

# Velocity Data

DEPT. NAT. RES & ENV



PE906766



16 MAR 1993

SYNTHETIC SEISMOGRAMS

NALANGIL #1

PETROLEUM DIVISION

PEP 100

VICTORIA

APPENDIX 7

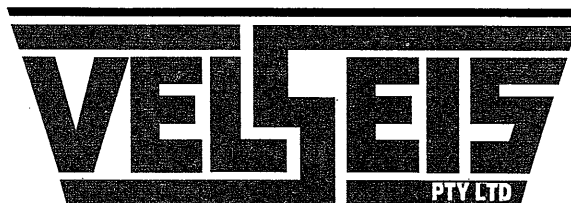
for

GAS and FUEL EXPLORATION NL

recorded by

VELOCITY DATA PTY. LTD.

processed by



**Integrated Seismic Technologies**

Brisbane, Australia

January 15, 1991

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**SUMMARY**

Synthetic seismograms have been produced for the Nalangil No1 well, PEP 100, Otway Basin, Victoria for Gas and Fuel Exploration NL .

These seismograms have been computed using a combination of check shot, sonic and density data. Velocity Data Pty Ltd acquired the check shot data and BPB Instruments provided the other wireline services.

The sonic data was calibrated using the check shot information. Reflection coefficients were derived from combinations of calibrated sonic and density data and then convolved with the specified wavelets to produce the synthetic seismograms. A number of trials were run before establishing the most appropriate wavelet.

**GENERAL INFORMATION**

Name of Well	:	NALANGIL #1
Location	:	PEP100, Otway Basin
Coordinates	:	Latitude 038 21 40 : Longitude 143 26 17
Velocity Survey	:	Velocity Data Pty Ltd
Wireline Logging	:	BPB Instruments V1030
Elevation of KB	:	146.1m above sea level
Elevation of Ground	:	143.0m above sea level
Elevation of Seismic Datum	:	150.0m above sea level
Casing depth	:	64.4m below KB
Total Depth of well	:	352.0m below KB

**CHECK SHOT DATA**

Recorded by : Velocity Data Pty Ltd  
Date : August 7<sup>th</sup> 1990  
Energy Source : Explosive, AN-60  
Shot Location : Mud pit  
Charge Size : 0.25 (125 grm) sticks  
Average Shot Depth : 2 metres  
Average Shot Offset : 22 metres  
Number of shots used : 26  
Number of levels recorded : 23

**SONIC DATA**

Recorded by : BPB Instruments  
Date : August 7<sup>th</sup> 1990  
Top logged interval : 4.6m below KB  
Bottom logged interval : 341m below KB  
Logging units : microseconds/metre

**DENSITY DATA**

Recorded by : BPB Instruments  
Top logged interval : 55m below KB  
Bottom logged interval : 353.1m below KB  
Logging units : grms/cc

## CALIBRATION OF SONIC LOG

### Method

The sonic log was extended to 600 metres below KB in order to get full wavelet response at the end of the sonic. The log was edited out above 64 metres due to the casing effecting the results.

Sonic times were adjusted to checkshot times using a least squares polynomial fit for the sonic transit times. This method being chosen over a linear correction as the latter tends to introduce fictitious interfaces at areas of high drift correction.

Differences arise as the sonic tool measures the local velocity characteristics of the formation with a high frequency signal, whereas the downhole geophone records the bulk velocity character using a signal of significantly lower frequency.

### Results

The discrepancies between shot and sonic interval velocities were generally small. The largest adjustment was 144  $\mu$ secs/metre on the interval 69 to 105 metres below KB.

In aggregate, the shot and sonic interval times differed by 9.3 msec over the logged portion of the well.

**CALIBRATION OF DENSITY DATA**

The density log had to be edited out in order to encompass the same range as the sonic. The density data is calibrated using the adjusted and integrated sonic time.

**REFLECTION COEFFICIENT GENERATION**

Reflection coefficients were generated from a combination of sonic and density data as noted on the display.

**MULTIPLES**

Only the primary response of the reflection coefficient series has been generated.

