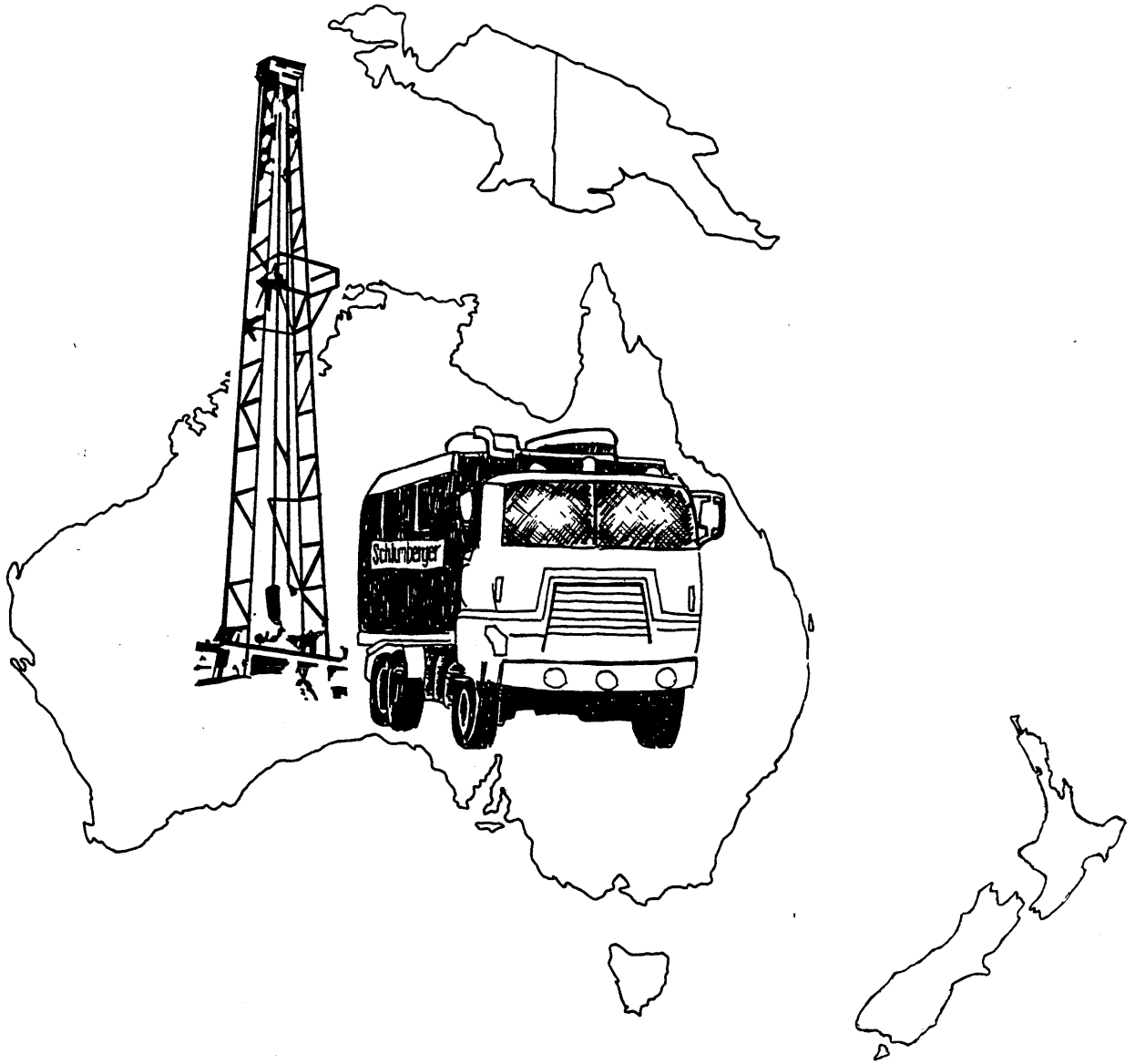
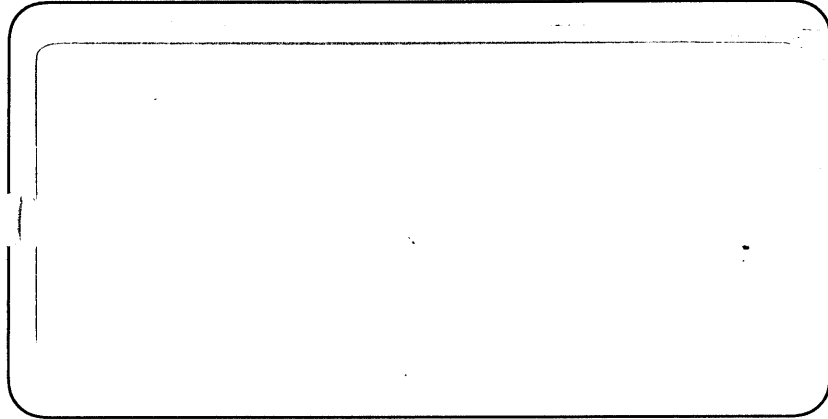


# APPENDIX 5 FROM VOL 1 WCR

DEPT. NAT. RES & ENV



PE903932



**Schlumberger**

Schlumberger

ESSO AUSTRALIA LTD  
SONIC CALIBRATION  
AND GEOGRAM  
PROCESSING REPORT

BLENNY 1 0 9 NOV 1992

FIELD : WILDCAT

COUNTRY : AUSTRALIA

COORDINATES : 38° 47' 3" S  
147° 41' 4" E

DATE OF SURVEY : 7 MAY 1992

REFERENCE NO. : SYJ-560786

INTERVAL : 1385.0 - 180.0 M

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## 1. Introduction

A checkshot survey of the BLENNY #1 well has been used to calibrate the sonic log and generate synthetic seismograms using 25,35,45 hertz zero phase Ricker wavelets with a -90 degrees phase shift and a minimum phase Ricker wavelet. The final presentation includes synthetic seismograms, at 20 cm/sec as well as a drift corrected sonic plot and a seismic calibration log.

## 2. Data Acquisition

The data was acquired with the CSAT acquisition tool. Recording was made on the MAXIS Unit using DLIS format.

Table 1: Survey Parameters

Datum	MSL
Elevation KB	22 metres AMSL
Elevation GL	40.0 metres below MSL
Total Depth	1386 metres below KB
Energy Source	Airgun
Source Offset	69 metres
Source Depth	10 metre below MSL
Source Azimuth	143°
Reference Sensor	Hydrophone
Hydrophone Offset	69 metres
Hydrophone Depth	15 metres below MSL
Hydrophone Azimuth	143°

### 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 Correction to Datum**

The corrected sonic log is indexed to true vertical depth and referenced to mean sea level. Static corrections are applied to correct for source offset and source depth by assuming a water velocity of 1524 metres/sec.

### **3.3 Open Hole Logs**

The sonic log has been recorded from 1385.0 to 180.0 metres below KB. The overall log quality is good with small zones having been patched out. A density log was recorded from TD up to 802 metres and is extrapolated to the surface with a constant density value.

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

### **3.4 Sonic Calibration Results**

The top of the sonic log (180 metres below KB) is chosen as the origin for the calibration drift curve. The drift curve indicates a number of corrections to be made to the sonic log. The adjusted sonic curve is considered to be the best result using the available data. A list of shifts used on the sonic data is given in the adjusted sonic parameter report.

## 4. Synthetic Seismogram Processing

GEOGRAM plots were generated using 25,35,45 HZ zero phase Ricker wavelets with a negative 90 degrees phase shift and a 35 HZ minimum phase Ricker wavelet .

The presentations include both normal and reverse polarity on a time scale of 20cm/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:

$$A_n = (1 - R_1^2).(1 - R_2^2).(1 - R_3^2)...(1 - R_n^2)$$

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

$$Primary_n = R_n.A_{n-1}$$

### 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

Five 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 millisecc 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.

