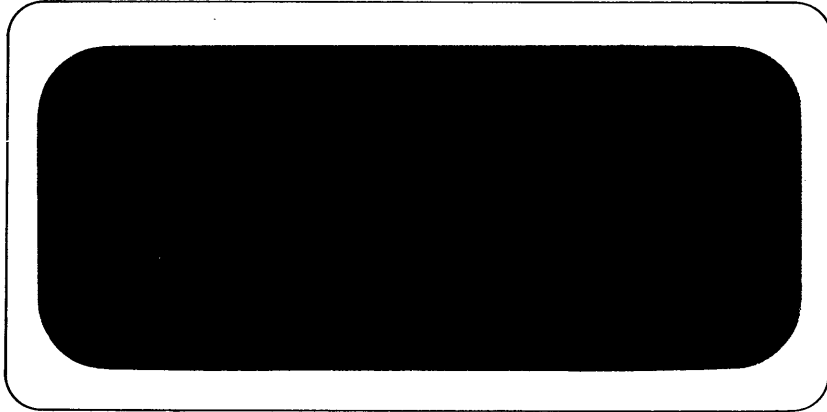
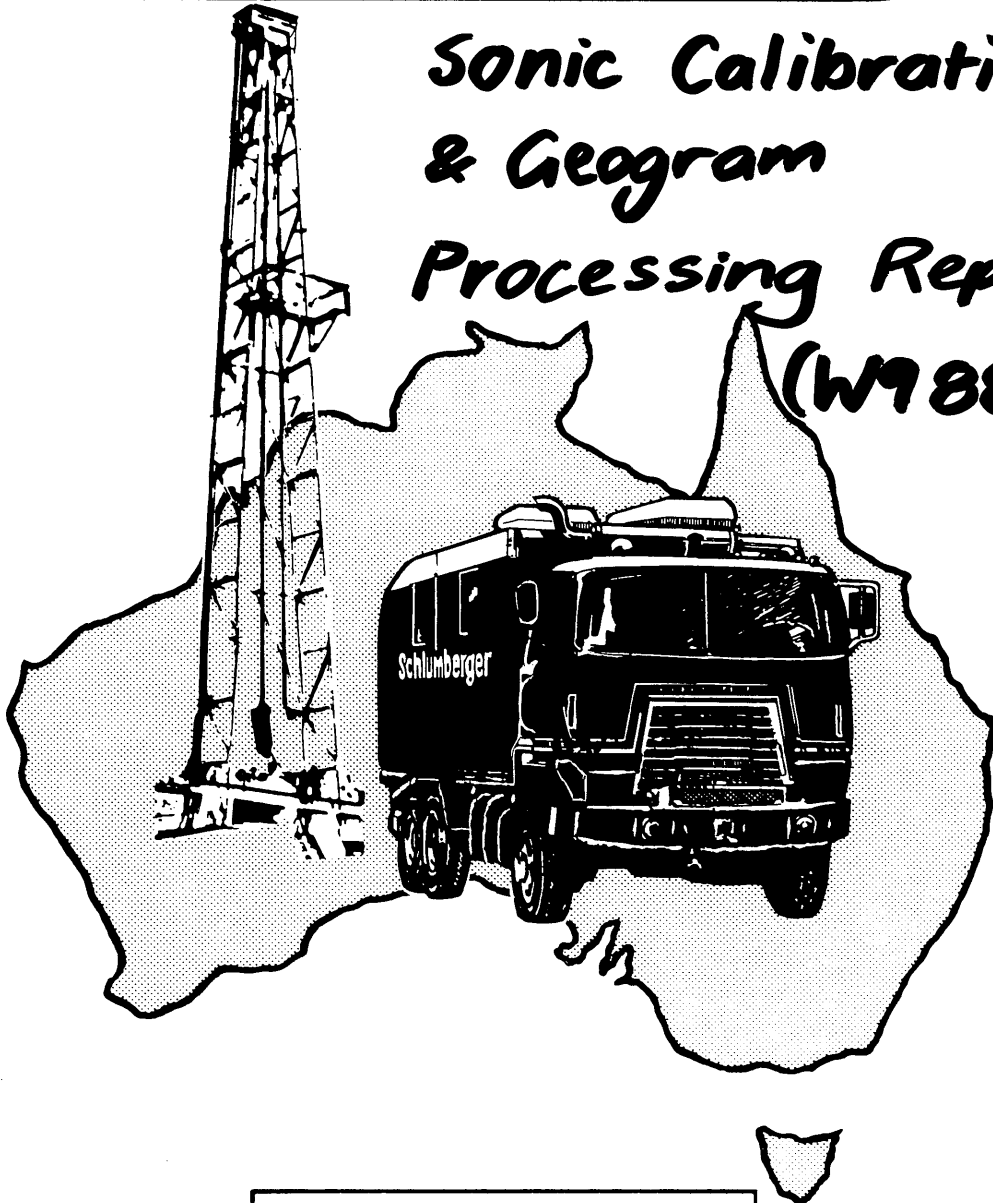




# ATTACHMENT TO WCR



## Sonic Calibration & Geogram Processing Report (W988)



**Schlumberger**

Schlumberger

15 SEP 1989

ESSO AUSTRALIA LTD

SONIC CALIBRATION  
AND GEOGRAM

PROCESSING REPORT

PETROLEUM DIVISION

MULLOWAY #1

FIELD : WILDCAT

STATE : VICTORIA

COUNTRY : AUSTRALIA

COORDINATES : 038° 19' 27.46" S  
147° 29' 01.82" E

DATE OF SURVEY : 19 FEBRUARY 89

REFERENCE NO. : SYJ-56313

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## 1. Introduction

A checkshot survey was shot in the Mullyway #1 well on 19 February 1989. Data was acquired using an airgun source located 40 meters from the wellhead. Ten levels were shot from 1690 meters to 779 meters below KB. All levels were used in the sonic calibration processing.

## 2. Data Acquisition

The data was acquired using the well seismic tool (WST). Recording was made on the Schlumberger Cyber Service Unit (CSU) using LIS format at a tape density of 800 BPI.

Table 1: Survey Parameters

Datum	AMSL
Elevation KB	21.0 meters AMSL
Elevation DF	20.7 meters AMSL
Elevation GL	37.0 meters below AMSL
Total Depth	1721 meters below KB
Energy Source	Airgun
Source Offset	40 meters
Source Depth	4 meters
Reference Sensor	Hydrophone & Accelerometer
Downhole Geophone	Geospace HS-1 High Temp. (350°F) Coil Resist. 225Ω ±10 % Natural Freq. 8-12 hertz Sensitivity 0.45 V/in/sec Maximum tilt angle 60°

### 3. Sonic Calibration Processing

#### 3.1 Sonic Calibration

A 'drift' curve is obtained using the sonic log and the vertical check level times. The term 'drift' is defined as the seismic time (from check shots) minus the sonic time (from integration of edited sonic). Commonly the word 'drift' is used to identify the above difference, or to identify the gradient of drift versus increasing depth, or to identify a difference of drift between two levels.

The gradient of drift, that is the slope of the drift curve, can be negative or positive.

For a negative drift  $\frac{\Delta drift}{\Delta depth} < 0$ , the sonic time is greater than the seismic time over a certain section of the log.

For a positive drift  $\frac{\Delta drift}{\Delta depth} > 0$ , the sonic time is less than the seismic time over a certain section of the log.

The drift curve, between two levels, is then an indication of the error on the integrated sonic or an indication of the amount of correction required on the sonic to have the TTI of the corrected sonic match the check shot times.

Two methods of correction to the sonic log are used.

1. **Uniform or block shift** This method applies a uniform correction to all the sonic values over the interval. This uniform correction is applied in the case of positive drift and is the average correction represented by the drift curve gradient expressed in  $\mu\text{sec}/\text{ft}$ .
2.  **$\Delta T$  Minimum** In the case of negative drift a second method is used, called  $\Delta t$  minimum. This applies a differential correction to the sonic log, where it is assumed that the greatest amount of transit time error is caused by the lower velocity sections of the log. Over a given interval the method will correct only  $\Delta t$  values which are higher than a threshold, the  $\Delta t_{min}$ . Values of  $\Delta t$  which are lower than the threshold are not corrected. The correction is a reduction of the excess of  $\Delta t$  over  $\Delta t_{min}$ ,  $\Delta t - \Delta t_{min}$ .

$\Delta t - \Delta t_{min}$  is reduced through multiplication by a reduction coefficient which remains constant over the interval. This reduction coefficient, named  $G$ , can be defined as:

$$G = 1 + \frac{drift}{\int (\Delta t - \Delta t_{min}) dZ}$$

Where drift is the drift over the interval to be corrected and the value  $\int (\Delta t - \Delta t_{min}) dZ$  is the time difference between the integrals of the two curves  $\Delta t$  and  $\Delta t_{min}$ , only over the intervals where  $\Delta t > \Delta t_{min}$ .

Hence the corrected sonic:  $\Delta t = G(\Delta t - \Delta t_{min}) + \Delta t_{min}$ .

### **3.2 Checkshot Data**

The accelerometer on the airgun is used as the zero time reference. Checkshot data quality is good and is displayed in Figure 2.

### **3.3 Correction to Datum**

The corrected sonic log is referenced to seismic datum at MSL. All transit times have been corrected to datum by assuming a water velocity of 1480 metres/sec.

### **3.4 Open Hole Logs**

The sonic log was recorded from 1690 meters to 180 meters below KB. Minor zones of cycle skipping have been removed. The density log was recorded from 1690 meters to 780 meters and is extrapolated to the surface at a constant density.

The caliper and gamma ray curves are included as correlation curves.

### **3.5 Sonic Calibration Results**

The top of the sonic log (180 meters below KB) is chosen as the origin for the calibration drift curve.

The sonic drift curve indicates a negligible drift over the check shot interval. No drift correction has been applied

## 4. Synthetic Seismogram Processing

GEOGRAM plots were generated using zero phase phase Ricker wavelets ( 25 Hz and 35 Hz ).

The presentations include both normal and reverse polarity on a time scale of 10 cm/sec.

GEOGRAM processing produces synthetic seismic traces based on reflection coefficients generated from sonic and density measurements in the well-bore. The steps in the processing chain are the following:

- Depth to time conversion
- Reflection coefficient generation
- Attenuation coefficient calculation
- Convolution
- Output.

### 4.1 Depth to Time Conversion

Open hole logs are recorded from the bottom to top with a depth index. This data is converted to a two-way time index and flipped to read from the top to bottom in order to match the seismic section.

### 4.2 Primary Reflection Coefficients

Sonic and density data are averaged over chosen time intervals (normally 2 or 4 mil-lisecs). Reflection coefficients are then computed using:

$$R = \frac{\rho_2 \cdot \nu_2 - \rho_1 \cdot \nu_1}{\rho_2 \cdot \nu_2 + \rho_1 \cdot \nu_1}$$

where:

- $\rho_1$  = density of the layer above the reflection interface
- $\rho_2$  = density of the layer below the reflection interface
- $\nu_1$  = compressional wave velocity of the layer above the reflection interface
- $\nu_2$  = compressional wave velocity of the layer below the reflection interface

This computation is done for each time interval to generate a set of primary reflection coefficients without transmission losses.



### 4.3 Primaries with Transmission Loss

Transmission loss on two-way attenuation coefficients is computed using:

$$A_n = (1 - R_1^2) \cdot (1 - R_2^2) \cdot (1 - R_3^2) \dots (1 - R_n^2)$$

A set of primary reflection coefficients with transmission loss is generated using:

$$Primary_n = R_n \cdot A_{n-1}$$

### 4.4 Primaries plus Multiples

Multiples are computed from these input reflection coefficients using the transform technique from the top of the well to obtain the impulse response of the earth. The transform outputs primaries plus multiples.

### 4.5 Multiples Only

By subtracting previously calculated primaries from the above result we obtain multiples only.

### 4.6 Wavelet

A theoretical wavelet is chosen to use for convolution with the reflection coefficients previously generated. Choices available include:

- Klauder wavelet
- Ricker zero phase wavelet
- Ricker minimum phase wavelet
- Butterworth wavelet
- User defined wavelet.

Time variant Butterworth filtering can be applied after convolution.

### 4.7 Polarity Convention

An increase in acoustic impedance gives a positive reflection coefficient, is written to tape as a negative number and is displayed as a white trough under normal polarity. Polarity conventions are displayed in Figure-1.

### 4.8 Convolution

The standard procedure of convolving the wavelet with reflection coefficients; the output is the synthetic seismogram.

## A Summary of Geophysical Listings

Six geophysical data listings are appended to this report. Following is a brief description of the format of each listing.

