WCR VOL 1

SHARK-1 (W1013)

SHELL AUSTRALIA E. & P. OIL AND GAS

SDA 937

SHARK-1
WELL COMPLETION REPORT
GIPPSLAND BASIN
~~VIC/P22~~

VOLUME 1
BASIC DATA

SOUTHERN TEAM/PETROLEUM
ENGINEERING/DRILLING
OPERATIONS

MARCH 1990

Keywords : Exploration, casing, cement, mud log, wireline, sidewall core, velocity survey, deviation, lithological,

SHELL COMPANY OF AUSTRALIA
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ENCLOSURES

1. Mud Log

1. INTRODUCTION

Shark-1 was drilled by the semi-submersible drilling unit the "Zapata Arctic". Operations commenced on 22 October, 1989 when the rig was handed over at the conclusion of the Petrofina well, Anemone-1. The rig proceeded under its own power to the Shark-1 location (Fig. 1); and the well was spudded on 25 October, 1989. The total depth of 3518m was reached after a total of 33.81 days drilling. No serious drilling problems were encountered, although a total of 1.52 days were lost repairing malfunctions in the BOP control systems.

The well was plugged and abandoned on 8 December, 1989. The total time taken to complete the well was 47.1 days, 1 day ahead of schedule (Fig. 2).

2. WELL DATA

Note: All Depths in this report are measured below derrick floor (bdf) unless stated otherwise.

Well :	Shark-1
Well Type :	Exploration
Permit :	VIC/P22
Operator :	The Shell Company of Australia Ltd (45%)
Joint Venture Partners :	Ampol Exploration Ltd (30%) Santos Ltd (25%)
Location :	Latitude 38° 15'34.33" S Longitude 149° 03'07.50" E
Drilling Contractor :	Zapata Off-Shore Company
Drilling Unit :	Zapata Arctic (Semi-Submersible)
Permanent Datum :	Mean Sea Level (msl)
Drill Floor Elevation :	28.4m above msl
Water Depth :	319.6m
Total Depth :	3518.0m bdf
Start of Operations :	1600 hours 22 October, 1989
Spudded :	1500 hours 25 October, 1989
Drilling Completed :	0830 hours 28 November, 1989
Rig Released :	1900 hours 8 December, 1989
Total Days :	47.1 (start operations to rig release)
Total Cost :	A$ 8.3 million
Final Well Status :	Plugged and Abandoned

2. WELL DATA (cont.)

Hole size and depth :	36"	to 408m
	26"	to 694m
	17 1/2"	to 1210m
	12 1/4"	to 2235m
	8 1/2"	to 3518m
Casing Summary :	Top 18 3/4" Vetco SG5 wellhead at 345m bdf	
	30"	to 406m
	20"	to 684m
	13 3/8"	to 1198m
	9 5/8"	to 2229m

Wireline Logging :

Suite 1

DLL-SLS-GR-CAL (GR to seabed)	1204-685m

Suite 2

a) DLL-BCSL-LDL-CNL-GR-MSFL-CAL-AM	2194 - 1200m (CNL & MSFL to 1750m)
b) SHDT-GR	2200 - 1750m
c) CST-GR	Shot 21, Recovered 21, Misfired 9

Suite 3

a) DLL-BCSL-LDL-CNL-GR-MSFL-CAL-AMS	3519 - 2230m (CNL-GR to 2170m)
b) SHDT-GR	3522 - 2230m
c) WST	3518 - 700m (20 levels)
d) CST	Shot 60, Recovered 51, Lost 6, Empty 3.

Wireline Logging Contractor : Schlumberger Seaco Inc.

Production Testing : None Performed

Abandonment Plugs :

Plug 1	3510 - 3300m
Plug 2	2980 - 2895m
Plug 3	2280 - 2170m
Plug 4 EZSV BP	2140m
Plug 5	630 - 530m
Plug 6 EZSV BP	495m
Plug 7	360 - Seabed

3. DRILLING OPERATIONS

3.1 Site Survey

Associated Surveys International Pty. Ltd. performed a bathymetric and side scan sonar site investigation at the Shark-A location (Fig. 1). This was carried out between 30 May and 10 June, 1989 aboard the survey vessel "M.T. Wongara". The site surveyed was an area of 2,000 square metres centred on latitude 38°15'34.3"S, longitude 149°03'07.0"E, using three Syledis shore stations for position determination.

The bathymetric survey revealed the seabed to be sloping steeply to the south, with water depths varying from 195m in the north to 440m in the south. In the vicinity of the proposed location the slope was found to be approximately 1:10, generally dipping to the southwest. The seafloor was smooth and featureless. The side scan sonar survey indicated the majority of the area to consist of sand, with around 30% of the area comprising low rocky outcrops. No hazards were found and adequate sand for anchoring purposes was observed towards the perimeter of the surveyed area.

3.2 Rig Navigation & Positioning

Associated Surveys International Pty. Ltd. was contracted to position the "Zapata Arctic" on location at Shark-A using a Syledis Radio Positioning System coupled to a Minitrac Navigation computer. Final rig position was confirmed by G.P.S. Satellite Positioning.

The final location results were:

	Easting	Northing	Latitute	Longitude
Syledis	679534.7	5763370.3	38°15'34.72"S	149°03' 07.28"E
G.P.S.	679540.3	5763382.3	38°15'34.33"S	149°03' 07.50"E

The G.P.S. position was taken as the correct final position.

3.3 Drilling Operations Summary

Rig Move

The semi submersible drilling unit "Zapata Arctic" was released from contract to Petrofina Exploration Australia after racking the last anchor at 1600 hours on 22 October, 1989. It proceeded under its own power from the Anemone-1 location to the Shark-A location in 15 1/2 hours, a distance of 144 kilometers. After a brief delay due to problems with the position locating equipment onshore, the anchors were run and tensioned and the rig ballasted to its drilling draft by 0300 hours on 25 October. A pre-spud safety meeting was held and emergency shut down equipment was tested prior to spudding.

36" hole for 30" casing

A 26" bit, with a 36" hole opener was used to drill this phase. The seabed was tagged at 348m and Shark-1 spudded at 1500 hours on 25 October, 1989. The 36" hole was drilled to 408m in 3 1/2 hours.

Five joints of grade B 30" casing with Vetco ATD couplings, were run to 406m. The casing was cemented with 1120 sacks (94 lbs) of Class G cement with 1% CaCl2 by weight of cement (BWOC) mixed with seawater to an average slurry specific gravity of 1.90. Due to strong currents the ROV could not confirm cement returns so the cement stinger was stabbed into the annulus. Cement was found at sea-bed, and tested with 2670 daN.

26" hole for 20" casing

The cement and 30" shoe were drilled out with a 26" bit, then an 8 1/2" bit was run and a pilot hole drilled to 694m. The 26" bit was rerun and the hole opened to 694m.

After displacing the hole with high viscosity mud, 28 joints of X-56 20" casing, with Vetco LS connections, and a Vetco 18 3/4" SG-5 wellhead housing were run to 684m. The casing was cemented with a lead slurry of 1304 sacks of Class G cement mixed with seawater containing 1% $CaCl_2$ BWOC and 3.5% Econolite v/v mixwater to give slurry of 1.50 sg, and a tail slurry of 435 sacks of neat Class G cement mixed with seawater to give slurry of 1.90 sg.

The BOPs failed surface tests initially, and after being repaired tested and run, a leak was found in the hydraulic supply line conduits. After pulling, repairing and rerunning, the BOPs were nippled up and tested on all functions. The 20" casing was tested to 6900 kPa.

17 1/2" hole for 13 3/8" casing

A 17 1/2", bit on a slick BHA, drilled out the cement and shoe, and then drilled to 700m. The hole was displaced with a seawater-gel-polymer mud and a formation intake test was performed. A shoe strength gradient of 14.40 kPa/m (1.47 sg equivalent mud) was determined. The bit was pulled and rerun with a stiff BHA and the 17 1/2" hole drilled to 1210m. After a wiper trip to the shoe, the bit was pulled and Schlumberger ran wireline logs.

73 joints of K-55 grade, 68 lb/ft 13 3/8" casing with buttress couplings were run to 1198m. The casing was cemented with a lead slurry of 690 sacks of Class G cement mixed with seawater containing 3.5% Econolite v/v mixwater to give an average slurry of 1.5 sg, and a tail slurry of 435 sacks of neat Class G cement mixed with seawater to give a slurry of 1.90 sg. The plug was bumped with 21380 kPa and held for 15 minutes. After testing the BOPs a gyroscopic deviation survey was run inside the 13 3/8" casing from 1173m.

12 1/4" hole for 9 5/8" casing

After drilling the 13 3/8" shoe track and drilling to 1210m with a 12 1/4" bit, a formation intake test was performed. There was no leak-off at a shoe strength gradient of 18.81 kPa/m (1.92 sg equivalent mud density). The 12 1/4" hole was then drilled to 2235m using 3 bits.

During the first bit run of this phase high torque and overpull on connections of up to 22,250 daN were encountered between 1395m and 1518m. During the bit trip at 1518m, tight hole was encountered from 1475m to 1361m requiring 44,500 daN overpull to clear. Mud rings were a problem once the bit was in the casing, causing 17,800 daN of drag on the trip out and 8900 daN drag and blocking of the bit nozzles on the trip back in.

A PDC bit was run as the second bit and these problems were minimised by reaming and washing connections, circulating excess cuttings from the hole and wiper trips. Tight hole problems were still encountered from 2000m to 2050m where high torque continually stalled the rotary table and 22,250 daN overpull was required to make connections. A wiper trip cleared this section.

At 2202m the PDC bit stopped drilling and so it was pulled and Schlumberger logged. Another bit was run to locate a better casing seat and drilled to 2235m, 9m into a shale formation. Here 160 joints of L-80 grade, 47 lb/ft, 9 5/8" casing with buttress couplings were run. The casing took weight at 2216m so was circulated and worked to 2229m. It was cemented with 1222 sacks of Class G cement mixed with fresh water containing 5.2% Halad 322L and 0.7% HR6-L to give a slurry of 1.90 sg. The calculated top of cement was 1300m. The plug did not bump after over-displacement of 50% of the shoe track volume. (On drilling out it was found to be 1m above the float collar). A gyroscopic deviation survey was run in the 9 5/8" casing from 2018m. The BOPs and surface equipment were pressure tested on all functions.

8 1/2" hole

An 8 1/2" bit was run and drilled a cement bridge at 2063m then was washed and run to 2201m from where hard cement was drilled. After drilling the float collar, the 9 5/8" casing was tested to 21,440 kPa. The shoe and 6m of formation were drilled and a formation intake test performed at 2241m indicating a shoe strength gradient of 17.54 kPa/m (1.79 sg equivalent mud).

The 8 1/2" hole was drilled to a total depth of 3518m, using 5 drill bits over 13 days. The first bit was pulled at 2319m due to high torque and overpull on connections. Gouging of drill collars and metal in the cuttings suggested this was partially due to junk in the hole. The second bit was pulled at 2678m, due to a washout in the body of a joint of drill pipe and the roller reamer was found to be significantly worn on its lower half. The next bit, a PDC bit, was pulled at 2885m due to high torque and overpull on connections, but was found to be in gauge, though the near bit stabiliser was 20 mm undergauge. A long bladed, near bit stabiliser (with blades starting 75 mm above the bit) was run with

subsequent bits which alleviated problems. A tri-cone bit was run next, then the PDC bit was rerun at 3079m. Difficulty in restarting drilling after a connection required a wiper trip. The bit was pulled at 3232m when it could not be restarted after circulating. A second PDC drilled to T.D., 3518m, without problems. Schlumberger then logged.

3.4 Abandonment (Fig.3)

On evaluation of all data it was decided to plug and abandon Shark-1. Plug 1 was set from 3510m to 3300m. Plug 2 was set from 2980m to 2895m. After tagging Plug 2, Plug 3 was set from 2280m to 2170m, across the 9 5/8" casing shoe. Plug 3 was tagged and pressure tested to 20,690 kPa. Schlumberger ran a gauge ring and junk basket prior to setting an EZSV bridge plug, Plug 4, at 2140m. A Pengo cutter was run and the 9 5/8" casing cut at 580m. Nineteen and a half joints of 9 5/8" casing were retrieved, with a casing spear, then Plug 5 was set from 630m to 530m across the top of the remaining 9 5/8" casing. After pressure testing the plug to 10,340 kPa, Schlumberger ran a gauge ring and junk basket then set Plug 6, an EZSV bridge plug, at 495m.

The BOPs and riser were pulled and two unsuccessful attempts were made to cut the remaining casings with explosives. The 13 3/8" casing was cut at 360m and pulled with a casing spear, but a Vetco mechanical casing cutter was required to cut the 20" and 30" casings. These were cut at 353m and 352m respectively, and pulled seperately. After the 30" casing and PGB were lifted 1m, Plug 7 was set from 360m to sea-bed. Once the 30" casing stub and PGB were retrieved, pulling anchors commenced.

After 3 days of anchor handling the final anchor was pulled, and the Zapata Arctic was released from contract to Shell, at 1900 hours on 8 December 1989.

4. **CASING RECORD**

SIZE (inches)	WEIGHT (lbs/ft)	GRADE	COUPLING	LENGTH (m)	SHOE	NO.JOINTS	REMARKS (m)
30	310 (1" W.T.)	B	V-ATD	60.56	406	5	Plus PGB
20	129	X-56	V-LS	333.50	684	28	Plus 18 3/4" SG5 wellhead
13 3/8	68	K-55	BTC	853.37	1198	73	
9 5/8	47	L-80	BTC	1883.70	2229	158	

5. CEMENTING DATA

JOB	SACKS (94lb)	MIXWATER	SLURRY WEIGHT (SG)	VOLUME OF SLURRY (cubic m)	TOC (m)	REMARKS
Casing Cementations :						
30"	1120	S/W with 1% CaCl2 BWOC	1.90	38.11	Seabed	200% excess
20"	1304	S/W with 1% CaCl2 BWOC 3.5% Econolite V/V MW	1.50	76.11	Seabed	Lead slurry 100% excess
	435	S/W	1.90	14.16		Tail slurry
13 3/8"	690	S/W with 3.5% Econolite V/V MW	1.50	42.23	535	Lead slurry 20% excess
	435	S/W	1.90	14.16		Tail slurry
9 5/8"	1222	D/W with 5.2% Halad 322L 0.7% HR6-L	1.90	39.87	1300	10% excess on caliper
Abandonment Plugs :						
Plug 1	232	D/W with 0.8% HR6-L	1.90	7.58	3300	
Plug 2	117	D/W with 0.8% HR6-L	1.90	3.82	2895	Tagged
Plug 3	125	D/W with 0.7% HR6-L	1.90	4.07	2170	Tagged and tested
Plug 5	178	S/W	1.90	5.81	530	Tested
Plug 7	75	S/W	1.90	2.44	Seabed	

6. FORMATION EVALUATION

6.1 Mudlogging Services (Appendix 1)

Geoservices carried out real time evaluation and description of formations during drilling, using their computerised Advanced Logging System. Gas was extracted from the mud and its relative concentration measured. It was also analysed by a Flame Ionisation Detector (FID) chromatograph, which could detect concentrations of gas above 0.001%. Cuttings were routinely examined in a fluoroscope for direct and cut hydrocarbon shows. Detailed records and interpretations of overpressure parameters were kept. This data was them transmitted to Shell's Melbourne office for further examination. Cuttings samples were caught, washed, dried and bagged and distributed as follows:

6 sets of washed and air dried samples;
- 2 sets to Shell
- 1 set to Ampol Exploration
- 1 set to Santos Ltd
- 1 set to BMR
- 1 set to DITR

1 set of unwashed and air dried samples for Shell
1 set of Samplex trays for Shell

6.2 Wireline Logging

Schlumberger ran logs in the 17 1/2", 12 1/4" and 8 1/2" phases for definitive formation evaluation. The logging programme provided for CSTs and RFTs in both the 12 1/4" and 8 1/2" phases, depending on evaluation of data already collected. Of these only CSTs were run.

A Super Combo configuration of logging tools was run in all phases considerably reducing logging time.

6.3 Sidewall Core Samples (Appendix 2)

A total of 81 sidewall cores were attempted in Shark-1. 72 cores were recovered, 9 shots misfired, 6 bullets were lost and 3 bullets were empty.

6.4 Velocity Survey (Appendix 3)

A velocity survey was carried out at TD. A total of 20 levels were shot.

7. TOTCO DEVIATION RECORD

SURVEY NO	DEPTH (m)	INCLINATION (deg)
1	404	0.75
2	560	0.00
3	693	0.25
4	851	0.25
5	1007	0.75
6	1210	0.50
7	1361	0.75
8	1510	0.75
9	1660	1.00
10	1810	1.50
11	1960	1.25
12	2110	1.25
13	2193	2.00
14	2223	1.25
15	2307	1.50
16	2454	1.25
17	2604	1.25
18	2754	1.00
19	2832	1.00
20	2990	2.00
21	3073	3.25
22	3222	2.75
23	3370	2.00
24	3504	0.00

8. GYROSCOPIC DEVIATION SURVEY RECORD
(Performed in 9-5/8 inch casing)

DEPTH (m bdf)	INCLINATION (deg)	AZIMUTH (deg)	NORTH (m)	EAST (m)	TVD (m bdf)	DLS (deg/30m
0.00	0.00	0.00	0.00	0.00	0.00	0.00
342.00	0.00	0.00	0.00	0.00	342.00	0.00
344.00	0.08	127.00	-0.00	0.00	344.00	1.20
374.00	0.34	324.00	0.06	-0.03	374.00	0.42
404.00	0.52	298.00	0.19	-0.21	404.00	0.26
434.00	0.27	251.00	0.24	-0.39	434.00	0.39
464.00	0.22	20.00	0.27	-0.44	464.00	0.44
494.00	0.69	331.00	0.48	-0.51	494.00	0.57
524.00	0.91	260.00	0.60	-0.83	523.99	0.95
554.00	0.35	204.00	0.47	-1.10	553.99	0.77
584.00	0.40	257.00	0.36	-1.24	583.99	0.34
614.00	0.11	327.00	0.36	-1.36	613.99	0.38
644.00	0.79	290.00	0.46	-1.57	643.99	0.71
674.00	0.51	311.00	0.62	-1.87	673.99	0.36
704.00	0.74	277.00	0.73	-2.16	703.99	0.43
734.00	0.83	310.00	0.89	-2.52	733.99	0.45
764.00	0.55	283.00	1.06	-2.82	763.98	0.42
794.00	0.88	297.00	1.20	-3.17	793.98	0.37
824.00	0.40	319.00	1.38	-3.44	823.98	0.53
854.00	0.59	265.00	1.45	-3.67	853.98	0.48
884.00	0.63	304.00	1.53	-3.96	883.98	0.41
914.00	0.29	299.00	1.66	-4.16	913.98	0.34
944.00	0.42	256.00	1.67	-4.33	943.97	0.29
974.00	0.59	257.00	1.61	-4.59	973.97	0.17
1004.00	0.63	271.00	1.57	-4.91	1003.97	0.15
1034.00	0.46	272.00	1.58	-5.19	1033.97	0.17
1064.00	0.15	271.00	1.59	-5.35	1063.97	0.31
1094.00	0.57	235.00	1.50	-5.51	1093.97	0.46
1124.00	0.19	260.00	1.41	-5.68	1123.97	0.41
1154.00	0.55	260.00	1.37	-5.87	1153.97	0.36
1174.00	0.42	223.00	1.30	-6.02	1173.97	0.50
1204.00	0.40	246.00	1.18	-6.19	1203.97	0.16
1234.00	0.41	272.00	1.14	-6.39	1233.97	0.18
1264.00	0.26	284.00	1.16	-6.57	1263.97	0.21
1294.00	0.39	253.00	1.15	-6.73	1293.96	0.21

/...continued

8. GYROSCOPIC DEVIATION SURVEY RECORD (cont)

DEPTH (m bdf)	INCLINATION (deg)	AZIMUTH (deg)	NORTH (m)	EAST (m)	TVD (m bdf)	DLS (deg/30m)
1324.00	0.52	263.00	1.10	-6.96	1323.96	0.15
1354.00	0.60	267.00	1.08	-7.25	1353.96	0.09
1384.00	0.65	281.00	1.10	-7.58	1383.96	0.16
1414.00	0.57	290.00	1.18	-7.88	1413.96	0.12
1444.00	0.63	303.00	1.33	-8.16	1443.96	0.15
1474.00	0.44	317.00	1.50	-8.38	1473.96	0.23
1504.00	0.35	314.00	1.65	-8.52	1503.96	0.09
1534.00	0.37	317.00	1.78	-8.66	1533.95	0.03
1564.00	0.45	315.00	1.94	-8.81	1563.95	0.08
1594.00	0.53	308.00	2.10	-9.00	1593.95	0.10
1624.00	0.63	304.00	2.28	-9.24	1623.95	0.11
1654.00	0.26	305.00	2.41	-9.44	1653.95	0.37
1684.00	0.47	350.00	2.57	-9.51	1683.95	0.34
1714.00	0.73	356.00	2.89	-9.55	1713.95	0.27
1744.00	0.98	349.00	3.33	-9.61	1743.94	0.27
1774.00	0.91	351.00	3.82	-9.70	1773.94	0.08
1804.00	1.26	359.00	4.38	-9.74	1803.94	0.38
1834.00	1.35	353.00	5.06	-9.79	1833.93	0.16
1864.00	1.12	1.00	5.70	-9.83	1863.92	0.29
1894.00	1.29	343.00	6.32	-9.92	1893.91	0.41
1924.00	1.11	354.00	6.93	-10.05	1923.91	0.29
1954.00	1.24	343.00	7.53	-10.18	1953.90	0.26
1984.00	1.35	358.00	8.20	-10.28	1983.89	0.36
2014.00	1.17	360.00	8.86	-10.29	2013.89	0.19
2018.00	1.34	358.00	8.94	-10.30	2017.89	1.32

9. BOTTOM HOLE TEMPERATURE SUMMARY (Fig.4)

	SUITE TYPE	DATE	TIME SINCE CIRCULATION (hours)	BHT (^{o}C)	DEPTH (m)	EXTRAPOLATED BHT (^{o}C)
1	DDL/SLS	05/11	05.00	40/0	1204.0	-
2	Super Combo	11/11	08.13	60.0	2194.0	-
2	SHDT	11/11	15.33	67.8	2200.0	-
3	Super Combo	28/11	09.58	101.0	3519.0	122
3	SHDT	29/11	24.23	111.0	3518.0	122
3	WST	29/11	24/23	111.0	3518.0	122
3	CST	29/11	29.83	112.7	3510.0	122

Calculated geothermal gradient based on seabed at 348m and seafloor temperature of 5 ^{o}C is 3.69 ^{o}C/100m

FIGURES

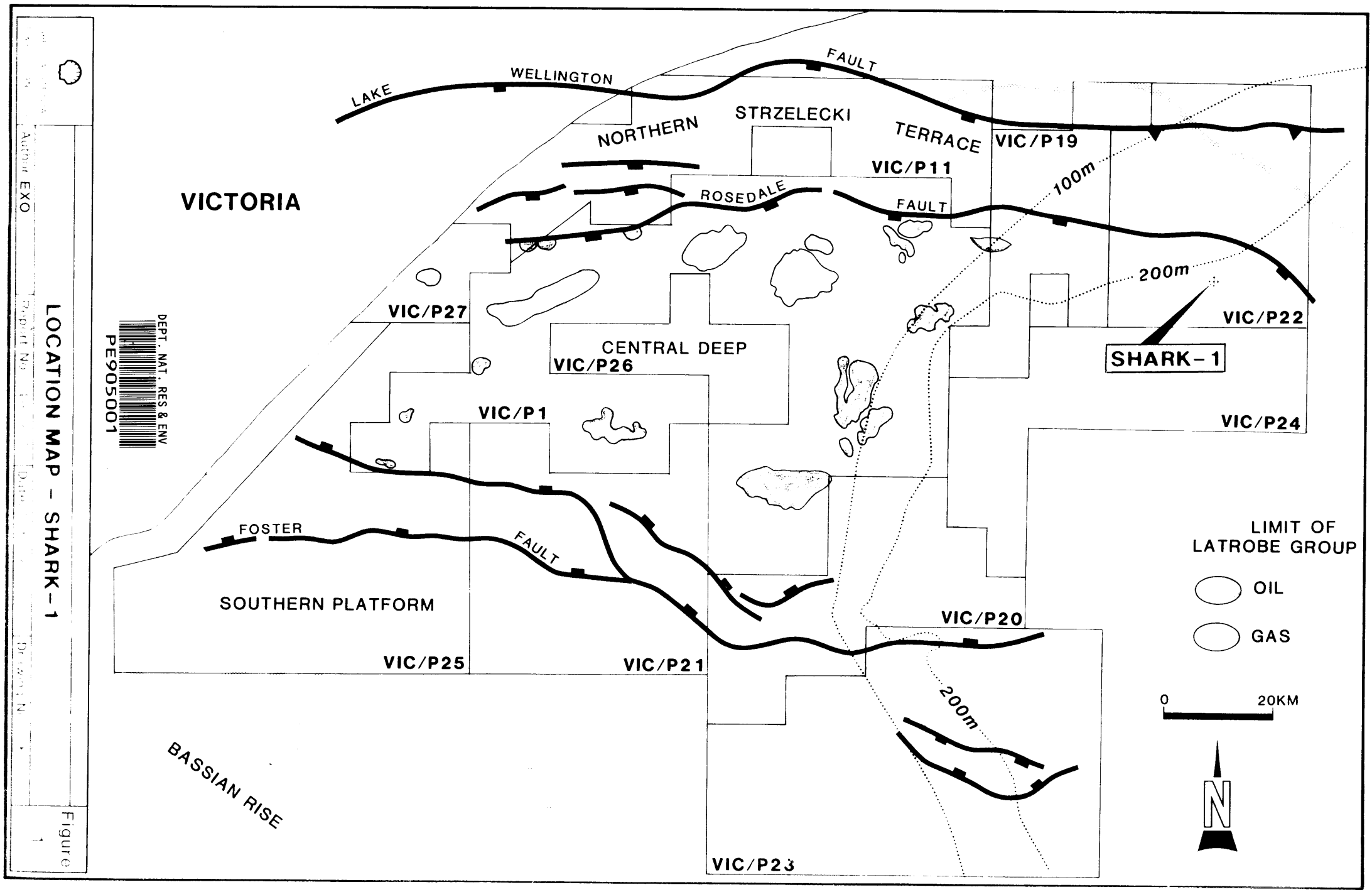
PE905001

This is an enclosure indicator page.
The enclosure PE905001 is enclosed within the container PE905000 at this location in this document.

The enclosure PE905001 has the following characteristics:

ITEM_BARCODE	= PE905001
CONTAINER_BARCODE	= PE905000
NAME	= Location and Geology Map
BASIN	= GIPPSLAND
PERMIT	= VIC/P22
TYPE	= GENERAL
SUBTYPE	= PROSPECT_MAP
DESCRIPTION	= Location and Geology Map showing Shark-1
REMARKS	= A4, Coloured
DATE_CREATED	= 28/02/89
DATE_RECEIVED	= 6/04/90
W_NO	= W1013
WELL_NAME	= SHARK-1
CONTRACTOR	=
CLIENT_OP_CO	= SHELL AUSTRALIA

(Inserted by DNRE - Vic Govt Mines Dept)


LOCATION MAP - SHARK-1
Figure 1
VICTORIA
LAKE WELLINGTON FAULT
NORTHERN STRZELECKI TERRACE
VIC/P19
VIC/P11
ROSEDALE FAULT
100m
200m
VIC/P27
CENTRAL DEEP
VIC/P26
VIC/P22
SHARK-1
VIC/P1
VIC/P24
FOSTER FAULT
SOUTHERN PLATFORM
VIC/P20
VIC/P25
VIC/P21
200m
BASSIAN RISE
VIC/P23
LIMIT OF LATROBE GROUP
OIL
GAS
0 20KM
N
DEPT. NAT. RES & ENV
PE905001

PE905002

This is an enclosure indicator page.
The enclosure PE905002 is enclosed within the container PE905000 at this location in this document.

The enclosure PE905002 has the following characteristics:

ITEM_BARCODE	= PE905002
CONTAINER_BARCODE	= PE905000
NAME	= Time v. Depth Chart
BASIN	= GIPPSLAND
PERMIT	= VIC/P22
TYPE	= WELL
SUBTYPE	= VELOCITY_CHART
DESCRIPTION	= Time versus Depth Chart for Shark-1
REMARKS	= A4, Coloured
DATE_CREATED	= 31/03/90
DATE_RECEIVED	= 6/04/90
W_NO	= W1013
WELL_NAME	= SHARK-1
CONTRACTOR	=
CLIENT_OP_CO	= SHELL AUSTRALIA

(Inserted by DNRE - Vic Govt Mines Dept)

