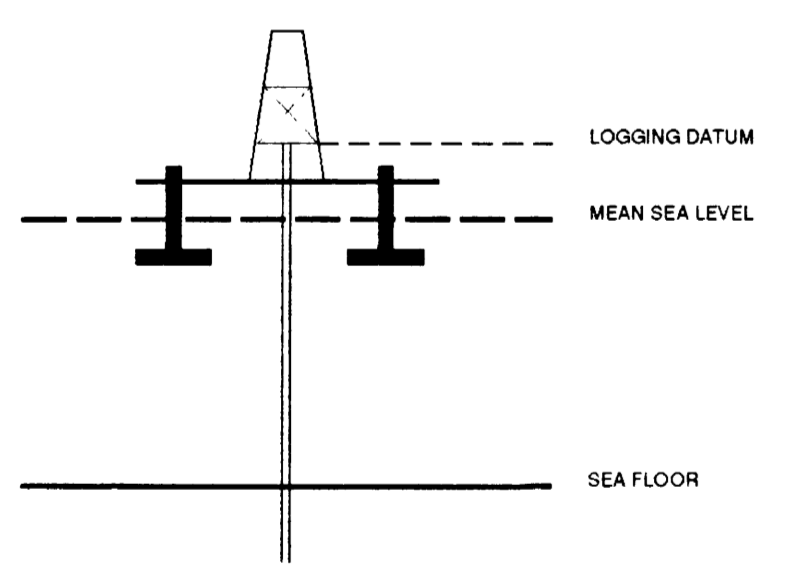


VERTICAL SEISMIC PROFILE

ZERO OFFSET VSP PLOT 7
REVERSE POLARITY
VSP AND GEGRAM COMPOSITE

Company: BHP PETROLEUM
Well: MINERVA 1
Field: EXPLORATION
Country: AUSTRALIA
Reference No: 560896 Interval: 2405.00 to 551.00
Date Logged: 05-04-93 Date Processed: 20-04-94
Location: 38 42 12.23" S 142 57 12.34" E
Elevations: KB: 25.30 DF: 25.00 GL: -57.00
Permanent Datum: MSL Depth Units: METRES
FIELD RECORDING Engineer: M HELWIG Location: VEA Program Version: 32.4
COMPUTATION Analyst: A WIBSONO Centre: SYJ Baseline: 5.5

ELEVATION ABOVE MEAN SEA LEVEL
Logging Datum: 25.00
Seismic Reference Datum: 0 00



Total Number of Levels: 100
Depth Reference: SRD
Time Reference: SRD

Run	Date	Tool Type	Bit Size Depth	Casing Size Depth	Top Depth	Bottom Depth	
1	14-03-93	AS			1183 M	551 M	
2	21-03-93	AS			1793 M	1195 M	
3	25-03-93	AS			2084 M	1793 M	
4	06-04-93	AS			2112 M	2084 M	
VSP Run	Date	Gun Offset	Hydro Offset	Gun Elevation	Hydro Elevation	Gun Azimuth	Hydro Azimuth
1	14-03-93	47 M	47 M	7 M BELOW MSL	14 M BELOW MSL	50	50
2	22-03-93	47 M	47 M	7 M BELOW MSL	14 M BELOW MSL	50	50

REMARKS
FOLD HERE

The well name, location and borehole reference data were furnished by the customer. All interpretations are opinions based on information received from electrical or other measurements and are subject to change. Schlumberger does not assume the accuracy or completeness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damage or expense incurred or sustained by anyone resulting from any interpretations made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current schedule.