### A1 Geophysical Airgun Report

1. Level number : the level number starting from the top level (includes any imposed shots).
2. Measured depth from KB :  $dkb$ , the depth in meters from kelly bushing .
3. Vertical depth from SRD :  $dsrd$ , the depth in meters from seismic reference datum.
4. Vertical depth from GL :  $dgl$ , the depth in meters from ground level.
5. Observed travel time HYD to GEO :  $tim0$ , the transit time picked from the stacked data by subtracting the surface sensor first break time from the downhole sensor first break time.
6. Vertical travel time SRC to GEO :  $timv$ , is corrected for source to hydrophone distance and for source offset.
7. Vertical travel time SRD to GEO :  $shtm$ , is  $timv$  corrected for the vertical distance between source and datum.
8. Average velocity SRD to GEO : the average seismic velocity from datum to the corresponding checkshot level,  $\frac{dsrd}{shtm}$ .
9. Delta depth between shots :  $\Delta depth$ , the vertical distance between each level.
10. Delta time between shots :  $\Delta time$ , the difference in vertical travel time ( $shtm$ ) between each level.
11. Interval velocity between shots : the average seismic velocity between each level,  $\frac{\Delta depth}{\Delta time}$ .

### A2 Drift Computation Report

1. Level number : the level number starting from the top level (includes any imposed shots).
2. Vertical depth from KB : the depth in meters from kelly bushing .
3. Vertical depth from SRD : the depth in meters from seismic reference datum.
4. Vertical depth from GL : the depth in meters from ground level.
5. Vertical travel time SRD to GEO : the calculated vertical travel time from datum to downhole geophone (see column 7, Geophysical Airgun Report).

6. Integrated raw sonic time : the raw sonic log is integrated from top to bottom and listed at each level. An initial value at the top of the sonic log is set equal to the checkshot time at that level. This may be an imposed shot if a shot was not taken at the top of the sonic.
7. Computed drift at level : the checkshot time minus the integrated raw sonic time.
8. Computed blk-shft correction : the drift gradient between any two checkshot levels ( $\frac{\Delta drift}{\Delta depth}$ ).

### A3 Sonic Adjustment Parameter Report

1. Knee number : the knee number starting from the highest knee. (The first knees listed will generally be at SRD and the top of sonic. The drift imposed at these knees will normally be zero.)
2. Vertical depth from KB : the depth in meters from kelly bushing .
3. Vertical depth from SRD : the depth in meters from seismic reference datum.
4. Vertical depth from GL : the depth in meters from ground level.
5. Drift at knee : the value of drift imposed at each knee.
6. Blockshift used : the change in drift divided by the change in depth between any two levels.
7. Delta-T minimum used : see section 4 of report for an explanation of  $\Delta t_{min}$ .
8. Reduction factor : see section 4 of report.
9. Equivalent blockshift : the gradient of the imposed drift curve.

### A4 Velocity Report

1. Level number : the level number starting from the top level (includes any imposed shots).
2. Vertical depth from KB : the depth in meters from kelly bushing .
3. Vertical depth from SRD : the depth in meters from seismic reference datum
4. Vertical depth from GL : the depth in meters from ground level
5. Vertical travel time SRD to GEOPH : the vertical travel time from SRD to downhole geophone (see column 7, Geophysical Airgun Report)
6. Integrated adjusted sonic time : the adjusted sonic log is integrated from top to bottom. An initial value at the the top of the sonic is set equal the checkshot time at that level. (The adjusted sonic log is the drift corrected sonic log.)

7. Drift=shot time-raw sonic : the check shot time minus the raw integrated sonic time.
8. Residual=shot time-adj sonic : the check shot time minus the adjusted integrated sonic time. This is the difference between calculated drift and the imposed drift.
9. Adjusted interval velocity : the interval velocity calculated from the integrated adjusted sonic time at each level.

## A5 Time Converted Velocity Report

The data in this listing has been resampled in time.

1. Two way travel time from SRD : This is the index for the data in this listing. The first value is at SRD (0 millisecs) and the sampling rate is 2 millisecs.
2. Measured depth from KB : the depth from KB at each corresponding value of two way time.
3. Vertical depth from SRD : the vertical depth from SRD at each corresponding value of two way time.
4. Average velocity SRD to GEO : the vertical depth from SRD divided by half the two way time.
5. RMS velocity : the root mean square velocity from datum to the corresponding value of two way time.

$$v_{rms} = \sqrt{\frac{\sum_1^n v_i^2 t_i}{\sum_1^n t_i}}$$

where  $v_i$  is the velocity between each 2 millisecs interval.

6. First normal moveout : the correction time in millisecs to be applied to the two way travel time for a specified moveout distance (default = 3000 feet).

$$\Delta t = \sqrt{t^2 + \left(\frac{X}{v_{rms}}\right)^2} - t$$

where:

$$\begin{aligned} \Delta t &= \text{normal moveout (secs)} \\ X &= \text{moveout distance (meters )} \\ t &= \text{two way time (secs)} \\ v_{rms} &= \text{rms velocity (meters /sec)} \end{aligned}$$

7. Second normal moveout : the correction time in millisecs to be applied to the two way travel time for a specified moveout distance (default = 4500 feet).
8. Third normal moveout : the correction time in millisecs to be applied to the two way travel time for a specified moveout distance (default = 6000 feet).

9. Interval velocity : the velocity between each sampled depth. Typically, the sampling rate is 2 millisecs two way time, (1 millisec one way time) therefore the interval velocity will be equal to the depth increment divided by 0.001. It is equivalent to column 9 from the the Velocity Report.

# SCHLUMBERGER (SEG-1976) WAVELET POLARITY CONVENTION

Figure 1

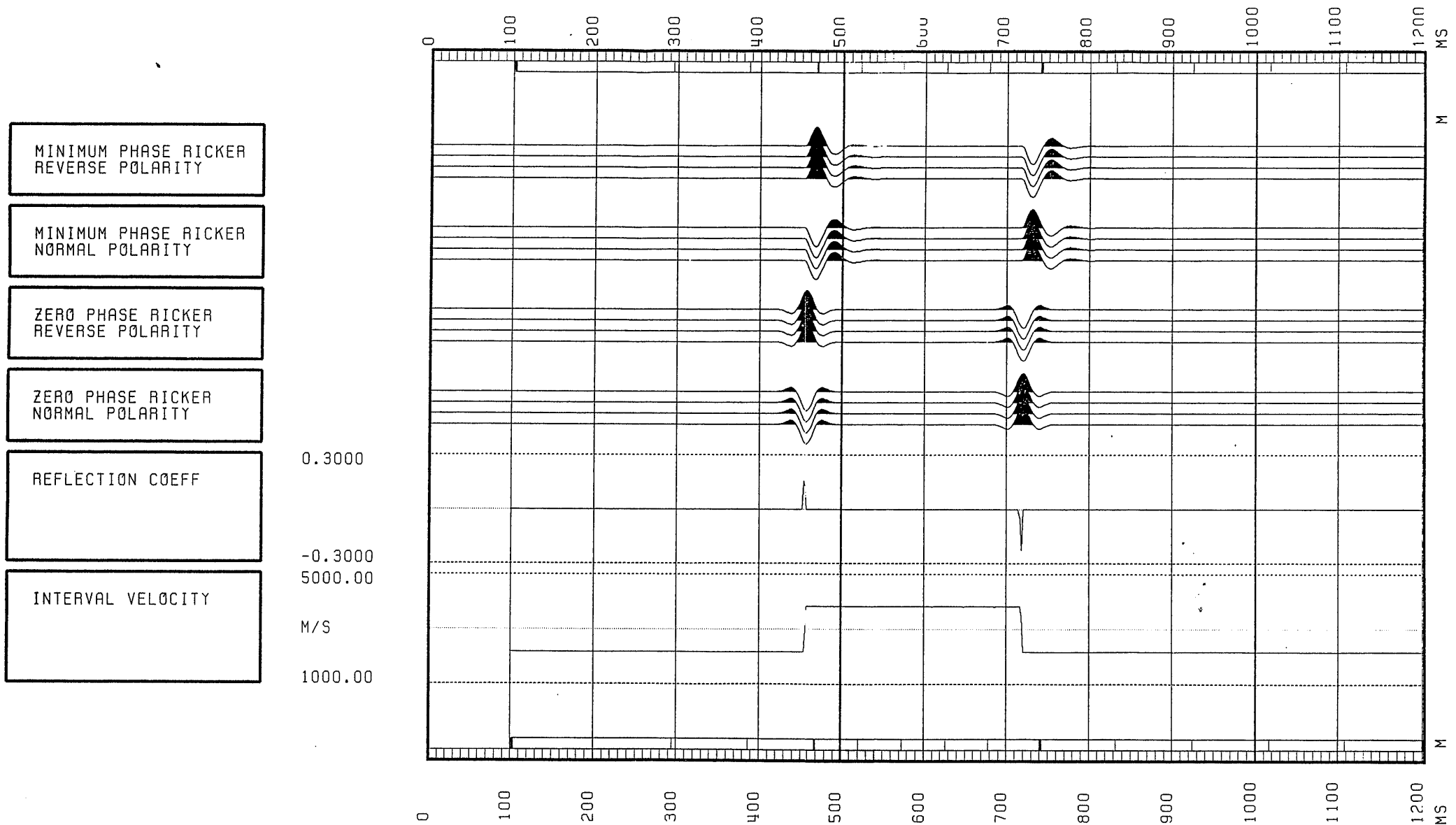
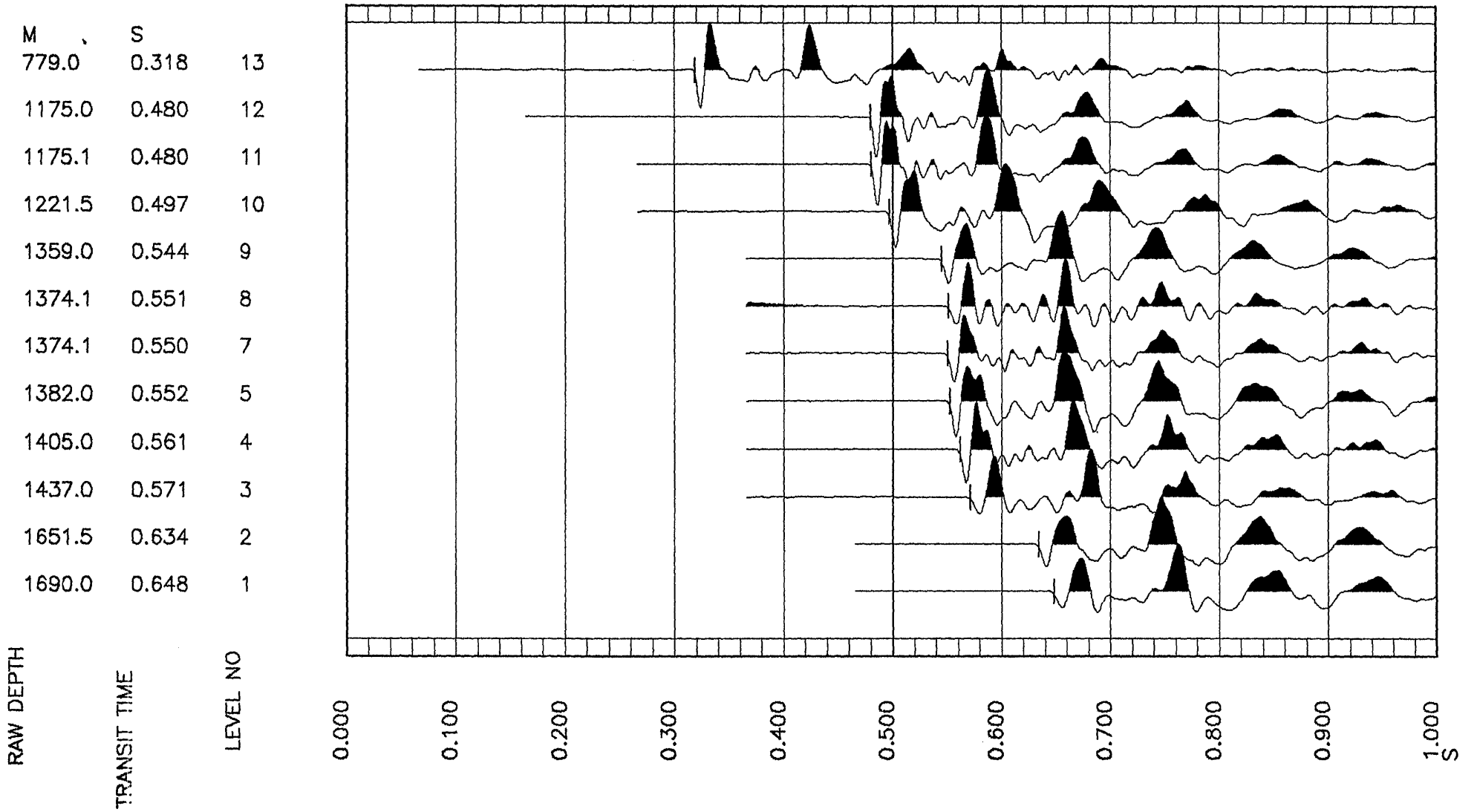


