W 795

DEPT. NAT. RES & ENV
PE603634

Seismograph Service (England) Limited

SYNTHETIC SEISMOGRAM
MARINE

FILING No.	**COMPANY** PHILLIPS AUSTRALIAN OIL COMPANY
	WELL SELENE No.1
	FIELD WILDCAT
	COUNTRY AUSTRALIA (OFFSHORE)
	LOCATION: 38° 37′ 24.97″ S 148° 26′ 11.51″ E

SOURCE OF PRINCIPAL DATA	CALIBRATED SONIC LOG
SOURCE OF SUPPLEMENTARY DATA	DENSITY LOG: LINE GP81-91
SOURCE AND TYPE	AIRGUN
DEPTH OF SOURCE	4.5 m
DEPTH OF DETECTOR	7.5 m
SYNTHETIC TIME-LAYER INTERVAL	.002s TWO-WAY
BASIC DATA DIGITISED	CONTINUOUSLY IN DEPTH
DEPTH SCALE	NON LINEAR IN METRES
TWO-WAY TIME SCALE	1s = 10 cm
DATUM	MEAN SEA LEVEL
WATER VELOCITY	1524 m/s
DEPTH OF WATER	253 m

VELOCITY MODEL: velocity between seabed and top of log is 2021.7 m/s

REMARKS: The reflection coefficient created by the velocity interface at the top of the log is unrealistic and has not been included in the Synthetic Seismogram.

The sonic log has been modelled at 80 μs/ft from 3530 m below KB to the end depth of the density log at 3539 m below KB since there was no sonic information over this area.

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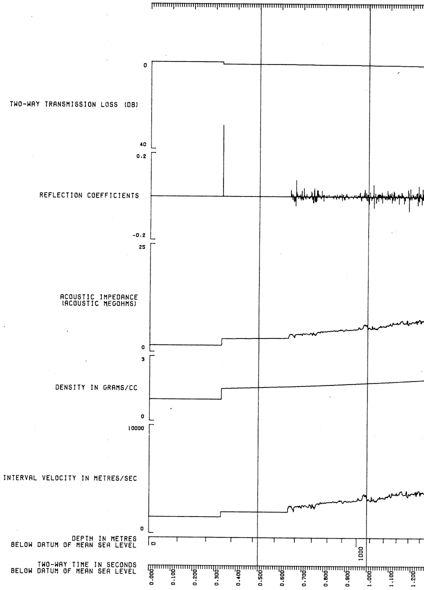
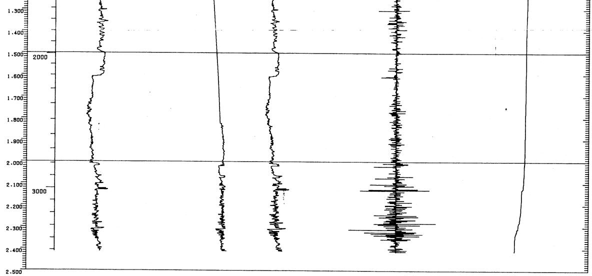
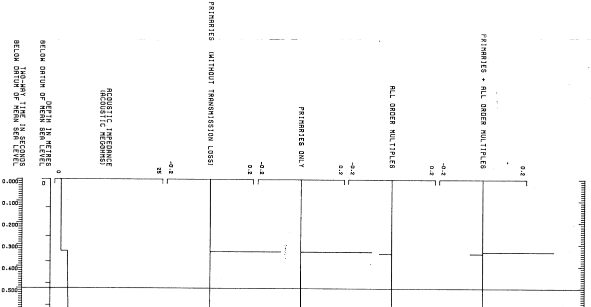
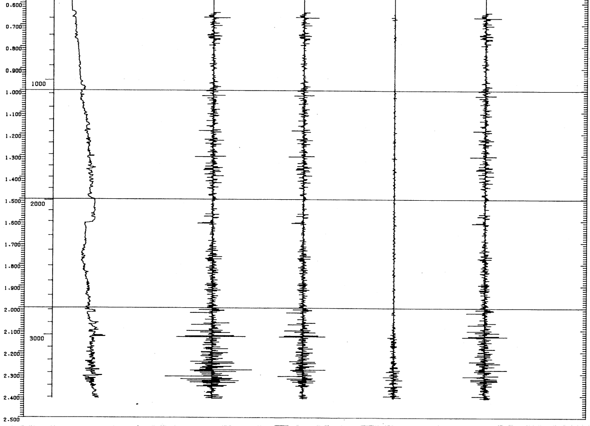


