.0061	-0.0061
626	141.76	-999.25	2.14	-999.25	4.59	-0.0258	-0.0030	-0.0053	-0.0055
627	149.26	-999.25	2.14	-999.25	4.36	0.0142	-0.0017	-0.0039	-0.0042
628	145.07	-999.25	2.14	-999.25	4.49	0.0141	-0.0002	-0.0018	-0.0025
629	141.04	-999.25	2.14	-999.25	4.61	-0.0172	0.0013	0.0006	-0.0006
630	145.98	-999.25	2.14	-999.25	4.46	0.0076	0.0027	0.0033	0.0014
631	143.79	-999.25	2.14	-999.25	4.53	-0.0120	0.0037	0.0059	0.0034
632	147.29	-999.25	2.14	-999.25	4.42	0.0392	0.0042	0.0080	0.0057
633	136.18	40.57	2.14	-999.25	4.78	-0.0223	0.0043	0.0093	0.0082
634	142.38	36.95	2.14	-999.25	4.57	-0.0184	0.0037	0.0094	0.0104
635	147.72	37.34	2.14	-999.25	4.41	0.0266	0.0027	0.0082	0.0117
636	140.05	39.44	2.14	-999.25	4.65	-0.0293	0.0013	0.0055	0.0109
637	148.51	39.12	2.14	-999.25	4.38	0.0236	-0.0002	0.0016	0.0074
638	141.65	38.13	2.14	-999.25	4.59	0.0098	-0.0017	-0.0030	0.0012



T1	SON	GAM	RHO	CAL	RHOV	REF	P30	P40	P50
639	138.91	37.27	2.14	-999.25	4.69	0.0373	-0.0028	-0.0075	-0.0067
640	128.93	37.10	2.14	12.29	5.05	-0.0160	-0.0034	-0.0111	-0.0141
641	133.11	37.79	2.14	12.28	4.89	-0.0259	-0.0033	-0.0130	-0.0191
642	140.20	33.74	2.14	12.33	4.64	-0.0239	-0.0024	-0.0128	-0.0201
643	147.08	41.27	2.14	12.65	4.42	-0.0386	-0.0007	-0.0104	-0.0165
644	158.89	50.51	2.14	13.63	4.10	0.0480	0.0015	-0.0059	-0.0095
645	144.35	53.24	2.14	20.78	4.51	-0.0282	0.0040	-0.0002	-0.0009
646	152.70	52.55	2.14	24.26	4.26	0.0344	0.0066	0.0060	0.0074
647	142.55	51.11	2.14	24.09	4.57	0.0482	0.0088	0.0116	0.0138
648	129.45	43.75	2.14	17.92	5.03	-0.0300	0.0104	0.0158	0.0177
649	137.46	59.11	2.14	18.75	4.73	-0.0126	0.0112	0.0180	0.0192
650	141.03	54.20	2.14	16.55	4.62	-0.0010	0.0109	0.0180	0.0186
651	144.34	47.49	2.18	14.62	4.61	-0.0419	0.0096	0.0157	0.0161
652	148.52	57.41	2.06	14.03	4.24	0.0724	0.0072	0.0115	0.0118
653	131.04	52.83	2.11	13.62	4.90	-0.0077	0.0041	0.0060	0.0058
654	139.98	53.59	2.22	13.21	4.82	0.0314	0.0003	0.0001	-0.0014
655	132.38	45.50	2.23	13.15	5.14	-0.0147	-0.0037	-0.0054	-0.0086
656	133.26	50.50	2.18	13.13	4.99	-0.0279	-0.0077	-0.0099	-0.0142
657	138.56	57.96	2.14	13.03	4.72	-0.0207	-0.0115	-0.0129	-0.0170
658	147.05	59.37	2.18	13.03	4.52	-0.0083	-0.0148	-0.0142	-0.0163
659	146.56	59.93	2.14	13.10	4.45	0.0041	-0.0175	-0.0140	-0.0126
660	145.66	57.35	2.14	13.03	4.49	0.0254	-0.0195	-0.0128	-0.0071
661	137.89	58.87	2.14	12.99	4.72	-0.0124	-0.0208	-0.0112	-0.0018
662	144.17	58.36	2.18	13.00	4.61	-0.0192	-0.0213	-0.0099	0.0017
663	145.50	57.30	2.12	13.00	4.43	0.0218	-0.0211	-0.0092	0.0025
664	143.57	54.36	2.18	12.95	4.63	0.0276	-0.0200	-0.0093	0.0007
665	137.80	52.22	2.21	12.89	4.89	-0.0357	-0.0181	-0.0101	-0.0029
666	142.68	55.70	2.13	12.89	4.56	-0.0082	-0.0153	-0.0112	-0.0071
667	143.80	53.05	2.11	12.90	4.48	0.0337	-0.0117	-0.0120	-0.0106
668	141.38	49.48	2.22	12.92	4.79	-0.0212	-0.0071	-0.0120	-0.0126
669	145.09	49.57	2.19	12.89	4.59	-0.0538	-0.0016	-0.0106	-0.0127
670	152.36	57.00	2.06	13.18	4.13	0.0549	0.0045	-0.0075	-0.0111
671	144.34	53.09	2.18	12.95	4.61	-0.0115	0.0111	-0.0027	-0.0080
672	144.74	58.04	2.14	12.98	4.50	0.0612	0.0179	0.0037	-0.0036
673	135.51	45.00	2.26	12.86	5.09	-0.0741	0.0245	0.0112	0.0020
674	150.54	58.37	2.17	12.89	4.39	0.0313	0.0303	0.0193	0.0088
675	143.18	53.44	2.19	12.91	4.67	-0.0187	0.0350	0.0270	0.0164
676	147.34	55.73	2.17	13.03	4.50	0.0024	0.0381	0.0334	0.0241
677	134.14	53.13	1.99	13.83	4.52	0.0736	0.0392	0.0377	0.0309
678	131.38	50.95	2.26	12.91	5.24	-0.0089	0.0383	0.0388	0.0352
679	130.38	51.11	2.20	12.94	5.15	-0.0293	0.0353	0.0365	0.0358
680	135.12	60.15	2.15	12.95	4.85	0.0272	0.0303	0.0307	0.0317
681	133.22	48.36	2.24	13.04	5.12	0.0192	0.0237	0.0219	0.0229
682	126.18	52.21	2.20	13.02	5.32	0.0027	0.0161	0.0110	0.0104
683	123.85	60.76	2.17	12.95	5.35	0.0605	0.0080	-0.0006	-0.0038
684	113.96	46.04	2.26	12.98	6.04	-0.0685	0.0000	-0.0113	-0.0173
685	126.52	55.31	2.19	12.99	5.27	0.0134	-0.0074	-0.0199	-0.0273
686	129.93	46.43	2.31	12.98	5.41	-0.0344	-0.0137	-0.0254	-0.0323
687	133.77	51.55	2.22	13.03	5.05	-0.0226	-0.0186	-0.0273	-0.0315
688	136.47	50.20	2.16	13.01	4.83	0.0245	-0.0221	-0.0257	-0.0258
689	134.08	50.23	2.23	13.02	5.07	-0.0402	-0.0242	-0.0215	-0.0167
690	140.11	57.27	2.15	12.98	4.68	0.0772	-0.0252	-0.0158	-0.0065
691	129.96	50.86	2.33	13.05	5.46	-0.0373	-0.0253	-0.0097	0.0025
692	131.72	50.33	2.19	12.95	5.07	-0.0403	-0.0249	-0.0046	0.0089
693	141.72	57.53	2.17	12.96	4.68	0.0456	-0.0243	-0.0011	0.0117
694	134.11	55.46	2.25	13.07	5.12	-0.0146	-0.0237	0.0002	0.0109
695	136.54	52.41	2.23	13.04	4.98	-0.0052	-0.0234	-0.0007	0.0072
696	132.46	60.73	2.14	13.05	4.92	0.0349	-0.0233	-0.0034	0.0017
697	128.63	52.49	2.23	13.15	5.28	0.0050	-0.0232	-0.0071	-0.0043
698	129.68	56.25	2.27	13.12	5.33	-0.0579	-0.0228	-0.0113	-0.0095

T1	SON	GAM	RHO	CAL	RHOV	REF	P30	P40	P50
699	139.75	55.62	2.18	13.09	4.75	-0.0063	-0.0220	-0.0153	-0.0130
700	139.84	55.61	2.15	13.17	4.69	0.0157	-0.0202	-0.0184	-0.0148
701	136.44	54.84	2.17	13.22	4.84	0.0148	-0.0171	-0.0204	-0.0150
702	136.73	56.59	2.24	13.19	4.99	-0.0405	-0.0125	-0.0209	-0.0144
703	143.43	61.67	2.16	13.22	4.60	0.0326	-0.0062	-0.0197	-0.0137
704	137.27	54.21	2.21	13.19	4.91	-0.0064	0.0018	-0.0165	-0.0132
705	135.83	49.81	2.16	13.24	4.85	-0.0009	0.0112	-0.0111	-0.0127
706	141.80	56.99	2.25	13.21	4.84	-0.0021	0.0216	-0.0033	-0.0113
707	135.51	53.45	2.14	13.31	4.82	0.0031	0.0324	0.0069	-0.0081
708	139.17	56.45	2.21	13.21	4.85	-0.0294	0.0428	0.0191	-0.0017
709	143.33	57.95	2.15	13.26	4.57	-0.0016	0.0518	0.0327	0.0086
710	142.70	55.74	2.13	13.37	4.56	0.1222	0.0586	0.0463	0.0227
711	121.74	44.79	2.33	13.25	5.83	-0.1026	0.0623	0.0581	0.0392
712	141.32	56.40	2.20	13.24	4.74	0.0194	0.0623	0.0662	0.0552
713	137.75	52.70	2.23	13.24	4.93	0.0222	0.0582	0.0687	0.0669
714	130.36	54.36	2.20	13.24	5.15	-0.0012	0.0500	0.0644	0.0702
715	132.84	53.08	2.24	13.31	5.14	-0.0098	0.0381	0.0530	0.0626
716	130.49	60.69	2.16	13.46	5.04	0.1504	0.0232	0.0353	0.0437
717	105.45	36.91	2.36	13.36	6.83	0.0491	0.0064	0.0130	0.0166
718	95.57	44.21	2.36	13.35	7.53	-0.0594	-0.0111	-0.0112	-0.0134
719	106.34	47.07	2.33	13.29	6.69	-0.1053	-0.0277	-0.0344	-0.0405
720	128.65	52.72	2.28	13.66	5.41	-0.0861	-0.0423	-0.0539	-0.0595
721	141.29	50.49	2.11	13.23	4.55	0.0611	-0.0537	-0.0675	-0.0684
722	131.88	51.23	2.23	13.21	5.15	0.0123	-0.0610	-0.0742	-0.0677
723	128.48	45.17	2.22	13.12	5.27	-0.0307	-0.0638	-0.0737	-0.0601
724	134.71	50.95	2.19	13.12	4.96	-0.0280	-0.0621	-0.0666	-0.0491
725	140.13	53.32	2.16	13.09	4.69	0.0128	-0.0563	-0.0541	-0.0371
726	137.55	54.29	2.17	13.12	4.81	0.0105	-0.0473	-0.0378	-0.0249
727	133.18	50.65	2.15	13.16	4.91	-0.0050	-0.0360	-0.0194	-0.0123
728	139.06	53.48	2.22	13.19	4.86	-0.0598	-0.0236	-0.0009	0.0018
729	147.62	60.11	2.09	13.28	4.32	-0.0145	-0.0113	0.0160	0.0172
730	149.63	60.33	2.06	13.37	4.19	0.0332	-0.0003	0.0295	0.0326
731	148.68	56.94	2.19	13.45	4.48	-0.0071	0.0088	0.0381	0.0450
732	142.29	61.33	2.06	13.39	4.42	0.0625	0.0153	0.0410	0.0510
733	135.77	45.57	2.23	13.28	5.01	-0.0636	0.0192	0.0381	0.0481
734	146.64	55.22	2.12	13.31	4.41	-0.0204	0.0205	0.0301	0.0360
735	147.64	64.01	2.05	13.71	4.23	0.2689	0.0197	0.0188	0.0169
736	97.17	45.23	2.34	13.51	7.35	-0.1456	0.0174	0.0063	-0.0049
737	132.55	45.02	2.38	13.66	5.48	-0.1228	0.0143	-0.0052	-0.0239
738	151.57	61.21	2.13	14.03	4.28	0.0218	0.0110	-0.0134	-0.0357
739	138.23	55.45	2.03	14.17	4.47	0.0114	0.0080	-0.0173	-0.0378
740	142.16	55.23	2.13	14.13	4.57	-0.0168	0.0056	-0.0165	-0.0306
741	142.21	57.19	2.06	14.38	4.42	0.0059	0.0041	-0.0118	-0.0168
742	143.86	57.32	2.11	14.43	4.48	0.0535	0.0032	-0.0046	-0.0005
743	121.27	55.76	1.98	15.00	4.98	-0.0769	0.0029	0.0031	0.0140
744	150.97	53.22	2.11	14.03	4.27	0.0379	0.0028	0.0097	0.0235
745	135.93	50.89	2.05	14.55	4.61	0.0078	0.0025	0.0138	0.0266
746	141.56	58.96	2.17	14.00	4.68	-0.0167	0.0019	0.0149	0.0234
747	142.80	59.15	2.12	14.56	4.53	0.1563	0.0006	0.0130	0.0159
748	115.52	50.21	2.35	13.83	6.20	-0.1856	-0.0013	0.0087	0.0065
749	143.62	59.74	2.01	13.83	4.26	0.0456	-0.0037	0.0031	-0.0022
750	143.22	52.57	2.19	13.94	4.67	0.0027	-0.0065	-0.0028	-0.0086
751	145.25	53.73	2.24	14.14	4.69	-0.0058	-0.0094	-0.0082	-0.0118
752	145.25	53.37	2.21	17.44	4.64	-0.0010	-0.0120	-0.0126	-0.0126
753	145.25	48.07	2.21	24.26	4.63	-0.0010	-0.0140	-0.0155	-0.0119
754	145.25	63.04	2.20	24.19	4.62	-0.0172	-0.0152	-0.0171	-0.0111
755	145.25	38.23	2.13	13.74	4.46	0.0285	-0.0154	-0.0172	-0.0108
756	145.25	55.40	2.25	14.15	4.72	0.0000	-0.0146	-0.0161	-0.0110
757	163.80	90.75	2.08	12.80	3.87	-0.0073	-0.0127	-0.0137	-0.0110
758	163.25	79.05	2.04	12.70	3.81	-0.0248	-0.0099	-0.0104	-0.0101

T1	SON	GAM	RHO	CAL	RHOV	REF	P30	P40	P50
759	166.09	87.48	1.98	12.63	3.63	0.0075	-0.0064	-0.0062	-0.0074
760	165.43	89.81	2.00	12.57	3.68	-0.0129	-0.0026	-0.0015	-0.0030
761	168.67	85.02	1.99	12.56	3.59	0.0116	0.0014	0.0034	0.0025
762	167.42	98.99	2.02	12.57	3.67	0.0024	0.0052	0.0078	0.0079
763	166.18	93.16	2.01	12.61	3.69	0.0049	0.0086	0.0114	0.0123
764	165.55	96.25	2.02	12.64	3.73	0.0264	0.0113	0.0138	0.0146
765	158.11	99.46	2.04	12.73	3.93	-0.0081	0.0133	0.0147	0.0147
766	160.62	109.97	2.04	12.71	3.87	0.0218	0.0145	0.0141	0.0128
767	156.83	105.10	2.08	12.75	4.04	-0.0342	0.0149	0.0123	0.0096
768	163.51	98.65	2.02	12.79	3.77	0.0310	0.0147	0.0096	0.0058
769	155.05	116.27	2.04	12.97	4.01	-0.0061	0.0140	0.0066	0.0020
770	159.10	81.43	2.07	13.85	3.97	0.0000	0.0129	0.0037	-0.0013
771	155.74	60.04	2.13	13.69	4.17	-0.0012	0.0117	0.0014	-0.0038
772	155.30	49.14	2.12	13.09	4.16	0.0315	0.0104	0.0000	-0.0052
773	154.86	56.66	2.25	13.28	4.43	-0.0049	0.0093	-0.0004	-0.0052
774	154.42	66.51	2.22	13.55	4.39	-0.0230	0.0082	0.0001	-0.0038
775	153.98	55.43	2.12	15.43	4.19	-0.0018	0.0073	0.0013	-0.0012
776	153.54	59.77	2.10	15.07	4.18	0.0069	0.0064	0.0028	0.0021
777	153.10	56.72	2.13	13.65	4.23	0.0164	0.0055	0.0043	0.0051
778	152.66	74.88	2.19	13.82	4.38	-0.0038	0.0045	0.0053	0.0072
779	152.21	47.09	2.17	14.30	4.34	0.0269	0.0034	0.0055	0.0078
780	151.77	45.77	2.28	14.70	4.58	-0.0074	0.0020	0.0050	0.0068
781	151.32	47.20	2.24	16.59	4.51	-0.0023	0.0005	0.0036	0.0045
782	150.87	49.33	2.22	18.06	4.49	0.0059	-0.0012	0.0016	0.0017
783	150.42	48.84	2.24	20.01	4.55	-0.0039	-0.0030	-0.0008	-0.0011
784	149.97	46.58	2.22	20.30	4.51	0.0065	-0.0047	-0.0032	-0.0034
785	149.52	49.53	2.24	21.74	4.57	-0.0247	-0.0064	-0.0053	-0.0051
786	149.06	57.13	2.13	21.87	4.35	0.0135	-0.0077	-0.0071	-0.0062
787	148.61	50.46	2.18	20.88	4.47	0.0330	-0.0086	-0.0082	-0.0067
788	148.15	47.40	2.32	20.32	4.78	-0.0012	-0.0091	-0.0087	-0.0067
789	147.69	46.89	2.31	18.85	4.76	-0.0406	-0.0090	-0.0085	-0.0062
790	147.23	109.53	2.12	18.01	4.39	-0.0014	-0.0084	-0.0078	-0.0054
791	146.77	72.57	2.11	16.52	4.38	0.0125	-0.0073	-0.0066	-0.0044
792	146.31	71.74	2.16	16.48	4.49	0.0060	-0.0057	-0.0050	-0.0032
793	145.84	54.18	2.18	18.75	4.55	0.0189	-0.0037	-0.0032	-0.0020
794	145.38	48.30	2.25	19.30	4.72	0.0004	-0.0015	-0.0012	-0.0008
795	144.91	51.38	2.25	19.41	4.73	-0.0173	0.0009	0.0008	0.0005
796	144.44	66.02	2.16	19.68	4.56	-0.0177	0.0033	0.0027	0.0018
797	143.97	74.60	2.08	19.16	4.41	0.0298	0.0056	0.0044	0.0032
798	143.50	45.57	2.20	19.90	4.68	-0.0099	0.0076	0.0059	0.0045
799	143.02	43.86	2.15	19.69	4.59	0.0170	0.0093	0.0070	0.0054
800	142.55	48.40	2.22	20.08	4.74	0.0068	0.0106	0.0077	0.0058
801	142.07	44.78	2.24	20.46	4.81	-0.0006	0.0115	0.0080	0.0056
802	141.59	40.96	2.23	22.15	4.80	-0.0067	0.0119	0.0080	0.0050
803	141.12	49.43	2.19	22.22	4.74	-0.0079	0.0117	0.0077	0.0041
804	140.63	48.94	2.15	20.41	4.66	0.0246	0.0111	0.0074	0.0032
805	140.15	44.48	2.25	19.49	4.90	-0.0031	0.0099	0.0069	0.0026
806	139.67	42.80	2.23	20.04	4.87	0.0002	0.0082	0.0063	0.0025
807	139.18	42.88	2.22	21.78	4.87	0.0033	0.0062	0.0056	0.0029
808	138.69	45.38	2.23	21.78	4.90	-0.0079	0.0038	0.0045	0.0036
809	138.20	48.88	2.19	22.94	4.83	-0.0025	0.0012	0.0030	0.0042
810	137.71	44.72	2.17	23.36	4.80	0.0274	-0.0015	0.0008	0.0043
811	137.22	55.90	2.28	21.81	5.07	-0.0131	-0.0040	-0.0018	0.0033
812	136.72	44.00	2.22	23.74	4.94	-0.0390	-0.0064	-0.0049	0.0006
813	136.22	46.95	2.04	23.22	4.57	0.0543	-0.0083	-0.0081	-0.0035
814	135.73	79.85	2.27	22.61	5.10	-0.0073	-0.0097	-0.0108	-0.0086
815	135.23	50.08	2.23	22.40	5.02	0.0038	-0.0105	-0.0126	-0.0132
816	134.72	42.66	2.24	23.87	5.06	-0.0030	-0.0108	-0.0129	-0.0161
817	134.22	44.87	2.22	24.25	5.03	-0.0550	-0.0106	-0.0116	-0.0161
818	133.71	46.43	1.98	24.26	4.51	0.0386	-0.0101	-0.0086	-0.0126

T1	SON	GAM	RHO	CAL	RHOV	REF	P30	P40	P50
819	133.20	46.06	2.13	24.26	4.87	-0.0631	-0.0096	-0.0045	-0.0064
820	132.69	45.34	1.87	24.25	4.29	0.0524	-0.0092	0.0000	0.0013
821	132.18	47.10	2.07	24.26	4.77	0.0019	-0.0093	0.0042	0.0087
822	131.67	48.31	2.07	24.26	4.78	0.0020	-0.0100	0.0070	0.0141
823	131.15	51.21	2.07	24.25	4.80	0.0020	-0.0114	0.0079	0.0163
824	130.63	44.74	2.07	24.25	4.82	0.0020	-0.0136	0.0064	0.0150
825	130.11	59.26	2.07	24.26	4.84	0.0000	-0.0163	0.0025	0.0106
826	122.82	86.90	2.10	18.89	5.21	-0.0049	-0.0193	-0.0033	0.0038
827	123.88	76.90	2.09	17.39	5.15	0.0012	-0.0222	-0.0102	-0.0043
828	123.54	74.73	2.09	14.73	5.17	0.0092	-0.0245	-0.0174	-0.0124
829	123.52	70.94	2.13	13.12	5.26	-0.0210	-0.0258	-0.0238	-0.0197
830	124.99	84.77	2.07	12.61	5.05	-0.0031	-0.0256	-0.0285	-0.0251
831	124.33	99.94	2.05	12.53	5.02	0.0065	-0.0235	-0.0307	-0.0280
832	124.67	97.70	2.08	12.16	5.08	-0.0019	-0.0195	-0.0299	-0.0278
833	125.22	81.59	2.08	12.41	5.06	-0.0281	-0.0134	-0.0260	-0.0247
834	129.61	86.70	2.03	13.89	4.79	-0.0087	-0.0055	-0.0192	-0.0190
835	130.65	93.41	2.02	14.34	4.70	0.0274	0.0038	-0.0099	-0.0114
836	126.03	79.17	2.05	14.64	4.97	-0.0082	0.0138	0.0012	-0.0027
837	125.79	75.20	2.02	13.68	4.89	-0.0078	0.0239	0.0132	0.0063
838	127.64	78.95	2.01	13.87	4.81	0.0407	0.0331	0.0253	0.0154
839	120.64	96.49	2.07	13.81	5.22	0.0199	0.0408	0.0362	0.0243
840	120.11	104.80	2.14	12.14	5.43	-0.0136	0.0462	0.0451	0.0326
841	121.46	82.93	2.11	12.05	5.29	-0.0013	0.0488	0.0507	0.0397
842	122.01	78.29	2.11	12.18	5.27	0.0155	0.0482	0.0524	0.0443
843	119.09	84.26	2.13	12.24	5.44	-0.0039	0.0445	0.0496	0.0451
844	121.01	79.83	2.14	12.39	5.40	0.0264	0.0379	0.0422	0.0409
845	116.13	80.01	2.17	12.71	5.69	0.1062	0.0289	0.0308	0.0313
846	101.72	60.13	2.35	13.66	7.04	-0.0222	0.0183	0.0163	0.0172
847	104.16	63.54	2.30	13.36	6.74	-0.0030	0.0070	0.0003	0.0004
848	103.38	60.76	2.27	14.05	6.69	-0.1387	-0.0040	-0.0155	-0.0166
849	120.42	53.05	2.00	16.74	5.06	0.1317	-0.0138	-0.0294	-0.0312
850	104.18	74.31	2.26	12.68	6.60	-0.0123	-0.0215	-0.0396	-0.0416
851	103.48	79.25	2.19	12.82	6.44	-0.0054	-0.0266	-0.0451	-0.0465
852	107.73	68.58	2.25	13.28	6.37	-0.0436	-0.0287	-0.0453	-0.0456
853	105.88	73.43	2.03	15.85	5.84	-0.0281	-0.0280	-0.0403	-0.0394
854	121.72	114.84	2.20	13.34	5.52	0.0098	-0.0246	-0.0310	-0.0288
855	120.99	128.63	2.23	13.21	5.63	0.0416	-0.0193	-0.0186	-0.0151
856	113.38	129.21	2.28	13.43	6.12	0.0046	-0.0127	-0.0049	0.0000
857	112.44	122.30	2.28	13.45	6.17	-0.0483	-0.0056	0.0083	0.0146
858	122.38	116.07	2.25	12.88	5.60	0.0061	0.0012	0.0193	0.0267
859	119.21	65.57	2.22	15.78	5.67	0.0457	0.0069	0.0268	0.0346
860	109.19	59.81	2.23	16.73	6.22	0.0430	0.0112	0.0299	0.0369
861	103.23	60.34	2.29	15.98	6.78	-0.0739	0.0138	0.0287	0.0333
862	111.27	61.63	2.13	15.15	5.84	0.0768	0.0147	0.0236	0.0245
863	101.76	56.21	2.28	15.93	6.82	0.0230	0.0143	0.0158	0.0123
864	97.84	62.09	2.29	15.33	7.14	-0.0081	0.0128	0.0068	-0.0008
865	101.37	70.30	2.34	14.51	7.02	-0.0300	0.0109	-0.0019	-0.0120
866	104.90	61.63	2.28	15.98	6.61	-0.0225	0.0091	-0.0090	-0.0195
867	110.22	64.28	2.29	15.30	6.32	-0.0110	0.0079	-0.0135	-0.0224
868	111.76	57.66	2.27	16.22	6.19	0.0318	0.0077	-0.0150	-0.0209
869	104.29	62.10	2.26	16.06	6.59	0.0128	0.0087	-0.0133	-0.0162
870	101.99	77.52	2.26	13.32	6.76	-0.0023	0.0109	-0.0091	-0.0098
871	103.36	76.47	2.28	12.41	6.73	-0.0477	0.0140	-0.0028	-0.0031
872	104.20	68.83	2.09	13.94	6.12	0.0526	0.0177	0.0046	0.0030
873	100.76	87.54	2.25	14.63	6.80	-0.0112	0.0214	0.0123	0.0084
874	102.78	86.34	2.24	15.81	6.65	0.0109	0.0245	0.0196	0.0132
875	103.46	84.21	2.31	12.61	6.79	0.0086	0.0265	0.0259	0.0177
876	101.46	82.78	2.30	13.61	6.91	-0.0227	0.0269	0.0303	0.0220
877	105.11	92.61	2.28	13.62	6.60	0.0128	0.0252	0.0324	0.0255
878	103.28	94.38	2.30	13.63	6.78	0.0108	0.0212	0.0318	0.0276

