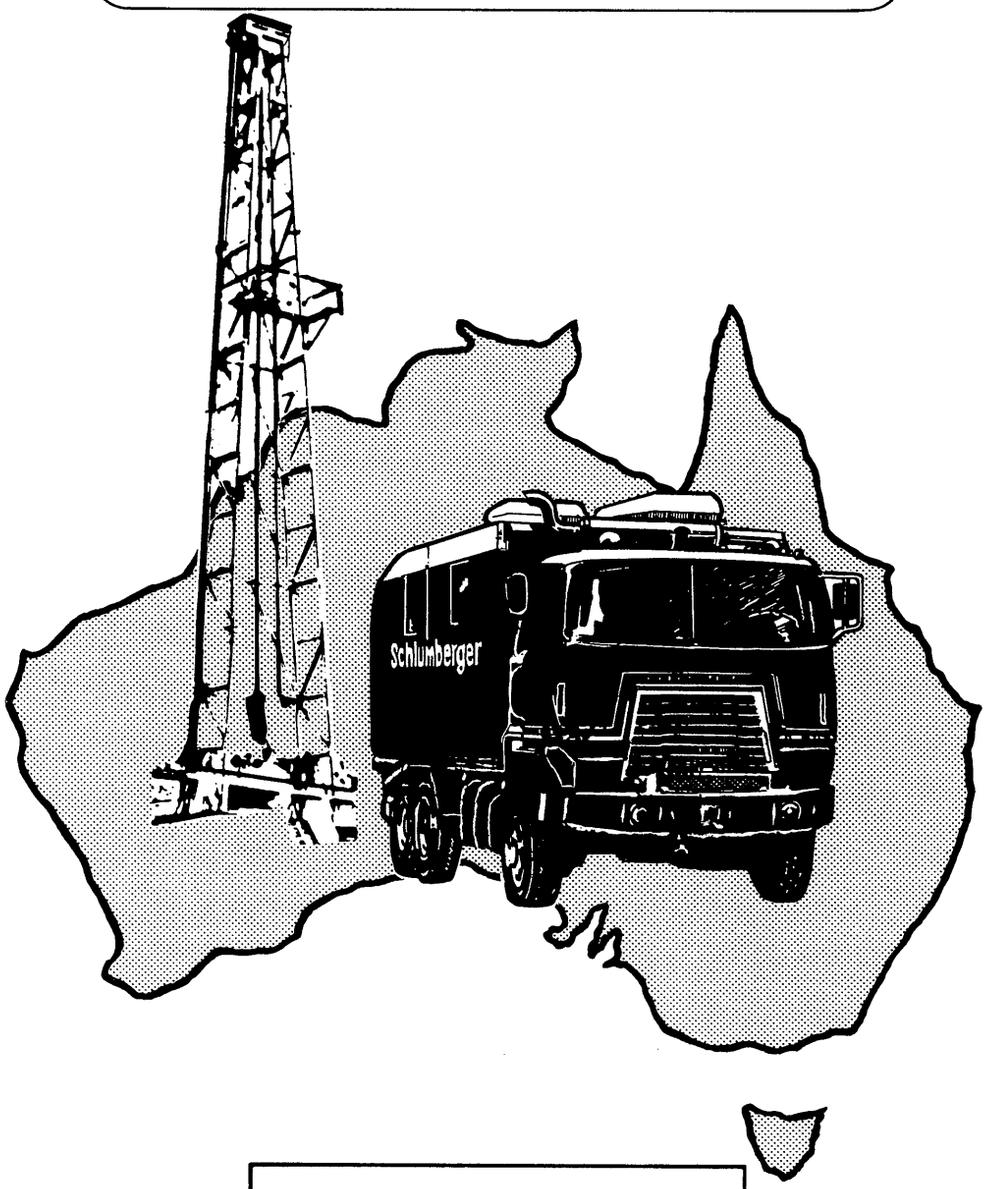
APPENDIX 9 - WCR.

[redacted]



Schlumberger

W954. TIRRENGOWA-1.

Schlumberger

HARTOGEN ENERGY LTD

SONIC CALIBRATION REPORT

Mahar

TIRRENGOWA - 1

FIELD	:	WILDCAT
STATE	:	VICTORIA
COUNTRY	:	AUSTRALIA
COORDINATES	:	038° 22' 20.67" S 143° 20' 58.60" E
DATE OF SURVEY	:	22-MARCH-1987
REFERENCE NO.	:	570407

CONTENTS

1.0 INTRODUCTION

A velocity check shot survey was conducted in the Tirrengowa - 1 well on 22 March 1987. Eighteen levels from 498 feet to 4168 feet below KB were shot using a dynamite source. Nineteen levels have been used in the calibration of the sonic log.

The shot times and calibrated sonic times have been corrected to ground level datum at 456 feet above mean sea level.

2.0 DATA ACQUISITION

Table 1 Field Equipment and Survey Parameters

Elevation Datum	456.0 feet AMSL
Elevation KB	471.0 feet AMSL
Elevation DF	470.0 feet AMSL
Elevation GL	456.0 feet AMSL
No. of Levels	19
Well Deviation	Nil
Total Depth	4171 feet below KB
Energy Source	Dynamite
Source Offset	72 feet
Source Depth	5 ft below GL
Reference Sensor	Fire pulse &Geophone
Geophone Offset	5 ft from source
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°

Recording was made on the Schlumberger Cyber Service Unit (CSU) using LIS format. No major problems were noted during the survey.

3.0 CHECK SHOT DATA

A total of 19 check levels were shot during the survey. The level at 782.5 feet was shot on the way down and is not used for the sonic calibration. A level was shot at 795 feet (top of sonic log). A plot of the stacked check shot data is displayed at figure 1.

Table 2 Checkshot levels

Level Depth (feet below KB)	Stacked Shots	Rejected Shots	Quality	Comments
498	3	1	Good	
782.5	2	0	Good	Omitted from calibration
795	2	0	Good	Top of sonic log
890	3	5	Good	
1102	2	0	Good	
1252	4	0	Good	
1502	3	0	Good	
1937	2	0	Good	
2308	2	0	Good	
2766	2	1	Good	
3152	3	0	Good	
3515	3	1	Good	
3580	2	0	Poor	
3611	0	3	Good	Level rejected
3711	2	0	Good	
3838	1	0	Good	
4026	2	1	Good	
4084	2	2	Good	
4168	3	0	Good	

4.0 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 verses 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 μsec/ft.
2. ΔT **Minimum** In the case of negative drift a second method is used, called Δt 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 Δt values which are higher than a threshold, the Δt_{min}. Values of Δt which are lower than the threshold are not corrected. The correction is a reduction of the excess of Δt over Δt_{min}, Δt - Δt_{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 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 Δt and Δt_{min}, only over the intervals where $\Delta t > \Delta t_{min}$.

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

5.0 SONIC CALIBRATION PROCESSING

5.1 Open Hole Logs

The sonic log has been edited prior to input into the Seismic Calibration processing chain. The sonic was logged from from 4160 to 795 feet KB. The overall log quality is good. The density, gamma ray and caliper logs are displayed as correlation curves.

5.2 Correction to Datum and Velocity Modelling

The sonic calibration processing has been referenced to ground level datum (456 feet above MSL). A surface velocity of 5000 ft/sec has been assumed when correcting from source depth to GL.

5.3 Sonic Calibration Results

The top of the sonic log (795 feet 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. A list of shifts used on the sonic data is given below.

Table 3 Sonic Drift

Depth Interval (feet below KB)	Block Shift μsec/ft	Δt_{min} μsec/ft	Equiv Block Shift μsec/ft
890-1502	0.0	-	0.0
1502-3515	4.17	-	4.17
3515-4170	2.44	-	2.44

The adjusted sonic curve is considered to be the best result using the available data.

APPENDIX - 1 SUMMARY OF GEOPHYSICAL LISTINGS

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

Geophysical Airgun Report

1. Level number : the level number starting from the top level (includes any imposed shots).
2. Vertical depth from KB : *dkb*, the depth in feet from kelly bushing .
3. Vertical depth from SRD : *dsrd*, the depth in feet from seismic reference datum.
4. Vertical depth from GL : *dgl*, the depth in feet 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, $\frac{\Delta depth}{\Delta time}$.

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 feet from kelly bushing .
3. Vertical depth from SRD : the depth in feet from seismic reference datum.
4. Vertical depth from GL : the depth in feet 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 ($\frac{\Delta drift}{\Delta depth}$).

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.