Figure 1

### MULLOWAY #1 STACKED CHECKSHOT DATA





***Shots***



ANALYST: M. SANDERS

8-MAR-89 12:56:22

PROGRAM: GSHOT 007.E03

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*****  
*                                     *  
*                                     *  
*                                     *  
*****  
*                                     *  
*   SCHLUMBERGER                     *  
*                                     *  
*****
```

GEOPHYSICAL AIRGUN REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : MULLOWAY #1  
FIELD : WILDCAT  
COUNTRY : AUSTRALIA  
REFERENCE: 56313

## LONG DEFINITIONS

## GLOBAL

KB - ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL  
 SRD - ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL  
 EKB - ELEVATION OF KELLY BUSHING  
 GL - ELEVATION OF USER'S REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD  
 VELHYD - VELOCITY OF THE MEDIUM BETWEEN THE SOURCE AND THE HYDROPHONE  
 VELSUR - VELOCITY OF THE MEDIUM BETWEEN THE SOURCE AND THE SRD

## MATRIX

GUNELZ - SOURCE ELEVATION ABOVE SRD (ONE FOR THE WHOLE JOB; OR ONE PER SHOT)  
 GUNEWZ - SOURCE DISTANCE FROM THE BOREHOLE AXIS IN EW DIRECTION (CF. GUNELZ)  
 GUNNSZ - SOURCE DISTANCE FROM THE BOREHOLE AXIS IN NS DIRECTION (CF. GUNELZ)  
 HYDELZ - HYDROPHONE ELEVATION ABOVE SRD (CF. GUNELZ)  
 HYDEWZ - HYDROPHONE DISTANCE FROM THE BOREH AXIS IN EW DIRECTION (CF GUNELZ)  
 HYDNSZ - HYDROPHONE DISTANCE FROM THE BOREH AXIS IN NS DIRECTION (CF GUNELZ)  
 TRTHYD - TRAVEL TIME FROM THE HYDROPHONE TO THE SOURCE  
 TRTSRD - TRAVEL TIME FROM THE SOURCE TO THE SRD  
 DEWVEL - DEVIATED WELL DATA PER SHOT : MEAS. DEPTH, VERT. DEPTH, EW, NS

## SAMPLED

SHOT.GSH - SHOT NUMBER  
 DKZ.GSH - MEASURED DEPTH FROM KELLY-BUSHING  
 DSRD.GSH - DEPTH FROM SRD  
 DGL.GSH - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)  
 TIMO.GSH - MEASURED TRAVEL TIME FROM HYDROPHONE TO GEOPHONE  
 TIMV.GSH - VERTICAL TRAVEL TIME FROM THE SOURCE TO THE GEOPHONE  
 SHTM.GSH - SHOT TIME (WST)  
 AVGV.GSH - AVERAGE SEISMIC VELOCITY  
 DELZ.GSH - DEPTH INTERVAL BETWEEN SUCCESSIVE SHOTS  
 DELT.GSH - TRAVEL TIME INTERVAL BETWEEN SUCCESSIVE SHOTS  
 INTV.GSH - INTERNAL VELOCITY, AVERAGE

## (GLOBAL PARAMETERS)

## (VALUE)

ELEV OF KB AB. MSL (WST)	KB	:	21.0000	M
ELEV OF SRD AB. MSL (WST)	SRD	:	0	M
ELEVATION OF KELLY BUSHING	EKB	:	21.0000	M
ELEV OF GL AB. SRD (WST)	GL	:	-37.0000	M
VEL SOURCE-HYDRO (WST)	VELHYD	:	1480.00	M/S
VEL SOURCE-SRD (WST)	VELSUR	:	1480.00	M/S

## (MATRIX PARAMETERS)

	SOURCE ELV M	SOURCE EW M	SOURCE NS M	HYDRO ELEV M	HYDRO EW M	HYDRO NS M
1	-4.00	0	40.00	-9.00	0	40.00

	TRT HYD-SC MS	TRT SC-SRD MS
1	3.38	2.70

	MD @ KB M	VD @ KB M	VD @ SRD M	E-W COORD M	N-S COORD M
1	58.00	58.00	37.00	0	0
2	180.00	180.00	159.00	0	0
3	1175.00	1175.00	1154.00	0	0
4	1221.50	1221.50	1200.50	0	0
5	1359.00	1359.00	1338.00	0	0
6	1374.00	1374.00	1353.00	0	0
7	1382.00	1382.00	1361.00	0	0
8	1405.00	1405.00	1384.00	0	0
9	1437.00	1437.00	1416.00	0	0
10	1651.50	1651.50	1630.50	0	0
11	1690.00	1690.00	1669.00	0	0

LEVEL NUMBER	MEASUR DEPTH FROM KB M	VERTIC DEPTH FROM SRD M	VERTIC DEPTH FROM GL M	OBSERV TRAVEL TIME HYD/GEO MS	VERTIC TRAVEL TIME SRC/GEO MS	VERTIC TRAVEL TIME SRD/GEO MS	AVERAGE VELOC SRD/GEO M/S	DELTA DEPTH BETWEEN SHOTS M	DELTA TIME BETWEEN SHOTS MS	INTERV VELOC BETWEEN SHOTS M/S
1	58.00	37.00	0	31.66	22.30	25.00	1480			
2	180.00	159.00	122.00	92.70	93.03	95.73	1661	122.00	70.73	1725
3	1175.00	1154.00	1117.00	480.00	483.09	485.79	2376	995.00	390.06	2551
4	1221.50	1200.50	1163.50	496.87	499.97	502.67	2388	46.50	16.88	2754
5	1359.00	1338.00	1301.00	544.34	547.47	550.18	2432	137.50	47.50	2895
6	1374.00	1353.00	1316.00	550.00	553.14	555.84	2434	15.00	5.66	2649
7	1382.00	1361.00	1324.00	551.94	555.08	557.78	2440	8.00	1.94	4119
8	1405.00	1384.00	1347.00	561.36	564.50	567.20	2440	23.00	9.42	2441
9	1437.00	1416.00	1379.00	571.29	574.44	577.14	2453	32.00	9.94	3220
10	1651.50	1630.50	1593.50	633.94	637.13	639.83	2548	214.50	62.69	3422
11	1690.00	1669.00	1632.00	647.66	650.85	653.55	2554	38.50	13.72	2805

*Drift*

ANALYST: M. SANDERS

8-MAR-89 13:00:07

PROGRAM: GDRIFT 007.E09

```
*****  
*                                     *  
*                                     *  
*                                     *  
*****  
*                                     *  
*   SCHLUMBERGER   *  
*                                     *  
*****
```

DRIFT COMPUTATION REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : MULLOWAY #1  
FIELD : WILDCAT  
COUNTRY : AUSTRALIA  
REFERENCE: 56313

ANALYST: M. SANDERS

8-MAR-89 13:00:07

PROGRAM: GDRIFT 007.E09

```
*****  
*                                     *  
*                                     *  
*                                     *  
*****  
*                                     *  
*   SCHLUMBERGER   *  
*                                     *  
*****
```

DRIFT COMPUTATION REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : MULLOWAY #1  
FIELD : WILDCAT  
COUNTRY : AUSTRALIA  
REFERENCE: 56313

LONG DEFINITIONS

GLOBAL

KB - ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL  
 SRD - ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL  
 EKB - ELEVATION OF KELLY BUSHING  
 GL - ELEVATION OF USER'S REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD  
 XSTART - TOP OF ZONE PROCESSED BY WST  
 XSTOP - BOTTOM OF ZONE PROCESSED BY WST  
 GAD001 - RAW SONIC CHANNEL NAME USED FOR WST SONIC ADJUSTMENT  
 UNFDEN - UNIFORM DENSITY VALUE

ZONE

LOFDEN - LAYER OPTION FLAG FOR DENSITY : -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER  
 LAYDEN - USER SUPPLIED DENSITY DATA

SAMPLED

SHOT - SHOT NUMBER  
 DKP - MEASURED DEPTH FROM KELLY-BUSHING  
 DSRD - DEPTH FROM SRD  
 DGL - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)  
 SHTM - SHOT TIME (WST)  
 RAWSONIC - RAW SONIC (WST)  
 SHDR - DRIFT AT SHOT OR KNEE  
 BLSH - BLOCK SHIFT BETWEEN SHOTS OR KNEE

(GLOBAL PARAMETERS)

(VALUE)

ELEV OF KB AB. MSL (WST)	KB	:	21.0000	M
ELEV OF SRD AB. MSL(WST)	SRD	:	0	M
ELEVATION OF KELLY BUSHI	EKB	:	21.0000	M
ELEV OF GL AB. SRD(WST)	GL	:	-37.0000	M
TOP OF ZONE PROCD (WST)	XSTART	:	0	M
BOT OF ZONE PROCD (WST)	XSTOP	:	0	M
RAW SONIC CH NAME (WST)	GAD001	:	DT.ATT.002.FLP.*	
UNIFORM DENSITY VALUE	UNFDEN	:	2.30000	G/C3

(ZONED PARAMETERS)

(VALUE)

(LIMITS)

LAYER OPTION FLAG DENS	LOFDEN	:	1.000000		30479.7	-	C
USER SUPPLIED DENSITY DA	LAYDEN	:	-999.2500	G/C3	30479.7	-	C



LEVEL NUMBER	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	VERTICAL DEPTH FROM GL M	VERTICAL TRAVEL TIME SRD/GEO MS	INTEGRATED RAW SONIC TIME MS	COMPUTED DRIFT AT LEVEL MS	COMPUTED BLK-SHFT CORRECTION US/M
1	58.00	37.00	0	25.00	25.00	0	0
2	180.00	159.00	122.00	95.73	95.73	0	0
3	1175.00	1154.00	1117.00	485.79	485.99	-.20	-.20
4	1221.50	1200.50	1163.50	502.67	503.23	-.56	-7.79
5	1359.00	1338.00	1301.00	550.18	550.32	-.14	3.01
6	1374.00	1353.00	1316.00	555.84	555.24	.60	49.64
7	1382.00	1361.00	1324.00	557.78	558.58	-.80	-175.05
8	1405.00	1384.00	1347.00	567.20	566.42	.79	68.94
9	1437.00	1416.00	1379.00	577.14	576.97	.17	-19.02
10	1651.50	1630.50	1593.50	639.83	640.00	-.17	-1.60
11	1690.00	1669.00	1632.00	653.55	651.60	1.95	55.13

ANALYST: M. SANDERS

8-MAR-89 13:55:20

PROGRAM: GADJST 008.E08

```
*****  
*                                     *  
*                                     *  
*                                     *  
*****  
*          SCHLUMBERGER          *  
*                                     *  
*****
```

SONIC ADJUSTMENT PARAMETER REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : MULLOWAY #1  
FIELD : WILDCAT  
CCOUNTRY : AUSTRALIA  
REFERENCE: 56313

```
*****  
*                                     *  
*                                     *  
*                                     *  
*****  
*          SCHLUMBERGER          *  
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SONIC ADJUSTMENT PARAMETER REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : MULLOWAY #1  
FIELD : WILDCAT  
COUNTRY : AUSTRALIA  
REFERENCE: 56313

## LONG DEFINITIONS

## GLOBAL

SRCDRF - ORIGIN OF ADJUSTMENT DATA  
 CONADJ - CONSTANT ADJUSTMENT TO AUTOMATIC DELTA-T MINIMUM = 7.5 US/F  
 UNERTH - UNIFORM EARTH VELOCITY (GTRFRM)

## ZONE

ZDRIFT - USER DRIFT AT BOTTOM OF THE ZONE  
 ADJOPZ - TYPE OF ADJUSTMENT IN THE DRIFT ZONE : 0=DELTA-T MIN, 1=BLOCKSHIFT  
 ADJUSZ - DELTA-T MINIMUM USED FOR ADJUSTMENT IN THE DRIFT ZONE  
 LOFVEL - LAYER OPTION FLAG FOR VELOCITY: -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER  
 LAYVEL - USER SUPPLIED VELOCITY DATA

## SAMPLED

SHOT - SHOT NUMBER  
 VDKB - VERTICAL DEPTH RELATIVE TO KB  
 DSRD - DEPTH FROM SRD  
 DGL - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)  
 KNEE - KNEE  
 BLSH - BLOCK SHIFT BETWEEN SHOTS OR KNEE  
 DTMI - VALUE OF DELTA-T MINIMUM USED  
 COEF - DELTA-T MIN COEFFICIENT USED IN THE DRIFT ZONE  
 DRGR - GRADIENT OF DRIFT CURVE

## (GLOBAL PARAMETERS)

## (VALUE)

ORIG OF ADJ DATA (WST)	SRCDRF	:	2.0000	
CONS SONIC ADJST (WST)	CONADJ	:	24.6063	US/M
UNIFORM EARTH VELOCITY	UNERTH	:	2133.60	M/S

## (ZONED PARAMETERS)

## (VALUE)

## (LIMITS)

USER DRIFT ZONE (WST)	ZDRIFT	:	0	MS	1690.00	-	0
ADJUSTMENT MODE (WST)	ADJOPZ	:	-999.2500		30479.7	-	00
USER DELTA-T MIN (WST)	ADJUSZ	:	-999.2500	US/M	30479.7	-	00
LAYER OPTION FLAG VELOC	LOFVEL	:	1.000000		30479.7	-	00
USER VELOC (WST)	LAYVEL	:	1725.000	M/S	180.000	-	58.0000
			1480.000		58.0000		0