T1	SON	GAM	RHO	CAL	RHOV	REF	P30	P40	P50
879	100.80	84.87	2.29	12.26	6.92	-0.0079	0.0149	0.0281	0.0272
880	102.49	84.65	2.29	13.28	6.82	0.0183	0.0065	0.0213	0.0237
881	100.25	83.58	2.33	13.65	7.07	0.0307	-0.0036	0.0118	0.0166
882	94.42	91.34	2.33	12.75	7.52	-0.0383	-0.0147	0.0001	0.0065
883	98.73	104.43	2.26	12.65	6.96	0.0128	-0.0261	-0.0128	-0.0055
884	96.83	99.27	2.27	13.26	7.14	-0.0300	-0.0371	-0.0257	-0.0178
885	100.27	83.41	2.21	14.89	6.73	0.0044	-0.0466	-0.0375	-0.0290
886	103.22	98.37	2.30	13.22	6.79	-0.0442	-0.0541	-0.0470	-0.0376
887	109.27	89.84	2.23	13.32	6.21	0.0390	-0.0589	-0.0533	-0.0428
888	102.80	95.33	2.27	13.59	6.72	-0.0650	-0.0605	-0.0558	-0.0443
889	115.51	80.60	2.24	12.40	5.90	-0.0107	-0.0589	-0.0543	-0.0422
890	116.61	71.25	2.21	12.25	5.77	-0.0165	-0.0540	-0.0489	-0.0371
891	120.43	67.20	2.21	12.34	5.59	0.0063	-0.0463	-0.0401	-0.0296
892	117.54	69.38	2.18	12.31	5.66	-0.0020	-0.0363	-0.0288	-0.0204
893	118.62	59.93	2.19	12.68	5.63	-0.0350	-0.0247	-0.0158	-0.0102
894	128.32	84.56	2.21	12.51	5.25	-0.0031	-0.0125	-0.0021	0.0005
895	126.90	77.82	2.17	12.25	5.22	0.0252	-0.0004	0.0110	0.0110
896	126.51	76.26	2.28	12.41	5.49	-0.0200	0.0105	0.0226	0.0205
897	126.66	79.10	2.19	12.25	5.27	-0.0053	0.0197	0.0318	0.0282
898	126.69	76.25	2.17	12.44	5.22	0.0238	0.0264	0.0378	0.0333
899	124.52	74.84	2.24	12.35	5.47	-0.0018	0.0303	0.0403	0.0352
900	126.04	77.78	2.26	12.18	5.45	0.0084	0.0313	0.0391	0.0336
901	124.58	79.25	2.27	12.19	5.55	0.0230	0.0296	0.0344	0.0288
902	120.78	72.68	2.30	12.23	5.81	-0.0126	0.0254	0.0269	0.0215
903	123.78	74.39	2.30	12.28	5.66	0.0169	0.0195	0.0173	0.0126
904	120.48	70.70	2.31	12.24	5.86	-0.0188	0.0124	0.0066	0.0031
905	122.21	77.53	2.26	12.23	5.64	-0.0128	0.0049	-0.0041	-0.0062
906	124.17	80.98	2.24	12.21	5.50	0.0015	-0.0023	-0.0139	-0.0145
907	124.55	80.58	2.25	12.21	5.51	0.0084	-0.0084	-0.0217	-0.0213
908	125.80	81.84	2.31	12.19	5.61	0.0015	-0.0130	-0.0268	-0.0261
909	124.58	83.55	2.30	12.07	5.62	0.0032	-0.0157	-0.0288	-0.0282
910	118.86	71.82	2.21	12.08	5.66	-0.0487	-0.0163	-0.0275	-0.0272
911	133.32	82.56	2.25	12.18	5.13	0.0061	-0.0150	-0.0232	-0.0229
912	132.64	88.11	2.26	12.11	5.20	-0.0075	-0.0120	-0.0164	-0.0156
913	133.59	83.25	2.24	12.14	5.12	0.0006	-0.0077	-0.0081	-0.0063
914	132.16	87.23	2.22	12.12	5.12	0.0236	-0.0027	0.0007	0.0037
915	129.13	80.95	2.28	12.19	5.37	-0.0143	0.0027	0.0088	0.0128
916	134.32	77.84	2.30	11.99	5.22	-0.0183	0.0077	0.0154	0.0195
917	129.99	86.58	2.15	12.05	5.03	0.0322	0.0121	0.0196	0.0229
918	129.57	85.44	2.28	12.10	5.37	0.0309	0.0156	0.0213	0.0228
919	123.32	82.28	2.31	12.15	5.71	0.0076	0.0180	0.0205	0.0195
920	118.11	73.47	2.25	12.22	5.80	-0.0289	0.0192	0.0176	0.0141
921	121.72	72.55	2.19	12.13	5.47	0.0005	0.0195	0.0134	0.0076
922	123.25	75.92	2.22	12.21	5.48	0.0274	0.0189	0.0088	0.0012
923	115.12	72.14	2.19	12.16	5.79	-0.0449	0.0178	0.0046	-0.0042
924	128.23	78.32	2.23	12.28	5.29	0.0449	0.0162	0.0016	-0.0079
925	117.42	76.48	2.23	12.30	5.79	0.0110	0.0146	0.0000	-0.0091
926	117.15	76.46	2.27	12.37	5.92	-0.0123	0.0128	0.0001	-0.0078
927	118.59	76.46	2.25	12.35	5.77	-0.0206	0.0111	0.0014	-0.0040
928	123.46	76.46	2.24	12.26	5.54	-0.0086	0.0094	0.0036	0.0015
929	126.94	76.46	2.27	12.23	5.45	0.0092	0.0076	0.0057	0.0072
930	123.52	76.46	2.25	12.28	5.55	-0.0199	0.0058	0.0072	0.0116
931	126.74	76.46	2.22	12.28	5.33	0.0727	0.0037	0.0075	0.0134
932	118.62	76.46	2.40	12.30	6.17	-0.0078	0.0015	0.0064	0.0119
933	115.68	76.46	2.30	12.25	6.07	-0.0089	-0.0009	0.0040	0.0075
934	115.96	76.46	2.27	12.25	5.96	0.0026	-0.0034	0.0006	0.0015
935	115.96	76.46	2.28	12.20	5.99	-0.0244	-0.0059	-0.0033	-0.0045
936	115.96	76.46	2.17	12.13	5.71	0.0026	-0.0082	-0.0069	-0.0092
937	115.96	76.46	2.18	12.08	5.74	-0.0051	-0.0103	-0.0098	-0.0118
938	115.96	76.46	2.16	12.15	5.68	0.0025	-0.0119	-0.0117	-0.0121

T1	SON	GAM	RHO	CAL	RHOV	REF	P30	P40	P50
939	115.96	76.46	2.17	12.06	5.71	-0.0022	-0.0129	-0.0123	-0.0107
940	115.96	76.46	2.16	11.98	5.68	-0.0025	-0.0133	-0.0119	-0.0085
941	115.96	76.46	2.15	10.39	5.66	0.0020	-0.0131	-0.0106	-0.0062
942	115.96	76.46	2.16	10.35	5.68	0.0005	-0.0123	-0.0088	-0.0041
943	115.96	76.46	2.16	10.35	5.68	-0.0108	-0.0110	-0.0066	-0.0025
944	115.96	-999.25	2.12	10.28	5.56	0.0000	-0.0094	-0.0044	-0.0012

Verification listing of '/export/dcsdata/working/solovyov/GEOPHYSICS/SOLE\_2/SEGY\_to\_SGG/Surface\_Hydrophone.sgy'

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File 1 :  
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EBCDIC Header - 3200 bytes:  
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C1 CLIENT NAME: OMV Australia Pty Ltd. CONTRACTOR NAME: Schlumberger SURVEY DATE  
C2 AREA NAME: Permit VIC/RL3 WELL NAME: Sole-2 RIG NAME AND TYPE: Oc  
C3 VSP SURVEY TYPE/DESCRIPTION: Zero Offset RUN NO:  
C4 TAPE FORMAT: SEGY RECORDING FORMAT: DLIS MEASUREMENT SYSTE  
C5 UTM WELL COORD: EASTING: 676 059.05 m NORTHING: 5 780 595.42 m  
C6 UTM ORIGIN: PERMANENT DATUM:  
C7 VSP LOG DATUM: D.F. KB ELEVATION ABOVE MSL: 25 m  
C8  
C9  
C10 NAVIGATION SYSTEM: CONTRACTOR:  
C11 DEVIATION DATA: CONTRACTOR:  
C12 OFFSET FROM WELL HEAD: SOURCE: 56 m SOURCE MONITOR: 56 m  
C13 AZIMUTH FROM WELL HEAD: SOURCE: 12 Deg SOURCE MONITOR: 12 Deg  
C14 ELEVATION: SOURCE: 5 m below sea level SOURCE MONITOR: 3 m below sea level  
C15 SOURCE TYPE: G-gun QUANTITY: 2  
C16 FIRING PRESSURE: 2000 psi SUSPENSION:  
C17 SOURCE MONITOR TYPE: SUSPENSION:  
C18 DOWNHOLE SENSOR TYPE: (GEOPHONE/ACCELROMETER) GAC  
C19 RECORDING FILTER: LO CUT: HIGH CUT:  
C20  
C21 PROCESSING HISTOR, PROCESSING CONTRACTOR, NO. FILES ON TAPE  
C22 DESCRIPTION OF FILES, FILE CONTENT,  
C23  
C24  
C25  
C26  
C27  
C29  
C30  
C31  
C32  
C33  
C34  
C35  
C36  
C37

C38 GEODETIC DATUM:                    PROJECTION:                    CENTRAL MERIDIAN:  
 C39 SPHERIOD:                            ORIGO:                    GRID ROTATION IN SECOND:  
 C40 END EBCDIC

BINARY Header - 400 bytes:

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-----
JOBID                                    :    1 -    4 : 0
LINEID                                  :    5 -    8 : -999
FILE_NO                                 :    9 -  12 : 140
NBR_DATA_TRACE                         :  13 -  14 : 1
SAMPLE_INT                              :  17 -  18 : [ us ] 1000
NSAMPLES                                :  21 -  22 : 500
DATA_CODE                               :  25 -  26 : 1
MEASUREMENT_SYSTEM                     :  55 -  56 : 1
```

TRACE HEADER - 240 bytes:

```
-----
TRC_LINE                                :    1 -    4 :
ACQ_SHOT                                :    9 -  12 :
FRAME_NO                                :  17 -  20 :
CABLE_LEN / 10000                      :  41 -  44 : [ m ]
SOURCE_X * 1                            :  73 -  76 : [ m ]
SOURCE_Y * 1                            :  77 -  80 : [ m ]
RCVR_X * 1                              :  81 -  84 : [ m ]
RCVR_Y * 1                              :  85 -  88 : [ m ]
TOFD                                    : 109 - 110 : [ ms ]
NSAMPLES                                : 115 - 116 :
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TRC_LINE	ACQ_SHOT	FRAME_NO	CABLE_LEN	SOURCE_X	SOURCE_Y	RCVR_X	RCVR_Y	TOFD	NSAMPLES
0	347	311	196.9	0.0	0.0	0.0	0.0	0	500
1	348	312	196.9	0.0	0.0	0.0	0.0	0	500
2	349	313	196.9	0.0	0.0	0.0	0.0	0	500
3	350	314	196.9	0.0	0.0	0.0	0.0	0	500
4	351	315	196.9	0.0	0.0	0.0	0.0	0	500
5	352	316	196.9	0.0	0.0	0.0	0.0	0	500
6	353	317	196.9	0.0	0.0	0.0	0.0	0	500
7	342	305	246.9	0.0	0.0	0.0	0.0	0	500
8	343	306	246.9	0.0	0.0	0.0	0.0	0	500
9	344	307	246.9	0.0	0.0	0.0	0.0	0	500
10	345	308	246.9	0.0	0.0	0.0	0.0	0	500
11	346	309	246.9	0.0	0.0	0.0	0.0	0	500
12	337	299	296.9	0.0	0.0	0.0	0.0	0	500
13	338	300	296.9	0.0	0.0	0.0	0.0	0	500



14	339	301	296.9	0.0	0.0	0.0	0.0	0	500
15	340	302	296.9	0.0	0.0	0.0	0.0	0	500
16	341	303	296.9	0.0	0.0	0.0	0.0	0	500
17	331	292	346.9	0.0	0.0	0.0	0.0	0	500
18	332	293	346.9	0.0	0.0	0.0	0.0	0	500
19	333	294	346.9	0.0	0.0	0.0	0.0	0	500
20	334	295	346.9	0.0	0.0	0.0	0.0	0	500
21	335	296	346.9	0.0	0.0	0.0	0.0	0	500
22	336	297	346.9	0.0	0.0	0.0	0.0	0	500
23	326	286	397.0	0.0	0.0	0.0	0.0	0	500
24	327	287	397.0	0.0	0.0	0.0	0.0	0	500
25	328	288	397.0	0.0	0.0	0.0	0.0	0	500
26	329	289	397.0	0.0	0.0	0.0	0.0	0	500
27	330	290	397.0	0.0	0.0	0.0	0.0	0	500
28	316	275	446.9	0.0	0.0	0.0	0.0	0	500
29	317	276	446.9	0.0	0.0	0.0	0.0	0	500
30	318	277	446.9	0.0	0.0	0.0	0.0	0	500
31	319	278	446.9	0.0	0.0	0.0	0.0	0	500
32	320	279	446.9	0.0	0.0	0.0	0.0	0	500
33	321	280	446.9	0.0	0.0	0.0	0.0	0	500
34	322	281	446.9	0.0	0.0	0.0	0.0	0	500
35	323	282	446.9	0.0	0.0	0.0	0.0	0	500
36	324	283	446.9	0.0	0.0	0.0	0.0	0	500
37	325	284	446.9	0.0	0.0	0.0	0.0	0	500
38	310	268	497.0	0.0	0.0	0.0	0.0	0	500
39	311	269	497.0	0.0	0.0	0.0	0.0	0	500
40	312	270	497.0	0.0	0.0	0.0	0.0	0	500
41	313	271	497.0	0.0	0.0	0.0	0.0	0	500
42	314	272	497.0	0.0	0.0	0.0	0.0	0	500
43	315	273	497.0	0.0	0.0	0.0	0.0	0	500
44	305	262	546.9	0.0	0.0	0.0	0.0	0	500
45	306	263	546.9	0.0	0.0	0.0	0.0	0	500
46	307	264	546.9	0.0	0.0	0.0	0.0	0	500
47	308	265	546.9	0.0	0.0	0.0	0.0	0	500
48	309	266	546.9	0.0	0.0	0.0	0.0	0	500
49	300	256	596.9	0.0	0.0	0.0	0.0	0	500
50	301	257	596.9	0.0	0.0	0.0	0.0	0	500
51	302	258	596.9	0.0	0.0	0.0	0.0	0	500
52	303	259	596.9	0.0	0.0	0.0	0.0	0	500
53	304	260	596.9	0.0	0.0	0.0	0.0	0	500
54	293	248	646.9	0.0	0.0	0.0	0.0	0	500
55	294	249	646.9	0.0	0.0	0.0	0.0	0	500
56	295	250	646.9	0.0	0.0	0.0	0.0	0	500
57	296	251	646.9	0.0	0.0	0.0	0.0	0	500

58	297	252	646.9	0.0	0.0	0.0	0.0	0	500
59	298	253	646.9	0.0	0.0	0.0	0.0	0	500
60	299	254	646.9	0.0	0.0	0.0	0.0	0	500
61	287	241	657.0	0.0	0.0	0.0	0.0	0	500
62	288	242	657.0	0.0	0.0	0.0	0.0	0	500
63	289	243	657.0	0.0	0.0	0.0	0.0	0	500
64	290	244	657.0	0.0	0.0	0.0	0.0	0	500
65	291	245	657.0	0.0	0.0	0.0	0.0	0	500
66	292	246	657.0	0.0	0.0	0.0	0.0	0	500
67	282	235	667.0	0.0	0.0	0.0	0.0	0	500
68	283	236	667.0	0.0	0.0	0.0	0.0	0	500
69	284	237	667.0	0.0	0.0	0.0	0.0	0	500
70	285	238	667.0	0.0	0.0	0.0	0.0	0	500
71	286	239	667.0	0.0	0.0	0.0	0.0	0	500
72	275	227	676.9	0.0	0.0	0.0	0.0	0	500
73	276	228	676.9	0.0	0.0	0.0	0.0	0	500
74	277	229	676.9	0.0	0.0	0.0	0.0	0	500
75	278	230	676.9	0.0	0.0	0.0	0.0	0	500
76	279	231	676.9	0.0	0.0	0.0	0.0	0	500
77	280	232	676.9	0.0	0.0	0.0	0.0	0	500
78	281	233	676.9	0.0	0.0	0.0	0.0	0	500
79	269	220	687.0	0.0	0.0	0.0	0.0	0	500
80	270	221	687.0	0.0	0.0	0.0	0.0	0	500
81	271	222	687.0	0.0	0.0	0.0	0.0	0	500
82	272	223	687.0	0.0	0.0	0.0	0.0	0	500
83	273	224	687.0	0.0	0.0	0.0	0.0	0	500
84	274	225	687.0	0.0	0.0	0.0	0.0	0	500
85	262	212	696.9	0.0	0.0	0.0	0.0	0	500
86	263	213	696.9	0.0	0.0	0.0	0.0	0	500
87	264	214	696.9	0.0	0.0	0.0	0.0	0	500
88	265	215	696.9	0.0	0.0	0.0	0.0	0	500
89	266	216	696.9	0.0	0.0	0.0	0.0	0	500
90	267	217	696.9	0.0	0.0	0.0	0.0	0	500
91	268	218	696.9	0.0	0.0	0.0	0.0	0	500
92	257	206	707.0	0.0	0.0	0.0	0.0	0	500
93	258	207	707.0	0.0	0.0	0.0	0.0	0	500
94	259	208	707.0	0.0	0.0	0.0	0.0	0	500
95	260	209	707.0	0.0	0.0	0.0	0.0	0	500
96	261	210	707.0	0.0	0.0	0.0	0.0	0	500
97	252	200	716.9	0.0	0.0	0.0	0.0	0	500
98	253	201	716.9	0.0	0.0	0.0	0.0	0	500
99	254	202	716.9	0.0	0.0	0.0	0.0	0	500
100	255	203	716.9	0.0	0.0	0.0	0.0	0	500
101	256	204	716.9	0.0	0.0	0.0	0.0	0	500

102	247	194	727.0	0.0	0.0	0.0	0.0	0	500
103	248	195	727.0	0.0	0.0	0.0	0.0	0	500
104	249	196	727.0	0.0	0.0	0.0	0.0	0	500
105	250	197	727.0	0.0	0.0	0.0	0.0	0	500
106	251	198	727.0	0.0	0.0	0.0	0.0	0	500
107	242	188	736.9	0.0	0.0	0.0	0.0	0	500
108	243	189	736.9	0.0	0.0	0.0	0.0	0	500
109	244	190	736.9	0.0	0.0	0.0	0.0	0	500
110	245	191	736.9	0.0	0.0	0.0	0.0	0	500
111	246	192	736.9	0.0	0.0	0.0	0.0	0	500
112	233	178	747.0	0.0	0.0	0.0	0.0	0	500
113	234	179	747.0	0.0	0.0	0.0	0.0	0	500
114	235	180	747.0	0.0	0.0	0.0	0.0	0	500
115	236	181	747.0	0.0	0.0	0.0	0.0	0	500
116	237	182	747.0	0.0	0.0	0.0	0.0	0	500
117	238	183	747.0	0.0	0.0	0.0	0.0	0	500
118	239	184	747.0	0.0	0.0	0.0	0.0	0	500
119	240	185	747.0	0.0	0.0	0.0	0.0	0	500
120	241	186	747.0	0.0	0.0	0.0	0.0	0	500
121	224	168	756.9	0.0	0.0	0.0	0.0	0	500
122	225	169	756.9	0.0	0.0	0.0	0.0	0	500
123	226	170	756.9	0.0	0.0	0.0	0.0	0	500
124	227	171	756.9	0.0	0.0	0.0	0.0	0	500
125	228	172	756.9	0.0	0.0	0.0	0.0	0	500
126	229	173	756.9	0.0	0.0	0.0	0.0	0	500
127	230	174	756.9	0.0	0.0	0.0	0.0	0	500
128	231	175	756.9	0.0	0.0	0.0	0.0	0	500
129	232	176	756.9	0.0	0.0	0.0	0.0	0	500
130	219	162	767.0	0.0	0.0	0.0	0.0	0	500
131	220	163	767.0	0.0	0.0	0.0	0.0	0	500
132	221	164	767.0	0.0	0.0	0.0	0.0	0	500
133	222	165	767.0	0.0	0.0	0.0	0.0	0	500
134	223	166	767.0	0.0	0.0	0.0	0.0	0	500
135	211	153	770.0	0.0	0.0	0.0	0.0	0	500
136	212	154	770.0	0.0	0.0	0.0	0.0	0	500
137	213	155	770.0	0.0	0.0	0.0	0.0	0	500
138	214	156	770.0	0.0	0.0	0.0	0.0	0	500
139	215	157	770.0	0.0	0.0	0.0	0.0	0	500
140	216	158	770.0	0.0	0.0	0.0	0.0	0	500
141	217	159	770.0	0.0	0.0	0.0	0.0	0	500
142	218	160	770.0	0.0	0.0	0.0	0.0	0	500
143	203	144	776.9	0.0	0.0	0.0	0.0	0	500
144	204	145	776.9	0.0	0.0	0.0	0.0	0	500
145	205	146	776.9	0.0	0.0	0.0	0.0	0	500

146	206	147	776.9	0.0	0.0	0.0	0.0	0	500
147	207	148	776.9	0.0	0.0	0.0	0.0	0	500
148	208	149	776.9	0.0	0.0	0.0	0.0	0	500
149	209	150	776.9	0.0	0.0	0.0	0.0	0	500
150	210	151	776.9	0.0	0.0	0.0	0.0	0	500
151	196	136	787.0	0.0	0.0	0.0	0.0	0	500
152	197	137	787.0	0.0	0.0	0.0	0.0	0	500
153	198	138	787.0	0.0	0.0	0.0	0.0	0	500
154	199	139	787.0	0.0	0.0	0.0	0.0	0	500
155	200	140	787.0	0.0	0.0	0.0	0.0	0	500
156	201	141	787.0	0.0	0.0	0.0	0.0	0	500
157	202	142	787.0	0.0	0.0	0.0	0.0	0	500
158	187	126	811.0	0.0	0.0	0.0	0.0	0	500
159	188	127	811.0	0.0	0.0	0.0	0.0	0	500
160	189	128	811.0	0.0	0.0	0.0	0.0	0	500
161	190	129	811.0	0.0	0.0	0.0	0.0	0	500
162	191	130	811.0	0.0	0.0	0.0	0.0	0	500
163	192	131	811.0	0.0	0.0	0.0	0.0	0	500
164	193	132	811.0	0.0	0.0	0.0	0.0	0	500
165	194	133	811.0	0.0	0.0	0.0	0.0	0	500
166	195	134	811.0	0.0	0.0	0.0	0.0	0	500
167	182	120	850.0	0.0	0.0	0.0	0.0	0	500
168	183	121	850.0	0.0	0.0	0.0	0.0	0	500
169	184	122	850.0	0.0	0.0	0.0	0.0	0	500
170	185	123	850.0	0.0	0.0	0.0	0.0	0	500
171	186	124	850.0	0.0	0.0	0.0	0.0	0	500
172	174	111	857.0	0.0	0.0	0.0	0.0	0	500
173	175	112	857.0	0.0	0.0	0.0	0.0	0	500
174	176	113	857.0	0.0	0.0	0.0	0.0	0	500
175	177	114	857.0	0.0	0.0	0.0	0.0	0	500
176	178	115	857.0	0.0	0.0	0.0	0.0	0	500
177	179	116	857.0	0.0	0.0	0.0	0.0	0	500
178	180	117	857.0	0.0	0.0	0.0	0.0	0	500
179	181	118	857.0	0.0	0.0	0.0	0.0	0	500
180	169	105	867.0	0.0	0.0	0.0	0.0	0	500
181	170	106	867.0	0.0	0.0	0.0	0.0	0	500
182	171	107	867.0	0.0	0.0	0.0	0.0	0	500
183	172	108	867.0	0.0	0.0	0.0	0.0	0	500
184	173	109	867.0	0.0	0.0	0.0	0.0	0	500
185	164	99	877.0	0.0	0.0	0.0	0.0	0	500
186	165	100	877.0	0.0	0.0	0.0	0.0	0	500
187	166	101	877.0	0.0	0.0	0.0	0.0	0	500
188	167	102	877.0	0.0	0.0	0.0	0.0	0	500
189	168	103	877.0	0.0	0.0	0.0	0.0	0	500

190	159	93	887.0	0.0	0.0	0.0	0.0	0	500
191	160	94	887.0	0.0	0.0	0.0	0.0	0	500
192	161	95	887.0	0.0	0.0	0.0	0.0	0	500
193	162	96	887.0	0.0	0.0	0.0	0.0	0	500
194	163	97	887.0	0.0	0.0	0.0	0.0	0	500
195	150	83	897.0	0.0	0.0	0.0	0.0	0	500
196	151	84	897.0	0.0	0.0	0.0	0.0	0	500
197	152	85	897.0	0.0	0.0	0.0	0.0	0	500
198	153	86	897.0	0.0	0.0	0.0	0.0	0	500
199	154	87	897.0	0.0	0.0	0.0	0.0	0	500
200	155	88	897.0	0.0	0.0	0.0	0.0	0	500
201	156	89	897.0	0.0	0.0	0.0	0.0	0	500
202	157	90	897.0	0.0	0.0	0.0	0.0	0	500
203	158	91	897.0	0.0	0.0	0.0	0.0	0	500
204	142	74	906.9	0.0	0.0	0.0	0.0	0	500
205	143	75	906.9	0.0	0.0	0.0	0.0	0	500
206	144	76	906.9	0.0	0.0	0.0	0.0	0	500
207	145	77	906.9	0.0	0.0	0.0	0.0	0	500
208	146	78	906.9	0.0	0.0	0.0	0.0	0	500
209	147	79	906.9	0.0	0.0	0.0	0.0	0	500
210	148	80	906.9	0.0	0.0	0.0	0.0	0	500
211	149	81	906.9	0.0	0.0	0.0	0.0	0	500
212	135	66	917.0	0.0	0.0	0.0	0.0	0	500
213	136	67	917.0	0.0	0.0	0.0	0.0	0	500
214	137	68	917.0	0.0	0.0	0.0	0.0	0	500
215	138	69	917.0	0.0	0.0	0.0	0.0	0	500
216	139	70	917.0	0.0	0.0	0.0	0.0	0	500
217	140	71	917.0	0.0	0.0	0.0	0.0	0	500
218	141	72	917.0	0.0	0.0	0.0	0.0	0	500
219	129	59	927.0	0.0	0.0	0.0	0.0	0	500
220	130	60	927.0	0.0	0.0	0.0	0.0	0	500
221	131	61	927.0	0.0	0.0	0.0	0.0	0	500
222	132	62	927.0	0.0	0.0	0.0	0.0	0	500
223	133	63	927.0	0.0	0.0	0.0	0.0	0	500
224	134	64	927.0	0.0	0.0	0.0	0.0	0	500
225	122	51	937.0	0.0	0.0	0.0	0.0	0	500
226	123	52	937.0	0.0	0.0	0.0	0.0	0	500
227	124	53	937.0	0.0	0.0	0.0	0.0	0	500
228	125	54	937.0	0.0	0.0	0.0	0.0	0	500
229	126	55	937.0	0.0	0.0	0.0	0.0	0	500
230	127	56	937.0	0.0	0.0	0.0	0.0	0	500
231	128	57	937.0	0.0	0.0	0.0	0.0	0	500
232	117	45	944.5	0.0	0.0	0.0	0.0	0	500
233	118	46	944.5	0.0	0.0	0.0	0.0	0	500