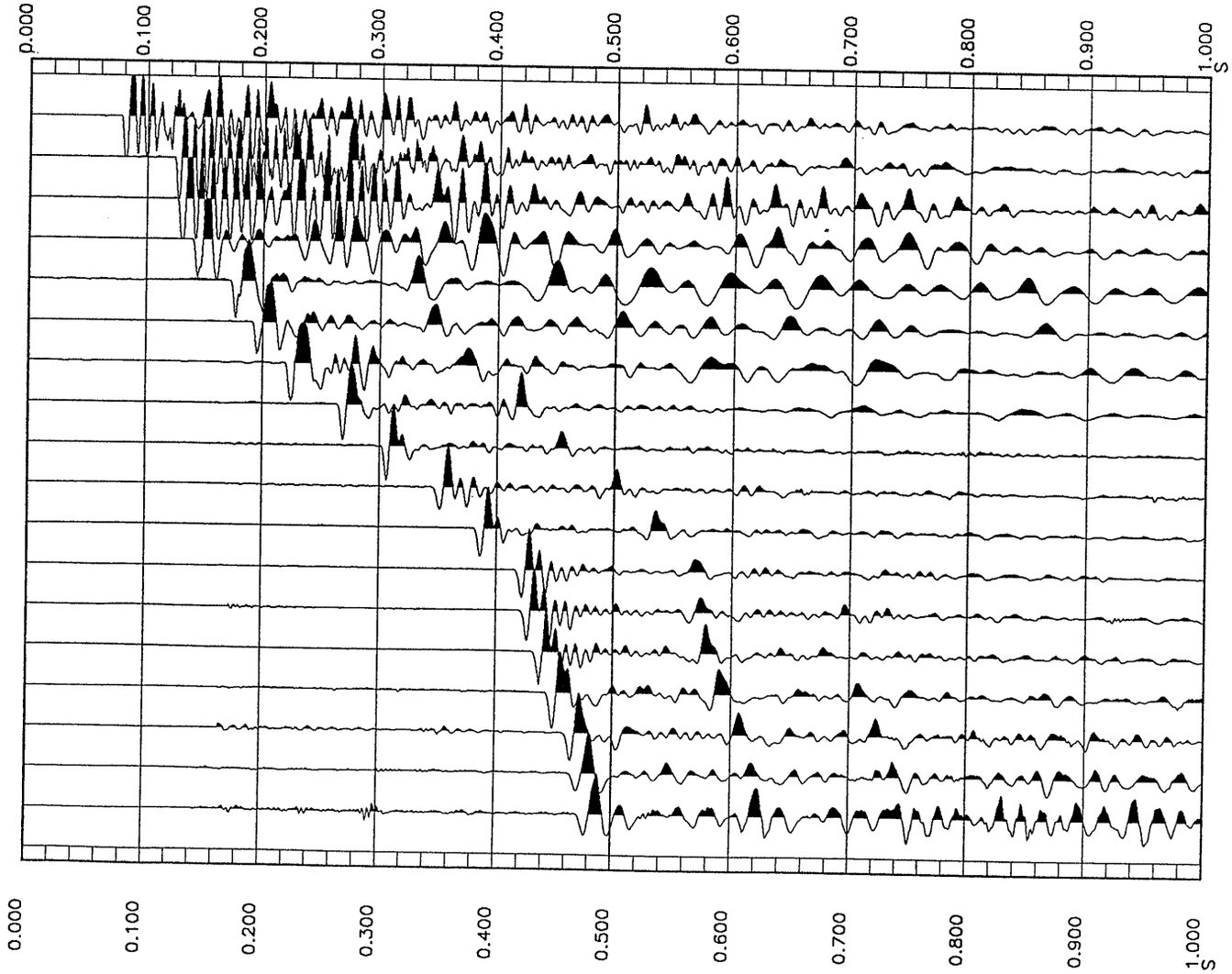
$$v_{rms} = \sqrt{\Sigma_1^n v_i^2 t_i / \Sigma_1^n t_i}$$

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).
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.

TIRRENGOWA - 1 STACKED CHECKSHOT DATA

RAW DEPTH FT	TRANSIT TIME S	LEVEL NO
498.0	0.077	18
782.5	0.124	17
795.0	0.127	16
890.0	0.140	15
1102.0	0.173	14
1252.0	0.191	13
1502.0	0.220	12
1937.0	0.265	11
2308.0	0.302	10
2766.0	0.347	9
3152.0	0.382	8
3515.0	0.417	7
3580.0	0.422	6
3711.0	0.433	5
3838.0	0.444	4
4026.0	0.459	3
4084.0	0.464	2
4167.9	0.471	1



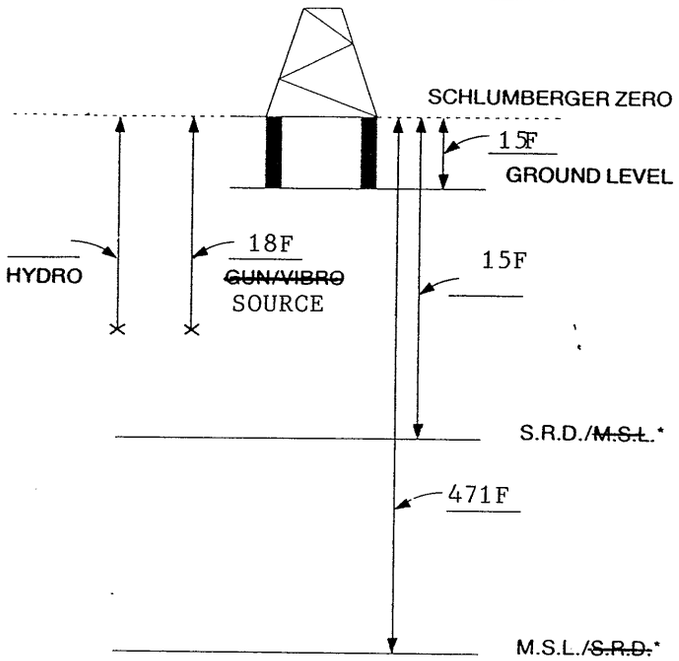
Schlumberger

GUN GEOMETRY SKETCH

CLIENT: HARTOGEN ENERGY LTD WELL: TIRRENGOWA #1 DATE: 23/3/87

LAND

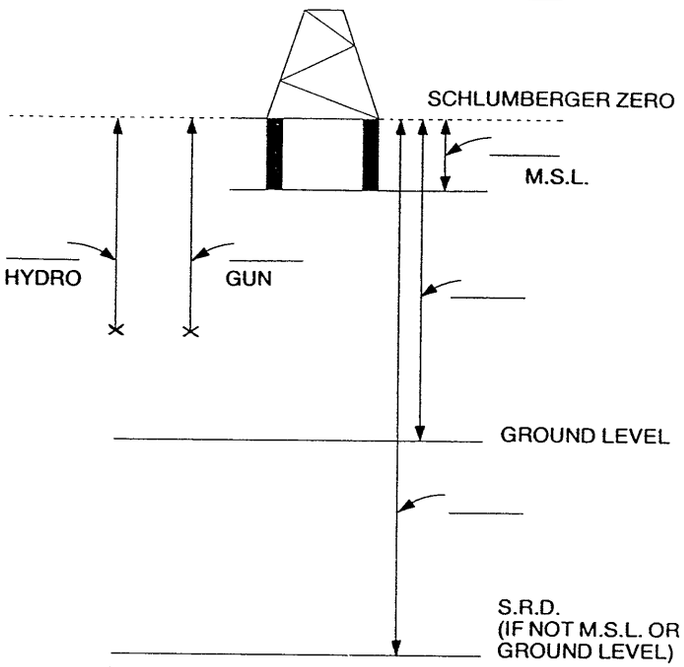
x



INDICATE ALL DISTANCES RELATIVE TO SCHLUMBERGER ZERO

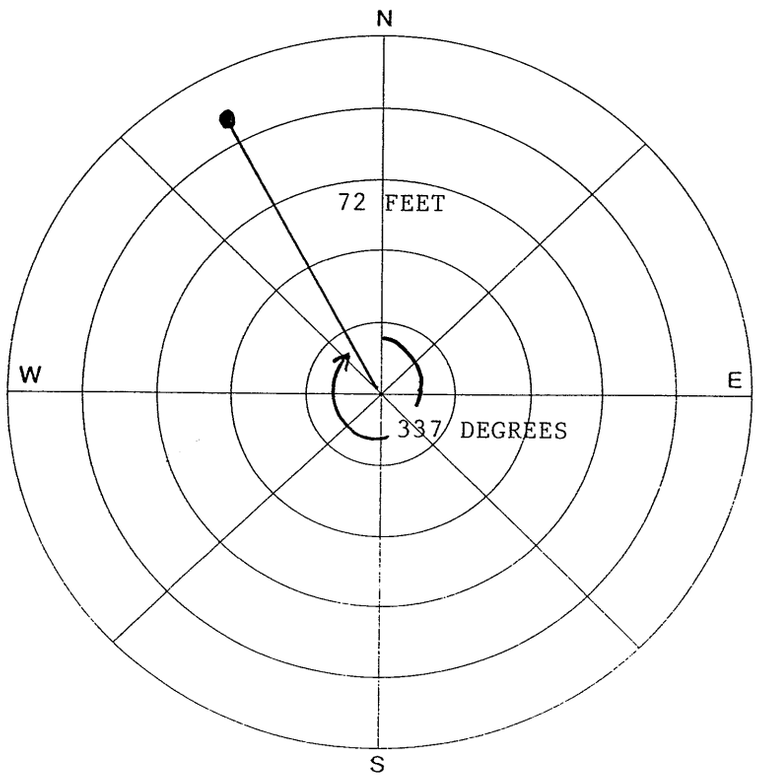
* DELETE AS APPLICABLE

OFFSHORE



INDICATE ALL DISTANCES RELATIVE TO SCHLUMBERGER ZERO

SHOT POS'N	GUN OFFSET	HYDRO OFFSET	GUN DEPTH	HYDRO DEPTH
1	72F		3F	
2				
3				
4				
5				
6				
7				



INDICATE GUN/VIBRO AND HYDROPHONE OFFSET AND AZIMUTH RELATIVE TO NORTH

Distribution: White = Client; White = computing centre; Green = District; Pink = location