KNEE NUMBER	VERTICAL DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	VERTICAL DEPTH FROM GL M	DRIFT AT KNEE MS	BLOCKSHIFT USED US/M	DELTA-T MINIMUM USED US/M	REDUCTION FACTOR G	EQUIVALENT BLOCKSHIFT US/M
2	1690.00	1669.00	1632.00	0	0			0

ANALYST: M. SANDERS

8-MAR-89 13:55:37

PROGRAM: GADJST 008.E08

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*****  
*          SCHLUMBERGER          *  
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VELOCITY REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : MULLOWAY #1  
FIELD : WILDCAT  
COUNTRY : AUSTRALIA  
REFERENCE: 56313

ANALYST: M. SANDERS

8-MAR-89 13:55:37

PROGRAM: GADJUST 008.E08

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*          SCHLUMBERGER              *  
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VELOCITY REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : MULLOWAY #1  
FIELD : WILDCAT  
COUNTRY : AUSTRALIA  
REFERENCE: 56313

LONG DEFINITIONS

GLOBAL

- KB - ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL
- SRD - ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL
- EKB - ELEVATION OF KELLY BUSHING
- GL - ELEVATION OF USER'S REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD
- UNERTH - UNIFORM EARTH VELOCITY (GTRFRM)

ZONE

- LOFVEL - LAYER OPTION FLAG FOR VELOCITY: -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER
- LAYVEL - USER SUPPLIED VELOCITY DATA

SAMPLED

- SHOT - SHOT NUMBER
- DKE - MEASURED DEPTH FROM KELLY-BUSHING
- DSRD - DEPTH FROM SRD
- DGL - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)
- SHTM - SHOT TIME (WST)
- ADJS - ADJUSTED SONIC TRAVEL TIME
- SHDR - DRIFT AT SHOT OR KNEE
- REST - RESIDUAL TRAVEL TIME AT KNEE
- INTV - INTERNAL VELOCITY, AVERAGE

(GLOBAL PARAMETERS)

(VALUE)

ELEV OF KB AB. MSL (WST)	KB	:	21.0000	M
ELEV OF SRD AB. MSL (WST)	SRD	:	0	M
ELEVATION OF KELLY BUSHI	EKB	:	21.0000	M
ELEV OF GL AB. SRD (WST)	GL	:	-37.0000	M
UNIFORM EARTH VELOCITY	UNERTH	:	2133.60	M/S

(ZONED PARAMETERS)

(VALUE)

(LIMITS)

LAYER OPTION FLAG VELOC	LOFVEL	:	1.000000		30479.7	-	0
USER VELOC (WST)	LAYVEL	:	1725.000	M/S	180.000	-	58.0000
			1480.000		58.0000		0



LEVEL NUMBER	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	VERTICAL DEPTH FROM GL M	VERTICAL TRAVEL TIME SRD/GEOPH MS	INTEGRATED ADJUSTED SONIC TIME MS	DRIFT = SHOT TIME - RAW SON MS	RESIDUAL = SHOT TIME - ADJ SON MS	ADJUSTED INTERVAL VELOCITY M/S
1	58.00	37.00	0	25.00	25.00	0	0	1480
2	180.00	159.00	122.00	95.73	95.72	0	.01	1725
3	1175.00	1154.00	1117.00	485.79	485.97	-.20	-.18	2550
4	1221.50	1200.50	1163.50	502.67	503.21	-.56	-.54	2697
5	1359.00	1338.00	1301.00	550.18	550.30	-.14	-.12	2920
6	1374.00	1353.00	1316.00	555.84	555.22	.60	.62	3046
7	1382.00	1361.00	1324.00	557.78	558.56	-.80	-.78	2392
8	1405.00	1384.00	1347.00	567.20	566.40	.79	.80	2934
9	1437.00	1416.00	1379.00	577.14	576.95	.17	.19	3034
10	1651.50	1630.50	1593.50	639.83	639.98	-.17	-.15	3403
11	1690.00	1669.00	1632.00	653.55	651.57	1.95	1.98	3320



*Time / Depth*

ANALYST: M. SANDERS

8-MAR-89 13:58:56

PROGRAM: GTRFRM 001.E12

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*   SCHLUMBERGER   *  
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TIME CONVERTED VELOCITY REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : MULLOWAY #1  
FIELD : WILDCAT  
COUNTRY : AUSTRALIA  
REFERENCE: 56313

ANALYST: M. SANDERS

8-MAR-89 13:58:56

PROGRAM: GTRFRM 001.E12

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*****  
*                                     *  
*      SCHLUMBERGER                  *  
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TIME CONVERTED VELOCITY REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : MULLOWAY #1  
FIELD : WILDCAT  
COUNTRY : AUSTRALIA  
REFERENCE: 56313

## LONG DEFINITIONS

## GLOBAL

KB - ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL  
 SRD - ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL  
 GL - ELEVATION OF USER'S REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD  
 UNERTH - UNIFORM EARTH VELOCITY (GTRFRM)  
 UNFDEN - UNIFORM DENSITY VALUE

## MATRIX

MVCDIS - MCVE-OUT DISTANCE FROM BOREHOLE

## ZONE

LOFVEL - LAYER OPTION FLAG FOR VELOCITY: -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER  
 LAYVEL - USER SUPPLIED VELOCITY DATA  
 LOFDEN - LAYER OPTION FLAG FOR DENSITY : -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER  
 LAYDEN - USER SUPPLIED DENSITY DATA

## SAMPLED

TWOT - TWO WAY TRAVEL TIME (RELATIVE TO THE SEISMIC REFERENCE)  
 DKE - MEASURED DEPTH FROM KELLY-BUSHING  
 DSRD - DEPTH FROM SRD  
 AVGV - AVERAGE SEISMIC VELOCITY  
 RMSV - ROOT MEAN SQUARE VELOCITY (SEISMIC)  
 MVCT - NORMAL MOVE-OUT  
 MVOT - NORMAL MOVE-OUT  
 MVOT - NORMAL MOVE-OUT  
 INTV - INTERNAL VELOCITY, AVERAGE

## (GLOBAL PARAMETERS)

## (VALUE)

ELEV OF KB AB. MSL (WST)	KB	:	21.0000	M
ELEV OF SRD AB. MSL(WST)	SRD	:	0	M
ELEV OF GL AB. SRD(WST)	GL	:	-37.0000	M
UNIFORM EARTH VELOCITY	UNERTH	:	2133.60	M/S
UNIFORM DENSITY VALUE	UNFDEN	:	2.3000	G/C3

## (MATRIX PARAMETERS)

MVOUT DIST  
M

1	1000.0
2	1500.0
3	2000.0

COMPANY : ESSO AUSTRALIA LTD

WELL : MULLOWAY #1

PAGE 2

(ZONED PARAMETERS)		(VALUE)	(LIMITS)
LAYER OPTION FLAG VELOC	LOFVEL	: 1.000000	30479.7 - 0
USER VELOC (WST)	LAYVEL	: 1725.000	M/S 180.000 - 58.0000
		1480.000	58.0000
LAYER OPTION FLAG DENS	LOFDEN	: -1.000000	30479.7 - 0
USER SUPPLIED DENSITY DA	LAYDEN	: -999.2500	G/C3 30479.7 - 0

COMPANY : ESSO AUSTRALIA LTD

WELL : MULLOWAY #1

PAGE 3

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
0	21.00	0						1480
2.00	22.43	1.48	1480	1480	673.68	1011.52	1349.35	1480
4.00	23.96	2.96	1480	1480	671.69	1009.52	1347.36	1480
6.00	25.44	4.44	1480	1480	669.70	1007.53	1345.36	1480
8.00	26.92	5.92	1480	1480	667.72	1005.55	1343.38	1480
10.00	28.40	7.40	1480	1480	665.75	1003.56	1341.39	1480
12.00	29.88	8.88	1480	1480	663.78	1001.58	1339.40	1480
14.00	31.36	10.36	1480	1480	661.82	999.61	1337.42	1480
16.00	32.84	11.84	1480	1480	659.87	997.64	1335.45	1480
18.00	34.32	13.32	1480	1480	657.92	995.67	1333.47	1480
20.00	35.80	14.80	1480	1480	655.97	993.71	1331.50	1480
22.00	37.28	16.28	1480	1480	654.03	991.75	1329.53	1480
24.00	38.76	17.76	1480	1480	652.10	989.80	1327.56	1480
26.00	40.24	19.24	1480	1480	650.18	987.85	1325.60	1480
28.00	41.72	20.72	1480	1480	648.26	985.90	1323.64	1480
30.00	43.20	22.20	1480	1480	646.34	983.96	1321.68	1480
32.00	44.68	23.68	1480	1480	644.43	982.02	1319.73	1480
34.00	46.16	25.16	1480	1480	642.53	980.08	1317.78	1480
36.00	47.64	26.64	1480	1480	640.63	978.15	1315.83	1480
38.00	49.12	28.12	1480	1480	638.74	976.23	1313.89	1480
40.00	50.60	29.60	1480	1480	636.86	974.30	1311.94	1480
42.00	52.08	31.08	1480	1480	634.98	972.38	1310.00	1480
44.00	53.56	32.56	1480	1480	633.11	970.47	1308.07	1480
46.00	55.04	34.04	1480	1480	631.24	968.56	1306.13	1480

COMPANY : ESSO AUSTRALIA LTD

WELL : MULLOWAY #1

PAGE 4

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
48.00	56.52	35.52	1480	1480	629.33	966.65	1304.20	1480
50.00	58.02	37.02	1481	1481	627.16	964.20	1301.55	1500
52.00	59.74	38.74	1490	1491	620.74	955.43	1290.46	1725
54.00	61.47	40.47	1499	1500	614.75	947.30	1280.22	1725
56.00	63.19	42.19	1507	1509	609.13	939.73	1270.72	1725
58.00	64.92	43.92	1514	1517	603.84	932.63	1261.85	1725
60.00	66.64	45.64	1521	1524	598.83	925.96	1253.55	1725
62.00	68.37	47.37	1528	1531	594.03	919.67	1245.76	1725
64.00	70.09	49.09	1534	1537	589.55	913.72	1238.40	1725
66.00	71.82	50.82	1540	1543	585.23	908.06	1231.44	1725
68.00	73.54	52.54	1545	1549	581.10	902.67	1224.84	1725
70.00	75.27	54.27	1551	1554	577.12	897.52	1218.55	1725
72.00	76.99	55.99	1555	1559	573.30	892.59	1212.56	1725
74.00	78.72	57.72	1560	1564	569.61	887.86	1206.82	1725
76.00	80.44	59.44	1564	1569	566.05	883.31	1201.33	1725
78.00	82.17	61.17	1568	1573	562.60	878.93	1196.05	1725
80.00	83.89	62.89	1572	1577	559.25	874.69	1190.97	1725
82.00	85.62	64.62	1576	1581	556.00	870.60	1186.07	1725
84.00	87.34	66.34	1580	1584	552.84	866.63	1181.34	1725
86.00	89.07	68.07	1583	1588	549.76	862.78	1176.77	1725
88.00	90.79	69.79	1586	1591	546.76	859.04	1172.34	1725
90.00	92.52	71.52	1589	1594	543.83	855.40	1168.04	1725
92.00	94.24	73.24	1592	1597	540.97	851.86	1163.86	1725
94.00	95.97	74.97	1595	1600	538.16	848.40	1159.80	1725



TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/Geo M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
								1725
96.00	97.69	76.69	1598	1602	535.42	845.03	1155.85	1725
98.00	99.42	78.42	1600	1605	532.73	841.73	1151.99	1725
100.00	101.14	80.14	1603	1607	530.09	838.51	1148.23	1725
102.00	102.86	81.86	1605	1610	527.51	835.35	1144.56	1725
104.00	104.59	83.59	1607	1612	524.96	832.25	1140.96	1725
106.00	106.31	85.31	1610	1614	522.46	829.22	1137.45	1725
108.00	108.04	87.04	1612	1616	520.01	826.24	1134.01	1725
110.00	109.76	88.76	1614	1618	517.59	823.31	1130.63	1725
112.00	111.49	90.49	1616	1620	515.21	820.44	1127.32	1725
114.00	113.21	92.21	1618	1622	512.86	817.61	1124.07	1725
116.00	114.94	93.94	1620	1624	510.55	814.83	1120.88	1725
118.00	116.66	95.66	1621	1626	508.27	812.09	1117.74	1725
120.00	118.39	97.39	1623	1628	506.02	809.39	1114.66	1725
122.00	120.11	99.11	1625	1629	503.80	806.73	1111.62	1725
124.00	121.84	100.84	1626	1631	501.60	804.11	1108.64	1725
126.00	123.56	102.56	1628	1632	499.44	801.52	1105.69	1725
128.00	125.29	104.29	1629	1634	497.30	798.97	1102.79	1725
130.00	127.01	106.01	1631	1635	495.19	796.45	1099.93	1725
132.00	128.74	107.74	1632	1637	493.10	793.96	1097.11	1725
134.00	130.46	109.46	1634	1638	491.03	791.50	1094.32	1725
136.00	132.19	111.19	1635	1639	488.98	789.06	1091.57	1725
138.00	133.91	112.91	1636	1641	486.96	786.66	1088.86	1725
140.00	135.64	114.64	1638	1642	484.96	784.28	1086.17	1725
142.00	137.36	116.36	1639	1643	482.98	781.93	1083.52	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
144.00	139.09	118.09	1640	1644	481.02	779.60	1080.90	1725
146.00	140.81	119.81	1641	1645	479.07	777.29	1078.31	1725
148.00	142.54	121.54	1642	1646	477.15	775.01	1075.74	1725
150.00	144.26	123.26	1643	1647	475.24	772.75	1073.20	1725
152.00	145.98	124.98	1645	1649	473.36	770.51	1070.69	1725
154.00	147.71	126.71	1646	1650	471.48	768.29	1068.20	1725
156.00	149.43	128.43	1647	1651	469.63	766.09	1065.73	1725
158.00	151.16	130.16	1648	1651	467.79	763.91	1063.29	1725
160.00	152.88	131.88	1649	1652	465.96	761.75	1060.87	1725
162.00	154.61	133.61	1649	1653	464.16	759.60	1058.47	1725
164.00	156.33	135.33	1650	1654	462.36	757.48	1056.09	1725
166.00	158.06	137.06	1651	1655	460.58	755.37	1053.74	1725
168.00	159.78	138.78	1652	1656	458.82	753.28	1051.40	1725
170.00	161.51	140.51	1653	1657	457.07	751.20	1049.08	1725
172.00	163.23	142.23	1654	1658	455.33	749.14	1046.78	1725
174.00	164.96	143.96	1655	1658	453.61	747.09	1044.49	1725
176.00	166.68	145.68	1655	1659	451.89	745.06	1042.23	1725
178.00	168.41	147.41	1656	1660	450.20	743.04	1039.98	1725
180.00	170.13	149.13	1657	1661	448.51	741.04	1037.74	1725
182.00	171.86	150.86	1658	1661	446.84	739.05	1035.53	1725
184.00	173.58	152.58	1658	1662	445.17	737.07	1033.32	1725
186.00	175.31	154.31	1659	1663	443.52	735.10	1031.14	1725
188.00	177.03	156.03	1660	1663	441.89	733.15	1028.96	1725
190.00	178.76	157.76	1661	1664	440.26	731.21	1026.80	1725

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
								1885
192.00	180.64	159.64	1663	1667	438.02	728.33	1023.37	2165
194.00	182.81	161.81	1668	1672	434.62	723.64	1017.50	2160
196.00	184.97	163.97	1673	1678	431.31	719.10	1011.83	2223
198.00	187.19	166.19	1679	1684	427.80	714.22	1005.70	2214
200.00	189.40	168.40	1684	1691	424.40	709.51	999.79	2175
202.00	191.58	170.58	1689	1696	421.23	705.16	994.36	2159
204.00	193.74	172.74	1694	1701	418.20	701.00	989.18	2221
206.00	195.96	174.96	1699	1707	414.97	696.53	983.58	2217
208.00	198.18	177.18	1704	1713	411.82	692.18	978.14	2183
210.00	200.36	179.36	1708	1718	408.87	688.13	973.09	2199
212.00	202.56	181.56	1713	1723	405.91	684.05	968.01	2247
214.00	204.80	183.80	1718	1729	402.83	679.77	962.65	2194
216.00	207.00	186.00	1722	1733	400.00	675.88	957.82	2137
218.00	209.14	188.14	1726	1738	397.42	672.38	953.50	2158
220.00	211.29	190.29	1730	1742	394.81	668.81	949.09	2193
222.00	213.49	192.49	1734	1746	392.13	665.12	944.51	2228
224.00	215.71	194.71	1739	1751	389.36	661.30	939.75	2246
226.00	217.96	196.96	1743	1756	386.59	657.46	934.96	2220
228.00	220.18	199.18	1747	1761	383.95	653.82	930.44	2212
230.00	222.39	201.39	1751	1765	381.38	650.28	926.05	2272
232.00	224.66	203.66	1756	1770	378.66	646.50	921.33	2310
234.00	226.97	205.97	1760	1776	375.86	642.59	916.42	2313
236.00	229.29	208.29	1765	1781	373.11	638.73	911.59	2257
238.00	231.54	210.54	1769	1785	370.57	635.21	907.21	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
								2269
240.00	233.81	212.81	1773	1790	368.04	631.70	902.83	2331
242.00	236.14	215.14	1778	1795	365.37	627.95	898.13	2303
244.00	238.45	217.45	1782	1800	362.82	624.39	893.68	2301
246.00	240.75	219.75	1787	1804	360.32	620.90	889.32	2304
248.00	243.05	222.05	1791	1809	357.86	617.45	885.02	2318
250.00	245.37	224.37	1795	1814	355.39	614.00	880.70	2357
252.00	247.73	226.73	1799	1819	352.85	610.42	876.22	2341
254.00	250.07	229.07	1804	1823	350.40	606.98	871.91	2343
256.00	252.41	231.41	1808	1828	347.99	603.53	867.66	2394
258.00	254.81	233.81	1812	1833	345.47	600.02	863.17	2371
260.00	257.18	236.18	1817	1838	343.06	596.61	858.90	2335
262.00	259.51	238.51	1821	1842	340.78	593.41	854.89	2368
264.00	261.88	240.88	1825	1847	338.45	590.11	850.76	2374
266.00	264.25	243.25	1829	1851	336.14	586.85	846.67	2319
268.00	266.57	245.57	1833	1855	334.00	583.84	842.93	2322
270.00	268.90	247.90	1836	1859	331.89	580.87	839.22	2407
272.00	271.30	250.30	1840	1864	329.60	577.61	835.13	2328
274.00	273.63	252.63	1844	1867	327.53	574.70	831.50	2189
276.00	275.82	254.82	1847	1870	325.80	572.32	828.59	2354
278.00	278.17	257.17	1850	1874	323.73	569.38	824.92	2297
280.00	280.47	259.47	1853	1877	321.81	566.69	821.58	2334
282.00	282.80	261.80	1857	1881	319.83	563.90	818.11	2355
284.00	285.16	264.16	1860	1885	317.84	561.07	814.57	2377
286.00	287.54	266.54	1864	1888	315.82	558.20	810.98	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
								2350
288.00	289.89	268.89	1867	1892	313.89	555.47	807.56	2350
290.00	292.24	271.24	1871	1896	311.99	552.76	804.19	2324
292.00	294.56	273.56	1874	1899	310.16	550.17	800.97	2336
294.00	296.90	275.90	1877	1902	308.33	547.53	797.74	2467
296.00	299.36	278.36	1881	1907	306.26	544.59	793.96	2583
298.00	301.95	280.95	1886	1912	303.97	541.24	789.68	2360
300.00	304.31	283.31	1889	1915	302.17	538.68	786.48	2290
302.00	306.60	285.60	1891	1918	300.53	536.36	783.61	2530
304.00	309.13	288.13	1896	1923	298.44	533.31	779.75	2690
306.00	311.82	290.82	1901	1929	296.06	529.78	775.20	2656
308.00	314.47	293.47	1906	1934	293.79	526.42	770.89	2677
310.00	317.15	296.15	1911	1940	291.51	523.04	766.55	2645
312.00	319.79	298.79	1915	1945	289.33	519.82	762.42	2793
314.00	322.59	301.59	1921	1952	286.90	516.17	757.70	2695
316.00	325.28	304.28	1926	1957	284.70	512.90	753.49	2726
318.00	328.01	307.01	1931	1963	282.48	509.59	749.22	2615
320.00	330.62	309.62	1935	1968	280.51	506.66	745.47	2688
322.00	333.31	312.31	1940	1973	278.42	503.56	741.48	2584
324.00	335.89	314.89	1944	1978	276.56	500.80	737.96	2301
326.00	338.20	317.20	1946	1980	275.18	498.83	735.53	2147
328.00	340.34	319.34	1947	1981	274.04	497.25	733.63	2000
330.00	342.34	321.34	1948	1981	273.11	496.01	732.19	1896
332.00	344.24	323.24	1947	1980	272.31	494.98	731.06	1949
334.00	346.19	325.19	1947	1980	271.45	493.85	729.78	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
								2236
336.00	348.42	327.42	1949	1982	270.21	492.10	727.62	2430
338.00	350.85	329.85	1952	1985	268.70	489.88	724.84	2203
340.00	353.06	332.06	1953	1986	267.54	488.23	722.82	2277
342.00	355.33	334.33	1955	1988	266.27	486.43	720.59	2347
344.00	357.68	336.68	1957	1990	264.93	484.47	718.15	2551
346.00	360.23	339.23	1961	1994	263.29	482.03	715.04	2555
348.00	362.79	341.79	1964	1998	261.67	479.61	711.95	2268
350.00	365.05	344.05	1966	1999	260.48	477.90	709.83	2148
352.00	367.20	346.20	1967	2000	259.45	476.44	708.07	2108
354.00	369.31	348.31	1968	2001	258.47	475.08	706.45	2167
356.00	371.48	350.48	1969	2002	257.43	473.61	704.66	2136
358.00	373.61	352.61	1970	2003	256.44	472.21	702.97	2100
360.00	375.71	354.71	1971	2003	255.49	470.89	701.38	2247
362.00	377.96	356.96	1972	2005	254.38	469.28	699.39	2411
364.00	380.37	359.37	1975	2007	253.06	467.32	696.93	2290
366.00	382.66	361.66	1976	2009	251.91	465.65	694.35	2249
368.00	384.91	363.91	1978	2010	250.82	464.07	692.90	2661
370.00	387.57	366.57	1981	2014	249.21	461.60	689.70	2697
372.00	390.27	369.27	1985	2018	247.56	459.08	686.42	2786
374.00	393.05	372.05	1990	2023	245.81	456.37	682.89	2696
376.00	395.75	374.75	1993	2027	244.21	453.92	679.70	2585
378.00	398.34	377.34	1996	2031	242.78	451.74	676.89	2496
380.00	400.83	379.83	1999	2034	241.47	449.77	674.38	2494
382.00	403.33	382.33	2002	2036	240.19	447.83	671.90	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
384.00	405.70	384.70	2004	2038	239.06	446.14	669.77	2375
386.00	408.11	387.11	2006	2040	237.89	444.39	667.56	2410
388.00	410.54	389.54	2008	2042	236.71	442.62	665.30	2434
390.00	413.06	392.06	2011	2045	235.46	440.70	662.84	2512
392.00	415.54	394.54	2013	2048	234.24	438.86	660.49	2485
394.00	418.02	397.02	2015	2050	233.04	437.03	658.15	2483
396.00	420.53	399.53	2018	2053	231.83	435.13	655.77	2507
398.00	423.30	402.30	2022	2057	230.32	432.82	652.68	2767
400.00	426.02	405.02	2025	2061	228.88	430.58	649.75	2725
402.00	428.71	407.71	2028	2064	227.50	428.43	646.95	2690
404.00	431.47	410.47	2032	2068	226.06	426.16	643.97	2763
406.00	434.14	413.14	2035	2072	224.74	424.10	641.28	2669
408.00	436.80	415.80	2038	2075	223.44	422.08	638.66	2658
410.00	439.45	418.45	2041	2078	222.17	420.11	636.03	2649
412.00	442.34	421.34	2045	2083	220.65	417.68	632.87	2883
414.00	445.17	424.17	2049	2087	219.21	415.40	629.86	2832
416.00	447.89	426.89	2052	2091	217.91	413.36	627.18	2721
418.00	450.63	429.63	2056	2094	216.61	411.30	624.43	2741
420.00	453.44	432.44	2059	2098	215.26	409.15	621.64	2802
422.00	456.27	435.27	2063	2102	213.89	406.97	618.75	2333
424.00	459.00	438.00	2066	2106	212.64	404.99	616.15	2736
426.00	461.68	440.68	2069	2109	211.46	403.13	613.71	2677
428.00	464.48	443.48	2072	2112	210.13	401.08	611.00	2797
430.00	467.41	446.41	2076	2117	208.76	398.81	607.97	2936

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
432.00	470.37	449.37	2080	2122	207.35	396.52	604.92	2956
434.00	473.19	452.19	2084	2125	206.09	394.50	602.24	2823
436.00	475.73	454.73	2086	2128	205.11	392.96	600.24	2538
438.00	478.32	457.32	2088	2130	204.10	391.36	598.15	2589
440.00	480.63	459.63	2089	2131	203.32	390.18	596.66	2311
442.00	482.75	461.75	2089	2131	202.70	389.26	595.53	2115
444.00	485.34	464.34	2092	2133	201.70	387.67	593.46	2597
446.00	487.94	466.94	2094	2135	200.71	386.10	591.40	2599
448.00	490.44	469.44	2096	2137	199.82	384.69	589.57	2498
450.00	492.85	471.85	2097	2138	199.00	383.41	587.93	2406
452.00	495.42	474.42	2099	2140	198.06	381.92	585.97	2570
454.00	497.99	476.99	2101	2143	197.12	380.43	584.02	2573
456.00	500.56	479.56	2103	2145	196.20	378.95	582.09	2571
458.00	502.80	481.80	2104	2145	195.53	377.92	580.80	2244
460.00	505.18	484.18	2105	2146	194.77	376.73	579.27	2375
462.00	507.56	486.56	2106	2147	194.01	375.55	577.75	2379
464.00	510.08	489.08	2108	2149	193.15	374.18	575.96	2519
466.00	512.60	491.60	2110	2151	192.30	372.82	574.18	2525
468.00	514.66	493.66	2110	2150	191.78	372.03	573.22	2053
470.00	517.37	496.37	2112	2153	190.79	370.43	571.09	2708
472.00	519.78	498.78	2113	2154	190.04	369.24	569.55	2414
474.00	521.98	500.98	2114	2154	189.44	368.31	568.38	2197
476.00	524.51	503.51	2116	2156	188.61	366.98	566.64	2531
478.00	527.36	506.36	2119	2159	187.54	365.22	564.26	2850



TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
480.00	529.88	508.88	2120	2161	186.73	363.92	562.56	2521
482.00	532.50	511.50	2122	2163	185.86	362.51	560.69	2617
484.00	535.01	514.01	2124	2165	185.08	361.24	559.03	2512
486.00	537.72	516.72	2126	2167	184.15	359.72	556.99	2715
488.00	540.83	519.83	2130	2172	182.92	357.65	554.17	3106
490.00	543.81	522.81	2134	2176	181.81	355.80	551.65	2978
492.00	546.50	525.50	2136	2178	180.94	354.35	549.72	2694
494.00	549.38	528.38	2139	2181	179.93	352.68	547.45	2877
496.00	552.09	531.09	2141	2184	179.06	351.24	545.52	2707
498.00	554.89	533.89	2144	2187	178.13	349.69	543.43	2802
500.00	557.29	536.29	2145	2188	177.48	348.64	542.07	2399
502.00	559.99	538.99	2147	2190	176.63	347.24	540.19	2703
504.00	563.02	542.02	2151	2194	175.56	345.43	537.71	3029
506.00	565.78	544.78	2153	2196	174.70	343.99	535.77	2757
508.00	568.63	547.63	2156	2199	173.77	342.44	533.66	2855
510.00	571.26	550.26	2158	2201	173.01	341.18	531.98	2623
512.00	574.12	553.12	2161	2204	172.10	339.64	529.89	2367
514.00	577.10	556.10	2164	2208	171.11	337.98	527.60	2980
516.00	579.95	558.95	2166	2210	170.23	336.49	525.58	2846
518.00	582.84	561.84	2169	2213	169.33	334.97	523.51	2887
520.00	585.70	564.70	2172	2216	168.46	333.49	521.49	2864
522.00	588.55	567.55	2175	2219	167.60	332.04	519.52	2849
524.00	591.26	570.26	2177	2221	166.84	330.76	517.73	2714
526.00	594.36	573.36	2180	2225	165.83	329.03	515.39	3103

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
528.00	597.42	576.42	2183	2229	164.87	327.37	513.11	3055
530.00	600.47	579.47	2187	2233	163.92	325.74	510.85	3050
532.00	603.54	582.54	2190	2236	162.96	324.10	508.53	3072
534.00	606.41	585.41	2193	2239	162.15	322.71	506.69	2865
536.00	609.52	588.52	2196	2243	161.19	321.06	504.39	3109
538.00	612.56	591.56	2199	2246	160.28	319.50	502.23	3047
540.00	615.56	594.56	2202	2250	159.42	318.00	500.16	2999
542.00	618.73	597.73	2206	2254	158.45	316.32	497.83	3169
544.00	621.72	600.72	2209	2257	157.61	314.88	495.83	2985
546.00	624.84	603.84	2212	2261	156.70	313.28	493.61	3126
548.00	627.86	606.86	2215	2264	155.86	311.82	491.59	3021
550.00	630.62	609.62	2217	2266	155.17	310.66	489.99	2753
552.00	633.18	612.18	2218	2267	154.59	309.68	488.67	2565
554.00	635.82	614.82	2220	2268	153.98	308.64	487.26	2635
556.00	638.40	617.40	2221	2270	153.40	307.65	485.92	2537
558.00	641.12	620.12	2223	2271	152.76	306.55	484.41	2717
560.00	644.12	623.12	2225	2274	151.97	305.17	482.49	3001
562.00	646.98	625.98	2228	2277	151.26	303.95	480.81	2360
564.00	649.87	628.87	2230	2279	150.55	302.71	479.09	2889
566.00	653.16	632.16	2234	2284	149.61	301.06	476.76	3292
568.00	656.49	635.49	2238	2288	148.67	299.38	474.40	3329
570.00	659.74	638.74	2241	2292	147.78	297.81	472.18	3251
572.00	662.71	641.71	2244	2295	147.06	296.54	470.41	2970
574.00	665.71	644.71	2246	2298	146.33	295.26	468.62	2993

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
576.00	668.88	647.88	2250	2301	145.51	293.81	466.58	3173
578.00	671.88	650.88	2252	2304	144.79	292.55	464.81	3000
580.00	674.95	653.95	2255	2307	144.05	291.23	462.96	3068
582.00	678.06	657.06	2258	2311	143.29	289.89	461.07	3110
584.00	681.24	660.24	2261	2314	142.50	288.49	459.09	3178
586.00	684.21	663.21	2264	2317	141.83	287.30	457.43	2967
588.00	687.34	666.34	2266	2320	141.08	285.97	455.55	3131
590.00	690.30	669.30	2269	2322	140.42	284.81	453.92	2964
592.00	693.30	672.30	2271	2325	139.76	283.62	452.26	2996
594.00	696.16	675.16	2273	2327	139.16	282.57	450.78	2859
596.00	698.99	677.99	2275	2329	138.57	281.54	449.35	2836
598.00	701.83	680.83	2277	2331	138.00	280.52	447.92	2836
600.00	704.53	683.53	2278	2332	137.48	279.61	446.66	2700
602.00	707.57	686.57	2281	2335	136.82	278.43	444.99	3043
604.00	710.83	689.83	2284	2338	136.06	277.07	443.06	3253
606.00	713.60	692.60	2286	2340	135.53	276.14	441.75	2771
608.00	716.31	695.31	2287	2341	135.03	275.24	440.51	2717
610.00	718.93	697.93	2288	2342	134.56	274.43	439.38	2620
612.00	721.97	700.97	2291	2345	133.93	273.30	437.78	3034
614.00	725.78	704.78	2296	2351	132.93	271.45	435.10	3811
616.00	728.55	707.55	2297	2353	132.42	270.55	433.83	2774
618.00	731.58	710.58	2300	2355	131.81	269.46	432.28	3026
620.00	734.34	713.34	2301	2357	131.32	268.58	431.05	2760
622.00	736.99	715.99	2302	2358	130.86	267.78	429.93	2655

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
624.00	740.38	719.38	2306	2362	130.11	266.41	427.96	3384
626.00	743.00	722.00	2307	2362	129.68	265.64	426.89	2624
628.00	745.90	724.90	2309	2364	129.15	264.68	425.53	2902
630.00	749.64	728.64	2313	2370	128.25	263.03	423.13	3732
632.00	752.28	731.28	2314	2371	127.82	262.27	422.06	2644
634.00	755.19	734.19	2316	2373	127.30	261.32	420.72	2911
636.00	758.01	737.01	2318	2374	126.82	260.45	419.50	2815
638.00	760.81	739.81	2319	2376	126.34	259.60	418.29	2804
640.00	763.98	742.98	2322	2379	125.73	258.48	416.68	3172
642.00	766.93	745.93	2324	2381	125.21	257.54	415.34	2943
644.00	769.63	748.63	2325	2382	124.78	256.77	414.25	2705
646.00	772.49	751.49	2327	2383	124.30	255.90	413.01	2864
648.00	775.39	754.39	2328	2385	123.81	255.01	411.74	2899
650.00	778.17	757.17	2330	2386	123.37	254.21	410.61	2776
652.00	780.60	759.60	2330	2387	123.03	253.62	409.79	2435
654.00	782.99	761.99	2330	2387	122.72	253.06	409.02	2382
656.00	785.41	764.41	2331	2387	122.39	252.49	408.23	2423
658.00	787.83	766.83	2331	2387	122.07	251.91	407.43	2421
660.00	790.25	769.25	2331	2387	121.75	251.34	406.63	2426
662.00	792.72	771.72	2331	2387	121.41	250.74	405.80	2470
664.00	795.17	774.17	2332	2387	121.08	250.16	404.99	2449
666.00	797.67	776.67	2332	2388	120.75	249.55	404.14	2495
668.00	800.08	779.08	2333	2388	120.43	248.99	403.37	2414
670.00	802.59	781.59	2333	2388	120.09	248.38	402.51	2511

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
672.00	805.33	784.33	2334	2389	119.69	247.64	401.46	2736
674.00	807.98	786.98	2335	2390	119.31	246.96	400.49	2648
676.00	810.44	789.44	2336	2390	118.99	246.39	399.69	2465
678.00	813.07	792.07	2337	2391	118.62	245.72	398.74	2632
680.00	815.83	794.83	2338	2392	118.22	244.99	397.69	2751
682.00	818.31	797.31	2338	2392	117.90	244.41	396.88	2481
684.00	820.73	799.73	2338	2392	117.60	243.87	396.12	2427
686.00	823.54	802.54	2340	2394	117.18	243.11	395.03	2809
688.00	826.06	805.06	2340	2394	116.86	242.52	394.21	2514
690.00	828.71	807.71	2341	2395	116.50	241.86	393.27	2651
692.00	831.50	810.50	2342	2396	116.10	241.13	392.21	2789
694.00	834.07	813.07	2343	2397	115.77	240.52	391.35	2569
696.00	836.69	815.69	2344	2397	115.42	239.89	390.45	2625
698.00	839.29	818.29	2345	2398	115.08	239.28	389.57	2596
700.00	842.06	821.06	2346	2399	114.70	238.56	388.55	2776
702.00	844.73	823.73	2347	2400	114.35	237.91	387.62	2669
704.00	847.33	826.33	2348	2401	114.01	237.31	386.75	2603
706.00	850.39	829.39	2350	2403	113.55	236.44	385.49	3050
708.00	852.92	831.92	2350	2403	113.24	235.88	384.68	2536
710.00	855.63	834.63	2351	2404	112.89	235.22	383.74	2707
712.00	858.25	837.25	2352	2405	112.55	234.61	382.87	2626
714.00	860.64	839.64	2352	2405	112.29	234.13	382.18	2386
716.00	863.11	842.11	2352	2405	112.00	233.60	381.44	2471
718.00	865.66	844.66	2353	2405	111.69	233.04	380.63	2552

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
720.00	868.23	847.23	2353	2406	111.38	232.47	379.82	2564
722.00	870.78	849.78	2354	2406	111.08	231.91	379.02	2555
724.00	873.61	852.61	2355	2407	110.71	231.21	378.00	2830
726.00	876.24	855.24	2356	2408	110.39	230.62	377.15	2623
728.00	878.83	857.83	2357	2408	110.08	230.05	376.33	2595
730.00	881.62	860.62	2358	2410	109.72	229.39	375.36	2786
732.00	884.16	863.16	2358	2410	109.43	228.85	374.59	2542
734.00	886.98	865.98	2360	2411	109.07	228.17	373.60	2822
736.00	889.36	868.36	2360	2411	108.82	227.71	372.95	2376
738.00	891.83	870.83	2360	2411	108.54	227.21	372.23	2474
740.00	894.27	873.27	2360	2411	108.28	226.73	371.54	2440
742.00	896.71	875.71	2360	2411	108.02	226.25	370.86	2438
744.00	898.93	877.93	2360	2411	107.81	225.86	370.32	2223
746.00	901.23	880.23	2360	2411	107.58	225.44	369.73	2303
748.00	903.51	882.51	2360	2410	107.36	225.04	369.15	2281
750.00	905.81	884.81	2360	2410	107.13	224.62	368.56	2300
752.00	908.11	887.11	2359	2410	106.91	224.21	367.98	2292
754.00	910.50	889.50	2359	2410	106.66	223.76	367.34	2390
756.00	912.87	891.87	2359	2410	106.42	223.32	366.71	2369
758.00	915.41	894.41	2360	2410	106.15	222.81	365.97	2541
760.00	917.80	896.80	2360	2410	105.91	222.36	365.33	2390
762.00	920.19	899.19	2360	2410	105.67	221.92	364.70	2395
764.00	922.57	901.57	2360	2410	105.43	221.48	364.07	2379
766.00	924.87	903.87	2360	2409	105.21	221.08	363.50	2296