234	119	47	944.5	0.0	0.0	0.0	0.0	0	500
235	120	48	944.5	0.0	0.0	0.0	0.0	0	500
236	121	49	944.5	0.0	0.0	0.0	0.0	0	500
237	111	38	947.0	0.0	0.0	0.0	0.0	0	500
238	112	39	947.0	0.0	0.0	0.0	0.0	0	500
239	113	40	947.0	0.0	0.0	0.0	0.0	0	500
240	114	41	947.0	0.0	0.0	0.0	0.0	0	500
241	115	42	947.0	0.0	0.0	0.0	0.0	0	500
242	116	43	947.0	0.0	0.0	0.0	0.0	0	500
243	106	32	957.0	0.0	0.0	0.0	0.0	0	500
244	107	33	957.0	0.0	0.0	0.0	0.0	0	500
245	108	34	957.0	0.0	0.0	0.0	0.0	0	500
246	109	35	957.0	0.0	0.0	0.0	0.0	0	500
247	110	36	957.0	0.0	0.0	0.0	0.0	0	500
248	98	23	967.0	0.0	0.0	0.0	0.0	0	500
249	99	24	967.0	0.0	0.0	0.0	0.0	0	500
250	100	25	967.0	0.0	0.0	0.0	0.0	0	500
251	101	26	967.0	0.0	0.0	0.0	0.0	0	500
252	102	27	967.0	0.0	0.0	0.0	0.0	0	500
253	103	28	967.0	0.0	0.0	0.0	0.0	0	500
254	104	29	967.0	0.0	0.0	0.0	0.0	0	500
255	105	30	967.0	0.0	0.0	0.0	0.0	0	500
256	91	15	977.0	0.0	0.0	0.0	0.0	0	500
257	92	16	977.0	0.0	0.0	0.0	0.0	0	500
258	93	17	977.0	0.0	0.0	0.0	0.0	0	500
259	94	18	977.0	0.0	0.0	0.0	0.0	0	500
260	95	19	977.0	0.0	0.0	0.0	0.0	0	500
261	96	20	977.0	0.0	0.0	0.0	0.0	0	500
262	97	21	977.0	0.0	0.0	0.0	0.0	0	500
263	85	8	986.9	0.0	0.0	0.0	0.0	0	500
264	86	9	986.9	0.0	0.0	0.0	0.0	0	500
265	87	10	986.9	0.0	0.0	0.0	0.0	0	500
266	88	11	986.9	0.0	0.0	0.0	0.0	0	500
267	89	12	986.9	0.0	0.0	0.0	0.0	0	500
268	90	13	986.9	0.0	0.0	0.0	0.0	0	500
269	79	1	997.0	0.0	0.0	0.0	0.0	0	500
270	80	2	997.0	0.0	0.0	0.0	0.0	0	500
271	81	3	997.0	0.0	0.0	0.0	0.0	0	500
272	82	4	997.0	0.0	0.0	0.0	0.0	0	500
273	83	5	997.0	0.0	0.0	0.0	0.0	0	500
274	84	6	997.0	0.0	0.0	0.0	0.0	0	500

Verification listing of '/export/dcsdata/working/solovyov/GEOPHYSICS/SOLE\_2/SEGY\_to\_SGG/Z\_Geophone.sgy'

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File 1 :  
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EBCDIC Header - 3200 bytes:  
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C1 CLIENT NAME: OMV Australia Pty Ltd. CONTRACTOR NAME: Schlumberger SURVEY DATE  
C2 AREA NAME: Permit VIC/RL3 WELL NAME: Sole-2 RIG NAME AND TYPE: Oc  
C3 VSP SURVEY TYPE/DESCRIPTION: Zero Offset RUN NO:  
C4 TAPE FORMAT: SEGY RECORDING FORMAT: DLIS MEASUREMENT SYSTEM  
C5 UTM WELL COORD: EASTING: 676 059.05 m NORTHING: 5 780 595.42 m  
C6 UTM ORIGIN: PERMANENT DATUM:  
C7 VSP LOG DATUM: D.F. KB ELEVATION ABOVE MSL: 25 m  
C8  
C9  
C10 NAVIGATION SYSTEM: CONTRACTOR:  
C11 DEVIATION DATA: CONTRACTOR:  
C12 OFFSET FROM WELL HEAD: SOURCE: 56 m SOURCE MONITOR: 56 m  
C13 AZIMUTH FROM WELL HEAD: SOURCE: 12 Deg SOURCE MONITOR: 12 Deg  
C14 ELEVATION: SOURCE: 5 m below sea level SOURCE MONITOR: 3 m below sea level  
C15 SOURCE TYPE: G-gun QUANTITY: 2  
C16 FIRING PRESSURE: 2000 psi SUSPENSION:  
C17 SOURCE MONITOR TYPE: SUSPENSION:  
C18 DOWNHOLE SENSOR TYPE: (GEOPHONE/ACCELEROMETER) GAC  
C19 RECORDING FILTER: LO CUT: HIGH CUT:  
C20  
C21 PROCESSING HISTOR, PROCESSING CONTRACTOR, NO. FILES ON TAPE  
C22 DESCRIPTION OF FILES, FILE CONTENT,  
C23  
C24  
C25  
C26  
C27  
C29  
C30  
C31  
C32  
C33  
C34

C35  
 C36  
 C37  
 C38 GEODETIC DATUM:                    PROJECTION:                    CENTRAL MERIDIAN:  
 C39 SPHERIOD:                            ORIGO:                    GRID ROTATION IN SECOND:  
 C40 END EBCDIC

BINARY Header - 400 bytes:

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JOBID                                    :    1 -    4 : 0
LINEID                                  :    5 -    8 : -999
FILE_NO                                 :    9 -  12 : 140
NBR_DATA_TRACE                         :  13 -  14 : 1
SAMPLE_INT                              :  17 -  18 : [ us ] 1000
NSAMPLES                                :  21 -  22 : 6000
DATA_CODE                               :  25 -  26 : 1
MEASUREMENT_SYSTEM                     :  55 -  56 : 1
  
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TRACE HEADER - 240 bytes:

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TRC_LINE                                :    1 -    4 :
ACQ_SHOT                                :    9 -  12 :
FRAME_NO                                :  17 -  20 :
CABLE_LEN / 10000                       :  41 -  44 : [ m ]
SOURCE_X * 1                            :  73 -  76 : [ m ]
SOURCE_Y * 1                            :  77 -  80 : [ m ]
RCVR_X * 1                              :  81 -  84 : [ m ]
RCVR_Y * 1                              :  85 -  88 : [ m ]
TOFD                                    : 109 - 110 : [ ms ]
NSAMPLES                                : 115 - 116 :
  
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TRC_LINE	ACQ_SHOT	FRAME_NO	CABLE_LEN	SOURCE_X	SOURCE_Y	RCVR_X	RCVR_Y	TOFD	NSAMPLES
0	347	311	196.9	0.0	0.0	0.0	0.0	0	6000
1	348	312	196.9	0.0	0.0	0.0	0.0	0	6000
2	349	313	196.9	0.0	0.0	0.0	0.0	0	6000
3	350	314	196.9	0.0	0.0	0.0	0.0	0	6000
4	351	315	196.9	0.0	0.0	0.0	0.0	0	6000
5	352	316	196.9	0.0	0.0	0.0	0.0	0	6000
6	353	317	196.9	0.0	0.0	0.0	0.0	0	6000
7	342	305	246.9	0.0	0.0	0.0	0.0	0	6000



8	343	306	246.9	0.0	0.0	0.0	0.0	0	6000
9	344	307	246.9	0.0	0.0	0.0	0.0	0	6000
10	345	308	246.9	0.0	0.0	0.0	0.0	0	6000
11	346	309	246.9	0.0	0.0	0.0	0.0	0	6000
12	337	299	296.9	0.0	0.0	0.0	0.0	0	6000
13	338	300	296.9	0.0	0.0	0.0	0.0	0	6000
14	339	301	296.9	0.0	0.0	0.0	0.0	0	6000
15	340	302	296.9	0.0	0.0	0.0	0.0	0	6000
16	341	303	296.9	0.0	0.0	0.0	0.0	0	6000
17	331	292	346.9	0.0	0.0	0.0	0.0	0	6000
18	332	293	346.9	0.0	0.0	0.0	0.0	0	6000
19	333	294	346.9	0.0	0.0	0.0	0.0	0	6000
20	334	295	346.9	0.0	0.0	0.0	0.0	0	6000
21	335	296	346.9	0.0	0.0	0.0	0.0	0	6000
22	336	297	346.9	0.0	0.0	0.0	0.0	0	6000
23	326	286	397.0	0.0	0.0	0.0	0.0	0	6000
24	327	287	397.0	0.0	0.0	0.0	0.0	0	6000
25	328	288	397.0	0.0	0.0	0.0	0.0	0	6000
26	329	289	397.0	0.0	0.0	0.0	0.0	0	6000
27	330	290	397.0	0.0	0.0	0.0	0.0	0	6000
28	316	275	446.9	0.0	0.0	0.0	0.0	0	6000
29	317	276	446.9	0.0	0.0	0.0	0.0	0	6000
30	318	277	446.9	0.0	0.0	0.0	0.0	0	6000
31	319	278	446.9	0.0	0.0	0.0	0.0	0	6000
32	320	279	446.9	0.0	0.0	0.0	0.0	0	6000
33	321	280	446.9	0.0	0.0	0.0	0.0	0	6000
34	322	281	446.9	0.0	0.0	0.0	0.0	0	6000
35	323	282	446.9	0.0	0.0	0.0	0.0	0	6000
36	324	283	446.9	0.0	0.0	0.0	0.0	0	6000
37	325	284	446.9	0.0	0.0	0.0	0.0	0	6000
38	310	268	497.0	0.0	0.0	0.0	0.0	0	6000
39	311	269	497.0	0.0	0.0	0.0	0.0	0	6000
40	312	270	497.0	0.0	0.0	0.0	0.0	0	6000
41	313	271	497.0	0.0	0.0	0.0	0.0	0	6000
42	314	272	497.0	0.0	0.0	0.0	0.0	0	6000
43	315	273	497.0	0.0	0.0	0.0	0.0	0	6000
44	305	262	546.9	0.0	0.0	0.0	0.0	0	6000
45	306	263	546.9	0.0	0.0	0.0	0.0	0	6000
46	307	264	546.9	0.0	0.0	0.0	0.0	0	6000
47	308	265	546.9	0.0	0.0	0.0	0.0	0	6000
48	309	266	546.9	0.0	0.0	0.0	0.0	0	6000

49	300	256	596.9	0.0	0.0	0.0	0.0	0	6000
50	301	257	596.9	0.0	0.0	0.0	0.0	0	6000
51	302	258	596.9	0.0	0.0	0.0	0.0	0	6000
52	303	259	596.9	0.0	0.0	0.0	0.0	0	6000
53	304	260	596.9	0.0	0.0	0.0	0.0	0	6000
54	293	248	646.9	0.0	0.0	0.0	0.0	0	6000
55	294	249	646.9	0.0	0.0	0.0	0.0	0	6000
56	295	250	646.9	0.0	0.0	0.0	0.0	0	6000
57	296	251	646.9	0.0	0.0	0.0	0.0	0	6000
58	297	252	646.9	0.0	0.0	0.0	0.0	0	6000
59	298	253	646.9	0.0	0.0	0.0	0.0	0	6000
60	299	254	646.9	0.0	0.0	0.0	0.0	0	6000
61	287	241	657.0	0.0	0.0	0.0	0.0	0	6000
62	288	242	657.0	0.0	0.0	0.0	0.0	0	6000
63	289	243	657.0	0.0	0.0	0.0	0.0	0	6000
64	290	244	657.0	0.0	0.0	0.0	0.0	0	6000
65	291	245	657.0	0.0	0.0	0.0	0.0	0	6000
66	292	246	657.0	0.0	0.0	0.0	0.0	0	6000
67	282	235	667.0	0.0	0.0	0.0	0.0	0	6000
68	283	236	667.0	0.0	0.0	0.0	0.0	0	6000
69	284	237	667.0	0.0	0.0	0.0	0.0	0	6000
70	285	238	667.0	0.0	0.0	0.0	0.0	0	6000
71	286	239	667.0	0.0	0.0	0.0	0.0	0	6000
72	275	227	676.9	0.0	0.0	0.0	0.0	0	6000
73	276	228	676.9	0.0	0.0	0.0	0.0	0	6000
74	277	229	676.9	0.0	0.0	0.0	0.0	0	6000
75	278	230	676.9	0.0	0.0	0.0	0.0	0	6000
76	279	231	676.9	0.0	0.0	0.0	0.0	0	6000
77	280	232	676.9	0.0	0.0	0.0	0.0	0	6000
78	281	233	676.9	0.0	0.0	0.0	0.0	0	6000
79	269	220	687.0	0.0	0.0	0.0	0.0	0	6000
80	270	221	687.0	0.0	0.0	0.0	0.0	0	6000
81	271	222	687.0	0.0	0.0	0.0	0.0	0	6000
82	272	223	687.0	0.0	0.0	0.0	0.0	0	6000
83	273	224	687.0	0.0	0.0	0.0	0.0	0	6000
84	274	225	687.0	0.0	0.0	0.0	0.0	0	6000
85	262	212	696.9	0.0	0.0	0.0	0.0	0	6000
86	263	213	696.9	0.0	0.0	0.0	0.0	0	6000
87	264	214	696.9	0.0	0.0	0.0	0.0	0	6000
88	265	215	696.9	0.0	0.0	0.0	0.0	0	6000
89	266	216	696.9	0.0	0.0	0.0	0.0	0	6000

90	267	217	696.9	0.0	0.0	0.0	0.0	0	6000
91	268	218	696.9	0.0	0.0	0.0	0.0	0	6000
92	257	206	707.0	0.0	0.0	0.0	0.0	0	6000
93	258	207	707.0	0.0	0.0	0.0	0.0	0	6000
94	259	208	707.0	0.0	0.0	0.0	0.0	0	6000
95	260	209	707.0	0.0	0.0	0.0	0.0	0	6000
96	261	210	707.0	0.0	0.0	0.0	0.0	0	6000
97	252	200	716.9	0.0	0.0	0.0	0.0	0	6000
98	253	201	716.9	0.0	0.0	0.0	0.0	0	6000
99	254	202	716.9	0.0	0.0	0.0	0.0	0	6000
100	255	203	716.9	0.0	0.0	0.0	0.0	0	6000
101	256	204	716.9	0.0	0.0	0.0	0.0	0	6000
102	247	194	727.0	0.0	0.0	0.0	0.0	0	6000
103	248	195	727.0	0.0	0.0	0.0	0.0	0	6000
104	249	196	727.0	0.0	0.0	0.0	0.0	0	6000
105	250	197	727.0	0.0	0.0	0.0	0.0	0	6000
106	251	198	727.0	0.0	0.0	0.0	0.0	0	6000
107	242	188	736.9	0.0	0.0	0.0	0.0	0	6000
108	243	189	736.9	0.0	0.0	0.0	0.0	0	6000
109	244	190	736.9	0.0	0.0	0.0	0.0	0	6000
110	245	191	736.9	0.0	0.0	0.0	0.0	0	6000
111	246	192	736.9	0.0	0.0	0.0	0.0	0	6000
112	233	178	747.0	0.0	0.0	0.0	0.0	0	6000
113	234	179	747.0	0.0	0.0	0.0	0.0	0	6000
114	235	180	747.0	0.0	0.0	0.0	0.0	0	6000
115	236	181	747.0	0.0	0.0	0.0	0.0	0	6000
116	237	182	747.0	0.0	0.0	0.0	0.0	0	6000
117	238	183	747.0	0.0	0.0	0.0	0.0	0	6000
118	239	184	747.0	0.0	0.0	0.0	0.0	0	6000
119	240	185	747.0	0.0	0.0	0.0	0.0	0	6000
120	241	186	747.0	0.0	0.0	0.0	0.0	0	6000
121	224	168	756.9	0.0	0.0	0.0	0.0	0	6000
122	225	169	756.9	0.0	0.0	0.0	0.0	0	6000
123	226	170	756.9	0.0	0.0	0.0	0.0	0	6000
124	227	171	756.9	0.0	0.0	0.0	0.0	0	6000
125	228	172	756.9	0.0	0.0	0.0	0.0	0	6000
126	229	173	756.9	0.0	0.0	0.0	0.0	0	6000
127	230	174	756.9	0.0	0.0	0.0	0.0	0	6000
128	231	175	756.9	0.0	0.0	0.0	0.0	0	6000
129	232	176	756.9	0.0	0.0	0.0	0.0	0	6000
130	219	162	767.0	0.0	0.0	0.0	0.0	0	6000

131	220	163	767.0	0.0	0.0	0.0	0.0	0	6000
132	221	164	767.0	0.0	0.0	0.0	0.0	0	6000
133	222	165	767.0	0.0	0.0	0.0	0.0	0	6000
134	223	166	767.0	0.0	0.0	0.0	0.0	0	6000
135	211	153	770.0	0.0	0.0	0.0	0.0	0	6000
136	212	154	770.0	0.0	0.0	0.0	0.0	0	6000
137	213	155	770.0	0.0	0.0	0.0	0.0	0	6000
138	214	156	770.0	0.0	0.0	0.0	0.0	0	6000
139	215	157	770.0	0.0	0.0	0.0	0.0	0	6000
140	216	158	770.0	0.0	0.0	0.0	0.0	0	6000
141	217	159	770.0	0.0	0.0	0.0	0.0	0	6000
142	218	160	770.0	0.0	0.0	0.0	0.0	0	6000
143	203	144	776.9	0.0	0.0	0.0	0.0	0	6000
144	204	145	776.9	0.0	0.0	0.0	0.0	0	6000
145	205	146	776.9	0.0	0.0	0.0	0.0	0	6000
146	206	147	776.9	0.0	0.0	0.0	0.0	0	6000
147	207	148	776.9	0.0	0.0	0.0	0.0	0	6000
148	208	149	776.9	0.0	0.0	0.0	0.0	0	6000
149	209	150	776.9	0.0	0.0	0.0	0.0	0	6000
150	210	151	776.9	0.0	0.0	0.0	0.0	0	6000
151	196	136	787.0	0.0	0.0	0.0	0.0	0	6000
152	197	137	787.0	0.0	0.0	0.0	0.0	0	6000
153	198	138	787.0	0.0	0.0	0.0	0.0	0	6000
154	199	139	787.0	0.0	0.0	0.0	0.0	0	6000
155	200	140	787.0	0.0	0.0	0.0	0.0	0	6000
156	201	141	787.0	0.0	0.0	0.0	0.0	0	6000
157	202	142	787.0	0.0	0.0	0.0	0.0	0	6000
158	187	126	811.0	0.0	0.0	0.0	0.0	0	6000
159	188	127	811.0	0.0	0.0	0.0	0.0	0	6000
160	189	128	811.0	0.0	0.0	0.0	0.0	0	6000
161	190	129	811.0	0.0	0.0	0.0	0.0	0	6000
162	191	130	811.0	0.0	0.0	0.0	0.0	0	6000
163	192	131	811.0	0.0	0.0	0.0	0.0	0	6000
164	193	132	811.0	0.0	0.0	0.0	0.0	0	6000
165	194	133	811.0	0.0	0.0	0.0	0.0	0	6000
166	195	134	811.0	0.0	0.0	0.0	0.0	0	6000
167	182	120	850.0	0.0	0.0	0.0	0.0	0	6000
168	183	121	850.0	0.0	0.0	0.0	0.0	0	6000
169	184	122	850.0	0.0	0.0	0.0	0.0	0	6000
170	185	123	850.0	0.0	0.0	0.0	0.0	0	6000
171	186	124	850.0	0.0	0.0	0.0	0.0	0	6000

172	174	111	857.0	0.0	0.0	0.0	0.0	0	6000
173	175	112	857.0	0.0	0.0	0.0	0.0	0	6000
174	176	113	857.0	0.0	0.0	0.0	0.0	0	6000
175	177	114	857.0	0.0	0.0	0.0	0.0	0	6000
176	178	115	857.0	0.0	0.0	0.0	0.0	0	6000
177	179	116	857.0	0.0	0.0	0.0	0.0	0	6000
178	180	117	857.0	0.0	0.0	0.0	0.0	0	6000
179	181	118	857.0	0.0	0.0	0.0	0.0	0	6000
180	169	105	867.0	0.0	0.0	0.0	0.0	0	6000
181	170	106	867.0	0.0	0.0	0.0	0.0	0	6000
182	171	107	867.0	0.0	0.0	0.0	0.0	0	6000
183	172	108	867.0	0.0	0.0	0.0	0.0	0	6000
184	173	109	867.0	0.0	0.0	0.0	0.0	0	6000
185	164	99	877.0	0.0	0.0	0.0	0.0	0	6000
186	165	100	877.0	0.0	0.0	0.0	0.0	0	6000
187	166	101	877.0	0.0	0.0	0.0	0.0	0	6000
188	167	102	877.0	0.0	0.0	0.0	0.0	0	6000
189	168	103	877.0	0.0	0.0	0.0	0.0	0	6000
190	159	93	887.0	0.0	0.0	0.0	0.0	0	6000
191	160	94	887.0	0.0	0.0	0.0	0.0	0	6000
192	161	95	887.0	0.0	0.0	0.0	0.0	0	6000
193	162	96	887.0	0.0	0.0	0.0	0.0	0	6000
194	163	97	887.0	0.0	0.0	0.0	0.0	0	6000
195	150	83	897.0	0.0	0.0	0.0	0.0	0	6000
196	151	84	897.0	0.0	0.0	0.0	0.0	0	6000
197	152	85	897.0	0.0	0.0	0.0	0.0	0	6000
198	153	86	897.0	0.0	0.0	0.0	0.0	0	6000
199	154	87	897.0	0.0	0.0	0.0	0.0	0	6000
200	155	88	897.0	0.0	0.0	0.0	0.0	0	6000
201	156	89	897.0	0.0	0.0	0.0	0.0	0	6000
202	157	90	897.0	0.0	0.0	0.0	0.0	0	6000
203	158	91	897.0	0.0	0.0	0.0	0.0	0	6000
204	142	74	906.9	0.0	0.0	0.0	0.0	0	6000
205	143	75	906.9	0.0	0.0	0.0	0.0	0	6000
206	144	76	906.9	0.0	0.0	0.0	0.0	0	6000
207	145	77	906.9	0.0	0.0	0.0	0.0	0	6000
208	146	78	906.9	0.0	0.0	0.0	0.0	0	6000
209	147	79	906.9	0.0	0.0	0.0	0.0	0	6000
210	148	80	906.9	0.0	0.0	0.0	0.0	0	6000
211	149	81	906.9	0.0	0.0	0.0	0.0	0	6000
212	135	66	917.0	0.0	0.0	0.0	0.0	0	6000

213	136	67	917.0	0.0	0.0	0.0	0.0	0	6000
214	137	68	917.0	0.0	0.0	0.0	0.0	0	6000
215	138	69	917.0	0.0	0.0	0.0	0.0	0	6000
216	139	70	917.0	0.0	0.0	0.0	0.0	0	6000
217	140	71	917.0	0.0	0.0	0.0	0.0	0	6000
218	141	72	917.0	0.0	0.0	0.0	0.0	0	6000
219	129	59	927.0	0.0	0.0	0.0	0.0	0	6000
220	130	60	927.0	0.0	0.0	0.0	0.0	0	6000
221	131	61	927.0	0.0	0.0	0.0	0.0	0	6000
222	132	62	927.0	0.0	0.0	0.0	0.0	0	6000
223	133	63	927.0	0.0	0.0	0.0	0.0	0	6000
224	134	64	927.0	0.0	0.0	0.0	0.0	0	6000
225	122	51	937.0	0.0	0.0	0.0	0.0	0	6000
226	123	52	937.0	0.0	0.0	0.0	0.0	0	6000
227	124	53	937.0	0.0	0.0	0.0	0.0	0	6000
228	125	54	937.0	0.0	0.0	0.0	0.0	0	6000
229	126	55	937.0	0.0	0.0	0.0	0.0	0	6000
230	127	56	937.0	0.0	0.0	0.0	0.0	0	6000
231	128	57	937.0	0.0	0.0	0.0	0.0	0	6000
232	117	45	944.5	0.0	0.0	0.0	0.0	0	6000
233	118	46	944.5	0.0	0.0	0.0	0.0	0	6000
234	119	47	944.5	0.0	0.0	0.0	0.0	0	6000
235	120	48	944.5	0.0	0.0	0.0	0.0	0	6000
236	121	49	944.5	0.0	0.0	0.0	0.0	0	6000
237	111	38	947.0	0.0	0.0	0.0	0.0	0	6000
238	112	39	947.0	0.0	0.0	0.0	0.0	0	6000
239	113	40	947.0	0.0	0.0	0.0	0.0	0	6000
240	114	41	947.0	0.0	0.0	0.0	0.0	0	6000
241	115	42	947.0	0.0	0.0	0.0	0.0	0	6000
242	116	43	947.0	0.0	0.0	0.0	0.0	0	6000
243	106	32	957.0	0.0	0.0	0.0	0.0	0	6000
244	107	33	957.0	0.0	0.0	0.0	0.0	0	6000
245	108	34	957.0	0.0	0.0	0.0	0.0	0	6000
246	109	35	957.0	0.0	0.0	0.0	0.0	0	6000
247	110	36	957.0	0.0	0.0	0.0	0.0	0	6000
248	98	23	967.0	0.0	0.0	0.0	0.0	0	6000
249	99	24	967.0	0.0	0.0	0.0	0.0	0	6000
250	100	25	967.0	0.0	0.0	0.0	0.0	0	6000
251	101	26	967.0	0.0	0.0	0.0	0.0	0	6000
252	102	27	967.0	0.0	0.0	0.0	0.0	0	6000
253	103	28	967.0	0.0	0.0	0.0	0.0	0	6000