**LIST OF ENCLOSURES**

Drift Corrected Sonic

Seismic Calibration Log

25 hz zero phase Geogram 20 cm/sec

35 hz zero phase Geogram 20 cm/sec

45 hz zero phase Geogram 20 cm/sec

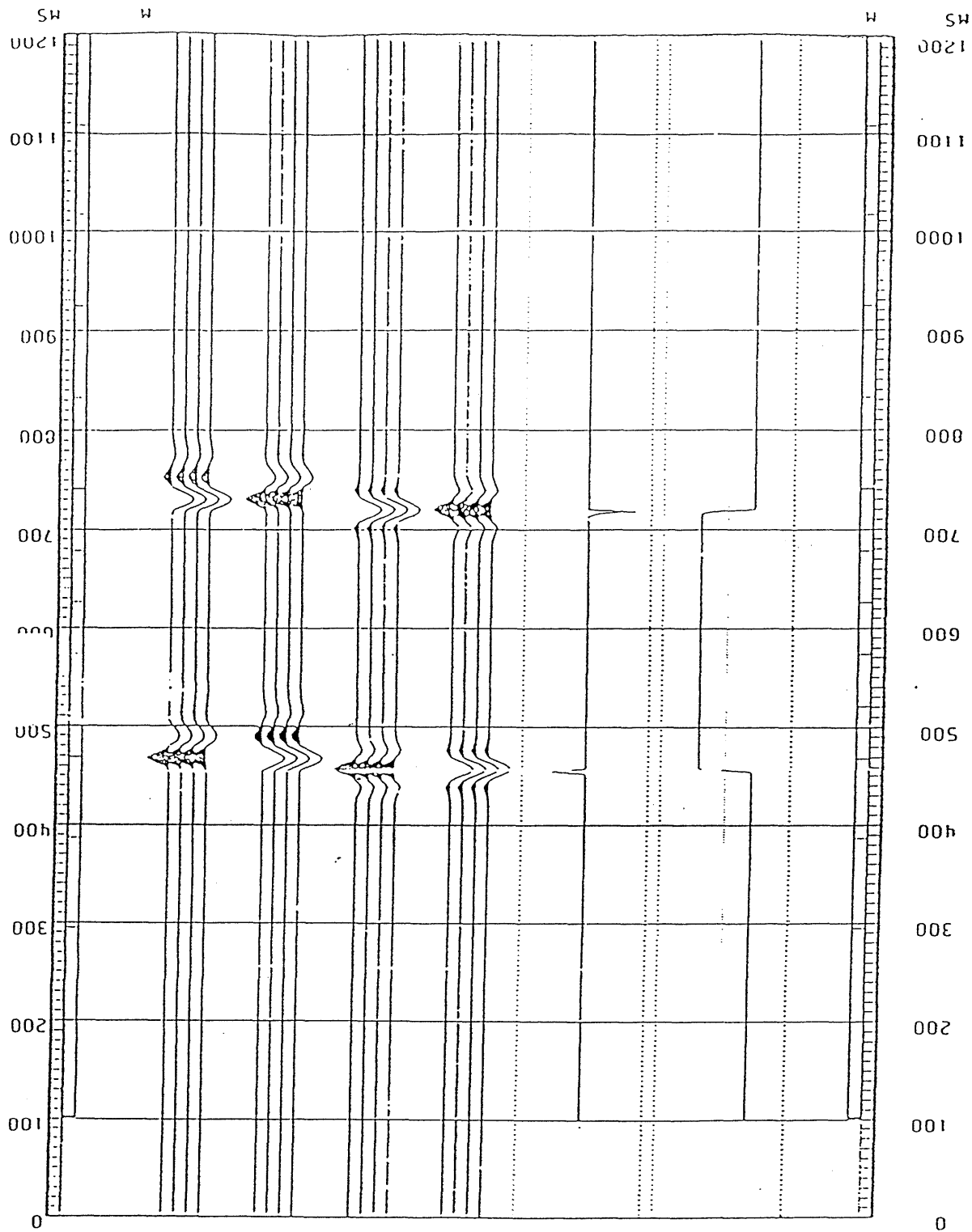
35 hz minimum phase Geogram 20 cm/sec

Figure 1. Wavelet Polarity Convention.

Figure 2. Stacked Data.

# SCHLUMBERGER (SEG-1976) WAVELET POLARITY CONVENTION

Figure 1



MINIMUM PHASE RICKER REVERSE POLARITY
MINIMUM PHASE RICKER NORMAL POLARITY
ZERO PHASE RICKER REVERSE POLARITY
ZERO PHASE RICKER NORMAL POLARITY
REFLECTION COEFF
INTERVAL VELOCITY

CLIENT = ESSO AUSTRALIA LTD.

FIELD = WILDCAT

WELL = BLENNY-1

Figure 2

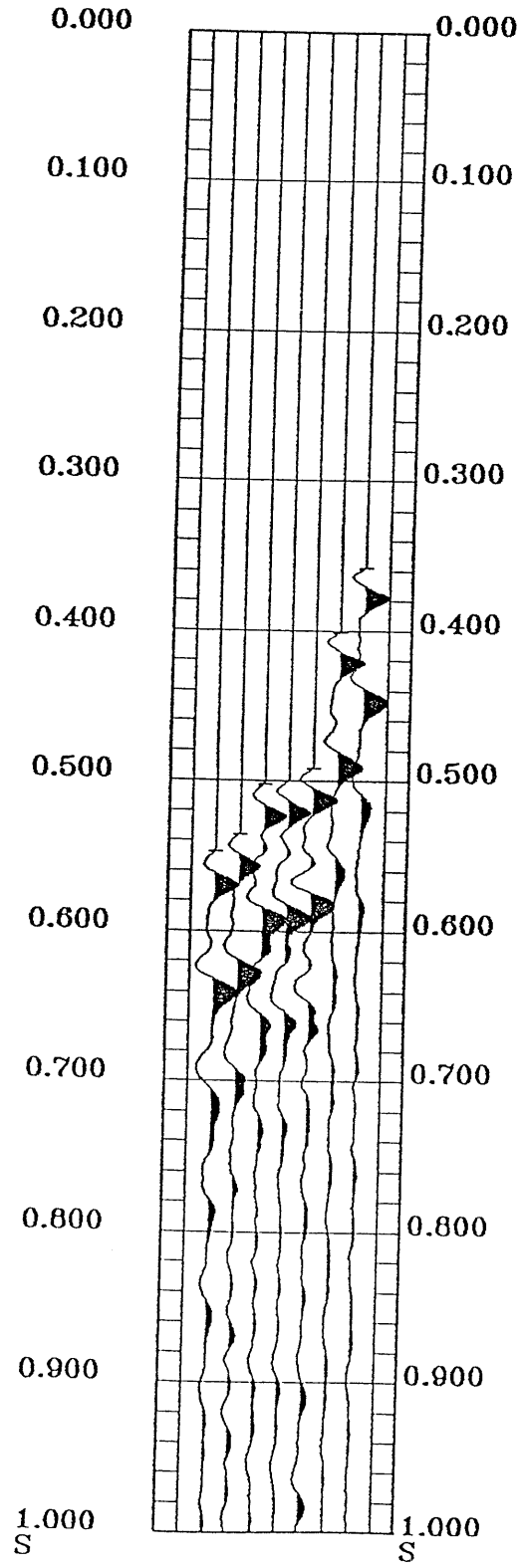
RAW DEPTH	M
880.0	0.358
998.0	0.401
1226.0	0.492
1346.0	0.500
1252.0	0.502
1353.0	0.538
1386.0	0.547

TRANSIT TIME	S
880.0	0.358
998.0	0.401
1226.0	0.492
1346.0	0.500
1252.0	0.502
1353.0	0.538
1386.0	0.547

LEVEL NO	
8	
7	
6	
4	
3	
2	
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**SHOTS**

**SHOTS**





ANALYST: T. BOWMAN

21-MAY-92 10:57:14

PROGRAM: GSHOT 007.E08

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SCHLUMBERGER

GEOPHYSICAL AIRGUN REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : BLENNY #1  
FIELD : WILDCAT  
COUNTRY : AUSTRALIA  
REFERENCE: 560786

LONG DEFINITIONS

GLOBAL  
 ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL  
 ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL  
 ELEVATION OF KELLY BUSHING  
 ELEVATION OF USERS REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD  
 VELOCITY OF THE MEDIUM BETWEEN THE SOURCE AND THE HYDROPHONE  
 VELOCITY OF THE MEDIUM BETWEEN THE SOURCE AND THE SRD

MATRIX  
 SOURCE ELEVATION ABOVE SRD (ONE FOR THE WHOLE JOB; OR ONE PER SHOT)  
 SOURCE DISTANCE FROM THE BOREHOLE AXIS IN EW DIRECTION (CF. GUNELZ)  
 SOURCE DISTANCE FROM THE BOREHOLE AXIS IN NS DIRECTION (CF. GUNELZ)  
 HYDROPHONE ELEVATION ABOVE SRD (CF. GUNELZ)  
 HYDROPHONE DISTANCE FROM THE BOREHOLE AXIS IN EW DIRECTION (CF GUNELZ)  
 HYDROPHONE DISTANCE FROM THE BOREHOLE AXIS IN NS DIRECTION (CF GUNELZ)  
 TRAVEL TIME FROM THE SOURCE TO THE SRD  
 TRAVEL TIME FROM THE SOURCE TO THE SRD  
 DEVIATED WELL DATA PER SHOT : MEAS. DEPTH, VERT. DEPTH, EW, NS

SAMPLED  
 SHOT NUMBER FROM KELLY-BUSHING  
 MEASURED DEPTH FROM SRD  
 DEPTH FROM DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)  
 TIE IN MEMORIZED OUTPUT  
 TIE IN MEMORIZED OUTPUT  
 VERTICAL TRAVEL TIME FROM THE SOURCE TO THE GEOPHONE  
 VERTICAL TRAVEL TIME FROM THE SOURCE TO THE GEOPHONE  
 AVERAGE SEISMIC VELOCITY  
 DEPTH INTERVAL BETWEEN SUCCESSIVE SHOTS  
 DEPTH INTERVAL BETWEEN SUCCESSIVE SHOTS  
 INTERNAL VELOCITY, AVERAGE

(GLOBAL PARAMETERS) (VALUE)

ELEV OF KB AB. MSL (WST) KB : 22.0000 M  
 ELEV OF SRD AB. MSL (WST) SRD : 0 M  
 ELEVATION OF KELLY BUSHI EKB : 22.0000 M  
 ELEV OF GL AB. SRD (WST) GL : -40.0000 M  
 VELOCITY OF HYDROPHONE (WST) VELHYD : 1524.00 M/S  
 VELOCITY OF SRD (WST) VELSR : 1524.00 M/S

(MATRIX PARAMETERS)

	SOURCE ELV M	SOURCE EW M	SOURCE NS M	HYDRO ELEV M	HYDRO EW M	HYDRO NS M
1	-10.00	41.53	-55.11	-15.00	41.53	-55.11

	TRT HYD-SC MS	TRT SC-SRD MS
1	3.28	6.56

	MD @ KB M	VD @ KB M	VD @ SRD M	E-W COORD M	N-S COORD M
1	62.00	62.00	40.00	0	0
2	180.14	180.14	158.00	0	0
3	880.00	880.00	858.00	0	0
4	993.00	993.00	971.00	0	0
5	1226.00	1226.00	1204.00	0	0
6	1246.00	1246.00	1224.00	0	0
7	1252.00	1252.00	1230.00	0	0
8	1353.00	1353.00	1331.00	0	0
9	1386.00	1386.00	1364.00	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	62.00	40.00	0	46.08	19.68	26.24	1524	118.14	69.41	1702
2	180.14	158.14	118.14	95.00	89.09	95.65	1653	699.86	271.00	2583
3	880.00	858.00	818.00	358.00	360.09	366.65	2340	113.00	43.15	2619
4	993.00	971.00	931.00	401.00	403.24	409.80	2369	233.00	91.21	2554
5	1226.00	1204.00	1164.00	492.00	494.46	501.02	2403	20.00	8.01	2496
6	1246.00	1224.00	1184.00	500.00	502.47	509.03	2405	6.00	2.00	2993
7	1252.00	1230.00	1190.00	502.00	504.47	511.04	2407	101.00	34.07	2964
8	1353.00	1331.00	1291.00	536.00	538.55	545.11	2442	33.00	11.02	2994
9	1386.00	1364.00	1324.00	547.00	549.57	556.13	2453			