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
768.00	927.14	906.14	2360	2409	105.00	220.69	362.94	2271
770.00	929.51	908.51	2360	2409	104.77	220.26	362.33	2375
772.00	931.81	910.81	2360	2409	104.55	219.86	361.76	2296
774.00	934.19	913.19	2360	2409	104.32	219.43	361.14	2385
776.00	936.47	915.47	2359	2408	104.11	219.04	360.59	2273
778.00	938.79	917.79	2359	2408	103.89	218.64	360.01	2319
780.00	941.17	920.17	2359	2408	103.66	218.21	359.40	2379
782.00	943.58	922.58	2360	2408	103.42	217.77	358.76	2417
784.00	945.93	924.93	2360	2408	103.20	217.36	358.17	2342
786.00	948.26	927.26	2359	2408	102.99	216.96	357.60	2330
788.00	950.57	929.57	2359	2407	102.78	216.57	357.03	2315
790.00	952.94	931.94	2359	2407	102.55	216.15	356.43	2366
792.00	955.30	934.30	2359	2407	102.33	215.74	355.84	2360
794.00	957.67	936.67	2359	2407	102.11	215.33	355.25	2371
796.00	960.04	939.04	2359	2407	101.89	214.92	354.65	2375
798.00	962.62	941.61	2360	2407	101.63	214.42	353.93	2571
800.00	964.96	943.96	2360	2407	101.42	214.02	353.35	2347
802.00	967.16	946.16	2360	2407	101.23	213.68	352.86	2201
804.00	969.55	948.55	2360	2407	101.01	213.27	352.26	2385
806.00	972.02	951.02	2360	2407	100.78	212.83	351.62	2468
808.00	974.44	953.44	2360	2407	100.55	212.40	351.00	2425
810.00	977.03	956.03	2361	2407	100.30	211.91	350.28	2589
812.00	979.40	958.40	2361	2407	100.08	211.51	349.70	2376
814.00	982.14	961.14	2362	2408	99.80	210.97	348.88	2734

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
816.00	984.53	963.53	2362	2408	99.58	210.56	348.30	2391
818.00	987.11	966.11	2362	2409	99.33	210.08	347.59	2584
820.00	989.57	968.57	2362	2409	99.10	209.65	346.96	2460
822.00	992.20	971.20	2363	2409	98.85	209.16	346.24	2622
824.00	994.60	973.60	2363	2409	98.63	208.76	345.65	2403
826.00	997.04	976.04	2363	2409	98.41	208.35	345.04	2438
828.00	999.50	978.50	2364	2409	98.19	207.92	344.42	2461
830.00	1001.92	980.92	2364	2410	97.98	207.52	343.83	2417
832.00	1004.34	983.34	2364	2410	97.76	207.12	343.24	2424
834.00	1006.75	985.75	2364	2410	97.55	206.72	342.65	2414
836.00	1009.19	988.19	2364	2410	97.34	206.31	342.05	2431
838.00	1011.59	990.59	2364	2410	97.13	205.92	341.48	2406
840.00	1013.97	992.97	2364	2410	96.93	205.53	340.91	2382
842.00	1016.35	995.35	2364	2409	96.73	205.15	340.35	2380
844.00	1018.67	997.67	2364	2409	96.54	204.79	339.83	2315
846.00	1020.98	999.98	2364	2409	96.35	204.44	339.32	2307
848.00	1023.18	1002.18	2364	2409	96.18	204.12	338.86	2206
850.00	1025.43	1004.43	2363	2408	96.01	203.79	338.37	2249
852.00	1027.82	1006.82	2363	2403	95.81	203.41	337.81	2394
854.00	1029.98	1008.98	2363	2408	95.65	203.11	337.38	2161
856.00	1032.24	1011.24	2363	2407	95.47	202.78	336.89	2257
858.00	1034.71	1013.71	2363	2407	95.26	202.37	336.29	2470
860.00	1037.10	1016.10	2363	2407	95.07	202.00	335.74	2387
862.00	1039.64	1018.64	2363	2408	94.84	201.57	335.11	2539



TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
864.00	1042.04	1021.04	2364	2408	94.65	201.19	334.55	2404
866.00	1044.36	1023.36	2363	2407	94.47	200.85	334.04	2314
868.00	1046.78	1025.78	2364	2408	94.27	200.46	333.48	2429
870.00	1049.21	1028.21	2364	2408	94.07	200.08	332.91	2429
872.00	1051.58	1030.58	2364	2407	93.88	199.72	332.38	2364
874.00	1053.95	1032.95	2364	2407	93.69	199.36	331.85	2373
876.00	1056.44	1035.44	2364	2408	93.48	198.96	331.25	2492
878.00	1059.05	1038.05	2365	2408	93.26	198.52	330.59	2608
880.00	1061.71	1040.71	2365	2409	93.02	198.06	329.90	2663
882.00	1064.28	1043.28	2366	2409	92.80	197.64	329.27	2562
884.00	1066.73	1045.73	2366	2409	92.60	197.26	328.71	2453
886.00	1069.16	1048.16	2366	2409	92.41	196.89	328.15	2437
888.00	1071.42	1050.42	2366	2409	92.25	196.58	327.69	2258
890.00	1073.74	1052.74	2366	2409	92.07	196.24	327.20	2318
892.00	1076.22	1055.22	2366	2409	91.87	195.86	326.62	2477
894.00	1078.57	1057.57	2366	2409	91.70	195.52	326.12	2351
896.00	1080.95	1059.95	2366	2409	91.52	195.17	325.60	2378
898.00	1083.29	1062.29	2366	2408	91.34	194.83	325.10	2348
900.00	1085.69	1064.69	2366	2408	91.16	194.48	324.57	2399
902.00	1087.96	1066.96	2366	2408	91.00	194.17	324.12	2262
904.00	1090.29	1069.29	2366	2408	90.83	193.84	323.62	2337
906.00	1092.49	1071.49	2365	2408	90.67	193.55	323.20	2199
908.00	1094.72	1073.72	2365	2407	90.52	193.26	322.77	2225
910.00	1096.88	1075.88	2365	2407	90.38	192.98	322.36	2159

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
912.00	1099.09	1078.09	2364	2406	90.23	192.69	321.93	2216
914.00	1101.36	1080.36	2364	2406	90.07	192.39	321.48	2266
916.00	1103.62	1082.62	2364	2406	89.91	192.09	321.03	2261
918.00	1106.04	1085.03	2364	2406	89.73	191.74	320.51	2417
920.00	1108.40	1087.40	2364	2406	89.56	191.40	320.01	2362
922.00	1110.77	1089.77	2364	2405	89.39	191.07	319.52	2373
924.00	1113.17	1092.17	2364	2405	89.21	190.73	319.01	2396
926.00	1115.56	1094.56	2364	2405	89.04	190.39	318.50	2390
928.00	1117.97	1096.97	2364	2405	88.86	190.05	317.99	2414
930.00	1120.37	1099.37	2364	2405	88.69	189.71	317.48	2400
932.00	1122.90	1101.90	2365	2406	88.50	189.34	316.91	2523
934.00	1125.39	1104.39	2365	2406	88.31	188.97	316.36	2494
936.00	1127.75	1106.75	2365	2406	88.14	188.65	315.87	2362
938.00	1130.16	1109.16	2365	2406	87.97	188.31	315.37	2410
940.00	1132.68	1111.68	2365	2406	87.78	187.95	314.81	2512
942.00	1135.21	1114.21	2366	2406	87.59	187.57	314.25	2537
944.00	1137.73	1116.73	2366	2407	87.41	187.21	313.69	2519
946.00	1140.30	1119.30	2366	2407	87.21	186.83	313.11	2567
948.00	1142.88	1121.88	2367	2407	87.02	186.44	312.53	2585
950.00	1145.66	1124.66	2368	2408	86.79	185.99	311.84	2780
952.00	1148.43	1127.43	2369	2409	86.57	185.55	311.16	2766
954.00	1151.06	1130.06	2369	2409	86.37	185.16	310.56	2634
956.00	1153.62	1132.62	2370	2410	86.18	184.79	310.00	2560
958.00	1156.25	1135.25	2370	2410	85.98	184.40	309.40	2621

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
960.00	1158.78	1137.78	2370	2411	85.80	184.04	308.85	2539
962.00	1161.30	1140.30	2371	2411	85.62	183.68	308.32	2517
964.00	1163.88	1142.88	2371	2411	85.43	183.31	307.75	2575
966.00	1166.47	1145.47	2372	2412	85.24	182.94	307.18	2598
968.00	1169.38	1148.38	2373	2413	85.01	182.46	306.44	2908
970.00	1172.49	1151.49	2374	2414	84.73	181.92	305.60	3105
972.00	1175.10	1154.10	2375	2415	84.54	181.55	305.03	2615
974.00	1178.09	1157.09	2376	2416	84.30	181.05	304.26	2985
976.00	1181.00	1160.00	2377	2417	84.06	180.58	303.54	2910
978.00	1183.38	1162.38	2377	2417	83.91	180.28	303.08	2379
980.00	1185.97	1164.97	2377	2417	83.73	179.92	302.52	2595
982.00	1188.10	1167.10	2377	2417	83.61	179.69	302.17	2129
984.00	1190.59	1169.59	2377	2417	83.44	179.36	301.67	2492
986.00	1193.24	1172.24	2378	2418	83.25	178.98	301.09	2650
988.00	1196.02	1175.02	2379	2418	83.04	178.56	300.45	2783
990.00	1198.87	1177.87	2380	2419	82.83	178.13	299.78	2842
992.00	1201.72	1180.72	2380	2420	82.61	177.70	299.11	2856
994.00	1204.80	1183.80	2382	2422	82.36	177.19	298.32	3078
996.00	1207.68	1186.68	2383	2423	82.14	176.75	297.64	2877
998.00	1210.79	1189.79	2384	2424	81.89	176.24	296.84	3111
1000.00	1214.03	1193.03	2386	2426	81.61	175.69	295.97	3241
1002.00	1216.53	1195.53	2386	2426	81.45	175.37	295.48	2501
1004.00	1218.70	1197.70	2386	2426	81.33	175.13	295.13	2166
1006.00	1220.90	1199.90	2385	2425	81.21	174.89	294.76	2208

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1008.00	1224.12	1203.12	2387	2427	80.94	174.36	293.92	3212
1010.00	1227.28	1206.28	2389	2429	80.69	173.84	293.11	3165
1012.00	1230.38	1209.38	2390	2430	80.44	173.35	292.34	3100
1014.00	1233.45	1212.45	2391	2432	80.21	172.86	291.59	3070
1016.00	1236.59	1215.59	2393	2433	79.96	172.36	290.80	3143
1018.00	1239.28	1218.28	2393	2434	79.78	172.00	290.24	2687
1020.00	1241.66	1220.66	2393	2434	79.64	171.73	289.82	2373
1022.00	1244.70	1223.70	2395	2435	79.41	171.27	289.10	3036
1024.00	1247.57	1226.57	2396	2436	79.21	170.86	288.47	2870
1026.00	1250.34	1229.34	2396	2437	79.02	170.48	287.88	2776
1028.00	1253.07	1232.07	2397	2437	78.84	170.12	287.31	2730
1030.00	1255.76	1234.76	2398	2438	78.67	169.77	286.77	2693
1032.00	1258.63	1237.63	2399	2439	78.47	169.37	286.15	2863
1034.00	1261.67	1240.67	2400	2440	78.25	168.92	285.44	3044
1036.00	1264.34	1243.34	2400	2441	78.08	168.58	284.91	2665
1038.00	1267.00	1246.00	2401	2441	77.91	168.25	284.39	2662
1040.00	1269.99	1248.99	2402	2442	77.70	167.82	283.71	2994
1042.00	1273.13	1252.13	2403	2444	77.47	167.34	282.97	3136
1044.00	1275.92	1254.92	2404	2445	77.29	166.98	282.40	2791
1046.00	1279.01	1258.01	2405	2446	77.06	166.53	281.68	3088
1048.00	1282.08	1261.08	2407	2447	76.85	166.08	280.98	3072
1050.00	1284.99	1263.99	2408	2448	76.65	165.69	280.36	2911
1052.00	1288.07	1267.07	2409	2450	76.43	165.24	279.67	3077
1054.00	1291.13	1270.13	2410	2451	76.22	164.81	278.98	3062

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1056.00	1293.93	1272.93	2411	2452	76.04	164.45	278.42	2800
1058.00	1296.60	1275.60	2411	2452	75.88	164.13	277.91	2670
1060.00	1298.96	1277.96	2411	2452	75.76	163.88	277.53	2364
1062.00	1301.62	1280.62	2412	2452	75.60	163.56	277.03	2660
1064.00	1304.40	1283.40	2412	2453	75.43	163.21	276.49	2774
1066.00	1307.51	1286.51	2414	2454	75.21	162.77	275.79	3116
1068.00	1310.40	1289.40	2415	2455	75.03	162.40	275.20	2886
1070.00	1313.19	1292.19	2415	2456	74.86	162.05	274.66	2793
1072.00	1316.30	1295.30	2417	2457	74.65	161.62	273.98	3106
1074.00	1319.25	1298.25	2418	2458	74.46	161.24	273.37	2950
1076.00	1322.28	1301.28	2419	2459	74.26	160.83	272.73	3028
1078.00	1325.25	1304.25	2420	2460	74.07	160.44	272.12	2963
1080.00	1327.86	1306.86	2420	2461	73.93	160.15	271.66	2613
1082.00	1330.73	1309.73	2421	2462	73.75	159.79	271.09	2871
1084.00	1333.70	1312.70	2422	2463	73.56	159.41	270.49	2963
1086.00	1336.67	1315.67	2423	2464	73.38	159.03	269.88	2976
1088.00	1339.56	1318.56	2424	2464	73.20	158.67	269.32	2883
1090.00	1342.56	1321.56	2425	2466	73.01	158.29	268.71	2999
1092.00	1345.45	1324.45	2426	2466	72.84	157.93	268.15	2894
1094.00	1348.55	1327.55	2427	2468	72.64	157.52	267.50	3104
1096.00	1351.73	1330.73	2428	2469	72.43	157.09	266.81	3179
1098.00	1354.80	1333.80	2430	2470	72.24	156.70	266.19	3066
1100.00	1357.86	1336.86	2431	2472	72.05	156.31	265.56	3060
1102.00	1361.41	1340.41	2433	2474	71.79	155.78	264.72	3547