254	104	29	967.0	0.0	0.0	0.0	0.0	0	6000
255	105	30	967.0	0.0	0.0	0.0	0.0	0	6000
256	91	15	977.0	0.0	0.0	0.0	0.0	0	6000
257	92	16	977.0	0.0	0.0	0.0	0.0	0	6000
258	93	17	977.0	0.0	0.0	0.0	0.0	0	6000
259	94	18	977.0	0.0	0.0	0.0	0.0	0	6000
260	95	19	977.0	0.0	0.0	0.0	0.0	0	6000
261	96	20	977.0	0.0	0.0	0.0	0.0	0	6000
262	97	21	977.0	0.0	0.0	0.0	0.0	0	6000
263	85	8	986.9	0.0	0.0	0.0	0.0	0	6000
264	86	9	986.9	0.0	0.0	0.0	0.0	0	6000
265	87	10	986.9	0.0	0.0	0.0	0.0	0	6000
266	88	11	986.9	0.0	0.0	0.0	0.0	0	6000
267	89	12	986.9	0.0	0.0	0.0	0.0	0	6000
268	90	13	986.9	0.0	0.0	0.0	0.0	0	6000
269	79	1	997.0	0.0	0.0	0.0	0.0	0	6000
270	80	2	997.0	0.0	0.0	0.0	0.0	0	6000
271	81	3	997.0	0.0	0.0	0.0	0.0	0	6000
272	82	4	997.0	0.0	0.0	0.0	0.0	0	6000
273	83	5	997.0	0.0	0.0	0.0	0.0	0	6000
274	84	6	997.0	0.0	0.0	0.0	0.0	0	6000

Verification listing of '/export/dcsdata/working/solovyov/GEOPHYSICS/SOLE\_2/SEGY\_to\_SGG/Y\_Geophone.sgy'

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File 1 :  
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EBCDIC Header - 3200 bytes:  
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C1 CLIENT NAME: OMV Australia Pty Ltd. CONTRACTOR NAME: Schlumberger SURVEY DATE  
C2 AREA NAME: Permit VIC/RL3 WELL NAME: Sole-2 RIG NAME AND TYPE: Oc  
C3 VSP SURVEY TYPE/DESCRIPTION: Zero Offset RUN NO:  
C4 TAPE FORMAT: SEGY RECORDING FORMAT: DLIS MEASUREMENT SYSTEM  
C5 UTM WELL COORD: EASTING: 676 059.05 m NORTHING: 5 780 595.42 m  
C6 UTM ORIGIN: PERMANENT DATUM:  
C7 VSP LOG DATUM: D.F. KB ELEVATION ABOVE MSL: 25 m  
C8  
C9  
C10 NAVIGATION SYSTEM: CONTRACTOR:  
C11 DEVIATION DATA: CONTRACTOR:  
C12 OFFSET FROM WELL HEAD: SOURCE: 56 m SOURCE MONITOR: 56 m  
C13 AZIMUTH FROM WELL HEAD: SOURCE: 12 Deg SOURCE MONITOR: 12 Deg  
C14 ELEVATION: SOURCE: 5 m below sea level SOURCE MONITOR: 3 m below sea level  
C15 SOURCE TYPE: G-gun QUANTITY: 2  
C16 FIRING PRESSURE: 2000 psi SUSPENSION:  
C17 SOURCE MONITOR TYPE: SUSPENSION:  
C18 DOWNHOLE SENSOR TYPE: (GEOPHONE/ACCELEROMETER) GAC  
C19 RECORDING FILTER: LO CUT: HIGH CUT:  
C20  
C21 PROCESSING HISTOR, PROCESSING CONTRACTOR, NO. FILES ON TAPE  
C22 DESCRIPTION OF FILES, FILE CONTENT,  
C23  
C24  
C25  
C26  
C27  
C29  
C30  
C31  
C32  
C33  
C34



C35  
 C36  
 C37  
 C38 GEODETIC DATUM:                   PROJECTION:                   CENTRAL MERIDIAN:  
 C39 SPHERIOD:                   ORIGO:                   GRID ROTATION IN SECOND:  
 C40 END EBCDIC

BINARY Header - 400 bytes:

```

-----
JOBID                                   :    1 -    4 :  0
LINEID                                 :    5 -    8 : -999
FILE_NO                               :    9 -  12 : 140
NBR_DATA_TRACE                       :  13 -  14 :  1
SAMPLE_INT                            :  17 -  18 : [ us ] 1000
NSAMPLES                              :  21 -  22 : 6000
DATA_CODE                             :  25 -  26 :  1
MEASUREMENT_SYSTEM                   :  55 -  56 :  1
  
```

TRACE HEADER - 240 bytes:

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-----
TRC_LINE                               :    1 -    4 :
ACQ_SHOT                               :    9 -  12 :
FRAME_NO                               :  17 -  20 :
CABLE_LEN / 10000                     :  41 -  44 : [ m ]
SOURCE_X * 1                           :  73 -  76 : [ m ]
SOURCE_Y * 1                           :  77 -  80 : [ m ]
RCVR_X * 1                             :  81 -  84 : [ m ]
RCVR_Y * 1                             :  85 -  88 : [ m ]
TOFD                                   : 109 - 110 : [ ms ]
NSAMPLES                               : 115 - 116 :
  
```

TRC_LINE	ACQ_SHOT	FRAME_NO	CABLE_LEN	SOURCE_X	SOURCE_Y	RCVR_X	RCVR_Y	TOFD	NSAMPLES
0	347	311	196.9	0.0	0.0	0.0	0.0	0	6000
1	348	312	196.9	0.0	0.0	0.0	0.0	0	6000
2	349	313	196.9	0.0	0.0	0.0	0.0	0	6000
3	350	314	196.9	0.0	0.0	0.0	0.0	0	6000
4	351	315	196.9	0.0	0.0	0.0	0.0	0	6000
5	352	316	196.9	0.0	0.0	0.0	0.0	0	6000
6	353	317	196.9	0.0	0.0	0.0	0.0	0	6000
7	342	305	246.9	0.0	0.0	0.0	0.0	0	6000

8	343	306	246.9	0.0	0.0	0.0	0.0	0	6000
9	344	307	246.9	0.0	0.0	0.0	0.0	0	6000
10	345	308	246.9	0.0	0.0	0.0	0.0	0	6000
11	346	309	246.9	0.0	0.0	0.0	0.0	0	6000
12	337	299	296.9	0.0	0.0	0.0	0.0	0	6000
13	338	300	296.9	0.0	0.0	0.0	0.0	0	6000
14	339	301	296.9	0.0	0.0	0.0	0.0	0	6000
15	340	302	296.9	0.0	0.0	0.0	0.0	0	6000
16	341	303	296.9	0.0	0.0	0.0	0.0	0	6000
17	331	292	346.9	0.0	0.0	0.0	0.0	0	6000
18	332	293	346.9	0.0	0.0	0.0	0.0	0	6000
19	333	294	346.9	0.0	0.0	0.0	0.0	0	6000
20	334	295	346.9	0.0	0.0	0.0	0.0	0	6000
21	335	296	346.9	0.0	0.0	0.0	0.0	0	6000
22	336	297	346.9	0.0	0.0	0.0	0.0	0	6000
23	326	286	397.0	0.0	0.0	0.0	0.0	0	6000
24	327	287	397.0	0.0	0.0	0.0	0.0	0	6000
25	328	288	397.0	0.0	0.0	0.0	0.0	0	6000
26	329	289	397.0	0.0	0.0	0.0	0.0	0	6000
27	330	290	397.0	0.0	0.0	0.0	0.0	0	6000
28	316	275	446.9	0.0	0.0	0.0	0.0	0	6000
29	317	276	446.9	0.0	0.0	0.0	0.0	0	6000
30	318	277	446.9	0.0	0.0	0.0	0.0	0	6000
31	319	278	446.9	0.0	0.0	0.0	0.0	0	6000
32	320	279	446.9	0.0	0.0	0.0	0.0	0	6000
33	321	280	446.9	0.0	0.0	0.0	0.0	0	6000
34	322	281	446.9	0.0	0.0	0.0	0.0	0	6000
35	323	282	446.9	0.0	0.0	0.0	0.0	0	6000
36	324	283	446.9	0.0	0.0	0.0	0.0	0	6000
37	325	284	446.9	0.0	0.0	0.0	0.0	0	6000
38	310	268	497.0	0.0	0.0	0.0	0.0	0	6000
39	311	269	497.0	0.0	0.0	0.0	0.0	0	6000
40	312	270	497.0	0.0	0.0	0.0	0.0	0	6000
41	313	271	497.0	0.0	0.0	0.0	0.0	0	6000
42	314	272	497.0	0.0	0.0	0.0	0.0	0	6000
43	315	273	497.0	0.0	0.0	0.0	0.0	0	6000
44	305	262	546.9	0.0	0.0	0.0	0.0	0	6000
45	306	263	546.9	0.0	0.0	0.0	0.0	0	6000
46	307	264	546.9	0.0	0.0	0.0	0.0	0	6000
47	308	265	546.9	0.0	0.0	0.0	0.0	0	6000
48	309	266	546.9	0.0	0.0	0.0	0.0	0	6000

49	300	256	596.9	0.0	0.0	0.0	0.0	0	6000
50	301	257	596.9	0.0	0.0	0.0	0.0	0	6000
51	302	258	596.9	0.0	0.0	0.0	0.0	0	6000
52	303	259	596.9	0.0	0.0	0.0	0.0	0	6000
53	304	260	596.9	0.0	0.0	0.0	0.0	0	6000
54	293	248	646.9	0.0	0.0	0.0	0.0	0	6000
55	294	249	646.9	0.0	0.0	0.0	0.0	0	6000
56	295	250	646.9	0.0	0.0	0.0	0.0	0	6000
57	296	251	646.9	0.0	0.0	0.0	0.0	0	6000
58	297	252	646.9	0.0	0.0	0.0	0.0	0	6000
59	298	253	646.9	0.0	0.0	0.0	0.0	0	6000
60	299	254	646.9	0.0	0.0	0.0	0.0	0	6000
61	287	241	657.0	0.0	0.0	0.0	0.0	0	6000
62	288	242	657.0	0.0	0.0	0.0	0.0	0	6000
63	289	243	657.0	0.0	0.0	0.0	0.0	0	6000
64	290	244	657.0	0.0	0.0	0.0	0.0	0	6000
65	291	245	657.0	0.0	0.0	0.0	0.0	0	6000
66	292	246	657.0	0.0	0.0	0.0	0.0	0	6000
67	282	235	667.0	0.0	0.0	0.0	0.0	0	6000
68	283	236	667.0	0.0	0.0	0.0	0.0	0	6000
69	284	237	667.0	0.0	0.0	0.0	0.0	0	6000
70	285	238	667.0	0.0	0.0	0.0	0.0	0	6000
71	286	239	667.0	0.0	0.0	0.0	0.0	0	6000
72	275	227	676.9	0.0	0.0	0.0	0.0	0	6000
73	276	228	676.9	0.0	0.0	0.0	0.0	0	6000
74	277	229	676.9	0.0	0.0	0.0	0.0	0	6000
75	278	230	676.9	0.0	0.0	0.0	0.0	0	6000
76	279	231	676.9	0.0	0.0	0.0	0.0	0	6000
77	280	232	676.9	0.0	0.0	0.0	0.0	0	6000
78	281	233	676.9	0.0	0.0	0.0	0.0	0	6000
79	269	220	687.0	0.0	0.0	0.0	0.0	0	6000
80	270	221	687.0	0.0	0.0	0.0	0.0	0	6000
81	271	222	687.0	0.0	0.0	0.0	0.0	0	6000
82	272	223	687.0	0.0	0.0	0.0	0.0	0	6000
83	273	224	687.0	0.0	0.0	0.0	0.0	0	6000
84	274	225	687.0	0.0	0.0	0.0	0.0	0	6000
85	262	212	696.9	0.0	0.0	0.0	0.0	0	6000
86	263	213	696.9	0.0	0.0	0.0	0.0	0	6000
87	264	214	696.9	0.0	0.0	0.0	0.0	0	6000
88	265	215	696.9	0.0	0.0	0.0	0.0	0	6000
89	266	216	696.9	0.0	0.0	0.0	0.0	0	6000

90	267	217	696.9	0.0	0.0	0.0	0.0	0	6000
91	268	218	696.9	0.0	0.0	0.0	0.0	0	6000
92	257	206	707.0	0.0	0.0	0.0	0.0	0	6000
93	258	207	707.0	0.0	0.0	0.0	0.0	0	6000
94	259	208	707.0	0.0	0.0	0.0	0.0	0	6000
95	260	209	707.0	0.0	0.0	0.0	0.0	0	6000
96	261	210	707.0	0.0	0.0	0.0	0.0	0	6000
97	252	200	716.9	0.0	0.0	0.0	0.0	0	6000
98	253	201	716.9	0.0	0.0	0.0	0.0	0	6000
99	254	202	716.9	0.0	0.0	0.0	0.0	0	6000
100	255	203	716.9	0.0	0.0	0.0	0.0	0	6000
101	256	204	716.9	0.0	0.0	0.0	0.0	0	6000
102	247	194	727.0	0.0	0.0	0.0	0.0	0	6000
103	248	195	727.0	0.0	0.0	0.0	0.0	0	6000
104	249	196	727.0	0.0	0.0	0.0	0.0	0	6000
105	250	197	727.0	0.0	0.0	0.0	0.0	0	6000
106	251	198	727.0	0.0	0.0	0.0	0.0	0	6000
107	242	188	736.9	0.0	0.0	0.0	0.0	0	6000
108	243	189	736.9	0.0	0.0	0.0	0.0	0	6000
109	244	190	736.9	0.0	0.0	0.0	0.0	0	6000
110	245	191	736.9	0.0	0.0	0.0	0.0	0	6000
111	246	192	736.9	0.0	0.0	0.0	0.0	0	6000
112	233	178	747.0	0.0	0.0	0.0	0.0	0	6000
113	234	179	747.0	0.0	0.0	0.0	0.0	0	6000
114	235	180	747.0	0.0	0.0	0.0	0.0	0	6000
115	236	181	747.0	0.0	0.0	0.0	0.0	0	6000
116	237	182	747.0	0.0	0.0	0.0	0.0	0	6000
117	238	183	747.0	0.0	0.0	0.0	0.0	0	6000
118	239	184	747.0	0.0	0.0	0.0	0.0	0	6000
119	240	185	747.0	0.0	0.0	0.0	0.0	0	6000
120	241	186	747.0	0.0	0.0	0.0	0.0	0	6000
121	224	168	756.9	0.0	0.0	0.0	0.0	0	6000
122	225	169	756.9	0.0	0.0	0.0	0.0	0	6000
123	226	170	756.9	0.0	0.0	0.0	0.0	0	6000
124	227	171	756.9	0.0	0.0	0.0	0.0	0	6000
125	228	172	756.9	0.0	0.0	0.0	0.0	0	6000
126	229	173	756.9	0.0	0.0	0.0	0.0	0	6000
127	230	174	756.9	0.0	0.0	0.0	0.0	0	6000
128	231	175	756.9	0.0	0.0	0.0	0.0	0	6000
129	232	176	756.9	0.0	0.0	0.0	0.0	0	6000
130	219	162	767.0	0.0	0.0	0.0	0.0	0	6000

131	220	163	767.0	0.0	0.0	0.0	0.0	0	6000
132	221	164	767.0	0.0	0.0	0.0	0.0	0	6000
133	222	165	767.0	0.0	0.0	0.0	0.0	0	6000
134	223	166	767.0	0.0	0.0	0.0	0.0	0	6000
135	211	153	770.0	0.0	0.0	0.0	0.0	0	6000
136	212	154	770.0	0.0	0.0	0.0	0.0	0	6000
137	213	155	770.0	0.0	0.0	0.0	0.0	0	6000
138	214	156	770.0	0.0	0.0	0.0	0.0	0	6000
139	215	157	770.0	0.0	0.0	0.0	0.0	0	6000
140	216	158	770.0	0.0	0.0	0.0	0.0	0	6000
141	217	159	770.0	0.0	0.0	0.0	0.0	0	6000
142	218	160	770.0	0.0	0.0	0.0	0.0	0	6000
143	203	144	776.9	0.0	0.0	0.0	0.0	0	6000
144	204	145	776.9	0.0	0.0	0.0	0.0	0	6000
145	205	146	776.9	0.0	0.0	0.0	0.0	0	6000
146	206	147	776.9	0.0	0.0	0.0	0.0	0	6000
147	207	148	776.9	0.0	0.0	0.0	0.0	0	6000
148	208	149	776.9	0.0	0.0	0.0	0.0	0	6000
149	209	150	776.9	0.0	0.0	0.0	0.0	0	6000
150	210	151	776.9	0.0	0.0	0.0	0.0	0	6000
151	196	136	787.0	0.0	0.0	0.0	0.0	0	6000
152	197	137	787.0	0.0	0.0	0.0	0.0	0	6000
153	198	138	787.0	0.0	0.0	0.0	0.0	0	6000
154	199	139	787.0	0.0	0.0	0.0	0.0	0	6000
155	200	140	787.0	0.0	0.0	0.0	0.0	0	6000
156	201	141	787.0	0.0	0.0	0.0	0.0	0	6000
157	202	142	787.0	0.0	0.0	0.0	0.0	0	6000
158	187	126	811.0	0.0	0.0	0.0	0.0	0	6000
159	188	127	811.0	0.0	0.0	0.0	0.0	0	6000
160	189	128	811.0	0.0	0.0	0.0	0.0	0	6000
161	190	129	811.0	0.0	0.0	0.0	0.0	0	6000
162	191	130	811.0	0.0	0.0	0.0	0.0	0	6000
163	192	131	811.0	0.0	0.0	0.0	0.0	0	6000
164	193	132	811.0	0.0	0.0	0.0	0.0	0	6000
165	194	133	811.0	0.0	0.0	0.0	0.0	0	6000
166	195	134	811.0	0.0	0.0	0.0	0.0	0	6000
167	182	120	850.0	0.0	0.0	0.0	0.0	0	6000
168	183	121	850.0	0.0	0.0	0.0	0.0	0	6000
169	184	122	850.0	0.0	0.0	0.0	0.0	0	6000
170	185	123	850.0	0.0	0.0	0.0	0.0	0	6000
171	186	124	850.0	0.0	0.0	0.0	0.0	0	6000

172	174	111	857.0	0.0	0.0	0.0	0.0	0	6000
173	175	112	857.0	0.0	0.0	0.0	0.0	0	6000
174	176	113	857.0	0.0	0.0	0.0	0.0	0	6000
175	177	114	857.0	0.0	0.0	0.0	0.0	0	6000
176	178	115	857.0	0.0	0.0	0.0	0.0	0	6000
177	179	116	857.0	0.0	0.0	0.0	0.0	0	6000
178	180	117	857.0	0.0	0.0	0.0	0.0	0	6000
179	181	118	857.0	0.0	0.0	0.0	0.0	0	6000
180	169	105	867.0	0.0	0.0	0.0	0.0	0	6000
181	170	106	867.0	0.0	0.0	0.0	0.0	0	6000
182	171	107	867.0	0.0	0.0	0.0	0.0	0	6000
183	172	108	867.0	0.0	0.0	0.0	0.0	0	6000
184	173	109	867.0	0.0	0.0	0.0	0.0	0	6000
185	164	99	877.0	0.0	0.0	0.0	0.0	0	6000
186	165	100	877.0	0.0	0.0	0.0	0.0	0	6000
187	166	101	877.0	0.0	0.0	0.0	0.0	0	6000
188	167	102	877.0	0.0	0.0	0.0	0.0	0	6000
189	168	103	877.0	0.0	0.0	0.0	0.0	0	6000
190	159	93	887.0	0.0	0.0	0.0	0.0	0	6000
191	160	94	887.0	0.0	0.0	0.0	0.0	0	6000
192	161	95	887.0	0.0	0.0	0.0	0.0	0	6000
193	162	96	887.0	0.0	0.0	0.0	0.0	0	6000
194	163	97	887.0	0.0	0.0	0.0	0.0	0	6000
195	150	83	897.0	0.0	0.0	0.0	0.0	0	6000
196	151	84	897.0	0.0	0.0	0.0	0.0	0	6000
197	152	85	897.0	0.0	0.0	0.0	0.0	0	6000
198	153	86	897.0	0.0	0.0	0.0	0.0	0	6000
199	154	87	897.0	0.0	0.0	0.0	0.0	0	6000
200	155	88	897.0	0.0	0.0	0.0	0.0	0	6000
201	156	89	897.0	0.0	0.0	0.0	0.0	0	6000
202	157	90	897.0	0.0	0.0	0.0	0.0	0	6000
203	158	91	897.0	0.0	0.0	0.0	0.0	0	6000
204	142	74	906.9	0.0	0.0	0.0	0.0	0	6000
205	143	75	906.9	0.0	0.0	0.0	0.0	0	6000
206	144	76	906.9	0.0	0.0	0.0	0.0	0	6000
207	145	77	906.9	0.0	0.0	0.0	0.0	0	6000
208	146	78	906.9	0.0	0.0	0.0	0.0	0	6000
209	147	79	906.9	0.0	0.0	0.0	0.0	0	6000
210	148	80	906.9	0.0	0.0	0.0	0.0	0	6000
211	149	81	906.9	0.0	0.0	0.0	0.0	0	6000
212	135	66	917.0	0.0	0.0	0.0	0.0	0	6000

213	136	67	917.0	0.0	0.0	0.0	0.0	0	6000
214	137	68	917.0	0.0	0.0	0.0	0.0	0	6000
215	138	69	917.0	0.0	0.0	0.0	0.0	0	6000
216	139	70	917.0	0.0	0.0	0.0	0.0	0	6000
217	140	71	917.0	0.0	0.0	0.0	0.0	0	6000
218	141	72	917.0	0.0	0.0	0.0	0.0	0	6000
219	129	59	927.0	0.0	0.0	0.0	0.0	0	6000
220	130	60	927.0	0.0	0.0	0.0	0.0	0	6000
221	131	61	927.0	0.0	0.0	0.0	0.0	0	6000
222	132	62	927.0	0.0	0.0	0.0	0.0	0	6000
223	133	63	927.0	0.0	0.0	0.0	0.0	0	6000
224	134	64	927.0	0.0	0.0	0.0	0.0	0	6000
225	122	51	937.0	0.0	0.0	0.0	0.0	0	6000
226	123	52	937.0	0.0	0.0	0.0	0.0	0	6000
227	124	53	937.0	0.0	0.0	0.0	0.0	0	6000
228	125	54	937.0	0.0	0.0	0.0	0.0	0	6000
229	126	55	937.0	0.0	0.0	0.0	0.0	0	6000
230	127	56	937.0	0.0	0.0	0.0	0.0	0	6000
231	128	57	937.0	0.0	0.0	0.0	0.0	0	6000
232	117	45	944.5	0.0	0.0	0.0	0.0	0	6000
233	118	46	944.5	0.0	0.0	0.0	0.0	0	6000
234	119	47	944.5	0.0	0.0	0.0	0.0	0	6000
235	120	48	944.5	0.0	0.0	0.0	0.0	0	6000
236	121	49	944.5	0.0	0.0	0.0	0.0	0	6000
237	111	38	947.0	0.0	0.0	0.0	0.0	0	6000
238	112	39	947.0	0.0	0.0	0.0	0.0	0	6000
239	113	40	947.0	0.0	0.0	0.0	0.0	0	6000
240	114	41	947.0	0.0	0.0	0.0	0.0	0	6000
241	115	42	947.0	0.0	0.0	0.0	0.0	0	6000
242	116	43	947.0	0.0	0.0	0.0	0.0	0	6000
243	106	32	957.0	0.0	0.0	0.0	0.0	0	6000
244	107	33	957.0	0.0	0.0	0.0	0.0	0	6000
245	108	34	957.0	0.0	0.0	0.0	0.0	0	6000
246	109	35	957.0	0.0	0.0	0.0	0.0	0	6000
247	110	36	957.0	0.0	0.0	0.0	0.0	0	6000
248	98	23	967.0	0.0	0.0	0.0	0.0	0	6000
249	99	24	967.0	0.0	0.0	0.0	0.0	0	6000
250	100	25	967.0	0.0	0.0	0.0	0.0	0	6000
251	101	26	967.0	0.0	0.0	0.0	0.0	0	6000
252	102	27	967.0	0.0	0.0	0.0	0.0	0	6000
253	103	28	967.0	0.0	0.0	0.0	0.0	0	6000

254	104	29	967.0	0.0	0.0	0.0	0.0	0	6000
255	105	30	967.0	0.0	0.0	0.0	0.0	0	6000
256	91	15	977.0	0.0	0.0	0.0	0.0	0	6000
257	92	16	977.0	0.0	0.0	0.0	0.0	0	6000
258	93	17	977.0	0.0	0.0	0.0	0.0	0	6000
259	94	18	977.0	0.0	0.0	0.0	0.0	0	6000
260	95	19	977.0	0.0	0.0	0.0	0.0	0	6000
261	96	20	977.0	0.0	0.0	0.0	0.0	0	6000
262	97	21	977.0	0.0	0.0	0.0	0.0	0	6000
263	85	8	986.9	0.0	0.0	0.0	0.0	0	6000
264	86	9	986.9	0.0	0.0	0.0	0.0	0	6000
265	87	10	986.9	0.0	0.0	0.0	0.0	0	6000
266	88	11	986.9	0.0	0.0	0.0	0.0	0	6000
267	89	12	986.9	0.0	0.0	0.0	0.0	0	6000
268	90	13	986.9	0.0	0.0	0.0	0.0	0	6000
269	79	1	997.0	0.0	0.0	0.0	0.0	0	6000
270	80	2	997.0	0.0	0.0	0.0	0.0	0	6000
271	81	3	997.0	0.0	0.0	0.0	0.0	0	6000
272	82	4	997.0	0.0	0.0	0.0	0.0	0	6000
273	83	5	997.0	0.0	0.0	0.0	0.0	0	6000
274	84	6	997.0	0.0	0.0	0.0	0.0	0	6000



Verification listing of '/export/dcsdata/working/solovyov/GEOPHYSICS/SOLE\_2/SEGY\_to\_SGG/X\_Geophone.sgy'

-----  
File 1 :  
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EBCDIC Header - 3200 bytes:  
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C1 CLIENT NAME: OMV Australia Pty Ltd. CONTRACTOR NAME: Schlumberger SURVEY DATE  
C2 AREA NAME: Permit VIC/RL3 WELL NAME: Sole-2 RIG NAME AND TYPE: Oc  
C3 VSP SURVEY TYPE/DESCRIPTION: Zero Offset RUN NO:  
C4 TAPE FORMAT: SEGY RECORDING FORMAT: DLIS MEASUREMENT SYSTEM  
C5 UTM WELL COORD: EASTING: 676 059.05 m NORTHING: 5 780 595.42 m  
C6 UTM ORIGIN: PERMANENT DATUM:  
C7 VSP LOG DATUM: D.F. KB ELEVATION ABOVE MSL: 25 m  
C8  
C9  
C10 NAVIGATION SYSTEM: CONTRACTOR:  
C11 DEVIATION DATA: CONTRACTOR:  
C12 OFFSET FROM WELL HEAD: SOURCE: 56 m SOURCE MONITOR: 56 m  
C13 AZIMUTH FROM WELL HEAD: SOURCE: 12 Deg SOURCE MONITOR: 12 Deg  
C14 ELEVATION: SOURCE: 5 m below sea level SOURCE MONITOR: 3 m below sea level  
C15 SOURCE TYPE: G-gun QUANTITY: 2  
C16 FIRING PRESSURE: 2000 psi SUSPENSION:  
C17 SOURCE MONITOR TYPE: SUSPENSION:  
C18 DOWNHOLE SENSOR TYPE: (GEOPHONE/ACCELEROMETER) GAC  
C19 RECORDING FILTER: LO CUT: HIGH CUT:  
C20  
C21 PROCESSING HISTOR, PROCESSING CONTRACTOR, NO. FILES ON TAPE  
C22 DESCRIPTION OF FILES, FILE CONTENT,  
C23  
C24  
C25  
C26  
C27  
C29  
C30  
C31  
C32  
C33  
C34

C35  
 C36  
 C37  
 C38 GEODETIC DATUM:                   PROJECTION:                   CENTRAL MERIDIAN:  
 C39 SPHERIOD:                   ORIGO:                   GRID ROTATION IN SECOND:  
 C40 END EBCDIC

BINARY Header - 400 bytes:

```

-----
JOBID                                   :    1 -    4 : 0
LINEID                                 :    5 -    8 : -999
FILE_NO                                :    9 -  12 : 140
NBR_DATA_TRACE                        :  13 -  14 : 1
SAMPLE_INT                             :  17 -  18 : [ us ] 1000
NSAMPLES                               :  21 -  22 : 6000
DATA_CODE                              :  25 -  26 : 1
MEASUREMENT_SYSTEM                    :  55 -  56 : 1
  
```

TRACE HEADER - 240 bytes:

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-----
TRC_LINE                               :    1 -    4 :
ACQ_SHOT                               :    9 -  12 :
FRAME_NO                               :  17 -  20 :
CABLE_LEN / 10000                      :  41 -  44 : [ m ]
SOURCE_X * 1                            :  73 -  76 : [ m ]
SOURCE_Y * 1                            :  77 -  80 : [ m ]
RCVR_X * 1                              :  81 -  84 : [ m ]
RCVR_Y * 1                              :  85 -  88 : [ m ]
TOFD                                    : 109 - 110 : [ ms ]
NSAMPLES                               : 115 - 116 :
  
```

TRC_LINE	ACQ_SHOT	FRAME_NO	CABLE_LEN	SOURCE_X	SOURCE_Y	RCVR_X	RCVR_Y	TOFD	NSAMPLES
0	347	311	196.9	0.0	0.0	0.0	0.0	0	6000
1	348	312	196.9	0.0	0.0	0.0	0.0	0	6000
2	349	313	196.9	0.0	0.0	0.0	0.0	0	6000
3	350	314	196.9	0.0	0.0	0.0	0.0	0	6000
4	351	315	196.9	0.0	0.0	0.0	0.0	0	6000
5	352	316	196.9	0.0	0.0	0.0	0.0	0	6000
6	353	317	196.9	0.0	0.0	0.0	0.0	0	6000
7	342	305	246.9	0.0	0.0	0.0	0.0	0	6000

8	343	306	246.9	0.0	0.0	0.0	0.0	0	6000
9	344	307	246.9	0.0	0.0	0.0	0.0	0	6000
10	345	308	246.9	0.0	0.0	0.0	0.0	0	6000
11	346	309	246.9	0.0	0.0	0.0	0.0	0	6000
12	337	299	296.9	0.0	0.0	0.0	0.0	0	6000
13	338	300	296.9	0.0	0.0	0.0	0.0	0	6000
14	339	301	296.9	0.0	0.0	0.0	0.0	0	6000
15	340	302	296.9	0.0	0.0	0.0	0.0	0	6000
16	341	303	296.9	0.0	0.0	0.0	0.0	0	6000
17	331	292	346.9	0.0	0.0	0.0	0.0	0	6000
18	332	293	346.9	0.0	0.0	0.0	0.0	0	6000
19	333	294	346.9	0.0	0.0	0.0	0.0	0	6000
20	334	295	346.9	0.0	0.0	0.0	0.0	0	6000
21	335	296	346.9	0.0	0.0	0.0	0.0	0	6000
22	336	297	346.9	0.0	0.0	0.0	0.0	0	6000
23	326	286	397.0	0.0	0.0	0.0	0.0	0	6000
24	327	287	397.0	0.0	0.0	0.0	0.0	0	6000
25	328	288	397.0	0.0	0.0	0.0	0.0	0	6000
26	329	289	397.0	0.0	0.0	0.0	0.0	0	6000
27	330	290	397.0	0.0	0.0	0.0	0.0	0	6000
28	316	275	446.9	0.0	0.0	0.0	0.0	0	6000
29	317	276	446.9	0.0	0.0	0.0	0.0	0	6000
30	318	277	446.9	0.0	0.0	0.0	0.0	0	6000
31	319	278	446.9	0.0	0.0	0.0	0.0	0	6000
32	320	279	446.9	0.0	0.0	0.0	0.0	0	6000
33	321	280	446.9	0.0	0.0	0.0	0.0	0	6000
34	322	281	446.9	0.0	0.0	0.0	0.0	0	6000
35	323	282	446.9	0.0	0.0	0.0	0.0	0	6000
36	324	283	446.9	0.0	0.0	0.0	0.0	0	6000
37	325	284	446.9	0.0	0.0	0.0	0.0	0	6000
38	310	268	497.0	0.0	0.0	0.0	0.0	0	6000
39	311	269	497.0	0.0	0.0	0.0	0.0	0	6000
40	312	270	497.0	0.0	0.0	0.0	0.0	0	6000
41	313	271	497.0	0.0	0.0	0.0	0.0	0	6000
42	314	272	497.0	0.0	0.0	0.0	0.0	0	6000
43	315	273	497.0	0.0	0.0	0.0	0.0	0	6000
44	305	262	546.9	0.0	0.0	0.0	0.0	0	6000
45	306	263	546.9	0.0	0.0	0.0	0.0	0	6000
46	307	264	546.9	0.0	0.0	0.0	0.0	0	6000
47	308	265	546.9	0.0	0.0	0.0	0.0	0	6000
48	309	266	546.9	0.0	0.0	0.0	0.0	0	6000

49	300	256	596.9	0.0	0.0	0.0	0.0	0	6000
50	301	257	596.9	0.0	0.0	0.0	0.0	0	6000
51	302	258	596.9	0.0	0.0	0.0	0.0	0	6000
52	303	259	596.9	0.0	0.0	0.0	0.0	0	6000
53	304	260	596.9	0.0	0.0	0.0	0.0	0	6000
54	293	248	646.9	0.0	0.0	0.0	0.0	0	6000
55	294	249	646.9	0.0	0.0	0.0	0.0	0	6000
56	295	250	646.9	0.0	0.0	0.0	0.0	0	6000
57	296	251	646.9	0.0	0.0	0.0	0.0	0	6000
58	297	252	646.9	0.0	0.0	0.0	0.0	0	6000
59	298	253	646.9	0.0	0.0	0.0	0.0	0	6000
60	299	254	646.9	0.0	0.0	0.0	0.0	0	6000
61	287	241	657.0	0.0	0.0	0.0	0.0	0	6000
62	288	242	657.0	0.0	0.0	0.0	0.0	0	6000
63	289	243	657.0	0.0	0.0	0.0	0.0	0	6000
64	290	244	657.0	0.0	0.0	0.0	0.0	0	6000
65	291	245	657.0	0.0	0.0	0.0	0.0	0	6000
66	292	246	657.0	0.0	0.0	0.0	0.0	0	6000
67	282	235	667.0	0.0	0.0	0.0	0.0	0	6000
68	283	236	667.0	0.0	0.0	0.0	0.0	0	6000
69	284	237	667.0	0.0	0.0	0.0	0.0	0	6000
70	285	238	667.0	0.0	0.0	0.0	0.0	0	6000
71	286	239	667.0	0.0	0.0	0.0	0.0	0	6000
72	275	227	676.9	0.0	0.0	0.0	0.0	0	6000
73	276	228	676.9	0.0	0.0	0.0	0.0	0	6000
74	277	229	676.9	0.0	0.0	0.0	0.0	0	6000
75	278	230	676.9	0.0	0.0	0.0	0.0	0	6000
76	279	231	676.9	0.0	0.0	0.0	0.0	0	6000
77	280	232	676.9	0.0	0.0	0.0	0.0	0	6000
78	281	233	676.9	0.0	0.0	0.0	0.0	0	6000
79	269	220	687.0	0.0	0.0	0.0	0.0	0	6000
80	270	221	687.0	0.0	0.0	0.0	0.0	0	6000
81	271	222	687.0	0.0	0.0	0.0	0.0	0	6000
82	272	223	687.0	0.0	0.0	0.0	0.0	0	6000
83	273	224	687.0	0.0	0.0	0.0	0.0	0	6000
84	274	225	687.0	0.0	0.0	0.0	0.0	0	6000
85	262	212	696.9	0.0	0.0	0.0	0.0	0	6000
86	263	213	696.9	0.0	0.0	0.0	0.0	0	6000
87	264	214	696.9	0.0	0.0	0.0	0.0	0	6000
88	265	215	696.9	0.0	0.0	0.0	0.0	0	6000
89	266	216	696.9	0.0	0.0	0.0	0.0	0	6000

90	267	217	696.9	0.0	0.0	0.0	0.0	0	6000
91	268	218	696.9	0.0	0.0	0.0	0.0	0	6000
92	257	206	707.0	0.0	0.0	0.0	0.0	0	6000
93	258	207	707.0	0.0	0.0	0.0	0.0	0	6000
94	259	208	707.0	0.0	0.0	0.0	0.0	0	6000
95	260	209	707.0	0.0	0.0	0.0	0.0	0	6000
96	261	210	707.0	0.0	0.0	0.0	0.0	0	6000
97	252	200	716.9	0.0	0.0	0.0	0.0	0	6000
98	253	201	716.9	0.0	0.0	0.0	0.0	0	6000
99	254	202	716.9	0.0	0.0	0.0	0.0	0	6000
100	255	203	716.9	0.0	0.0	0.0	0.0	0	6000
101	256	204	716.9	0.0	0.0	0.0	0.0	0	6000
102	247	194	727.0	0.0	0.0	0.0	0.0	0	6000
103	248	195	727.0	0.0	0.0	0.0	0.0	0	6000
104	249	196	727.0	0.0	0.0	0.0	0.0	0	6000
105	250	197	727.0	0.0	0.0	0.0	0.0	0	6000
106	251	198	727.0	0.0	0.0	0.0	0.0	0	6000
107	242	188	736.9	0.0	0.0	0.0	0.0	0	6000
108	243	189	736.9	0.0	0.0	0.0	0.0	0	6000
109	244	190	736.9	0.0	0.0	0.0	0.0	0	6000
110	245	191	736.9	0.0	0.0	0.0	0.0	0	6000
111	246	192	736.9	0.0	0.0	0.0	0.0	0	6000
112	233	178	747.0	0.0	0.0	0.0	0.0	0	6000
113	234	179	747.0	0.0	0.0	0.0	0.0	0	6000
114	235	180	747.0	0.0	0.0	0.0	0.0	0	6000
115	236	181	747.0	0.0	0.0	0.0	0.0	0	6000
116	237	182	747.0	0.0	0.0	0.0	0.0	0	6000
117	238	183	747.0	0.0	0.0	0.0	0.0	0	6000
118	239	184	747.0	0.0	0.0	0.0	0.0	0	6000
119	240	185	747.0	0.0	0.0	0.0	0.0	0	6000
120	241	186	747.0	0.0	0.0	0.0	0.0	0	6000
121	224	168	756.9	0.0	0.0	0.0	0.0	0	6000
122	225	169	756.9	0.0	0.0	0.0	0.0	0	6000
123	226	170	756.9	0.0	0.0	0.0	0.0	0	6000
124	227	171	756.9	0.0	0.0	0.0	0.0	0	6000
125	228	172	756.9	0.0	0.0	0.0	0.0	0	6000
126	229	173	756.9	0.0	0.0	0.0	0.0	0	6000
127	230	174	756.9	0.0	0.0	0.0	0.0	0	6000
128	231	175	756.9	0.0	0.0	0.0	0.0	0	6000
129	232	176	756.9	0.0	0.0	0.0	0.0	0	6000
130	219	162	767.0	0.0	0.0	0.0	0.0	0	6000

131	220	163	767.0	0.0	0.0	0.0	0.0	0	6000
132	221	164	767.0	0.0	0.0	0.0	0.0	0	6000
133	222	165	767.0	0.0	0.0	0.0	0.0	0	6000
134	223	166	767.0	0.0	0.0	0.0	0.0	0	6000
135	211	153	770.0	0.0	0.0	0.0	0.0	0	6000
136	212	154	770.0	0.0	0.0	0.0	0.0	0	6000
137	213	155	770.0	0.0	0.0	0.0	0.0	0	6000
138	214	156	770.0	0.0	0.0	0.0	0.0	0	6000
139	215	157	770.0	0.0	0.0	0.0	0.0	0	6000
140	216	158	770.0	0.0	0.0	0.0	0.0	0	6000
141	217	159	770.0	0.0	0.0	0.0	0.0	0	6000
142	218	160	770.0	0.0	0.0	0.0	0.0	0	6000
143	203	144	776.9	0.0	0.0	0.0	0.0	0	6000
144	204	145	776.9	0.0	0.0	0.0	0.0	0	6000
145	205	146	776.9	0.0	0.0	0.0	0.0	0	6000
146	206	147	776.9	0.0	0.0	0.0	0.0	0	6000
147	207	148	776.9	0.0	0.0	0.0	0.0	0	6000
148	208	149	776.9	0.0	0.0	0.0	0.0	0	6000
149	209	150	776.9	0.0	0.0	0.0	0.0	0	6000
150	210	151	776.9	0.0	0.0	0.0	0.0	0	6000
151	196	136	787.0	0.0	0.0	0.0	0.0	0	6000
152	197	137	787.0	0.0	0.0	0.0	0.0	0	6000
153	198	138	787.0	0.0	0.0	0.0	0.0	0	6000
154	199	139	787.0	0.0	0.0	0.0	0.0	0	6000
155	200	140	787.0	0.0	0.0	0.0	0.0	0	6000
156	201	141	787.0	0.0	0.0	0.0	0.0	0	6000
157	202	142	787.0	0.0	0.0	0.0	0.0	0	6000
158	187	126	811.0	0.0	0.0	0.0	0.0	0	6000
159	188	127	811.0	0.0	0.0	0.0	0.0	0	6000
160	189	128	811.0	0.0	0.0	0.0	0.0	0	6000
161	190	129	811.0	0.0	0.0	0.0	0.0	0	6000
162	191	130	811.0	0.0	0.0	0.0	0.0	0	6000
163	192	131	811.0	0.0	0.0	0.0	0.0	0	6000
164	193	132	811.0	0.0	0.0	0.0	0.0	0	6000
165	194	133	811.0	0.0	0.0	0.0	0.0	0	6000
166	195	134	811.0	0.0	0.0	0.0	0.0	0	6000
167	182	120	850.0	0.0	0.0	0.0	0.0	0	6000
168	183	121	850.0	0.0	0.0	0.0	0.0	0	6000
169	184	122	850.0	0.0	0.0	0.0	0.0	0	6000
170	185	123	850.0	0.0	0.0	0.0	0.0	0	6000
171	186	124	850.0	0.0	0.0	0.0	0.0	0	6000

172	174	111	857.0	0.0	0.0	0.0	0.0	0	6000
173	175	112	857.0	0.0	0.0	0.0	0.0	0	6000
174	176	113	857.0	0.0	0.0	0.0	0.0	0	6000
175	177	114	857.0	0.0	0.0	0.0	0.0	0	6000
176	178	115	857.0	0.0	0.0	0.0	0.0	0	6000
177	179	116	857.0	0.0	0.0	0.0	0.0	0	6000
178	180	117	857.0	0.0	0.0	0.0	0.0	0	6000
179	181	118	857.0	0.0	0.0	0.0	0.0	0	6000
180	169	105	867.0	0.0	0.0	0.0	0.0	0	6000
181	170	106	867.0	0.0	0.0	0.0	0.0	0	6000
182	171	107	867.0	0.0	0.0	0.0	0.0	0	6000
183	172	108	867.0	0.0	0.0	0.0	0.0	0	6000
184	173	109	867.0	0.0	0.0	0.0	0.0	0	6000
185	164	99	877.0	0.0	0.0	0.0	0.0	0	6000
186	165	100	877.0	0.0	0.0	0.0	0.0	0	6000
187	166	101	877.0	0.0	0.0	0.0	0.0	0	6000
188	167	102	877.0	0.0	0.0	0.0	0.0	0	6000
189	168	103	877.0	0.0	0.0	0.0	0.0	0	6000
190	159	93	887.0	0.0	0.0	0.0	0.0	0	6000
191	160	94	887.0	0.0	0.0	0.0	0.0	0	6000
192	161	95	887.0	0.0	0.0	0.0	0.0	0	6000
193	162	96	887.0	0.0	0.0	0.0	0.0	0	6000
194	163	97	887.0	0.0	0.0	0.0	0.0	0	6000
195	150	83	897.0	0.0	0.0	0.0	0.0	0	6000
196	151	84	897.0	0.0	0.0	0.0	0.0	0	6000
197	152	85	897.0	0.0	0.0	0.0	0.0	0	6000
198	153	86	897.0	0.0	0.0	0.0	0.0	0	6000
199	154	87	897.0	0.0	0.0	0.0	0.0	0	6000
200	155	88	897.0	0.0	0.0	0.0	0.0	0	6000
201	156	89	897.0	0.0	0.0	0.0	0.0	0	6000
202	157	90	897.0	0.0	0.0	0.0	0.0	0	6000
203	158	91	897.0	0.0	0.0	0.0	0.0	0	6000
204	142	74	906.9	0.0	0.0	0.0	0.0	0	6000
205	143	75	906.9	0.0	0.0	0.0	0.0	0	6000
206	144	76	906.9	0.0	0.0	0.0	0.0	0	6000
207	145	77	906.9	0.0	0.0	0.0	0.0	0	6000
208	146	78	906.9	0.0	0.0	0.0	0.0	0	6000
209	147	79	906.9	0.0	0.0	0.0	0.0	0	6000
210	148	80	906.9	0.0	0.0	0.0	0.0	0	6000
211	149	81	906.9	0.0	0.0	0.0	0.0	0	6000
212	135	66	917.0	0.0	0.0	0.0	0.0	0	6000

213	136	67	917.0	0.0	0.0	0.0	0.0	0	6000
214	137	68	917.0	0.0	0.0	0.0	0.0	0	6000
215	138	69	917.0	0.0	0.0	0.0	0.0	0	6000
216	139	70	917.0	0.0	0.0	0.0	0.0	0	6000
217	140	71	917.0	0.0	0.0	0.0	0.0	0	6000
218	141	72	917.0	0.0	0.0	0.0	0.0	0	6000
219	129	59	927.0	0.0	0.0	0.0	0.0	0	6000
220	130	60	927.0	0.0	0.0	0.0	0.0	0	6000
221	131	61	927.0	0.0	0.0	0.0	0.0	0	6000
222	132	62	927.0	0.0	0.0	0.0	0.0	0	6000
223	133	63	927.0	0.0	0.0	0.0	0.0	0	6000
224	134	64	927.0	0.0	0.0	0.0	0.0	0	6000
225	122	51	937.0	0.0	0.0	0.0	0.0	0	6000
226	123	52	937.0	0.0	0.0	0.0	0.0	0	6000
227	124	53	937.0	0.0	0.0	0.0	0.0	0	6000
228	125	54	937.0	0.0	0.0	0.0	0.0	0	6000
229	126	55	937.0	0.0	0.0	0.0	0.0	0	6000
230	127	56	937.0	0.0	0.0	0.0	0.0	0	6000
231	128	57	937.0	0.0	0.0	0.0	0.0	0	6000
232	117	45	944.5	0.0	0.0	0.0	0.0	0	6000
233	118	46	944.5	0.0	0.0	0.0	0.0	0	6000
234	119	47	944.5	0.0	0.0	0.0	0.0	0	6000
235	120	48	944.5	0.0	0.0	0.0	0.0	0	6000
236	121	49	944.5	0.0	0.0	0.0	0.0	0	6000
237	111	38	947.0	0.0	0.0	0.0	0.0	0	6000
238	112	39	947.0	0.0	0.0	0.0	0.0	0	6000
239	113	40	947.0	0.0	0.0	0.0	0.0	0	6000
240	114	41	947.0	0.0	0.0	0.0	0.0	0	6000
241	115	42	947.0	0.0	0.0	0.0	0.0	0	6000
242	116	43	947.0	0.0	0.0	0.0	0.0	0	6000
243	106	32	957.0	0.0	0.0	0.0	0.0	0	6000
244	107	33	957.0	0.0	0.0	0.0	0.0	0	6000
245	108	34	957.0	0.0	0.0	0.0	0.0	0	6000
246	109	35	957.0	0.0	0.0	0.0	0.0	0	6000
247	110	36	957.0	0.0	0.0	0.0	0.0	0	6000
248	98	23	967.0	0.0	0.0	0.0	0.0	0	6000
249	99	24	967.0	0.0	0.0	0.0	0.0	0	6000
250	100	25	967.0	0.0	0.0	0.0	0.0	0	6000
251	101	26	967.0	0.0	0.0	0.0	0.0	0	6000
252	102	27	967.0	0.0	0.0	0.0	0.0	0	6000
253	103	28	967.0	0.0	0.0	0.0	0.0	0	6000



254	104	29	967.0	0.0	0.0	0.0	0.0	0	6000
255	105	30	967.0	0.0	0.0	0.0	0.0	0	6000
256	91	15	977.0	0.0	0.0	0.0	0.0	0	6000
257	92	16	977.0	0.0	0.0	0.0	0.0	0	6000
258	93	17	977.0	0.0	0.0	0.0	0.0	0	6000
259	94	18	977.0	0.0	0.0	0.0	0.0	0	6000
260	95	19	977.0	0.0	0.0	0.0	0.0	0	6000
261	96	20	977.0	0.0	0.0	0.0	0.0	0	6000
262	97	21	977.0	0.0	0.0	0.0	0.0	0	6000
263	85	8	986.9	0.0	0.0	0.0	0.0	0	6000
264	86	9	986.9	0.0	0.0	0.0	0.0	0	6000
265	87	10	986.9	0.0	0.0	0.0	0.0	0	6000
266	88	11	986.9	0.0	0.0	0.0	0.0	0	6000
267	89	12	986.9	0.0	0.0	0.0	0.0	0	6000
268	90	13	986.9	0.0	0.0	0.0	0.0	0	6000
269	79	1	997.0	0.0	0.0	0.0	0.0	0	6000
270	80	2	997.0	0.0	0.0	0.0	0.0	0	6000
271	81	3	997.0	0.0	0.0	0.0	0.0	0	6000
272	82	4	997.0	0.0	0.0	0.0	0.0	0	6000
273	83	5	997.0	0.0	0.0	0.0	0.0	0	6000
274	84	6	997.0	0.0	0.0	0.0	0.0	0	6000



## APPENDIX 2

### VSP Parametric Wavefield Separation

For parametric wavefield separation, wavefields are defined by their slope; the user supplies the arrival times of each wavefield to be separated, for each geophone trace.

The data is transformed into the frequency domain, where the time differences defining the wavefields on each trace are transformed into phase shifts.

Then for a specific frequency, the data on each trace can be described by:

$$f(s_1)*W_1 + f(s_2)*W_2 + \dots + f(n)*W_n$$

where  $f(s_n)$  is a function of the slope of the  $n$ th wavefield ( $W_n$ ).

The user also specifies the number of traces to trigger separation; this number will define the number of equations to be solved for the wavefields and therefore must be greater than the number of wavefields:

For instance if 5 traces are to be used to separate 2 wavefields then the following equations will be solved for  $W_1$  and  $W_2$

$$\begin{aligned}
 f(s_1)*W_1 + f(s_2)*W_2 &= \text{trace 1} \\
 f(s_1)*W_1 + f(s_2)*W_2 &= \text{trace 2} \\
 f(s_1)*W_1 + f(s_2)*W_2 &= \text{trace 3} \\
 f(s_1)*W_1 + f(s_2)*W_2 &= \text{trace 4} \\
 f(s_1)*W_1 + f(s_2)*W_2 &= \text{trace 5}
 \end{aligned}$$

to produce the first output trace for each wavefield

$$\begin{aligned}
 f(s_1)*W_1 + f(s_2)*W_2 &= \text{trace 2} \\
 f(s_1)*W_1 + f(s_2)*W_2 &= \text{trace 3} \\
 f(s_1)*W_1 + f(s_2)*W_2 &= \text{trace 4} \\
 f(s_1)*W_1 \div f(s_2)*W_2 &= \text{trace 5} \\
 f(s_1)*W_1 + f(s_2)*W_2 &= \text{trace 6}
 \end{aligned}$$

to produce the second output trace for each wavefield

and so on...

A least squares solution is found for the above equations and the results transformed back to the time domain. The separated wavefields are then subtracted from the original data to give the residual wavefield. In this example therefore, the output from the separation process will be the defined wavefields "wavefield 1" and "wavefield 2" and the residual wavefield.

Since there is only one solution for each set of 5 traces, the user is required to specify whether the output trace should replace the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> or 5<sup>th</sup> trace in the group. Normally the centre trace of the group would be chosen.

This presents a problem for the edge traces. If, for instance, there are 60 input traces in total and the 3<sup>rd</sup> trace in each group is chosen for the output position, then traces 1, 2, 59 and 60 will have no complete solution. In order to retain the same number of traces after separation, traces 1 and 2 will be a repeat of trace 3 with the specified slope of the relevant wavefield applied to these traces. Similarly traces 59 and 60 will be a repeat of trace 58.



## STANDARD SEISMIC SCALE DISPLAYS

### **DISPLAY VB2      Downgoing Wavefield**

This display enables identification of residual multiples in the surface seismic data.

The downgoing wavefield is shifted so that the direct arrivals are aligned at a constant time.

The data is filtered to match the bandwidth of the surface seismic data in the zone of interest.

The data is presented at the scale(s) of the seismic data and at both polarities.

Comparison of the downgoing wavefield with a reflection occurring at the same depth on the seismic section at the well, will reveal any residual multiple activity on the seismic section associated with that particular reflector. For this exercise, the observed polarity of the reflection on the seismic section should be matched with the same polarity first arrival on the VSP downgoing wavefield; white trough matched to white trough or black peak to black peak.

The downgoing wavefield can also be correlated with the upgoing wavefields in Displays VC and VD to establish the presence and origin of multiples within the VSP data.

### **DISPLAY VG1      Interpreter's Composite (maximum bandwidth)**

This display is designed to show a high resolution version of the VSP data for use in interpretation. All the data is therefore filtered using the "maximum bandwidth" filter and is displayed at one of the seismic scales, and at both polarities, to allow direct comparison with the seismic section.