**WAVELETS**

A variety of wavelets were tried before the most suitable was chosen. A total of three are presented:

- 1) Bandpass 12-60Hz Zero Phase Reverse Polarity
- 2) Bandpass 12-60Hz Zero Phase Normal Polarity
- 3) Ricker 50Hz Zero Phase Normal Polarity

**SEISMOGRAM DISPLAYS**

The final displays show the contributing logs in schematic form with time scale. The seismogram is displayed for each wavelet against two way time below the check shot datum. Trace amplitudes are normalized against their maxima. The subdatum two way time of 73 msec for the start of the sonic was taken from the checkshot results.

No seismic section was received and the initial trials were FAXED for approval. It is understood that the seismic results were poor at the shallow depth and a meaningful tie difficult to establish.



**Geoffrey Bell**  
**Geophysical Analyst.**

TABLE 1.

## Time-Depth curve values

Page 1.

Well : NALANGIL #1

Client : GAS A&amp; FUEL EXPLORATION N/L

Survey units : METRES

Datum : 150.0

Calibrated sonic interval velocities used from 73.0 to 353.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
1.0	0.5	1981	1981	1981	41.0	20.8	1975	1975	1973
2.0	1.0	1980	1980	1978	42.0	21.3	1975	1975	1973
3.0	1.5	1979	1979	1977	43.0	21.8	1975	1975	1973
4.0	2.0	1978	1978	1976	44.0	22.3	1975	1975	1973
5.0	2.5	1978	1978	1976	45.0	22.8	1975	1975	1973
6.0	3.0	1978	1978	1976	46.0	23.3	1975	1975	1972
7.0	3.5	1977	1977	1976	47.0	23.8	1975	1975	1972
8.0	4.0	1977	1977	1976	48.0	24.3	1975	1975	1971
9.0	4.6	1977	1977	1976	49.0	24.8	1974	1974	1969
10.0	5.1	1977	1977	1976	50.0	25.3	1974	1974	1963
11.0	5.6	1977	1977	1976	51.0	25.8	1974	1974	1952
12.0	6.1	1977	1977	1976	52.0	26.4	1973	1973	1927
13.0	6.6	1977	1977	1976	53.0	26.9	1971	1971	1873
14.0	7.1	1977	1977	1976	54.0	27.5	1967	1967	1763
15.0	7.6	1977	1977	1976	55.0	28.1	1959	1960	1619
16.0	8.1	1976	1976	1976	56.0	28.7	1950	1952	1547
17.0	8.6	1976	1976	1976	57.0	29.4	1940	1943	1518
18.0	9.1	1976	1976	1976	58.0	30.0	1930	1934	1505
19.0	9.6	1976	1976	1976	59.0	30.7	1921	1926	1499
20.0	10.1	1976	1976	1976	60.0	31.4	1912	1918	1496
21.0	10.6	1976	1976	1976	61.0	32.1	1903	1910	1495
22.0	11.1	1976	1976	1976	62.0	32.7	1895	1902	1495
23.0	11.6	1976	1976	1976	63.0	33.4	1887	1895	1495
24.0	12.1	1976	1976	1975	64.0	34.1	1879	1888	1495
25.0	12.7	1976	1976	1975	65.0	34.7	1872	1881	1495
26.0	13.2	1976	1976	1974	66.0	35.4	1865	1875	1495
27.0	13.7	1976	1976	1973	67.0	36.1	1858	1868	1496
28.0	14.2	1976	1976	1973	68.0	36.7	1851	1862	1497
29.0	14.7	1976	1976	1973	69.0	37.4	1845	1856	1500
30.0	15.2	1976	1976	1973	70.0	38.1	1839	1851	1508
31.0	15.7	1976	1976	1973	71.0	38.7	1834	1846	1525
32.0	16.2	1976	1976	1973	72.0	39.4	1829	1842	1566
33.0	16.7	1975	1975	1973	73.0	38.5	1895	1845	1664
34.0	17.2	1975	1975	1973	74.0	38.8	1905	1860	3146
35.0	17.7	1975	1975	1973	75.0	39.2	1915	1873	3104
36.0	18.2	1975	1975	1973	76.0	39.5	1924	1886	3021
37.0	18.7	1975	1975	1973	77.0	39.8	1933	1897	2978
38.0	19.2	1975	1975	1973	78.0	40.2	1941	1908	2823
39.0	19.7	1975	1975	1973	79.0	40.6	1947	1916	2653
40.0	20.3	1975	1975	1973	80.0	40.9	1954	1924	2626

TABLE 1.