ANALYST: A. CHIN 2-APR-87 16:28:44 PROGRAM: GSHOT 007.E08

SCHLUMBERGER

GEOPHYSICAL AIRGUN REPORT

COMPANY : HARTOGEN
WELL : TIRRENGOWA-1
FIELD : WILDCAT
REFERENCE: 570307

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
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 EOREH AXIS IN NS DIRECTION (CF GUNELZ)
TRTHYD - TRAVEL TIME FROM THE HYDROPHONE TO THE SOURCE
TRTSRD - TRAVEL TIME FROM THE SOURCE TO THE SRD
DEVWEL - DEVIATED WELL DATA PER SHOT : MEAS. DEPTH, VERT. DEPTH, EW, NS

SAMPLED

SHOT.GSH - SHOT NUMBER
DKB.GSH - MEASURED DEPTH FROM KELLY-BUSHING
DSRD.GSH - DEPTH FROM SRD
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 :	471.000	FT
ELEV OF SRD AB. MSL(WST)	SRD :	456.000	FT
ELEVATION OF KELLY BUSHI	EKB :	15.0000	FT
VEL SOURCE-HYDRO(WST)	VELHYD :	5000.00	FT/S
VEL SOURCE-SRD (WST)	VELSUR :	5000.00	FT/S

(MATRIX PARAMETERS)

	SOURCE ELV FT	SOURCE EW FT	SOURCE NS FT	HYDRO ELEV FT	HYDRO EW FT	HYDRO NS FT
1	-3.0	-27.6	66.5	-3.0	-29.1	70.2

	TRT HYD-SC MS	TRT SC-SRD MS
1	.80	.60

	MD @ KB FT	VD @ KB FT	VD @ SRD FT	E-W COORD FT	N-S COORD FT
1	498.0	498.0	483.0	0	0
2	795.0	795.0	780.0	0	0
3	890.0	890.0	875.0	0	0
4	1102.0	1102.0	1087.0	0	0
5	1252.0	1252.0	1237.0	0	0
6	1502.0	1502.0	1487.0	0	0
7	1937.0	1937.0	1922.0	0	0
8	2308.0	2308.0	2293.0	0	0
9	2766.0	2766.0	2751.0	0	0
10	3152.0	3152.0	3137.0	0	0
11	3515.0	3515.0	3500.0	0	0
12	3580.0	3580.0	3565.0	0	0
13	3711.0	3711.0	3696.0	0	0
14	3838.0	3838.0	3823.0	0	0
15	4026.0	4026.0	4011.0	0	0
16	4084.0	4084.0	4069.0	0	0
17	4168.0	4168.0	4153.0	0	0

LEVEL NUMBER	MEASUR DEPTH FROM KB FT	VERTIC DEPTH FROM SRD FT	OBSERV TRAVEL TIME HYD/GEO MS	VERTIC TRAVEL TIME SRC/GEO MS	VERTIC TRAVEL TIME SRD/GEO MS	AVERAGE VELOC SRD/GEO FT/S	DELTA DEPTH BETWEEN SHOTS FT	DELTA TIME BETWEEN SHOTS MS	INTERV VELOC BETWEEN SHOTS FT/S
1	498.0	483.0	77.00	76.94	77.54	6229			
							297.0	50.32	5903
2	795.0	780.0	127.00	127.25	127.85	6101			
							95.0	13.07	7270
3	890.0	875.0	140.00	140.32	140.92	6209			
							212.0	33.10	6406
4	1102.0	1087.0	173.00	173.42	174.02	6246			
							150.0	18.06	8307
5	1252.0	1237.0	191.00	191.47	192.07	6440			
							250.0	29.07	8601
6	1502.0	1487.0	220.00	220.54	221.14	6724			
							435.0	45.07	9651
7	1937.0	1922.0	265.00	265.61	266.21	7220			
							371.0	37.04	10017
8	2308.0	2293.0	302.00	302.65	303.25	7561			
							458.0	45.03	10171
9	2766.0	2751.0	347.00	347.68	348.28	7899			
							386.0	35.02	11023
10	3152.0	3137.0	382.00	382.70	383.30	8184			
							363.0	35.01	10368
11	3515.0	3500.0	417.00	417.71	418.31	8367			
							65.0	5.00	12994
12	3580.0	3565.0	422.00	422.71	423.31	8422			
							131.0	11.00	11905
13	3711.0	3696.0	433.00	433.72	434.32	8510			
							127.0	11.00	11542
14	3838.0	3823.0	444.00	444.72	445.32	8585			
							188.0	15.00	12529
15	4026.0	4011.0	459.00	459.73	460.33	8713			
							58.0	5.00	11597
16	4084.0	4069.0	464.00	464.73	465.33	8744			
							84.0	7.00	11997
17	4168.0	4153.0	471.00	471.73	472.33	8793			

ANALYST: A. CHIN 2-APR-87 16:34:18 PROGRAM: GDRIFT 007.E09

SCHLUMBERGER

DRIFT COMPUTATION REPORT

COMPANY : HARTOGEN
WELL : TIRRENGOWA-1
FIELD : WILDCAT
REFERENCE: 570307

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
XSTART - TOP OF ZONE PROCESSED BY WST
XSTOP - BOTTOM OF ZONE PROCESSED BY WST
UNFDEN - UNIFORM DENSITY VALUE
GAD001 - RAW SONIC CHANNEL NAME USED FOR WST SONIC ADJUSTMENT

ZONE

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

SAMPLED

SHOT - SHOT NUMBER
DKB - MEASURED DEPTH FROM KELLY-BUSHING
DSRD - DEPTH FROM SRD
SHTM - SHOT TIME (WST)
RAWS - 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	: 471.000	FT
ELEV OF SRD AB. MSL(WST)	SRD	: 456.000	FT
ELEVATION OF KELLY BUSHI	EKB	: 15.0000	FT
TOP OF ZONE PROCD (WST)	XSTART	: 0	FT
BOT OF ZONE PROCD (WST)	XSTOP	: 0	FT
UNIFORM DENSITY VALUE	UNFDEN	: 2.30000	G/C3
RAW SONIC CH NAME (WST)	GAD001	: DT.ATT.002.FLP.*	

(ZONED PARAMETERS)		(VALUE)		(LIMITS)		
LAYER OPTION FLAG DENS	LOFDEN	: 1.000000		99999.0	-	0
USER SUPPLIED DENSITY DA	LAYDEN	:-999.2500	G/C3	99999.0	-	0

LEVEL NUMBER	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	VERTICAL TRAVEL TIME SRD/GEO MS	INTEGRATED RAW SONIC TIME MS	COMPUTED DRIFT AT LEVEL MS	COMPUTED BLK-SHFT CORRECTION US/F
1	498.0	483.0	77.54	77.54	0	0
2	795.0	780.0	127.85	127.85	0	0
3	890.0	875.0	140.92	140.92	0	0
4	1102.0	1087.0	174.02	174.18	-.17	-.79
5	1252.0	1237.0	192.07	192.70	-.62	-3.04
6	1502.0	1487.0	221.14	219.69	1.45	8.29
7	1937.0	1922.0	266.21	263.43	2.78	3.06
8	2308.0	2293.0	303.25	300.53	2.72	-.16
9	2766.0	2751.0	348.28	342.53	5.75	6.62
10	3152.0	3137.0	383.30	376.76	6.54	2.03
11	3515.0	3500.0	418.31	409.54	8.77	6.16
12	3580.0	3565.0	423.31	415.18	8.14	-9.78
13	3711.0	3696.0	434.32	425.86	8.45	2.40
14	3838.0	3823.0	445.32	436.20	9.12	5.27
15	4026.0	4011.0	460.33	451.33	9.00	-.65
16	4084.0	4069.0	465.33	456.11	9.22	3.78
17	4168.0	4153.0	472.33	462.20	10.13	10.80
18	4170.0	4155.0	472.44	462.31	10.13	0

ANALYST: A. CHIN 2-JUN-87 15:16:55 PROGRAM: GADJST 008.E08

SONIC ADJUSTMENT PARAMETER REPORT

COMPANY : HARTOGEN
WELL : TIRRENGOWA-1
FIELD : WILDCAT
REFERENCE: 570307

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 ADJUSTMNENT 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
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	: 2.00000	
CONS SONIC ADJST (WST)	CONADJ	: 7.50000	US/F
UNIFORM EARTH VELOCITY	UNERTH	: 7000.00	FT/S

(ZONED PARAMETERS)		(VALUE)		(LIMITS)	
USER DRIFT ZONE (WST)	ZDRIFT	: 10.00000	MS	4170.00	- 3515.00
		8.400000		3515.00	1502.00
		0		1502.00	890.000
		0		890.000	0
ADJUSMNT MODE (WST)	ADJOPZ	:-999.2500		99999.0	- 0
USER DELTA-T MIN (WST)	ADJUSZ	:-999.2500	US/F	99999.0	- 0
LAYER OPTION FLAG VELOC	LOFVEL	: 1.000000		99999.0	- 0
USER VELOC (WST)	LAYVEL	: 6229.000	FT/S	498.000	- 15.0000