**** N M O ****
NORMAL MOVEOUT CORRECTION
STATIC CORRECTION TO MSL: 9.18 MS
BAND PASS FILTER : 5-75 HZ
NORMALISATION GATE : 100 MS
TIME VARYING GAIN : T/TO**1.00
WAVESHAPING DECONVOLUTION:
5-85 HZ ZERO PHASE WAVELET
5 LEVEL ENHANCED UPGOING WAVEFIELD
NORMAL MOVEOUT CORRECTION
VERTICAL SCALE : 10 CM/SEC
POLARITY (S.E.G.) : REVERSE

CORRIDOR STACK

CORRIDOR STACK + AGC
300 MS AGC WINDOW

GEGRAM 35 HZ.
ZERO PHASE - REVERSE POLARITY

GEGRAM 25 HZ.
ZERO PHASE - REVERSE POLARITY

GEGRAM 45 HZ.
ZERO PHASE - REVERSE POLARITY

INVERTED IMPEDANCE

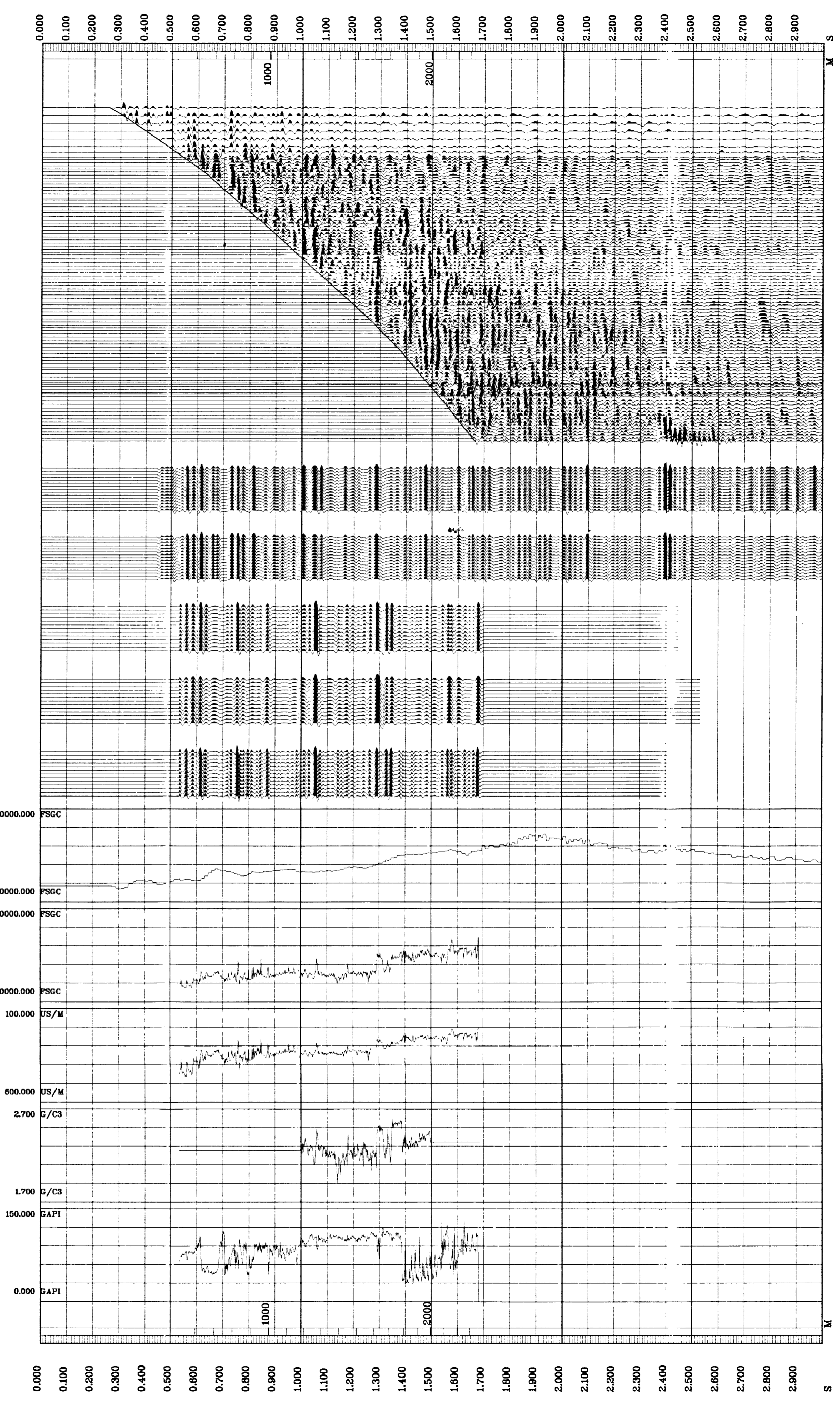
LOGGED IMPEDANCE

SONIC

DENSITY

GAMMA RAY

RAW DEPTH M	TRUE VERTICAL DEPTH MSL M	GEOPHONE OFFSET M	TRANSIT TIME S	TRANSIT TIME NMO S	LEVEL NO
350.0	255.0	1.0	0.132	0.258	99
360.0	275.0	1.2	0.137	0.310	98
370.0	295.0	1.4	0.140	0.355	97
380.0	315.0	1.6	0.151	0.399	96
390.0	335.0	1.8	0.159	0.443	95
400.0	355.0	2.0	0.165	0.487	94
410.0	375.0	2.2	0.170	0.531	93
420.0	395.0	2.4	0.174	0.575	92
430.0	415.0	2.6	0.178	0.619	91
440.0	435.0	2.8	0.181	0.663	90
450.0	455.0	3.0	0.184	0.707	89
460.0	475.0	3.2	0.187	0.751	88
470.0	495.0	3.4	0.190	0.795	87
480.0	515.0	3.6	0.193	0.839	86
490.0	535.0	3.8	0.196	0.883	85
500.0	555.0	4.0	0.199	0.927	84
510.0	575.0	4.2	0.202	0.971	83
520.0	595.0	4.4	0.205	1.015	82
530.0	615.0	4.6	0.208	1.059	81
540.0	635.0	4.8	0.211	1.103	80
550.0	655.0	5.0	0.214	1.147	79
560.0	675.0	5.2	0.217	1.191	78
570.0	695.0	5.4	0.220	1.235	77
580.0	715.0	5.6	0.223	1.279	76
590.0	735.0	5.8	0.226	1.323	75
600.0	755.0	6.0	0.229	1.367	74
610.0	775.0	6.2	0.232	1.411	73