SHELL-AUSTRALIA E&P OIL AND GAS

Author: EXO

Report No.: SDA 937

Date: MARCH 1990

Drawing No.: 26084

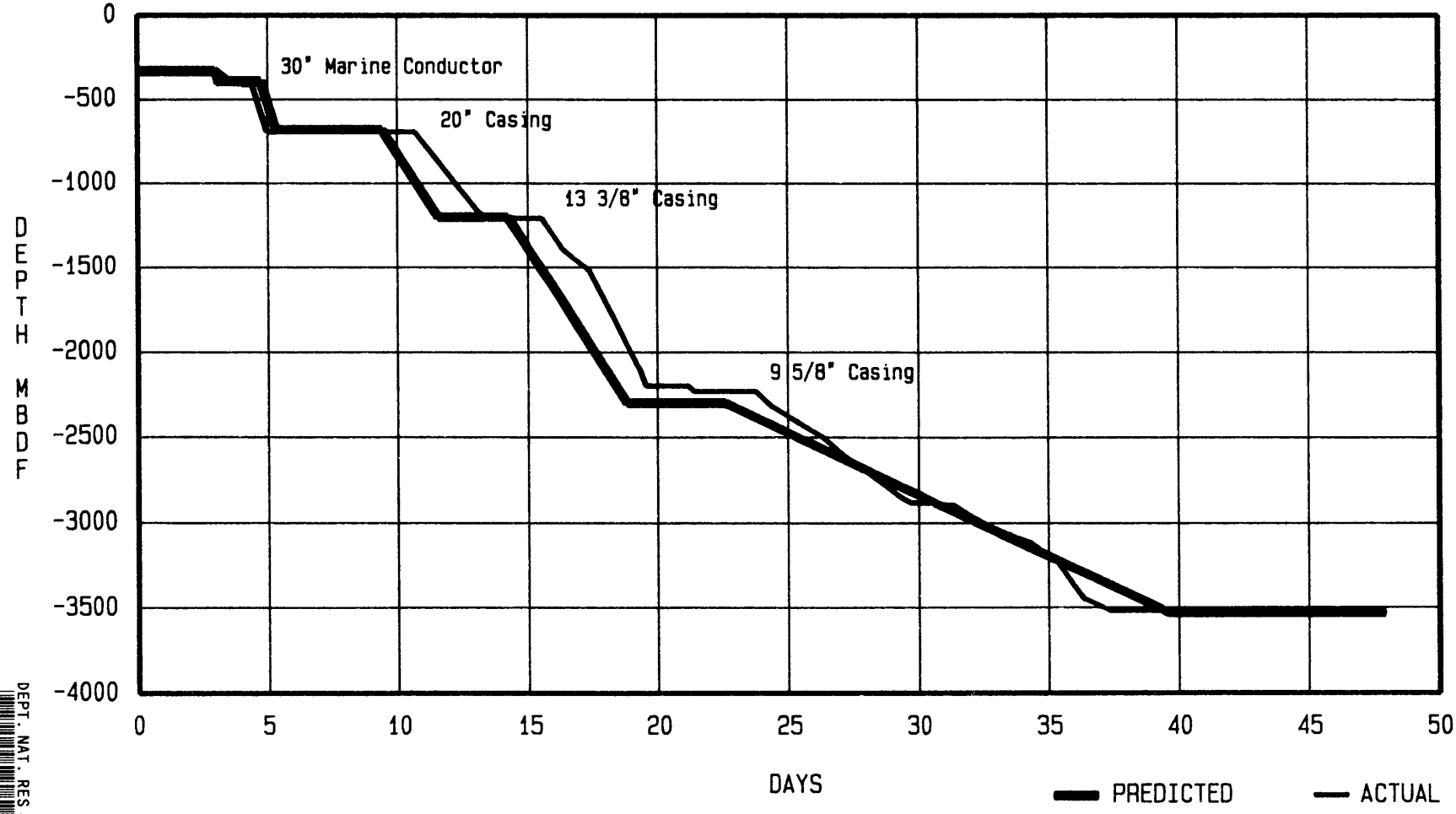
GIPPSLAND BASIN

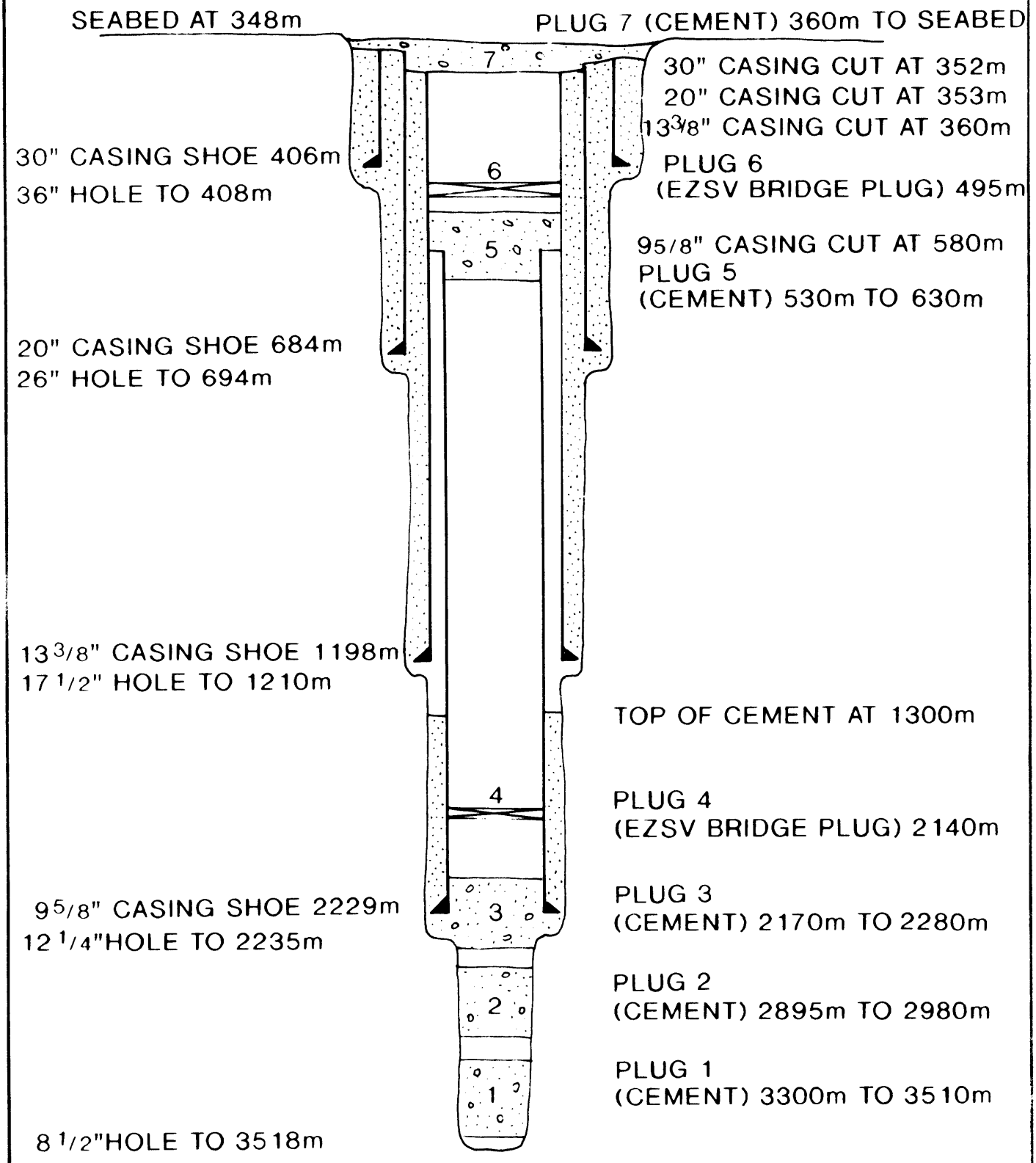
TIME VS DEPTH SHARK-1

Figure 2

TIME VS DEPTH CHART - SHARK-1

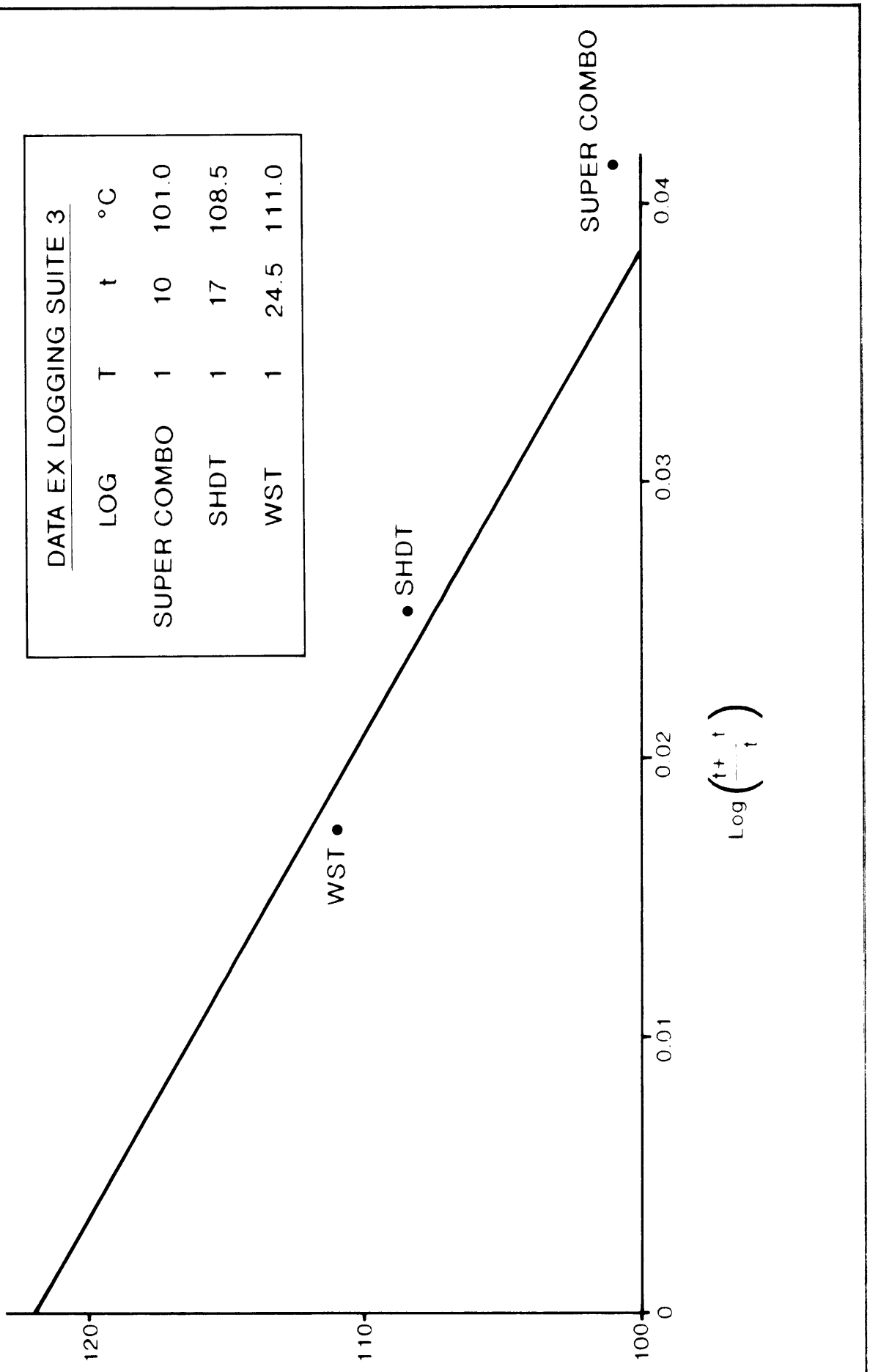
Rig: Zapata Arctic
Waterdepth: 319.6 bmsl
DF Elevation: 28.4m





Note all depths bdf

SHELL AUSTRALIA E&P OIL AND GAS	GIPPSLAND BASIN **SHARK-1 ABANDONMENT SCHEMATIC**			Figure 3
	Author: [illegible]	Report No.: SDA 937	Date: JAN 1990	Drawing No.: 25938



SHELL AUSTRALIA EXPLORATION	GIPPSLAND BASIN **SHARK-1 EXTRAPOLATED BOTTOM HOLE TEMPERATURE**	Figure 4
Author:	Report No:	Date: Drawing No:

PE603635

This is an enclosure indicator page.
The enclosure PE603635 is enclosed within the container PE905000 at this location in this document.

The enclosure PE603635 has the following characteristics:

ITEM_BARCODE	= PE603635
CONTAINER_BARCODE	= PE905000
NAME	= Mud Log
BASIN	= GIPPSLAND
PERMIT	= VIC/P22
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud (Master) Log for Shark-1
REMARKS	=
DATE_CREATED	= 28/11/89
DATE_RECEIVED	=
W_NO	= W1013
WELL_NAME	= SHARK-1
CONTRACTOR	= GEOSERVICES
CLIENT_OP_CO	= SHELL AUSTRALIA

(Inserted by DNRE - Vic Govt Mines Dept)

APPENDIX 1

LITHOLOGICAL DESCRIPTIONS

APPENDIX 1

LITHOLOGICAL DESCRIPTIONS

All depths are quoted below derrick floor, which is 28.4m above Mean Sea Level and 348m above the sea bed. Drill cuttings were collected at 3m intervals, where drilling rates permitted. No returns were collected above 694m.

DEPTH	% LITHOLOGY	DESCRIPTION
694-717m	100	ARGILLACEOUS CALCISILTITE: v lt gy, Glc, Pyr Nod, Forams, Ech, sft-frm.
717-726m	100	ARGILLACEOUS CALCILUTITE: v lt gy, microxln, tr Pyr, tr carb frags, Forams, v sft, stcky, disp
726-729m	90	ARGILLACEOUS CALCISILTITE: lt gy, tr Pyr, Com, Foram, frm
	10	CALCARENITE: lt gy, tr Pyr Nod, tr carb frag, Ech, tr Mol, frm, dull yel min flu
729-735m	90	ARGILLACEOUS CALCISILTITE: as above
	10	CALCARENITE: as above
735-741m	100	CALCISILTITE: as above
741-747m	50	CALCISILTITE: as above
	40	CALCARENITE: v lt gy-wh, carb frag, arg, tr Mol, frm, dull yel min flu
	10	LIMESTONE: off-wh, micrxln, blky, hd
747-756m	40	CALCISILTITE: as above
	50	CALCARENITE: as above
	10	LIMESTONE: as above
756-759m	50	CALCISILTITE: as above
	40	CALCARENITE: as above
	10	LIMESTONE: as above
759-765m	60	CALCISILTITE: as above
	30	CALCARENITE: as above
	10	LIMESTONE: as above
765-771m	50	CALCISILTITE: as above
	20	CAKCAREBUTE: as above
	30	MARL: lt gy-(gn)gy, tr carb frag, tr Pyr, sft, disp

DEPTH	% LITHOLOGY	DESCRIPTION
771-774m	20	CALCISILTITE: as above
	30	CALCARENITE: as above
	40	MARL: as above
	10	CALCILUTITE: v lt gy, com Foram, tr Ech, ty Pyr, tr Glc, arg mtx, sft
774-777m	20	MARL: as above
	80	CALCILUTITE: as above
777-783m	70	MARL: lt gy-(gn)gy, microxln, tr Pyr, tr carb mat, tr Foram, tr Ech, sft
	30	CALCILUTITE: lt gy-(gn)gy, microxln, tr Pyr, tr carb mat, tr-com Foram, frm
783-786m	50	MARL: as above
	50	CALCILUTITE: as above
786-789m	50	MARL: lt gy-lt(gn)gy, microxln, tr Pyr, tr Glc, tr Foram, sft
789-795m	40	MARL: as above
	60	CALCILUTITE: as above
795-798m	60	MARL: as above
	40	CALCILUTITE: as above
798-801m	70	MARL: as above
	30	CALCILUTITE: as above
801-810m	80	MARL: as above
	20	CALCILUTITE: as above
810-813m	50	CALCILUTITE: ly gy-lt(gn)gy, microxln, arg mtx, tr Pyr, tr carb mat, tr-com Foram, tr Ech, frm grading to
	50	MARL: lt gy-lt (gy)gn, microxln, arg mtx, tr Pyr, tr Foram, tr carb mat, sft
813-816m	70	CALCILUTITE: as above
	30	MARL: as above
816-828m	80	CALCILUTITE: as above
	20	MARL: as above
828-837m	70	CALCILUTITE: as above
	30	MARL: as above
837-840m	70	CALCILUTITE: lt gy-lt gn, microxln, arg mtx, tr-com Ech, tr carb mat, tr Pyr, sft
	30	MARL: lt gy-lt gn, microxln, arg mtx, tr-com Ech, tr Pyr, tr Foram, tr carb mat, tr dull yel min flu

DEPTH	% LITHOLOGY	DESCRIPTION
840-846m	70	CALCILUTITE: as above
	30	MARL: as above
846-861m	80	CALCILUTITE: as above
	20	MARL: as above
861-864m	90	CALCILUTITE: as above
	10	MARL: as above
864-873m	90	CALCILUTITE: lt gy-gn, microxln, tr-com Ech, ty Pyr
	10	MARL: lt gy-lt gn, microxln, arg mtx, com Ech, tr Pyr, tr Foram, tr carb mat, sft-frm, tr yel min flu
873-876m	80	CALCILUTITE: as above
	20	MARL: as above
876-885m	70	CALCILUTITE: as above
	30	MARL: as above
885-906m	80	CALCILUTITE: as above
	20	MARL: as above
906-912m	60	CALCILUTITE: as above
	30	MARL: as above
	10	CALCARENITE: lt gy-wh, microxln, com Foram, carb mat, sft-frm
912-924m	80	CALCISILTITE: lt gy, microxln, arg mts, frm
	20	CALCILUTITE: lt gy, cryptoxln, arg mtx, com foram, sft-stky
924-930m	70	CALCISILTITE: as above
	30	CALCILUTITE: as above
930-936m	50	CALCISILTITE: as above
	50	CALCILUTITE: as above
936-939m	20	CALCISILTITE: as above
	40	CALCILUTITE: as above
	40	MARL: lt gy, com carb frag, tr Lit, com Foss, v sft, stky, disp
939-945m	20	CALCISILTITE: as above
	30	CALCILUTITE: as above
	50	MARL: as above
942-942m	50	CALCISILTITE: as above
	30	CALCILUTITE: as above
	20	MARL: as above
945-948m	50	CALCISILTITE: as above
	40	CALCILUTITE: as above
	10	MARL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
948-957m	50	CALCISILTITE: as above
	50	CALCILUTITE: as above
957-969m	80	CALCISILTITE: as above
	20	CALCILUTITE: as above
969-975m	70	CALCISILTITE: as above
	10	CALCILUTITE: as above
	20	MARL: ly gy-off wh, com carb mat, Lit, ty Pyr, tr Glc, com Foss, v sft, v stky, disp
975-978m	70	CALCISILTITE: as above
	Tr	CALCILUTITE: as above
	20	MARL: as above
978-981m	70	CALCISILTITE: as above
	Tr	CALCILUTITE: as above
	30	MARL: as above
981-984m	80	CALCISILTITE: as above
	Tr	CALCILUTITE: as above
	20	MARL: as above
984-987m	50	CALCISILTITE: as above
	20	CALCILUTITE: as above
	30	MARL: as above
987-990m	40	CALCISILTITE: as above
	30	CALCILUTITE: as above
	30	MARL: as above
990-993m	40	CALCISILTITE: as above
	30	CALCILUTITE: as above
	30	MARL: as above
993-996m	20	CALCISILTITE: as above
	30	CALCILUTITE: as above
	40	MARL: as above
996-999m	10	CALCISILTITE: as above
	50	CALCILUTITE: as above
	40	MARL: as above
999-1002m	60	CALCILUTITE: lt gy-lt gn, microxln arg mtx, tr Pyr, tr-com Ech, tr carb mat, sft, stky
	40	MARL: lt gy-lt gn, microxln, arg mtx, com-abn Ech, tr Foram, tr Pyr, tr carb mat, sft, stky, tr dull yel min flu
1002-1011m	70	CALCILUTITE: as above
	30	MARL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
1011-1017m	80	CALCILUTITE: as above
	20	MARL: as above
1017-1026m	90	CALCILUTITE: as above
	10	MARL: as above
1026-1029m	80	CALCILUTITE: as above
	20	MARL: as above
1029-1059m	100	CALCILUTITE: lt gy-lt gn, microxln, arg mtx, com Ech, tr Pyr, tr carb mat, sft, tr min flu
1059-1071m	80	CALCILUTITE: lt gy-lt gn, arg, microxln, com Ech, tr Pyr, tr Glc, tr carb mat, sft-frm
	20	MARL: lt gy-lt gn, microxln, arg mtx, com Ech, tr Pyr, tr carb mat, sft-frm, stcky, tr min flu
1071-1074m	90	CALCILUTITE: as above
	10	MARL: as above
1074-1086m	100	CALCILUTITE: as above
	Tr	MARL: as above
1086-1116m	90	CALCILUTITE: as above
	10	MARL: as above
1116-1122m	80	CALCILUTITE: as above
	20	MARL: as above
1122-1128m	100	CALCILUTITE: lt gy-wh, (slty), arg, tr carb mat, com Foss, bent Foram, Ech, sft
1128-1131m	80	CALCILUTITE: as above
	20	MARL: ly gy-wh, arg, sft, stky
1131-1134m	70	CALCILUTITE: as above
	30	MARL: as above
1134-1140m	90	CALCILUTITE: as above
	10	MARL:as above
1140-1143m	80	CALCILUTITE: as above
	20	MARL: as above
1143-1146m	70	CALCILUTITE: as above
	30	MARL: as above
1146-1152m	80	CALCILUTITE: as above
	20	MARL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
1152-1155m	70	CALCILUTITE: as above
	30	MARL: as above
1155-1158m	80	CALCILUTITE: as above
	20	MARL: as above
1158-1164m	100	CALCILUTITE: as above
	20	MARL: as above
1164-1170m	70	CALCILUTITE: as above
	30	MARL: as above
1170-1173m	60	CALCILUTITE: as above
	40	MARL: as above
1173-1176m	70	CALCILUTITE: as above
	30	MARL: as above
1176-1182m	80	CALCILUTITE: as above
	20	MARL: as above
1182-1185m	90	CALCILUTITE: as above
	10	MARL: as above
1185-1188m	80	CALCILUTITE: as above
	20	MARL: as above
1188-1200m	90	CALCILUTITE: as above
	10	MARL: as above
1200-1215m	90	CALCILUTITE: lt gy-lt gn, microxln, tr Ech, tr Foram, tr Pyr, tr carb mat, sft
	10	MARL: lt gy-lt gn, microxln, arg mtx tr Ech, tr Pyr, tr carb mat, sft, stky, tr min flu
1215-1218m	80	CALCILUTITE: as above
	20	MARL: as above
1218-1227m	70	CALCILUTITE: as above
	30	MARL: as above
1227-1239m	60	CALCILUTITE: as above
	40	MARL: as above
1239-1251m	50	CALCILUTITE: as above
	50	MARL: as above
1251-1254m	50	CALCILUTITE: as above
	40	MARL: as above
	10	CALCISILTITE: lt gy-wh, arg mtx, com Foss, tr carb mat, tr Pyr, frm, tr min flu

DEPTH	% LITHOLOGY	DESCRIPTION
1254-1257m	30	CALCILUTITE: as above
	40	MARL: as above
	30	CALCISILTITE: as above
1257-1260m	20	CALCILUTITE: as above
	40	MARL: as above
	40	CALCISILTITE: as above
1260-1263m	10	CALCILUTITE: as above
	50	MARL: as above
	40	CALCISILTITE: as above
1263-1266m	10	CALCILUTITE: as above
	40	MARL: as above
	50	CALCISILTITE: as above
1266-1269m	40	MARL: as above
	60	CALCISILTITE: as above
1269-1278m	50	MARL: as above
	50	CALCISILTITE: as above
1278-1293m	40	MARL: as above
	60	CALCISILTITE: as above
1293-1299m	50	MARL: as above
	50	CALCISILTITE: as above
1299-1302m	40	MARL: as above
	60	CALCISILTITE: as above
1302-1305m	30	MARL: as above
	70	CALCISILTITE: as above
1305-1311m	40	MARL: as above
	60	CALCISILTITE: as above
1311-1317m	50	MARL: as above
	50	CALCISILTITE: as above
1317-1326m	40	MARL: as above
	60	CALCISILTITE: as above
1326-1332m	60	MARL: as above
	40	CALCISILTITE: as above
1332-1338m	40	MARL: as above
	60	CALCISILTITE: as above
1338-1350m	30	MARL: as above
	70	CALCISILTITE: as above
1350-1365m	50	MARL: as above
	50	CALCISILTITE: as above

DEPTH	% LITHOLOGY	DESCRIPTION
1365-1368m	40	MARL: lt gy-wh, arg, com Foss, Lit, carb frag, Pyr, Glc, sft, disp
	60	CALCISILTITE: lt gy, microxln, arg mtx, Foram, Ech, frm, tr min flu
1368-1371m	50	MARL: as above
	50	CALCISILTITE: as above
1371-1374m	60	MARL: as above
	40	CALCISILTITE: as above
1374-1377m	50	MARL: as above
	50	CALCISILTITE: as above
1377-1383m	40	MARL: as above
	60	CALCISILTITE: as above
1383-1386m	50	MARL: as above
	50	CALCISILTITE: as above
1386-1398m	50	MARL: lt gy, arg, tr Pyr, tr Glc, tr Foram, tr Ech, tr carb mat, sft, stky
	50	CALCISILTITE: lt gy, microxln, arg mtx, com Foss, tr Ech, tr Pyr, tr Glc, sft, tr min flu
1398-1413m	60	MARL: as above
	40	CALCISILTITE: as above
1413-1428m	60	MARL: lt gy, arg, tr Pyr, tr Glc, tr Foram, tr Foss, tr Lit, sft
	40	CALCISILTITE: lt gy, microxln, arg mtx, tr Pyr, tr Ech, tr Foss, sft-frm, tr min flu
1428-1434m	50	MARL: as above
	50	CALCISILTITE: as above
1434-1446m	50	MARL: lt gy, cryptoxln, arg mtx, tr Pyr, tr Glc, frm, tr min flu
	50	CALCISILTITE: lt gy, microxln, arg mtx, tr Pyr, tr Glc, tr Lit, frm, tr min flu
1446-1455m	40	MARL: as above
	50	CALCISILTITE: as above
	10	CALCARENITE: wh-lt gy, xln, arg mtx, tr Pyr, tr Glc, frm, tr min flu

DEPTH	% LITHOLOGY	DESCRIPTION
1455-1458m	40	MARL: lt gy, crptoxln, tr Pyr, rr Glc, tr Foss, sft, stky
	50	CALCISILTITE: lt gy, microxln, arg mtx, tr Pyr, rr Glc, sft-frm, tr min flu
	10	CALCARENITE: wh, xln, arg mtx, tr Pyr, tr Ech, tr Glc, frm-hrd, tr min flu
1458-1467m	40	MARL: as above
	40	CALCISILTITE: as above
	20	CALCARENITE: as above
1467-1473m	40	MARL: as above
	50	CALCISILTITE: as above
	10	CALCARENITE: as above
1473-1479m	40	MARL: as above
	40	CALCISILTITE: as above
	20	CALCARENITE: as above
1479-1485m	40	MARL: as above
	60	CALCISILTITE: as above
1485-1500m	30	MARL: as above
	70	CALCISILTITE: as above
1500-1503m	40	MARL: as above
	60	CALCISILTITE: as above
1503-1524m	30	MARL: as above
	60	CALCISILTITE: as above
	10	CALCARENITE: lt gy-wh, xln, arg, tr carb mat, tr Pyr, tr Foss, blky, hd
1524-1536m	40	MARL: as above
	50	CALCISILTITE: as above
	10	CALCARENITE: as above
1536-1548m	60	MARL: as above
	30	CALCISILTITE: as above
	10	CALCARENITE: as above
1548-1560m	80	MARL: as above
	20	CALCISILTITE: as above
1560-1563m	80	MARL: lt gy, arg, Pyr Nod, tr Lit, frm-sft
	20	CALCISILTITE: lt gy, microxln, arg mtx, Foss, sft-frm, tr yel min flu
1563-1566m	70	MARL: as above
	30	CALCISILTITE: as above
1566-1578m	80	MARL: as above
	20	CALCISILTITE: as above

DEPTH	% LITHOLOGY	DESCRIPTION
1578-1584m	90	MARL: as above
	10	CALCISILTITE: as above
1584-1596m	80	CALCAREOUS CLAYSTONE: lt-m gy, micritic, Pyr, tr Lit, carb frag, Foss, frm-sft
	20	CALCISILTITE: as above
1596-1605m	90	CALCAREOUS CLAYSTONE: as above
	10	CALCISILTITE: as above
1605-1626m	80	CALCAREOUS CLAYSTONE: as above
	20	CALCISILTITE: as above
1626-1629m	80	MARL: lt gy, arg, tr Pyr Nod, tr Lit, frm-sft
	20	CALCISILTITE: as above
1629-1644m	70	MARL: as above
	30	CALCISILTITE: as above
1644-1665m	80	MARL: as above
	20	CALCISILTITE: as above
1665-1698m	90	MARL: as above
	10	CALCISILTITE: as above
1695-1698m	90	MARL: as above
	10	CALCISILTITE: as above
1698-1707m	80	MARL: as above
	20	CALCISILTITE: as above
1707-1746m	90	MARL: as above
	10	CALCISILTITE: as above
1746-1761m	100	CALCAREOUS CLAYSTONE: lt-m gy, micritic, Pyr, tr Lit, carb frag, Foss, frm-sft
1761-1770m	90	CALCAREOUS CLAYSTONE: as above
	10	CALCISILTITE: lt gy-wh, microxln, arg mtx, tr Pyr, rr Glc, tr Lit, Foss, sft, dull min flu
1770-1812m	100	CALCAREOUS CLAYSTONE: as above
1812-1818m	100	CALCAREOUS CLAYSTONE: lt gy-lt brn, microxln, abn Lim, com Glc, tr Lit, tr Pyr, tr Foss, sft-frm.
1818-1821m	30	CALCAREOUS CLAYSTONE: as above
	70	SILTSTONE: lt brn, calc, com Lim, tr Pyr, frm-hrd

DEPTH	% LITHOLOGY	DESCRIPTION
1821-1824m	20	CALCAREOUS CLAYSTONE: as above
	80	SILTSTONE: as above
1824-1839m	10	CALCAREOUS CLAYSTONE: as above
	90	SILTSTONE: (s), gy-(gn) brn, calc, Glc, Pyr, Lim, (Foss), frm, no shows
1839-1845m	20	SILTSTONE: as above
	80	SANDSTONE: lt gy, f-m, (srt)-srt, (ang), (sph), (calc), abd Glc, Pyr, Qz, (Lim), (Lit), uncons, (por)
1845-1848m	60	SILTSTONE: as above
	40	SANDSTONE: as above
1848-1863m	100	SANDSTONE: lt gn, f, srt, (ang)-(rnd), (sph), abd Glc, Qz, uncons, por
1863-1866m	100	SANDSTONE: lt (gn)gy, f, srt, (rnd)-ang, (sph), uncons, abd Glc, Qz, (Mic), (calc), por
1866-1878m	100	SANDSTONE: as above
1878-1896m	100	SANDSTONE: lt gy-gn, vf-m, (srt), (ang), (sph)-(elong), abd Glc, Qz, (Calc), uncons, por
1896-1905m	100	SANDSTONE: gn-gy, f, (srt), (ang)-(rnd), (sph)-elong, uncons, abd Glc, Qz, (calc), por
1905-1911m	100	SANDSTONE: (gn) yel, m-f, (srt), (ang)-(md), (elong)-(sph), uncons, (calc), (Glc), Qz, por
1911-1935m	100	SANDSTONE: wh, m, srt, (ang)-ang, (sph), uncons, Qz, tr Glc, tr Lit, por
1935-1938m	80	SANDSTONE: lt gy, m, (srt), ang-(rnd), sph, uncons, Qz, (Pyr), (Glc), (calc), por
	20	CLAYSTONE: dk gy, frm
1938-1965m	100	SANDSTONE: wh-lt gy, m-f, srt, rnd-(ang), sph, uncons, Qz, (Pyr), (calc), (Mic), tr Foss, por
1965-1980m	100	SANDSTONE: wh, m-f, srt, (ang)-(rnd), (sph), uncons, Qz, tr Glc, (Mic), por
1980-1983m	100	SANDSTONE: lt gy-wh, f, srt, (ang), (sph), uncons, tr Glc, tr Calc, por

DEPTH	% LITHOLOGY	DESCRIPTION
1983-1986m	70	SANDSTONE: as above
	20	CLAYSTONE: as above
	10	SILTSTONE: as above
1986-1989m	90	SANDSTONE: wh-lt gy, f, (srt), ang-(ang), (sph)-sph, uncons, Qz, tr Pyr, por
	10	SILTSTONE: as above
1989-1998m	70	SANDSTONE: v slty, (gn)gy, f-m, (srt), ang-(ang), (sph), cmt, Qz, tr Mic, frm-hrd, nonpor
	20	CARBONACEOUS SHALE: dk gy, frm
	10	SILTSTONE: dk gy, frm
1998-2001m	90	SANDSTONE: as above
	10	CARBONACEOUS SHALE: as above
2001-2007m	80	SANDSTONE: as above
	10	CARBONACEOUS SHALE: as above
	10	COAL: blk, frm
2007-2010m	70	SANDSTONE as above
	20	SILTSTONE: cl, carb mat, frm
2010-2022m	90	SANDSTONE: as above
	10	SILTSTONE: as above
2022-2028m	80	SANDSTONE: wh, f-m, srt, ang, (sph), Qz, uncons, por
	10	SILTSTONE: as above
	10	COAL: blk, (fis), frm
2028-2031m	75	SANDSTONE: as above
	10	SILTSTONE: as above
	15	CLAYSTONE: as above
2031-2034m	80	SANDSTONE: as above
	10	SILTSTONE: as above
	10	CLAYSTONE: as above
2034-2052m	90	SANDSTONE: wh, m-crs, ang-(rnd), (sph), uncons, Qz, tr Calc, por
	10	CLAYSTONE: gy, disp
2052-2058m	80	SANDSTONE: wh, f-crs, (srt), rnd-(ang), (sph), uncons, Qz, abd Pyr, tr Lit, por
	10	CLAYSTONE: as above
	10	COAL: blk, frm, (fis)
2058-2064m	40	SANDSTONE: as above
	50	SILTSTONE: as above
	10	COAL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2064-2073m	80	SANDSTONE: wh, m-f, (srt), (ang)-(rnd), (sph), uncons, Qz, tr Lit, por
	10	CLAYSTONE: as above
	10	COAL: as above
2073-2076m	60	SANDSTONE: wh, f-crs, (srt), (rnd), (sph)-sph, uncons, Qz, Pyr, por
	20	SHALE: dk brn, carb mat, frm
	10	CLAYSTONE: as above
	10	COAL: as above
2076-2079m	70	SANDSTONE: wh, f-crs, (srt), (rnd)-(ang), (sph), uncons, Qz, tr Pyr, por
	10	SHALE: as above
	10	CLAYSTONE: as above
	10	COAL: as above
2079-2082m	80	SANDSTONE: as above
	10	COAL: as above
	10	CLAYSTONE: as above
2082-2085m	75	SANDSTONE: as above
	15	COAL: as above
	10	SHALE: dk brn-bk, carb lam, frm
2085-2088m	90	SANDSTONE: as above
	10	SHALE: as above
2088-2091m	80	SANDSTONE: wh-cl, f, srt, (rnd), sph, uncons, Qz, Pyr, tr Mic, por
	10	CARBONACEOUS SHALE: dk brn-bk, frm
	10	COAL: dk brn-bk, blky, (vit)
2901-2094m	85	SANDSTONE: as above
	10	COAL: as above
	5	SHALE: as above
2094-2097m	90	SANDSTONE: as above
	5	COAL: as above
	5	SHALE: as above
2097-2100m	100	SANDSTONE: wh-cl, f, srt, (rnd), sph, uncons, Qz, Pyr, tr Mic, por
2100-2109m	85	SANDSTONE: as above
	10	COAL: dk brn-blk, blky, (vit)-vit
	5	SHALE: dk bm-blk, carb mat, frm, (fis)
2109-2115m	100	SANDSTONE: wh-cl, f, (srt), (ang)-(rnd), sph, uncons, Qz, tr Pyr,

DEPTH	% LITHOLOGY	DESCRIPTION
2115-2118m	40	SANDSTONE: wh-cl, crs-f, (srt), (ang)-rnd, sph, uncons, Qz, tr Calc, por
	40	CLAYSTONE: lt gy, sft, disp
	20	SHALE: dk gy-bk, carb, frm
2118-2121m	40	SANDSTONE: as above
	30	SILTSTONE: cl, lt-dk gy, carb frag frm
	20	CLAYSTONE: as above
	10	SHALE: as above
2121-2124m	30	SANDSTONE: as above
	20	SILTSTONE: as above
	30	CLAYSTONE: as above
	10	SHALE: as above
2124-2127m	10	SANDSTONE: as above
	40	SILTSTONE: as above
	40	CLAYSTONE: as above
	10	SHALE: as above
2127-2130m	90	SANDSTONE: wh, m-crs, srt, (rnd)-rnd, sph, uncons, Qz, por
	10	SILTSTONE: as above
2130-2151m	100	SANDSTONE: wh, f, srt, (rnd), sph, uncons Qz, por
2151-2160m	100	SANDSTONE: wh, m-f, (srt), (ang)-(rnd), sph, uncons, Qz, tr Mic, tr Pyr, tr Calc, por
2160-2166m	90	SANDSTONE: as above
	10	SILTSTONE: gy, carb frag, frm, (cmt)
2166-2178m	100	SANDSTONE: as above
2178-2181m	90	SANDSTONE: as above
	10	SILTSTONE: lt gy-brn, carb frag, frm
2181-2190m	100	SANDSTONE: as above
2190-2202m	90	SANDSTONE: as above
	10	SHALE: dk gy, hrd
2202-2208m	90	SANDSTONE: lt gy, m, srt, (ang)-(rnd), (sph), uncons, Qz, tr Lit, tr Calc cmt, por
	10	SILTSTONE: lt gy-dk gy, tr carb mat, frm