**DRIFT**

**DRIFT**

ANALYST: T. BOWMAN

21-MAY-92 11:00:03

PROGRAM: GDRIFT 007.E09

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SCHLUMBERGER

DRIFT COMPUTATION REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : BLENNY #1  
FIELD : WILDCAT  
COUNTRY : AUSTRALIA  
REFERENCE: 560786

LONG DEFINITIONS

GLOBAL OF THE KELLY-BUSHING ABOVE MSL OR MWL  
 ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL  
 ELEVATION OF KELLY BUSHING  
 ELEVATION OF USERS REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD  
 TOP OF ZONE PROCESSED BY WST  
 BOTTOM OF ZONE PROCESSED BY WST  
 RAW SONIC CHANNEL NAME USED FOR WST SONIC ADJUSTMENT  
 UNIFORM DENSITY VALUE

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

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

(GLOBAL PARAMETERS)

ELEV OF KB AB	MSL (WST)	KB	: 22.0000	M
ELEV OF SRD AB	MSL (WST)	SRD	: 22.0000	M
ELEVATION OF KELLY BUSHI		EKB	: -40.0000	M
ELEV OF GL AB	SRD (WST)	GL	: 0	M
TOP OF ZONE	PROC (WST)	XSTART	: 0	M
BOT OF ZONE	PROC (WST)	XSTOP	: 0	M
RAW SONIC CH NAME	(WST)	GAD001	: DT-ATT-002	FLP.*
UNIFORM DENSITY VALUE		UNFDEN	: 2.30000	G/C3

(ZONED PARAMETERS)

LAYER OPTION FLAG DENS	LOFDEN	: 1.000000		
USER SUPPLIED DENSITY DA	LAYDEN	: 30479.7	-	0
		: 0	-	0

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/F
1	62.00	40.00	0	26.24	26.24	0	0
2	180.14	158.14	118.14	95.65	95.65	0	0
3	880.00	858.00	818.00	366.65	363.47	3.18	1.38
4	993.00	971.00	931.00	409.80	404.07	5.73	6.88
5	1226.00	1204.00	1164.00	501.02	493.79	7.23	1.96
6	1246.00	1224.00	1184.00	509.03	500.98	8.06	12.56
7	1252.00	1230.00	1190.00	511.04	502.98	8.05	-.18
8	1353.00	1331.00	1291.00	545.11	535.94	9.17	3.38
9	1384.86	1362.86	1322.86	555.75	546.71	9.04	-1.29
10	1386.00	1364.00	1324.00	556.13			



ANALYST: T. BOWMAN

21-MAY-92 12:03:25

PROGRAM: GADJST 008.E08

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*   SCHLUMBERGER   *  
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SONIC ADJUSTMENT PARAMETER REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : BLENNY #1  
FIELD : WILDCAT  
COUNTRY : AUSTRALIA  
REFERENCE: 56C786

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*                                     *
*   SCHLUMBERGER                     *
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SONIC ADJUSTMENT PARAMETER REPORT

COMPANY : ESSO AUSTRALIA LTD  
 WELL : BLENNY #1  
 FIELD : WILDCAT  
 COUNTRY : AUSTRALIA  
 REFERENCE: 560786

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 - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)  
 DGLE - 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)

ORIG OF ADJ DATA (WST) SRCDRF : 2.00000  
 CONS SONIC ADJST (WST) CONADJ : 7.50000 US/F  
 UNIFORM EARTH VELOCITY UNERTH : 1524.00 M/S

(ZONED PARAMETERS)

USER DRIFT ZONE (WST)	ZDRIFT	(VALUE)	(LIMITS)
		: 9.000000 MS	1385.00 - 997.000
		: 5.700000	997.000 880.000
		: 3.200000	880.000 180.140
		: 0	180.140
ADJUSMNT MODE (WST)	ADJOPZ	: -999.2500	30479.7 -
USER DELTA-T MIN (WST)	ADJUSZ	: -999.2500	30479.7 -
LAYER OPTION FLAG VELOC	LOFVEL	: 1.000000	30479.7 -
USER VELOC (WST)	LAYVEL	: 1702.000	180.140 - 62.0000
		: 1524.000	62.0000

KNEE NUMBER	VERTICAL	VERTICAL	VERTICAL	DRIFT AT KNEE MS	BLOCKSHIFT		DELTA-T MINIMUM USED US/F	REDUCTION FACTOR G	EQUIVALENT BLOCKSHIFT US/F
	DEPTH FROM KB M	DEPTH FROM SRD M	DEPTH FROM GL M		USED	US/F			
2	180.14	158.14	118.14	0	0	0			0
3	880.00	858.00	818.00	3.20	1.39	1.39			1.39
4	997.00	975.00	935.00	5.70	6.51	6.51			6.51
5	1385.00	1363.00	1323.00	9.00	2.59	2.59			2.59

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SCHLUMBERGER

VELOCITY REPORT

COMPANY : ESSO AUSTRALIA LTD  
WELL : BLENNY #1  
FIELD : WILDCAT  
COUNTRY : AUSTRALIA  
REFERENCE: 560786



LONG DEFINITIONS

GLOBAL  
 - ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL  
 - ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL  
 - ELEVATION OF KELLY BUSHING  
 - ELEVATION OF USERS REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD  
 - UNIFORM EARTH VELOCITY (GTRFRM)  
 UNERTH

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

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

(GLOBAL PARAMETERS)

ELEV OF KB AB. MSL (WST) KB : 22.0000 M  
 ELEV OF SRD AB. MSL (WST) SRD : : M  
 ELEVATION OF KELLY BUSHI EKB : 22.0000 M  
 ELEV OF GL AB. SRD (WST) GL : -40.0000 M  
 UNIFORM EARTH VELOCITY UNERTH : 1524.00 M/S

(ZONED PARAMETERS)

LAYER OPTION FLAG VELOC LOFVEL : 1.000000 M/S  
 USER VELOC (WST) LAYVEL : 1702.000 M/S  
 : 30479.7 - 62.0000  
 : 180.140 - 62.0000  
 : 62.0000

(LIMITS)

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	62.00	40.00	0	26.24	26.24	0	0	1524
2	180.14	158.14	118.14	95.65	95.64	0	.01	1702
3	880.00	858.00	818.00	366.65	366.63	3.18	.02	2583
4	993.00	971.00	931.00	409.80	409.67	5.73	.13	2626
5	1226.00	1204.00	1164.00	501.02	501.41	7.23	-.39	2540
6	1246.00	1224.00	1184.00	509.03	508.77	8.06	.26	2718
7	1252.00	1230.00	1190.00	511.04	510.82	8.05	.21	2925
8	1353.00	1331.00	1291.00	545.11	544.65	9.17	.46	2986
9	1384.86	1362.86	1322.86	555.75	555.68	9.04	.07	2888
10	1386.00	1364.00	1324.00	556.13	556.13	0	0	2556



TIME / DEPTH

TIME/DEPTH



LONG DEFINITIONS

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

MVODIS MATRIX  
 MOVE-OUT DISTANCE FROM BOREHOLE

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

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

(GLOBAL PARAMETERS)

ELEV OF KB AB.	MSL (WST)	KB	:	22.0000	M
ELEV OF SRD AB.	MSL(WST)	SRD	:	0	M
ELEV OF GL AB.	SRD(WST)	GL	:	-40.0000	M
UNIFORM EARTH VELOCITY		UNERTH	:	1524.00	M/S
UNIFORM DENSITY VALUE		UNFDEN	:	2.30000	G/C3

(MATRIX PARAMETERS)

MVOUT DIST	
M	
1	1000.0
2	1500.0
3	2000.0

(ZONED PARAMETERS)

LAYER OPTION FLAG VELOC	LOFVEL		
USER VELOC (WST)	LAYVEL		
LAYER OPTION FLAG DENS	LOFDEN		
USER SUPPLIED DENSITY DA	LAYDEN		

(VALUE)

:	1.000000		
:	1702.000	M/S	
:	1524.000		
:	-1.000000	G/C3	
:	0		

(LIMITS)

	30479.7	-	0
	180.140	-	62.0000
	62.0000	-	0
	30479.7	-	0
	0	-	0

TWO-WAY TRAVEL TIME FROM SRD	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	22.00	0						1524
2.00	23.52	1.52	1524	1524	654.17	982.25	1310.34	1524
4.00	25.05	3.05	1524	1524	652.18	980.26	1308.34	1524
6.00	26.57	4.57	1524	1524	650.20	978.27	1306.35	1524
8.00	28.10	6.10	1524	1524	648.22	976.28	1304.36	1524
10.00	29.62	7.62	1524	1524	646.24	974.30	1302.37	1524
12.00	31.14	9.14	1524	1524	644.28	972.32	1300.39	1524
14.00	32.67	10.67	1524	1524	642.32	970.35	1298.41	1524
16.00	34.19	12.19	1524	1524	640.36	968.38	1296.43	1524
18.00	35.72	13.72	1524	1524	638.41	966.42	1294.46	1524
20.00	37.24	15.24	1524	1524	636.47	964.46	1292.49	1524
22.00	38.76	16.76	1524	1524	634.54	962.50	1290.52	1524
24.00	40.29	18.29	1524	1524	632.61	960.54	1288.56	1524
26.00	41.81	19.81	1524	1524	630.68	958.60	1286.59	1524
28.00	43.34	21.34	1524	1524	628.77	956.65	1284.63	1524
30.00	44.86	22.86	1524	1524	626.85	954.71	1282.68	1524
32.00	46.38	24.38	1524	1524	624.95	952.77	1280.73	1524
34.00	47.91	25.91	1524	1524	623.05	950.84	1278.78	1524
36.00	49.43	27.43	1524	1524	621.15	948.91	1276.83	1524
38.00	50.96	28.96	1524	1524	619.27	946.99	1274.89	1524
40.00	52.48	30.48	1524	1524	617.39	945.06	1272.95	1524
42.00	54.00	32.00	1524	1524	615.51	943.15	1271.01	1524
44.00	55.53	33.53	1524	1524	613.64	941.24	1269.07	1524
46.00	57.05	35.05	1524	1524	611.78	939.33	1267.14	1524