This display contains:

- Enhanced, deconvolved upgoing wavefield,
- Transposed, deconvolved upgoing wavefield (see explanation)
- VSP - Borehole trace (see explanation)
- Borehole logs - linear time scale
- Borehole logs - linear depth scale
- Synthetic Seismogram (if available)
- Filter wavelet (spike convolved with filters applied to the upgoing wavefield after spiking deconvolution)



## **Transposed Deconvolved Upgoing Wavefield**

The transposition of the deconvolved, upgoing data ensures that all primary reflections appear at true times and depths along the left (or right) hand edge of the display enabling easier comparison with the seismic section.

The transposed display is obtained by producing a number of output traces (typically 24) from a number of corridor scans of the deconvolved upgoing wavefield as illustrated in Figure 2.

Each trace is composed of a series of small windows, one from each input trace, taken along the slope of the first arrival curve.

The first scan on each trace is from the first arrival time to the time of the first arrival on the next (deeper) trace. Second and subsequent corridors are composed of a series of windows parallel to the first arrival curve. The number of corridors is the same as the number of output traces requested. The last window for trace 1 extends to the end of data on the deepest input trace; for output trace 2 extends to the end of data on next deepest input trace and so on. Trace 1 can be positioned at either the left or right edge of the display and both versions are always presented.

Changes of dip, indicated by changes of  $\Delta T$  from trace to trace on an event on the deconvolved upgoing wavefield display are retained visually on this display, but the amount of  $\Delta T$  between traces is altered slightly; any dip calculations should be made from the deconvolved upgoing wavefield only.

## **VSP - Borehole Trace**

This trace, an estimate of the image at the borehole, is the most suitable single trace for comparison with the seismic section.

A coherency filter is applied to the transposed data. A single trace is selected from the resulting data and repeated several times.



## **DISPLAY VLI Seismic Correlation Worksheet (zero phase seismic match) and DISPLAY VL2 Seismic Correlation Worksheet (minimum phase seismic match)**

These displays are designed specifically for comparison with the seismic section and are a subset of the interpreter's Composite Display.

The data is filtered to match the seismic section. if the phase of the surface seismic data is unknown then both zero and minimum phase versions are produced. The displays are produced at seismic scale(s) and both polarities.

The displays contain:

- Transposed, deconvolved upgoing wavefield (see explanation)
- VSP - Borehole trace (see explanation)
- Synthetic Seismogram convolved traces (if available)
- Filter wavelet (spike convolved with filters applied to the upgoing wavefield after spiking deconvolution)



## APPENDIX

### Calculation of dip and offset of diffraction points from VSP data

#### Calculation of the angle of dip

The computation of the angle of dip is very straightforward, but involves making two assumptions:

- (1) The dipping reflector is a planar, uniform surface.
- (2) The velocity of the material above the reflector can be regarded as constant.

The first assumption is reasonably secure in regions of “well behaved” structure, and does not significantly affect the accuracy of the calculations. The second assumption may not be as reliable particularly in regions where there may be significant velocity changes in the near surface. If the dips are generally below 30 degrees, however, the errors introduced are again minimal; the basic consideration here is that the reflection points remain reasonably close to the well location. Even in areas of great structural variation and high dip, accurate calculations can be performed if geophone stations close to the reflector are chosen for the calculations.

If one considers the two geophone stations in figure 1, it can be seen that an image point can be generated such that

$$SO = OI \text{ and } SR = RI$$

Where:

- S = Source
- I = Image
- $\alpha$  = Dip angle
- G1 = Geophone 1
- G2 = Geophone 2

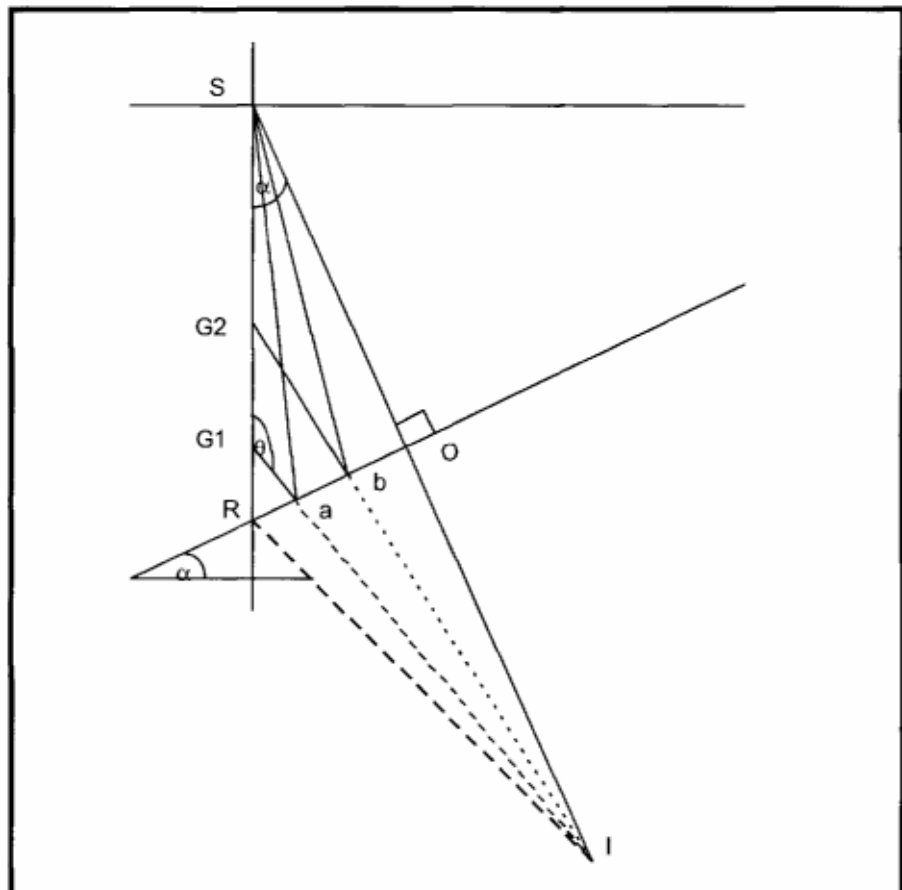


Figure 1 Dipping Reflector



With the velocity considered constant, the lengths of the sides of the triangles can be expressed in terms of the respective arrival times such that:

$t_1$  is the one-way first arrival time at G1

$t_2$  is the one-way first arrival time at G2

$t_3$  is the arrival time of the reflection from the dipping interface at G1 (equivalent to path G1-I)

$t_4$  is the arrival time of the reflection from the dipping interface at G2 (equivalent to path G2-I)

$t_5$  is the travel time over the distance S-I

Note: if the interpreter is using data aligned at two-way times, he can make measurements from this display but must ensure that the appropriate one-way travel times are subtracted from the picked values.

Using the cosine rule in triangle G1-G2-I, one finds

$$\cos \theta = \frac{t_3^2 + (t_1 - t_2)^2 - t_4^2}{2t_3(t_1 - t_2)}$$

Hence the angle  $\theta$  may be calculated.

Using the cosine rule in triangle S-G1-I, one finds

$$t_5^2 = t_1^2 + t_3^2 - 2t_1t_3 \cos \theta$$

Hence  $t_5$  may be calculated.

Using the sine rule in triangle S-G1-I gives

$$\frac{t_3}{\sin \alpha} = \frac{t_5}{\sin \theta}$$

Therefore the angle of dip is

$$\alpha = \sin^{-1} \left( \frac{t_3 \sin \theta}{t_5} \right)$$

### Method of calculation

To calculate the dip of any primary reflection observed on VSP data times  $t_1$ ,  $t_2$ ,  $t_3$ , and  $t_4$  are required. These values can be obtained from a combination of the computation sheet (supplied with the Log Calibration report is available, or alternatively with the VSP report) and deconvolved upgoing wavefield display.



Given a dipping primary reflection observed on the deconvolved upgoing wavefield, choose a pair of geophone traces to be used in the dip calculation.

It is advisable that the estimate be made as close to the time-depth curve as possible as the  $\Delta t$  due to dip is at its greatest for any given geophone spacing when the geophone is closest to the reflector in question.

- $t_1$ : the one-way first arrival time at the deeper of the chosen geophone positions can be obtained from the computation sheet (corrected time,  $t_c$ , at relevant depth). Alternatively, if the computation sheet is not available, the equivalent two-way time can be measured from the deconvolved upgoing wavefield display (time at time-depth curve on relevant trace) and halved; this method is, of course, less accurate.
- $t_2$ : the one-way first arrival time at the shallower of the chosen geophone positions
- $t_3$ : The time of the arrival of the reflection from the dipping horizon in question at the deeper of the chosen geophone positions. This can be obtained from the deconvolved upgoing wavefield by measuring the two-way time to the reflection being examined, on the relevant trace, and subtracting the one-way first arrival time at the same geophone (i.e.  $t_1$ ).

Similarly,

- $t_4$ : can be obtained from the deconvolved upgoing wavefield by the same process as  $t_3$ , but using the shallower geophone trace.

By substituting the values for these variables in the equations above, the angle of dip  $\alpha$ , can be calculated. It is suggested that the dip be calculated for a number of geophone pairs to provide an indication of the scatter on the dip estimate.

If the beds are not plane-dipping, then shorter segments of the reflector have to be used to determine the dip at any point, with an increased likelihood of error. Alternatively, the  $\Delta t$  can be smoothed by hand to give an "average" dip estimate. Note that the azimuth of dip cannot be calculated from this data.

If the dipping reflection terminates within the data, it is possible to calculate the offset of the termination, hence inferring the offset of a possible fault or "turn over" of the bed. As before, the calculation provides a reasonably accurate assessment of the size of the offset but no indication as to the azimuth. The assumptions made are the same as for the calculation of the angle of dip, and hence the same limitations will apply. If one considers figure 5.3, it can be quite easily (if tediously) shown that

$$RP = \frac{(r - g) r \sin (2\alpha)}{(2r - g) \cos \alpha}$$





Where: RP is the distance along the dipping horizon to the termination of the event

r is the depth of the geophone where the dipping horizon cuts the well

g is the depth of the shallowest geophone for which the reflector has an expression

$\alpha$  is the angle of dip

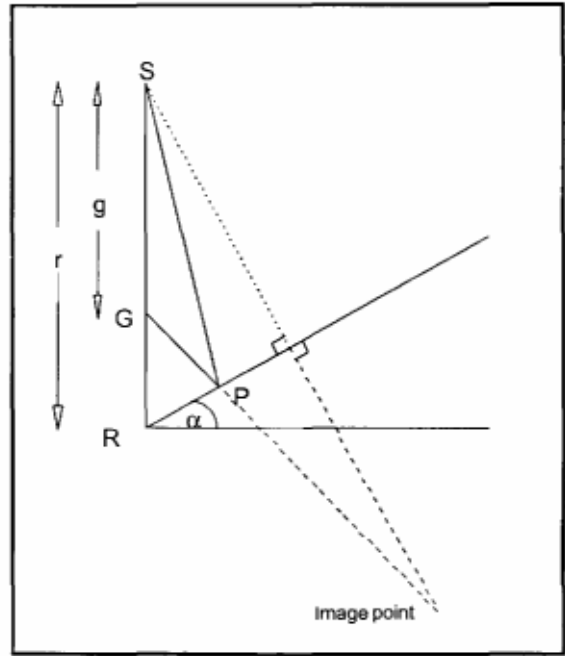


Figure 2 Offset of reflection point

### Calculation of the offset of diffraction points from the well

Figure 3 shows a normal fault close to a vertical borehole with diffraction points associated with the upper and lower discontinuities of the inclined bed. The diffraction points will scatter energy in both the S- and P-wave modes and these events may be detected by the array of geophone stations. The right hand panel of this figure, illustrates the ray propagation paths for either of the wave modes assuming a constant velocity profile. Figure 4 illustrates the alignment of both P- and S-wave diffractions within the data. P-wave arrivals form event hyperbolae that are asymptotic to the first arrival curve in one direction and P-wave horizontal reflections in the other. S-wave diffractions display a sharper curvature and in fact are asymptotic to the equivalent S-wavefields.

It should be obvious from figures 3 and 4, that the shortest travel path for the energy is that of direct p-wave propagation to the diffracting point followed by horizontal travel back from here to the geophone array. This means that the geophone that records the shortest time of the diffraction is positioned at the same depth as the diffracting point; the depth of the discontinuity can therefore be inferred by observing the apex of the hyperbola. The offset of discontinuity can be calculated quite simply by considering the diagram shown at the bottom of figure 4.

- If  $t_g$  is the one-way first arrival time to the geophone level recording the apex of the diffraction hyperbola.
- T is the travel time from source to diffraction point to geophone, i.e. the shortest travel time on the VSP display to the apex of the diffraction hyperbola.
- $T_0$  is the horizontal travel time from the diffraction point to the geophone (unknown).
- $v_a$  is the average velocity of the section between the source and the geophone.
- $v_i$  is the interval velocity (either P- or S-wave) between the diffraction point and the well.



then by using pythagoras it can be inferred that

$$(t_g v_a)^2 + (t_0 v_i)^2 = (T - t_0)^2 v_a^2$$

This is a quadratic equation in  $t_0$ , the unknown travel time element from the diffraction point, of the form

$$a(t_0)^2 + b t_0 + c = 0$$

whose coefficients are

$$a = \left( \frac{v_i^2}{v_a^2} \right) - 1$$

$$b = 2T$$

$$c = (t_g^2 - T^2)$$

The equation can be solved for  $t_0$  and the offset distance calculated ( $t_0 v_i$ ).

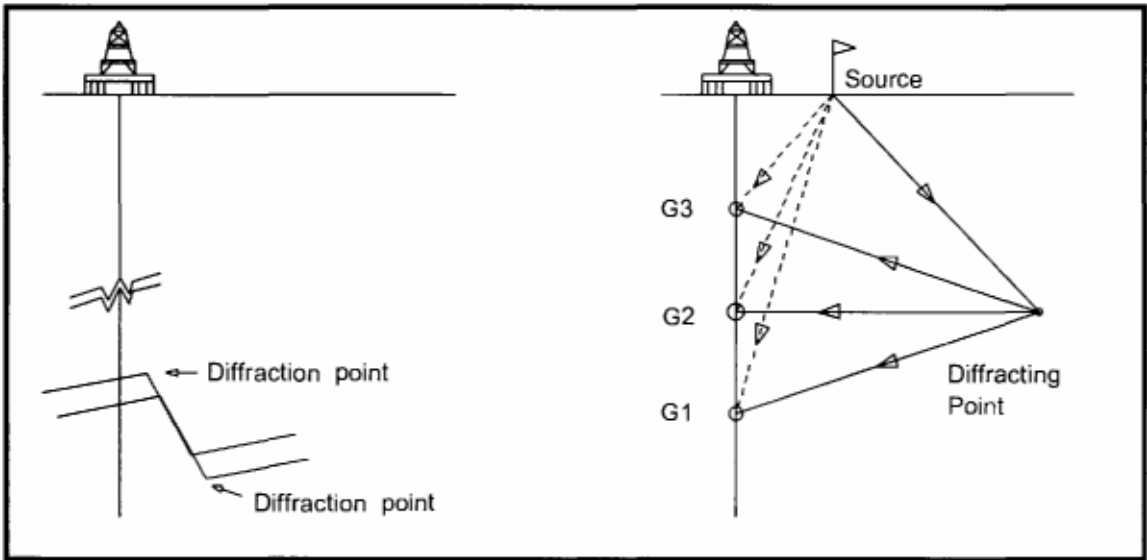


Figure 3 Diffraction model

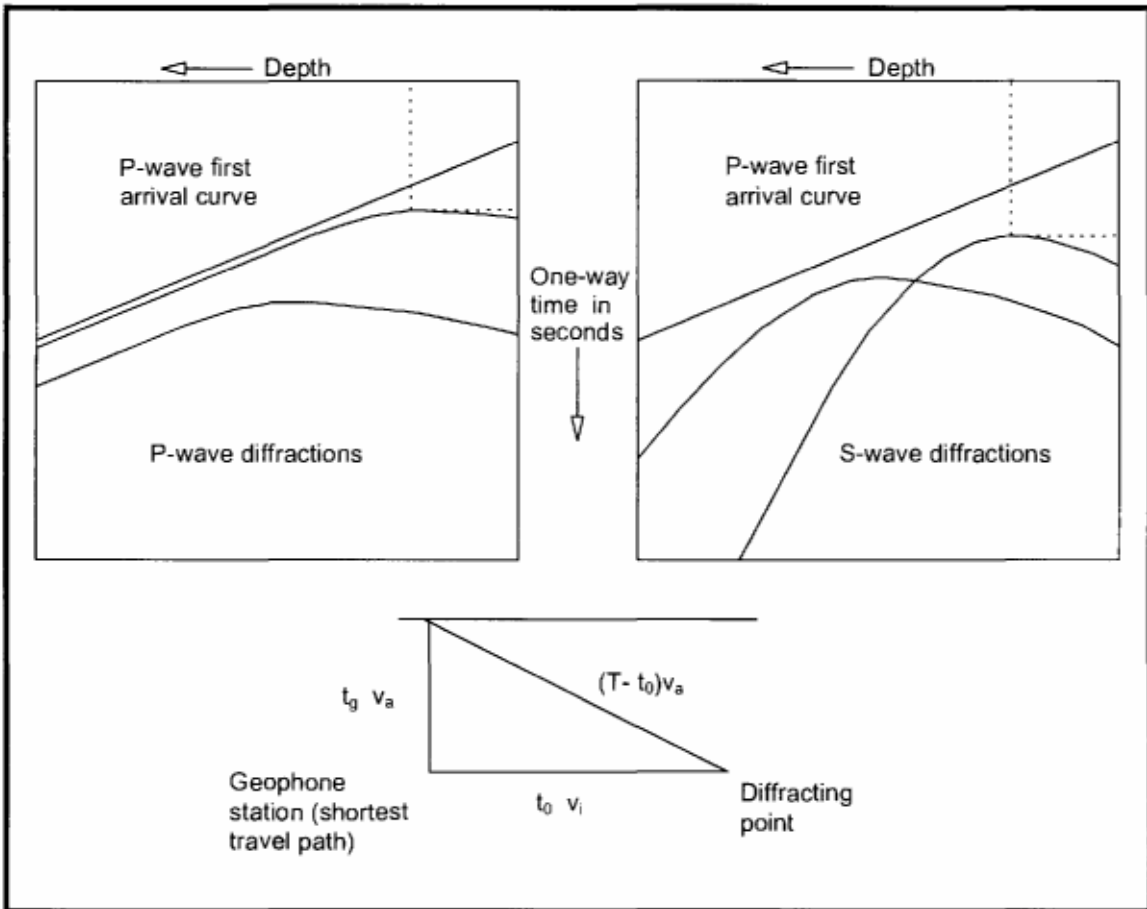


Figure 4 P- and S-wave diffractions

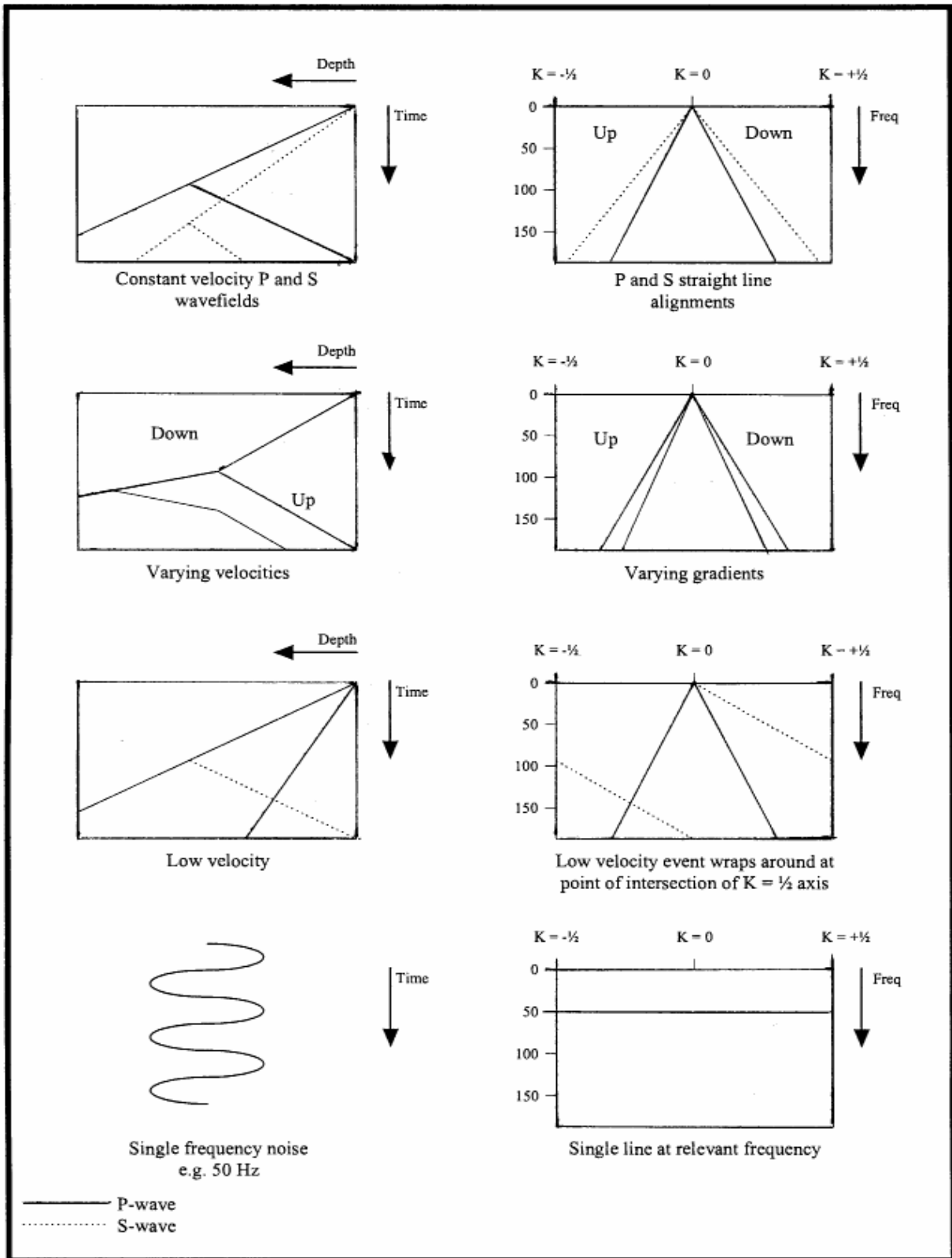


Figure 1 : Transformation From T-X To F-K Space

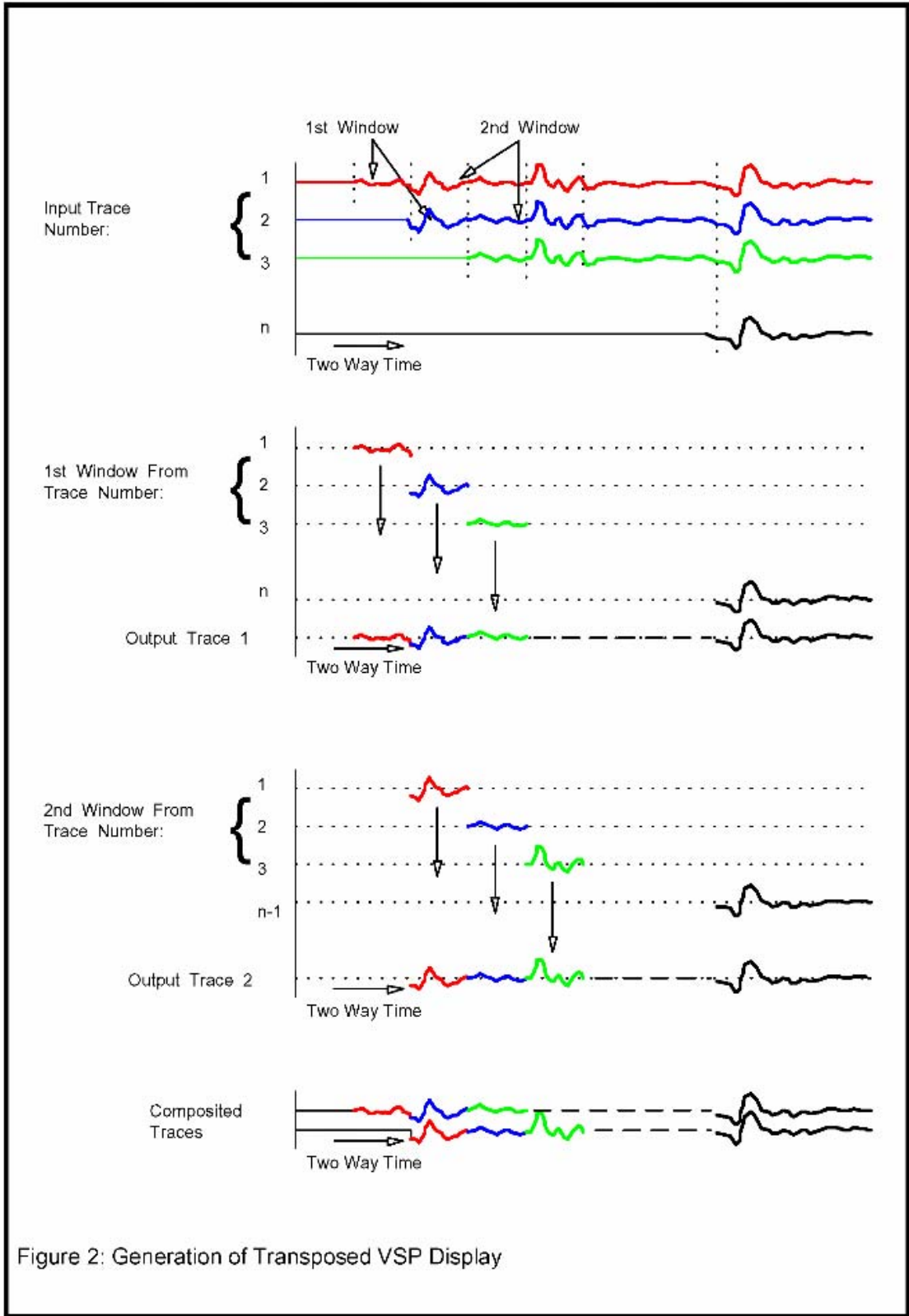


Figure 2: Generation of Transposed VSP Display



BOREHOLE

DISPLAY VB2

RIG SOURCE SURVEY  
VERTICAL SEISMIC PROFILE

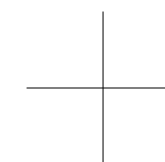
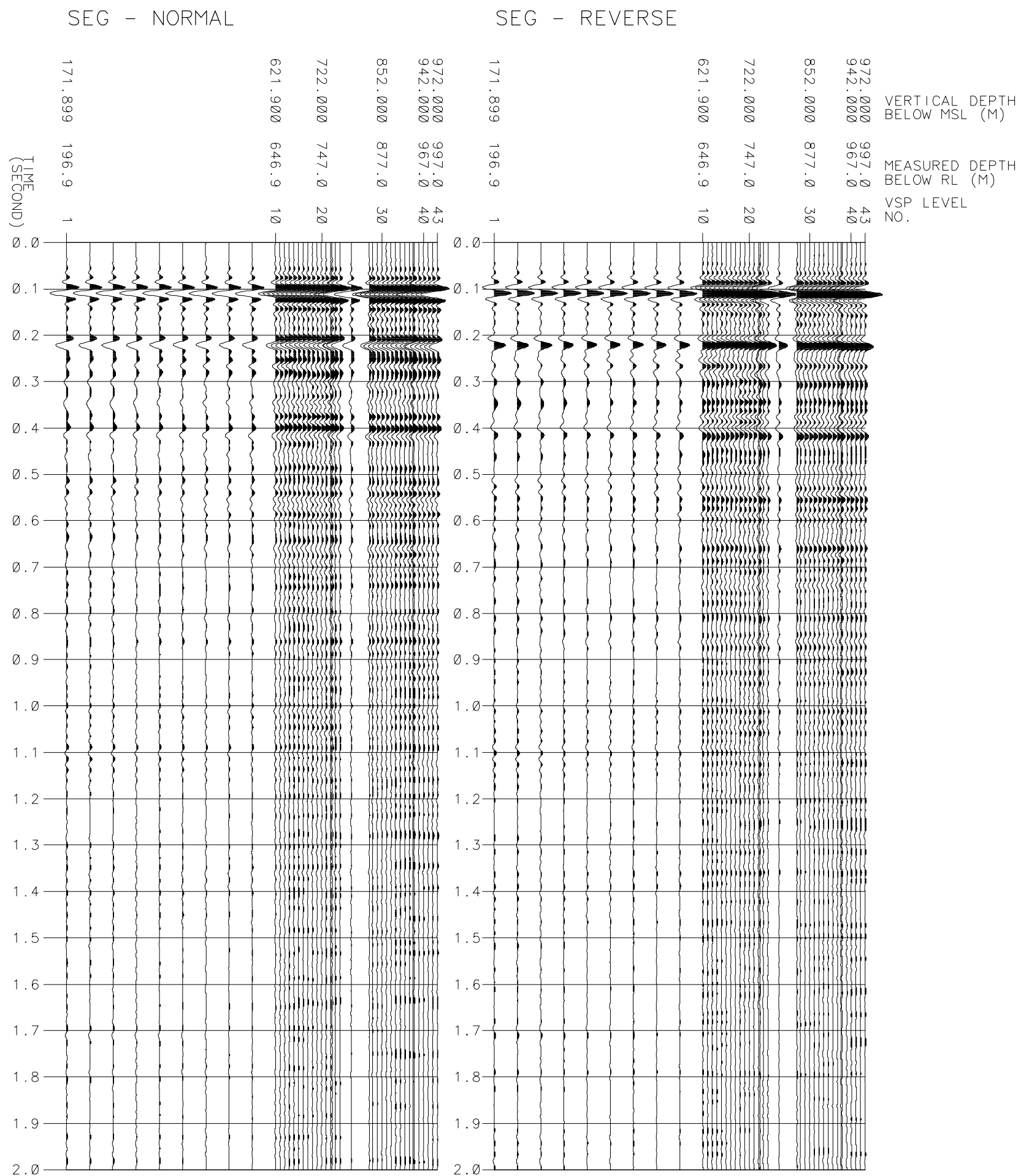
WELL : SOLE - 2  
COMPANY : OMV AUSTRALIA PTY. LTD.  
UTM WELL COORD. : 5 780 595.42 M N  
676 059.05 M E  
AREA : PERMIT VIC/RL3  
COUNTRY : AUSTRALIA