DEPTH	% LITHOLOGY	DESCRIPTION
2208-2211m	80	SANDSTONE: lt gy-wh, f-crs, (srt), (ang)-(rnd),(sph), uncons, tr Calc cmt, Qz, tr Lit, por
	10	SILTSTONE: as above
	10	CLAYSTONE: lt gy (brn), disp, sft
2211-2214m	90	SANDSTONE: wh, f-m, (srt), ang-rnd, (sph)-(elong), uncons, Qz, tr Calc cmt, tr Lit, tr Pyr, por
	10	SILTSTONE: as above
2214-2226m	80	SANDSTONE: as above
	20	SILTSTONE: as above
2226-2229m	20	SANDSTONE: as above
	60	SILTSTONE: as above
	20	SHALE: (slty), lt-dk gy, frm
2229-2232m	20	SANDSTONE: wh, f-m, (srt)-srt, ang-(rnd), (sph), uncons, Qz, tr Calc, tr Lit, Pyr, por
	60	SILTSTONE: lt gy-brn,carb lam, frm-hrd
	20	SHALE: gy-dk gy, frm-hrd, (fis)-fis
2232-2235m	10	SANDSTONE: as above
	60	SILTSTONE: as above
	30	SHALE: as above
2235-2241m	50	SANDSTONE: wh, f-m, (srt), ang-(rnd), (sph), uncons, Qz, Pyr, tr Lit, por
	40	SILTSTONE: lt gy-brn, carb lam, frm-hd
	10	CLAYSTONE: dk gn-bk, sft
2241-2244m	60	SANDSTONE: wh, f-m, (srt)-(ang), (sph)-(elong), uncons, Qz, com-tr Pyr, tr Lit, por
	30	SILTSTONE: as above
	10	CLAYSTONE: as above
2242-2247m	70	SANDSTONE: wh-lt gy, f, srt, (ang)-ang, (sph)-(elong), uncons, Qz, tr Pyr, tr Lit, por, tr dull orange flu, spotty, no cut
	20	SILTSTONE: as above
	10	CLAYSTONE: as above
2247-2250m	60	SANDSTONE: as above
	20	SILTSTONE: as above
	10	CLAYSTONE: as above
2250-2256m	90	SANDSTONE: as above
	10	SILTSTONE: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2256-2259m	80	SANDSTONE: as above
	10	SILTSTONE: as above
	10	SHALE: (slty), dk brn-bk, carb, hrd
2259-2262m	70	SANDSTONE: as above
	20	SILTSTONE: as above
	10	SHALE: as above
2262-2265m	70	SANDSTONE: as above
	20	SILTSTONE: as above
	10	SHALE: as above
2265-2274m	80	SANDSTONE: as above
	10	SILTSTONE: as above
	10	SHALE: as above
2274-2283m	90	SANDSTONE: as above
	10	SHALE: as above
2283-2289m	80	SANDSTONE: as above
	10	SHALE: as above
	10	SILTSTONE: lt gy-brn, carb lam, frm-hrd
2289-2295m	80	SANDSTONE: wh, m,(srt), ang-(sph), uncons, Qz, Lit, por
	10	SHALE: as above
	10	SILSTONE: as above
2295-2301m	90	SANDSTONE: as above
	10	SHALE: as above
2301-2304m	80	SANDSTONE: as above
	10	SHALE: as above
	10	SILTSTONE: lt gy-brn, carb lam, frm-hrd
2304-2316m	90	SANDSTONE: wh-lt gy, f-crs, (srt), ang,-(elong), uncons, Qz, tr Lit, tr Pyr, por
	10	SHALE: v. slty, dk brn-bk, v hd
2316-2319m	70	SANDSTONE: wh-lt gy, f-crs, (srt), ang, (elong)-(sph), uncons, Qz, Lit, tr Pyr, (por)
	20	SILTSTONE: buff-gy, (carb), sft-frm
	10	SHALE: slty, dk brn-bk, v hd
		NB. a few green, mottled grains, v sft & trace blk, hrd glassy, grains
2319-2322m	80	SANDSTONE: as above
	10	SILTSTONE: as above
	10	SHALE: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2322-2331m	90	SANDSTONE: wh-lt gy, f-crs, (srt), ang, (elong), overgrowths, uncons, Qz, tr Pyr, (por)
	10	SILTSTONE: lt gy, sft-frm
2331-2334m	00	SANDSTONE: lt gy, f-m, srt, (ang)-ang, elong-(elong), uncons, Qz, tr Lit, tr Chl, (por)
2334-2337m	90	SANDSTONE: as above
	10	SILTSTONE: dk brn-buff, frm, (carb)
2337-2352m	90	SANDSTONE: wh, f, srt, (ang)-ang, (elong)-elong, uncons, Qz, tr Lit, tr Pyr, tr Chl, (por)
	10	SILTSTONE: as above
2352-2364m	00	SANDSTONE: wh, f-crs, (srt), (rnd)-ang, uncons, Qz, tr Lit, tr Chl, (por)
2364-2367m	90	SANDSTONE: as above
	10	CLAYSTONE: dk gy, sft, disp
2367-2370m	40	SANDSTONE: as above
	50	CLAYSTONE: as above
	10	SILTSTONE: lt-dk gy, frm
2370-2373m	30	SANDSTONE: as above
	60	CLAYSTONE: as above
	10	SILTSTONE: as above
2373-2376m	40	SANDSTONE: as above
	60	CLAYSTONE: as above
2376-2379m	10	SANDSTONE: as above
	90	CLAYSTONE: as above
2379-2382m	100	CLAYSTONE: (slty,) (gn)gy, disp sft
2382-2385m	100	CLAYSTONE: (slty), (ss), (gn)gy, disp, sft
2385-2388m	90	CLAYSTONE: as above
	10	SANDSTONE: wh, f-crs, (srt), ang, (sph), uncons, Qz, (por)
2388-2391m	80	CLAYSTONE: as above
	10	SANDSTONE: wh, f-crs, (srt), ang, (sph), uncons, Qz
2391-2394m	70	CLAYSTONE: as above
	30	SANDSTONE: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2394-2400m	60	SANDSTONE: wh-gy, f-crs, (srt), ang, (sph)-(elong), Qz, tr Lit, tr Pyr, uncons, (por)
	30	CLAYSTONE: as above
	10	SILTSTONE: brn, (carb), frm
2400-2403m	40	SANDSTONE: as above
	40	CLAYSTONE: as above
	20	SILTSTONE: as above
	Tr	COAL: blk, vit, frm
2403-2406m	60	SANDSTONE: as above
	20	CLAYSTONE: as above
	20	SILTSTONE: as above
2406-2409m	70	SANDSTONE: lt gy, f-m, srt, ang-(ang), (sph), uncons, Qz, tr Calc, Lit, (por)
	10	CLAYSTONE: as above
	20	SILTSTONE: brn-buff, carb lam, frm
2409-2412m	70	SANDSTONE: as above
	10	CLAYSTONE: as above
	20	SILTSTONE: as above
	Tr	COAL: as above
2412-2415m	60	SANDSTONE: as above
	30	CLAYSTONE: as above
	10	SILTSTONE: as above
2415-2418m	40	SANDSTONE: as above
	60	CLAYSTONE: as above
	Tr	COAL: as above
2418-2424m	70	SANDSTONE: as above
	10	CLAYSTONE: as above
	20	SILTSTONE: as above
	Tr	COAL: as above
2424-2427m	90	SANDSTONE: as above
	10	SILTSTONE: as above
2427-2436m	90	SANDSTONE: wh, f-m, srt, (ang)-(rnd), (sph), uncons, Qz, tr carb mat, tr Calc, por
	10	SILTSTONE: as above
	Tr	COAL: as above
2436-2439m	70	SANDSTONE: as above
	10	CLAYSTONE: as above
	20	SILTSTONE: brn-buff, carb lam, frm
	Tr	COAL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2439-2442m	60	SANDSTONE: as above
	10	CLAYSTONE: as above
	30	SILTSTONE: as above
	Tr	COAL: as above
2442-2445m	60	SANDSTONE: as above
	30	SILTSTONE: gy, cly, frm-hrd
	10	CLAYSTONE: as above
2445-2448m	80	SANDSTONE: wh-lt gy, f-crs, (srt), (ang), (sph), uncons, Qz, tr Lit, tr Calc cmt, (por)
	10	SILTSTONE: as above
	10	CLAYSTONE: as above
2448-2451m	70	SANDSTONE: wh f-m, (srt), (ang)-(rnd), (sph), uncons, Qz, tr Lit, (por)
	20	SILTSTONE: brn-buff, cly, carb lam, frm
	10	CLAYSTONE: gy, disp, sft
2451-2454m	60	SANDSTONE: as above
	20	SILTSTONE: as above
	Tr	CLAYSTONE: as above
	10	COAL: blk, vit, hrd
2454-2457m	70	SANDSTONE: as above
	20	SILTSTONE: as above
	10	CLAYSTONE: as above
	Tr	COAL: blk, vit, hrd
2457-2460m	70	SANDSTONE: (wh)brn, cl, v f, (srt), ang, (sph), Qz, tr Lit, tr Pyr, tr Calc cmt, nonpor
	10	SILTSTONE: as above
	20	CLAYSTONE: as above
	Tr	COAL: as above
2460-2463m	80	SANDSTONE: as above
	10	SILTSTONE: as above
	10	CLAYSTONE: as above
	Tr	COAL: as above
2463-2466m	20	SANDSTONE: as above
	10	SILTSTONE: as above
	70	CLAYSTONE: as above
	Tr	COAL: as above
2466-2469m	10	SANDSTONE: as above
	10	SILTSTONE: as above
	80	CLAYSTONE: as above
	Tr	COAL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2469-2472m	10	SANDSTONE: as above
	10	SILTSTONE: as above
	80	CLAYSTONE: as above
	Tr	COAL: as above
2472-2475m	10	SANDSTONE: as above
	10	SILTSTONE: as above
	80	CLAYSTONE: as above
	Tr	COAL: as above
2475-2478m	100	CLAYSTONE: (slty), lt gy, disp, sft
2478-2481m	80	CLAYSTONE: as above
	10	SILTSTONE: lt gy-brn, carb frag, frm
	10	SANDSTONE: cl-wh, f, (srt), (ang), (sph), uncons, Qz, tr Lit, (por)
2481-2484m	60	CLAYSTONE: as above
	20	SILTSTONE: as above
	20	SANDSTONE: as above
2484-2487m	70	CLAYSTONE: as above
	20	SILTSTONE: as above
	10	SANDSTONE: as above
2487-2490m	00	CLAYSTONE: as above
	Tr	SILTSTONE: as above
	Tr	SANDSTONE: as above
2490-2493m	90	CLAYSTONE: gy-buff, disp, sft
	10	SANDSTONE: wh, f-m, (srt), (ang), (sph), uncons, Qz, (por)
2493-2496m	70	CLAYSTONE: as above
	20	SANDSTONE: as above
	10	SILTSTONE: dk gy, frm
2496-2499m	50	CLAYSTONE: gy-buff, disp, sft
	20	SILTSTONE: dk gy, (carb lam), frm
	10	SHALE: (brn)gy, fis, frm
	10	SANDSTONE: wh, f, (srt), (ang), (sph), uncons-cmt, Qz, Calc cmt, (por)-nonpor
	10	COAL: blk, vit, fis
2499-2502m	20	CLAYSTONE: as above
	30	SHALE: (bm)gy, carb frag, frm
	20	SILTSTONE: lt-dk gy, (carb), frm
	20	SANDSTONE: wh-(buff), f-m, (srt), (ang), (sph), uncons, Qz, (Calc cmt), (por)-nonpor
	10	COAL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2502-2505m	70	SANDSTONE: wh-cl, f-m, (srt), (ang), (sph), uncons, Qz, (Calc cmt), (por)
	30	SHALE: gy, carb frag, frm
	Tr	CLAYSTONE: as above
	Tr	SILTSTONE: as above
2505-2508m	70	SANDSTONE: as above
	20	SHALE: as above
	Tr	CLAYSTONE: as above
	10	SILTSTONE: as above
	Tr	COAL
2508-2511m	30	SANDSTONE: as above
	10	SHALE: as above
	10	CLAYSTONE: as above
	40	SILTSTONE: as above
	10	COAL
2511-2514m	30	SANDSTONE: as above
	10	SHALE: as above
	40	CLAYSTONE: as above
	20	SILTSTONE: as above
	Tr	COAL
2514-2517m	70	SANDSTONE: as above
	Tr	SHALE: as above
	10	CLAYSTONE: as above
	20	SILTSTONE: as above
	Tr	COAL
2517-2520m	20	SANDSTONE: as above
	10	SHALE: as above
	20	CLAYSTONE: as above
	50	SILTSTONE: as above
	Tr	COAL
2520-2523m	20	SANDSTONE: as above
	10	SHALE: as above
	30	CLAYSTONE: as above
	40	SILTSTONE: as above
	Tr	COAL
2523-2526m	60	SHALE: (blk) brn, v carb, fis, frm
	40	COAL: blk, vit, fis, hrd
2526-2529m	50	SHALE: as above
	20	SILTSTONE: lt gy-buff, (carb), frm
	10	SANDSTONE: wh, f, srt, ang, (sph), Calc cmt, Qz, nonpor
	20	COAL: blk, subconchoidal, vit, frm-hrd
2529-2532m	60	SHALE: as above
	20	SILTSTONE: as above
	20	COAL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2532-2535m	30	SHALE: dk brn, (carb lam), (fis), frm
	30	SANDSTONE: wh, v f, srt, ang, (sph), abd Calc cmt, Qz, nonpor
	20	SILTSTONE: as above
	20	COAL: blk, (slty), (fis), frm
2535-2538m	20	SHALE: as above
	30	SANDSTONE: as above
	20	SILTSTONE: as above
	30	COAL: as above
2538-2541m	10	SHALE: as above
	70	SANDSTONE: wh-buff, f-m, srt, (ang), (sph), (calc cmt), Qz, tr Lit, tr Pyr, (por)
	20	SILTSTONE: as above
	Tr	COAL: as above
2541-2544m	20	SHALE: as above
	50	SANDSTONE: as above
	20	SILTSTONE: as above
	10	COAL: as above
2544-2547m	60	SANDSTONE: wh, f-m, srt, (ang)-ang, (sph), (Calc cmt), Qz, tr Lit, (por)-nonpor
	10	SILTSTONE: lt gy-buff, frm
	20	SHALE: dk brn, carb lam, (fis), frm
	10	COAL: as above
2547-2550m	80	SANDSTONE: as above
	10	SILTSTONE: as above
	10	SHALE: as above
	Tr	COAL: as above
2550-2553m	80	SANDSTONE: wh-cl, f-m, srt-(srt), (ang), (sph), (Calc cmt), uncons, Qz, tr Lit, tr Pyr, (por)
	10	SILTSTONE: as above
	10	SHALE: as above
	Tr	COAL: as above
2553-2556m	60	SANDSTONE: wh-cl, f-m, (srt), (ang)-(rnd), (sph), uncons, tr Calc cmt, Qz, tr Pyr, (por)
	30	SHALE: dk brn-(brn) blk, carb frag, (fis), frm
	10	SILTSTONE: lt gy-buff, frm-hrd
	Tr	COAL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2556-2559m	50	SANDSTONE: as above
	20	SHALE: as above
	20	SILTSTONE: as above
	10	COAL: blk, vit, woody, frm-hrd
2559-2562m	40	SANDSTONE: as above
	30	SHALE: dk brn, abd carb frag, carb lam, frm
	20	SILTSTONE: as above
	10	COAL: blk-brn, vit, subconch, frm-hrd
2562-2565m	40	SANDSTONE: as above
	20	SHALE: as above
	30	SILTSTONE: as above
	10	COAL: blk, vit, woody, frm-hrd
2565-2568m	20	SANDSTONE: as above
	30	SHALE: as above
	30	SILTSTONE: as above
	10	COAL: as above
2568-2571m	Tr	SANDSTONE: as above
	60	SHALE: dk brn-blk, abd carb frag, frm
	10	SILTSTONE: lt gy-buf, frm-hrd
	30	COAL: blk, vit, fis, frm-hrd
2571-2574m	70	SANDSTONE: wh, f-m, srt, (ang)-(rnd), (sph), uncons, Qz, Calc cmt, nonpor
	10	SHALE: as above
	10	SILTSTONE: as above
	10	COAL: as above
2574-2577m	70	SANDSTONE: wh, f-m, (srt), (ang), (sph), Calc cmt, nonpor-(por)
	10	SHALE: dk brn, carb frag, frm
	10	SILTSTONE: lt gy-buff, (carb), frm
	10	COAL: blk, vit, frm
2577-2580m	20	SANDSTONE: as above
	30	SHALE: as above
	20	SILTSTONE: as above
	30	COAL: as above
2580-2583m	20	SANDSTONE: as above
	40	SHALE: as above
	20	SILTSTONE: as above
	20	COAL: as above
2583-2586m	40	SANDSTONE: wh, f, (srt), (ang), (sph), Calc cmt, (por)
	40	SHALE: dk brn, abd carb frag, frm-hrd
	10	SILTSTONE: lt gy-buff, frm
	10	COAL: blk, vit, frm-hrd

DEPTH	% LITHOLOGY	DESCRIPTION
2586-2589m	80	SANDSTONE: as above
	10	SHALE: as above
	10	SILTSTONE: as above
	Tr	COAL: as above
2589-2592m	70	SANDSTONE: wh, f, (srt), (ang), (sph), Calc cmt, Pyr, nonpor
	20	SHALE: dk brn, abd carb frag, frm-hrd
	10	SILTSTONE: as above
	Tr	COAL: as above
2592-2595m	30	SANDSTONE: as above
	20	SHALE: as above
	Tr	COAL: as above
	50	CLAYSTONE: (slty), dk brn, disp, sft
2595-2598m	10	SANDSTONE: as above
	10	SHALE: as above
	Tr	COAL: as above
	80	CLAYSTONE: as above
2598-2601m	10	SANDSTONE: as above
	10	SHALE: as above
	Tr	COAL: as above
	80	CLAYSTONE: as above
2601-2604m	20	SANDSTONE: as above
	20	SHALE: as above
	Tr	COAL: as above
	60	CLAYSTONE: as above
2604-2607m	10	SANDSTONE: as above
	Tr	SHALE: as above
	Tr	COAL: as above
	90	CLAYSTONE: as above
2607-2610m	10	SANDSTONE: as above
	10	SHALE: as above
	Tr	COAL: as above
	80	CLAYSTONE: as above
2610-2613m	30	SANDSTONE: as above
	20	SHALE: as above
	Tr	COAL: as above
	50	CLAYSTONE: as above
2613-2616m	50	SANDSTONE: as above
	20	SHALE: as above
	Tr	COAL: as above
	30	CLAYSTONE: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2616-2619m	60	SANDSTONE: wh, f, (srt), (ang), (sph), uncons, tr Calc cmt, tr Lit, (por)-por
	10	SHALE: as above
	Tr	COAL: as above
	30	CLAYSTONE: as above
2619-2622m	40	SANDSTONE: as above
	20	SHALE: as above
	Tr	COAL: as above
	40	CLAYSTONE: as above
2622-2625m	Tr	SANDSTONE: as above
	Tr	SHALE: as above
	Tr	COAL: as above
	100	CLAYSTONE: lt gy, (slty), disp, sft
2625-2628m	Tr	SANDSTONE: as above
	10	SHALE: as above
	10	COAL: as above
	80	CLAYSTONE: as above
2628-2631m	40	SANDSTONE: as above
	20	SHALE: as above
	10	COAL: as above
	30	CLAYSTONE: as above
2631-2634m	60	SANDSTONE: as above
	10	SHALE: as above
	10	COAL: as above
	20	CLAYSTONE: as above
2634-2637m	50	SANDSTONE: wh, f, (srt), (ang), (sph), uncons, tr Calc cmt, Qz, tr Lit, (por)-por
	20	SHALE: dk brn, carb frags, blky, (fis), frm
	10	COAL: as above
	20	CLAYSTONE: as above
2637-2640m	50	SHALE: dk brn-blk, v carb, (fis), frm
	20	CLAYSTONE: lt brn-gy, disp, sft
	10	SANDSTONE: wh, m, srt, (ang), (sph), uncons, tr Calc cmt, Qz, (por)-por
	20	COAL: as above
2640-2643m	30	SHALE: as above
	30	CLAYSTONE: as above
	20	SANDSTONE: as above
	20	COAL: as above
2643-2646m	30	SHALE: as above
	20	CLAYSTONE: as above
	30	SANDSTONE: wh-cl, f-crs, srt, (rnd), sph, uncons-cons, (Calc cmt), Qz, por
	20	COAL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2646-2649m	10	SHALE: as above
	90	SANDSTONE: as above
	Tr	COAL: as above
2649-2652m	10	SHALE: as above
	90	SANDSTONE: as above
	Tr	COAL: as above
2652-2655m	Tr	SHALE: as above
	100	SANDSTONE: as above
	Tr	COAL: as above
2655-2658m	10	SHALE: as above
	80	SANDSTONE: as above
	10	COAL: as above
2658-2661m	Tr	SHALE: as above
	90	SANDSTONE: wh, m-crs, srt, (rnd)-rnd, (sph), uncons, por
	10	COAL: as above
2661-2664m	70	SANDSTONE: as above
	30	SILTSTONE: lt gy-buff, (carb), frm-hrd
	Tr	COAL: as above
2664-2667m	70	SANDSTONE: wh, f-crs, srt, (rnd)-(ang), (sph), uncons, (por)-por
	30	SILTSTONE: as above
	Tr	COAL: as above
2667-2670m	70	SANDSTONE: as above
	20	SILTSTONE: lt gy-buff, (carb), frm-hrd
	10	SHALE: dk brn, carb, (fis), frm-hrd
	Tr	COAL: as above
2670-2673m	60	SANDSTONE: wh, f-m, srt, (rnd), (sph), uncons, (calc cmt), (por)-por
	10	SILTSTONE: (brn) buff, (carb), frm
	10	SHALE: dk brn, carb, (fis), frm
	20	COAL: blk, vit, subconchoidal, frm-hrd
2673-2676m	60	SANDSTONE: as above
	20	SILTSTONE: as above
	20	SHALE: as above
	Tr	COAL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2676-2679m	50	SANDSTONE: wh, f, (srt), (ang)-(rnd), (sph), (Calc cmt), nonpor
	30	SHALE: dk brn, (carb), fis, frm-hrd
	10	SILTSTONE: buff-gy, cly, frm
	10	CLAYSTONE: lt gy-buff, sft
	Tr	COAL: as above
2679-2682m	50	SANDSTONE: wh, f-m, (srt), rnd-(ang), (sph), uncons-cmt, (Calc cmt), Qz, tr Pyr, nonpor
	20	SHALE: dk brn-dk gy, carb, fis, frm-hrd
	20	SILTSTONE: as above
	10	COAL: blk, vit, subconch, frm
2682-2685m	10	SANDSTONE: as above
	50	SHALE: dk brn-buff, carb frags, fis, frm-hrd
	20	SILTSTONE: buff-gy, cly, frm
	20	CLAYSTONE: as above
2685-2688m	80	SHALE: dk brn, abd carb frag, fis, frm-hrd
	10	SILTSTONE: as above
	Tr	SANDSTONE: as above
	10	COAL: as above
2688-2691m	80	SHALE: as above
	10	SILTSTONE: as above
	10	SANDSTONE: as above
	Tr	COAL: as above
2691-2694m	90	SHALE: dk brn-gy, abd carb frag, fis, hrd
	10	SILTSTONE: as above
	Tr	COAL: as above
2694-2697m	60	SHALE: slty, dk brn, carb lam, hrd,
	40	SANDSTONE: wh-buff, f-crs, (srt), (rnd)-rnd, (elong)-sph, uncons, (calc cmt), Qz, tr Lit, por-nonpor
	Tr	COAL: as above
2697-2700m	90	SANDSTONE: wh, m-crs, srt, (rnd), (sph), uncons, tr Calc cmt, Qz, por
	10	SILTSTONE: cly, dk brn, abd carb frags, frm
	Tr	SHALE: as above
	Tr	COAL: as above
2700-2703m	60	SANDSTONE: as above
	30	SILTSTONE: as above
	10	SHALE: as above
	Tr	COAL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2703-2706m	30	SANDSTONE: as above
	20	SILTSTONE: lt gy-buff, (carb), frm
	40	SHALE: dk brn, carb lam, subfis, frm
	10	COAL: as above
2706-2709m	70	SANDSTONE: wh, m-crs, srt, (rnd), (sph), uncons, Qz, tr Calc cmt, tr Sil cmt, por
	20	SHALE: slty, dk brn, carb lam frm
	10	SILTSTONE: as above
	Tr	COAL: as above
2709-2712m	70	SANDSTONE: as above
	20	SHALE: as above
	10	SILTSTONE: as above
	Tr	COAL: as above
2712-2715m	60	SANDSTONE: wh, m, srt, (rnd)-ang, sph-(sph), uncons, Qz, tr Sil cmt, por
	30	SHALE: as above
	10	SILTSTONE: as above
	Tr	COAL: as above
2715-2718m	40	SANDSTONE: as above
	20	SHALE: as above
	40	SILTSTONE: cly, lt brn, carb, Mic, frm
	Tr	COAL: as above
2718-2721m	60	SILTSTONE: dk brn, carb lam, (Mic),frm,
	20	SANDSTONE: wh, m, (srt), (rnd), (sph), uncons-Qz, tr Lit, (Silc cmt), por-(por
	10	SHALE: ck gy, (carb), (fis), frm-hrd
	10	COAL: blk, vit, frm
2721-2724m	60	SILTSTONE: as above
	20	SANDSTONE: as above
	10	SHALE: as above
	10	COAL: as above
2724-2727m	50	SILTSTONE: as above
	40	SANDSTONE: as above
	10	SHALE: as above
	Tr	COAL: as above
272709-2730m	10	SILTSTONE: as above
	80	SANDSTONE: wh, m, srt, (rnd), (sph)-(elong), uncons, Qz, por
	10	SHALE: as above
	Tr	COAL: as above
2730-2733m	20	SILTSTONE: as above
	80	SANDSTONE: as above
	Tr	COAL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2733-2736m	10	SILTSTONE: brn-buff, carb frags, (Mic), frm
	90	SANDSTONE: wh-cl, m, srt, (rnd)-ang, (sph)-(elong), uncons, Qz, por
	Tr	COAL: as above
2736-2739m	Tr	SILTSTONE: as above
	100	SANDSTONE: as above
	Tr	COAL: as above
2739-2742m	10	SILTSTONE: (brn)gy, carb frag, (Mic), frm
	90	SANDSTONE: wh, m, srt, (rnd)-ang, (elong), uncons, Qz, (Sil cmt), por
2742-2745m	60	SILTSTONE: brn, carb frag, frm
	30	SANDSTONE: as above
	10	SHALE: brn-dk gy, frm-hrd
2745-2748m	80	SILTSTONE: as above
	10	SANDSTONE: wh, vf-m, (srt), (rnd)-(ang) uncons, tr Calc cmt, tr Pyr, nonpor-(por)
	10	SHALE: as above
2748-2751m	80	SILTSTONE: as above
	10	SANDSTONE: as above
	10	SHALE: as above
2751-2754m	50	SILTSTONE: as above
	20	SHALE: dk brn-blk, abd carb frag, frm
	30	COAL: (slty), blk, frm-hrd
2754-2757m	70	SILTSTONE: as above
	Tr	SHALE: as above
	20	COAL: as above
	10	SANDSTONE: wh, v f, (srt), (ang), sph, Calc cmt, nonpor
2757-2760m	20	SILTSTONE: as above
	80	SANDSTONE: wh, f-m, srt, ang, (sph), uncons, Qz, por
2760-2763m	80	SANDSTONE: wh, f-m, (srt), (ang)-(rnd), (sph), uncons, Qz, por
	10	SILTSTONE: as above
	10	COAL: (slty), blk, frm-hrd
2763-2766m	90	SANDSTONE: as above
	10	SILTSTONE: brn-gy, (carb), frm
	Tr	SHALE: buff-brn, (fis), frm

DEPTH	% LITHOLOGY	DESCRIPTION
2766-2769m	30	SANDSTONE: wh, f-m, (srt), (ang), (sph) uncons, (Dol cmt), (por)
	50	SILTSTONE: brn-gy, carb, frm
	20	SHALE: as above
2769-2772m	90	SANDSTONE: as above
	10	SILTSTONE: as above
2772-2775m	30	SANDSTONE: wh-clr, vf-m, (srt), (ang), (sph), Calc cmt, uncons, (por)
	70	SILTSTONE: brn-gy, carb, frm
2775-2778m	10	SANDSTONE: as above
	80	SILTSTONE: as above
	10	COAL: blk, vit, woody, frm
2778-2781m	80	SILTSTONE: as above
	20	SANDSTONE: as above
2781-2784m	100	SILTSTONE: as above
2784-2787m	90	SILTSTONE: as above
	10	SANDSTONE: wh-buff, vf, (srt), (sph), Dol cmt, tr Sil cmt, nonpor
2787-2790m	30	SILTSTONE: as above
	40	SANDSTONE: as above
	20	SHALE: lt gy-bm, (carb frag), frm, (fis
	10	COAL: blk, vit, subconch, frm
2790-2793m	30	SILTSTONE: as above
	60	SANDSTONE: as above
	10	SHALE: as above
	Tr	COAL: as above
2793-2796m	30	SILTSTONE: as above
	50	SANDSTONE: as above
	20	SHALE: as above
	Tr	COAL: as above
2796-2799m	50	SILTSTONE: as above
	30	SANDSTONE: as above
	20	SHALE: as above
	Tr	COAL: as above
2799-2802m	60	SILTSTONE: as above
	30	SANDSTONE: as above
	10	SHALE: as above
	Tr	COAL: as above
2802-2805m	80	SANDSTONE: wh, m, srt, (rnd), (sph), uncons, Qz, por
	10	SILTSTONE: dk brn, carb frag, frm-sft
	10	COAL: blk, vit, blky, frm

DEPTH	% LITHOLOGY	DESCRIPTION
2805-2808m	70	SANDSTONE: wh-lt gy, m, srt, (rnd), (sph)-(elong), uncons, Qz, tr Sil cmt, por
	20	SILTSTONE: as above
	10	COAL: as above
2808-2811m	10	SANDSTONE: as above
	30	SILTSTONE: as above
	10	COAL: as above
	50	CLAYSTONE: as above
2811-2814m	30	SANDSTONE: as above
	50	SILTSTONE: as above
	Tr	COAL: as above
	20	CLAYSTONE: as above
2814-2817m	90	SANDSTONE: as above por
	10	SILTSTONE: brn-buff, (carb), frm
2817-2820m	Tr	SANDSTONE: as above
	100	SILTSTONE: as above
2820-2823m	20	SANDSTONE: as above
	80	SILTSTONE: as above
	Tr	COAL: as above
2823-2826m	50	SILTSTONE: dk (blk)brn, carb lam, sft-frm
	50	SANDSTONE: wh, f-m, srt, (ang), (sph), Dol cmt, nonpor
	Tr	COAL: as above
2826-2829m	30	SILTSTONE: as above
	70	SANDSTONE: wh-buff, f-m, (srt), (ang), (elong), uncons, (Dol cmt), Qz, tr Pyr, nonpor-(por)
2829-2832m	80	SILTSTONE: as above
	20	SANDSTONE: as above
2832-2835m	50	SILTSTONE: as above
	50	SANDSTONE: as above
2803-2838m	90	SANDSTONE: wh, m-crs, (srt), ang, (elong)-(sph), uncons, Dol cmt, tr Pyr, nonpor-(por)
	10	SILTSTONE: gy, carb, blky-(fis), frm
	Tr	COAL: blk, woody, vit, blky, frm
2838-2841m	80	SANDSTONE: as above
	10	SILTSTONE: as above
	10	COAL: as above
	Tr	SHALE: dk gy, (slty), fis, frm-hrd

DEPTH	% LITHOLOGY	DESCRIPTION
2841-2844m	80	SANDSTONE: as above
	10	SILTSTONE: as above
	Tr	COAL: as above
	10	SHALE: as above
2844-2847m	60	SANDSTONE: wh, f-m, (srt), (ang)-(rnd), sph, uncons, tr Dol cmt, Qz, (por)
	40	SILTSTONE: as above
	Tr	COAL: as above
	Tr	SHALE: as above
2847-2850m	60	SANDSTONE: as above
	30	SILTSTONE: as above
	Tr	COAL: as above
	10	SHALE: buff, (carb), (fis)-fis, frm
2850-2853m	30	SANDSTONE: as above
	30	SILTSTONE: as above
	10	COAL: as above
	30	SHALE: as above
2853-2856m	50	SANDSTONE: wh, vf-f, (srt), (ang), sph, Dol cmt, Qz, nonpor
	20	SILTSTONE: as above
	Tr	COAL: as above
	30	SHALE: dk gy, (slty), fis, frm-hrd
2856-2859m	60	SANDSTONE: buff, vf-f, (srt), (ang), sph, Col cmt, nonpor
	20	SILTSTONE: as above
	Tr	COAL: as above
	10	SHALE: as above
2859-2862m	90	SANDSTONE: wh, f-m, (srt), (ang), (sph) uncons, Qz, tr Dol cmt, (por)
	10	SILTSTONE: dk gy, carb, frm-hrd
	Tr	SHALE: as above
2862-2865m	70	SANDSTONE: wh, m, srt, (ang), (sph), uncons, Qz, por
	10	SILTSTONE: lt gy-buff, frm
	20	SHALE: dk brn, abd carb mat, (fis), frm
2865-2868m	60	SANDSTONE: wh, f-m, (srt), rnd-(ang), (sph), uncons, Qz, por
	10	SILTSTONE: gy-buff, frm
	20	SHALE: dk brn, abd carb mat, frm
	10	COAL: blk, vit, blky
2868-2871m	60	SANDSTONE: wh, f-m, (srt), ang, (sph), uncons, tr Dol cmt, (por)
	30	SILTSTONE: as above
	10	SHALE: as above
	Tr	COAL: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2871-2874m	60	SANDSTONE: wh, f-m, (srt), ang, (sph), uncons, tr Dol cmt, (por)
	40	SILTSTONE: as above
	Tr	SHALE: as above
2874-2877m	50	SANDSTONE: as above
	50	SILTSTONE: as above
2877-2880m	70	SANDSTONE: as above
	30	SILTSTONE: as above
2880-2883m	50	SANDSTONE: as above
	50	SILTSTONE: as above
2883-2886m	60	SANDSTONE: wh, m-crs, (srt), (ang)-(rnd), (elong), uncons, Qz, tr Do cmt, (por)
	30	SILTSTONE: as above
	10	SHALE: dk gy, carb, (fis), frm
2886-2889m	90	SANDSTONE: wh, m, srt, rnd, (sph), uncons, Qz, por
	10	SILTSTONE: dk gy-buff, (carb), (fis), frm-sft
2889-2892m	100	SANDSTONE: as above
	Tr	SILTSTONE: as above
2892-2895m	80	SANDSTONE: as above
	10	SILTSTONE: as above
	10	COAL: blk, fis, subconch, vit, frm
2895-2901m	80	SANDSTONE: wh, f-crs, (srt), md-(ang), (sph)-sph, uncons, Qz, tr Dol cmt, por
	10	SILTSTONE: lt gy-buff, frm-sft
	10	SHALE: dk brn-blk, abd carb frag, fis, frm
	Tr	COAL: as above
2901-2904m	90	SANDSTONE: as above
	10	SILTSTONE: as above
	Tr	SHALE: as above
	Tr	COAL: as above
2904-2907m	90	SANDSTONE: as above
	10	SILTSTONE: as above
2907-2913m	90	SANDSTONE: wh, m, srt, rnd-(ang), (sph) uncons, tr Dol cmt, tr Pyr, por
	10	SILTSTONE: lt gy-buff, (carb), frm-sft
2907-2913m	90	SANDSTONE: wh, m, srt, rnd-(ang), (sph) uncons, tr Dol cmt, tr Pyr, por
	10	SILTSTONE: lt gy-buff, (carb), frm-sft