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	58.58	36.58	1524	1524	609.92	937.42	1265.21	1524
50.00	60.10	38.10	1524	1524	608.07	935.52	1263.29	1524
52.00	61.62	39.62	1524	1524	606.23	933.62	1261.37	1524
54.00	63.29	41.29	1529	1530	602.03	928.19	1254.72	1666
56.00	64.99	42.99	1535	1536	597.44	922.16	1247.28	1702
58.00	66.69	44.69	1541	1542	593.08	916.47	1240.28	1702
60.00	68.40	46.40	1547	1548	588.93	911.08	1233.69	1702
62.00	70.10	48.10	1552	1553	584.95	905.95	1227.44	1702
64.00	71.80	49.80	1556	1558	581.14	901.06	1221.51	1702
66.00	73.50	51.50	1561	1562	577.47	896.38	1215.86	1702
68.00	75.20	53.20	1565	1567	573.94	891.90	1210.46	1702
70.00	76.91	54.91	1569	1571	570.52	887.59	1205.30	1702
72.00	78.61	56.61	1572	1574	567.22	883.44	1200.34	1702
74.00	80.31	58.31	1576	1578	564.01	879.44	1195.57	1702
76.00	82.01	60.01	1579	1581	560.90	875.56	1190.98	1702
78.00	83.72	61.72	1582	1585	557.87	871.81	1186.55	1702
80.00	85.42	63.42	1585	1588	554.92	868.17	1182.26	1702
82.00	87.12	65.12	1588	1591	552.04	864.63	1178.10	1702
84.00	88.82	66.82	1591	1593	549.23	861.19	1174.07	1702
86.00	90.52	68.52	1594	1596	546.48	857.83	1170.16	1702
88.00	92.23	70.23	1596	1598	543.79	854.56	1166.35	1702
90.00	93.93	71.93	1598	1601	541.15	851.36	1162.63	1702
92.00	95.63	73.63	1601	1603	538.56	848.23	1159.02	1702
94.00	97.33	75.33	1603	1605	536.02	845.17	1155.48	1702

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
96.00	99.03	77.03	1605	1607	533.53	842.17	1152.03	1702
98.00	100.74	78.74	1607	1609	531.08	839.23	1148.65	1702
100.00	102.44	80.44	1609	1611	528.66	836.34	1145.34	1702
102.00	104.14	82.14	1611	1613	526.29	833.51	1142.10	1702
104.00	105.84	83.84	1612	1615	523.95	830.72	1138.92	1702
106.00	107.54	85.54	1614	1616	521.65	827.98	1135.80	1702
108.00	109.25	87.25	1616	1618	519.38	825.29	1132.73	1702
110.00	110.95	88.95	1617	1620	517.14	822.63	1129.72	1702
112.00	112.65	90.65	1619	1621	514.92	820.01	1126.75	1702
114.00	114.35	92.35	1620	1623	512.74	817.43	1123.83	1702
116.00	116.05	94.05	1622	1624	510.58	814.89	1120.96	1702
118.00	117.76	95.76	1623	1625	508.45	812.37	1118.13	1702
120.00	119.46	97.46	1624	1627	506.35	809.89	1115.33	1702
122.00	121.16	99.16	1626	1628	504.27	807.44	1112.58	1702
124.00	122.86	100.86	1627	1629	502.21	805.02	1109.86	1702
126.00	124.57	102.57	1628	1630	500.17	802.63	1107.18	1702
128.00	126.27	104.27	1629	1632	498.15	800.26	1104.53	1702
130.00	127.97	105.97	1630	1633	496.16	797.92	1101.91	1702
132.00	129.67	107.67	1631	1634	494.18	795.61	1099.32	1702
134.00	131.37	109.37	1632	1635	492.23	793.32	1096.76	1702
136.00	133.08	111.08	1633	1636	490.29	791.05	1094.23	1702
138.00	134.78	112.78	1634	1637	488.37	788.80	1091.72	1702
140.00	136.48	114.48	1635	1638	486.47	786.57	1089.24	1702
142.00	138.18	116.18	1636	1639	484.58	784.37	1086.79	1702





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
192.00	180.86	158.86	1655	1657	441.37	733.48	1030.31	1833
194.00	182.97	160.97	1659	1662	438.16	729.10	1024.86	2106
196.00	185.03	163.03	1664	1667	435.22	725.12	1019.93	2061
198.00	187.08	165.08	1667	1671	432.40	721.32	1015.25	2044
200.00	189.10	167.10	1671	1675	429.70	717.70	1010.82	2026
202.00	191.11	169.11	1674	1678	427.13	714.27	1006.63	2005
204.00	193.11	171.11	1678	1682	424.62	710.93	1002.56	1999
206.00	195.19	173.19	1681	1686	421.81	707.12	997.87	2084
208.00	197.33	175.33	1686	1691	418.83	703.04	992.78	2141
210.00	199.45	177.45	1690	1696	415.98	699.14	987.95	2123
212.00	201.60	179.60	1694	1701	413.10	695.20	983.06	2142
214.00	203.71	181.71	1698	1705	410.38	691.50	978.49	2113
216.00	205.83	183.83	1702	1709	407.68	687.82	973.94	2120
218.00	207.95	185.95	1706	1713	405.01	684.17	969.43	2125
220.00	210.09	188.09	1710	1718	402.34	680.53	964.93	2135
222.00	212.17	190.17	1713	1721	399.93	677.27	960.93	2076
224.00	214.29	192.29	1717	1725	397.38	673.80	956.65	2125
226.00	216.38	194.38	1720	1729	395.00	670.58	952.70	2087
228.00	218.59	196.59	1724	1734	392.25	666.77	947.96	2207
230.00	220.69	198.69	1728	1737	389.87	663.55	944.00	2109
232.00	222.85	200.85	1731	1741	387.38	660.13	939.78	2155
234.00	225.02	203.02	1735	1745	384.87	656.67	935.50	2175
236.00	227.24	205.24	1739	1750	382.26	653.06	931.00	2217
238.00	229.48	207.48	1744	1755	379.62	649.39	926.42	2239

TWO-WAY TRAVEL TIME FROM 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
240.00	231.75	209.75	1748	1759	376.94	645.65	921.75	2264
242.00	233.90	211.90	1751	1763	374.63	642.49	917.85	2158
244.00	236.14	214.14	1755	1768	372.14	639.03	913.54	2233
246.00	238.38	216.38	1759	1772	369.65	635.57	909.23	2243
248.00	240.60	218.60	1763	1776	367.27	632.28	905.14	2218
250.00	242.79	220.79	1766	1780	365.01	629.16	901.29	2190
252.00	245.00	223.00	1770	1783	362.73	626.00	897.37	2210
254.00	247.17	225.17	1773	1787	360.58	623.04	893.73	2174
256.00	249.34	227.34	1776	1790	358.48	620.15	890.18	2166
258.00	251.54	229.54	1779	1794	356.32	617.17	886.49	2198
260.00	253.75	231.75	1783	1797	354.14	614.15	882.75	2216
262.00	255.98	233.98	1786	1801	351.95	611.10	878.98	2231
264.00	258.17	236.17	1789	1804	349.91	608.28	875.49	2189
266.00	260.43	238.43	1793	1808	347.72	605.22	871.69	2254
268.00	262.73	240.73	1797	1812	345.43	601.99	867.66	2306
270.00	265.07	243.07	1800	1817	343.10	598.69	863.52	2335
272.00	267.38	245.38	1804	1821	340.86	595.54	859.57	2313
274.00	269.66	247.66	1808	1825	338.74	592.55	855.85	2279
276.00	271.95	249.95	1811	1828	336.61	589.56	852.12	2292
278.00	274.26	252.26	1815	1832	334.47	586.53	848.34	2311
280.00	276.52	254.52	1818	1836	332.49	583.75	844.88	2257
282.00	278.86	256.86	1822	1840	330.33	580.68	841.03	2344
284.00	281.19	259.19	1825	1844	328.25	577.73	837.34	2323
286.00	283.55	261.55	1829	1848	326.11	574.69	833.52	2360