## Time-Depth curve values

Page 2.

Well : NALANGIL #1

Client : GAS A&amp; FUEL EXPLORATION N/L

Survey units : METRES

Datum : 150.0

Calibrated sonic interval velocities used from 73.0 to 353.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
81.0	41.3	1960	1931	2575	121.0	64.2	1884	1876	1576
82.0	41.7	1965	1937	2500	122.0	65.0	1878	1871	1341
83.0	42.1	1969	1942	2409	123.0	65.6	1874	1867	1450
84.0	42.6	1973	1946	2309	124.0	66.3	1870	1863	1496
85.0	43.0	1976	1950	2306	125.0	66.9	1869	1863	1761
86.0	43.5	1979	1954	2245	126.0	67.5	1867	1860	1619
87.0	43.9	1981	1956	2209	127.0	68.1	1864	1858	1585
88.0	44.4	1983	1959	2177	128.0	68.8	1861	1856	1565
89.0	44.8	1985	1961	2129	129.0	69.4	1858	1853	1551
90.0	45.3	1986	1962	2096	130.0	70.1	1855	1850	1551
91.0	45.8	1987	1963	2055	131.0	70.7	1852	1847	1497
92.0	46.3	1987	1964	2009	132.0	71.4	1849	1844	1484
93.0	46.8	1987	1964	1978	133.0	72.1	1845	1841	1485
94.0	47.3	1986	1964	1949	134.0	72.8	1842	1838	1483
95.0	47.8	1986	1963	1934	135.0	73.4	1839	1835	1476
96.0	48.4	1985	1963	1896	136.0	74.1	1836	1833	1507
97.0	48.9	1984	1962	1885	137.0	74.7	1833	1830	1547
98.0	49.4	1982	1960	1824	138.0	75.4	1831	1828	1548
99.0	50.0	1980	1959	1816	139.0	76.0	1828	1826	1565
100.0	50.6	1975	1954	1572	140.0	76.6	1827	1825	1637
101.0	51.2	1972	1952	1697	141.0	77.2	1826	1824	1694
102.0	51.9	1966	1947	1516	142.0	77.9	1824	1822	1552
103.0	52.5	1960	1942	1508	143.0	78.5	1822	1820	1672
104.0	53.2	1954	1936	1447	144.0	79.1	1821	1819	1605
105.0	53.9	1946	1930	1403	145.0	79.7	1819	1817	1559
106.0	54.6	1940	1925	1443	146.0	80.3	1817	1816	1637
107.0	55.4	1933	1919	1407	147.0	80.9	1816	1815	1682
108.0	56.0	1928	1915	1517	148.0	81.5	1815	1814	1676
109.0	56.6	1927	1914	1802	149.0	82.1	1814	1813	1687
110.0	57.2	1924	1911	1621	150.0	82.7	1813	1811	1616
111.0	57.8	1920	1907	1583	151.0	83.4	1811	1810	1603
112.0	58.5	1916	1904	1559	152.0	84.0	1810	1809	1614
113.0	59.1	1912	1900	1543	153.0	84.7	1807	1806	1433
114.0	59.8	1908	1897	1537	154.0	85.4	1804	1803	1455
115.0	60.4	1904	1893	1556	155.0	86.0	1802	1802	1609
116.0	61.0	1900	1890	1551	156.0	86.6	1802	1801	1717
117.0	61.7	1896	1887	1540	157.0	87.1	1802	1801	1770
118.0	62.4	1892	1883	1497	158.0	87.8	1800	1800	1635
119.0	63.0	1890	1881	1679	159.0	88.4	1798	1798	1515
120.0	63.6	1887	1879	1608	160.0	89.0	1798	1798	1725



TABLE 1.