KNEE NUMBER	VERTICAL DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	DRIFT AT KNEE MS	BLOCKSHIFT USED US/F	DELTA-T MINIMUM USED US/F	REDUCTION FACTOR G	EQUIVALENT BLOCKSHIFT US/F
				0			0
2	890.0	875.0	0	0			0
3	1502.0	1487.0	0	4.17			4.17
4	3515.0	3500.0	8.40	2.44			2.44
5	4170.0	4155.0	10.00				

ANALYST: A. CHIN 2-JUN-87 15:17:11 PROGRAM: GADJST 008.E08

VELOCITY REPORT

COMPANY : HARTOGEN
WELL : TIRRENGOWA-1
FIELD : WILDCAT
REFERENCE: 570307

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
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
DKB - MEASURED DEPTH FROM KELLY-BUSHING
DSRD - DEPTH FROM SRD
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	: 471.000	FT
ELEV OF SRD AB. MSL(WST)	SRD	: 456.000	FT
ELEVATION OF KELLY BUSHI	EKB	: 15.0000	FT
UNIFORM EARTH VELOCITY	UNERTH	: 7000.00	FT/S

(ZONED PARAMETERS)		(VALUE)		(LIMITS)
LAYER OPTION FLAG VELOC	LOFVEL	: 1.000000		99999.0 - 0
USER VELOC (WST)	LAYVEL	: 6229.000	FT/S	498.000 - 15.0000

LEVEL NUMBER	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	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 FT/S
							6229
1	498.0	483.0	77.54	77.54	0	0	
							5903
2	795.0	780.0	127.85	127.85	0	0	
							7270
3	890.0	875.0	140.92	140.92	0	0	
							6374
4	1102.0	1087.0	174.02	174.18	-.17	-.17	
							8103
5	1252.0	1237.0	192.07	192.70	-.62	-.62	
							9261
6	1502.0	1487.0	221.14	219.69	1.45	1.45	
							9549
7	1937.0	1922.0	266.21	265.25	2.78	.97	
							9600
8	2308.0	2293.0	303.25	303.89	2.72	-.64	
							10431
9	2766.0	2751.0	348.28	347.80	5.75	.48	
							10769
10	3152.0	3137.0	383.30	383.64	6.54	-.35	
							10585
11	3515.0	3500.0	418.31	417.94	8.77	.37	
							11213
12	3580.0	3565.0	423.31	423.73	8.14	-.42	
							11899
13	3711.0	3696.0	434.32	434.74	8.45	-.43	
							11931
14	3838.0	3823.0	445.32	445.39	9.12	-.07	
							12062
15	4026.0	4011.0	460.33	460.97	9.00	-.65	
							11780
16	4084.0	4069.0	465.33	465.90	9.22	-.57	
							13334
17	4168.0	4153.0	472.33	472.20	10.13	.13	
							17717
18	4170.0	4155.0	472.44	472.31	10.13	.13	

ANALYST: A. CHIN 2-JUN-87 15:20:33 PROGRAM: GTRFRM 001.E12

TIME CONVERTED VELOCITY REPORT

COMPANY : HARTOGEN

WELL : TIRRENGOWA-1

FIELD : WILDCAT

REFERENCE: 57C307

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

MVODIS - MOVE-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
DKB - MEASURED DEPTH FROM KELLY-BUSHING
DSRD - DEPTH FROM SRD
AVGV - AVERAGE SEISMIC VELOCITY
RMSV - ROOT MEAN SQUARE VELOCITY (SEISMIC)
MVOT - 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	471.000	FT
ELEV OF SRD AB. MSL(WST)	SRD	456.000	FT
ELEV OF GL AB. SRD(WST)	GL	0	FT
UNIFORM EARTH VELOCITY	UNERTH	7000.00	FT/S
UNIFORM DENSITY VALUE	UNFDEN	2.30000	G/C3

(MATRIX PARAMETERS)

	MVOUT DIST FT
1	3000.0
2	4500.0
3	6000.0

(ZONED PARAMETERS)		(VALUE)		(LIMITS)
LAYER OPTION FLAG VELOC	LOFVEL	: 1.000000		99999.0 - 0
USER VELOC (WST)	LAYVEL	: 6229.000	FT/S	498.000 - 15.0000
LAYER OPTION FLAG DENS	LOFDEN	:-1.000000		99999.0 - 0
USER SUPPLIED DENSITY DA	LAYDEN	:-999.2500	G/C3	99999.0 - 0