DEPTH	% LITHOLOGY	DESCRIPTION
2913-2916m	70	SANDSTONE: wh, m, srt, (ang), (sph), uncons, Qz, por
	30	SILTSTONE: as above
	10	SHALE: dk gy-brn, carb, (fis), frm
2916-2919m	70	SANDSTONE: wh, m-crs, srt, rnd-(rnd), sph, uncons, Qz, por
	20	SILTSTONE: as above
	10	SHALE: as above
2919-2922m	60	SANDSTONE: wh-cl, f-m, srt-(srt), (rnd) sph, uncons, Qz, tr Pyr, (por)
	10	SILTSTONE: as above
2922-2925m	80	SANDSTONE: wh, m, srt, rnd-(md), (sph)-sph, uncons, Qz, por
	10	SILTSTONE: as above
	10	CLAYSTONE: lt gy, disp
2925-2928m	50	SANDSTONE: wh, f-m, (srt), (rnd)-(ang), (sph), (elong), (Sil cmt), Qz, Pyr, (por)
	40	SILTSTONE: lt gy, (carb), frm-sft
	10	SHALE: lt-dk gy, (fis), frm
2928-2931m	20	SANDSTONE: as above
	20	SILTSTONE: as above
	60	CLAYSTONE: dk-lt gy, disp, sft
2931-2934m	10	SANDSTONE: wh-buff, f, (srt), ang-(rnd) (elong), (Sil cmt), Qz, nonpor
	50	SILTSTONE: lt-dk gy, (carb), frm-sft
	20	SHALE: dk gy, fis, frm-hrd
	20	CLAYSTONE: as above
2934-2937m	Tr	SANDSTONE: as above
	80	SILTSTONE: as above
	10	SHALE: as above
	10	CLAYSTONE: as above
2937-2940m	80	SANDSTONE: wh-buff, m, srt, (rnd), (sph), Dol cmt-uncons, Qz, tr Lit, (por)-por
	20	SILTSTONE: (gn)gy, (carb), frm-sft
2940-2943m	60	SANDSTONE: wh, m-crs, (srt), (ang), (elong), Dol cmt, Qz, tr Lit, nonpor
	30	SILTSTONE: as above
	10	COAL: blk, vit, fis, hrd
2943-2946m	50	SANDSTONE: as above
	50	SILTSTONE: as above

DEPTH	% LITHOLOGY	DESCRIPTION
2946-2949m	10	SANDSTONE: wh-buff, f, (srt), (ang)-ang (sph), (cmt)-cmt, Qz, tr Dol cmt, nonpo
	90	SILTSTONE: dk gy-(gn)gy, carb, (fis), frm-sft
	Tr	SANDSTONE: as above
2949-2952m	90	SILTSTONE: (brn)gy-(gn)gy, (carb lam), fis, frm-hrd
	10	CLAYSTONE: lt gy, disp, sft
2952-2955m	60	SILTSTONE: as above
	10	SANDSTONE: as above
	30	SHALE: lt gy, fis, frm-hrd
2955-2958m	70	SILTSTONE: as above
	10	SANDSTONE: as above
	20	SHALE: as above
2958-2961m	80	SILTSTONE: as above
	10	SANDSTONE: as above
	10	SHALE: as above
2961-2964m	70	SILTSTONE: as above
	10	SANDSTONE: w,f, (srt), (ang)-(rnd), (sph), Dol cmt, Sil cmt, nonpor
	20	CLAYSTONE: lt gy, (disp), sft
2964-2967m	90	SILTSTONE: as above
	10	SANDSTONE: as above
2967-2970m	80	SILTSTONE: dk gy-blk, carb frag, sft
	20	SANDSTONE: wh-buff, f, (srt), (rnd), (elong), Qz, tr Dol cmt, tr Sil cmt, tr Pyr, (por)
2970-2982m	90	SILTSTONE: as above
	10	SANDSTONE: as above
2982-2988m	100	SILTSTONE: as above
2991-2994m	70	SILTSTONE: dk-m gy, carb frags, blky, sft-frm
	20	SANDSTONE: as above
	10	CLAYSTONE: lt-m gy, v disp, sft
2994-2997m	90	SILTSTONE: as above
	10	SANDSTONE: as above
	Tr	CLAYSTONE: as above
2997-3003m	80	SILTSTONE: as above
	20	SANDSTONE: as above

DEPTH	% LITHOLOGY	DESCRIPTION
3003-3009m	70	SILTSTONE: as above
	30	SANDSTONE: as above
	Tr	CLAYSTONE: as above
3009-3012m	60	SILTSTONE: m-dk gy, carb mat, aren, blky, sft-hrd
	40	SANDSTONE: wh-cl, f-m (srt), ang-(md), (sph), uncons, (Calc cmt), (lit), nonpor-(por)
3012-3018m	80	SILTSTONE: as above
	20	SANDSTONE: as above
3018-3021m	90	SILTSTONE: as above
	10	SANDSTONE: as above
3021-3027m	100	SILTSTONE: as above
	Tr	SANDSTONE: as above
3027-3033m	90	SILTSTONE: as above
	10	SANDSTONE: as above
3033-3036m	100	SILTSTONE: as above
	Tr	SANDSTONE: as above
3036-3039m	90	SILTSTONE: as above
	10	SANDSTONE: cl, m, srt, ang-(rnd), sph, uncons, tr Calc cmt, tr Sil cmt, Qz, po
3039-3042m	100	SILTSTONE: as above
	Tr	SANDSTONE: as above
3042-3045m	100	SILTSTONE: lt-dk gy, (carb), disp, sft
	Tr	SANDSTONE: as above
3045-3048m	90	SILTSTONE: as above
	Tr	SANDSTONE: as above
3048-3060m	100	SILTSTONE: as above
	Tr	SANDSTONE: as above
3060-3075m	100	SILTSTONE: m-dk gy, (aren), carb mat, sft-frm
	Tr	SANDSTONE: as above
3075-3078m	40	SILTSTONE: lt gy, carb, fis-(fis), frm
	60	SANDSTONE: wh, f-m, (srt), ang, (elong) (Dol cmt), nonpor
3078-3081m	40	SILTSTONE: lt-dk gy, carb lam, (Mic), (Pyr), fis, blky, frm
	60	SANDSTONE: as above
3081-3084m	70	SILTSTONE: as above
	30	SANDSTONE: as above

DEPTH	% LITHOLOGY	DESCRIPTION
3084-3087m	80	SILTSTONE: as above
	20	SANDSTONE: as above
3087-3090m	90	SILTSTONE: as above
	10	SANDSTONE: as above
3090-3114m	100	SILTSTONE: lt-dk gy, carb frag, aren, (Mic), fis-(fis), blky, frm
	Tr	SANDSTONE: as above
3114-3126m	100	SILTSTONE: lt-dk gy, (Mic), (aren), car frags, (fis), frm
3126-3129m	40	SILTSTONE: as above
	60	SANDSTONE: wh, vf-f, srt, ang, (sph), Dol cmt, tr Lit, nonpor
3129-3132m	50	SILTSTONE: lt-dk gy, cly, (Mic), carb frags, disp, frm-sft
	50	SANDSTONE: as above
3132-3135m	60	SILTSTONE: as above
	40	SANDSTONE: as above
3135-3138m	80	SILTSTONE: as above
	20	SANDSTONE: as above
3138-3141m	90	SILTSTONE: as above
	10	SANDSTONE: as above
3141-3165m	100	SILTSTONE: as above
	Tr	SANDSTONE: as above
3165-3171m	60	SILTSTONE: lt-dk gy, aren, (Mic), carb frags, (fis), frm-sft
	40	SANDSTONE: wh, f, srt, (ang), (sph), (cmt), Qz, nonpor-(por)
3171-3174m	60	SILTSTONE: as above
	40	SANDSTONE: wh, f, srt, (rnd), sph, uncons, Qz, por
3174-3177m	50	SILTSTONE: as above
	50	SANDSTONE: wh, f-vf, srt, (ang), (sph), uncons-cmt, Qz, (Dol cmt), por-nonpor
3177-3180m	40	SILTSTONE: as above
	60	SANDSTONE: as above
3180-3183m	20	SILTSTONE: as above
	80	SANDSTONE: wh, f, (srt)-srt, (ang), (sph), Qz, Dol cmt, nonpor-(por)

DEPTH	% LITHOLOGY	DESCRIPTION
3183-3186m	30	SILTSTONE: as above
	70	SANDSTONE: as above
3186-3189m	40	SILTSTONE: as above
	60	SANDSTONE: as above
3189-3192m	80	SILTSTONE: as above
	20	SANDSTONE: as above
3192-3201m	90	SILTSTONE: as above
	10	SANDSTONE: as above
3201-3204m	80	SILTSTONE: as above
	20	SANDSTONE: as above
	Tr	COAL: v. slty, blk, (vit), frm-hrd
3204-3207m	90	SILTSTONE: dk-lt gy, cly, (Mic), carb frag, aren, (disp), frm-sft
	10	SANDSTONE: as above
	Tr	COAL: as above
3207-3213m	80	SILTSTONE: as above
	10	SANDSTONE: as above
	10	COAL: as above
3213-3222m	80	SILTSTONE: dk-lt gy, (cly), (Mic), carb frag, (aren), frm-hrd
	10	SANDSTONE: as above
	10	CLAYSTONE: lt gy, disp, sft
3222-3225m	40	SILTSTONE: as above
	50	SANDSTONE: as above
	10	COAL: as above
3225-3228m	20	SILTSTONE: as above
	70	SANDSTONE: wh, f-m, srt, (rnd), (sph), uncons, tr Dol cmt, Qz, (por)
	10	COAL: as above
3228-3231m	20	SILTSTONE: as above
	80	SANDSTONE: as above
3231-3234m	60	SILTSTONE: lt-dk gy, carb frag, (fis)-blky, frm-hrd
	40	SANDSTONE: wh, f-m, (srt), (rnd)-ang, (sph), uncons-cmt, Qz, tr Lit, (Dol cmt), (Sil cmt), nonpor-(por)
3234-3237m	30	SILTSTONE: as above
	60	SANDSTONE: as above
	10	COAL: blk, vit, conchoid, blky, hrd

DEPTH	% LITHOLOGY	DESCRIPTION
3237-3240m	40	SILTSTONE: as above
	20	SANDSTONE: wh, v f, srt, (ang)-ang, (sph), cmt, Lit, nonpor
	30	SANDSTONE: wh, f-m, (srt), (rnd)-(ang), (sph), uncons-(cmt), Qz, (Dol cmt) (por
	10	COAL: blk-dk brn, (vit), woody, blky frm-hrd
3240-3243m	30	SILTSTONE: as above
	30	SANDSTONE: as above
	40	SANDSTONE: as above
3243-3246m	30	SILTSTONE: dk gy-brn, carb lam, Mic, (aren), frm
	70	SANDSTONE: wh, f-m, (srt), (rnd)-(ang), (sph), uncons, (arg mtrx), (Lit), (por)
3246-3249m	70	SILTSTONE: as above
	30	SANDSTONE: wh-crm, f-m, (srt), (rnd)-(ang), sph, uncons, (arg mtrx), (sil cmt), (Dol cmt), (Lit), por
3249-3252m	80	SILTSTONE: as above
	20	SANDSTONE: as above
3252-3255m	100	SILTSTONE: as above
	Tr	SANDSTONE: as above
3255-3258m	100	SILTSTONE: dk gy-brn, carb lam, (Mic), (aren), frm
	Tr	SANDSTONE: as above
3258-3261m	90	SILTSTONE: as above
	10	SANDSTONE: as above
3261-3285m	100	SILTSTONE: as above
	Tr	SANDSTONE: as above
3285-3288m	100	SILTSTONE: dk gy-brn, (cly), carb lam, (aren), (Mic), frm-hrd
	Tr	SANDSTONE: as above
3288-3327m	100	SILTSTONE: as above
3327-3330m	90	SILTSTONE: dk gy, carb frag, (Mic), (aren), blky, (fis), frm
	10	SANDSTONE: wh, vf-f, (srt), (ang), (sph), cmt, (Dol cmt), (Lit), nonpor
3330-3333m	60	SILTSTONE: as above
	40	SANDSTONE: wh, f-m, (srt), (rnd)-(ang), (sph), uncons, Qz, (Dol cmt), (por)
3333-3336m	20	SILTSTONE: as above
	80	SANDSTONE: as above

DEPTH	% LITHOLOGY	DESCRIPTION
3336-3339m	40	SILTSTONE: as above
	60	SANDSTONE: as above
3339-3345m	30	SILTSTONE: as above
	70	SANDSTONE: as above
3345-3348m	50	SILTSTONE: as above
	50	SANDSTONE: wh, f-crs, (srt), (rnd), (sph), uncons, Qz, (Lit), (por)
3348-3351m	80	SILTSTONE: as above
	20	SANDSTONE: as above
3351-3354m	70	SILTSTONE: dk gy, carb frag, (Mic), (aren), blky, (fis), frm
	30	SANDSTONE: wh-cl, f-m, (srt), (rnd)-(ang), (sph), uncons, Qz, (Dol cmt), (Lit), (por)
3354-3360m	80	SILTSTONE: as above
	20	SANDSTONE: as above
3360-3363m	60	SILTSTONE: as above
	40	SANDSTONE: as above
3363-3369m	70	SILTSTONE: as above
	30	SANDSTONE: as above
3369-3372m	20	SILTSTONE: dk gy-brn, carb lam, (Mic), (aren), blky, (fis), frm-hrd
	80	SANDSTONE: wh, f-m, (srt), (rnd), (sph) uncons-cmt, (Dol cmt), (Lit), (arg mtrx), nonpor-(por)
3372-3378m	60	SILTSTONE: as above
	40	SANDSTONE: as above
3378-3387m	50	SILTSTONE: as above
	50	SANDSTONE: as above
3387-3390m	60	SILTSTONE: as above
	40	SANDSTONE: as above
3390-3393m	50	SILTSTONE: as above
	50	SANDSTONE: as above

DEPTH	% LITHOLOGY	DESCRIPTION
3393-3396m	40	SILTSTONE: as above
	60	SANDSTONE: as above
3396-3399m	50	SILTSTONE: dk gy, carb lam, (aren), (Mic), blky, (fis), frm
	50	SANDSTONE: wh, f, (srt), (ang), (sph), (cmt)-uncons, Qz, (Lit), (Dol cmt), nonpor-(por)
3399-3411m	70	SILTSTONE: as above
	30	SANDSTONE: as above
3411-3414m	80	SILTSTONE: dk gy-brn, carb lam, aren, (Mic), (fis), blky, frm-hrd
	40	SANDSTONE: wh, f, (srt), (ang), (sph), arg mtrx, (Lit), (Dol cmt), nonpor
3414-3429m	90	SILTSTONE: as above
	10	SANDSTONE: as above
3429-3432m	80	SILTSTONE: as above
	20	SANDSTONE: as above
3432-3435m	90	SILTSTONE: as above
	10	SANDSTONE: as above
3435-3438m	60	SILTSTONE: lt-dk gy, carb lam, aren, (Mic), blky, frm-hrd
	40	SANDSTONE: wh, vf-f, (srt), (ang), arg mtrx, nonpor
3438-3444m	80	SILTSTONE: as above
	20	SANDSTONE: as above
3444-3447m	70	SILTSTONE: as above
	30	SANDSTONE: as above
3447-3450m	60	SILTSTONE: as above
	40	SANDSTONE: as above
3450-3453m	30	SILTSTONE: as above
	70	SANDSTONE: as above
3453-3456m	70	SILTSTONE: as above
	30	SANDSTONE: wh, f, (srt), (ang), (rnd), (sph), cmt, (Dol cmt), (arg mtrx), (Lit), nonpor
3456-3459m	90	SILTSTONE: as above
	10	SANDSTONE: as above
3459-3465m	80	SILTSTONE: as above
	20	SANDSTONE: as above

DEPTH	% LITHOLOGY	DESCRIPTION
3465-3468m	20	SILTSTONE: as above
	80	SANDSTONE: wh, f-m, (srt), (ang) (elong)-(sph), uncons-(cmt), Qz, (Lit), (Qz overgrowths), (Dol cmt), (por)-nonpor
3468-3471m	40	SILTSTONE: as above
	60	SANDSTONE: as above
3471-3474m	60	SILTSTONE: as above
	40	SANDSTONE: as above
3474-3480m	60	SILTSTONE: dk gy-brn, carb lam, (Mic), (aren), blky, frm-hrd
	40	SANDSTONE: wh, f-m, (srt), (ang)-ang, (sph), cmt-uncons, Qz, (Lit), (Qz overgrowths), (Dol cmt), nonpor-por
3480-3492m	80	SILTSTONE: as above
	20	SANDSTONE: as above
3492-3498m	70	SILTSTONE: as above
	30	SANDSTONE: as above
3498-3501m	40	SILTSTONE: as above
	60	SANDSTONE: as above
3501-3504m	50	SILTSTONE: as above
	50	SANDSTONE: as above
3504-3507m	40	SILTSTONE: dk gy-brn, carb lam, (Mic), (aren), (blky), (fis), frm-hrd
	60	SANDSTONE: wh-lt gy, vf-m, (srt), (ang)-(rnd), (sph), cmt-uncons, Qz, (Lit), (Dol cmt), nonpor-(por)
3507-3513m	60	SILTSTONE: as above
	40	SANDSTONE: as above
3513-3518m	80	SILTSTONE: as above
	20	SANDSTONE: as above

APPENDIX 2

SIDEWALL SAMPLE DESCRIPTIONS

SIDEWALL SAMPLE DESCRIPTION

WELL: SHARK-1

DEPTH OF HOLE: 2202 RUN NO: 1 FIRED: 30 REC: 21 DESCRIPTION BY: L. BROWN DATE: 13/11 PAGE 1 OF 3

SHOT NO.	DEPTH (mRT)	RECOVERY (mm)	LITHOLOGICAL DESCRIPTION																				HYDROCARBON INDICATIONS							
			MAIN ROCK TYPE	COLOUR	QUALIFIER		QUALIFIER		GRAINSIZE		SORTING	ROUNDNESS	HARDNESS	ACCESSORIES	MATRIX		CEMENT		POROSITY		SED. STRUCTURE	REMARKS	NATURAL FLUOR			CUT FLUOR			SOLVENT CUT	REMARKS (Residue, oil staining, acetone)
					TYPE	%	TYPE	%	RANGE	DOM.					TYPE	%	TYPE	%	TYPE	%			DISTRIB.	INTENS.	COLOUR	RATE TYPE	INTENS.	COLOUR		
1	2197	45	Sst	Lt gy	Cl	20			f-m	f	(srt)	(rnd)	frm	Qz, Mic	Ill	20	calc	5		10	-	Sst friable								
2	2180	35	Sst	Lt gy	Cl	10			m-c	c	(srt)	(ang)	frm	Qz. Mic	Ill	10	calc	5		10										
3	2168.5	35	Sst.	lt gy-wh	Cl	15			f-m	f	srt	(ang)	frm	Qz,	Ill	15	calc	5		10										
4	2150	30	Sltst	dk gy	Clst	30							frm-hd																	
5	2140	-		MISFIRE																										
6	2124	30	Sh	lt-dk gy	Slt	10							frm	carb lam																
7	2105	40	coal	blk	Cl	10							fri	vit	Cl	10														
8	2090.5	-		MISFIRE																										
9	2074	28	Sh	lt-dk gy	Slt	10							frm-sft																	
10	2064.5	38	Sh	dk brn	Slt	5							frm	coal lam																
11	2056	-		MISFIRE																										
12	2030	28	Slt	lt gy	Cl	20							frm	Tr co	Cl	20														
13	2025.5	35	Sh	dk brn	Slt	5							frm-sft	coal lam																
14	2004.5			MISFIRE																										

SIDEWALL SAMPLE DESCRIPTION

WELL: SHARK-1

DEPTH OF HOLE: 2202 RUN NO: 1 FIRED: 30 REC: 21 DESCRIPTION BY: L. BROWN DATE: 13/11 PAGE 2 OF 3

SHOT NO.	DEPTH (mRT)	RECOVERY (mm)	LITHOLOGICAL DESCRIPTION																				HYDROCARBON INDICATIONS							
			MAIN ROCK TYPE	COLOUR	QUALIFIER		QUALIFIER		GRAINSIZE		SORTING	ROUNDNESS	HARDNESS	ACCESSORIES	MATRIX		CEMENT		POROSITY		SED. STRUCTURE	REMARKS	NATURAL FLUOR			CUT FLUOR			SOLVENT CUT	REMARKS (Residue, oil staining, acetone)
					TYPE	%	TYPE	%	RANGE	DOM.					TYPE	%	TYPE	%	TYPE	%			DISTRIB.	INTENS.	COLOUR	RATE TYPE	INTENS.	COLOUR		
15	1983	40	Sh	dk brn	Slt	20							Sft Frm																	
16	1937	35	Sh	dk brn dk gy	Slt	15	Sst	Tr					frm																	
17	1900			MISFIRE																										
18	1880	40	Slt	dk gn	Cl	10							frm	Abd Glc	Cl	10														
19	1850	48	Slt	dk gn - brn	Cl	10	Sst	10					frm	Abd Glc																
20	1820			MISFIRE																										
21	1810	50	Clst	lt gy	Calc	20							Sft Frm				Ca	20												
22	1700	35	Clst	lt - dk gy	Calc	20							Sft				Ca	20												
23	1575			MISFIRE																										
24	1550	32	Mrl	lt gy	Slt	10							Sft Frm				Ca	50												
25	1540	30	Mrl	lt gy	Slt	10							frm				Ca	50												
26	1530			MISFIRE																										
27	1510	30	Lst	lt gy	Mrl	40							hd				Ca	80												
28	1490	28	Lst	lt gy	Mrl	50							frm				Ca	80												

SIDEWALL SAMPLE DESCRIPTION

Shell

WELL: SHARK-1

DEPTH OF HOLE: 2202 RUN NO: 1 FIRED: 30 REC: 21 DESCRIPTION BY: L. BROWN DATE: 13/11 PAGE 3 OF 3

SHOT NO.	DEPTH (mRT)	RECOVERY (mm)	LITHOLOGICAL DESCRIPTION: MAIN ROCK TYPE	COLOUR	QUALIFIER TYPE	QUALIFIER %	QUALIFIER TYPE	QUALIFIER %	GRAINSIZE RANGE	GRAINSIZE DOM.	SORTING	ROUNDNESS	HARDNESS	ACCESSORIES	MATRIX TYPE	MATRIX %	CEMENT TYPE	CEMENT %	POROSITY TYPE	POROSITY %	SED. STRUCTURE	REMARKS	HYDROCARBON INDICATIONS: NATURAL FLUOR DISTRIB.	NATURAL FLUOR INTENS.	NATURAL FLUOR COLOUR	CUT FLUOR RATE TYPE	CUT FLUOR INTENS.	CUT FLUOR COLOUR	SOLVENT CUT	REMARKS (Residue, oil staining, acetone)
30	1440	28	Lst	lt gy	Mrl	40							frm		Ca	80														

SIDEWALL SAMPLE DESCRIPTION

WELL: SHARK-1

DEPTH OF HOLE: 3523m RUN NO: 2 FIRED: 60 REC: 51 DESCRIPTION BY: L. BROWN DATE: 30/11 PAGE 1 OF 5

SHOT NO.	DEPTH (mRT)	RECOVERY (mm)	LITHOLOGICAL DESCRIPTION																				HYDROCARBON INDICATIONS							
			MAIN ROCK TYPE	COLOUR	QUALIFIER		QUALIFIER		GRAINSIZE		SORTING	ROUNDNESS	HARDNESS	ACCESSORIES	MATRIX		CEMENT		POROSITY		SED. STRUCTURE	REMARKS	NATURAL FLUOR			CUT FLUOR			SOLVENT CUT	REMARKS (Residue, oil staining, acetone)
					TYPE	%	TYPE	%	RANGE	DOM.					TYPE	%	TYPE	%	TYPE	%			DISTRIB.	INTENS.	COLOUR	RATE TYPE	INTENS.	COLOUR		
1	3510	25	Slt	dk gy	Cly	10							frm		Cly	10						(fis)								
2	3490	30	Slt	dk gy	Cly	10							frm		Cly	10						(fis)								
3	3471	14	Sst	buff	Cly	10			f-m	m	(srt)	(rnd)-rnd	frm				Sil	20	(por)-por											
4	3430	32	Sh	dk gy	Slt	10							frm									(fri)								
5	3388	23	Slt	dk gy	Cly	10								carb frag	Cly	10														
6	3378	10	Sst	lt gy	Cly	20			f-m	f	(srt)	(rnd)	fri		Cly	20			(por)											
7	3355	33	Co	blk	Slt	20							fis									vit, fis, fri								
8	3340	18	Sst	wh-lt gy	Qz				f-m	f	(srt)	(rng)	frm		Cly	30			(por)											
9	3325	23	Slt	dk gy	Cly	20							frm-hrd	(carb)	Cly	20														
10	3290	25	Slt	dk gy	Cly	20							frm	(carb)	Cly	20														
11	3260	24	Slt	dk gy	Cly	20							frm-hd	(carb)	Cly	20														
12	3230	18	Sst	wh-lt gy	Cly	40			vf	vf	(srt)	(ang)	sft		Cly	40						cly-mixed layer ? ilite								
13	3227	25	Slt	dk gy-(blk)gy	Cly	20							frm	abd carb frag	Cly	20														
14	3226	15	Slt	dk gy-blk	Cly	30							sft-frm	abd carb frag	Cly	30														

SIDEWALL SAMPLE DESCRIPTION

WELL: SHARK-1

DEPTH OF HOLE: 3523 RUN NO: 2 FIRED: 60 REC: 51 DESCRIPTION BY: L. BROWN DATE: 30/11 PAGE 2 OF 5

SHOT NO.	DEPTH (mRT)	RECOVERY (mm)	LITHOLOGICAL DESCRIPTION																			HYDROCARBON INDICATIONS							
			MAIN ROCK TYPE	COLOUR	QUALIFIER		QUALIFIER		GRAINSIZE		SORTING	ROUNDNESS	HARDNESS	ACCESSORIES	MATRIX		CEMENT		POROSITY		SED. STRUCTURE	REMARKS	NATURAL FLUOR			CUT FLUOR			SOLVENT CUT	REMARKS (Residue, oil staining, acetone)
					TYPE	%	TYPE	%	RANGE	DOM.					TYPE	%	TYPE	%	TYPE	%			DISTRIB.	INTENS.	COLOUR	RATE TYPE	INTENS.	COLOUR		
15	3200	MISSING																												
16	3170.5	20	Sst	lt gy					vf	vf	(srt)	(ang)	frm	tr lit	Cly	40						Illite?								
17	3165	MISSING																												
18	3125	MISSING																												
19	3065	28	Sh	dk gy - blk									frm	carb frag								fis								
20	2990	24	Slt	dk gy									frm								-									
21	2955	30	Slt	dk gy									frm - hd								≠									
22	2945	16	Sst	lt gy	Slt	20								abd carb frag	Cly	30			(por)		=	mm bedding defined by carb lam								
23	2918.5	23	Slt	lt - dk gy									hrd	abd carb frag							≠									
24	2908	24	Sst	lt gy	Cly	30			f/m	f	(srt)	(rnd)	frm		Cly	30			non por		≠									
25	2900	35	Co	blk	Slt	10							frm - hd									vit, fis								
26	2892	15	Sst	lt gy - wh	Cly	40			vf	vf	(srt)	(ang)	frm	carb frag	Cly	40			(por) - non		=	mm bedding								
27	2886	20	Slt	dk gy									fm	abd carb frag							=	mm bedding defined by carb lam								
28	2867.5	33	Sh	dk gy - blk	Co	30							frm								≠	(fis), coaly.								

SIDEWALL SAMPLE DESCRIPTION

WELL: SHARK-1

DEPTH OF HOLE: 3523 RUN NO: 2 FIRED: 60 REC: 51 DESCRIPTION BY: L. BROWN DATE: 30/11 PAGE 3 OF 5

SHOT NO.	DEPTH (mRT)	RECOVERY (mm)	LITHOLOGICAL DESCRIPTION																				HYDROCARBON INDICATIONS							
			MAIN ROCK TYPE	COLOUR	QUALIFIER		QUALIFIER		GRAINSIZE		SORTING	ROUNDNESS	HARDNESS	ACCESSORIES	MATRIX		CEMENT		POROSITY		SED. STRUCTURE	REMARKS	NATURAL FLUOR			CUT FLUOR			SOLVENT CUT	REMARKS (Residue, oil staining, acetone)
					TYPE	%	TYPE	%	RANGE	DOM.					TYPE	%	TYPE	%	TYPE	%			DISTRIB.	INTENS.	COLOUR	RATE TYPE	INTENS.	COLOUR		
29	2835	15	Slt	dk gy	Sst	30							frm	abd carb lam							=	mm bedding defined by carb lam								
30	2807.5	12	Sst	lt gy					vf	vf	(srt)	(ang)	frm	abd carb lam							=	mm bedding defined by abd carb lam								
31	2794	22	Sh	dk gy - blk	Co	30							frm								=	mm bedded coal streaks								
32	2783	13	Sh	dk gy - blk									frm - sft	abd carb frag																
33	2757	26	Co	blk									frm									vit, (fis), subconch								
34	2748	22	Sh	dk gy - dk brn	Cly	30							frm	abd carb frag								(fis)								
35	2721		MISSING																											
36	2707	42	Co	blk	Cly	10							frm									(vit), fis, fri								
37	2700		EMPTY																											
38	2678		MISSING																											
39	2662.5		MISSING																											
40	2650	28	Sst	lt gy - wh	Cly	30			f - m	f	(srt)	(rnd)	frm		Cly	30			(por)		≠									
41	2640	18	Sh	dk gy - blk	Slt	10							hd	carb frag																
42	2630	15	Sh	dk gy - blk									frm - hd	carb frag																

SIDEWALL SAMPLE DESCRIPTION

WELL: SHARK-1

DEPTH OF HOLE: 3523 RUN NO: 2 FIRED: 60 REC: 51 DESCRIPTION BY: L. BROWN DATE: 30/11 PAGE 4 OF 5

SHOT NO.	DEPTH (mRT)	RECOVERY (mm)	LITHOLOGICAL DESCRIPTION																				HYDROCARBON INDICATIONS							
			MAIN ROCK TYPE	COLOUR	QUALIFIER		QUALIFIER		GRAINSIZE		SORTING	ROUNDNESS	HARDNESS	ACCESSORIES	MATRIX		CEMENT		POROSITY		SED. STRUCTURE	REMARKS	NATURAL FLUOR			CUT FLUOR			SOLVENT CUT	REMARKS (Residue, oil staining, acetone)
					TYPE	%	TYPE	%	RANGE	DOM.					TYPE	%	TYPE	%	TYPE	%			DISTRIB.	INTENS.	COLOUR	RATE TYPE	INTENS.	COLOUR		
43	2593	34	Sh	dk brn – gy									frm																	
44	2573	32	co	blk	Cl	10							fri									vit, (fis) - fis								
45	2560.5	28	Cly	dk gy	Slt	10							frm	carb frag								(dispersive).								
46	2528	40	Sh	blk-gy	Co	30							frm	carb frag																
47	2524	20	Cly	dk gy (brn) gy	Slt	10							sft – frm	carb frag																
48	2500	28	Slt	dk gy									frm sft	carb frag	Cly	20														
49	2490	20	Slt	dk gy – blk	Co	40							frm – hd								lam									
50	2464.5	10	Sst	lt gy	Qz	90			vf – f	vf	(srt)	(ang)	frm		Cly	30				(por)	=	carb frag define bedding								
51	2456	25	Cly	dk gy	Slt	10							sft – frm																	
52	2435		EMPTY																											
53	2426	15	Slt	dk gy									frm	carb frag	Cly	30														
54	2390	23	Cly	dk gy									sft – frm	carb frag								dispersive								
55	2377	40	Cly	dk gy (gy) brn	Slt	10							sft																	
56	2356		EMPTY																											

SIDEWALL SAMPLE DESCRIPTION

WELL: SHARK-1

DEPTH OF HOLE: 3523 RUN NO: 2 FIRED: 60 REC: 51 DESCRIPTION BY: L. BROWN DATE: 30/11 PAGE 5 OF 5

SHOT NO.	DEPTH (mRT)	RECOVERY (mm)	LITHOLOGICAL DESCRIPTION																			HYDROCARBON INDICATIONS							
			MAIN ROCK TYPE	COLOUR	QUALIFIER		QUALIFIER		GRAINSIZE		SORTING	ROUNDNESS	HARDNESS	ACCESSORIES	MATRIX		CEMENT		POROSITY		SED. STRUCTURE	REMARKS	NATURAL FLUOR			CUT FLUOR			SOLVENT CUT	REMARKS (Residue, oil staining, acetone)
					TYPE	%	TYPE	%	RANGE	DOM.					TYPE	%	TYPE	%	TYPE	%			DISTRIB.	INTENS.	COLOUR	RATE TYPE	INTENS.	COLOUR		
57	2320	12	sst	wh	Qz				m	m	(srt)	(ang) - (rnd)	sft		Cly	100			non por											
58	2294	15	Sst	wh-ltgy	Qz	90	Lit	10	vf-f	vf	(srt)	(ang)	frm		Cly	80			(por)											
59	2245	12	slt	dk gy									frm								≠									
60	2241	24	Sst	Wh	Qz	90	Lit	10	fc	f	(srt)	(ang)	sft		Cly	90	Dol	10	(por)		≠									

APPENDIX 3

VELOCITY SURVEY

Schlumberger

SHELL OIL CO. OF AUSTRALIA

GEOGRAM PROCESSING REPORT

SHARK-1

FIELD	:	WILDCAT
COUNTRY	:	AUSTRALIA
COORDINATES	:	038 deg 15' 34.2" S 149 deg 03' 7.0" E
DATE OF SURVEY	:	29-NOV-1989
REFERENCE NO.	:	540746

Contents

List of Tables

List of Figures

1. Introduction

A checkshot survey was shot in the SHARK-1 well on 29 November 1989. Data was acquired using an airgun source located near the wellhead. Twenty-two checklevels were shot from 3518 metres to 700 metres below KB. Generally Good quality data was obtained, although some high frequency casing arrivals were seen in the geophone data above the second casing shoe at 1200 metres below KB.