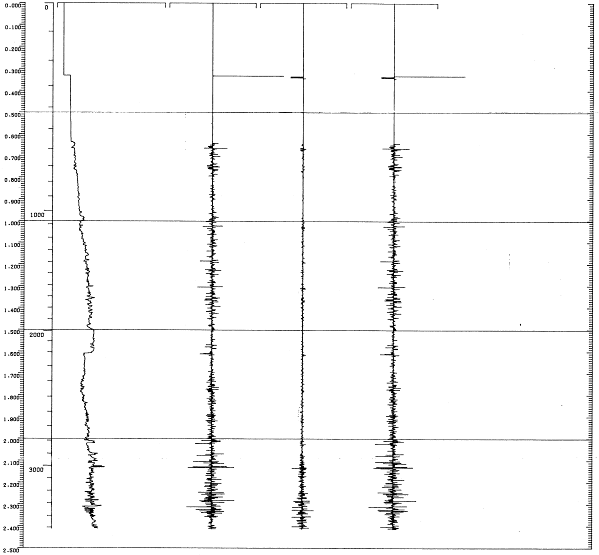


SPIKE RESPONSES WITHOUT SOURCE GHOSTS



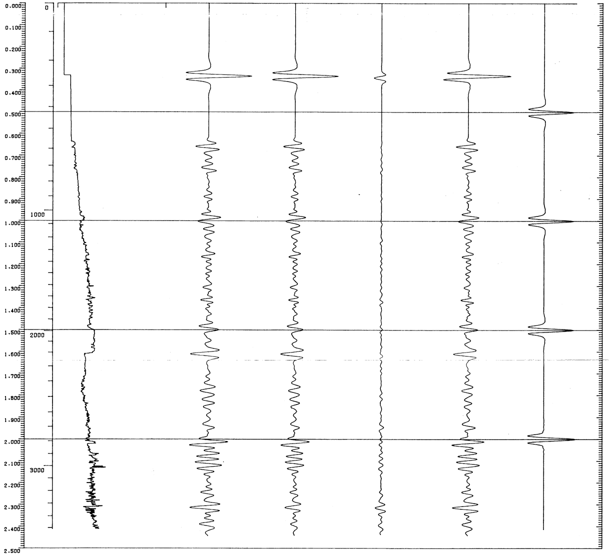


SPIKE RESPONSES WITH GHOSTS

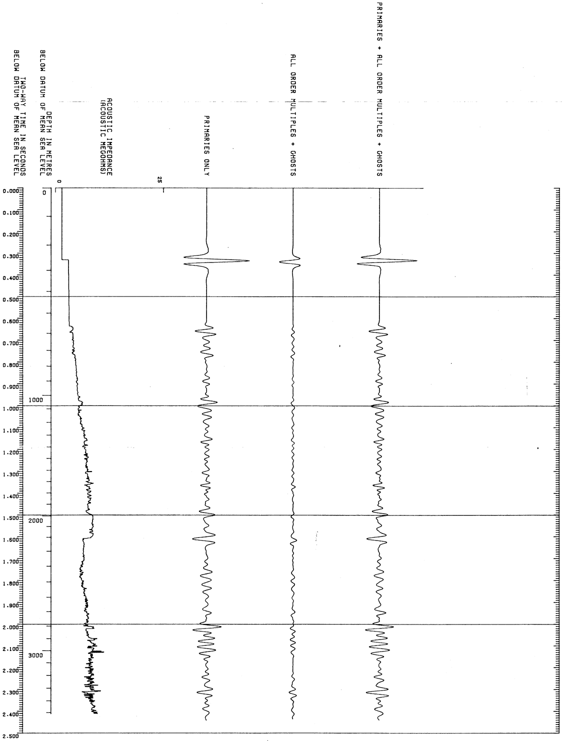


CONVOLUTION WITH A 25HZ ZERO PHASE RICKER WAVELET AND
THE FOLLOWING TIME VARIANT BAND PASS FILTER OF LINE GP81091
AT WB+1.2S 15-55HZ
AT WB+1.5S 10-50HZ
AT WB+1.8S 5-45
AT WB+2.4S 5-40HZ
LINEAR OVERLAP BETWEEN FILTERS