620.0	795.0	6.4	0.235	1.455	72
630.0	815.0	6.6	0.238	1.499	71
640.0	835.0	6.8	0.241	1.543	70
650.0	855.0	7.0	0.244	1.587	69
660.0	875.0	7.2	0.247	1.631	68
670.0	895.0	7.4	0.250	1.675	67
680.0	915.0	7.6	0.253	1.719	66
690.0	935.0	7.8	0.256	1.763	65
700.0	955.0	8.0	0.259	1.807	64
710.0	975.0	8.2	0.262	1.851	63
720.0	995.0	8.4	0.265	1.895	62
730.0	1015.0	8.6	0.268	1.939	61
740.0	1035.0	8.8	0.271	1.983	60
750.0	1055.0	9.0	0.274	2.027	59
760.0	1075.0	9.2	0.277	2.071	58
770.0	1095.0	9.4	0.280	2.115	57
780.0	1115.0	9.6	0.283	2.159	56
790.0	1135.0	9.8	0.286	2.203	55
800.0	1155.0	10.0	0.289	2.247	54
810.0	1175.0	10.2	0.292	2.291	53
820.0	1195.0	10.4	0.295	2.335	52
830.0	1215.0	10.6	0.298	2.379	51
840.0	1235.0	10.8	0.301	2.423	50
850.0	1255.0	11.0	0.304	2.467	49
860.0	1275.0	11.2	0.307	2.511	48
870.0	1295.0	11.4	0.310	2.555	47
880.0	1315.0	11.6	0.313	2.599	46
890.0	1335.0	11.8	0.316	2.643	45
900.0	1355.0	12.0	0.319	2.687	44
910.0	1375.0	12.2	0.322	2.731	43
920.0	1395.0	12.4	0.325	2.775	42
930.0	1415.0	12.6	0.328	2.819	41
940.0	1435.0	12.8	0.331	2.863	40
950.0	1455.0	13.0	0.334	2.907	39
960.0	1475.0	13.2	0.337	2.951	38
970.0	1495.0	13.4	0.340	2.995	37
980.0	1515.0	13.6	0.343	3.039	36
990.0	1535.0	13.8	0.346	3.083	35
1000.0	1555.0	14.0	0.349	3.127	34
1010.0	1575.0	14.2	0.352	3.171	33
1020.0	1595.0	14.4	0.355	3.215	32
1030.0	1615.0	14.6	0.358	3.259	31
1040.0	1635.0	14.8	0.361	3.303	30
1050.0	1655.0	15.0	0.364	3.347	29
1060.0	1675.0	15.2	0.367	3.391	28
1070.0	1695.0	15.4	0.370	3.435	27
1080.0	1715.0	15.6	0.373	3.479	26
1090.0	1735.0	15.8	0.376	3.523	25
1100.0	1755.0	16.0	0.379	3.567	24