2. Data Acquisition

The data was acquired using the well Seismic Acquisition Tool (SAT). Recording was made on the Schlumberger Cyber Service Unit (CSU) using LIS format at a tape density of 800 BPI.

Table 1: Survey Parameters

Datum	MSL
Elevation KB	28.4 metres AMSL
Elevation DF	28.0 metres AMSL
Elevation GL	-316.2 metres AMSL
Total Depth	3518 metres below KB
Energy Source	Airgun
Source Offset	55 metres
Source Depth	5.0 metres
Hydrophone Depth	10 metres
Reference Sensor	Hydrophone

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

3.2 Checkshot Data

Twenty-two checklevels were shot from 3518 metres to 700 metres below KB. Good quality data was obtained for all the levels below the second casing shoe at 1200 m below KB. Above this casing shoe some high frequency casing arrivals were seen but it was still possible to reliably identify the true first arrival. The stacked checkshot data is displayed in Figure 2a.

3.3 Correction to Datum

The sonic calibration processing has been referenced to datum of MSL using a water velocity of 1540 m/s. A dummy check level has been imposed at the sea bed using this water velocity.

3.4 Open Hole Logs

The sonic log was recorded during three runs from 3512 metres to the casing shoe at 685 metres below KB. The sonic log is of good quality for runs 2 and 3 but is affected by noise and cycle skipping for run 1. The density log was recorded during suites 2 and 3 from 3506 to 1200 metres below KB and is of good quality.

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

3.5 Sonic Calibration Results

The general trends of the points on the drift curve have been followed in formulating the calibration.The adjusted sonic curve is considered to be the best interpretation of the available data.

Table 2: Sonic Drift

Depth Interval (metres below KB)	Block Shift μsec/ft	Δt_{min} μsec/ft	Reduction Factor G	Equiv Block Shift μsec/ft
700.0-1816.5	6.42	-	-	6.42
1816.5-3518	0.00	-	-	0.00

4. Synthetic Seismogram Processing

GEOGRAM plots were generated using 25,35 and 45 Hz zero phase Ricker wavelets.

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

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

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

4.1 Depth to Time Conversion

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

4.2 Primary Reflection Coefficients

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

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

where:

ρ_1 = density of the layer above the reflection interface
ρ_2 = density of the layer below the reflection interface
ν_1 = compressional wave velocity of the layer above the reflection interface
ν_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 coefficent, 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 metres from kelly bushing .
3. Vertical depth from SRD : *dsrd*, the depth in metres from seismic reference datum.
4. Vertical depth from GL : *dgl*, the depth in metres from ground level.
5. Observed travel time HYD to GEO : *tim*0, 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 metres from kelly bushing .
3. Vertical depth from SRD : the depth in metres from seismic reference datum.
4. Vertical depth from GL : the depth in metres 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 metres from kelly bushing .

3. Vertical depth from SRD : the depth in metres from seismic reference datum.

4. Vertical depth from GL : the depth in metres 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 Δt_{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 metres from kelly bushing .

3. Vertical depth from SRD : the depth in metres from seismic reference datum

4. Vertical depth from GL : the depth in metres 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.

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

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).

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

where:

Δt = normal moveout (secs)
X = moveout distance (metres)
t = two way time (secs)
v_{rms} = rms velocity (metres /sec)

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

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

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

SCHLUMBERGER (SEG-1976) WAVELET POLARITY CONVENTION

Figure 1

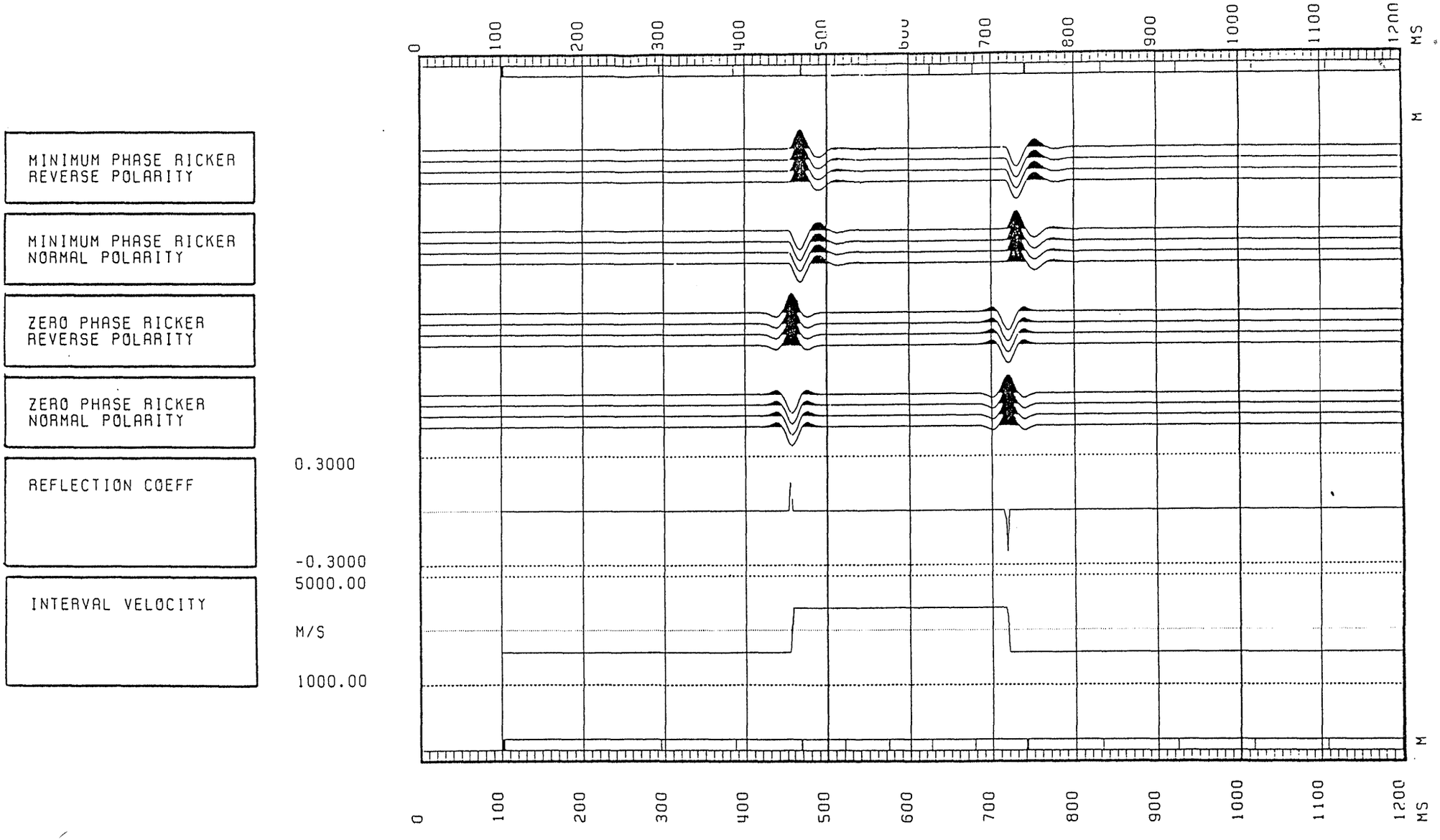
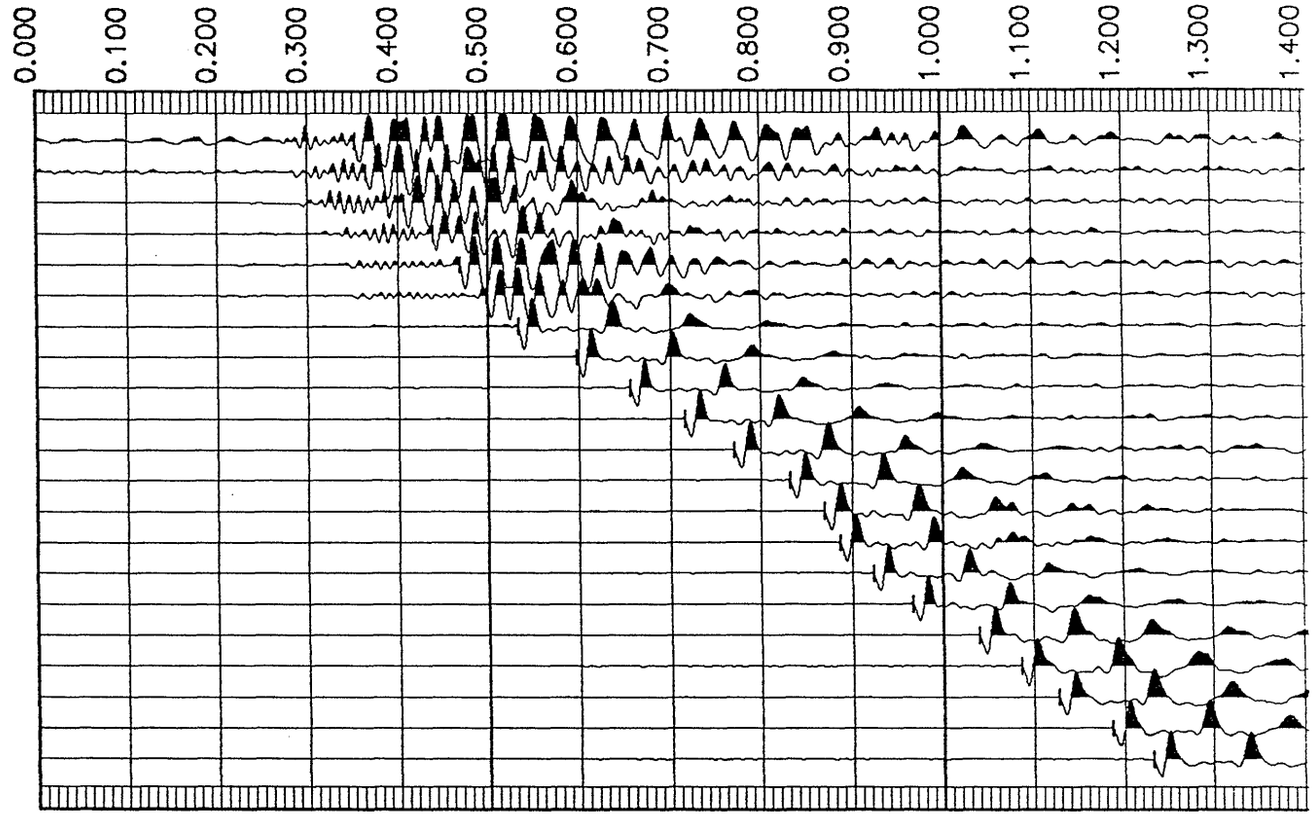


Figure 2

SHARK-1
CHECKSHOT DATA

RAW DEPTH M	TRANSIT TIME S	LEVEL NO
700.0	0.353	22
760.0	0.365	21
810.0	0.407	20
915.0	0.439	19
995.0	0.469	18
1085.0	0.499	17
1160.0	0.534	16
1350.0	0.598	15
1530.0	0.656	14
1700.0	0.716	13
1855.0	0.771	12
2050.0	0.832	11
2180.0	0.870	10
2235.0	0.887	9
2373.0	0.924	8
2525.0	0.967	6
2780.0	1.040	5
2950.0	1.087	4
3100.0	1.128	3
3333.0	1.187	2
3518.0	1.233	1



ANALYST: K. MCPHAIL 28-DEC-89 09:53:32 PROGRAM: GSHOT 007.E08

SCHLUMBERGER

GEOPHYSICAL AIRGUN REPORT

COMPANY : SHELL OIL COMPANY OF AUSTRAL

WELL : SHARK-1

FIELD : WILDCAT

COUNTRY : AUSTRALIA

REFERENCE: 540746

LONG DEFINITIONS

GLOBAL

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

MATRIX

GUNELZ - SOURCE ELEVATION ABOVE SRD (ONE FOR THE WHOLE JOB; OR ONE PER SHOT)
GUNEWZ - SOURCE DISTANCE FROM THE BOREHOLE AXIS IN EW DIRECTION (CF. GUNELZ)
GUNNSZ - SOURCE DISTANCE FROM THE BOREHOLE AXIS IN NS DIRECTION (CF. GUNELZ)
HYDELZ - HYDROPHONE ELEVATION ABOVE SRD (CF. GUNELZ)
HYDEWZ - HYDROPHONE DISTANCE FROM THE BOREH AXIS IN EW DIRECTION (CF GUNELZ)
HYDNSZ - HYDROPHONE DISTANCE FROM THE BOREH AXIS IN NS DIRECTION (CF GUNELZ)
TRTHYD - TRAVEL TIME FROM THE HYDROPHONE TO THE SOURCE
TRTSRD - TRAVEL TIME FROM THE SOURCE TO THE SRD
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
DGL.GSH - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)
TIMO.GSH - MEASURED TRAVEL TIME FROM HYDROPHONE TO GEOPHONE
TIMV.GSH - VERTICAL TRAVEL TIME FROM THE SOURCE TO THE GEOPHONE
SHTM.GSH - Shot time (WST)
AVGV.GSH - Average seismic velocity
DELZ.GSH - DEPTH INTERVAL BETWEEN SUCCESSIVE SHOTS
DELT.GSH - TRAVEL TIME INTERVAL BETWEEN SUCCESSIVE SHOTS
INTV.GSH - Internal velocity, average

(GLOBAL PARAMETERS)		(VALUE)	
ELEV OF KB AB. MSL (WST)	KB	: 28.4000	M
ELEV OF SRD AB. MSL(WST)	SRD	: 0	M
Elevation of Kelly Bushi	EKB	: 28.4000	M
ELEV OF GL AB. SRD(WST)	GL	: -316.200	M
VEL SOURCE-HYDRO(WST)	VELHYD	: 1540.00	M/S
VEL SOURCE-SRD (WST)	VELSUR	: 1540.00	M/S

(MATRIX PARAMETERS)

	SOURCE ELV M	SOURCE EW M	SOURCE NS M	HYDRO ELEV M	HYDRO EW M	HYDRO NS M
1	-5.00	-55.00	0	-10.00	-55.00	0

	TRT HYD-SC MS	TRT SC-SRD MS
1	3.25	3.25

	MD @ KB M	VD @ KB M	VD @ SRD M	E-W COORD M	N-S COORD M
1	344.60	344.60	316.20	0	0
2	700.00	700.00	671.60	0	0
3	915.00	915.00	886.60	0	0
4	995.00	995.00	966.60	0	0
5	1085.00	1085.00	1056.60	0	0
6	1160.00	1160.00	1131.60	0	0
7	1350.00	1350.00	1321.60	0	0
8	1530.00	1530.00	1501.60	0	0
9	1700.00	1700.00	1671.60	0	0
10	1855.00	1855.00	1826.60	0	0
11	2050.00	2050.00	2021.60	0	0
12	2180.00	2180.00	2151.60	0	0
13	2235.00	2235.00	2206.60	0	0
14	2373.00	2373.00	2344.60	0	0
15	2525.04	2525.04	2496.64	0	0
16	2780.00	2780.00	2751.60	0	0
17	2950.00	2950.00	2921.60	0	0
18	3100.00	3100.00	3071.60	0	0
19	3332.99	3332.99	3304.59	0	0
20	3518.00	3518.00	3489.60	0	0
21	3518.00	3518.00	3489.60	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	344.60	316.20	0	201.95	202.07	205.31	1540			
2	700.00	671.60	355.40	353.14	355.18	358.43	1874	355.40	153.11	2321
3	915.00	886.60	570.40	438.86	441.25	444.50	1995	215.00	86.07	2498
4	995.00	966.60	650.40	469.14	471.62	474.86	2036	80.00	30.37	2634
5	1085.00	1056.60	740.40	498.86	501.42	504.67	2094	90.00	29.81	3020
6	1160.00	1131.60	815.40	533.67	536.28	539.52	2097	75.00	34.86	2152
7	1350.00	1321.60	1005.40	598.20	600.92	604.17	2187	190.00	64.64	2939
8	1530.00	1501.60	1185.40	656.30	659.10	662.35	2267	180.00	58.18	3094
9	1700.00	1671.60	1355.40	715.68	718.54	721.78	2316	170.00	59.43	2860
10	1855.00	1826.60	1510.40	771.37	774.26	777.51	2349	155.00	55.73	2781
11	2050.00	2021.60	1705.40	831.76	834.70	837.94	2413	195.00	60.43	3227
12	2180.00	2151.60	1835.40	869.83	872.79	876.04	2456	130.00	38.09	3413
13	2235.00	2206.60	1890.40	887.04	890.01	893.26	2470	55.00	17.22	3194
14	2373.00	2344.60	2028.40	923.69	926.68	929.93	2521	138.00	36.67	3763
15	2525.04	2496.64	2180.44	967.38	970.39	973.64	2564	152.04	43.71	3478
16	2780.00	2751.60	2435.40	1040.23	1043.27	1046.51	2629	254.96	72.88	3498
17	2950.00	2921.60	2605.40	1086.55	1089.60	1092.85	2673	170.00	46.34	3669
18	3100.00	3071.60	2755.40	1128.10	1131.16	1134.41	2708	150.00	41.56	3609
19	3332.99	3304.59	2988.39	1187.41	1190.49	1193.74	2768	232.99	59.33	3927
20	3518.00	3489.60	3173.40	1232.73	1235.82	1239.07	2816	185.01	45.33	4081

?C

ANALYST: K. MCPHAIL 28-DEC-89 10:00:53 PROGRAM: GDRIFT 007.E09

DRIFT COMPUTATION REPORT

COMPANY : SHELL OIL COMPANY OF AUSTRAL

WELL : SHARK-1

FIELD : WILDCAT

COUNTRY : AUSTRALIA

REFERENCE: 540746

LONG DEFINITIONS

GLOBAL

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

ZONE

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

SAMPLED

SHOT - Shot number
DKB - MEASURED DEPTH FROM KELLY-BUSHING
DSRD - Depth from SRD
DGL - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)
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	28.4000	M
ELEV OF SRD AB. MSL(WST)	SRD	0	M
Elevation of Kelly Bushi	EKB	28.4000	M
ELEV OF GL AB. SRD(WST)	GL	-316.200	M
TOP OF ZONE PROCD (WST)	XSTART	0	M
BOT OF ZONE PROCD (WST)	XSTOP	0	M
RAW SONIC CH NAME (WST)	GAD001	DT.ATT.002.FLP.*	
UNIFORM DENSITY VALUE	UNFDEN	2.30000	G/C3

(ZONED PARAMETERS)		(VALUE)		(LIMITS)		
LAYER OPTION FLAG DENS	LOFDEN	1.000000		30479.7	-	0
USER SUPPLIED DENSITY DA	LAYDEN	0	G/C3	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	344.60	316.20	0	205.31	205.31	0	0
2	700.00	671.60	355.40	358.43	358.43	0	0
3	915.00	886.60	570.40	444.50	437.85	6.65	9.43
4	995.00	966.60	650.40	474.86	467.32	7.54	3.39
5	1085.00	1056.60	740.40	504.67	499.83	4.83	-9.17
6	1160.00	1131.60	815.40	539.52	526.59	12.93	32.91
7	1350.00	1321.60	1005.40	604.17	589.10	15.07	3.43
8	1530.00	1501.60	1185.40	662.35	644.01	18.33	5.53
9	1700.00	1671.60	1355.40	721.78	700.84	20.94	4.67
10	1855.00	1826.60	1510.40	777.51	754.16	23.35	4.73
11	2050.00	2021.60	1705.40	837.94	814.13	23.81	.72
12	2180.00	2151.60	1835.40	876.04	852.67	23.36	-1.05
13	2235.00	2206.60	1890.40	893.26	869.53	23.72	1.99
14	2373.00	2344.60	2028.40	929.93	905.94	23.99	.59
15	2525.04	2496.64	2180.44	973.64	949.94	23.70	-.58
16	2780.00	2751.60	2435.40	1046.51	1022.47	24.04	.41
17	2950.00	2921.60	2605.40	1092.85	1068.91	23.94	-.17
18	3100.00	3071.60	2755.40	1134.41	1109.96	24.46	1.04
19	3332.99	3304.59	2988.39	1193.74	1171.28	22.46	-2.62
20	3518.00	3489.60	3173.40	1239.07	1217.35	21.72	-1.21

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ANALYST: K. MCPHAIL 28-DEC-89 12:10:59 PROGRAM: GADJST 008.E08

SCHLUMBERGER

SONIC ADJUSTMENT PARAMETER REPORT

COMPANY : SHELL OIL COMPANY OF AUSTRAL

WELL : SHARK-1

FIELD : WILDCAT

COUNTRY : AUSTRALIA

REFERENCE: 540746

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

(GLOBAL PARAMETERS)		(VALUE)	
ORIG OF ADJ DATA (WST)	SRCDRF	: 2.00000	
CONS SONIC ADJST (WST)	CONADJ	: 7.50000	US/F
UNIFORM EARTH VELOCITY	UNERTH	: 1540.00	M/S

(ZONED PARAMETERS)		(VALUE)		(LIMITS)	
USER DRIFT ZONE (WST)	ZDRIFT	: 23.50000	MS	3518.00	- 1816.50
		23.50000		1816.50	700.000
		0		700.000	0
ADJUSMNT MODE (WST)	ADJOPZ	:-999.2500		30479.7	- 0
USER DELTA-T MIN (WST)	ADJUSZ	:-999.2500	US/F	30479.7	- 0
LAYER OPTION FLAG VELOC	LOFVEL	: 1.000000		30479.7	- 0
USER VELOC (WST)	LAYVEL	: 2321.000	M/S	700.000	- 344.600
		1540.000		344.600	0

KNEE NUMBER	VERTICAL DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	VERTICAL DEPTH FROM GL M	DRIFT AT KNEE MS	BLOCKSHIFT USED US/F	DELTA-T MINIMUM USED US/F	REDUCTION FACTOR G	EQUIVALENT BLOCKSHIFT US/F
2	700.00	671.60	355.40	0	0			0
3	1816.50	1788.10	1471.90	23.50	6.42			6.42
4	3518.00	3489.60	3173.40	23.50	0			0

ANALYST: K. MCPHAIL 28-DEC-89 12:11:15 PROGRAM: GADJST 008.E08

SCHLUMBERGER

VELOCITY REPORT

COMPANY : SHELL OIL COMPANY OF AUSTRAL

WELL : SHARK-1

FIELD : WILDCAT

COUNTRY : AUSTRALIA

REFERENCE: 540746

LONG DEFINITIONS

GLOBAL

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

ZONE

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

SAMPLED

SHOT - Shot number
DKB - MEASURED DEPTH FROM KELLY-BUSHING
DSRD - Depth from SRD
DGL - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)
SHTM - Shot time (WST)
ADJS - ADJUSTED SONIC TRAVEL TIME
SHDR - DRIFT AT SHOT OR KNEE
REST - RESIDUAL TRAVEL TIME AT KNEE
INTV - Internal velocity, average

(GLOBAL PARAMETERS)		(VALUE)	
ELEV OF KB AB. MSL (WST)	KB	28.4000	M
ELEV OF SRD AB. MSL(WST)	SRD	0	M
Elevation of Kelly Bushi	EKB	28.4000	M
ELEV OF GL AB. SRD(WST)	GL	-316.200	M
UNIFORM EARTH VELOCITY	UNERTH	1540.00	M/S

(ZONED PARAMETERS)		(VALUE)		(LIMITS)	
LAYER OPTION FLAG VELOC	LOFVEL	1.000000		30479.7 -	0
USER VELOC (WST)	LAYVEL	2321.000	M/S	700.000 -	344.600
		1540.000		344.600	0

LEVEL NUMBER	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	VERTICAL DEPTH FROM GL M	VERTICAL TRAVEL TIME SRD/GEOPH MS	INTEGRATED ADJUSTED SONIC TIME MS	DRIFT = SHOT TIME - RAW SON MS	RESIDUAL = SHOT TIME - ADJ SON MS	ADJUSTED INTERVAL VELOCITY M/S
1	344.60	316.20	0	205.31	205.31	0	0	1540
2	700.00	671.60	355.40	358.43	358.42	0	0	2321
3	915.00	886.60	570.40	444.50	442.37	6.65	2.12	2561
4	995.00	966.60	650.40	474.86	473.53	7.54	1.33	2567
5	1085.00	1056.60	740.40	504.67	507.94	4.83	-3.27	2616
6	1160.00	1131.60	815.40	539.52	536.27	12.93	3.25	2647
7	1350.00	1321.60	1005.40	604.17	602.78	15.07	1.39	2857
8	1530.00	1501.60	1185.40	662.35	661.48	18.33	.87	3066
9	1700.00	1671.60	1355.40	721.78	721.89	20.94	-.11	2814
10	1855.00	1826.60	1510.40	777.51	777.66	23.35	-.15	2779
11	2050.00	2021.60	1705.40	837.94	837.63	23.81	.32	3252
12	2180.00	2151.60	1835.40	876.04	876.17	23.36	-.13	3373
13	2235.00	2206.60	1890.40	893.26	893.03	23.72	.23	3263
14	2373.00	2344.60	2028.40	929.93	929.43	23.99	.49	3790
15	2525.04	2496.64	2180.44	973.64	973.43	23.70	.21	3456
16	2780.00	2751.60	2435.40	1046.51	1045.96	24.04	.55	3515
17	2950.00	2921.60	2605.40	1092.85	1092.40	23.94	.45	3661
18	3100.00	3071.60	2755.40	1134.41	1133.45	24.46	.96	3654
19	3332.99	3304.59	2988.39	1193.74	1194.81	22.46	-1.07	3797
20	3518.00	3489.60	3173.40	1239.07	1240.89	21.72	-1.82	4015

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ANALYST: K. MCPHAIL 28-DEC-89 12:27:23 PROGRAM: GTRFRM 001.E12

SCHLUMBERGER

TIME CONVERTED VELOCITY REPORT

COMPANY : SHELL OIL COMPANY OF AUSTRAL

WELL : SHARK-1

FIELD : WILDCAT

COUNTRY : AUSTRALIA

REFERENCE: 540746

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	: 28.4000	M
ELEV OF SRD AB. MSL(WST)	SRD	: 0	M
ELEV OF GL AB. SRD(WST)	GL	: -316.200	M
UNIFORM EARTH VELOCITY	UNERTH	: 1540.00	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)		(VALUE)		(LIMITS)	
LAYER OPTION FLAG VELOC	LOFVEL	: 1.000000		30479.7	- 0
USER VELOC (WST)	LAYVEL	: 2321.000	M/S	700.000	- 344.600
		1540.000		344.600	0
LAYER OPTION FLAG DENS	LOFDEN	:-1.000000		30479.7	- 0
USER SUPPLIED DENSITY DA	LAYDEN	: 0	G/C3	0	- 0

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
2.00	29.94	1.54	1540	1540	647.35	972.03	1296.70	1540
4.00	31.48	3.08	1540	1540	645.36	970.03	1294.71	1540
6.00	33.02	4.62	1540	1540	643.38	968.04	1292.72	1540
8.00	34.56	6.16	1540	1540	641.40	966.06	1290.73	1540
10.00	36.10	7.70	1540	1540	639.43	964.08	1288.74	1540
12.00	37.64	9.24	1540	1540	637.46	962.10	1286.76	1540
14.00	39.18	10.78	1540	1540	635.50	960.13	1284.78	1540
16.00	40.72	12.32	1540	1540	633.55	958.16	1282.80	1540
18.00	42.26	13.86	1540	1540	631.60	956.19	1280.83	1540
20.00	43.80	15.40	1540	1540	629.66	954.23	1278.86	1540
22.00	45.34	16.94	1540	1540	627.72	952.27	1276.89	1540
24.00	46.88	18.48	1540	1540	625.79	950.32	1274.92	1540
26.00	48.42	20.02	1540	1540	623.87	948.37	1272.96	1540
28.00	49.96	21.56	1540	1540	621.95	946.43	1271.00	1540
30.00	51.50	23.10	1540	1540	620.04	944.49	1269.05	1540
32.00	53.04	24.64	1540	1540	618.14	942.55	1267.10	1540
34.00	54.58	26.18	1540	1540	616.24	940.62	1265.15	1540
36.00	56.12	27.72	1540	1540	614.35	938.69	1263.20	1540
38.00	57.66	29.26	1540	1540	612.46	936.77	1261.26	1540
40.00	59.20	30.80	1540	1540	610.58	934.85	1259.32	1540
42.00	60.74	32.34	1540	1540	608.71	932.93	1257.38	1540
44.00	62.28	33.88	1540	1540	606.84	931.02	1255.45	1540
46.00	63.82	35.42	1540	1540	604.98	929.11	1253.52	1540
48.00	65.36	36.96	1540	1540	603.12	927.21	1251.59	

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
								1540
50.00	66.90	38.50	1540	1540	601.27	925.31	1249.66	
								1540
52.00	68.44	40.04	1540	1540	599.43	923.41	1247.74	
								1540
54.00	69.98	41.58	1540	1540	597.59	921.52	1245.82	
								1540
56.00	71.52	43.12	1540	1540	595.76	919.63	1243.91	
								1540
58.00	73.06	44.66	1540	1540	593.94	917.75	1242.00	
								1540
60.00	74.60	46.20	1540	1540	592.12	915.87	1240.09	
								1540
62.00	76.14	47.74	1540	1540	590.30	914.00	1238.18	
								1540
64.00	77.68	49.28	1540	1540	588.50	912.13	1236.28	
								1540
66.00	79.22	50.82	1540	1540	586.70	910.26	1234.38	
								1540
68.00	80.76	52.36	1540	1540	584.90	908.40	1232.48	
								1540
70.00	82.30	53.90	1540	1540	583.11	906.54	1230.59	
								1540
72.00	83.84	55.44	1540	1540	581.33	904.68	1228.70	
								1540
74.00	85.38	56.98	1540	1540	579.55	902.83	1226.81	
								1540
76.00	86.92	58.52	1540	1540	577.78	900.99	1224.92	
								1540
78.00	88.46	60.06	1540	1540	576.02	899.14	1223.04	
								1540
80.00	90.00	61.60	1540	1540	574.26	897.31	1221.16	
								1540
82.00	91.54	63.14	1540	1540	572.51	895.47	1219.29	
								1540
84.00	93.08	64.68	1540	1540	570.76	893.64	1217.42	
								1540
86.00	94.62	66.22	1540	1540	569.02	891.82	1215.55	
								1540
88.00	96.16	67.76	1540	1540	567.29	889.99	1213.68	
								1540
90.00	97.70	69.30	1540	1540	565.56	888.18	1211.82	
								1540
92.00	99.24	70.84	1540	1540	563.84	886.36	1209.96	
								1540
94.00	100.78	72.38	1540	1540	562.12	884.55	1208.10	
								1540
96.00	102.32	73.92	1540	1540	560.41	882.75	1206.24	

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
98.00	103.86	75.46	1540	1540	558.70	880.94	1204.39	1540
100.00	105.40	77.00	1540	1540	557.01	879.15	1202.55	1540
102.00	106.94	78.54	1540	1540	555.31	877.35	1200.70	1540
104.00	108.48	80.08	1540	1540	553.63	875.56	1198.86	1540
106.00	110.02	81.62	1540	1540	551.95	873.78	1197.02	1540
108.00	111.56	83.16	1540	1540	550.27	872.00	1195.18	1540
110.00	113.10	84.70	1540	1540	548.60	870.22	1193.35	1540
112.00	114.64	86.24	1540	1540	546.94	868.44	1191.52	1540
114.00	116.18	87.78	1540	1540	545.28	866.67	1189.70	1540
116.00	117.72	89.32	1540	1540	543.63	864.91	1187.87	1540
118.00	119.26	90.86	1540	1540	541.99	863.15	1186.05	1540
120.00	120.80	92.40	1540	1540	540.35	861.39	1184.23	1540
122.00	122.34	93.94	1540	1540	538.71	859.64	1182.42	1540
124.00	123.88	95.48	1540	1540	537.08	857.89	1180.61	1540
126.00	125.42	97.02	1540	1540	535.46	856.14	1178.80	1540
128.00	126.96	98.56	1540	1540	533.85	854.40	1176.99	1540
130.00	128.50	100.10	1540	1540	532.24	852.66	1175.19	1540
132.00	130.04	101.64	1540	1540	530.63	850.93	1173.39	1540
134.00	131.58	103.18	1540	1540	529.03	849.20	1171.60	1540
136.00	133.12	104.72	1540	1540	527.44	847.47	1169.80	1540
138.00	134.66	106.26	1540	1540	525.85	845.75	1168.01	1540
140.00	136.20	107.80	1540	1540	524.27	844.04	1166.23	1540
142.00	137.74	109.34	1540	1540	522.70	842.32	1164.44	1540
144.00	139.28	110.88	1540	1540	521.13	840.61	1162.66	