TWO-WAY TRAVEL TIME FROM SRD	MEASURED DEPTH FROM KB	VERTICAL DEPTH FROM SRD	AVERAGE VELOCITY SRD/Geo	RMS VELOCITY	FIRST NORMAL MOVEOUT	SECOND NORMAL MOVEOUT	THIRD NORMAL MOVEOUT	INTERVAL VELOCITY
MS	M	M	M/S	M/S	MS	MS	MS	M/S
288.00	285.87	263.87	1832	1852	324.08	571.80	829.91	2326
290.00	288.25	266.25	1836	1856	321.97	568.79	826.13	2373
292.00	290.61	268.61	1840	1860	319.92	565.86	822.44	2362
294.00	292.93	270.93	1843	1863	317.98	563.10	819.00	2322
296.00	295.37	273.37	1847	1868	315.81	559.96	815.03	2442
298.00	297.89	275.89	1852	1873	313.51	556.61	810.76	2515
300.00	300.34	278.34	1856	1877	311.37	553.52	806.85	2454
302.00	302.62	280.62	1858	1880	309.63	551.05	803.77	2283
304.00	304.98	282.98	1862	1884	307.76	548.38	800.43	2350
306.00	307.44	285.44	1866	1888	305.70	545.38	796.62	2463
308.00	309.76	287.76	1869	1891	303.94	542.87	793.50	2321
310.00	312.10	290.10	1872	1894	302.17	540.33	790.31	2343
312.00	314.34	292.34	1874	1897	300.60	538.11	787.58	2242
314.00	316.52	294.52	1876	1899	299.17	536.11	785.14	2175
316.00	318.90	296.90	1879	1902	297.38	533.53	781.89	2379
318.00	321.24	299.24	1882	1905	295.69	531.11	778.86	2337
320.00	323.51	301.51	1884	1908	294.14	528.89	776.11	2275
322.00	325.67	303.67	1886	1909	292.79	527.01	773.82	2160
324.00	327.70	305.70	1887	1910	291.66	525.48	772.00	2031
326.00	329.98	307.98	1889	1913	290.14	523.31	769.31	2276
328.00	332.23	310.23	1892	1915	288.68	521.22	766.73	2254
330.00	334.46	312.46	1894	1917	287.27	519.22	764.25	2230
332.00	336.70	314.70	1896	1919	285.86	517.22	761.78	2237
334.00	339.04	317.04	1898	1922	284.30	514.95	758.93	2342

TWO-WAY TRAVEL TIME FROM SRD	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
336.00	341.44	319.44	1901	1925	282.66	512.55	755.90	2400
338.00	343.71	321.71	1904	1927	281.25	510.53	753.40	2265
340.00	346.11	324.11	1907	1930	279.64	508.17	750.42	2401
342.00	348.34	326.34	1908	1932	278.32	506.29	748.09	2228
344.00	350.72	328.72	1911	1935	276.77	504.01	745.22	2387
346.00	353.04	331.04	1914	1938	275.34	501.94	742.63	2317
348.00	355.35	333.35	1916	1940	273.94	499.90	740.08	2314
350.00	357.68	335.68	1918	1942	272.52	497.84	737.50	2327
352.00	360.07	338.07	1921	1945	271.04	495.66	734.74	2386
354.00	362.44	340.44	1923	1948	269.59	493.53	732.06	2370
356.00	364.75	342.75	1926	1950	268.25	491.57	729.61	2310
358.00	367.02	345.02	1927	1952	266.97	489.71	727.29	2276
360.00	369.35	347.35	1930	1954	265.62	487.74	724.82	2329
362.00	371.55	349.55	1931	1956	264.47	486.07	722.76	2203
364.00	374.16	352.16	1935	1960	262.73	483.45	719.37	2609
366.00	376.81	354.81	1939	1964	260.97	480.77	715.90	2646
368.00	379.50	357.50	1943	1969	259.16	478.00	712.30	2692
370.00	382.07	360.07	1946	1973	257.55	475.57	709.17	2572
372.00	384.78	362.78	1950	1978	255.77	472.83	705.60	2707
374.00	387.50	365.50	1955	1982	253.99	470.08	702.03	2724
376.00	390.25	368.25	1959	1987	252.20	467.33	698.43	2744
378.00	393.01	371.01	1963	1992	250.41	464.56	694.82	2761
380.00	395.72	373.72	1967	1996	248.72	461.96	691.43	2711
382.00	398.42	376.42	1971	2001	247.07	459.42	688.12	2699

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	401.05	379.05	1974	2005	245.53	457.06	685.06	2634
386.00	403.69	381.69	1978	2008	244.01	454.71	682.01	2640
388.00	406.22	384.22	1981	2011	242.64	452.64	679.34	2529
390.00	408.99	386.99	1985	2016	240.98	450.05	675.95	2769
392.00	411.65	389.65	1988	2020	239.49	447.74	672.95	2658
394.00	414.24	392.24	1991	2023	238.10	445.61	670.19	2589
396.00	416.64	394.64	1993	2025	236.95	443.87	667.98	2404
398.00	419.26	397.26	1996	2029	235.55	441.72	665.18	2620
400.00	421.65	399.65	1998	2031	234.45	440.05	663.06	2383
402.00	424.00	402.00	2000	2032	233.39	438.45	661.04	2353
404.00	426.44	404.44	2002	2035	232.23	436.69	658.79	2446
406.00	428.89	406.89	2004	2037	231.09	434.95	656.56	2446
408.00	431.24	409.24	2006	2038	230.06	433.39	654.59	2351
410.00	433.40	411.40	2007	2039	229.23	432.18	653.09	2157
412.00	435.74	413.74	2008	2041	228.22	430.65	651.16	2343
414.00	438.20	416.20	2011	2043	227.10	428.93	648.95	2462
416.00	440.72	418.72	2013	2045	225.93	427.12	646.61	2516
418.00	443.35	421.35	2016	2049	224.65	425.11	643.98	2635
420.00	446.03	424.03	2019	2052	223.33	423.03	641.26	2678
422.00	448.88	426.88	2023	2057	221.82	420.64	638.08	2853
424.00	451.40	429.40	2025	2059	220.71	418.90	635.84	2515
426.00	453.88	431.88	2028	2061	219.64	417.24	633.70	2482
428.00	456.41	434.41	2030	2064	218.53	415.52	631.46	2528
430.00	458.97	436.97	2032	2066	217.40	413.74	629.15	2565

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/6EO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
432.00	461.29	439.29	2034	2067	216.51	412.40	627.44	2316
434.00	463.50	441.50	2035	2068	215.73	411.21	625.96	2212
436.00	465.81	443.81	2036	2069	214.87	409.90	624.29	2304
438.00	468.09	446.09	2037	2070	214.03	408.63	622.69	2281
440.00	470.46	448.46	2038	2072	213.13	407.23	620.90	2368
442.00	472.53	450.53	2039	2072	212.48	406.27	619.73	2070
444.00	474.60	452.60	2039	2072	211.82	405.31	618.55	2079
446.00	476.91	454.91	2040	2073	211.00	404.03	616.93	2300
448.00	479.62	457.62	2043	2076	209.79	402.11	614.39	2713
450.00	482.31	460.31	2046	2079	208.62	400.23	611.91	2694
452.00	484.96	462.96	2048	2082	207.52	398.46	609.57	2644
454.00	487.58	465.58	2051	2085	206.44	396.74	607.31	2621
456.00	490.21	468.21	2054	2088	205.36	395.01	605.03	2637
458.00	492.87	470.87	2056	2090	204.28	393.28	602.73	2651
460.00	495.78	473.78	2060	2095	202.96	391.13	599.85	2910
462.00	498.71	476.71	2064	2099	201.64	388.95	596.92	2938
464.00	501.59	479.59	2067	2103	200.39	386.91	594.19	2874
466.00	504.47	482.47	2071	2107	199.15	384.89	591.46	2880
468.00	507.21	485.21	2074	2110	198.05	383.10	589.08	2746
470.00	509.65	487.65	2075	2112	197.22	381.78	587.36	2438
472.00	512.13	490.13	2077	2113	196.36	380.41	585.57	2480
474.00	514.63	492.63	2079	2115	195.49	379.02	583.75	2502
476.00	517.38	495.38	2081	2118	194.43	377.29	581.44	2745
478.00	519.90	497.90	2083	2120	193.56	375.89	579.60	2526

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	522.60	500.60	2086	2123	192.56	374.26	577.43	2693
482.00	525.12	503.12	2088	2124	191.71	372.89	575.63	2520
484.00	527.57	505.57	2089	2126	190.92	371.63	573.97	2449
486.00	529.92	507.92	2090	2127	190.20	370.49	572.50	2354
488.00	532.49	510.49	2092	2129	189.34	369.08	570.64	2568
490.00	535.08	513.08	2094	2131	188.46	367.65	568.74	2593
492.00	537.39	515.39	2095	2132	187.79	366.59	567.37	2312
494.00	539.68	517.68	2096	2132	187.14	365.56	566.04	2290
496.00	541.85	519.85	2096	2133	186.57	364.67	564.92	2167
498.00	544.05	522.05	2097	2133	185.98	363.76	563.76	2195
500.00	546.38	524.38	2098	2134	185.32	362.69	562.37	2334
502.00	548.50	526.50	2098	2134	184.78	361.86	561.33	2121
504.00	551.05	529.05	2099	2135	183.98	360.54	559.58	2550
506.00	553.64	531.64	2101	2137	183.15	359.18	557.76	2589
508.00	556.64	534.64	2105	2141	182.01	357.27	555.15	3000
510.00	559.57	537.57	2108	2145	180.95	355.48	552.72	2926
512.00	562.40	540.40	2111	2148	179.98	353.85	550.50	2831
514.00	565.30	543.30	2114	2152	178.96	352.13	548.16	2900
516.00	568.09	546.09	2117	2155	178.03	350.57	546.04	2798
518.00	570.92	548.92	2119	2158	177.09	349.00	543.90	2823
520.00	573.75	551.75	2122	2161	176.16	347.42	541.76	2829
522.00	576.49	554.49	2124	2163	175.29	345.98	539.80	2742
524.00	579.27	557.27	2127	2166	174.41	344.49	537.78	2785
526.00	582.11	560.11	2130	2169	173.49	342.94	535.67	2839