1110.0	1775.0	16.2	0.382	3.611	23
1120.0	1795.0	16.4	0.385	3.655	22
1130.0	1815.0	16.6	0.388	3.699	21
1140.0	1835.0	16.8	0.391	3.743	20
1150.0	1855.0	17.0	0.394	3.787	19
1160.0	1875.0	17.2	0.397	3.831	18
1170.0	1895.0	17.4	0.400	3.875	17
1180.0	1915.0	17.6	0.403	3.919	16
1190.0	1935.0	17.8	0.406	3.963	15
1200.0	1955.0	18.0	0.409	4.007	14
1210.0	1975.0	18.2	0.412	4.051	13
1220.0	1995.0	18.4	0.415	4.095	12
1230.0	2015.0	18.6	0.418	4.139	11
1240.0	2035.0	18.8	0.421	4.183	10
1250.0	2055.0	19.0	0.424	4.227	9
1260.0	2075.0	19.2	0.427	4.271	8
1270.0	2095.0	19.4	0.430	4.315	7
1280.0	2115.0	19.6	0.433	4.359	6
1290.0	2135.0	19.8	0.436	4.403	5
1300.0	2155.0	20.0	0.439	4.447	4
1310.0	2175.0	20.2	0.442	4.491	3
1320.0	2195.0	20.4	0.445	4.535	2
1330.0	2215.0	20.6	0.448	4.579	1
1340.0	2235.0	20.8	0.451	4.623	
1350.0	2255.0	21.0	0.454	4.667	
1360.0	2275.0	21.2	0.457	4.711	
1370.0	2295.0	21.4	0.460	4.755	
1380.0	2315.0	21.6	0.463	4.799	
1390.0	2335.0	21.8	0.466	4.843	
1400.0	2355.0	22.0	0.469	4.887	
1410.0	2375.0	22.2	0.472	4.931	
1420.0	2395.0	22.4	0.475	4.975	
1430.0	2415.0	22.6	0.478	5.019	
1440.0	2435.0	22.8	0.481	5.063	
1450.0	2455.0	23.0	0.484	5.107	
1460.0	2475.0	23.2	0.487	5.151	
1470.0	2495.0	23.4	0.490	5.195	
1480.0	2515.0	23.6	0.493	5.239	
1490.0	2535.0	23.8	0.496	5.283	
1500.0	2555.0	24.0	0.499	5.327	
1510.0	2575.0	24.2	0.502	5.371	
1520.0	2595.0	24.4	0.505	5.415	
1530.0	2615.0	24.6	0.508	5.459	
1540.0	2635.0	24.8	0.511	5.503	
1550.0	2655.0	25.0	0.514	5.547	



COMPANY: BHP PETROLEUM
FIELD: EXPLORATION
WELL: MINERVA 1
COUNTRY: AUSTRALIA

Schlumberger