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
146.00	140.82	112.42	1540	1540	519.56	838.91	1160.88	1540
148.00	142.36	113.96	1540	1540	518.00	837.21	1159.11	1540
150.00	143.90	115.50	1540	1540	516.45	835.51	1157.34	1540
152.00	145.44	117.04	1540	1540	514.90	833.81	1155.57	1540
154.00	146.98	118.58	1540	1540	513.36	832.13	1153.80	1540
156.00	148.52	120.12	1540	1540	511.83	830.44	1152.04	1540
158.00	150.06	121.66	1540	1540	510.30	828.76	1150.28	1540
160.00	151.60	123.20	1540	1540	508.77	827.08	1148.52	1540
162.00	153.14	124.74	1540	1540	507.25	825.41	1146.77	1540
164.00	154.68	126.28	1540	1540	505.74	823.74	1145.02	1540
166.00	156.22	127.82	1540	1540	504.23	822.07	1143.27	1540
168.00	157.76	129.36	1540	1540	502.73	820.41	1141.52	1540
170.00	159.30	130.90	1540	1540	501.23	818.75	1139.78	1540
172.00	160.84	132.44	1540	1540	499.74	817.10	1138.04	1540
174.00	162.38	133.98	1540	1540	498.26	815.45	1136.31	1540
176.00	163.92	135.52	1540	1540	496.78	813.80	1134.57	1540
178.00	165.46	137.06	1540	1540	495.31	812.16	1132.84	1540
180.00	167.00	138.60	1540	1540	493.84	810.52	1131.12	1540
182.00	168.54	140.14	1540	1540	492.37	808.88	1129.39	1540
184.00	170.08	141.68	1540	1540	490.92	807.25	1127.67	1540
186.00	171.62	143.22	1540	1540	489.46	805.63	1125.95	1540
188.00	173.16	144.76	1540	1540	488.02	804.00	1124.24	1540
190.00	174.70	146.30	1540	1540	486.58	802.38	1122.53	1540
192.00	176.24	147.84	1540	1540	485.14	800.77	1120.82	

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
								1540
194.00	177.78	149.38	1540	1540	483.71	799.16	1119.11	
								1540
196.00	179.32	150.92	1540	1540	482.29	797.55	1117.41	
								1540
198.00	180.86	152.46	1540	1540	480.87	795.95	1115.71	
								1540
200.00	182.40	154.00	1540	1540	479.45	794.35	1114.01	
								1540
202.00	183.94	155.54	1540	1540	478.04	792.75	1112.32	
								1540
204.00	185.48	157.08	1540	1540	476.64	791.16	1110.63	
								1540
206.00	187.02	158.62	1540	1540	475.24	789.57	1108.94	
								1540
208.00	188.56	160.16	1540	1540	473.85	787.99	1107.25	
								1540
210.00	190.10	161.70	1540	1540	472.46	786.41	1105.57	
								1540
212.00	191.64	163.24	1540	1540	471.08	784.83	1103.89	
								1540
214.00	193.18	164.78	1540	1540	469.70	783.26	1102.21	
								1540
216.00	194.72	166.32	1540	1540	468.33	781.69	1100.54	
								1540
218.00	196.26	167.86	1540	1540	466.97	780.12	1098.87	
								1540
220.00	197.80	169.40	1540	1540	465.61	778.56	1097.20	
								1540
222.00	199.34	170.94	1540	1540	464.25	777.00	1095.54	
								1540
224.00	200.88	172.48	1540	1540	462.90	775.45	1093.88	
								1540
226.00	202.42	174.02	1540	1540	461.56	773.90	1092.22	
								1540
228.00	203.96	175.56	1540	1540	460.22	772.36	1090.56	
								1540
230.00	205.50	177.10	1540	1540	458.88	770.81	1088.91	
								1540
232.00	207.04	178.64	1540	1540	457.55	769.27	1087.26	
								1540
234.00	208.58	180.18	1540	1540	456.23	767.74	1085.61	
								1540
236.00	210.12	181.72	1540	1540	454.91	766.21	1083.97	
								1540
238.00	211.66	183.26	1540	1540	453.59	764.68	1082.33	
								1540
240.00	213.20	184.80	1540	1540	452.28	763.16	1080.69	

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
242.00	214.74	186.34	1540	1540	450.98	761.64	1079.06	1540
244.00	216.28	187.88	1540	1540	449.68	760.12	1077.42	1540
246.00	217.82	189.42	1540	1540	448.39	758.61	1075.79	1540
248.00	219.36	190.96	1540	1540	447.10	757.10	1074.17	1540
250.00	220.90	192.50	1540	1540	445.81	755.60	1072.55	1540
252.00	222.44	194.04	1540	1540	444.53	754.10	1070.92	1540
254.00	223.98	195.58	1540	1540	443.26	752.60	1069.31	1540
256.00	225.52	197.12	1540	1540	441.99	751.11	1067.69	1540
258.00	227.06	198.66	1540	1540	440.73	749.62	1066.08	1540
260.00	228.60	200.20	1540	1540	439.47	748.13	1064.47	1540
262.00	230.14	201.74	1540	1540	438.21	746.65	1062.87	1540
264.00	231.68	203.28	1540	1540	436.97	745.17	1061.26	1540
266.00	233.22	204.82	1540	1540	435.72	743.69	1059.66	1540
268.00	234.76	206.36	1540	1540	434.48	742.22	1058.07	1540
270.00	236.30	207.90	1540	1540	433.25	740.76	1056.47	1540
272.00	237.84	209.44	1540	1540	432.02	739.29	1054.88	1540
274.00	239.38	210.98	1540	1540	430.79	737.83	1053.29	1540
276.00	240.92	212.52	1540	1540	429.57	736.37	1051.71	1540
278.00	242.46	214.06	1540	1540	428.36	734.92	1050.12	1540
280.00	244.00	215.60	1540	1540	427.15	733.47	1048.54	1540
282.00	245.54	217.14	1540	1540	425.94	732.03	1046.97	1540
284.00	247.08	218.68	1540	1540	424.74	730.58	1045.39	1540
286.00	248.62	220.22	1540	1540	423.54	729.15	1043.82	1540
288.00	250.16	221.76	1540	1540	422.35	727.71	1042.25	

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
290.00	251.70	223.30	1540	1540	421.17	726.28	1040.69	1540
292.00	253.24	224.84	1540	1540	419.98	724.85	1039.12	1540
294.00	254.78	226.38	1540	1540	418.81	723.43	1037.56	1540
296.00	256.32	227.92	1540	1540	417.63	722.01	1036.01	1540
298.00	257.86	229.46	1540	1540	416.46	720.59	1034.45	1540
300.00	259.40	231.00	1540	1540	415.30	719.18	1032.90	1540
302.00	260.94	232.54	1540	1540	414.14	717.77	1031.35	1540
304.00	262.48	234.08	1540	1540	412.99	716.36	1029.81	1540
306.00	264.02	235.62	1540	1540	411.84	714.96	1028.26	1540
308.00	265.56	237.16	1540	1540	410.69	713.56	1026.72	1540
310.00	267.10	238.70	1540	1540	409.55	712.17	1025.19	1540
312.00	268.64	240.24	1540	1540	408.42	710.78	1023.65	1540
314.00	270.18	241.78	1540	1540	407.29	709.39	1022.12	1540
316.00	271.72	243.32	1540	1540	406.16	708.00	1020.59	1540
318.00	273.26	244.86	1540	1540	405.04	706.62	1019.07	1540
320.00	274.80	246.40	1540	1540	403.92	705.24	1017.54	1540
322.00	276.34	247.94	1540	1540	402.80	703.87	1016.02	1540
324.00	277.88	249.48	1540	1540	401.69	702.50	1014.51	1540
326.00	279.42	251.02	1540	1540	400.59	701.13	1012.99	1540
328.00	280.96	252.56	1540	1540	399.49	699.77	1011.48	1540
330.00	282.50	254.10	1540	1540	398.39	698.41	1009.97	1540
332.00	284.04	255.64	1540	1540	397.30	697.05	1008.47	1540
334.00	285.58	257.18	1540	1540	396.21	695.70	1006.96	1540
336.00	287.12	258.72	1540	1540	395.13	694.35	1005.46	

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
								1540
338.00	288.66	260.26	1540	1540	394.05	693.00	1003.96	
								1540
340.00	290.20	261.80	1540	1540	392.98	691.66	1002.47	
								1540
342.00	291.74	263.34	1540	1540	391.91	690.32	1000.98	
								1540
344.00	293.28	264.88	1540	1540	390.84	688.99	999.49	
								1540
346.00	294.82	266.42	1540	1540	389.78	687.66	998.00	
								1540
348.00	296.36	267.96	1540	1540	388.72	686.33	996.52	
								1540
350.00	297.90	269.50	1540	1540	387.67	685.00	995.04	
								1540
352.00	299.44	271.04	1540	1540	386.62	683.68	993.56	
								1540
354.00	300.98	272.58	1540	1540	385.58	682.36	992.08	
								1540
356.00	302.52	274.12	1540	1540	384.54	681.05	990.61	
								1540
358.00	304.06	275.66	1540	1540	383.50	679.73	989.14	
								1540
360.00	305.60	277.20	1540	1540	382.47	678.42	987.67	
								1540
362.00	307.14	278.74	1540	1540	381.44	677.12	986.21	
								1540
364.00	308.68	280.28	1540	1540	380.41	675.82	984.75	
								1540
366.00	310.22	281.82	1540	1540	379.39	674.52	983.29	
								1540
368.00	311.76	283.36	1540	1540	378.38	673.23	981.83	
								1540
370.00	313.30	284.90	1540	1540	377.37	671.93	980.38	
								1540
372.00	314.84	286.44	1540	1540	376.36	670.65	978.93	
								1540
374.00	316.38	287.98	1540	1540	375.35	669.36	977.48	
								1540
376.00	317.92	289.52	1540	1540	374.35	668.08	976.04	
								1540
378.00	319.46	291.06	1540	1540	373.36	666.80	974.59	
								1540
380.00	321.00	292.60	1540	1540	372.37	665.53	973.15	
								1540
382.00	322.54	294.14	1540	1540	371.38	664.26	971.72	
								1540
384.00	324.08	295.68	1540	1540	370.40	662.99	970.28	

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
								1540
386.00	325.62	297.22	1540	1540	369.42	661.72	968.85	
								1540
388.00	327.16	298.76	1540	1540	368.44	660.46	967.42	
								1540
390.00	328.70	300.30	1540	1540	367.47	659.20	966.00	
								1540
392.00	330.24	301.84	1540	1540	366.50	657.95	964.57	
								1540
394.00	331.78	303.38	1540	1540	365.53	656.70	963.15	
								1540
396.00	333.32	304.92	1540	1540	364.57	655.45	961.73	
								1540
398.00	334.86	306.46	1540	1540	363.62	654.20	960.32	
								1540
400.00	336.40	308.00	1540	1540	362.66	652.96	958.91	
								1540
402.00	337.94	309.54	1540	1540	361.71	651.72	957.50	
								1540
404.00	339.48	311.08	1540	1540	360.77	650.49	956.09	
								1540
406.00	341.02	312.62	1540	1540	359.83	649.25	954.68	
								1540
408.00	342.56	314.16	1540	1540	358.89	648.03	953.28	
								1540
410.00	344.10	315.70	1540	1540	357.96	646.80	951.88	
								2130
412.00	346.23	317.83	1543	1543	355.82	643.60	947.75	
								2321
414.00	348.55	320.15	1547	1548	353.24	639.67	942.62	
								2321
416.00	350.87	322.47	1550	1553	350.69	635.80	937.56	
								2321
418.00	353.19	324.79	1554	1557	348.19	631.98	932.57	
								2321
420.00	355.51	327.11	1558	1562	345.73	628.23	927.66	
								2321
422.00	357.84	329.44	1561	1566	343.31	624.52	922.81	
								2321
424.00	360.16	331.76	1565	1571	340.92	620.87	918.04	
								2321
426.00	362.48	334.08	1568	1575	338.56	617.27	913.33	
								2321
428.00	364.80	336.40	1572	1579	336.25	613.72	908.69	
								2321
430.00	367.12	338.72	1575	1584	333.96	610.22	904.11	
								2321
432.00	369.44	341.04	1579	1588	331.71	606.77	899.59	

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
								2321
434.00	371.76	343.36	1582	1592	329.49	603.36	895.14	
								2321
436.00	374.08	345.68	1586	1596	327.30	600.00	890.74	
								2321
438.00	376.40	348.00	1589	1600	325.15	596.69	886.40	
								2321
440.00	378.73	350.33	1592	1604	323.02	593.41	882.11	
								2321
442.00	381.05	352.65	1596	1608	320.92	590.18	877.88	
								2321
444.00	383.37	354.97	1599	1612	318.85	586.99	873.71	
								2321
446.00	385.69	357.29	1602	1616	316.81	583.84	869.58	
								2321
448.00	388.01	359.61	1605	1620	314.80	580.74	865.51	
								2321
450.00	390.33	361.93	1609	1624	312.81	577.67	861.49	
								2321
452.00	392.65	364.25	1612	1627	310.85	574.63	857.52	
								2321
454.00	394.97	366.57	1615	1631	308.91	571.64	853.59	
								2321
456.00	397.29	368.89	1618	1635	307.00	568.68	849.71	
								2321
458.00	399.62	371.22	1621	1638	305.12	565.75	845.88	
								2321
460.00	401.94	373.54	1624	1642	303.25	562.87	842.09	
								2321
462.00	404.26	375.86	1627	1645	301.42	560.01	838.34	
								2321
464.00	406.58	378.18	1630	1649	299.60	557.19	834.64	
								2321
466.00	408.90	380.50	1633	1652	297.81	554.40	830.98	
								2321
468.00	411.22	382.82	1636	1656	296.04	551.64	827.36	
								2321
470.00	413.54	385.14	1639	1659	294.29	548.92	823.78	
								2321
472.00	415.86	387.46	1642	1663	292.56	546.22	820.24	
								2321
474.00	418.18	389.78	1645	1666	290.86	543.55	816.73	
								2321
476.00	420.51	392.11	1648	1669	289.17	540.92	813.27	
								2321
478.00	422.83	394.43	1650	1672	287.50	538.31	809.84	
								2321
480.00	425.15	396.75	1653	1676	285.86	535.73	806.45	

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
								2321
482.00	427.47	399.07	1656	1679	284.23	533.18	803.10	
								2321
484.00	429.79	401.39	1659	1682	282.62	530.66	799.77	
								2321
486.00	432.11	403.71	1661	1685	281.03	528.16	796.49	
								2321
488.00	434.43	406.03	1664	1688	279.46	525.69	793.23	
								2321
490.00	436.75	408.35	1667	1691	277.91	523.24	790.01	
								2321
492.00	439.08	410.68	1669	1694	276.37	520.82	786.83	
								2321
494.00	441.40	413.00	1672	1697	274.85	518.43	783.67	
								2321
496.00	443.72	415.32	1675	1700	273.35	516.06	780.54	
								2321
498.00	446.04	417.64	1677	1703	271.87	513.71	777.45	
								2321
500.00	448.36	419.96	1680	1706	270.40	511.39	774.39	
								2321
502.00	450.68	422.28	1682	1709	268.95	509.09	771.35	
								2321
504.00	453.00	424.60	1685	1712	267.51	506.81	768.34	
								2321
506.00	455.32	426.92	1687	1715	266.09	504.56	765.37	
								2321
508.00	457.64	429.24	1690	1718	264.68	502.32	762.42	
								2321
510.00	459.97	431.57	1692	1720	263.29	500.11	759.49	
								2321
512.00	462.29	433.89	1695	1723	261.91	497.92	756.60	
								2321
514.00	464.61	436.21	1697	1726	260.55	495.75	753.73	
								2321
516.00	466.93	438.53	1700	1729	259.20	493.60	750.89	
								2321
518.00	469.25	440.85	1702	1731	257.87	491.47	748.07	
								2321
520.00	471.57	443.17	1705	1734	256.55	489.37	745.28	
								2321
522.00	473.89	445.49	1707	1737	255.24	487.28	742.51	
								2321
524.00	476.21	447.81	1709	1739	253.95	485.21	739.76	
								2321
526.00	478.53	450.13	1712	1742	252.67	483.15	737.05	
								2321
528.00	480.86	452.46	1714	1744	251.40	481.12	734.35	

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
530.00	483.18	454.78	1716	1747	250.15	479.11	731.68	2321
532.00	485.50	457.10	1718	1749	248.91	477.11	729.03	2321
534.00	487.82	459.42	1721	1752	247.68	475.13	726.40	2321
536.00	490.14	461.74	1723	1754	246.46	473.17	723.80	2321
538.00	492.46	464.06	1725	1757	245.25	471.23	721.21	2321
540.00	494.78	466.38	1727	1759	244.06	469.30	718.65	2321
542.00	497.10	468.70	1730	1762	242.88	467.39	716.11	2321
544.00	499.42	471.02	1732	1764	241.71	465.50	713.59	2321
546.00	501.75	473.35	1734	1766	240.55	463.62	711.09	2321
548.00	504.07	475.67	1736	1769	239.40	461.76	708.61	2321
550.00	506.39	477.99	1738	1771	238.26	459.91	706.15	2321
552.00	508.71	480.31	1740	1773	237.13	458.08	703.71	2321
554.00	511.03	482.63	1742	1776	236.02	456.27	701.29	2321
556.00	513.35	484.95	1744	1778	234.91	454.47	698.89	2321
558.00	515.67	487.27	1746	1780	233.81	452.68	696.51	2321
560.00	517.99	489.59	1749	1782	232.73	450.91	694.14	2321
562.00	520.31	491.91	1751	1784	231.65	449.16	691.80	2321
564.00	522.64	494.24	1753	1787	230.59	447.41	689.47	2321
566.00	524.96	496.56	1755	1789	229.53	445.69	687.16	2321
568.00	527.28	498.88	1757	1791	228.48	443.97	684.87	2321
570.00	529.60	501.20	1759	1793	227.45	442.27	682.59	2321
572.00	531.92	503.52	1761	1795	226.42	440.59	680.33	2321
574.00	534.24	505.84	1763	1797	225.40	438.91	678.09	2321
576.00	536.56	508.16	1764	1799	224.39	437.25	675.86	

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
								2321
578.00	538.88	510.48	1766	1801	223.39	435.60	673.65	
								2321
580.00	541.21	512.81	1768	1804	222.40	433.97	671.46	
								2321
582.00	543.53	515.13	1770	1806	221.41	432.35	669.28	
								2321
584.00	545.85	517.45	1772	1808	220.44	430.74	667.12	
								2321
586.00	548.17	519.77	1774	1810	219.47	429.14	664.98	
								2321
588.00	550.49	522.09	1776	1812	218.51	427.56	662.84	
								2321
590.00	552.81	524.41	1778	1814	217.56	425.99	660.73	
								2321
592.00	555.13	526.73	1779	1815	216.62	424.42	658.63	
								2321
594.00	557.45	529.05	1781	1817	215.69	422.87	656.54	
								2321
596.00	559.77	531.37	1783	1819	214.76	421.34	654.47	
								2321
598.00	562.10	533.70	1785	1821	213.84	419.81	652.41	
								2321
600.00	564.42	536.02	1787	1823	212.93	418.30	650.37	
								2321
602.00	566.74	538.34	1788	1825	212.03	416.79	648.34	
								2321
604.00	569.06	540.66	1790	1827	211.13	415.30	646.32	
								2321
606.00	571.38	542.98	1792	1829	210.24	413.82	644.32	
								2321
608.00	573.70	545.30	1794	1831	209.36	412.35	642.33	
								2321
610.00	576.02	547.62	1795	1832	208.49	410.88	640.36	
								2321
612.00	578.34	549.94	1797	1834	207.62	409.43	638.40	
								2321
614.00	580.66	552.26	1799	1836	206.76	407.99	636.45	
								2321
616.00	582.99	554.59	1801	1838	205.91	406.56	634.51	
								2321
618.00	585.31	556.91	1802	1840	205.06	405.14	632.59	
								2321
620.00	587.63	559.23	1804	1841	204.23	403.74	630.68	
								2321
622.00	589.95	561.55	1806	1843	203.39	402.34	628.78	
								2321
624.00	592.27	563.87	1807	1845	202.57	400.95	626.89	

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
								2321
626.00	594.59	566.19	1809	1847	201.75	399.57	625.02	
								2321
628.00	596.91	568.51	1811	1848	200.94	398.19	623.16	
								2321
630.00	599.23	570.83	1812	1850	200.13	396.83	621.30	
								2321
632.00	601.55	573.15	1814	1852	199.33	395.48	619.47	
								2321
634.00	603.88	575.48	1815	1853	198.54	394.14	617.64	
								2321
636.00	606.20	577.80	1817	1855	197.75	392.80	615.82	
								2321
638.00	608.52	580.12	1819	1857	196.97	391.48	614.02	
								2321
640.00	610.84	582.44	1820	1858	196.19	390.16	612.22	
								2321
642.00	613.16	584.76	1822	1860	195.42	388.86	610.44	
								2321
644.00	615.48	587.08	1823	1861	194.66	387.56	608.67	
								2321
646.00	617.80	589.40	1825	1863	193.90	386.27	606.91	
								2321
648.00	620.12	591.72	1826	1865	193.15	384.99	605.16	
								2321
650.00	622.44	594.04	1828	1866	192.40	383.72	603.42	
								2321
652.00	624.77	596.37	1829	1868	191.66	382.45	601.69	
								2321
654.00	627.09	598.69	1831	1869	190.93	381.20	599.97	
								2321
656.00	629.41	601.01	1832	1871	190.20	379.95	598.27	
								2321
658.00	631.73	603.33	1834	1872	189.47	378.71	596.57	
								2321
660.00	634.05	605.65	1835	1874	188.75	377.48	594.88	
								2321
662.00	636.37	607.97	1837	1875	188.04	376.25	593.20	
								2321
664.00	638.69	610.29	1838	1877	187.33	375.04	591.53	
								2321
666.00	641.01	612.61	1840	1878	186.63	373.83	589.88	
								2321
668.00	643.34	614.94	1841	1880	185.93	372.63	588.23	
								2321
670.00	645.66	617.26	1843	1881	185.24	371.44	586.59	
								2321
672.00	647.98	619.58	1844	1883	184.55	370.25	584.96	

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
								2321
674.00	650.30	621.90	1845	1884	183.86	369.07	583.34	
								2321
676.00	652.62	624.22	1847	1886	183.19	367.90	581.73	
								2321
678.00	654.94	626.54	1848	1887	182.51	366.74	580.12	
								2321
680.00	657.26	628.86	1850	1889	181.84	365.58	578.53	
								2321
682.00	659.58	631.18	1851	1890	181.18	364.43	576.95	
								2321
684.00	661.90	633.50	1852	1891	180.52	363.29	575.37	
								2321
686.00	664.23	635.83	1854	1893	179.87	362.16	573.81	
								2321
688.00	666.55	638.15	1855	1894	179.22	361.03	572.25	
								2321
690.00	668.87	640.47	1856	1896	178.57	359.91	570.70	
								2321
692.00	671.19	642.79	1858	1897	177.93	358.80	569.16	
								2321
694.00	673.51	645.11	1859	1898	177.29	357.69	567.63	
								2321
696.00	675.83	647.43	1860	1900	176.66	356.59	566.10	
								2321
698.00	678.15	649.75	1862	1901	176.03	355.49	564.59	
								2321
700.00	680.47	652.07	1863	1902	175.41	354.41	563.08	
								2321
702.00	682.79	654.39	1864	1904	174.79	353.33	561.58	
								2321
704.00	685.12	656.72	1866	1905	174.18	352.25	560.09	
								2321
706.00	687.44	659.04	1867	1906	173.57	351.18	558.61	
								2321
708.00	689.76	661.36	1868	1908	172.96	350.12	557.13	
								2321
710.00	692.08	663.68	1870	1909	172.36	349.07	555.67	
								2321
712.00	694.40	666.00	1871	1910	171.76	348.02	554.21	
								2321
714.00	696.72	668.32	1872	1911	171.16	346.97	552.76	
								2321
716.00	699.04	670.64	1873	1913	170.57	345.94	551.31	
								2627
718.00	701.67	673.27	1875	1915	169.81	344.57	549.38	
								2886
720.00	704.56	676.16	1878	1918	168.89	342.91	547.00	

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
722.00	707.43	679.03	1881	1922	167.98	341.28	544.66	2877
724.00	710.28	681.88	1884	1925	167.11	339.70	542.40	2844
726.00	712.70	684.30	1885	1926	166.49	338.60	540.87	2421
728.00	715.14	686.74	1887	1928	165.87	337.49	539.30	2446
730.00	717.66	689.26	1888	1930	165.21	336.31	537.63	2515
732.00	720.37	691.97	1891	1932	164.44	334.93	535.66	2716
734.00	722.86	694.46	1892	1934	163.81	333.80	534.06	2485
736.00	725.36	696.96	1894	1936	163.17	332.66	532.45	2502
738.00	728.04	699.64	1896	1938	162.44	331.34	530.57	2682
740.00	730.97	702.57	1899	1942	161.58	329.76	528.29	2922
742.00	733.43	705.03	1900	1943	160.98	328.69	526.78	2460
744.00	735.88	707.48	1902	1945	160.39	327.64	525.29	2454
746.00	738.29	709.89	1903	1946	159.83	326.63	523.86	2410
748.00	740.70	712.30	1905	1948	159.27	325.63	522.45	2410
750.00	743.11	714.71	1906	1949	158.71	324.63	521.04	2410
752.00	745.52	717.12	1907	1950	158.16	323.64	519.64	2410
754.00	747.93	719.53	1909	1952	157.61	322.66	518.24	2411
756.00	750.35	721.95	1910	1953	157.06	321.67	516.85	2419
758.00	752.72	724.32	1911	1954	156.54	320.74	515.53	2367
760.00	755.15	726.75	1912	1956	156.00	319.75	514.13	2429
762.00	757.60	729.20	1914	1957	155.44	318.75	512.71	2450
764.00	760.35	731.95	1916	1960	154.74	317.47	510.86	2755
766.00	763.22	734.82	1919	1963	153.99	316.08	508.84	2868
768.00	765.71	737.31	1920	1964	153.43	315.07	507.40	2488

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
770.00	768.18	739.78	1922	1966	152.88	314.08	506.00	2470
772.00	770.75	742.35	1923	1967	152.30	313.01	504.46	2570
774.00	773.32	744.92	1925	1969	151.71	311.95	502.93	2570
776.00	775.80	747.40	1926	1971	151.18	310.97	501.53	2484
778.00	778.22	749.82	1928	1972	150.67	310.05	500.22	2420
780.00	780.60	752.20	1929	1973	150.18	309.17	498.97	2378
782.00	783.01	754.61	1930	1974	149.69	308.27	497.69	2411
784.00	785.38	756.98	1931	1976	149.22	307.41	496.47	2366
786.00	787.77	759.37	1932	1977	148.73	306.54	495.22	2390
788.00	790.21	761.81	1934	1978	148.23	305.63	493.92	2441
790.00	792.62	764.22	1935	1979	147.75	304.75	492.66	2412
792.00	794.90	766.50	1936	1980	147.33	303.98	491.56	2277
794.00	797.25	768.85	1937	1981	146.87	303.16	490.39	2347
796.00	799.66	771.26	1938	1982	146.40	302.29	489.15	2417
798.00	802.09	773.69	1939	1983	145.92	301.42	487.90	2422
800.00	804.52	776.12	1940	1985	145.44	300.54	486.64	2436
802.00	806.86	778.46	1941	1986	145.00	299.74	485.50	2339
804.00	809.27	780.87	1942	1987	144.54	298.89	484.29	2410
806.00	811.81	783.41	1944	1988	144.03	297.95	482.92	2537
808.00	814.38	785.98	1946	1990	143.50	296.98	481.52	2576
810.00	817.02	788.62	1947	1992	142.96	295.96	480.04	2638
812.00	819.54	791.14	1949	1993	142.46	295.05	478.72	2523
814.00	822.10	793.70	1950	1995	141.96	294.12	477.36	2553
816.00	824.67	796.27	1952	1997	141.44	293.17	475.99	2578

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
								2523
818.00	827.20	798.80	1953	1998	140.96	292.27	474.69	
								2467
820.00	829.66	801.26	1954	1999	140.50	291.42	473.46	
								2555
822.00	832.22	803.82	1956	2001	140.01	290.51	472.13	
								2522
824.00	834.74	806.34	1957	2002	139.53	289.63	470.85	
								2601
826.00	837.34	808.94	1959	2004	139.03	288.69	469.49	
								2619
828.00	839.96	811.56	1960	2006	138.52	287.74	468.11	
								2619
830.00	842.58	814.18	1962	2007	138.02	286.80	466.74	
								2619
832.00	845.20	816.80	1963	2009	137.52	285.87	465.37	
								2619
834.00	847.82	819.42	1965	2011	137.02	284.94	464.02	
								2619
836.00	850.44	822.04	1967	2012	136.53	284.02	462.67	
								2619
838.00	853.06	824.66	1968	2014	136.04	283.11	461.33	
								2619
840.00	855.67	827.27	1970	2016	135.55	282.20	460.00	
								2619
842.00	858.29	829.89	1971	2017	135.07	281.29	458.68	
								2619
844.00	860.91	832.51	1973	2019	134.59	280.39	457.36	
								2619
846.00	863.53	835.13	1974	2021	134.11	279.50	456.05	
								2619
848.00	866.15	837.75	1976	2022	133.64	278.61	454.75	
								2619
850.00	868.77	840.37	1977	2024	133.17	277.73	453.45	
								2630
852.00	871.40	843.00	1979	2026	132.70	276.85	452.16	
								2551
854.00	873.95	845.55	1980	2027	132.26	276.02	450.95	
								2515
856.00	876.47	848.07	1981	2028	131.84	275.23	449.79	
								2533
858.00	879.00	850.60	1983	2030	131.41	274.43	448.62	
								2541
860.00	881.54	853.14	1984	2031	130.99	273.63	447.44	
								2566
862.00	884.11	855.71	1985	2032	130.55	272.82	446.25	
								2767
864.00	886.87	858.47	1987	2034	130.05	271.86	444.84	

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								2735
866.00	889.61	861.21	1989	2036	129.56	270.94	443.47	
								2664
868.00	892.27	863.87	1990	2038	129.10	270.07	442.19	
								2723
870.00	895.00	866.60	1992	2040	128.63	269.17	440.86	
								2822
872.00	897.82	869.42	1994	2042	128.12	268.20	439.42	
								2768
874.00	900.59	872.19	1996	2044	127.64	267.28	438.05	
								2711
876.00	903.30	874.90	1997	2046	127.17	266.41	436.75	
								2697
878.00	905.99	877.59	1999	2047	126.72	265.54	435.47	
								2699
880.00	908.69	880.29	2001	2049	126.27	264.69	434.20	
								2761
882.00	911.45	883.05	2002	2051	125.80	263.80	432.88	
								2616
884.00	914.07	885.67	2004	2052	125.39	263.01	431.71	
								2559
886.00	916.63	888.23	2005	2054	124.99	262.26	430.60	
								2695
888.00	919.32	890.92	2007	2055	124.56	261.42	429.36	
								2768
890.00	922.09	893.69	2008	2057	124.10	260.55	428.06	
								2657
892.00	924.75	896.35	2010	2059	123.68	259.75	426.87	
								2688
894.00	927.44	899.04	2011	2060	123.25	258.94	425.66	
								2637
896.00	930.07	901.67	2013	2062	122.85	258.16	424.51	
								2434
898.00	932.51	904.11	2014	2063	122.51	257.52	423.56	
								2411
900.00	934.92	906.52	2014	2064	122.17	256.88	422.63	
								2462
902.00	937.38	908.98	2015	2065	121.83	256.23	421.66	
								2407
904.00	939.79	911.39	2016	2065	121.50	255.60	420.74	
								2499
906.00	942.29	913.89	2017	2066	121.14	254.93	419.74	
								2650
908.00	944.94	916.54	2019	2068	120.75	254.17	418.61	
								2569
910.00	947.51	919.11	2020	2069	120.38	253.47	417.56	
								2612
912.00	950.12	921.72	2021	2070	120.00	252.74	416.47	

