

ENCLOSURE 9

SOLE-2

**40 Hz Ricker
Synthetic Seismogram
- 10cm/s scale
(both polarities)**

-CGG-



BOREHOLE

DISPLAY SA2

SYNTHETIC SEISMOGRAM RIG SOURCE SURVEY

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

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

PROCESSING PARAMETERS

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

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

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

CONVOLUTION WAVELETS : 40 HZ RICKER WAVELET

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

DIFFERENCE IN CALCULATED RESPONSE FOR MARINE AND LAND WELLS :

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

REMARKS

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

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