DOWNGOING WAVEFIELD  
SEISMIC MATCH FILTER

ZERO PHASE  
POLARITY : NORMAL & REVERSE  
TIME SCALE : 10 CM/S  
DEPTH SCALE : 1:10000

PROCESSING PARAMETERS

PRELIMINARY BANDPASS FILTER 5,10 - 100,120 HZ  
PARAMETRIC WAVEFIELD SEPARATION (1 WAVEFIELD, 5 TRACES)  
SEISMIC MATCH FILTER : 5,10 - 40,60 HZ





BOREHOLE

DISPLAY V61

INTERPRETERS COMPOSITE  
ZERO PHASE MAXIMUM BANDWIDTH FILTER  
RIG SOURCE SURVEY

WELL : SOLE - 2  
COMPANY : OMV AUSTRALIA PTY. LTD.  
UTM WELL COORD. : 5 780 595.42 m N  
676 059.05 m E  
AREA : Permit VIC/RL3  
COUNTRY : AUSTRALIA

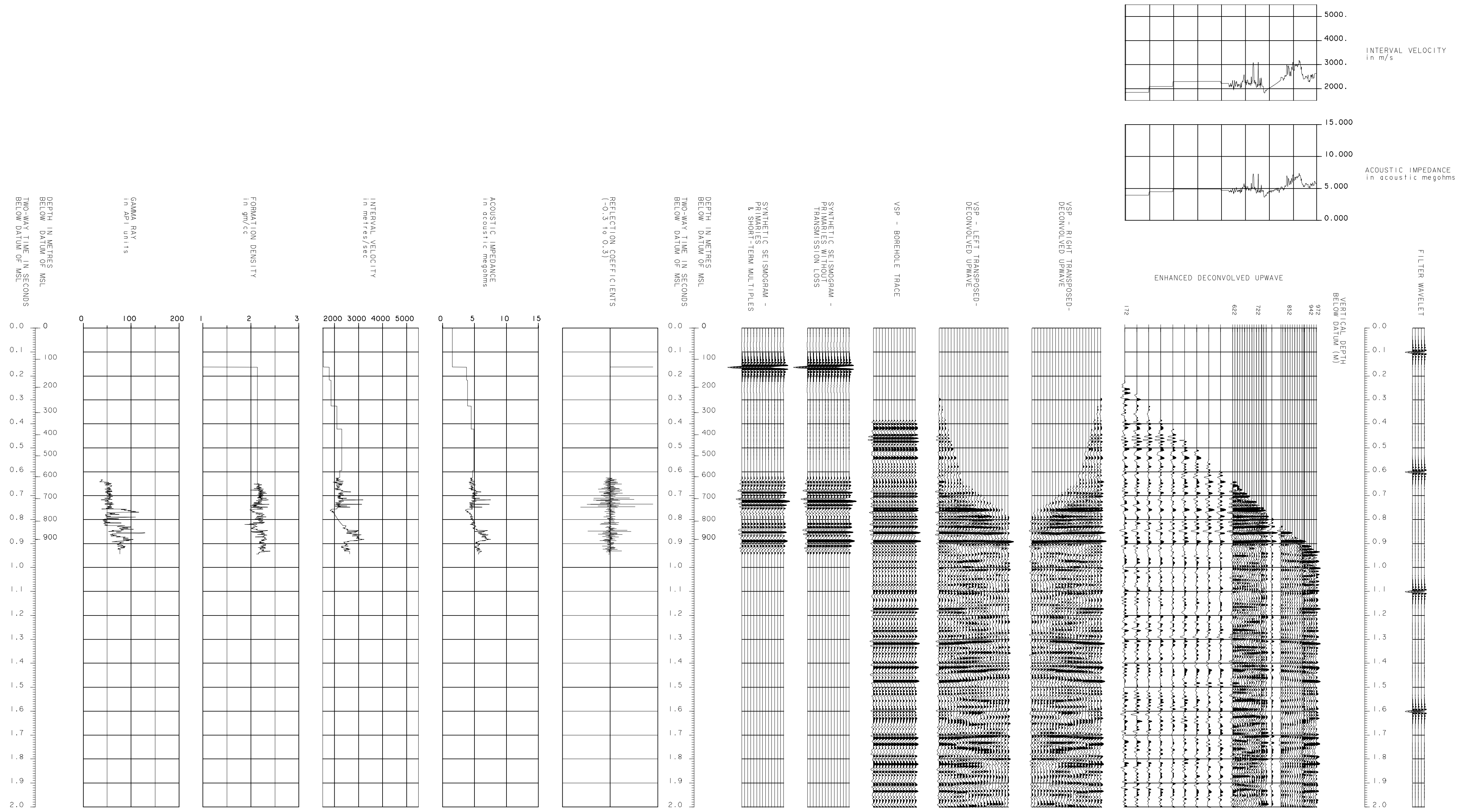
POLARITY : SEG NORMAL  
TIME SCALE : 10 CM/S  
DEPTH SCALE : 1:10000  
DATUM : MSL

VSP PROCESSING PARAMETERS

RIG SOURCE SURVEY:  
BANDPASS FILTER 5,10 - 100,120 HZ  
WAVEFIELD SEPARATION (1 WAVEFIELD, 5 TRACES)  
DETERMINISTIC DECONVOLUTION (600 MS SIGNAL SEARCH WINDOW)  
MAXIMUM BANDWIDTH FILTER 5,10 - 80,100 HZ  
DIP FILTER (7 SAMPLE MEDIAN OPERATOR, 0 MS/TR DIP)  
DATA TRANSPOSED WHERE APPLICABLE  
POST MEDIAN FILTER 4,8 - 85,105 HZ  
BOREHOLE TRACE  
DIP FILTER (5 SAMPLE MEDIAN OPERATOR, 0 MS/TR DIP)  
APPLIED TO TRANSPOSE DATA, THEN FIFTEEN TRACE REPEAT OF TRACE 3  
TRACE EQUALISATION 500 MS

SYNTHETIC SEISMOGRAM PROCESSING DETAILS

SYNTHETIC SEISMOGRAM DERIVED FROM ACOUSTIC IMPEDANCE LOG DETAILS OF THE VELOCITY MODEL USED BETWEEN MEAN SEA LEVEL AND THE TOP OF THE RECORDED LOG MAY BE OBTAINED FROM THE SYNTHETIC SEISMOGRAM REPORT.  
ZERO PHASE MAXIMUM BANDWIDTH FILTER (AS ABOVE).





BOREHOLE

DISPLAY V61

INTERPRETERS COMPOSITE  
ZERO PHASE MAXIMUM BANDWIDTH FILTER  
RIG SOURCE SURVEY

WELL : SOLE - 2  
COMPANY : OMV AUSTRALIA PTY. LTD.  
UTM WELL COORD. : 5 780 595.42 m N  
676 059.05 m E  
AREA : Permit VIC/RL3  
COUNTRY : AUSTRALIA

POLARITY : SEG REVERSE  
TIME SCALE : 10 CM/S  
DEPTH SCALE : 1:10000  
DATUM : MSL

VSP PROCESSING PARAMETERS

RIG SOURCE SURVEY:

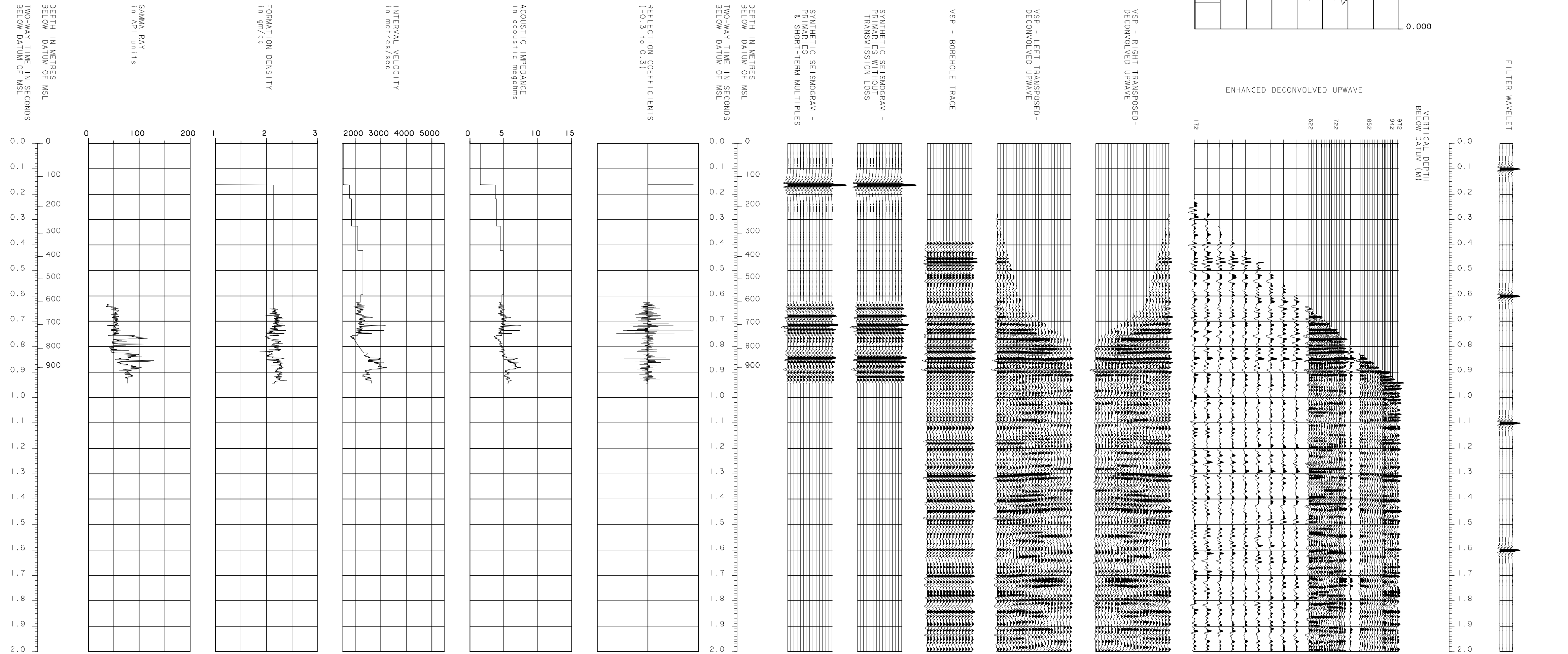
BANDPASS FILTER 5.10 - 100.120 HZ  
WAVEFIELD SEPARATION (1 WAVEFIELD, 5 TRACES)  
DETERMINISTIC DECONVOLUTION (600 MS SIGNAL SEARCH WINDOW)  
MAXIMUM BANDWIDTH FILTER 5.10 - 80.100 HZ  
DIP FILTER (7 SAMPLE MEDIAN OPERATOR, 0 MS/TR DIP)  
DATA TRANSPOSED WHERE APPLICABLE  
POST MEDIAN FILTER 4.8 - 85.105 HZ

BOREHOLE TRACE  
DIP FILTER (5 SAMPLE MEDIAN OPERATOR, 0 MS/TR DIP)  
APPLIED TO TRANSPOSE DATA, THEN FIFTEEN TRACE REPEAT OF TRACE 3  
TRACE EQUALISATION 500 MS

SYNTHETIC SEISMOGRAM PROCESSING DETAILS

SYNTHETIC SEISMOGRAM DERIVED FROM ACOUSTIC IMPEDANCE LOG DETAILS OF THE VELOCITY MODEL USED BETWEEN MEAN SEA LEVEL AND THE TOP OF THE RECORDED LOG MAY BE OBTAINED FROM THE SYNTHETIC SEISMOGRAM REPORT.

ZERO PHASE MAXIMUM BANDWIDTH FILTER (AS ABOVE).







BOREHOLE

DISPLAY VLI

### INTERPRETERS COMPOSITE ZERO PHASE SEISMIC MATCH FILTER RIG SOURCE SURVEY

WELL : SOLE - 2  
 COMPANY : OMV AUSTRALIA PTY. LTD.  
 UTM WELL COORD. : 5 780 595.42 m N  
                           676 059.05 m E  
 AREA : Permit VIC/RL3  
 COUNTRY : AUSTRALIA

POLARITY : SEG NORMAL  
 TIME SCALE : 10 CM/S  
 DEPTH SCALE : 1:10000  
 DATUM : MSL

#### VSP PROCESSING PARAMETERS

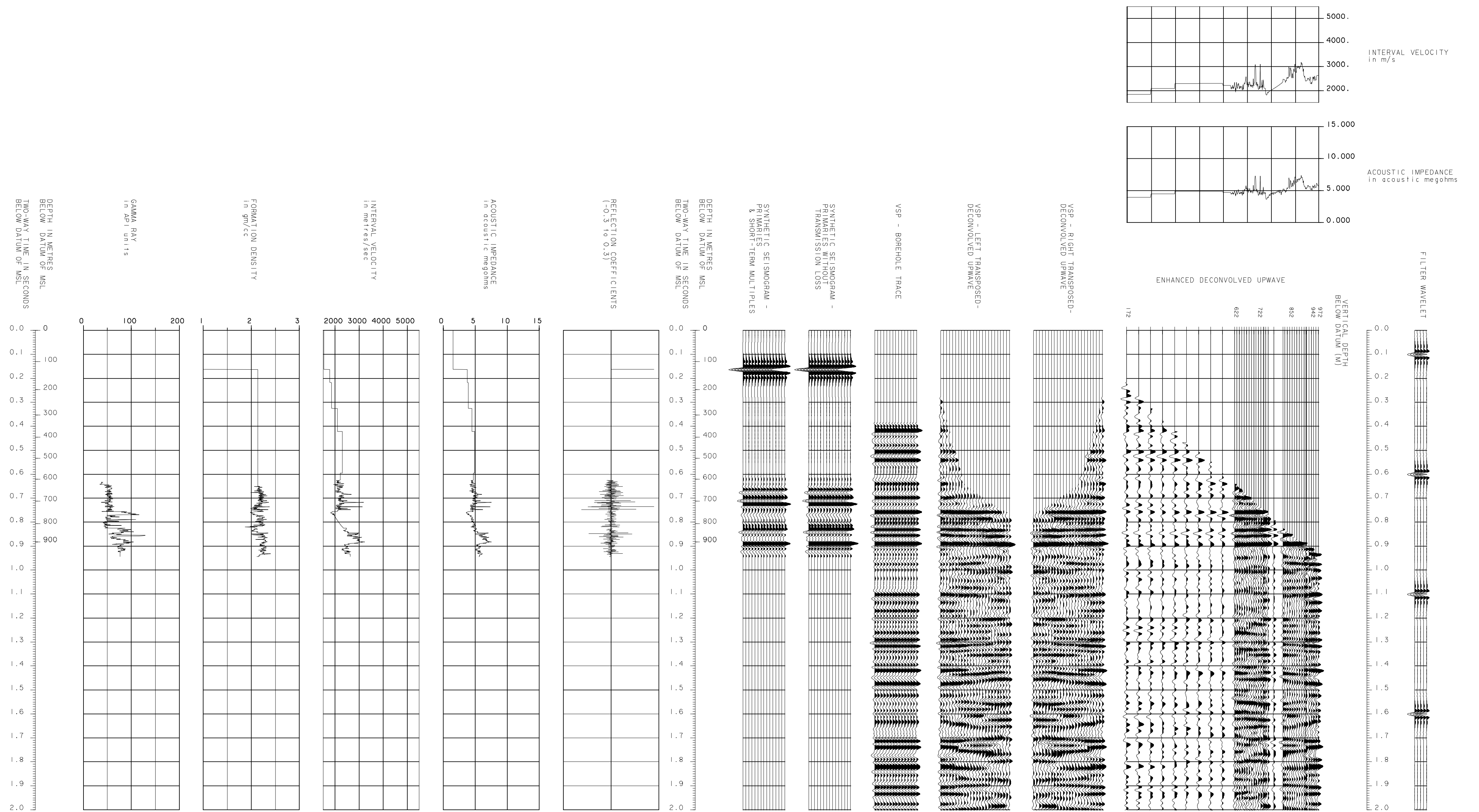
RIG SOURCE SURVEY:  
 BANDPASS FILTER 5,10 - 100,120 HZ  
 WAVEFIELD SEPARATION (1 WAVEFIELD, 5 TRACES)  
 DETERMINISTIC DECONVOLUTION (600 MS SIGNAL SEARCH WINDOW)  
 SEISMIC MATCH BANDPASS FILTER 5,10 - 40,60 HZ  
 DIP FILTER (7 SAMPLE MEDIAN OPERATOR, 0 MS/TR DIP)  
 DATA TRANSPOSED WHERE APPLICABLE  
 POST MEDIAN FILTER 4,8 - 45,65 HZ

BOREHOLE TRACE  
 DIP FILTER (5 SAMPLE MEDIAN OPERATOR, 0 MS/TR DIP)  
 APPLIED TO TRANSPOSE DATA, THEN FIFTEEN TRACE REPEAT OF TRACE 3  
 TRACE EQUALISATION 500 MS

#### SYNTHETIC SEISMOGRAM PROCESSING DETAILS

SYNTHETIC SEISMOGRAM DERIVED FROM ACOUSTIC IMPEDANCE LOG DETAILS OF THE VELOCITY MODEL USED BETWEEN MEAN SEA LEVEL AND THE TOP OF THE RECORDED LOG MAY BE OBTAINED FROM THE SYNTHETIC SEISMOGRAM REPORT.

ZERO PHASE SEISMIC MATCH BANDPASS FILTER (AS ABOVE).





BOREHOLE

DISPLAY VLI

### INTERPRETERS COMPOSITE ZERO PHASE SEISMIC MATCH FILTER RIG SOURCE SURVEY

WELL : SOLE - 2  
 COMPANY : OMV AUSTRALIA PTY. LTD.  
 UTM WELL COORD. : 5 780 595.42 m N  
                           676 059.05 m E  
 AREA : Permit VIC/RL3  
 COUNTRY : AUSTRALIA

POLARITY : SEG REVERSE  
 TIME SCALE : 10 CM/S  
 DEPTH SCALE : 1:10000  
 DATUM : MSL

#### VSP PROCESSING PARAMETERS

##### RIG SOURCE SURVEY:

BANDPASS FILTER 5,10 - 100,120 HZ  
 WAVEFIELD SEPARATION (1 WAVEFIELD, 5 TRACES)  
 DETERMINISTIC DECONVOLUTION (600 MS SIGNAL SEARCH WINDOW)  
 SEISMIC MATCH BANDPASS FILTER 5,10 - 40,60 HZ  
 DIP FILTER (7 SAMPLE MEDIAN OPERATOR, 0 MS/TR DIP)  
 DATA TRANSPOSED WHERE APPLICABLE  
 POST MEDIAN FILTER 4,8 - 45,65 HZ

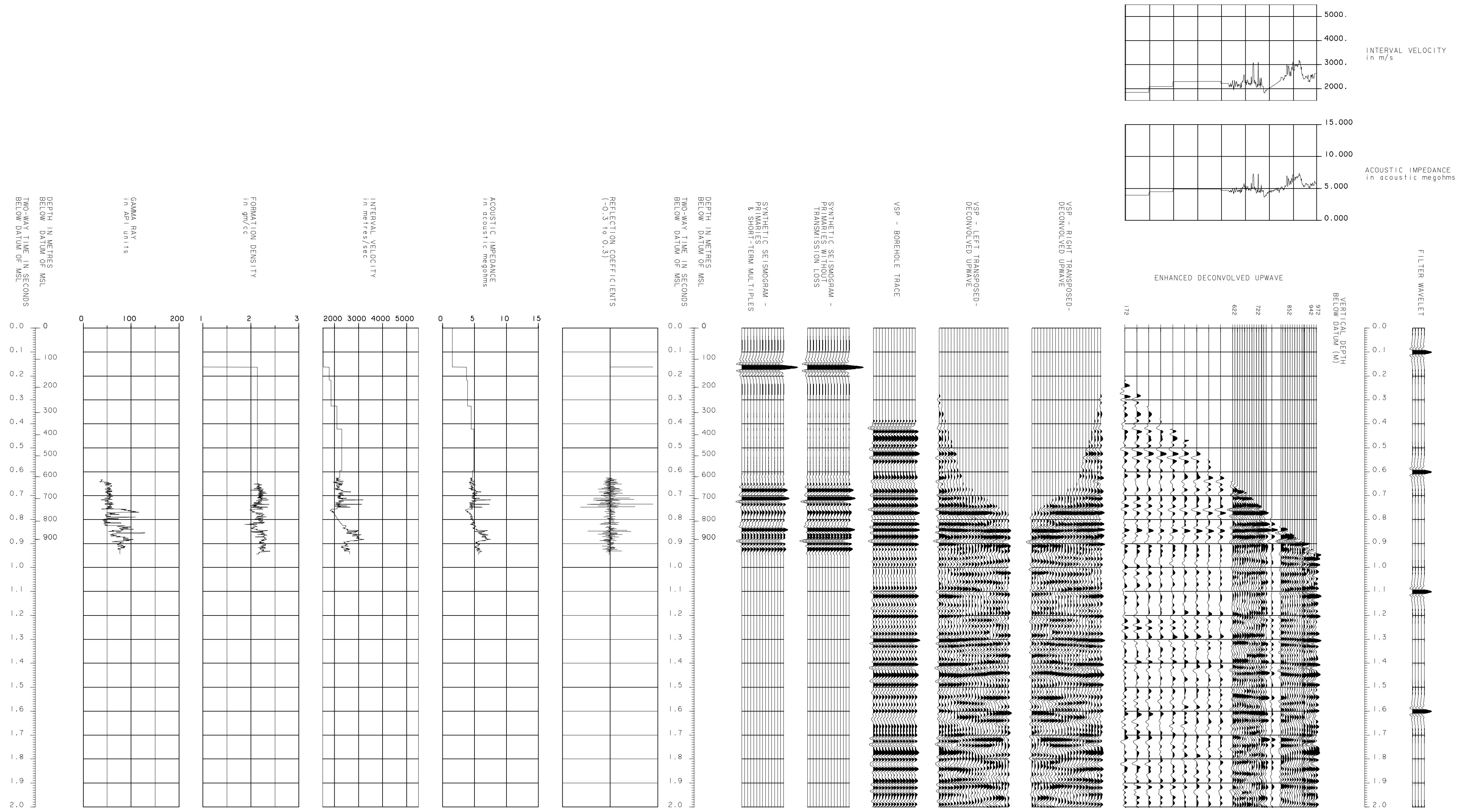
##### BOREHOLE TRACE

DIP FILTER (5 SAMPLE MEDIAN OPERATOR, 0 MS/TR DIP)  
 APPLIED TO TRANSPOSE DATA, THEN FIFTEEN TRACE REPEAT OF TRACE 3  
 TRACE EQUALISATION 500 MS

#### SYNTHETIC SEISMOGRAM PROCESSING DETAILS

SYNTHETIC SEISMOGRAM DERIVED FROM ACOUSTIC IMPEDANCE LOG DETAILS OF THE VELOCITY MODEL USED BETWEEN MEAN SEA LEVEL AND THE TOP OF THE RECORDED LOG MAY BE OBTAINED FROM THE SYNTHETIC SEISMOGRAM REPORT.

ZERO PHASE SEISMIC MATCH BANDPASS FILTER (AS ABOVE).