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	585.00	563.00	2133	2172	172.56	341.36	533.50	2884
530.00	587.52	565.52	2134	2173	171.87	340.21	531.97	2524
532.00	589.91	567.91	2135	2174	171.26	339.22	530.66	2385
534.00	592.24	570.24	2136	2175	170.69	338.29	529.44	2331
536.00	594.58	572.58	2136	2175	170.12	337.36	528.21	2340
538.00	596.92	574.92	2137	2176	169.55	336.42	526.98	2346
540.00	599.32	577.32	2138	2177	168.96	335.44	525.69	2394
542.00	601.84	579.84	2140	2178	168.29	334.33	524.20	2526
544.00	604.71	582.71	2142	2181	167.42	332.85	522.16	2864
546.00	607.24	585.24	2144	2183	166.77	331.75	520.68	2529
548.00	609.73	587.73	2145	2184	166.14	330.69	519.26	2498
550.00	612.14	590.14	2146	2185	165.56	329.73	517.98	2407
552.00	614.69	592.69	2147	2186	164.91	328.64	516.51	2545
554.00	616.92	594.92	2148	2186	164.43	327.85	515.49	2230
556.00	619.42	597.42	2149	2187	163.81	326.81	514.08	2507
558.00	621.49	599.49	2149	2187	163.41	326.17	513.27	2071
560.00	623.78	601.78	2149	2187	162.91	325.34	512.18	2288
562.00	626.03	604.03	2150	2188	162.43	324.55	511.14	2252
564.00	628.09	606.09	2149	2187	162.04	323.93	510.35	2054
566.00	630.30	608.30	2149	2187	161.58	323.19	509.38	2208
568.00	632.43	610.43	2149	2187	161.17	322.51	508.50	2132
570.00	635.04	613.04	2151	2189	160.51	321.39	506.97	2615
572.00	637.62	615.62	2153	2190	159.88	320.32	505.52	2572
574.00	639.88	617.88	2153	2190	159.41	319.54	504.49	2265



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	642.35	620.35	2154	2191	158.85	318.58	503.20	2465
578.00	644.91	622.91	2155	2193	158.24	317.54	501.78	2561
580.00	647.31	625.31	2156	2194	157.71	316.66	500.59	2399
582.00	650.05	628.05	2158	2196	157.01	315.44	498.91	2748
584.00	652.85	630.85	2160	2198	156.29	314.19	497.18	2796
586.00	655.37	633.37	2162	2199	155.72	313.21	495.85	2521
588.00	657.89	635.89	2163	2200	155.15	312.24	494.53	2518
590.00	660.48	638.48	2164	2202	154.56	311.22	493.12	2588
592.00	663.18	641.18	2166	2204	153.90	310.08	491.55	2709
594.00	665.71	643.71	2167	2205	153.35	309.13	490.25	2525
596.00	668.31	646.31	2169	2206	152.76	308.11	488.85	2603
598.00	670.97	648.97	2170	2208	152.14	307.04	487.37	2661
600.00	673.78	651.78	2173	2210	151.46	305.84	485.71	2804
602.00	676.58	654.58	2175	2213	150.78	304.66	484.05	2803
604.00	679.47	657.47	2177	2215	150.07	303.39	482.28	2892
606.00	682.15	660.15	2179	2217	149.46	302.34	480.82	2678
608.00	684.68	662.68	2180	2218	148.93	301.43	479.57	2529
610.00	687.28	665.28	2181	2219	148.38	300.45	478.23	2604
612.00	690.22	668.22	2184	2222	147.66	299.19	476.44	2934
614.00	692.93	670.93	2185	2224	147.06	298.13	474.97	2716
616.00	695.89	673.89	2188	2227	146.34	296.86	473.18	2956
618.00	698.91	676.91	2191	2230	145.60	295.54	471.31	3019
620.00	701.55	679.55	2192	2231	145.05	294.57	469.97	2638
622.00	704.16	682.16	2193	2232	144.52	293.63	468.67	2611

TWO-WAY TRAVEL TIME FROM SRD	MEASURED DEPTH FROM KB	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	707.21	685.21	2196	2235	143.78	292.31	466.79	3051
626.00	710.21	688.21	2199	2238	143.07	291.04	464.99	3004
628.00	713.39	691.39	2202	2242	142.29	289.63	462.97	3174
630.00	716.70	694.70	2205	2246	141.44	288.09	460.76	3308
632.00	719.94	697.94	2209	2250	140.63	286.63	458.67	3246
634.00	722.80	700.80	2211	2252	140.02	285.54	457.13	2859
636.00	725.89	703.89	2213	2255	139.31	284.26	455.30	3086
638.00	729.01	707.01	2216	2259	138.59	282.95	453.43	3128
640.00	732.21	710.21	2219	2262	137.84	281.59	451.48	3195
642.00	735.29	713.29	2222	2265	137.15	280.35	449.71	3077
644.00	738.38	716.38	2225	2268	136.47	279.11	447.93	3090
646.00	741.55	719.55	2228	2271	135.75	277.80	446.06	3177
648.00	744.56	722.56	2230	2274	135.12	276.66	444.42	3004
650.00	747.35	725.35	2232	2276	134.58	275.69	443.06	2792
652.00	750.25	728.25	2234	2278	134.01	274.65	441.58	2901
654.00	753.29	731.29	2236	2281	133.37	273.50	439.93	3044
656.00	756.54	734.54	2239	2284	132.65	272.18	438.02	3249
658.00	759.81	737.81	2243	2288	131.93	270.86	436.12	3265
660.00	763.08	741.08	2246	2292	131.22	269.55	434.21	3278
662.00	766.20	744.20	2248	2295	130.58	268.38	432.54	3112
664.00	769.47	747.47	2251	2298	129.88	267.10	430.67	3270
666.00	772.73	750.73	2254	2302	129.19	265.83	428.84	3262
668.00	775.75	753.75	2257	2304	128.61	264.77	427.31	3024
670.00	778.82	756.82	2259	2307	128.02	263.68	425.74	3067

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	781.98	759.98	2262	2310	127.40	262.53	424.07	3155
674.00	785.13	763.13	2264	2313	126.78	261.39	422.42	3159
676.00	788.40	766.40	2267	2316	126.12	260.17	420.66	3261
678.00	791.61	769.61	2270	2319	125.49	259.01	418.96	3217
680.00	794.55	772.55	2272	2321	124.97	258.06	417.60	2935
682.00	797.33	775.33	2274	2323	124.52	257.23	416.41	2783
684.00	800.15	778.15	2275	2324	124.05	256.37	415.18	2821
686.00	803.36	781.36	2278	2327	123.44	255.25	413.55	3204
688.00	806.44	784.44	2280	2330	122.89	254.22	412.06	3085
690.00	809.55	787.55	2283	2333	122.33	253.19	410.56	3108
692.00	812.81	790.81	2286	2336	121.72	252.06	408.90	3257
694.00	816.06	794.06	2288	2339	121.12	250.94	407.26	3249
696.00	819.52	797.52	2292	2343	120.44	249.66	405.39	3465
698.00	822.83	800.83	2295	2346	119.83	248.52	403.71	3312
700.00	826.27	804.27	2298	2350	119.18	247.29	401.90	3438
702.00	829.57	807.57	2301	2353	118.58	246.17	400.27	3302
704.00	832.92	810.92	2304	2357	117.97	245.04	398.59	3347
706.00	836.06	814.06	2306	2359	117.45	244.05	397.16	3139
708.00	839.45	817.45	2309	2363	116.84	242.91	395.47	3385
710.00	842.69	820.69	2312	2366	116.29	241.87	393.95	3241
712.00	846.01	824.01	2315	2369	115.71	240.80	392.36	3319
714.00	849.31	827.31	2317	2372	115.15	239.74	390.80	3301
716.00	852.60	830.60	2320	2375	114.60	238.70	389.27	3293
718.00	855.78	833.78	2323	2378	114.09	237.74	387.86	3180

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	859.01	837.01	2325	2381	113.57	236.76	386.41	3227
722.00	862.12	840.12	2327	2383	113.09	235.86	385.09	3111
724.00	865.02	843.02	2329	2385	112.68	235.09	383.97	2904
726.00	868.20	846.20	2331	2387	112.18	234.16	382.60	3182
728.00	871.61	849.61	2334	2391	111.62	233.09	381.02	3401
730.00	874.76	852.76	2336	2393	111.15	232.19	379.69	3154
732.00	877.97	855.97	2339	2396	110.66	231.26	378.32	3213
734.00	881.12	859.12	2341	2398	110.19	230.38	377.02	3151
736.00	884.12	862.12	2343	2400	109.77	229.59	375.86	2999
738.00	886.90	864.90	2344	2401	109.42	228.93	374.90	2779
740.00	889.97	867.97	2346	2403	108.98	228.11	373.69	3074
742.00	892.57	870.57	2347	2404	108.68	227.55	372.88	2597
744.00	895.16	873.16	2347	2404	108.38	227.00	372.08	2586
746.00	897.77	875.77	2348	2405	108.08	226.44	371.26	2610
748.00	900.53	878.53	2349	2406	107.74	225.80	370.34	2760
750.00	903.15	881.15	2350	2406	107.44	225.24	369.52	2622
752.00	906.16	884.16	2351	2408	107.04	224.48	368.40	3012
754.00	908.74	886.74	2352	2409	106.75	223.94	367.62	2577
756.00	911.29	889.29	2353	2409	106.47	223.42	366.87	2554
758.00	913.96	891.96	2353	2410	106.17	222.85	366.03	2670
760.00	916.55	894.55	2354	2410	105.88	222.32	365.26	2585
762.00	919.45	897.45	2356	2412	105.52	221.63	364.25	2907
764.00	921.99	899.99	2356	2412	105.25	221.12	363.52	2536
766.00	924.59	902.59	2357	2412	104.97	220.59	362.74	2600