## Time-Depth curve values

Page 3.

Well : NALANGIL #1

Client : GAS A&amp; FUEL EXPLORATION N/L

Survey units : METRES

Datum : 150.0

Calibrated sonic interval velocities used from 73.0 to 353.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
161.0	89.6	1797	1796	1618	201.0	112.0	1795	1797	2090
162.0	90.2	1795	1795	1575	202.0	112.4	1797	1799	2210
163.0	90.9	1794	1794	1630	203.0	112.9	1798	1800	2138
164.0	91.4	1794	1794	1795	204.0	113.4	1800	1802	2105
165.0	92.0	1794	1794	1826	205.0	113.9	1801	1803	2021
166.0	92.5	1794	1794	1724	206.0	114.4	1801	1803	1895
167.0	93.1	1793	1793	1691	207.0	114.9	1801	1804	1902
168.0	93.7	1792	1793	1710	208.0	115.4	1802	1804	1905
169.0	94.3	1792	1792	1753	209.0	115.9	1803	1805	1937
170.0	94.9	1792	1792	1756	210.0	116.4	1803	1806	1992
171.0	95.4	1792	1793	1869	211.0	116.9	1804	1807	2009
172.0	95.9	1793	1793	1882	212.0	117.4	1805	1808	2022
173.0	96.5	1792	1793	1709	213.0	117.9	1806	1808	2022
174.0	97.1	1792	1792	1670	214.0	118.4	1807	1809	1999
175.0	97.7	1791	1791	1709	215.0	118.9	1808	1810	2008
176.0	98.3	1791	1791	1708	216.0	119.4	1809	1811	2098
177.0	98.9	1790	1790	1652	217.0	119.9	1810	1812	2030
178.0	99.5	1789	1789	1656	218.0	120.4	1811	1813	2033
179.0	100.1	1789	1789	1727	219.0	121.0	1810	1813	1740
180.0	100.7	1788	1788	1690	220.0	121.6	1809	1812	1616
181.0	101.3	1788	1788	1706	221.0	122.2	1808	1811	1561
182.0	101.8	1787	1788	1756	222.0	122.8	1807	1810	1624
183.0	102.4	1786	1787	1623	223.0	123.5	1806	1809	1604
184.0	103.0	1786	1786	1726	224.0	124.1	1805	1808	1574
185.0	103.5	1787	1787	1886	225.0	124.7	1804	1807	1681
186.0	104.1	1787	1788	1919	226.0	125.2	1805	1808	2022
187.0	104.6	1788	1789	1991	227.0	125.7	1806	1809	2059
188.0	105.1	1790	1790	2070	228.0	126.2	1807	1810	2091
189.0	105.5	1792	1793	2368	229.0	126.6	1808	1811	2071
190.0	105.9	1794	1795	2374	230.0	127.1	1809	1813	2123
191.0	106.4	1795	1796	1981	231.0	127.6	1811	1814	2133
192.0	107.0	1794	1795	1599	232.0	128.1	1812	1815	2120
193.0	107.7	1792	1794	1530	233.0	128.5	1813	1817	2204
194.0	108.3	1791	1792	1556	234.0	129.0	1815	1818	2236
195.0	108.9	1790	1791	1619	235.0	129.4	1816	1820	2236
196.0	109.5	1791	1792	1953	236.0	129.9	1817	1821	2174
197.0	109.9	1792	1793	2037	237.0	130.3	1818	1822	2058
198.0	110.5	1793	1794	1970	238.0	130.8	1819	1823	2105
199.0	111.0	1793	1795	1913	239.0	131.3	1821	1825	2268
200.0	111.5	1794	1796	1958	240.0	131.7	1822	1827	2315

TABLE 1.

## Time-Depth curve values

Page 4.