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
								7000
0	15.1	.1						6167
2.00	21.2	6.2	6229	6167	484.46	727.68	970.90	6229
4.00	27.5	12.5	6229	6198	480.03	722.04	964.04	6229
6.00	33.7	18.7	6229	6208	477.25	718.84	960.45	6229
8.00	39.9	24.9	6229	6214	474.88	716.26	957.66	6229
10.00	46.1	31.1	6229	6217	472.68	713.93	955.20	6229
12.00	52.4	37.4	6229	6219	470.56	711.72	952.90	6229
14.00	58.6	43.6	6229	6220	468.50	709.59	950.70	6229
16.00	64.8	49.8	6229	6221	466.48	707.50	948.56	6229
18.00	71.1	56.1	6229	6222	464.48	705.45	946.46	6229
20.00	77.3	62.3	6229	6223	462.51	703.42	944.40	6229
22.00	83.5	68.5	6229	6223	460.55	701.41	942.35	6229
24.00	89.7	74.7	6229	6224	458.61	699.42	940.33	6229
26.00	96.0	81.0	6229	6224	456.69	697.44	938.32	6229
28.00	102.2	87.2	6229	6225	454.77	695.48	936.32	6229
30.00	108.4	93.4	6229	6225	452.87	693.53	934.34	6229
32.00	114.7	99.7	6229	6225	450.98	691.58	932.36	6229
34.00	120.9	105.9	6229	6225	449.10	689.65	930.40	6229
36.00	127.1	112.1	6229	6226	447.23	687.72	928.44	6229
38.00	133.4	118.4	6229	6226	445.37	685.80	926.49	6229
40.00	139.6	124.6	6229	6226	443.51	683.89	924.54	6229
42.00	145.8	130.8	6229	6226	441.67	681.99	922.61	6229
44.00	152.0	137.0	6229	6226	439.84	680.09	920.67	6229
46.00	158.3	143.3	6229	6226	438.02	678.20	918.75	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
								6229
48.00	164.5	149.5	6229	6226	436.20	676.32	916.83	6229
50.00	170.7	155.7	6229	6227	434.40	674.44	914.91	6229
52.00	177.0	162.0	6229	6227	432.60	672.57	913.01	6229
54.00	183.2	168.2	6229	6227	430.81	670.71	911.10	6229
56.00	189.4	174.4	6229	6227	429.03	668.85	909.20	6229
58.00	195.6	180.6	6229	6227	427.26	667.00	907.31	6229
60.00	201.9	186.9	6229	6227	425.50	665.15	905.42	6229
62.00	208.1	193.1	6229	6227	423.74	663.31	903.54	6229
64.00	214.3	199.3	6229	6227	422.00	661.48	901.66	6229
66.00	220.6	205.6	6229	6227	420.26	659.65	899.78	6229
68.00	226.8	211.8	6229	6227	418.53	657.83	897.91	6229
70.00	233.0	218.0	6229	6227	416.81	656.01	896.05	6229
72.00	239.2	224.2	6229	6227	415.10	654.20	894.19	6229
74.00	245.5	230.5	6229	6227	413.40	652.40	892.33	6229
76.00	251.7	236.7	6229	6227	411.70	650.60	890.48	6229
78.00	257.9	242.9	6229	6227	410.01	648.81	888.63	6229
80.00	264.2	249.2	6229	6227	408.33	647.02	886.79	6229
82.00	270.4	255.4	6229	6227	406.66	645.24	884.95	6229
84.00	276.6	261.6	6229	6228	405.00	643.46	883.12	6229
86.00	282.8	267.8	6229	6228	403.35	641.69	881.29	6229
88.00	289.1	274.1	6229	6228	401.70	639.93	879.46	6229
90.00	295.3	280.3	6229	6228	400.06	638.17	877.64	6229
92.00	301.5	286.5	6229	6228	398.43	636.42	875.83	6229
94.00	307.8	292.8	6229	6228	396.81	634.67	874.01	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
								6229
96.00	314.0	299.0	6229	6228	395.19	632.93	872.21	6229
98.00	320.2	305.2	6229	6228	393.58	631.19	870.40	6229
100.00	326.5	311.5	6229	6228	391.98	629.46	868.60	6229
102.00	332.7	317.7	6229	6228	390.39	627.73	866.81	6229
104.00	338.9	323.9	6229	6228	388.81	626.01	865.02	6229
106.00	345.1	330.1	6229	6228	387.23	624.30	863.23	6229
108.00	351.4	336.4	6229	6228	385.66	622.59	861.45	6229
110.00	357.6	342.6	6229	6228	384.10	620.88	859.67	6229
112.00	363.8	348.8	6229	6228	382.55	619.18	857.89	6229
114.00	370.1	355.1	6229	6228	381.01	617.49	856.12	6229
116.00	376.3	361.3	6229	6228	379.47	615.80	854.36	6229
118.00	382.5	367.5	6229	6228	377.94	614.12	852.60	6229
120.00	388.7	373.7	6229	6228	376.42	612.44	850.84	6229
122.00	395.0	380.0	6229	6228	374.91	610.77	849.09	6229
124.00	401.2	386.2	6229	6228	373.40	609.11	847.34	6229
126.00	407.4	392.4	6229	6228	371.90	607.44	845.59	6229
128.00	413.7	398.7	6229	6228	370.41	605.79	843.85	6229
130.00	419.9	404.9	6229	6228	368.93	604.14	842.11	6229
132.00	426.1	411.1	6229	6228	367.45	602.49	840.38	6229
134.00	432.3	417.3	6229	6228	365.98	600.85	838.65	6229
136.00	438.6	423.6	6229	6228	364.52	599.22	836.93	6229
138.00	444.8	429.8	6229	6228	363.07	597.59	835.21	6229
140.00	451.0	436.0	6229	6228	361.62	595.97	833.49	6229
142.00	457.3	442.3	6229	6228	360.18	594.35	831.78	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
								6229
144.00	463.5	448.5	6229	6228	358.75	592.74	830.07	6229
146.00	469.7	454.7	6229	6228	357.32	591.13	828.37	6229
148.00	475.9	460.9	6229	6228	355.91	589.53	826.67	6229
150.00	482.2	467.2	6229	6228	354.50	587.93	824.97	6229
152.00	488.4	473.4	6229	6228	353.09	586.34	823.28	6229
154.00	494.6	479.6	6229	6228	351.70	584.75	821.59	6079
156.00	500.7	485.7	6227	6226	350.45	583.38	820.20	5903
158.00	506.6	491.6	6223	6222	349.36	582.26	819.13	5903
160.00	512.5	497.5	6219	6218	348.28	581.13	818.05	5903
162.00	518.4	503.4	6215	6215	347.19	580.00	816.96	5903
164.00	524.3	509.3	6211	6211	346.10	578.86	815.86	5903
166.00	530.2	515.2	6208	6207	345.02	577.72	814.75	5903
168.00	536.1	521.1	6204	6204	343.93	576.57	813.64	5903
170.00	542.0	527.0	6200	6200	342.84	575.42	812.51	5903
172.00	547.9	532.9	6197	6197	341.76	574.26	811.38	5903
174.00	553.8	538.8	6194	6194	340.67	573.10	810.24	5903
176.00	559.7	544.7	6190	6190	339.59	571.94	809.09	5903
178.00	565.6	550.6	6187	6187	338.51	570.77	807.94	5903
180.00	571.5	556.5	6184	6184	337.43	569.60	806.78	5903
182.00	577.4	562.4	6181	6181	336.35	568.43	805.61	5903
184.00	583.4	568.4	6178	6178	335.27	567.25	804.44	5903
186.00	589.3	574.3	6175	6175	334.20	566.08	803.26	5903
188.00	595.2	580.2	6172	6172	333.12	564.90	802.08	5903
190.00	601.1	586.1	6169	6170	332.05	563.72	800.89	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
192.00	607.0	592.0	6166	6167	330.98	562.54	799.69	5903
194.00	612.9	597.9	6164	6164	329.92	561.35	798.50	5903
196.00	618.8	603.8	6161	6162	328.85	560.17	797.29	5903
198.00	624.7	609.7	6158	6159	327.79	558.98	796.09	5903
200.00	630.6	615.6	6156	6157	326.73	557.79	794.88	5903
202.00	636.5	621.5	6153	6154	325.67	556.61	793.66	5903
204.00	642.4	627.4	6151	6152	324.62	555.42	792.44	5903
206.00	648.3	633.3	6148	6149	323.57	554.23	791.22	5903
208.00	654.2	639.2	6146	6147	322.52	553.04	790.00	5903
210.00	660.1	645.1	6144	6145	321.47	551.85	788.77	5903
212.00	666.0	651.0	6141	6142	320.43	550.66	787.54	5903
214.00	671.9	656.9	6139	6140	319.39	549.47	786.31	5903
216.00	677.8	662.8	6137	6138	318.35	548.28	785.08	5903
218.00	683.7	668.7	6135	6136	317.32	547.09	783.84	5903
220.00	689.6	674.6	6133	6134	316.28	545.90	782.60	5903
222.00	695.5	680.5	6131	6132	315.26	544.71	781.36	5903
224.00	701.4	686.4	6129	6130	314.23	543.52	780.11	5903
226.00	707.3	692.3	6127	6128	313.21	542.33	778.87	5903
228.00	713.2	698.2	6125	6126	312.19	541.15	777.62	5903
230.00	719.1	704.1	6123	6124	311.18	539.96	776.38	5903
232.00	725.0	710.0	6121	6122	310.17	538.77	775.13	5903
234.00	730.9	715.9	6119	6120	309.16	537.59	773.88	5903
236.00	736.8	721.8	6117	6119	308.15	536.41	772.62	5903
238.00	742.7	727.7	6115	6117	307.15	535.22	771.37	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
240.00	748.6	733.6	6114	6115	306.15	534.04	770.12	5903
242.00	754.5	739.5	6112	6113	305.16	532.86	768.86	5903
244.00	760.4	745.4	6110	6112	304.17	531.68	767.61	5903
246.00	766.3	751.3	6108	6110	303.18	530.50	766.35	5903
248.00	772.2	757.2	6107	6108	302.20	529.33	765.10	5903
250.00	778.1	763.1	6105	6107	301.22	528.15	763.84	5903
252.00	784.0	769.0	6104	6105	300.24	526.98	762.58	5903
254.00	789.9	774.9	6102	6104	299.27	525.81	761.33	6099
256.00	796.0	781.0	6102	6103	298.19	524.47	759.83	7270
258.00	803.3	788.3	6111	6113	296.42	522.00	756.80	7270
260.00	810.6	795.6	6120	6123	294.66	519.56	753.80	7270
262.00	817.9	802.9	6129	6133	292.93	517.15	750.84	7270
264.00	825.1	810.1	6137	6142	291.22	514.76	747.91	7270
266.00	832.4	817.4	6146	6151	289.52	512.41	745.02	7270
268.00	839.7	824.7	6154	6160	287.85	510.08	742.16	7270
270.00	846.9	831.9	6162	6169	286.20	507.78	739.33	7270
272.00	854.2	839.2	6171	6178	284.57	505.50	736.53	7270
274.00	861.5	846.5	6179	6187	282.96	503.25	733.76	7270
276.00	868.7	853.7	6187	6195	281.37	501.02	731.02	7270
278.00	876.0	861.0	6194	6204	279.79	498.81	728.32	7270
280.00	883.3	868.3	6202	6212	278.23	496.63	725.63	7133
282.00	890.4	875.4	6209	6219	276.77	494.59	723.15	6097
284.00	896.5	881.5	6208	6218	275.84	493.41	721.84	6442
286.00	903.0	888.0	6209	6220	274.75	491.97	720.17	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
288.00	909.3	894.3	6210	6221	273.71	490.61	718.60	6353
290.00	916.1	901.1	6214	6225	272.47	488.91	716.57	6787
292.00	923.1	908.1	6220	6230	271.14	487.07	714.34	6973
294.00	929.4	914.4	6220	6231	270.14	485.77	712.84	6312
296.00	935.9	920.9	6222	6233	269.05	484.30	711.11	6536
298.00	942.2	927.2	6223	6233	268.10	483.05	709.69	6241
300.00	948.3	933.3	6222	6232	267.20	481.89	708.39	6130
302.00	954.5	939.5	6222	6232	266.28	480.70	707.04	6178
304.00	960.5	945.5	6220	6231	265.43	479.61	705.82	6035
306.00	966.4	951.4	6218	6229	264.64	478.61	704.74	5901
308.00	972.4	957.4	6217	6227	263.82	477.56	703.58	5973
310.00	978.4	963.4	6216	6226	262.98	476.48	702.38	6034
312.00	984.5	969.5	6215	6225	262.10	475.34	701.08	6131
314.00	990.7	975.7	6215	6225	261.20	474.15	699.73	6193
316.00	997.2	982.2	6216	6226	260.20	472.80	698.14	6449
318.00	1003.8	988.8	6219	6229	259.12	471.30	696.35	6660
320.00	1010.1	995.1	6220	6230	258.20	470.06	694.91	6296
322.00	1016.6	1001.6	6221	6231	257.23	468.76	693.38	6412
324.00	1023.0	1008.0	6222	6232	256.26	467.43	691.82	6441
326.00	1029.3	1014.3	6222	6232	255.37	466.23	690.43	6263
328.00	1035.5	1020.5	6222	6232	254.50	465.07	689.09	6216
330.00	1041.8	1026.8	6223	6233	253.60	463.86	687.68	6295
332.00	1048.1	1033.1	6224	6233	252.69	462.61	686.22	6351
334.00	1054.4	1039.4	6224	6233	251.82	461.43	684.85	6266