TWO-WAY TRAVEL TIME FROM SRD	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	927.18	905.18	2357	2413	104.69	220.07	361.99	2586
770.00	930.01	908.01	2358	2414	104.35	219.43	361.04	2839
772.00	932.48	910.48	2359	2414	104.10	218.97	360.37	2467
774.00	934.99	912.99	2359	2414	103.84	218.48	359.67	2511
776.00	937.74	915.74	2360	2415	103.53	217.90	358.81	2747
778.00	940.38	918.38	2361	2416	103.25	217.36	358.03	2638
780.00	942.99	920.99	2362	2417	102.97	216.84	357.26	2616
782.00	945.76	923.76	2363	2418	102.66	216.25	356.40	2770
784.00	948.61	926.61	2364	2419	102.34	215.63	355.48	2843
786.00	951.11	929.11	2364	2419	102.09	215.17	354.80	2501
788.00	953.53	931.53	2364	2419	101.86	214.74	354.18	2427
790.00	956.12	934.12	2365	2419	101.60	214.24	353.45	2582
792.00	958.51	936.51	2365	2419	101.37	213.82	352.85	2399
794.00	960.88	938.88	2365	2419	101.16	213.42	352.26	2368
796.00	963.76	941.76	2366	2420	100.83	212.80	351.34	2880
798.00	966.31	944.31	2367	2421	100.58	212.33	350.65	2544
800.00	968.97	946.97	2367	2421	100.31	211.81	349.88	2659
802.00	971.60	949.60	2368	2422	100.05	211.31	349.14	2631
804.00	974.07	952.07	2368	2422	99.81	210.87	348.51	2470
806.00	976.52	954.52	2369	2422	99.59	210.44	347.89	2450
808.00	978.97	956.97	2369	2422	99.36	210.02	347.26	2456
810.00	981.39	959.39	2369	2422	99.14	209.61	346.67	2417
812.00	983.99	961.99	2369	2423	98.89	209.13	345.96	2603
814.00	986.55	964.55	2370	2423	98.65	208.67	345.28	2555

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	989.01	967.01	2370	2423	98.43	208.24	344.66	2458
818.00	991.45	969.45	2370	2423	98.21	207.83	344.06	2442
820.00	993.78	971.78	2370	2423	98.01	207.46	343.52	2330
822.00	996.11	974.11	2370	2423	97.82	207.09	342.98	2331
824.00	998.68	976.68	2371	2423	97.58	206.64	342.31	2565
826.00	1001.12	979.12	2371	2423	97.36	206.23	341.71	2449
828.00	1003.66	981.66	2371	2423	97.13	205.79	341.06	2532
830.00	1006.14	984.14	2371	2424	96.91	205.37	340.44	2479
832.00	1008.58	986.58	2372	2424	96.70	204.96	339.85	2442
834.00	1011.26	989.26	2372	2424	96.44	204.47	339.11	2688
836.00	1013.79	991.79	2373	2424	96.21	204.04	338.48	2530
838.00	1016.23	994.23	2373	2424	96.01	203.64	337.90	2432
840.00	1018.98	996.98	2374	2425	95.74	203.12	337.12	2756
842.00	1021.45	999.45	2374	2425	95.53	202.72	336.53	2466
844.00	1023.90	1001.90	2374	2426	95.32	202.32	335.94	2456
846.00	1026.59	1004.59	2375	2426	95.07	201.84	335.22	2686
848.00	1029.19	1007.19	2375	2427	94.83	201.39	334.55	2598
850.00	1031.96	1009.96	2376	2427	94.57	200.88	333.78	2768
852.00	1034.65	1012.65	2377	2428	94.32	200.40	333.06	2692
854.00	1037.32	1015.32	2378	2429	94.08	199.93	332.36	2670
856.00	1039.91	1017.91	2378	2429	93.85	199.49	331.71	2588
858.00	1042.38	1020.38	2379	2429	93.65	199.10	331.13	2474
860.00	1044.93	1022.93	2379	2429	93.43	198.68	330.51	2550
862.00	1047.36	1025.36	2379	2429	93.23	198.31	329.95	2433

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	1049.76	1027.76	2379	2429	93.04	197.95	329.42	2393
866.00	1052.26	1030.26	2379	2430	92.84	197.55	328.83	2501
868.00	1054.79	1032.79	2380	2430	92.63	197.14	328.22	2531
870.00	1057.28	1035.28	2380	2430	92.42	196.75	327.64	2489
872.00	1059.73	1037.73	2380	2430	92.23	196.38	327.08	2457
874.00	1062.21	1040.21	2380	2430	92.03	195.99	326.51	2478
876.00	1064.68	1042.68	2381	2430	91.83	195.61	325.95	2468
878.00	1067.12	1045.12	2381	2430	91.64	195.25	325.40	2435
880.00	1069.56	1047.56	2381	2430	91.45	194.88	324.85	2449
882.00	1072.00	1050.00	2381	2430	91.26	194.52	324.31	2431
884.00	1074.47	1052.47	2381	2430	91.07	194.14	323.75	2476
886.00	1076.86	1054.86	2381	2430	90.89	193.79	323.24	2391
888.00	1079.25	1057.25	2381	2430	90.71	193.45	322.72	2388
890.00	1081.61	1059.61	2381	2430	90.54	193.11	322.23	2360
892.00	1084.05	1062.05	2381	2430	90.35	192.75	321.69	2443
894.00	1086.39	1064.39	2381	2430	90.18	192.43	321.21	2333
896.00	1088.70	1066.70	2381	2430	90.02	192.11	320.74	2315
898.00	1091.21	1069.21	2381	2430	89.82	191.73	320.17	2507
900.00	1093.64	1071.64	2381	2430	89.64	191.38	319.65	2430
902.00	1096.19	1074.19	2382	2430	89.44	190.99	319.06	2553
904.00	1098.73	1076.73	2382	2430	89.24	190.61	318.48	2538
906.00	1101.28	1079.28	2383	2431	89.04	190.22	317.90	2551
908.00	1103.78	1081.78	2383	2431	88.85	189.85	317.35	2502
910.00	1106.34	1084.34	2383	2431	88.65	189.47	316.76	2561

TWO-WAY TRAVEL TIME FROM MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/6EO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
912.00	1108.90	1086.90	2384	2431	88.46	189.08	316.18	2557
914.00	1111.47	1089.47	2384	2432	88.26	188.69	315.60	2569
916.00	1113.92	1091.92	2384	2432	88.08	188.35	315.08	2450
918.00	1116.51	1094.51	2385	2432	87.88	187.96	314.48	2590
920.00	1119.04	1097.04	2385	2432	87.69	187.59	313.92	2533
922.00	1121.64	1099.64	2385	2433	87.49	187.19	313.33	2601
924.00	1124.19	1102.19	2386	2433	87.30	186.82	312.77	2545
926.00	1126.78	1104.78	2386	2433	87.11	186.44	312.18	2592
928.00	1129.35	1107.35	2387	2433	86.91	186.06	311.61	2567
930.00	1131.95	1109.95	2387	2434	86.72	185.67	311.03	2606
932.00	1134.50	1112.50	2387	2434	86.53	185.30	310.47	2550
934.00	1137.04	1115.04	2388	2434	86.34	184.94	309.92	2533
936.00	1139.44	1117.44	2388	2434	86.18	184.62	309.44	2405
938.00	1141.78	1119.78	2388	2434	86.02	184.32	308.99	2336
940.00	1144.10	1122.10	2387	2434	85.87	184.02	308.54	2326
942.00	1146.44	1124.44	2387	2434	85.72	183.72	308.09	2341
944.00	1148.85	1126.85	2387	2434	85.56	183.41	307.61	2401
946.00	1151.23	1129.23	2387	2433	85.40	183.10	307.15	2384
948.00	1153.65	1131.65	2387	2433	85.23	182.78	306.66	2421
950.00	1156.01	1134.01	2387	2433	85.08	182.48	306.21	2362
952.00	1158.74	1136.74	2388	2434	84.87	182.06	305.57	2732
954.00	1161.45	1139.45	2389	2435	84.67	181.66	304.96	2704
956.00	1164.02	1142.02	2389	2435	84.48	181.30	304.41	2576
958.00	1166.67	1144.67	2390	2435	84.29	180.92	303.82	2641



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	1169.45	1147.45	2391	2436	84.08	180.49	303.17	2788
962.00	1172.26	1150.26	2391	2437	83.86	180.07	302.51	2802
964.00	1175.01	1153.01	2392	2438	83.66	179.66	301.88	2754
966.00	1177.75	1155.75	2393	2438	83.45	179.25	301.26	2740
968.00	1180.48	1158.48	2394	2439	83.25	178.85	300.65	2730
970.00	1183.27	1161.27	2394	2440	83.05	178.44	300.01	2790
972.00	1186.01	1164.01	2395	2440	82.84	178.04	299.39	2740
974.00	1188.73	1166.73	2396	2441	82.65	177.65	298.79	2716
976.00	1191.46	1169.46	2396	2442	82.45	177.26	298.19	2734
978.00	1194.26	1172.26	2397	2442	82.24	176.84	297.55	2803
980.00	1196.96	1174.96	2398	2443	82.05	176.46	296.96	2697
982.00	1199.55	1177.55	2398	2443	81.88	176.12	296.43	2588
984.00	1202.17	1180.17	2399	2444	81.70	175.77	295.89	2616
986.00	1204.66	1182.66	2399	2444	81.54	175.45	295.41	2496
988.00	1207.21	1185.21	2399	2444	81.38	175.12	294.90	2547
990.00	1209.77	1187.77	2400	2444	81.21	174.79	294.39	2564
992.00	1212.32	1190.32	2400	2444	81.05	174.46	293.89	2545
994.00	1214.83	1192.83	2400	2445	80.89	174.14	293.40	2515
996.00	1217.32	1195.32	2400	2445	80.73	173.83	292.93	2485
998.00	1219.80	1197.80	2400	2445	80.58	173.53	292.46	2482
1000.00	1222.35	1200.35	2401	2445	80.41	173.20	291.96	2551
1002.00	1224.90	1202.90	2401	2445	80.25	172.88	291.46	2550
1004.00	1227.54	1205.54	2401	2446	80.08	172.53	290.93	2637
1006.00	1230.08	1208.08	2402	2446	79.92	172.21	290.44	2547