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
								2634
914.00	952.75	924.35	2023	2072	119.61	252.00	415.37	
								2671
916.00	955.42	927.02	2024	2073	119.22	251.24	414.24	
								2653
918.00	958.08	929.68	2025	2075	118.83	250.50	413.14	
								2581
920.00	960.66	932.26	2027	2076	118.47	249.81	412.10	
								2618
922.00	963.28	934.88	2028	2077	118.10	249.10	411.04	
								2690
924.00	965.97	937.57	2029	2079	117.71	248.35	409.91	
								2609
926.00	968.57	940.18	2031	2080	117.35	247.65	408.87	
								2442
928.00	971.02	942.62	2032	2081	117.03	247.05	407.98	
								2545
930.00	973.56	945.16	2033	2082	116.69	246.39	407.00	
								2507
932.00	976.07	947.67	2034	2083	116.36	245.76	406.06	
								2464
934.00	978.53	950.13	2035	2084	116.05	245.16	405.16	
								2570
936.00	981.10	952.70	2036	2085	115.71	244.50	404.17	
								2667
938.00	983.77	955.37	2037	2087	115.34	243.79	403.11	
								2567
940.00	986.34	957.94	2038	2088	115.00	243.14	402.13	
								2483
942.00	988.82	960.42	2039	2089	114.69	242.54	401.23	
								2400
944.00	991.22	962.82	2040	2089	114.40	241.98	400.41	
								2461
946.00	993.68	965.28	2041	2090	114.09	241.40	399.53	
								2562
948.00	996.24	967.84	2042	2091	113.77	240.76	398.58	
								2507
950.00	998.75	970.35	2043	2092	113.45	240.16	397.68	
								2518
952.00	1001.27	972.87	2044	2093	113.14	239.55	396.77	
								2613
954.00	1003.88	975.48	2045	2094	112.80	238.90	395.78	
								2655
956.00	1006.54	978.14	2046	2096	112.46	238.23	394.77	
								2681
958.00	1009.22	980.82	2048	2097	112.10	237.54	393.74	
								2668
960.00	1011.89	983.49	2049	2099	111.76	236.87	392.73	

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
								2692
962.00	1014.58	986.18	2050	2100	111.41	236.19	391.70	
								2593
964.00	1017.17	988.77	2051	2101	111.09	235.57	390.75	
								2529
966.00	1019.70	991.30	2052	2102	110.78	234.98	389.87	
								2531
968.00	1022.23	993.83	2053	2103	110.48	234.39	388.98	
								2493
970.00	1024.72	996.32	2054	2104	110.19	233.82	388.13	
								2610
972.00	1027.33	998.93	2055	2105	109.87	233.20	387.19	
								2644
974.00	1029.98	1001.58	2057	2106	109.54	232.57	386.23	
								2596
976.00	1032.57	1004.17	2058	2107	109.23	231.96	385.31	
								2593
978.00	1035.17	1006.77	2059	2109	108.92	231.36	384.40	
								2713
980.00	1037.88	1009.48	2060	2110	108.58	230.69	383.40	
								2702
982.00	1040.58	1012.18	2061	2111	108.25	230.04	382.41	
								2500
984.00	1043.08	1014.68	2062	2112	107.97	229.49	381.58	
								2575
986.00	1045.66	1017.26	2063	2113	107.67	228.91	380.70	
								2517
988.00	1048.18	1019.78	2064	2114	107.39	228.36	379.86	
								2681
990.00	1050.86	1022.46	2066	2115	107.07	227.73	378.91	
								2761
992.00	1053.62	1025.22	2067	2117	106.73	227.06	377.89	
								2693
994.00	1056.31	1027.91	2068	2118	106.41	226.44	376.94	
								2606
996.00	1058.92	1030.52	2069	2119	106.11	225.86	376.05	
								2644
998.00	1061.56	1033.16	2070	2121	105.80	225.26	375.14	
								2588
1000.00	1064.15	1035.75	2071	2122	105.52	224.69	374.28	
								2634
1002.00	1066.78	1038.38	2073	2123	105.22	224.10	373.39	
								2671
1004.00	1069.45	1041.05	2074	2124	104.91	223.50	372.47	
								2568
1006.00	1072.02	1043.62	2075	2125	104.63	222.95	371.64	
								2545
1008.00	1074.57	1046.17	2076	2126	104.36	222.42	370.82	

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
1010.00	1077.17	1048.77	2077	2127	104.07	221.86	369.97	2601
1012.00	1079.81	1051.41	2078	2128	103.78	221.28	369.09	2641
1014.00	1082.47	1054.07	2079	2129	103.48	220.70	368.20	2660
1016.00	1085.21	1056.81	2080	2131	103.17	220.08	367.26	2744
1018.00	1087.85	1059.45	2081	2132	102.88	219.52	366.39	2640
1020.00	1090.33	1061.93	2082	2132	102.63	219.02	365.64	2479
1022.00	1092.94	1064.54	2083	2134	102.36	218.48	364.81	2606
1024.00	1096.03	1067.63	2085	2136	101.96	217.70	363.61	3094
1026.00	1099.20	1070.80	2087	2138	101.56	216.89	362.35	3168
1028.00	1102.02	1073.62	2089	2140	101.24	216.25	361.37	2818
1030.00	1104.74	1076.34	2090	2141	100.94	215.67	360.47	2726
1032.00	1107.36	1078.96	2091	2142	100.67	215.13	359.66	2619
1034.00	1110.14	1081.74	2092	2144	100.37	214.53	358.73	2774
1036.00	1112.76	1084.36	2093	2145	100.10	214.00	357.92	2625
1038.00	1115.44	1087.04	2094	2146	99.82	213.45	357.07	2678
1040.00	1118.24	1089.84	2096	2147	99.52	212.85	356.14	2798
1042.00	1120.80	1092.40	2097	2148	99.27	212.35	355.38	2557
1044.00	1123.28	1094.88	2097	2149	99.03	211.89	354.67	2486
1046.00	1125.74	1097.34	2098	2149	98.80	211.44	353.98	2457
1048.00	1128.34	1099.94	2099	2150	98.55	210.93	353.20	2602
1050.00	1130.99	1102.59	2100	2151	98.28	210.40	352.39	2648
1052.00	1133.53	1105.13	2101	2152	98.04	209.93	351.66	2540
1054.00	1136.05	1107.65	2102	2153	97.80	209.46	350.95	2521
1056.00	1138.75	1110.35	2103	2154	97.53	208.92	350.12	2697

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
								2501
1058.00	1141.25	1112.85	2104	2155	97.30	208.47	349.42	
								2491
1060.00	1143.74	1115.34	2104	2156	97.08	208.02	348.73	
								2699
1062.00	1146.44	1118.04	2106	2157	96.81	207.48	347.91	
								2637
1064.00	1149.07	1120.67	2107	2158	96.56	206.98	347.13	
								2507
1066.00	1151.58	1123.18	2107	2158	96.33	206.53	346.44	
								2616
1068.00	1154.20	1125.80	2108	2159	96.08	206.04	345.68	
								2604
1070.00	1156.80	1128.40	2109	2160	95.84	205.56	344.94	
								2513
1072.00	1159.31	1130.91	2110	2161	95.62	205.11	344.25	
								2723
1074.00	1162.04	1133.64	2111	2162	95.35	204.58	343.44	
								2814
1076.00	1164.85	1136.45	2112	2164	95.07	204.02	342.56	
								2708
1078.00	1167.56	1139.16	2113	2165	94.82	203.51	341.76	
								2632
1080.00	1170.19	1141.79	2114	2166	94.57	203.02	341.02	
								2543
1082.00	1172.73	1144.33	2115	2166	94.35	202.58	340.33	
								2486
1084.00	1175.22	1146.82	2116	2167	94.14	202.15	339.68	
								2618
1086.00	1177.84	1149.44	2117	2168	93.90	201.68	338.95	
								2743
1088.00	1180.58	1152.18	2118	2169	93.64	201.17	338.14	
								2683
1090.00	1183.26	1154.86	2119	2170	93.40	200.67	337.38	
								2717
1092.00	1185.98	1157.58	2120	2171	93.15	200.17	336.60	
								2670
1094.00	1188.65	1160.25	2121	2172	92.91	199.69	335.85	
								2626
1096.00	1191.28	1162.88	2122	2173	92.67	199.23	335.13	
								2584
1098.00	1193.86	1165.46	2123	2174	92.45	198.78	334.44	
								2561
1100.00	1196.42	1168.02	2124	2175	92.23	198.35	333.77	
								2704
1102.00	1199.13	1170.73	2125	2176	91.99	197.86	333.01	
								2788
1104.00	1201.91	1173.51	2126	2177	91.74	197.34	332.21	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1106.00	1204.89	1176.49	2127	2179	91.44	196.75	331.28	2977
1108.00	1207.86	1179.46	2129	2181	91.16	196.17	330.37	2969
1110.00	1210.59	1182.19	2130	2182	90.92	195.69	329.61	2729
1112.00	1213.39	1184.99	2131	2183	90.66	195.18	328.82	2803
1114.00	1216.32	1187.92	2133	2185	90.39	194.62	327.95	2924
1116.00	1219.29	1190.89	2134	2186	90.10	194.05	327.05	2978
1118.00	1222.20	1193.80	2136	2188	89.84	193.50	326.19	2911
1120.00	1225.13	1196.73	2137	2189	89.56	192.96	325.33	2929
1122.00	1228.13	1199.73	2139	2191	89.28	192.38	324.43	3000
1124.00	1230.98	1202.58	2140	2192	89.03	191.87	323.63	2848
1126.00	1233.85	1205.45	2141	2194	88.78	191.36	322.82	2870
1128.00	1236.76	1208.36	2142	2195	88.51	190.83	321.99	2909
1130.00	1239.53	1211.13	2144	2196	88.28	190.36	321.25	2771
1132.00	1242.43	1214.03	2145	2198	88.02	189.84	320.43	2896
1134.00	1245.45	1217.05	2146	2199	87.75	189.27	319.55	3023
1136.00	1248.35	1219.95	2148	2201	87.49	188.76	318.74	2896
1138.00	1251.35	1222.95	2149	2203	87.22	188.21	317.87	3007
1140.00	1254.44	1226.04	2151	2204	86.94	187.63	316.96	3089
1142.00	1257.35	1228.95	2152	2206	86.69	187.12	316.16	2909
1144.00	1260.39	1231.99	2154	2208	86.42	186.57	315.28	3035
1146.00	1263.20	1234.80	2155	2209	86.19	186.10	314.55	2809
1148.00	1265.92	1237.52	2156	2210	85.97	185.67	313.86	2729
1150.00	1268.78	1240.38	2157	2211	85.74	185.19	313.11	2858
1152.00	1271.89	1243.49	2159	2213	85.46	184.62	312.21	3109

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
								2820
1154.00	1274.71	1246.31	2160	2214	85.23	184.16	311.48	
								2940
1156.00	1277.65	1249.25	2161	2216	84.99	183.66	310.69	
								3123
1158.00	1280.77	1252.37	2163	2218	84.71	183.09	309.79	
								2905
1160.00	1283.68	1255.28	2164	2219	84.47	182.61	309.03	
								2807
1162.00	1286.49	1258.09	2165	2220	84.25	182.16	308.32	
								2662
1164.00	1289.15	1260.75	2166	2221	84.06	181.76	307.70	
								3067
1166.00	1292.22	1263.82	2168	2223	83.80	181.23	306.85	
								2958
1168.00	1295.17	1266.77	2169	2224	83.56	180.74	306.07	
								2923
1170.00	1298.10	1269.70	2170	2225	83.32	180.26	305.32	
								2887
1172.00	1300.98	1272.58	2172	2227	83.10	179.80	304.59	
								2965
1174.00	1303.95	1275.55	2173	2228	82.86	179.31	303.82	
								2793
1176.00	1306.74	1278.34	2174	2229	82.65	178.89	303.14	
								2562
1178.00	1309.30	1280.90	2175	2230	82.47	178.53	302.58	
								2963
1180.00	1312.27	1283.87	2176	2231	82.24	178.05	301.82	
								2919
1182.00	1315.19	1286.79	2177	2233	82.01	177.59	301.09	
								2983
1184.00	1318.17	1289.77	2179	2234	81.78	177.11	300.33	
								2918
1186.00	1321.09	1292.69	2180	2235	81.56	176.66	299.60	
								2628
1188.00	1323.72	1295.32	2181	2236	81.38	176.29	299.03	
								3058
1190.00	1326.77	1298.37	2182	2238	81.13	175.79	298.23	
								3041
1192.00	1329.82	1301.41	2184	2239	80.90	175.30	297.45	
								3088
1194.00	1332.90	1304.50	2185	2241	80.65	174.80	296.65	
								3023
1196.00	1335.93	1307.53	2186	2243	80.42	174.32	295.89	
								2902
1198.00	1338.83	1310.43	2188	2244	80.20	173.88	295.19	
								3038
1200.00	1341.87	1313.47	2189	2245	79.97	173.40	294.43	

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1202.00	1344.71	1316.31	2190	2247	79.77	172.99	293.77	2844
1204.00	1347.76	1319.36	2192	2248	79.54	172.51	293.00	3054
1206.00	1350.74	1322.34	2193	2250	79.32	172.06	292.28	2980
1208.00	1353.84	1325.44	2194	2251	79.08	171.57	291.50	3094
1210.00	1356.68	1328.28	2196	2252	78.88	171.16	290.86	2843
1212.00	1359.77	1331.37	2197	2254	78.65	170.69	290.09	3084
1214.00	1362.86	1334.46	2198	2256	78.42	170.21	289.32	3093
1216.00	1365.92	1337.52	2200	2257	78.19	169.74	288.58	3063
1218.00	1368.71	1340.31	2201	2258	78.00	169.36	287.97	2793
1220.00	1371.61	1343.21	2202	2259	77.80	168.94	287.31	2896
1222.00	1374.44	1346.04	2203	2260	77.61	168.55	286.69	2832
1224.00	1377.40	1349.00	2204	2262	77.41	168.13	286.01	2957
1226.00	1380.37	1351.97	2205	2263	77.20	167.70	285.33	2966
1228.00	1383.21	1354.81	2207	2264	77.01	167.31	284.70	2847
1230.00	1385.97	1357.57	2207	2265	76.84	166.95	284.13	2757
1232.00	1388.93	1360.53	2209	2266	76.63	166.53	283.45	2963
1234.00	1392.06	1363.66	2210	2268	76.41	166.06	282.71	3125
1236.00	1395.17	1366.77	2212	2270	76.19	165.61	281.97	3109
1238.00	1398.21	1369.81	2213	2271	75.97	165.17	281.27	3046
1240.00	1401.27	1372.87	2214	2273	75.76	164.73	280.56	3058
1242.00	1404.38	1375.98	2216	2274	75.54	164.28	279.84	3107
1244.00	1407.46	1379.06	2217	2276	75.33	163.84	279.13	3078
1246.00	1410.48	1382.08	2218	2277	75.13	163.42	278.46	3023
1248.00	1413.44	1385.04	2220	2278	74.93	163.02	277.81	2962

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
1250.00	1416.33	1387.93	2221	2279	74.75	162.64	277.20	2892
1252.00	1419.18	1390.78	2222	2280	74.57	162.27	276.61	2850
1254.00	1422.07	1393.67	2223	2282	74.39	161.89	276.01	2885
1256.00	1425.00	1396.60	2224	2283	74.20	161.51	275.39	2929
1258.00	1428.15	1399.75	2225	2284	73.99	161.06	274.67	3150
1260.00	1431.43	1403.03	2227	2286	73.76	160.58	273.89	3287
1262.00	1434.75	1406.35	2229	2288	73.52	160.09	273.10	3313
1264.00	1437.89	1409.49	2230	2290	73.31	159.65	272.40	3140
1266.00	1441.02	1412.62	2232	2291	73.10	159.22	271.70	3139
1268.00	1444.13	1415.73	2233	2293	72.90	158.80	271.02	3110
1270.00	1447.29	1418.89	2234	2295	72.69	158.37	270.32	3155
1272.00	1450.55	1422.15	2236	2296	72.47	157.90	269.58	3262
1274.00	1453.70	1425.30	2238	2298	72.27	157.48	268.89	3147
1276.00	1457.06	1428.66	2239	2300	72.03	156.99	268.10	3365
1278.00	1460.43	1432.03	2241	2302	71.80	156.51	267.32	3372
1280.00	1463.69	1435.29	2243	2304	71.59	156.06	266.59	3251
1282.00	1466.91	1438.51	2244	2306	71.38	155.62	265.89	3221
1284.00	1470.06	1441.66	2246	2307	71.18	155.21	265.22	3148
1286.00	1473.11	1444.71	2247	2309	70.99	154.82	264.59	3053
1288.00	1476.63	1448.23	2249	2311	70.75	154.31	263.75	3522
1290.00	1480.00	1451.60	2251	2313	70.52	153.84	262.99	3368
1292.00	1483.09	1454.69	2252	2314	70.34	153.45	262.36	3091
1294.00	1486.26	1457.86	2253	2316	70.14	153.04	261.70	3175
1296.00	1489.53	1461.13	2255	2318	69.93	152.61	261.00	3270

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
1298.00	1492.63	1464.23	2256	2319	69.75	152.22	260.37	3100
1300.00	1495.85	1467.45	2258	2321	69.55	151.81	259.70	3212
1302.00	1498.91	1470.51	2259	2322	69.37	151.44	259.10	3060
1304.00	1501.98	1473.58	2260	2323	69.19	151.06	258.49	3078
1306.00	1504.95	1476.55	2261	2325	69.03	150.72	257.94	2966
1308.00	1508.14	1479.74	2263	2326	68.84	150.32	257.29	3188
1310.00	1511.28	1482.88	2264	2328	68.65	149.94	256.66	3139
1312.00	1514.13	1485.73	2265	2328	68.50	149.62	256.16	2851
1314.00	1517.14	1488.74	2266	2330	68.34	149.27	255.59	3010
1316.00	1520.11	1491.71	2267	2331	68.17	148.94	255.04	2970
1318.00	1523.14	1494.74	2268	2332	68.01	148.59	254.47	3028
1320.00	1526.02	1497.62	2269	2333	67.85	148.27	253.96	2889
1322.00	1528.72	1500.32	2270	2334	67.72	148.00	253.52	2695
1324.00	1531.47	1503.07	2270	2334	67.59	147.71	253.06	2749
1326.00	1534.18	1505.78	2271	2335	67.46	147.44	252.62	2710
1328.00	1536.91	1508.51	2272	2335	67.32	147.16	252.17	2729
1330.00	1539.64	1511.24	2273	2336	67.19	146.89	251.73	2730
1332.00	1542.38	1513.98	2273	2337	67.06	146.61	251.28	2743
1334.00	1545.09	1516.69	2274	2337	66.93	146.34	250.84	2707
1336.00	1547.94	1519.54	2275	2338	66.78	146.04	250.36	2859
1338.00	1550.86	1522.46	2276	2339	66.64	145.73	249.85	2913
1340.00	1553.56	1525.16	2276	2340	66.51	145.46	249.42	2706
1342.00	1556.33	1527.93	2277	2340	66.38	145.18	248.97	2765
1344.00	1559.19	1530.79	2278	2341	66.23	144.89	248.49	2866

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
								2746
1346.00	1561.94	1533.54	2279	2342	66.10	144.62	248.05	
								2786
1348.00	1564.73	1536.33	2279	2343	65.97	144.34	247.60	
								2742
1350.00	1567.47	1539.07	2280	2343	65.84	144.07	247.16	
								2825
1352.00	1570.29	1541.89	2281	2344	65.71	143.78	246.70	
								2787
1354.00	1573.08	1544.68	2282	2345	65.57	143.51	246.25	
								2731
1356.00	1575.81	1547.41	2282	2345	65.45	143.25	245.83	
								2786
1358.00	1578.60	1550.20	2283	2346	65.32	142.97	245.38	
								2739
1360.00	1581.34	1552.94	2284	2347	65.19	142.71	244.96	
								2977
1362.00	1584.31	1555.91	2285	2348	65.04	142.40	244.45	
								2787
1364.00	1587.10	1558.70	2285	2349	64.91	142.13	244.01	
								2869
1366.00	1589.97	1561.57	2286	2349	64.78	141.84	243.55	
								2782
1368.00	1592.75	1564.35	2287	2350	64.65	141.58	243.11	
								2848
1370.00	1595.60	1567.20	2288	2351	64.52	141.30	242.66	
								2785
1372.00	1598.38	1569.98	2289	2352	64.39	141.03	242.22	
								2816
1374.00	1601.20	1572.80	2289	2352	64.26	140.76	241.78	
								2997
1376.00	1604.20	1575.80	2290	2353	64.12	140.45	241.28	
								2745
1378.00	1606.94	1578.54	2291	2354	63.99	140.20	240.87	
								2738
1380.00	1609.68	1581.28	2292	2355	63.87	139.94	240.46	
								2705
1382.00	1612.39	1583.99	2292	2355	63.76	139.70	240.06	
								2692
1384.00	1615.08	1586.68	2293	2356	63.64	139.46	239.66	
								2651
1386.00	1617.73	1589.33	2293	2356	63.53	139.22	239.28	
								2646
1388.00	1620.37	1591.97	2294	2357	63.42	138.99	238.90	
								2749
1390.00	1623.12	1594.72	2295	2357	63.30	138.74	238.50	
								2786
1392.00	1625.91	1597.51	2295	2358	63.18	138.48	238.08	

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
								2889
1394.00	1628.80	1600.40	2296	2359	63.04	138.21	237.63	
								2939
1396.00	1631.74	1603.34	2297	2360	62.91	137.92	237.16	
								2937
1398.00	1634.67	1606.27	2298	2361	62.78	137.64	236.70	
								2879
1400.00	1637.55	1609.15	2299	2361	62.65	137.37	236.26	
								2869
1402.00	1640.42	1612.02	2300	2362	62.52	137.10	235.82	
								2949
1404.00	1643.37	1614.97	2301	2363	62.39	136.82	235.36	
								2859
1406.00	1646.23	1617.83	2301	2364	62.26	136.56	234.93	
								2831
1408.00	1649.06	1620.66	2302	2365	62.14	136.30	234.51	
								2814
1410.00	1651.88	1623.48	2303	2365	62.02	136.05	234.09	
								2799
1412.00	1654.68	1626.28	2304	2366	61.90	135.80	233.69	
								2830
1414.00	1657.51	1629.11	2304	2367	61.78	135.54	233.27	
								2813
1416.00	1660.32	1631.92	2305	2367	61.66	135.29	232.86	
								2841
1418.00	1663.16	1634.76	2306	2368	61.54	135.04	232.45	
								2801
1420.00	1665.96	1637.56	2306	2369	61.42	134.79	232.04	
								2785
1422.00	1668.75	1640.35	2307	2369	61.31	134.55	231.65	
								2916
1424.00	1671.66	1643.26	2308	2370	61.18	134.28	231.21	
								2882
1426.00	1674.55	1646.15	2309	2371	61.06	134.03	230.79	
								2853
1428.00	1677.40	1649.00	2310	2372	60.94	133.77	230.38	
								2901
1430.00	1680.30	1651.90	2310	2373	60.82	133.51	229.95	
								2851
1432.00	1683.15	1654.75	2311	2373	60.70	133.26	229.54	
								2837
1434.00	1685.99	1657.59	2312	2374	60.58	133.02	229.14	
								2839
1436.00	1688.83	1660.43	2313	2375	60.46	132.77	228.73	
								2914
1438.00	1691.74	1663.34	2313	2376	60.34	132.51	228.31	
								2882
1440.00	1694.62	1666.22	2314	2376	60.22	132.26	227.90	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
1442.00	1697.54	1669.14	2315	2377	60.10	132.00	227.47	2920
1444.00	1700.35	1671.95	2316	2378	59.99	131.77	227.09	2806
1446.00	1703.05	1674.65	2316	2378	59.89	131.55	226.73	2704
1448.00	1705.92	1677.52	2317	2379	59.77	131.31	226.33	2865
1450.00	1708.63	1680.23	2318	2380	59.67	131.09	225.97	2711
1452.00	1711.35	1682.95	2318	2380	59.56	130.87	225.61	2723
1454.00	1714.08	1685.68	2319	2381	59.46	130.65	225.25	2730
1456.00	1716.89	1688.49	2319	2381	59.35	130.42	224.87	2808
1458.00	1719.76	1691.36	2320	2382	59.23	130.17	224.47	2874
1460.00	1722.72	1694.32	2321	2383	59.11	129.92	224.05	2956
1462.00	1725.34	1696.94	2321	2383	59.02	129.72	223.72	2622
1464.00	1727.94	1699.54	2322	2384	58.93	129.52	223.41	2602
1466.00	1730.50	1702.10	2322	2384	58.84	129.34	223.10	2555
1468.00	1732.96	1704.56	2322	2384	58.76	129.16	222.81	2465
1470.00	1735.51	1707.11	2323	2384	58.67	128.98	222.51	2548
1472.00	1738.29	1709.89	2323	2385	58.56	128.76	222.15	2776
1474.00	1740.94	1712.54	2324	2385	58.47	128.56	221.82	2651
1476.00	1743.57	1715.17	2324	2385	58.37	128.36	221.50	2632
1478.00	1746.15	1717.75	2324	2386	58.29	128.17	221.19	2583
1480.00	1748.72	1720.32	2325	2386	58.20	127.99	220.89	2562
1482.00	1751.24	1722.84	2325	2386	58.11	127.81	220.59	2524
1484.00	1753.76	1725.36	2325	2386	58.03	127.63	220.30	2524
1486.00	1756.32	1727.92	2326	2387	57.94	127.45	220.00	2553
1488.00	1758.99	1730.59	2326	2387	57.85	127.25	219.68	2673

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
1490.00	1761.80	1733.40	2327	2388	57.74	127.03	219.31	2815
1492.00	1764.69	1736.29	2327	2388	57.63	126.79	218.93	2890
1494.00	1767.64	1739.24	2328	2389	57.52	126.55	218.53	2946
1496.00	1770.37	1741.97	2329	2390	57.42	126.35	218.19	2729
1498.00	1773.08	1744.68	2329	2390	57.33	126.14	217.86	2710
1500.00	1775.78	1747.38	2330	2391	57.23	125.94	217.53	2705
1502.00	1778.42	1750.02	2330	2391	57.14	125.76	217.22	2635
1504.00	1781.05	1752.65	2331	2391	57.05	125.57	216.91	2633
1506.00	1783.72	1755.32	2331	2392	56.96	125.37	216.59	2666
1508.00	1786.30	1757.90	2331	2392	56.88	125.19	216.29	2579
1510.00	1788.91	1760.51	2332	2392	56.79	125.01	215.99	2616
1512.00	1792.05	1763.65	2333	2393	56.67	124.74	215.55	3139
1514.00	1794.67	1766.27	2333	2394	56.58	124.56	215.25	2621
1516.00	1797.27	1768.87	2334	2394	56.49	124.38	214.95	2597
1518.00	1799.79	1771.39	2334	2394	56.42	124.21	214.67	2516
1520.00	1802.32	1773.92	2334	2394	56.33	124.04	214.39	2539
1522.00	1804.79	1776.39	2334	2394	56.26	123.88	214.13	2468
1524.00	1807.30	1778.90	2335	2395	56.18	123.71	213.86	2508
1526.00	1809.94	1781.54	2335	2395	56.09	123.53	213.56	2644
1528.00	1812.71	1784.31	2335	2395	56.00	123.33	213.22	2765
1530.00	1815.50	1787.10	2336	2396	55.90	123.12	212.88	2793
1532.00	1818.43	1790.03	2337	2397	55.80	122.90	212.51	2928
1534.00	1821.44	1793.04	2338	2398	55.69	122.66	212.12	3014
1536.00	1824.49	1796.09	2339	2399	55.57	122.42	211.72	3048

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
1538.00	1827.53	1799.13	2340	2400	55.46	122.18	211.32	3041
1540.00	1830.65	1802.25	2341	2401	55.34	121.93	210.90	3113
1542.00	1833.85	1805.45	2342	2402	55.22	121.66	210.46	3205
1544.00	1836.95	1808.55	2343	2403	55.10	121.41	210.05	3100
1546.00	1840.24	1811.84	2344	2404	54.97	121.14	209.58	3294
1548.00	1843.44	1815.04	2345	2405	54.85	120.88	209.15	3194
1550.00	1846.61	1818.21	2346	2407	54.73	120.62	208.73	3169
1552.00	1849.80	1821.40	2347	2408	54.61	120.36	208.30	3196
1554.00	1852.99	1824.59	2348	2409	54.49	120.11	207.87	3187
1556.00	1856.08	1827.68	2349	2410	54.38	119.87	207.47	3091
1558.00	1859.16	1830.76	2350	2411	54.27	119.63	207.08	3074
1560.00	1862.28	1833.88	2351	2412	54.15	119.39	206.68	3122
1562.00	1865.41	1837.01	2352	2413	54.04	119.15	206.28	3126
1564.00	1868.54	1840.14	2353	2414	53.93	118.91	205.87	3132
1566.00	1871.62	1843.22	2354	2415	53.82	118.67	205.49	3080
1568.00	1874.73	1846.33	2355	2416	53.71	118.44	205.09	3110
1570.00	1877.81	1849.41	2356	2417	53.60	118.20	204.71	3085
1572.00	1880.84	1852.44	2357	2418	53.49	117.98	204.34	3025
1574.00	1883.86	1855.46	2358	2419	53.39	117.76	203.97	3027
1576.00	1886.87	1858.47	2358	2420	53.29	117.54	203.61	3007
1578.00	1889.90	1861.50	2359	2420	53.19	117.32	203.24	3025
1580.00	1893.06	1864.66	2360	2422	53.07	117.08	202.84	3165
1582.00	1896.33	1867.93	2361	2423	52.95	116.83	202.41	3273
1584.00	1899.57	1871.17	2363	2424	52.84	116.58	202.00	3234

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
1586.00	1902.64	1874.24	2363	2425	52.73	116.36	201.63	3072
1588.00	1905.74	1877.34	2364	2426	52.63	116.13	201.25	3102
1590.00	1908.87	1880.47	2365	2427	52.52	115.90	200.87	3126
1592.00	1912.21	1883.81	2367	2428	52.40	115.64	200.43	3347
1594.00	1915.46	1887.06	2368	2430	52.29	115.39	200.02	3242
1596.00	1918.70	1890.30	2369	2431	52.17	115.15	199.61	3245
1598.00	1921.90	1893.50	2370	2432	52.06	114.91	199.22	3198
1600.00	1925.11	1896.71	2371	2433	51.95	114.68	198.82	3214
1602.00	1928.41	1900.01	2372	2434	51.83	114.43	198.40	3302
1604.00	1931.56	1903.16	2373	2435	51.73	114.20	198.03	3144
1606.00	1934.89	1906.49	2374	2437	51.61	113.95	197.61	3330
1608.00	1938.32	1909.92	2376	2438	51.49	113.68	197.16	3427
1610.00	1941.64	1913.24	2377	2439	51.37	113.43	196.74	3328
1612.00	1944.83	1916.43	2378	2440	51.27	113.21	196.36	3183
1614.00	1947.96	1919.55	2379	2441	51.16	112.99	196.00	3128
1616.00	1951.29	1922.89	2380	2443	51.05	112.74	195.58	3332
1618.00	1954.52	1926.12	2381	2444	50.94	112.51	195.20	3236
1620.00	1957.78	1929.38	2382	2445	50.83	112.28	194.81	3253
1622.00	1961.07	1932.67	2383	2446	50.72	112.04	194.41	3292
1624.00	1964.43	1936.03	2384	2448	50.61	111.79	193.99	3366
1626.00	1967.49	1939.09	2385	2448	50.51	111.59	193.65	3053
1628.00	1970.71	1942.31	2386	2450	50.41	111.36	193.27	3225
1630.00	1974.01	1945.61	2387	2451	50.30	111.13	192.88	3297
1632.00	1977.46	1949.06	2389	2452	50.18	110.87	192.45	3450

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
1634.00	1980.88	1952.48	2390	2454	50.06	110.62	192.03	3419
1636.00	1984.33	1955.93	2391	2455	49.94	110.36	191.60	3456
1638.00	1987.81	1959.41	2392	2457	49.82	110.11	191.17	3479
1640.00	1991.26	1962.86	2394	2458	49.71	109.86	190.75	3446
1642.00	1994.64	1966.24	2395	2459	49.59	109.61	190.34	3378
1644.00	1997.84	1969.44	2396	2460	49.49	109.40	189.98	3203
1646.00	2001.10	1972.70	2397	2462	49.39	109.18	189.61	3264
1648.00	2004.22	1975.82	2398	2462	49.30	108.98	189.27	3120
1650.00	2007.54	1979.14	2399	2464	49.19	108.75	188.89	3314
1652.00	2010.83	1982.43	2400	2465	49.09	108.52	188.51	3291
1654.00	2014.17	1985.77	2401	2466	48.98	108.29	188.13	3345
1656.00	2017.60	1989.20	2402	2467	48.87	108.05	187.72	3424
1658.00	2020.94	1992.54	2404	2469	48.76	107.83	187.34	3344
1660.00	2024.12	1995.72	2404	2470	48.67	107.62	187.00	3177
1662.00	2027.34	1998.94	2405	2471	48.57	107.41	186.65	3217
1664.00	2030.64	2002.24	2407	2472	48.47	107.19	186.28	3300
1666.00	2033.94	2005.54	2408	2473	48.37	106.98	185.91	3301
1668.00	2037.44	2009.04	2409	2475	48.26	106.73	185.50	3501
1670.00	2040.85	2012.45	2410	2476	48.15	106.50	185.11	3415
1672.00	2044.26	2015.86	2411	2477	48.04	106.27	184.72	3406
1674.00	2047.81	2019.41	2413	2479	47.93	106.02	184.30	3548
1676.00	2051.35	2022.95	2414	2480	47.81	105.77	183.89	3542
1678.00	2054.71	2026.31	2415	2482	47.71	105.55	183.52	3362
1680.00	2058.01	2029.61	2416	2483	47.61	105.34	183.16	3297