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
								6365
336.00	1060.7	1045.7	6225	6234	250.91	460.19	683.39	
								6453
338.00	1067.2	1052.2	6226	6236	249.97	458.90	681.86	
								6642
340.00	1073.8	1058.8	6229	6238	248.97	457.49	680.17	
								6766
342.00	1080.6	1065.6	6232	6241	247.92	456.01	678.37	
								6876
344.00	1087.5	1072.5	6235	6245	246.84	454.46	676.48	
								6660
346.00	1094.1	1079.1	6238	6248	245.86	453.07	674.79	
								6571
348.00	1100.7	1085.7	6240	6250	244.91	451.74	673.20	
								7330
350.00	1108.0	1093.0	6246	6256	243.67	449.92	670.92	
								7633
352.00	1115.7	1100.7	6254	6265	242.31	447.90	668.36	
								7311
354.00	1123.0	1108.0	6260	6271	241.11	446.13	666.13	
								7479
356.00	1130.5	1115.5	6267	6279	239.85	444.25	663.77	
								6904
358.00	1137.4	1122.4	6270	6282	238.82	442.77	661.94	
								6998
360.00	1144.4	1129.4	6274	6287	237.77	441.24	660.05	
								6979
362.00	1151.4	1136.4	6278	6291	236.73	439.73	658.19	
								9604
364.00	1161.0	1146.0	6296	6314	234.56	436.32	653.66	
								10535
366.00	1171.5	1156.5	6320	6344	231.96	432.16	648.08	
								14029
368.00	1185.5	1170.5	6362	6411	227.31	424.54	637.64	
								9707
370.00	1195.2	1180.2	6380	6433	225.28	421.31	633.35	
								8988
372.00	1204.2	1189.2	6394	6450	223.59	418.67	629.88	
								7268
374.00	1211.5	1196.5	6398	6454	222.58	417.17	628.00	
								6669
376.00	1218.2	1203.2	6400	6456	221.77	416.01	626.60	
								7199
378.00	1225.4	1210.4	6404	6460	220.80	414.57	624.80	
								7244
380.00	1232.6	1217.6	6408	6464	219.82	413.11	622.97	
								7141
382.00	1239.7	1224.7	6412	6468	218.88	411.72	621.23	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
384.00	1246.9	1231.9	6416	6471	217.96	410.34	619.52	7126
386.00	1254.5	1239.5	6422	6478	216.87	408.68	617.39	7666
388.00	1263.1	1248.1	6434	6491	215.45	406.46	614.49	8604
390.00	1271.8	1256.8	6445	6504	214.03	404.22	611.54	8687
392.00	1280.6	1265.6	6457	6518	212.58	401.94	608.55	8782
394.00	1289.7	1274.7	6471	6534	211.03	399.47	605.28	9126
396.00	1298.1	1283.1	6480	6544	209.78	397.52	602.72	8352
398.00	1306.5	1291.5	6490	6555	208.51	395.51	600.09	8467
400.00	1315.1	1300.1	6501	6567	207.20	393.45	597.39	8596
402.00	1324.1	1309.1	6513	6581	205.78	391.18	594.38	8992
404.00	1333.0	1318.0	6525	6594	204.42	389.02	591.52	8850
406.00	1342.4	1327.4	6539	6611	202.89	386.56	588.23	9402
408.00	1351.1	1336.1	6550	6623	201.61	384.51	585.52	8758
410.00	1360.1	1345.1	6562	6637	200.26	382.35	582.67	8978
412.00	1369.2	1354.2	6574	6651	198.91	380.18	579.78	9060
414.00	1378.9	1363.9	6589	6669	197.35	377.63	576.35	9741
416.00	1388.1	1373.1	6601	6683	196.00	375.46	573.46	9157
418.00	1397.3	1382.3	6614	6697	194.67	373.31	570.58	9175
420.00	1407.4	1392.4	6630	6718	193.04	370.62	566.95	10140
422.00	1418.0	1403.0	6649	6742	191.27	367.70	562.97	10593
424.00	1428.6	1413.6	6668	6765	189.55	364.84	559.07	10583
426.00	1438.5	1423.5	6683	6783	188.05	362.38	555.74	9970
428.00	1448.7	1433.7	6699	6803	186.53	359.87	552.33	10135
430.00	1458.2	1443.2	6713	6818	185.21	357.70	549.41	9563

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
								9242
432.00	1467.5	1452.5	6724	6832	184.01	355.73	546.77	
								9175
434.00	1476.7	1461.7	6736	6844	182.83	353.81	544.20	
								9505
436.00	1486.2	1471.2	6748	6859	181.58	351.75	541.42	
								9438
438.00	1495.6	1480.6	6761	6873	180.37	349.75	538.72	
								9541
440.00	1505.1	1490.1	6773	6887	179.14	347.72	535.98	
								10257
442.00	1515.4	1500.4	6789	6906	177.73	345.36	532.76	
								9609
444.00	1525.0	1510.0	6802	6921	176.52	343.35	530.04	
								10290
446.00	1535.3	1520.3	6817	6940	175.13	341.03	526.87	
								9072
448.00	1544.4	1529.4	6828	6950	174.10	339.32	524.58	
								9442
450.00	1553.8	1538.8	6839	6964	172.98	337.47	522.06	
								10443
452.00	1564.3	1549.3	6855	6983	171.61	335.16	518.89	
								10189
454.00	1574.4	1559.4	6870	7000	170.33	333.00	515.94	
								10111
456.00	1584.6	1569.6	6884	7017	169.09	330.91	513.09	
								10204
458.00	1594.8	1579.8	6899	7034	167.84	328.81	510.20	
								10095
460.00	1604.9	1589.9	6912	7050	166.64	326.78	507.43	
								8852
462.00	1613.7	1598.7	6921	7059	165.75	325.31	505.45	
								9532
464.00	1623.2	1608.2	6932	7071	164.72	323.57	503.08	
								9710
466.00	1632.9	1617.9	6944	7085	163.65	321.78	500.64	
								9913
468.00	1642.9	1627.9	6957	7099	162.56	319.92	498.09	
								10106
470.00	1653.0	1638.0	6970	7115	161.43	318.00	495.45	
								8050
472.00	1661.0	1646.0	6975	7119	160.75	316.90	493.99	
								9246
474.00	1670.3	1655.3	6984	7129	159.84	315.36	491.91	
								9625
476.00	1679.9	1664.9	6995	7142	158.86	313.70	489.63	
								9385
478.00	1689.3	1674.3	7005	7152	157.94	312.14	487.51	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
480.00	1698.1	1683.1	7013	7160	157.14	310.82	485.72	8806
482.00	1708.0	1693.0	7025	7174	156.14	309.10	483.35	9897
484.00	1717.7	1702.7	7036	7186	155.17	307.45	481.08	9749
486.00	1726.6	1711.6	7044	7194	154.39	306.14	479.31	8869
488.00	1735.8	1720.8	7053	7203	153.55	304.71	477.36	9250
490.00	1745.9	1730.9	7065	7217	152.55	302.99	474.98	10064
492.00	1755.1	1740.1	7074	7227	151.74	301.61	473.10	9193
494.00	1764.4	1749.4	7083	7236	150.92	300.21	471.18	9290
496.00	1773.3	1758.3	7090	7243	150.18	298.96	469.48	8881
498.00	1782.2	1767.2	7097	7251	149.44	297.70	467.75	8955
500.00	1791.6	1776.6	7106	7261	148.63	296.31	465.85	9341
502.00	1801.1	1786.1	7116	7271	147.80	294.89	463.90	9490
504.00	1811.0	1796.0	7127	7283	146.90	293.34	461.74	9910
506.00	1820.7	1805.7	7137	7295	146.04	291.85	459.68	9780
508.00	1830.1	1815.1	7146	7304	145.27	290.53	457.86	9323
510.00	1839.6	1824.6	7155	7314	144.48	289.15	455.95	9534
512.00	1849.1	1834.1	7164	7324	143.70	287.80	454.08	9476
514.00	1858.5	1843.5	7173	7333	142.93	286.47	452.24	9467
516.00	1867.8	1852.8	7181	7342	142.20	285.21	450.51	9270
518.00	1877.0	1862.0	7189	7350	141.50	284.00	448.84	9150
520.00	1886.4	1871.4	7198	7359	140.75	282.70	447.04	9478
522.00	1896.1	1881.1	7207	7369	139.97	281.34	445.15	9694
524.00	1905.2	1890.2	7214	7376	139.31	280.20	443.58	9026
526.00	1915.1	1900.1	7225	7388	138.52	278.81	441.63	9895

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
528.00	1925.0	1910.0	7235	7399	137.73	277.42	439.69	9901
530.00	1934.8	1919.8	7245	7410	136.95	276.06	437.79	9872
532.00	1943.7	1928.7	7251	7415	136.35	275.02	436.35	8834
534.00	1953.5	1938.5	7260	7426	135.60	273.70	434.51	9795
536.00	1963.5	1948.5	7271	7437	134.82	272.33	432.57	10050
538.00	1973.0	1958.0	7279	7446	134.14	271.12	430.89	9515
540.00	1983.2	1968.2	7290	7458	133.36	269.74	428.94	10146
542.00	1992.7	1977.7	7298	7467	132.68	268.54	427.27	9556
544.00	2002.1	1987.1	7306	7475	132.03	267.41	425.68	9375
546.00	2011.4	1996.4	7313	7482	131.41	266.31	424.15	9282
548.00	2020.7	2005.7	7320	7490	130.79	265.21	422.61	9319
550.00	2030.0	2015.0	7327	7497	130.17	264.12	421.09	9298
552.00	2039.2	2024.2	7334	7504	129.57	263.06	419.62	9220
554.00	2049.3	2034.3	7344	7515	128.85	261.77	417.79	10107
556.00	2059.8	2044.8	7355	7528	128.08	260.40	415.84	10443
558.00	2068.9	2053.9	7362	7534	127.51	259.39	414.43	9147
560.00	2078.7	2063.7	7370	7543	126.86	258.23	412.79	9758
562.00	2088.0	2073.0	7377	7550	126.28	257.19	411.33	9338
564.00	2097.6	2082.6	7385	7558	125.67	256.10	409.79	9562
566.00	2107.3	2092.3	7393	7567	125.03	254.97	408.18	9771
568.00	2117.1	2102.1	7402	7576	124.40	253.84	406.59	9787
570.00	2126.5	2111.5	7409	7583	123.84	252.83	405.16	9350
572.00	2136.0	2121.0	7416	7591	123.25	251.79	403.69	9528
574.00	2146.1	2131.1	7425	7601	122.60	250.60	402.00	10103