**GG BOREHOLE**

**RIG SOURCE SURVEY**

WELL : SOLE - 2  
 COMPANY : OMV AUSTRALIA PTY. LTD.  
 UTM WELL COORD. : 5 780 595.42 M N  
 676 059.05 M E  
 AREA : PERMIT VIC/RL3  
 COUNTRY : AUSTRALIA

**CALIBRATED VELOCITY LOG  
 DEPTH SCALE 1:500**

WELL DETAILS

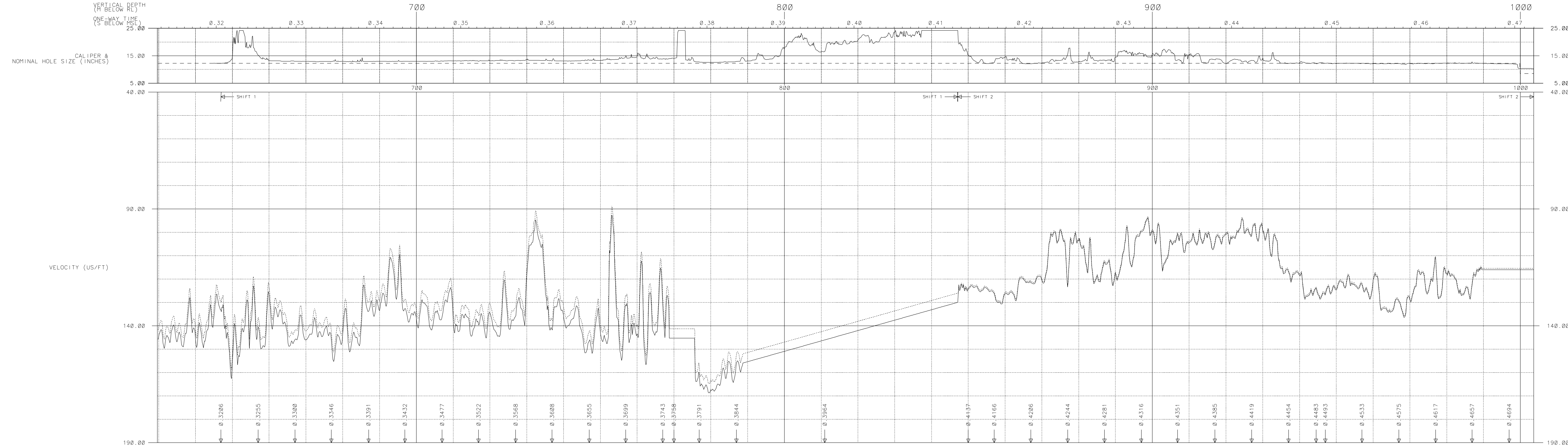
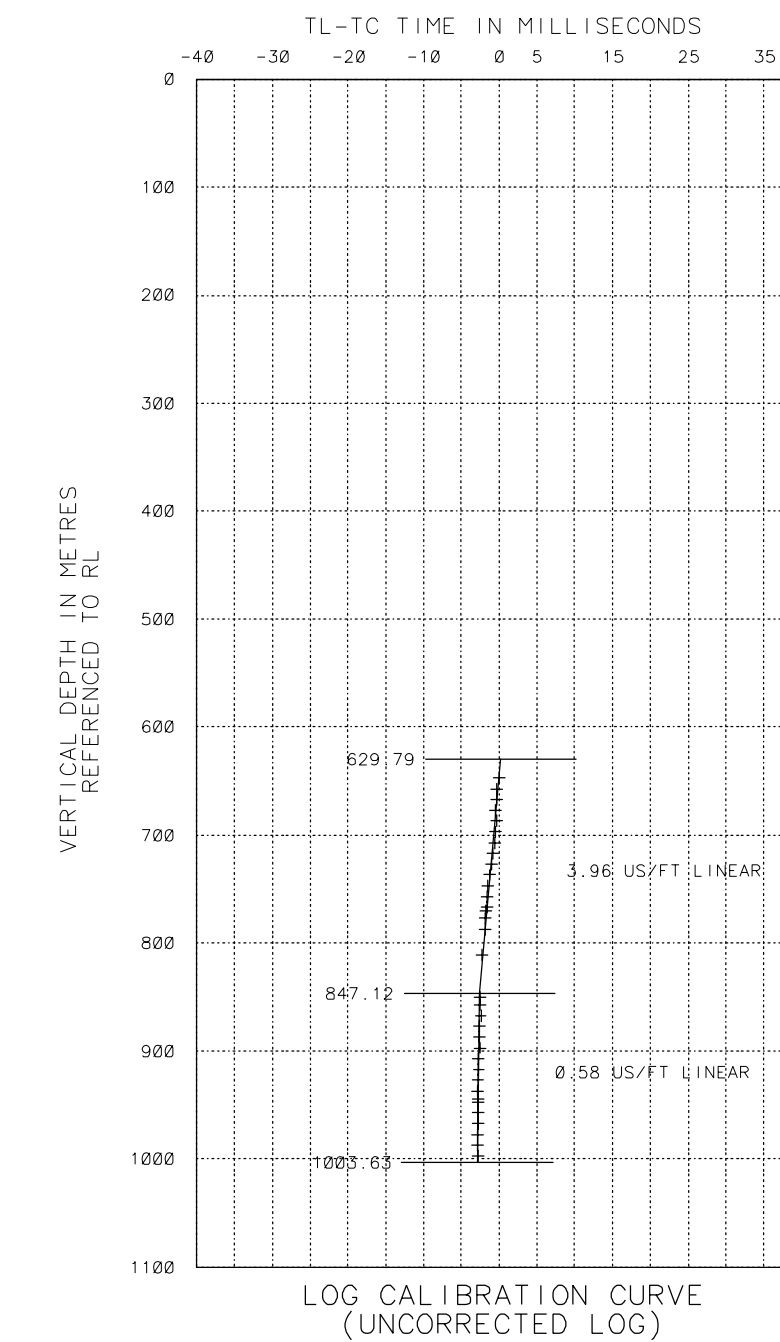
SEISMIC DATUM : MSL REFERENCE LEVEL : RL  
 ELEVATION OF SEA BED : 124.5M ELEVATION OF RL : 25.0M  
 CHECKSHOT SURVEY DATE : AUGUST 2002

ACOUSTIC LOG DETAILS

DEPTH RANGE LOGGED : 629.64M - 1003.48M (MEASURED DEPTHS)  
 CASING SIZE & DEPTH : N/A

REMARKS

THE LOG HAS BEEN EDITED FOR NOISE SPIKES BEFORE CALIBRATION.  
 THE FINAL LOG IS A VERTICAL LOG CALIBRATED USING RIG SOURCE VSP DATA.





BOREHOLE

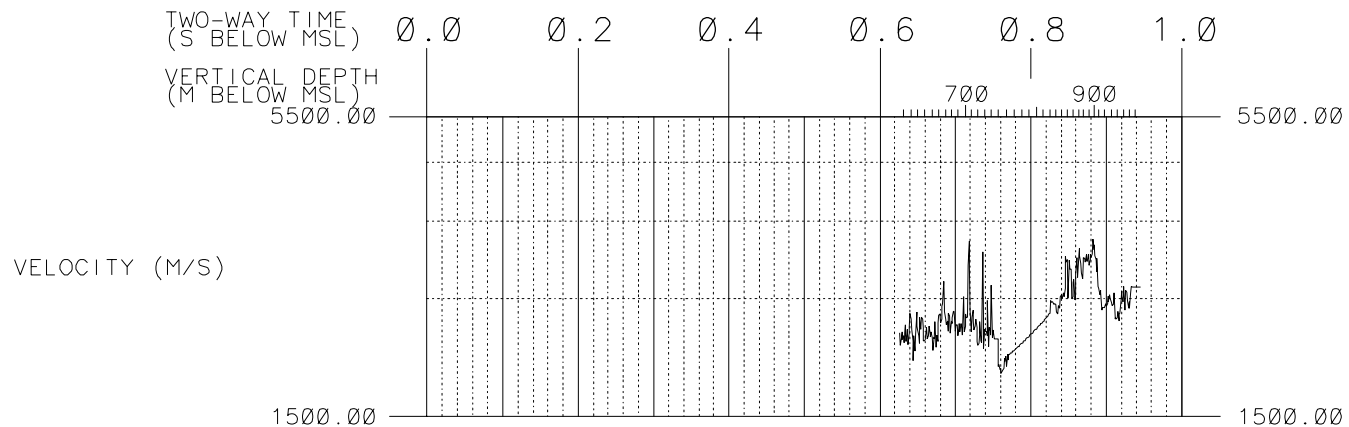
TWO-WAY TRAVEL TIME LOG

WELL : SOLE - 2

COMPANY : OMV AUSTRALIA PTY. LTD.

TIME SCALE : 10 CM/S

VELOCITY SCALE : LOG10 (VELOCITY)





BOREHOLE

DISPLAY SA1

### SYNTHETIC SEISMOGRAM RIG SOURCE SURVEY

WELL : SOLE - 2  
 COMPANY : OMV AUSTRALIA PTY. LTD.  
 UTM WELL COORD. : 5 780 595.42 M N  
 676 059.05 M E  
 AREA : PERMIT VIC/RL3  
 COUNTRY : AUSTRALIA

COMPOSITE  
 POLARITY : SEG NORMAL & REVERSE  
 TIME SCALE : 10 CM/S  
 RICKER WAVELET : 30 HZ ZERO PHASE

#### PROCESSING PARAMETERS

PRINCIPAL DATA : CALIBRATED VELOCITY LOG  
 SUPPLEMENTARY DATA : DENSITY & GAMMA-RAY LOGS  
 LOG DATA DIGITISING : CONTINUOUSLY IN DEPTH  
 SOURCE DEPTH (SEISMIC) : 5.0M (ASSUMED)  
 DETECTOR DEPTH (SEISMIC) : 4.0M (ASSUMED)  
 SYNTHETIC TIME-LAYER INTERVAL : 1 MS (TWO-WAY)  
 DEPTH SCALE : NON-LINEAR IN METER  
 DATUM : MSL  
 SURFACE REFLECTION COEFFICIENT : 0.18  
 VELOCITY MODEL : DEPTH (M) VELOCITY (M/S)

0.0 - 124.5	1524	(WATER VELOCITY)
124.5 - 171.9	1762#	(CHECK SHOT DATA)
171.9 - 271.9	1842#	(CHECK SHOT DATA)
271.9 - 372.0	2090#	(CHECK SHOT DATA)
372.0 - 472.0	2294#	(CHECK SHOT DATA)
472.0 - 571.9	2302#	(CHECK SHOT DATA)
571.9 - 604.6	2211#	(TOP OF LOG)

VERTICAL DEPTHS BELOW DATUM OF MSL  
 # DENOTES UNREALISTIC REFLECTION COEFFICIENT OMITTED DURING CALCULATIONS

CONVOLUTION WAVELETS : 30 HZ RICKER WAVELET

POLARITY :  
 - SEG NORMAL : INCREASE IN ACOUSTIC IMPEDANCE REPRESENTED BY A WHITE TROUGH WHEN CONVOLVED WITH A ZERO PHASE WAVELET.  
 - SEG REVERSE: INCREASE IN ACOUSTIC IMPEDANCE REPRESENTED BY A BLACK PEAK WHEN CONVOLVED WITH A ZERO PHASE WAVELET.

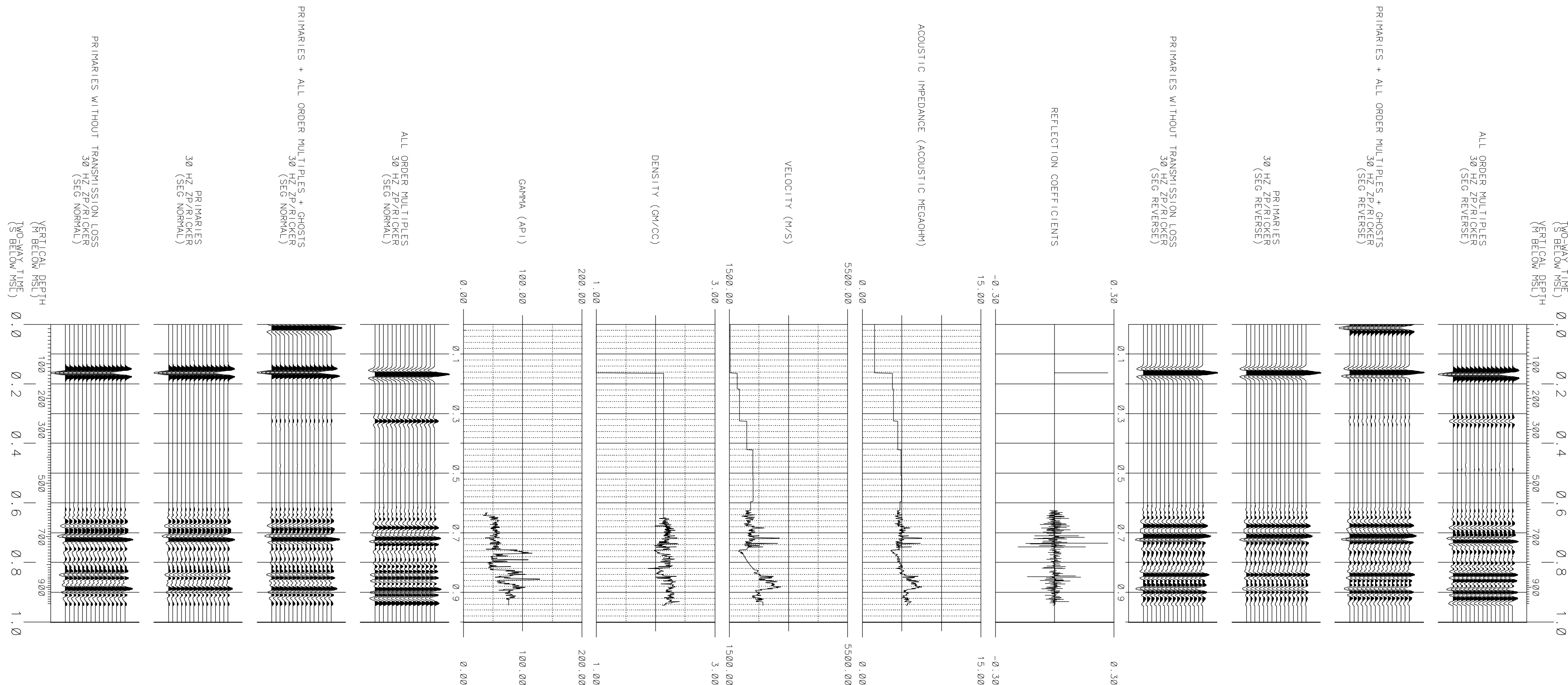
DIFFERENCE IN CALCULATED RESPONSE FOR MARINE AND LAND WELLS :

THE SYNTHETIC SEISMOGRAM CALCULATIONS ARE BASED ON THE ASSUMPTIONS THAT-  
 MARINE WELLS = HYDROPHONE RECEIVERS = PRESSURE-SENSITIVE  
 IE UP AND DOWNGOING WAVEFIELDS ARE THE SAME POLARITY  
 LAND WELLS = GEOPHONE RECEIVERS = VELOCITY-SENSITIVE  
 IE UP AND DOWNGOING WAVEFIELDS ARE OPPOSITE POLARITIES  
 CONSEQUENTLY,  
 FOR MARINE WELLS : A +VE REFLECTION COEFFICIENT GIVES A +VE PRIMARY SPIKE  
 FOR LAND WELLS : A +VE REFLECTION COEFFICIENT GIVES A -VE PRIMARY SPIKE

#### REMARKS

THE REFLECTION COEFFICIENT AT SEA BED HAS BEEN EDITED TO REPRESENT A CHANGE IN FORMATION DENSITY FROM 1.0 TO 1.5 GM/CC.

THE REFLECTION COEFFICIENTS GENERATED AT THE CHECK LEVELS (WITHIN THE VELOCITY MODEL), AND AT THE TOP OF THE LOG ARE CONSIDERED UNREALISTIC AND HAVE NOT BEEN INCLUDED IN THE SYNTHETIC SEISMOGRAM.





BOREHOLE

DISPLAY SA2

### SYNTHETIC SEISMOGRAM RIG SOURCE SURVEY

WELL : SOLE - 2  
 COMPANY : OMV AUSTRALIA PTY. LTD.  
 UTM WELL COORD. : 5 780 595.42 M N  
 676 059.05 M E  
 AREA : PERMIT VIC/RL3  
 COUNTRY : AUSTRALIA

COMPOSITE  
 POLARITY : SEG NORMAL & REVERSE  
 TIME SCALE : 10 CM/S  
 RICKER WAVELET : 40 HZ ZERO PHASE

#### PROCESSING PARAMETERS

PRINCIPAL DATA : CALIBRATED VELOCITY LOG  
 SUPPLEMENTARY DATA : DENSITY & GAMMA-RAY LOGS  
 LOG DATA DIGITISING : CONTINUOUSLY IN DEPTH  
 SOURCE DEPTH (SEISMIC) : 5.0M (ASSUMED)  
 DETECTOR DEPTH (SEISMIC) : 4.0M (ASSUMED)  
 SYNTHETIC TIME-LAYER INTERVAL : 1 MS (TWO-WAY)  
 DEPTH SCALE : NON-LINEAR IN METER  
 DATUM : MSL  
 SURFACE REFLECTION COEFFICIENT : 0.18  
 VELOCITY MODEL : DEPTH (M) VELOCITY (M/S)

0.0 - 124.5	1524	(WATER VELOCITY)
124.5 - 171.9	1762#	(CHECK SHOT DATA)
171.9 - 271.9	1842#	(CHECK SHOT DATA)
271.9 - 372.0	2090#	(CHECK SHOT DATA)
372.0 - 472.0	2294#	(CHECK SHOT DATA)
472.0 - 571.9	2302#	(CHECK SHOT DATA)
571.9 - 604.6	2211#	(TOP OF LOG)

VERTICAL DEPTHS BELOW DATUM OF MSL  
 # DENOTES UNREALISTIC REFLECTION COEFFICIENT OMITTED DURING CALCULATIONS

CONVOLUTION WAVELETS : 40 HZ RICKER WAVELET

POLARITY :  
 - SEG NORMAL : INCREASE IN ACOUSTIC IMPEDANCE REPRESENTED BY A WHITE TROUGH WHEN CONVOLVED WITH A ZERO PHASE WAVELET.  
 - SEG REVERSE: INCREASE IN ACOUSTIC IMPEDANCE REPRESENTED BY A BLACK PEAK WHEN CONVOLVED WITH A ZERO PHASE WAVELET.

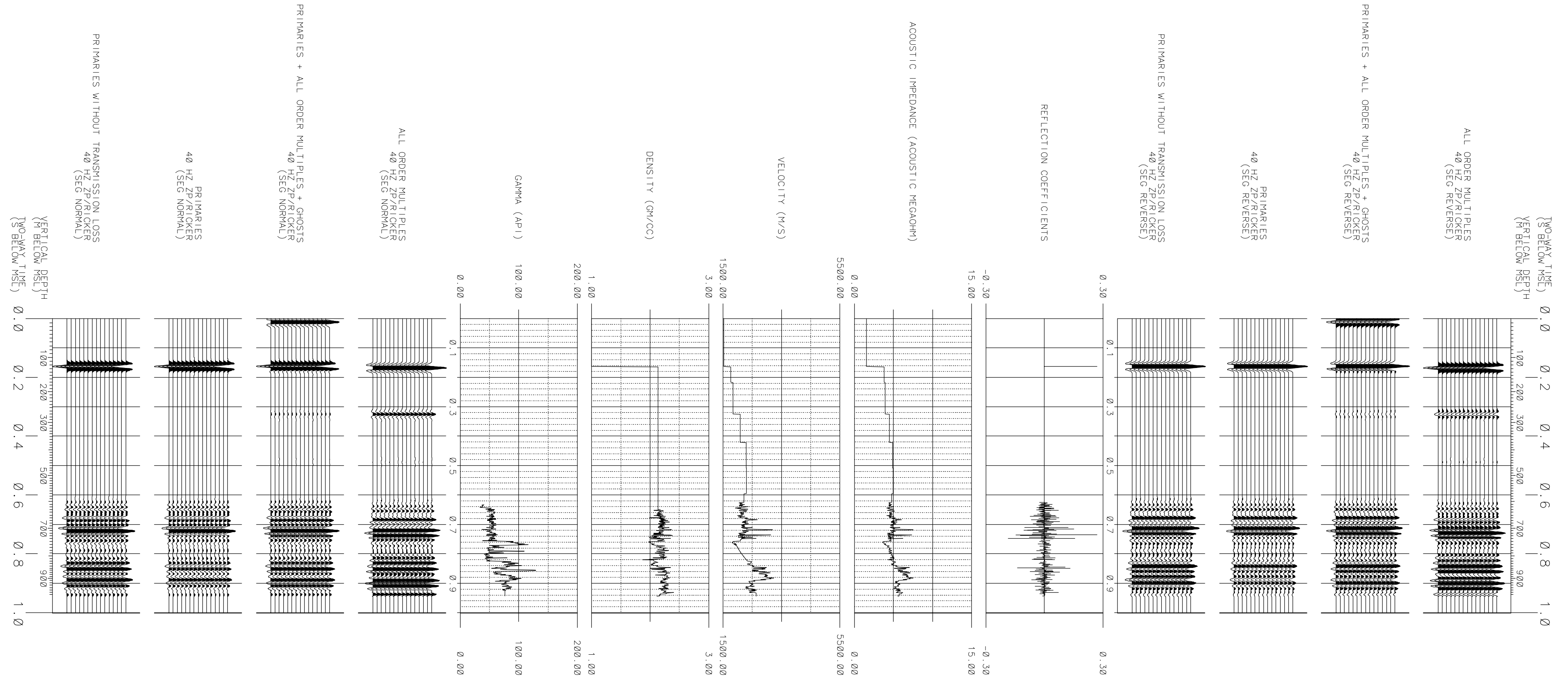
DIFFERENCE IN CALCULATED RESPONSE FOR MARINE AND LAND WELLS :

THE SYNTHETIC SEISMOGRAM CALCULATIONS ARE BASED ON THE ASSUMPTIONS THAT-  
 MARINE WELLS = HYDROPHONE RECEIVERS = PRESSURE-SENSITIVE  
 IE UP AND DOWNGOING WAVEFIELDS ARE THE SAME POLARITY  
 LAND WELLS = GEOPHONE RECEIVERS = VELOCITY-SENSITIVE  
 IE UP AND DOWNGOING WAVEFIELDS ARE OPPOSITE POLARITIES  
 CONSEQUENTLY,  
 FOR MARINE WELLS : A +VE REFLECTION COEFFICIENT GIVES A +VE PRIMARY SPIKE  
 FOR LAND WELLS : A +VE REFLECTION COEFFICIENT GIVES A -VE PRIMARY SPIKE

#### REMARKS

THE REFLECTION COEFFICIENT AT SEA BED HAS BEEN EDITED TO REPRESENT A CHANGE IN FORMATION DENSITY FROM 1.0 TO 1.5 GM/CC.

THE REFLECTION COEFFICIENTS GENERATED AT THE CHECK LEVELS (WITHIN THE VELOCITY MODEL), AND AT THE TOP OF THE LOG ARE CONSIDERED UNREALISTIC AND HAVE NOT BEEN INCLUDED IN THE SYNTHETIC SEISMOGRAM.







BOREHOLE

DISPLAY SA3

### SYNTHETIC SEISMOGRAM RIG SOURCE SURVEY

WELL : SOLE - 2  
 COMPANY : OMV AUSTRALIA PTY. LTD.  
 UTM WELL COORD. : 5 780 595.42 M N  
 676 059.05 M E  
 AREA : PERMIT VIC/RL3  
 COUNTRY : AUSTRALIA

COMPOSITE  
 POLARITY : SEG NORMAL & REVERSE  
 TIME SCALE : 10 CM/S  
 RICKER WAVELET : 50 HZ ZERO PHASE

#### PROCESSING PARAMETERS

PRINCIPAL DATA : CALIBRATED VELOCITY LOG  
 SUPPLEMENTARY DATA : DENSITY & GAMMA-RAY LOGS  
 LOG DATA DIGITISING : CONTINUOUSLY IN DEPTH  
 SOURCE DEPTH (SEISMIC) : 5.0M (ASSUMED)  
 DETECTOR DEPTH (SEISMIC) : 4.0M (ASSUMED)  
 SYNTHETIC TIME-LAYER INTERVAL : 1 MS (TWO-WAY)  
 DEPTH SCALE : NON-LINEAR IN METER  
 DATUM : MSL  
 SURFACE REFLECTION COEFFICIENT : 0.18  
 VELOCITY MODEL : DEPTH (M) VELOCITY (M/S)

0.0 - 124.5	1524	(WATER VELOCITY)
124.5 - 171.9	1762#	(CHECK SHOT DATA)
171.9 - 271.9	1842#	(CHECK SHOT DATA)
271.9 - 372.0	2090#	(CHECK SHOT DATA)
372.0 - 472.0	2294#	(CHECK SHOT DATA)
472.0 - 571.9	2302#	(CHECK SHOT DATA)
571.9 - 604.6	2211#	(TOP OF LOG)

VERTICAL DEPTHS BELOW DATUM OF MSL  
 # DENOTES UNREALISTIC REFLECTION COEFFICIENT OMITTED DURING CALCULATIONS

CONVOLUTION WAVELETS : 50 HZ RICKER WAVELET

POLARITY :  
 - SEG NORMAL : INCREASE IN ACOUSTIC IMPEDANCE REPRESENTED BY A WHITE TROUGH WHEN CONVOLVED WITH A ZERO PHASE WAVELET.  
 - SEG REVERSE: INCREASE IN ACOUSTIC IMPEDANCE REPRESENTED BY A BLACK PEAK WHEN CONVOLVED WITH A ZERO PHASE WAVELET.

DIFFERENCE IN CALCULATED RESPONSE FOR MARINE AND LAND WELLS :

THE SYNTHETIC SEISMOGRAM CALCULATIONS ARE BASED ON THE ASSUMPTIONS THAT-  
 MARINE WELLS = HYDROPHONE RECEIVERS = PRESSURE-SENSITIVE  
 IE UP AND DOWNGOING WAVEFIELDS ARE THE SAME POLARITY  
 LAND WELLS = GEOPHONE RECEIVERS = VELOCITY-SENSITIVE  
 IE UP AND DOWNGOING WAVEFIELDS ARE OPPOSITE POLARITIES  
 CONSEQUENTLY,  
 FOR MARINE WELLS : A +VE REFLECTION COEFFICIENT GIVES A +VE PRIMARY SPIKE  
 FOR LAND WELLS : A +VE REFLECTION COEFFICIENT GIVES A -VE PRIMARY SPIKE

#### REMARKS

THE REFLECTION COEFFICIENT AT SEA BED HAS BEEN EDITED TO REPRESENT A CHANGE IN FORMATION DENSITY FROM 1.0 TO 1.5 GM/CC.

THE REFLECTION COEFFICIENTS GENERATED AT THE CHECK LEVELS (WITHIN THE VELOCITY MODEL), AND AT THE TOP OF THE LOG ARE CONSIDERED UNREALISTIC AND HAVE NOT BEEN INCLUDED IN THE SYNTHETIC SEISMOGRAM.