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
								3357
1682.00	2061.37	2032.97	2417	2484	47.51	105.12	182.79	
								3186
1684.00	2064.55	2036.15	2418	2485	47.42	104.93	182.46	
								3340
1686.00	2067.89	2039.49	2419	2486	47.32	104.71	182.10	
								3269
1688.00	2071.16	2042.76	2420	2487	47.23	104.51	181.76	
								3515
1690.00	2074.68	2046.28	2422	2489	47.12	104.27	181.36	
								3483
1692.00	2078.16	2049.76	2423	2490	47.01	104.04	180.97	
								3358
1694.00	2081.52	2053.12	2424	2491	46.91	103.83	180.61	
								3405
1696.00	2084.92	2056.52	2425	2492	46.81	103.61	180.24	
								3256
1698.00	2088.18	2059.78	2426	2494	46.72	103.41	179.91	
								3393
1700.00	2091.57	2063.17	2427	2495	46.62	103.20	179.55	
								3266
1702.00	2094.84	2066.44	2428	2496	46.53	103.00	179.21	
								3393
1704.00	2098.23	2069.83	2429	2497	46.43	102.78	178.85	
								3195
1706.00	2101.43	2073.03	2430	2498	46.34	102.60	178.54	
								3271
1708.00	2104.70	2076.30	2431	2499	46.25	102.40	178.20	
								3251
1710.00	2107.95	2079.55	2432	2500	46.16	102.21	177.88	
								3476
1712.00	2111.42	2083.02	2433	2501	46.06	101.99	177.51	
								3385
1714.00	2114.81	2086.41	2435	2503	45.96	101.78	177.15	
								3385
1716.00	2118.19	2089.79	2436	2504	45.87	101.57	176.80	
								3282
1718.00	2121.48	2093.08	2437	2505	45.78	101.38	176.48	
								3439
1720.00	2124.92	2096.52	2438	2506	45.68	101.16	176.12	
								3608
1722.00	2128.52	2100.12	2439	2508	45.57	100.93	175.72	
								3581
1724.00	2132.10	2103.70	2440	2509	45.46	100.70	175.34	
								3472
1726.00	2135.58	2107.18	2442	2511	45.37	100.49	174.98	
								3219
1728.00	2138.79	2110.39	2443	2511	45.28	100.30	174.67	

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
								3517
1730.00	2142.31	2113.91	2444	2513	45.18	100.09	174.30	
								3382
1732.00	2145.69	2117.29	2445	2514	45.09	99.89	173.96	
								3401
1734.00	2149.09	2120.69	2446	2515	44.99	99.69	173.62	
								3455
1736.00	2152.55	2124.15	2447	2517	44.90	99.48	173.27	
								3365
1738.00	2155.91	2127.51	2448	2518	44.81	99.28	172.94	
								3725
1740.00	2159.64	2131.24	2450	2519	44.70	99.04	172.53	
								3394
1742.00	2163.03	2134.63	2451	2521	44.61	98.84	172.20	
								3233
1744.00	2166.27	2137.87	2452	2522	44.52	98.67	171.90	
								3306
1746.00	2169.57	2141.17	2453	2523	44.44	98.48	171.58	
								3302
1748.00	2172.88	2144.48	2454	2524	44.35	98.30	171.27	
								3294
1750.00	2176.17	2147.77	2455	2525	44.27	98.11	170.96	
								3324
1752.00	2179.49	2151.09	2456	2526	44.18	97.93	170.65	
								3309
1754.00	2182.80	2154.40	2457	2527	44.10	97.74	170.34	
								3306
1756.00	2186.11	2157.71	2458	2528	44.01	97.56	170.03	
								3258
1758.00	2189.37	2160.97	2458	2529	43.93	97.38	169.73	
								3258
1760.00	2192.62	2164.22	2459	2530	43.85	97.21	169.43	
								3258
1762.00	2195.88	2167.48	2460	2531	43.77	97.03	169.13	
								3258
1764.00	2199.14	2170.74	2461	2531	43.69	96.86	168.84	
								3258
1766.00	2202.40	2174.00	2462	2532	43.61	96.68	168.55	
								3258
1768.00	2205.66	2177.26	2463	2533	43.53	96.51	168.25	
								3258
1770.00	2208.92	2180.52	2464	2534	43.45	96.34	167.96	
								3258
1772.00	2212.17	2183.77	2465	2535	43.37	96.17	167.67	
								3258
1774.00	2215.43	2187.03	2466	2536	43.29	95.99	167.38	
								3258
1776.00	2218.69	2190.29	2467	2537	43.21	95.82	167.09	

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
1778.00	2221.95	2193.55	2467	2538	43.13	95.65	166.80	3258
1780.00	2225.21	2196.81	2468	2539	43.05	95.48	166.51	3258
1782.00	2228.47	2200.07	2469	2540	42.98	95.31	166.23	3258
1784.00	2231.79	2203.39	2470	2541	42.90	95.14	165.93	3319
1786.00	2234.96	2206.56	2471	2542	42.82	94.98	165.66	3176
1788.00	2238.66	2210.26	2472	2543	42.72	94.76	165.29	3695
1790.00	2242.13	2213.73	2473	2544	42.64	94.57	164.97	3471
1792.00	2245.57	2217.17	2475	2546	42.55	94.39	164.66	3440
1794.00	2249.02	2220.62	2476	2547	42.46	94.20	164.34	3450
1796.00	2252.45	2224.05	2477	2548	42.38	94.02	164.03	3429
1798.00	2255.97	2227.57	2478	2549	42.29	93.83	163.70	3529
1800.00	2259.44	2231.04	2479	2551	42.21	93.64	163.39	3469
1802.00	2262.96	2234.56	2480	2552	42.12	93.45	163.07	3512
1804.00	2266.53	2238.13	2481	2553	42.03	93.26	162.74	3576
1806.00	2270.08	2241.68	2482	2554	41.94	93.06	162.41	3549
1808.00	2273.66	2245.26	2484	2556	41.85	92.87	162.08	3582
1810.00	2277.32	2248.92	2485	2557	41.76	92.67	161.73	3655
1812.00	2281.14	2252.74	2486	2559	41.66	92.45	161.36	3817
1814.00	2284.72	2256.32	2488	2560	41.57	92.26	161.03	3588
1816.00	2288.25	2259.85	2489	2562	41.48	92.07	160.72	3525
1818.00	2291.99	2263.59	2490	2563	41.39	91.86	160.36	3740
1820.00	2295.97	2267.57	2492	2565	41.28	91.63	159.96	3985
1822.00	2299.85	2271.45	2493	2567	41.18	91.41	159.59	3872
1824.00	2303.63	2275.23	2495	2569	41.08	91.20	159.23	3788

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
								3897
1826.00	2307.53	2279.13	2496	2571	40.98	90.97	158.85	
								4062
1828.00	2311.59	2283.19	2498	2573	40.87	90.73	158.44	
								4161
1830.00	2315.75	2287.35	2500	2575	40.76	90.48	158.01	
								4144
1832.00	2319.90	2291.50	2502	2577	40.64	90.24	157.59	
								4137
1834.00	2324.03	2295.63	2503	2579	40.53	89.99	157.18	
								4141
1836.00	2328.18	2299.78	2505	2582	40.42	89.75	156.76	
								3897
1838.00	2332.07	2303.67	2507	2583	40.32	89.53	156.39	
								3798
1840.00	2335.87	2307.47	2508	2585	40.23	89.33	156.05	
								3792
1842.00	2339.66	2311.26	2510	2587	40.13	89.13	155.70	
								3875
1844.00	2343.54	2315.14	2511	2588	40.04	88.92	155.35	
								4017
1846.00	2347.56	2319.16	2513	2590	39.93	88.69	154.96	
								4096
1848.00	2351.65	2323.25	2514	2592	39.83	88.46	154.57	
								4029
1850.00	2355.68	2327.28	2516	2594	39.73	88.24	154.19	
								4078
1852.00	2359.76	2331.36	2518	2596	39.62	88.01	153.80	
								4030
1854.00	2363.79	2335.39	2519	2598	39.52	87.79	153.42	
								4023
1856.00	2367.81	2339.41	2521	2600	39.42	87.57	153.05	
								3760
1858.00	2371.57	2343.17	2522	2602	39.33	87.38	152.72	
								3476
1860.00	2375.05	2346.65	2523	2603	39.26	87.22	152.45	
								3180
1862.00	2378.23	2349.83	2524	2604	39.20	87.09	152.22	
								3207
1864.00	2381.43	2353.03	2525	2604	39.13	86.95	151.98	
								3311
1866.00	2384.74	2356.34	2526	2605	39.07	86.80	151.74	
								3442
1868.00	2388.19	2359.79	2527	2606	39.00	86.65	151.47	
								3487
1870.00	2391.67	2363.27	2528	2607	38.92	86.49	151.20	
								3444
1872.00	2395.12	2366.72	2529	2608	38.85	86.33	150.93	

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
1874.00	2398.46	2370.06	2529	2609	38.78	86.19	150.68	3346
1876.00	2401.67	2373.27	2530	2610	38.72	86.05	150.46	3204
1878.00	2405.30	2376.90	2531	2611	38.64	85.88	150.16	3630
1880.00	2408.70	2380.30	2532	2612	38.58	85.73	149.91	3405
1882.00	2412.11	2383.71	2533	2613	38.51	85.58	149.65	3411
1884.00	2415.57	2387.17	2534	2614	38.44	85.43	149.39	3455
1886.00	2419.19	2390.79	2535	2616	38.36	85.26	149.11	3621
1888.00	2422.72	2394.32	2536	2617	38.29	85.10	148.83	3526
1890.00	2426.29	2397.89	2537	2618	38.21	84.94	148.56	3572
1892.00	2429.79	2401.39	2538	2619	38.14	84.78	148.29	3500
1894.00	2433.15	2404.75	2539	2620	38.08	84.64	148.05	3356
1896.00	2436.58	2408.18	2540	2621	38.01	84.49	147.80	3436
1898.00	2439.99	2411.59	2541	2622	37.94	84.35	147.55	3407
1900.00	2443.40	2415.00	2542	2623	37.88	84.20	147.30	3415
1902.00	2446.99	2418.59	2543	2624	37.80	84.04	147.03	3589
1904.00	2450.77	2422.37	2545	2626	37.72	83.87	146.73	3782
1906.00	2454.52	2426.12	2546	2627	37.64	83.69	146.43	3743
1908.00	2457.85	2429.45	2547	2628	37.58	83.56	146.20	3334
1910.00	2461.30	2432.90	2548	2629	37.51	83.41	145.95	3451
1912.00	2464.83	2436.43	2549	2630	37.44	83.26	145.69	3532
1914.00	2468.25	2439.85	2549	2631	37.38	83.12	145.45	3411
1916.00	2471.63	2443.23	2550	2632	37.31	82.98	145.21	3388
1918.00	2475.12	2446.72	2551	2633	37.25	82.83	144.96	3488
1920.00	2478.81	2450.41	2553	2634	37.17	82.67	144.68	3689

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
1922.00	2482.28	2453.88	2553	2635	37.11	82.52	144.43	3465
1924.00	2485.70	2457.30	2554	2636	37.04	82.38	144.19	3420
1926.00	2489.13	2460.73	2555	2637	36.98	82.24	143.95	3436
1928.00	2492.47	2464.07	2556	2638	36.92	82.11	143.73	3339
1930.00	2495.93	2467.53	2557	2639	36.85	81.97	143.48	3460
1932.00	2499.17	2470.77	2558	2640	36.80	81.85	143.27	3237
1934.00	2502.41	2474.01	2558	2640	36.74	81.72	143.06	3245
1936.00	2505.78	2477.38	2559	2641	36.68	81.59	142.84	3369
1938.00	2509.32	2480.92	2560	2642	36.61	81.44	142.58	3542
1940.00	2512.87	2484.47	2561	2643	36.54	81.30	142.33	3550
1942.00	2516.50	2488.10	2562	2644	36.47	81.14	142.07	3628
1944.00	2520.07	2491.67	2563	2646	36.41	81.00	141.82	3564
1946.00	2523.69	2495.29	2565	2647	36.34	80.85	141.56	3629
1948.00	2527.01	2498.61	2565	2648	36.28	80.72	141.35	3315
1950.00	2529.74	2501.34	2565	2648	36.24	80.63	141.20	2734
1952.00	2532.86	2504.46	2566	2648	36.19	80.52	141.01	3118
1954.00	2536.36	2507.96	2567	2649	36.13	80.38	140.77	3495
1956.00	2540.13	2511.73	2568	2651	36.05	80.22	140.50	3776
1958.00	2543.61	2515.21	2569	2652	35.99	80.09	140.26	3479
1960.00	2547.35	2518.95	2570	2653	35.92	79.93	139.99	3739
1962.00	2551.03	2522.63	2571	2654	35.85	79.78	139.73	3676
1964.00	2555.04	2526.64	2573	2656	35.77	79.60	139.42	4014
1966.00	2558.50	2530.10	2574	2657	35.71	79.46	139.20	3460
1968.00	2561.96	2533.56	2575	2658	35.65	79.33	138.97	3464

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
1970.00	2565.46	2537.06	2576	2659	35.58	79.20	138.74	3492
1972.00	2568.93	2540.53	2577	2660	35.52	79.06	138.51	3476
1974.00	2572.36	2543.96	2577	2661	35.46	78.93	138.29	3427
1976.00	2575.28	2546.88	2578	2661	35.42	78.84	138.13	2920
1978.00	2579.45	2551.05	2579	2663	35.34	78.65	137.80	4170
1980.00	2582.70	2554.30	2580	2663	35.28	78.54	137.61	3256
1982.00	2585.86	2557.46	2581	2664	35.23	78.43	137.42	3158
1984.00	2589.47	2561.07	2582	2665	35.17	78.29	137.18	3607
1986.00	2593.25	2564.85	2583	2666	35.10	78.13	136.92	3785
1988.00	2596.68	2568.28	2584	2667	35.04	78.01	136.70	3429
1990.00	2600.12	2571.72	2585	2668	34.98	77.88	136.48	3441
1992.00	2603.39	2574.99	2585	2669	34.93	77.77	136.29	3266
1994.00	2606.91	2578.51	2586	2670	34.87	77.64	136.06	3522
1996.00	2610.29	2581.89	2587	2671	34.82	77.52	135.86	3376
1998.00	2613.69	2585.29	2588	2672	34.76	77.39	135.65	3400
2000.00	2617.25	2588.85	2589	2673	34.70	77.26	135.42	3561
2002.00	2620.84	2592.44	2590	2674	34.64	77.13	135.19	3587
2004.00	2624.40	2596.00	2591	2675	34.58	76.99	134.96	3563
2006.00	2627.81	2599.41	2592	2676	34.52	76.87	134.75	3412
2008.00	2631.17	2602.77	2592	2676	34.47	76.75	134.55	3361
2010.00	2634.50	2606.10	2593	2677	34.42	76.64	134.36	3328
2012.00	2637.91	2609.51	2594	2678	34.36	76.52	134.15	3413
2014.00	2641.33	2612.93	2595	2679	34.31	76.40	133.94	3422
2016.00	2644.59	2616.19	2595	2679	34.26	76.29	133.76	3258

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
								3442
2018.00	2648.03	2619.63	2596	2680	34.20	76.17	133.55	
								3453
2020.00	2651.49	2623.09	2597	2681	34.15	76.05	133.34	
								3942
2022.00	2655.43	2627.03	2598	2683	34.07	75.89	133.07	
								3488
2024.00	2658.92	2630.52	2599	2684	34.02	75.77	132.86	
								3396
2026.00	2662.31	2633.91	2600	2684	33.97	75.65	132.66	
								3440
2028.00	2665.75	2637.35	2601	2685	33.91	75.53	132.45	
								3477
2030.00	2669.23	2640.83	2602	2686	33.86	75.41	132.25	
								3679
2032.00	2672.91	2644.51	2603	2687	33.79	75.28	132.01	
								3800
2034.00	2676.71	2648.31	2604	2689	33.73	75.13	131.77	
								3396
2036.00	2680.10	2651.70	2605	2689	33.68	75.02	131.57	
								3474
2038.00	2683.58	2655.18	2606	2690	33.62	74.90	131.37	
								3645
2040.00	2687.22	2658.82	2607	2691	33.56	74.77	131.14	
								3550
2042.00	2690.77	2662.37	2608	2692	33.51	74.64	130.93	
								3631
2044.00	2694.40	2666.00	2609	2693	33.45	74.51	130.71	
								3785
2046.00	2698.19	2669.79	2610	2695	33.38	74.37	130.46	
								3431
2048.00	2701.62	2673.22	2611	2695	33.33	74.26	130.27	
								3517
2050.00	2705.14	2676.74	2611	2696	33.28	74.14	130.06	
								3138
2052.00	2708.27	2679.87	2612	2697	33.23	74.05	129.90	
								3624
2054.00	2711.90	2683.50	2613	2698	33.18	73.92	129.68	
								3361
2056.00	2715.26	2686.86	2614	2699	33.13	73.81	129.50	
								3502
2058.00	2718.76	2690.36	2615	2700	33.07	73.69	129.29	
								3393
2060.00	2722.15	2693.75	2615	2700	33.02	73.58	129.11	
								3482
2062.00	2725.64	2697.24	2616	2701	32.97	73.47	128.91	
								3805
2064.00	2729.44	2701.04	2617	2702	32.91	73.33	128.67	

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								3547
2066.00	2732.99	2704.59	2618	2703	32.85	73.21	128.47	
								3957
2068.00	2736.94	2708.54	2619	2705	32.79	73.06	128.21	
								3845
2070.00	2740.79	2712.39	2621	2706	32.72	72.92	127.97	
								3704
2072.00	2744.49	2716.09	2622	2707	32.67	72.80	127.75	
								3499
2074.00	2747.99	2719.59	2623	2708	32.61	72.68	127.56	
								3394
2076.00	2751.39	2722.99	2623	2709	32.56	72.58	127.37	
								3711
2078.00	2755.10	2726.70	2624	2710	32.51	72.45	127.15	
								3156
2080.00	2758.25	2729.85	2625	2711	32.46	72.36	126.99	
								3603
2082.00	2761.86	2733.46	2626	2712	32.41	72.24	126.79	
								3503
2084.00	2765.36	2736.96	2627	2712	32.36	72.12	126.59	
								3614
2086.00	2768.97	2740.57	2628	2713	32.30	72.01	126.39	
								3790
2088.00	2772.76	2744.36	2629	2715	32.24	71.87	126.16	
								3769
2090.00	2776.53	2748.13	2630	2716	32.19	71.74	125.94	
								3654
2092.00	2780.19	2751.79	2631	2717	32.13	71.62	125.73	
								3365
2094.00	2783.55	2755.15	2631	2718	32.08	71.52	125.56	
								3741
2096.00	2787.29	2758.89	2633	2719	32.03	71.40	125.34	
								3761
2098.00	2791.05	2762.65	2634	2720	31.97	71.27	125.12	
								3486
2100.00	2794.54	2766.14	2634	2721	31.92	71.16	124.93	
								3770
2102.00	2798.31	2769.91	2635	2722	31.86	71.03	124.72	
								3668
2104.00	2801.98	2773.58	2636	2723	31.81	70.91	124.51	
								3688
2106.00	2805.67	2777.27	2637	2724	31.75	70.79	124.30	
								3405
2108.00	2809.07	2780.67	2638	2725	31.71	70.69	124.13	
								3572
2110.00	2812.64	2784.24	2639	2726	31.66	70.58	123.93	
								3558
2112.00	2816.20	2787.80	2640	2727	31.61	70.47	123.74	

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
								3507
2114.00	2819.71	2791.31	2641	2728	31.56	70.36	123.56	
								3517
2116.00	2823.22	2794.82	2642	2728	31.51	70.25	123.37	
								3444
2118.00	2826.67	2798.27	2642	2729	31.46	70.15	123.20	
								3659
2120.00	2830.33	2801.93	2643	2730	31.41	70.04	123.00	
								3632
2122.00	2833.96	2805.56	2644	2731	31.36	69.92	122.80	
								3616
2124.00	2837.58	2809.18	2645	2732	31.31	69.81	122.61	
								3497
2126.00	2841.07	2812.67	2646	2733	31.26	69.70	122.43	
								3493
2128.00	2844.57	2816.17	2647	2734	31.21	69.60	122.25	
								3769
2130.00	2848.34	2819.93	2648	2735	31.16	69.48	122.04	
								3542
2132.00	2851.88	2823.48	2649	2736	31.11	69.37	121.85	
								3848
2134.00	2855.72	2827.33	2650	2737	31.05	69.25	121.64	
								4639
2136.00	2860.36	2831.96	2652	2739	30.97	69.06	121.32	
								3773
2138.00	2864.14	2835.74	2653	2741	30.91	68.95	121.12	
								3379
2140.00	2867.52	2839.12	2653	2741	30.87	68.85	120.95	
								3647
2142.00	2871.16	2842.76	2654	2742	30.82	68.74	120.76	
								3761
2144.00	2874.92	2846.52	2655	2743	30.77	68.62	120.56	
								3789
2146.00	2878.71	2850.31	2656	2745	30.71	68.50	120.35	
								3628
2148.00	2882.34	2853.94	2657	2745	30.66	68.39	120.16	
								3509
2150.00	2885.85	2857.45	2658	2746	30.62	68.29	119.99	
								3642
2152.00	2889.49	2861.09	2659	2747	30.57	68.18	119.80	
								3671
2154.00	2893.16	2864.76	2660	2748	30.52	68.07	119.61	
								3603
2156.00	2896.77	2868.37	2661	2749	30.47	67.97	119.43	
								3498
2158.00	2900.26	2871.86	2662	2750	30.42	67.87	119.26	
								3572
2160.00	2903.84	2875.44	2662	2751	30.38	67.76	119.08	

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
2162.00	2907.67	2879.27	2664	2752	30.32	67.65	118.87	3837
2164.00	2911.21	2882.81	2664	2753	30.28	67.54	118.70	3539
2166.00	2915.04	2886.64	2665	2754	30.22	67.43	118.50	3823
2168.00	2918.76	2890.36	2666	2755	30.17	67.32	118.30	3720
2170.00	2922.59	2894.19	2667	2756	30.12	67.20	118.10	3839
2172.00	2926.40	2898.00	2669	2757	30.07	67.08	117.90	3801
2174.00	2930.07	2901.67	2669	2758	30.02	66.98	117.72	3670
2176.00	2933.71	2905.31	2670	2759	29.97	66.87	117.54	3640
2178.00	2937.55	2909.15	2671	2761	29.92	66.76	117.34	3843
2180.00	2941.18	2912.78	2672	2761	29.87	66.65	117.16	3635
2182.00	2945.04	2916.64	2673	2763	29.82	66.54	116.96	3860
2184.00	2948.57	2920.17	2674	2764	29.77	66.44	116.79	3530
2186.00	2952.31	2923.91	2675	2765	29.73	66.33	116.60	3735
2188.00	2956.22	2927.82	2676	2766	29.67	66.21	116.40	3907
2190.00	2959.99	2931.59	2677	2767	29.62	66.10	116.21	3777
2192.00	2963.76	2935.36	2678	2768	29.57	65.99	116.02	3764
2194.00	2967.44	2939.04	2679	2769	29.53	65.89	115.84	3687
2196.00	2971.14	2942.74	2680	2770	29.48	65.78	115.66	3701
2198.00	2974.77	2946.37	2681	2771	29.43	65.68	115.48	3629
2200.00	2978.35	2949.95	2682	2772	29.39	65.59	115.31	3575
2202.00	2981.90	2953.50	2683	2772	29.34	65.49	115.15	3552
2204.00	2985.48	2957.08	2683	2773	29.30	65.39	114.98	3584
2206.00	2989.08	2960.68	2684	2774	29.26	65.30	114.81	3591
2208.00	2992.71	2964.31	2685	2775	29.21	65.20	114.64	3634

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
								3731
2210.00	2996.44	2968.04	2686	2776	29.16	65.09	114.46	
								3680
2212.00	3000.12	2971.72	2687	2777	29.12	64.99	114.29	
								3732
2214.00	3003.85	2975.45	2688	2778	29.07	64.89	114.11	
								3721
2216.00	3007.57	2979.17	2689	2779	29.02	64.79	113.93	
								3621
2218.00	3011.20	2982.80	2690	2780	28.98	64.69	113.76	
								3710
2220.00	3014.91	2986.51	2691	2781	28.93	64.59	113.59	
								3646
2222.00	3018.55	2990.15	2691	2782	28.89	64.49	113.42	
								3576
2224.00	3022.13	2993.73	2692	2783	28.85	64.40	113.26	
								3688
2226.00	3025.82	2997.42	2693	2784	28.80	64.30	113.09	
								3655
2228.00	3029.47	3001.07	2694	2784	28.76	64.20	112.92	
								3629
2230.00	3033.10	3004.70	2695	2785	28.72	64.11	112.75	
								3578
2232.00	3036.68	3008.28	2696	2786	28.67	64.01	112.59	
								3643
2234.00	3040.32	3011.92	2696	2787	28.63	63.92	112.43	
								3659
2236.00	3043.98	3015.58	2697	2788	28.59	63.82	112.26	
								3626
2238.00	3047.61	3019.21	2698	2789	28.54	63.73	112.10	
								3613
2240.00	3051.22	3022.82	2699	2790	28.50	63.63	111.93	
								3606
2242.00	3054.82	3026.42	2700	2790	28.46	63.54	111.77	
								3580
2244.00	3058.40	3030.00	2701	2791	28.42	63.45	111.62	
								3597
2246.00	3062.00	3033.60	2701	2792	28.38	63.36	111.46	
								3565
2248.00	3065.57	3037.17	2702	2793	28.34	63.27	111.30	
								3491
2250.00	3069.06	3040.66	2703	2794	28.30	63.18	111.15	
								3539
2252.00	3072.60	3044.20	2704	2794	28.26	63.09	111.00	
								3521
2254.00	3076.12	3047.72	2704	2795	28.22	63.01	110.85	
								3520
2256.00	3079.64	3051.24	2705	2796	28.18	62.92	110.70	

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
2258.00	3083.42	3055.02	2706	2797	28.13	62.82	110.53	3781
2260.00	3087.59	3059.19	2707	2798	28.08	62.70	110.32	4177
2262.00	3091.24	3062.84	2708	2799	28.04	62.61	110.16	3647
2264.00	3094.80	3066.40	2709	2800	28.00	62.52	110.01	3562
2266.00	3098.41	3070.01	2710	2801	27.96	62.43	109.85	3605
2268.00	3102.09	3073.69	2710	2802	27.91	62.34	109.69	3681
2270.00	3105.70	3077.30	2711	2802	27.87	62.25	109.54	3608
2272.00	3109.37	3080.97	2712	2803	27.83	62.16	109.38	3675
2274.00	3112.97	3084.58	2713	2804	27.79	62.07	109.22	3602
2276.00	3116.55	3088.15	2714	2805	27.75	61.98	109.07	3578
2278.00	3120.12	3091.72	2714	2806	27.71	61.89	108.92	3570
2280.00	3123.78	3095.38	2715	2807	27.67	61.80	108.77	3659
2282.00	3127.44	3099.04	2716	2807	27.63	61.71	108.61	3655
2284.00	3131.07	3102.66	2717	2808	27.59	61.63	108.46	3629
2286.00	3135.07	3106.67	2718	2810	27.54	61.52	108.27	4002
2288.00	3138.90	3110.50	2719	2811	27.50	61.42	108.10	3838
2290.00	3142.50	3114.10	2720	2811	27.46	61.33	107.95	3591
2292.00	3146.16	3117.76	2721	2812	27.42	61.25	107.80	3660
2294.00	3149.70	3121.30	2721	2813	27.38	61.16	107.66	3546
2296.00	3153.30	3124.90	2722	2814	27.34	61.08	107.51	3600
2298.00	3156.99	3128.59	2723	2815	27.30	60.99	107.35	3693
2300.00	3160.63	3132.23	2724	2815	27.26	60.90	107.20	3639
2302.00	3164.31	3135.91	2725	2816	27.22	60.81	107.05	3681
2304.00	3168.00	3139.60	2725	2817	27.18	60.72	106.90	3690

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
								3640
2306.00	3171.64	3143.24	2726	2818	27.14	60.64	106.75	
								3784
2308.00	3175.43	3147.03	2727	2819	27.10	60.54	106.59	
								3850
2310.00	3179.28	3150.88	2728	2820	27.06	60.45	106.42	
								3930
2312.00	3183.21	3154.81	2729	2821	27.01	60.35	106.25	
								3900
2314.00	3187.11	3158.71	2730	2822	26.97	60.25	106.08	
								3789
2316.00	3190.90	3162.50	2731	2823	26.93	60.16	105.92	
								3868
2318.00	3194.77	3166.36	2732	2824	26.89	60.06	105.75	
								3777
2320.00	3198.54	3170.14	2733	2825	26.84	59.97	105.59	
								3771
2322.00	3202.31	3173.91	2734	2826	26.80	59.88	105.44	
								3790
2324.00	3206.10	3177.70	2735	2827	26.76	59.79	105.28	
								3999
2326.00	3210.10	3181.70	2736	2828	26.72	59.69	105.11	
								3804
2328.00	3213.91	3185.51	2737	2829	26.68	59.60	104.95	
								3943
2330.00	3217.85	3189.45	2738	2831	26.63	59.50	104.78	
								3896
2332.00	3221.74	3193.35	2739	2832	26.59	59.41	104.61	
								3840
2334.00	3225.59	3197.19	2740	2833	26.55	59.32	104.46	
								3575
2336.00	3229.16	3200.76	2740	2833	26.51	59.24	104.32	
								3904
2338.00	3233.06	3204.66	2741	2834	26.47	59.14	104.15	
								3926
2340.00	3236.99	3208.59	2742	2836	26.43	59.05	103.99	
								4454
2342.00	3241.44	3213.04	2744	2837	26.37	58.93	103.78	
								3767
2344.00	3245.21	3216.81	2745	2838	26.33	58.84	103.63	
								3896
2346.00	3249.11	3220.71	2746	2839	26.29	58.75	103.46	
								3999
2348.00	3253.11	3224.71	2747	2841	26.25	58.65	103.30	
								3939
2350.00	3257.05	3228.65	2748	2842	26.20	58.56	103.13	
								3813
2352.00	3260.86	3232.46	2749	2843	26.16	58.47	102.98	

TWO-WAY TRAVEL TIME FROM SRD MS	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	AVERAGE VELOCITY SRD/GEO M/S	RMS VELOCITY M/S	FIRST NORMAL MOVEOUT MS	SECOND NORMAL MOVEOUT MS	THIRD NORMAL MOVEOUT MS	INTERVAL VELOCITY M/S
2354.00	3264.63	3236.23	2750	2844	26.12	58.38	102.83	3775
2356.00	3268.43	3240.03	2750	2844	26.09	58.30	102.68	3792
2358.00	3272.21	3243.81	2751	2845	26.05	58.21	102.53	3784
2360.00	3275.96	3247.56	2752	2846	26.01	58.13	102.39	3756
2362.00	3279.81	3251.41	2753	2847	25.97	58.04	102.23	3850
2364.00	3283.66	3255.26	2754	2848	25.93	57.95	102.08	3846
2366.00	3287.48	3259.08	2755	2849	25.89	57.86	101.93	3825
2368.00	3291.39	3262.99	2756	2850	25.85	57.77	101.77	3903
2370.00	3295.23	3266.83	2757	2851	25.81	57.69	101.62	3842
2372.00	3299.07	3270.67	2758	2852	25.77	57.60	101.47	3841
2374.00	3302.92	3274.52	2759	2853	25.73	57.51	101.32	3845
2376.00	3306.75	3278.35	2760	2854	25.69	57.43	101.17	3833
2378.00	3310.65	3282.25	2761	2855	25.65	57.34	101.02	3898
2380.00	3314.46	3286.06	2761	2856	25.61	57.25	100.87	3810
2382.00	3318.30	3289.90	2762	2857	25.58	57.17	100.72	3848
2384.00	3322.12	3293.72	2763	2858	25.54	57.08	100.58	3814
2386.00	3325.99	3297.59	2764	2859	25.50	57.00	100.43	3873
2388.00	3329.87	3301.47	2765	2860	25.46	56.91	100.28	3878
2390.00	3333.82	3305.42	2766	2861	25.42	56.82	100.12	3953
2392.00	3337.94	3309.54	2767	2862	25.38	56.73	99.95	4117
2394.00	3341.91	3313.51	2768	2864	25.34	56.64	99.80	3966
2396.00	3345.89	3317.49	2769	2865	25.30	56.55	99.64	3986
2398.00	3349.69	3321.29	2770	2866	25.26	56.47	99.50	3800
2400.00	3353.50	3325.10	2771	2867	25.22	56.38	99.36	3805

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2402.00	3357.10	3328.70	2772	2867	25.19	56.31	99.23	3600
2404.00	3361.15	3332.75	2773	2868	25.15	56.22	99.07	4058
2406.00	3365.23	3336.83	2774	2870	25.11	56.13	98.91	4078
2408.00	3369.23	3340.83	2775	2871	25.06	56.04	98.76	4002
2410.00	3373.13	3344.73	2776	2872	25.03	55.95	98.61	3900
2412.00	3377.17	3348.77	2777	2873	24.99	55.86	98.45	4036
2414.00	3381.32	3352.92	2778	2874	24.94	55.77	98.29	4146
2416.00	3385.38	3356.98	2779	2875	24.90	55.68	98.13	4060
2418.00	3389.48	3361.08	2780	2877	24.86	55.59	97.97	4106
2420.00	3393.52	3365.12	2781	2878	24.82	55.50	97.82	4041
2422.00	3397.53	3369.13	2782	2879	24.78	55.41	97.66	4003
2424.00	3401.59	3373.19	2783	2880	24.74	55.32	97.51	4061
2426.00	3405.83	3377.43	2784	2881	24.70	55.22	97.34	4239
2428.00	3409.91	3381.51	2785	2883	24.66	55.13	97.18	4087
2430.00	3413.69	3385.29	2786	2884	24.62	55.06	97.05	3779
2432.00	3417.60	3389.20	2787	2885	24.59	54.98	96.91	3909
2434.00	3421.61	3393.21	2788	2886	24.55	54.89	96.76	4010
2436.00	3425.69	3397.29	2789	2887	24.51	54.80	96.60	4079
2438.00	3429.56	3401.16	2790	2888	24.47	54.72	96.47	3873
2440.00	3433.53	3405.13	2791	2889	24.43	54.64	96.32	3970
2442.00	3437.62	3409.22	2792	2890	24.39	54.55	96.17	4088
2444.00	3441.64	3413.24	2793	2891	24.36	54.47	96.02	4023
2446.00	3445.39	3416.99	2794	2892	24.32	54.39	95.89	3745
2448.00	3449.43	3421.03	2795	2893	24.28	54.31	95.74	4039