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
576.00	2155.9	2140.9	7434	7609	122.00	249.53	400.47	9740
578.00	2165.1	2150.1	7440	7616	121.47	248.58	399.14	9223
580.00	2174.6	2159.6	7447	7623	120.91	247.57	397.71	9523
582.00	2184.7	2169.7	7456	7633	120.28	246.42	396.06	10137
584.00	2194.8	2179.8	7465	7643	119.66	245.30	394.47	10036
586.00	2204.4	2189.4	7472	7650	119.11	244.30	393.03	9625
588.00	2213.6	2198.6	7478	7656	118.60	243.40	391.76	9186
590.00	2223.3	2208.3	7486	7664	118.04	242.38	390.31	9728
592.00	2232.6	2217.6	7492	7670	117.55	241.48	389.03	9253
594.00	2242.1	2227.1	7499	7677	117.02	240.52	387.67	9548
596.00	2252.1	2237.1	7507	7686	116.44	239.48	386.17	9952
598.00	2261.3	2246.3	7513	7691	115.97	238.61	384.94	9185
600.00	2270.5	2255.5	7518	7697	115.48	237.73	383.69	9287
602.00	2279.7	2264.7	7524	7702	115.01	236.89	382.49	9140
604.00	2289.4	2274.4	7531	7710	114.49	235.93	381.11	9712
606.00	2299.5	2284.5	7539	7719	113.93	234.90	379.63	10058
608.00	2309.1	2294.1	7546	7726	113.42	233.97	378.29	9656
610.00	2319.6	2304.6	7556	7737	112.82	232.86	376.69	10472
612.00	2330.1	2315.1	7566	7747	112.22	231.77	375.10	10478
614.00	2341.0	2326.0	7576	7760	111.58	230.58	373.37	10927
616.00	2351.5	2336.5	7586	7770	111.00	229.49	371.79	10533
618.00	2361.8	2346.8	7595	7780	110.44	228.46	370.29	10334
620.00	2372.7	2357.7	7605	7792	109.83	227.33	368.63	10825
622.00	2383.2	2368.2	7615	7802	109.26	226.27	367.09	10530

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
624.00	2393.7	2378.7	7624	7812	108.70	225.24	365.59	10458
626.00	2404.3	2389.3	7634	7823	108.14	224.18	364.05	10631
628.00	2414.9	2399.9	7643	7833	107.57	223.13	362.51	10642
630.00	2425.2	2410.2	7651	7842	107.05	222.16	361.10	10285
632.00	2435.4	2420.4	7660	7851	106.54	221.22	359.72	10216
634.00	2445.4	2430.4	7667	7858	106.06	220.32	358.42	10003
636.00	2455.3	2440.3	7674	7866	105.60	219.46	357.17	9878
638.00	2465.5	2450.5	7682	7874	105.11	218.55	355.84	10141
640.00	2475.7	2460.7	7690	7882	104.62	217.63	354.50	10221
642.00	2485.9	2470.9	7697	7890	104.14	216.73	353.18	10204
644.00	2496.5	2481.5	7707	7900	103.61	215.75	351.74	10628
646.00	2507.1	2492.1	7716	7910	103.10	214.77	350.31	10635
648.00	2517.6	2502.6	7724	7919	102.61	213.85	348.96	10409
650.00	2527.6	2512.6	7731	7927	102.15	213.00	347.71	10086
652.00	2538.2	2523.2	7740	7936	101.65	212.06	346.33	10573
654.00	2549.2	2534.2	7750	7947	101.12	211.05	344.84	10984
656.00	2560.2	2545.2	7760	7959	100.59	210.04	343.34	11038
658.00	2571.4	2556.4	7770	7970	100.05	209.03	341.83	11132
660.00	2581.9	2566.9	7778	7979	99.58	208.14	340.52	10499
662.00	2592.4	2577.4	7787	7988	99.11	207.25	339.21	10553
664.00	2602.5	2587.5	7794	7995	98.68	206.44	338.02	10092
666.00	2612.6	2597.6	7801	8002	98.26	205.65	336.86	10069
668.00	2622.6	2607.6	7807	8009	97.85	204.87	335.71	10020
670.00	2633.1	2618.1	7815	8018	97.40	204.02	334.46	10463

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
								10308
672.00	2643.4	2628.4	7823	8025	96.97	203.21	333.25	10344
674.00	2653.7	2638.7	7830	8033	96.54	202.39	332.05	10358
676.00	2664.1	2649.1	7838	8041	96.12	201.58	330.84	10257
678.00	2674.3	2659.3	7845	8049	95.70	200.80	329.68	10589
680.00	2684.9	2669.9	7853	8057	95.26	199.96	328.43	10760
682.00	2695.7	2680.7	7861	8066	94.81	199.10	327.15	10229
684.00	2705.9	2690.9	7868	8074	94.41	198.34	326.02	10628
686.00	2716.5	2701.5	7876	8082	93.98	197.51	324.79	10301
688.00	2726.8	2711.8	7883	8090	93.58	196.75	323.66	10557
690.00	2737.4	2722.4	7891	8098	93.17	195.95	322.47	10118
692.00	2747.5	2732.5	7897	8104	92.79	195.23	321.39	10172
694.00	2757.7	2742.7	7904	8111	92.41	194.50	320.31	10495
696.00	2768.2	2753.2	7911	8119	92.00	193.73	319.16	11054
698.00	2779.2	2764.2	7920	8129	91.56	192.87	317.88	10781
700.00	2790.0	2775.0	7929	8138	91.14	192.07	316.67	10666
702.00	2800.7	2785.7	7936	8146	90.74	191.29	315.51	10533
704.00	2811.2	2796.2	7944	8154	90.35	190.54	314.38	10820
706.00	2822.0	2807.0	7952	8163	89.94	189.75	313.19	10809
708.00	2832.8	2817.8	7960	8171	89.53	188.97	312.02	10923
710.00	2843.8	2828.8	7968	8180	89.12	188.17	310.82	10941
712.00	2854.7	2839.7	7977	8189	88.71	187.38	309.63	10405
714.00	2865.1	2850.1	7984	8196	88.35	186.68	308.58	11080
716.00	2876.2	2861.2	7992	8206	87.94	185.88	307.37	10843
718.00	2887.0	2872.0	8000	8214	87.55	185.12	306.23	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
720.00	2897.7	2882.7	8007	8222	87.17	184.40	305.14	10643
722.00	2908.1	2893.1	8014	8229	86.82	183.71	304.11	10436
724.00	2919.0	2904.0	8022	8238	86.44	182.97	302.99	10876
726.00	2929.6	2914.6	8029	8245	86.07	182.27	301.92	10639
728.00	2940.1	2925.1	8036	8252	85.72	181.58	300.89	10517
730.00	2951.1	2936.1	8044	8261	85.34	180.84	299.77	10969
732.00	2961.5	2946.5	8051	8268	85.00	180.19	298.78	10408
734.00	2972.1	2957.1	8058	8275	84.66	179.51	297.76	10586
736.00	2982.9	2967.9	8065	8283	84.30	178.81	296.70	10796
738.00	2993.6	2978.6	8072	8290	83.95	178.12	295.66	10741
740.00	3004.5	2989.5	8080	8298	83.59	177.43	294.60	10838
742.00	3015.1	3000.1	8086	8305	83.25	176.77	293.61	10580
744.00	3025.4	3010.4	8092	8311	82.94	176.15	292.67	10330
746.00	3036.1	3021.1	8099	8319	82.60	175.50	291.67	10676
748.00	3046.7	3031.7	8106	8326	82.27	174.85	290.69	10637
750.00	3057.1	3042.1	8112	8332	81.95	174.23	289.75	10416
752.00	3067.9	3052.9	8120	8339	81.62	173.57	288.74	10811
754.00	3077.9	3062.9	8124	8344	81.33	173.01	287.91	9973
756.00	3088.4	3073.4	8131	8351	81.02	172.41	286.98	10460
758.00	3099.1	3084.1	8138	8358	80.69	171.76	286.00	10775
760.00	3110.0	3095.0	8145	8365	80.36	171.12	285.01	10818
762.00	3121.3	3106.3	8153	8374	80.01	170.41	283.94	11300
764.00	3132.8	3117.8	8162	8384	79.64	169.69	282.83	11495
766.00	3144.5	3129.5	8171	8395	79.26	168.94	281.67	11775