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1104.00	1364.45	1343.45	2434	2475	71.60	155.40	264.11	3039
1106.00	1367.50	1346.50	2435	2476	71.42	155.01	263.50	3053
1108.00	1370.51	1349.51	2436	2477	71.23	154.64	262.91	3016
1110.00	1373.40	1352.40	2437	2478	71.07	154.30	262.37	2885
1112.00	1375.75	1354.75	2437	2478	70.96	154.08	262.03	2354
1114.00	1377.94	1356.94	2436	2477	70.87	153.90	261.75	2182
1116.00	1380.77	1359.77	2437	2478	70.71	153.58	261.24	2830
1118.00	1382.99	1361.99	2436	2478	70.62	153.39	260.94	2224
1120.00	1386.01	1365.01	2438	2479	70.44	153.02	260.36	3015
1122.00	1389.06	1368.06	2439	2480	70.26	152.65	259.77	3050
1124.00	1392.14	1371.14	2440	2481	70.08	152.27	259.16	3087
1126.00	1395.11	1374.11	2441	2482	69.91	151.92	258.61	2970
1128.00	1398.22	1377.22	2442	2483	69.72	151.54	258.00	3103
1130.00	1401.31	1380.31	2443	2485	69.54	151.17	257.40	3091
1132.00	1404.15	1383.15	2444	2485	69.39	150.86	256.91	2842
1134.00	1406.34	1385.34	2443	2485	69.30	150.68	256.63	2191
1136.00	1408.88	1387.88	2443	2485	69.18	150.43	256.24	2546
1138.00	1412.00	1391.00	2445	2486	69.00	150.05	255.64	3120
1140.00	1415.28	1394.28	2446	2488	68.80	149.64	254.97	3273
1142.00	1418.34	1397.34	2447	2489	68.62	149.28	254.40	3063
1144.00	1421.39	1400.39	2448	2490	68.45	148.93	253.83	3053
1146.00	1424.58	1403.58	2450	2491	68.26	148.54	253.21	3187
1148.00	1427.86	1406.86	2451	2493	68.07	148.13	252.56	3277
1150.00	1431.22	1410.22	2453	2495	67.86	147.71	251.87	3358

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1152.00	1434.29	1413.29	2454	2496	67.69	147.35	251.31	3074
1154.00	1437.13	1416.13	2454	2496	67.55	147.06	250.83	2839
1156.00	1439.68	1418.68	2454	2497	67.43	146.82	250.46	2553
1158.00	1442.92	1421.92	2456	2498	67.24	146.43	249.84	3233
1160.00	1446.20	1425.20	2457	2500	67.05	146.04	249.20	3282
1162.00	1449.52	1428.52	2459	2501	66.86	145.63	248.55	3319
1164.00	1452.89	1431.89	2460	2503	66.66	145.22	247.87	3378
1166.00	1456.20	1435.20	2462	2505	66.47	144.82	247.24	3305
1168.00	1459.63	1438.63	2463	2506	66.26	144.39	246.55	3433
1170.00	1463.18	1442.18	2465	2509	66.05	143.94	245.82	3546
1172.00	1466.68	1445.68	2467	2511	65.83	143.50	245.11	3506
1174.00	1469.92	1448.92	2468	2512	65.66	143.13	244.51	3242
1176.00	1473.38	1452.38	2470	2514	65.45	142.71	243.82	3451
1178.00	1477.01	1456.01	2472	2516	65.23	142.25	243.07	3632
1180.00	1480.20	1459.20	2473	2518	65.06	141.89	242.50	3188
1182.00	1483.02	1462.02	2474	2518	64.93	141.62	242.07	2320
1184.00	1486.46	1465.46	2475	2520	64.73	141.21	241.40	3442
1186.00	1489.72	1468.72	2477	2521	64.56	140.85	240.81	3257
1188.00	1492.95	1471.95	2478	2523	64.39	140.49	240.24	3230
1190.00	1496.23	1475.23	2479	2524	64.21	140.13	239.65	3282
1192.00	1499.57	1478.57	2481	2526	64.03	139.75	239.04	3347
1194.00	1502.88	1481.88	2482	2527	63.85	139.38	238.44	3305
1196.00	1506.36	1485.36	2484	2529	63.66	138.97	237.78	3477
1198.00	1509.79	1488.79	2485	2531	63.47	138.58	237.15	3431

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1200.00	1513.48	1492.48	2487	2533	63.26	138.13	236.41	3692
1202.00	1516.96	1495.96	2489	2535	63.07	137.73	235.76	3483
1204.00	1520.36	1499.36	2491	2537	62.89	137.35	235.15	3395
1206.00	1523.77	1502.77	2492	2539	62.70	136.97	234.53	3414
1208.00	1527.33	1506.33	2494	2541	62.51	136.56	233.86	3563
1210.00	1530.76	1509.76	2495	2542	62.33	136.18	233.25	3425
1212.00	1534.30	1513.30	2497	2544	62.13	135.78	232.59	3543
1214.00	1537.80	1516.80	2499	2546	61.95	135.39	231.96	3504
1216.00	1541.32	1520.32	2501	2548	61.76	135.00	231.32	3517
1218.00	1544.85	1523.85	2502	2550	61.57	134.61	230.68	3529
1220.00	1548.25	1527.25	2504	2552	61.40	134.24	230.09	3404
1222.00	1551.88	1530.88	2506	2554	61.21	133.83	229.42	3626
1224.00	1555.99	1534.99	2508	2557	60.96	133.31	228.56	4106
1226.00	1559.35	1538.35	2510	2559	60.79	132.96	228.00	3360
1228.00	1562.65	1541.65	2511	2560	60.63	132.63	227.45	3303
1230.00	1566.07	1545.07	2512	2562	60.46	132.27	226.87	3424
1232.00	1569.42	1548.42	2514	2563	60.30	131.94	226.32	3344
1234.00	1572.73	1551.73	2515	2564	60.15	131.61	225.79	3308
1236.00	1576.18	1555.18	2516	2566	59.98	131.25	225.21	3451
1238.00	1579.45	1558.45	2518	2567	59.82	130.93	224.69	3272
1240.00	1582.81	1561.81	2519	2569	59.67	130.60	224.15	3359
1242.00	1586.11	1565.11	2520	2570	59.51	130.28	223.62	3307
1244.00	1589.48	1568.48	2522	2572	59.35	129.95	223.08	3369
1246.00	1592.79	1571.79	2523	2573	59.20	129.63	222.56	3305



TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1248.00	1596.11	1575.11	2524	2574	59.05	129.31	222.04	3319
1250.00	1599.48	1578.49	2526	2576	58.89	128.98	221.50	3377
1252.00	1603.01	1582.01	2527	2578	58.72	128.62	220.92	3522
1254.00	1606.51	1585.51	2529	2579	58.56	128.27	220.34	3502
1256.00	1609.94	1588.94	2530	2581	58.40	127.94	219.80	3427
1258.00	1613.94	1592.94	2532	2584	58.18	127.48	219.04	4006
1260.00	1617.50	1596.50	2534	2586	58.01	127.12	218.46	3561
1262.00	1620.87	1599.87	2535	2587	57.86	126.81	217.94	3372
1264.00	1624.91	1603.91	2538	2590	57.65	126.35	217.19	4033
1266.00	1628.55	1607.55	2540	2592	57.47	125.98	216.59	3645
1268.00	1632.04	1611.04	2541	2594	57.32	125.65	216.04	3488
1270.00	1635.65	1614.65	2543	2596	57.15	125.29	215.45	3612
1272.00	1639.19	1618.19	2544	2597	56.98	124.95	214.89	3542
1274.00	1642.50	1621.50	2546	2599	56.84	124.66	214.41	3305
1276.00	1645.85	1624.85	2547	2600	56.70	124.36	213.92	3347
1278.00	1649.00	1628.00	2548	2601	56.58	124.09	213.48	3154
1280.00	1651.65	1630.65	2548	2601	56.49	123.91	213.19	2643
1282.00	1655.00	1634.00	2549	2602	56.35	123.61	212.70	3350
1284.00	1658.32	1637.32	2550	2604	56.21	123.32	212.22	3320
1286.00	1661.61	1640.61	2551	2605	56.08	123.03	211.76	3288
1288.00	1664.79	1643.79	2552	2606	55.95	122.77	211.32	3188
1290.00	1668.00	1647.00	2553	2607	55.82	122.50	210.89	3205
1292.00	1671.43	1650.43	2555	2608	55.68	122.20	210.38	3425
1294.00	1674.70	1653.70	2556	2610	55.55	121.92	209.93	3271

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1296.00	1677.99	1656.99	2557	2611	55.42	121.64	209.47	3294
1298.00	1681.23	1660.23	2558	2612	55.29	121.37	209.03	3243
1300.00	1684.62	1663.62	2559	2613	55.15	121.08	208.55	3390
1302.00	1687.99	1666.99	2561	2615	55.01	120.79	208.08	3367

PE604520

This is an enclosure indicator page.  
The enclosure PE604520 is enclosed within the  
container PE906012 at this location in this  
document.

The enclosure PE604520 has the following characteristics:

ITEM\_BARCODE = PE604520  
CONTAINER\_BARCODE = PE906012  
NAME = Drift Corrected Sonic  
BASIN = GIPPSLAND  
PERMIT = VIC/P27  
TYPE = WELL  
SUBTYPE = WELL-LOG  
DESCRIPTION = Drift Corrected Sonic (enclosure from  
attachment to WCR) for Malloway-1  
REMARKS =  
DATE\_CREATED = 10/03/89  
DATE\_RECEIVED = 15/09/89  
W\_NO = W988  
WELL\_NAME = MULLOWAY-1  
CONTRACTOR = SCHLUMBERGER  
CLIENT\_OP\_CO = ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604521

This is an enclosure indicator page.  
The enclosure PE604521 is enclosed within the  
container PE906012 at this location in this  
document.

The enclosure PE604521 has the following characteristics:

ITEM\_BARCODE = PE604521  
CONTAINER\_BARCODE = PE906012  
NAME = Seismic Calibration Log  
BASIN = GIPPSLAND  
PERMIT = VIC/P27  
TYPE = WELL  
SUBTYPE = VELOCITY\_CHART  
DESCRIPTION = Seismic Calibration Log (enclosure from  
attachment to WCR) for Malloway-1  
REMARKS =  
DATE\_CREATED = 10/03/89  
DATE\_RECEIVED = 15/09/89  
W\_NO = W988  
WELL\_NAME = MULLOWAY-1  
CONTRACTOR = SCHLUMBERGER  
CLIENT\_OP\_CO = ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906013

This is an enclosure indicator page.  
The enclosure PE906013 is enclosed within the  
container PE906012 at this location in this  
document.

The enclosure PE906013 has the following characteristics:

ITEM\_BARCODE = PE906013  
CONTAINER\_BARCODE = PE906012  
NAME = Geogram/Syntetic Seismogram  
BASIN = GIPPSLAND  
PERMIT = VIC/P27  
TYPE = WELL  
SUBTYPE = VELOCITY\_CHART  
DESCRIPTION = Geogram/Synthetic Seismogram, 35 Hz  
Zero Phase, (enclosure from attachment  
to WCR) for Malloway-1  
REMARKS =  
DATE\_CREATED = 10/03/89  
DATE\_RECEIVED = 15/09/89  
W\_NO = W988  
WELL\_NAME = MULLOWAY-1  
CONTRACTOR = SCHLUMBERGER  
CLIENT\_OP\_CO = ESSO AUSTRALIA LTD

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PE906014

This is an enclosure indicator page.  
The enclosure PE906014 is enclosed within the  
container PE906012 at this location in this  
document.

The enclosure PE906014 has the following characteristics:

ITEM\_BARCODE = PE906014  
CONTAINER\_BARCODE = PE906012  
NAME = Geogram/Syntetic Seismogram  
BASIN = GIPPSLAND  
PERMIT = VIC/P27  
TYPE = WELL  
SUBTYPE = VELOCITY\_CHART  
DESCRIPTION = Seismic Calibration Log, 25 Hz Zero  
Phase, (enclosure from attachment to  
WCR) for Malloway-1  
REMARKS =  
DATE\_CREATED = 10/03/89  
DATE\_RECEIVED = 15/09/89  
W\_NO = W988  
WELL\_NAME = MULLOWAY-1  
CONTRACTOR = SCHLUMBERGER  
CLIENT\_OP\_CO = ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)