CONVOLVED RESPONSES WITHOUT SOURCE GHOSTS

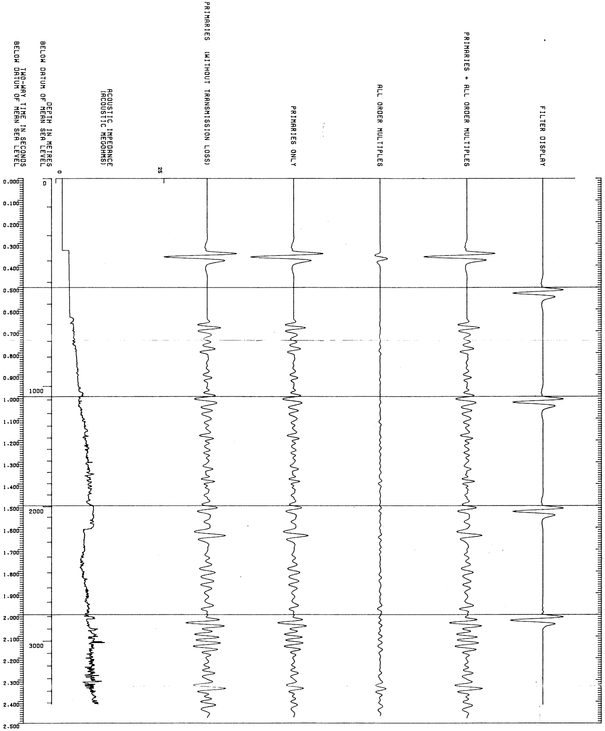


CONVOLVED RESPONSES WITH GHOSTS

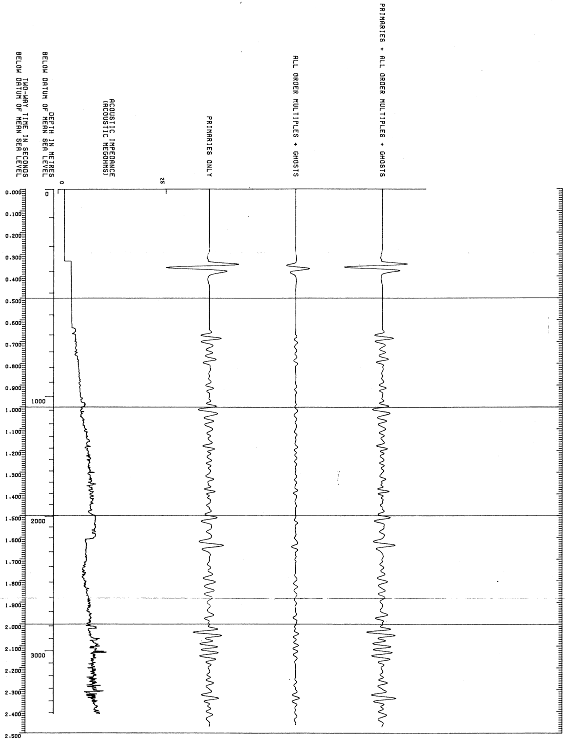


CONVOLUTION WITH A 25HZ MINIMUM PHASE RICKER WAVELET AND
THE FOLLOWING TIME VARIANT BAND PASS FILTER OF LINE GP81091
AT WB+1.2S 15-55HZ
AT WB+1.5S 10-50HZ
AT WB+1.8S 5-45
AT WB+2.4S 5-40HZ
LINEAR OVERLAP BETWEEN FILTERS

CONVOLVED RESPONSES WITHOUT SOURCE GHOSTS



CONVOLVED RESPONSES WITH GHOST


TWO-WAY TIME IN SECONDS BELOW DATUM OF MEAN SEA LEVEL
DEPTH IN METRES BELOW DATUM OF MEAN SEA LEVEL
ACOUSTIC IMPEDANCE (ACOUSTIC MEGOHMS)
0
25
PRIMARIES ONLY
ALL ORDER MULTIPLES + GHOSTS
PRIMARIES + ALL ORDER MULTIPLES + GHOSTS
0.000
0.100
0.200
0.300
0.400
0.500
0.600
0.700
0.800
0.900
1.000
1.100
1.200
1.300
1.400
1.500
1.600
1.700
1.800
1.900
2.000
2.100
2.200
2.300
2.400
2.500
0
1000
2000
3000