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
768.00	3155.7	3140.7	8179	8403	78.93	168.27	280.65	11161
770.00	3166.4	3151.4	8186	8410	78.62	167.66	279.71	10740
772.00	3177.4	3162.4	8193	8417	78.30	167.04	278.75	10917
774.00	3187.8	3172.8	8198	8423	78.01	166.47	277.90	10401
776.00	3198.9	3183.9	8206	8431	77.69	165.83	276.91	11116
778.00	3209.0	3194.0	8211	8436	77.42	165.31	276.11	10149
780.00	3219.6	3204.6	8217	8442	77.13	164.73	275.23	10596
782.00	3230.0	3215.0	8223	8448	76.86	164.19	274.39	10419
784.00	3240.3	3225.3	8228	8453	76.59	163.65	273.57	10309
786.00	3250.7	3235.7	8233	8459	76.31	163.12	272.75	10349
788.00	3262.1	3247.1	8241	8467	75.99	162.47	271.75	11395
790.00	3272.8	3257.8	8248	8474	75.70	161.90	270.88	10718
792.00	3283.1	3268.1	8253	8479	75.44	161.38	270.08	10328
794.00	3293.7	3278.7	8259	8485	75.16	160.83	269.24	10608
796.00	3304.6	3289.6	8265	8492	74.88	160.27	268.36	10820
798.00	3314.5	3299.5	8269	8496	74.64	159.79	267.64	9952
800.00	3325.6	3310.6	8276	8503	74.35	159.21	266.74	11036
802.00	3336.4	3321.4	8283	8510	74.07	158.65	265.87	10847
804.00	3346.6	3331.6	8288	8514	73.82	158.16	265.12	10203
806.00	3357.9	3342.9	8295	8522	73.52	157.57	264.20	11270
808.00	3367.8	3352.8	8299	8526	73.29	157.11	263.49	9960
810.00	3378.4	3363.4	8305	8532	73.03	156.60	262.70	10526
812.00	3389.1	3374.1	8311	8538	72.77	156.06	261.88	10774
814.00	3399.1	3384.1	8315	8542	72.54	155.61	261.18	10007

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
816.00	3410.2	3395.2	8321	8549	72.26	155.06	260.32	11024
818.00	3420.7	3405.7	8327	8554	72.01	154.56	259.56	10490
820.00	3432.1	3417.1	8334	8562	71.72	153.97	258.63	11483
822.00	3443.2	3428.2	8341	8569	71.45	153.42	257.79	11050
824.00	3452.7	3437.7	8344	8572	71.25	153.03	257.18	9509
826.00	3463.6	3448.6	8350	8578	70.99	152.50	256.36	10940
828.00	3474.0	3459.0	8355	8583	70.75	152.04	255.64	10375
830.00	3484.7	3469.7	8361	8589	70.50	151.54	254.86	10736
832.00	3495.9	3480.9	8368	8596	70.24	151.00	254.02	11155
834.00	3506.1	3491.1	8372	8600	70.01	150.56	253.34	10183
836.00	3515.6	3500.6	8375	8602	69.83	150.18	252.76	9470
838.00	3526.4	3511.4	8381	8608	69.58	149.68	251.98	10880
840.00	3537.6	3522.6	8387	8615	69.32	149.16	251.16	11121
842.00	3548.7	3533.7	8394	8622	69.06	148.63	250.34	11187
844.00	3560.1	3545.1	8401	8630	68.79	148.09	249.49	11379
846.00	3571.4	3556.4	8408	8637	68.53	147.56	248.66	11325
848.00	3583.3	3568.3	8416	8646	68.24	146.98	247.75	11832
850.00	3594.7	3579.7	8423	8654	67.97	146.44	246.91	11474
852.00	3606.2	3591.2	8430	8661	67.71	145.92	246.08	11409
854.00	3618.3	3603.3	8439	8671	67.42	145.32	245.14	12167
856.00	3631.0	3616.0	8449	8683	67.10	144.67	244.11	12706
858.00	3642.6	3627.6	8456	8691	66.84	144.14	243.28	11582
860.00	3654.3	3639.3	8464	8699	66.57	143.60	242.42	11717
862.00	3665.8	3650.8	8471	8707	66.32	143.08	241.61	11519

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
864.00	3677.8	3662.8	8479	8715	66.04	142.53	240.74	11918
866.00	3689.6	3674.6	8486	8724	65.78	141.99	239.89	11824
868.00	3701.8	3686.8	8495	8733	65.50	141.42	238.99	12181
870.00	3713.8	3698.8	8503	8742	65.23	140.87	238.13	11990
872.00	3725.0	3710.0	8509	8749	65.00	140.40	237.39	11189
874.00	3736.8	3721.8	8517	8757	64.74	139.88	236.55	11851
876.00	3748.1	3733.1	8523	8764	64.51	139.40	235.80	11335
878.00	3759.9	3744.9	8530	8772	64.26	138.89	235.00	11729
880.00	3771.8	3756.8	8538	8780	64.00	138.37	234.17	11956
882.00	3784.3	3769.3	8547	8790	63.73	137.80	233.27	12484
884.00	3796.7	3781.7	8556	8800	63.46	137.25	232.39	12385
886.00	3808.6	3793.6	8563	8808	63.21	136.74	231.58	11909
888.00	3820.8	3805.8	8572	8818	62.95	136.21	230.74	12227
890.00	3833.2	3818.2	8580	8827	62.68	135.67	229.88	12341
892.00	3845.1	3830.1	8588	8835	62.44	135.17	229.09	11912
894.00	3856.4	3841.4	8594	8841	62.23	134.73	228.39	11285
896.00	3868.2	3853.2	8601	8849	61.99	134.25	227.63	11787
898.00	3880.1	3865.1	8608	8857	61.75	133.76	226.85	11972
900.00	3892.2	3877.2	8616	8866	61.51	133.26	226.05	12121
902.00	3904.4	3889.4	8624	8875	61.26	132.76	225.25	12193
904.00	3915.9	3900.9	8630	8881	61.05	132.31	224.55	11510
906.00	3927.9	3912.9	8638	8889	60.82	131.84	223.79	11946
908.00	3940.4	3925.4	8646	8899	60.56	131.32	222.96	12521
910.00	3953.4	3938.4	8656	8910	60.29	130.76	222.06	13016

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB FT	VERTICAL DEPTH FROM SRD FT	AVERAGE VELOCITY SRD/GEO FT/S	RMS VELOCITY FT/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY FT/S
								12490
912.00	3965.9	3950.9	8664	8919	60.05	130.25	221.25	12330
914.00	3978.2	3963.2	8672	8928	59.81	129.76	220.46	12384
916.00	3990.6	3975.6	8680	8937	59.57	129.26	219.68	11715
918.00	4002.3	3987.3	8687	8944	59.36	128.83	218.98	12239
920.00	4014.6	3999.6	8695	8953	59.13	128.35	218.22	11706
922.00	4026.3	4011.3	8701	8960	58.92	127.92	217.54	11562
924.00	4037.9	4022.9	8707	8966	58.72	127.51	216.87	11760
926.00	4049.6	4034.6	8714	8973	58.51	127.08	216.19	12173
928.00	4061.8	4046.8	8722	8981	58.29	126.62	215.46	11930
930.00	4073.7	4058.7	8728	8989	58.08	126.19	214.76	11558
932.00	4085.3	4070.3	8735	8995	57.88	125.79	214.11	12006
934.00	4097.3	4082.3	8742	9002	57.67	125.35	213.42	13637
936.00	4110.9	4095.9	8752	9015	57.40	124.79	212.51	12397
938.00	4123.3	4108.3	8760	9023	57.18	124.33	211.78	11011
940.00	4134.3	4119.3	8765	9028	57.01	123.98	211.21	12939
942.00	4147.3	4132.3	8773	9038	56.77	123.48	210.42	17206
944.00	4164.5	4149.5	8791	9063	56.35	122.61	208.99	

PE604158

This is an enclosure indicator page.
The enclosure PE604158 is enclosed within the container PE905299 at this location in this document.

The enclosure PE604158 has the following characteristics:

ITEM_BARCODE	= PE604158
CONTAINER_BARCODE	= PE905299
NAME	= Drift Corrected Sonic
BASIN	= OTWAY
PERMIT	= PEP 100
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Drift Corrected Sonic Tirrengowa-1. Enclosure from Sonic Calibration Report.
REMARKS	=
DATE_CREATED	= 02/04/1987
DATE_RECEIVED	= 24/06/1987
W_NO	= W954
WELL_NAME	= Tirrengowa-1
CONTRACTOR	= Schlumberger
CLIENT_OP_CO	= Hartogen Energy Limited

(Inserted by DNRE - Vic Govt Mines Dept)

PE604159

This is an enclosure indicator page.
The enclosure PE604159 is enclosed within the container PE905299 at this location in this document.

The enclosure PE604159 has the following characteristics:

ITEM_BARCODE	= PE604159
CONTAINER_BARCODE	= PE905299
NAME	= Seismic Calibration Log
BASIN	= OTWAY
PERMIT	= PEP 100
TYPE	= WELL
SUBTYPE	= VELOCITY_CHART
DESCRIPTION	= Seismic Calibration Log (Adjusted Continuous Velocity Log) Tirrengowa-1. Enclosure from Sonic Calibration Report.
REMARKS	=
DATE_CREATED	= 02/04/1987
DATE_RECEIVED	= 24/06/1987
W_NO	= W954
WELL_NAME	= Tirrengowa-1
CONTRACTOR	= Schlumberger
CLIENT_OP_CO	= Hartogen Energy Limited

(Inserted by DNRE - Vic Govt Mines Dept)