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	1233.00	1211.00	2403	2447	79.71	171.79	289.78	2914
1010.00	1235.98	1213.98	2404	2448	79.49	171.35	289.09	2979
1012.00	1238.66	1216.66	2404	2448	79.31	171.00	288.54	2680
1014.00	1241.36	1219.36	2405	2449	79.13	170.64	287.99	2702
1016.00	1243.95	1221.95	2405	2449	78.97	170.31	287.48	2596
1018.00	1246.61	1224.61	2406	2450	78.80	169.97	286.95	2655
1020.00	1249.42	1227.42	2407	2450	78.61	169.59	286.36	2808
1022.00	1252.69	1230.69	2408	2452	78.35	169.06	285.53	3272
1024.00	1256.84	1234.84	2412	2457	77.93	168.21	284.17	4151
1026.00	1259.82	1237.82	2413	2458	77.73	167.79	283.51	2975
1028.00	1262.64	1240.64	2414	2459	77.54	167.41	282.92	2827
1030.00	1265.46	1243.46	2414	2459	77.35	167.03	282.33	2818
1032.00	1268.36	1246.36	2415	2460	77.16	166.64	281.71	2898
1034.00	1271.24	1249.24	2416	2461	76.96	166.25	281.10	2882
1036.00	1274.12	1252.12	2417	2462	76.77	165.86	280.50	2881
1038.00	1277.00	1255.00	2418	2463	76.58	165.48	279.90	2879
1040.00	1280.58	1258.58	2420	2466	76.29	164.88	278.94	3578
1042.00	1283.57	1261.57	2421	2467	76.09	164.46	278.29	2994
1044.00	1285.94	1263.94	2421	2466	75.96	164.21	277.91	2365
1046.00	1288.31	1266.31	2421	2466	75.84	163.97	277.53	2367
1048.00	1290.56	1268.56	2421	2466	75.72	163.74	277.18	2252
1050.00	1292.73	1270.73	2420	2465	75.62	163.54	276.87	2174
1052.00	1295.65	1273.65	2421	2466	75.43	163.15	276.27	2921
1054.00	1298.90	1276.90	2423	2468	75.20	162.67	275.51	3248

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	1302.14	1280.14	2425	2470	74.96	162.20	274.75	3242
1058.00	1305.31	1283.31	2426	2471	74.74	161.75	274.04	3168
1060.00	1308.57	1286.57	2427	2473	74.51	161.27	273.29	3257
1062.00	1311.69	1289.69	2429	2474	74.30	160.84	272.61	3119
1064.00	1314.86	1292.86	2430	2476	74.08	160.40	271.90	3173
1066.00	1317.93	1295.93	2431	2477	73.88	159.99	271.25	3068
1068.00	1321.03	1299.03	2433	2478	73.68	159.57	270.59	3103
1070.00	1324.03	1302.03	2434	2479	73.49	159.18	269.97	2997
1072.00	1327.11	1305.11	2435	2481	73.28	158.77	269.32	3087
1074.00	1330.38	1308.38	2436	2482	73.06	158.31	268.59	3267
1076.00	1333.63	1311.63	2438	2484	72.84	157.86	267.87	3247
1078.00	1336.83	1314.83	2439	2486	72.63	157.42	267.18	3201
1080.00	1339.55	1317.55	2440	2486	72.47	157.11	266.70	2721
1082.00	1342.48	1320.48	2441	2487	72.30	156.75	266.13	2927
1084.00	1345.66	1323.66	2442	2488	72.09	156.33	265.46	3179
1086.00	1348.76	1326.76	2443	2490	71.90	155.93	264.82	3105
1088.00	1351.54	1329.54	2444	2490	71.74	155.61	264.32	2776
1090.00	1353.72	1331.72	2444	2490	71.65	155.42	264.03	2181
1092.00	1356.37	1334.37	2444	2490	71.51	155.14	263.58	2657
1094.00	1359.32	1337.32	2445	2491	71.33	154.78	263.02	2947
1096.00	1362.24	1340.24	2446	2492	71.16	154.44	262.47	2917
1098.00	1365.31	1343.31	2447	2493	70.98	154.05	261.86	3077
1100.00	1368.00	1346.00	2447	2493	70.84	153.77	261.41	2683
1102.00	1370.95	1348.95	2448	2494	70.67	153.42	260.85	2953

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	1373.86	1351.86	2449	2495	70.50	153.08	260.31	2912
1106.00	1377.03	1355.03	2450	2496	70.30	152.68	259.67	3165
1108.00	1379.90	1357.90	2451	2497	70.15	152.35	259.16	2875
1110.00	1382.92	1360.92	2452	2498	69.97	151.99	258.58	3016
1112.00	1385.81	1363.81	2453	2499	69.81	151.66	258.06	2895

PE602734

This is an enclosure indicator page.  
The enclosure PE602734 is enclosed within the  
container PE903932 at this location in this  
document.

The enclosure PE602734 has the following characteristics:

ITEM\_BARCODE = PE602734  
CONTAINER\_BARCODE = PE903932  
NAME = Blenny 1 Drift corrected sonic log  
BASIN = GIPPSLAND  
PERMIT = VIC/L15  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Blenny 1 Drift corrected sonic log.  
Figure from appendix-5, from Volume 1  
WCR  
REMARKS =  
DATE\_CREATED = 21/05/92  
DATE\_RECEIVED = 9/11/92  
W\_NO = W1062  
WELL\_NAME = Blenny-1  
CONTRACTOR = Schlumberger  
CLIENT\_OP\_CO = Esso Australia Ltd

(Inserted by DNRE - Vic Govt Mines Dept)

PE602735

This is an enclosure indicator page.  
The enclosure PE602735 is enclosed within the  
container PE903932 at this location in this  
document.

The enclosure PE602735 has the following characteristics:

- ITEM\_BARCODE = PE602735
- CONTAINER\_BARCODE = PE903932
- NAME = Blenny 1 Synthetic Seismogram
- BASIN = GIPPSLAND
- PERMIT = VIC/L15
- TYPE = WELL
- SUBTYPE = SYNTH\_SEISMOGRAPH
- DESCRIPTION = Blenny 1 Synthetic Seismogram
- REMARKS =
- DATE\_CREATED = 21/05/92
- DATE\_RECEIVED = 9/11/92
- W\_NO = W1062
- WELL\_NAME = Blenny-1
- CONTRACTOR = Schlumberger
- CLIENT\_OP\_CO = Esso Australia Ltd

(Inserted by DNRE - Vic Govt Mines Dept)

PE602736

This is an enclosure indicator page.  
The enclosure PE602736 is enclosed within the  
container PE903932 at this location in this  
document.

The enclosure PE602736 has the following characteristics:

ITEM\_BARCODE = PE602736  
CONTAINER\_BARCODE = PE903932  
NAME = Blenny 1 Synthetic Seismogram  
BASIN = GIPPSLAND  
PERMIT = VIC/L15  
TYPE = WELL  
SUBTYPE = SYNTH\_SEISMOGRAPH  
DESCRIPTION = Blenny 1 Synthetic Seismogram  
REMARKS =  
DATE\_CREATED = 21/05/92  
DATE\_RECEIVED = 9/11/92  
W\_NO = W1062  
WELL\_NAME = Blenny-1  
CONTRACTOR = Schlumberger  
CLIENT\_OP\_CO = Esso Australia Ltd

(Inserted by DNRE - Vic Govt Mines Dept)

PE602737

This is an enclosure indicator page.  
The enclosure PE602737 is enclosed within the  
container PE903932 at this location in this  
document.

The enclosure PE602737 has the following characteristics:

- ITEM\_BARCODE = PE602737
- CONTAINER\_BARCODE = PE903932
- NAME = Blenny 1 Synthetic Seismogram
- BASIN = GIPPSLAND
- PERMIT = VIC/L15
- TYPE = WELL
- SUBTYPE = SYNTH\_SEISMOGRAPH
- DESCRIPTION = Blenny 1 Synthetic Seismogram
- REMARKS =
- DATE\_CREATED = 21/05/92
- DATE\_RECEIVED = 9/11/92
- W\_NO = W1062
- WELL\_NAME = Blenny-1
- CONTRACTOR = Schlumberger
- CLIENT\_OP\_CO = Esso Australia Ltd

(Inserted by DNRE - Vic Govt Mines Dept)



PE602738

This is an enclosure indicator page.  
The enclosure PE602738 is enclosed within the  
container PE903932 at this location in this  
document.

The enclosure PE602738 has the following characteristics:

- ITEM\_BARCODE = PE602738
- CONTAINER\_BARCODE = PE903932
- NAME = Blenny 1 Synthetic Seismogram
- BASIN = GIPPSLAND
- PERMIT = VIC/L15
- TYPE = WELL
- SUBTYPE = SYNTH\_SEISMOGRAPH
- DESCRIPTION = Blenny 1 Synthetic Seismogram
- REMARKS =
- DATE\_CREATED = 21/05/92
- DATE\_RECEIVED = 9/11/92
- W\_NO = W1062
- WELL\_NAME = Blenny-1
- CONTRACTOR = Schlumberger
- CLIENT\_OP\_CO = Esso Australia Ltd

(Inserted by DNRE - Vic Govt Mines Dept)

PE602739

This is an enclosure indicator page.  
The enclosure PE602739 is enclosed within the  
container PE903932 at this location in this  
document.

The enclosure PE602739 has the following characteristics:

- ITEM\_BARCODE = PE602739
- CONTAINER\_BARCODE = PE903932
- NAME = Blenny 1 Seismic Calibration Log
- BASIN = GIPPSLAND
- PERMIT = VIC/L15
- TYPE = WELL
- SUBTYPE = VELOCITY\_CHART
- DESCRIPTION = Blenny 1 Seismic Calibration Log  
(Adjusted Continuous Velocity Log)
- REMARKS =
- DATE\_CREATED = 21/05/92
- DATE\_RECEIVED = 9/11/92
- W\_NO = W1062
- WELL\_NAME = Blenny-1
- CONTRACTOR = Schlumberger
- CLIENT\_OP\_CO = Esso Australia Ltd

(Inserted by DNRE - Vic Govt Mines Dept)