Well : NALANGIL #1

Survey units : METRES

Client : GAS A&amp; FUEL EXPLORATION N/L

Datum : 150.0

Calibrated sonic interval velocities used from 73.0 to 353.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
241.0	132.1	1824	1828	2273	281.0	152.8	1839	1845	1963
242.0	132.6	1825	1830	2273	282.0	153.2	1841	1847	2405
243.0	133.0	1827	1832	2228	283.0	153.6	1842	1848	2328
244.0	133.5	1828	1833	2213	284.0	154.1	1844	1850	2456
245.0	133.9	1829	1834	2205	285.0	154.4	1845	1853	2626
246.0	134.5	1829	1834	1753	286.0	154.9	1846	1854	2176
247.0	135.0	1829	1834	1846	287.0	155.4	1847	1854	1883
248.0	135.6	1829	1834	1870	288.0	155.9	1847	1855	2082
249.0	136.0	1830	1835	2135	289.0	156.3	1849	1856	2377
250.0	136.6	1830	1836	1860	290.0	156.7	1850	1858	2449
251.0	137.2	1830	1835	1703	291.0	157.1	1852	1860	2507
252.0	137.8	1829	1834	1701	292.0	157.5	1854	1862	2738
253.0	138.4	1828	1833	1576	293.0	157.8	1857	1867	3564
254.0	139.0	1828	1833	1739	294.0	158.2	1858	1868	2407
255.0	139.5	1827	1832	1717	295.0	158.7	1859	1869	1994
256.0	140.1	1827	1832	1708	296.0	159.2	1859	1869	1821
257.0	140.7	1827	1832	1752	297.0	159.8	1858	1868	1764
258.0	141.3	1826	1831	1797	298.0	160.4	1858	1868	1652
259.0	141.8	1826	1831	1723	299.0	161.0	1857	1867	1678
260.0	142.4	1826	1831	1720	300.0	161.5	1858	1868	2094
261.0	143.0	1825	1830	1779	301.0	161.9	1859	1869	2229
262.0	143.5	1826	1831	1878	302.0	162.4	1860	1870	2223
263.0	144.1	1826	1831	1820	303.0	162.8	1861	1871	2209
264.0	144.6	1826	1831	1984	304.0	163.3	1862	1872	2191
265.0	145.1	1827	1832	2035	305.0	163.8	1862	1872	2094
266.0	145.6	1827	1832	1894	306.0	164.2	1863	1873	2141
267.0	146.1	1827	1832	1908	307.0	164.7	1864	1874	2105
268.0	146.6	1828	1833	1974	308.0	165.2	1864	1874	2010
269.0	147.1	1828	1833	1927	309.0	165.7	1864	1874	1887
270.0	147.7	1829	1834	1963	310.0	166.2	1865	1875	2070
271.0	148.1	1830	1835	2313	311.0	166.7	1866	1876	2187
272.0	148.5	1832	1838	2645	312.0	167.1	1867	1877	2222
273.0	148.9	1834	1840	2426	313.0	167.6	1868	1878	2236
274.0	149.3	1835	1841	2348	314.0	168.0	1869	1879	2249
275.0	149.8	1836	1842	1916	315.0	168.5	1870	1880	2302
276.0	150.3	1836	1842	1955	316.0	168.9	1871	1881	2272
277.0	150.8	1837	1843	2256	317.0	169.3	1872	1883	2263
278.0	151.2	1838	1844	2196	318.0	169.8	1873	1884	2244
279.0	151.8	1838	1845	1876	319.0	170.2	1874	1885	2270
280.0	152.3	1839	1845	1902	320.0	170.7	1875	1886	2298

TABLE 1.

## Time-Depth curve values

Page 5.

Well : NALANGIL #1

Client : GAS A&amp; FUEL EXPLORATION N/L

Survey units : METRES

Datum : 150.0

Calibrated sonic interval velocities used from 73.0 to 353.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
321.0	171.0	1877	1888	2831	337.0	177.9	1894	1907	2330
322.0	171.5	1878	1889	2163	338.0	178.3	1896	1909	2443
323.0	171.9	1879	1890	2176	339.0	178.7	1897	1910	2475
324.0	172.4	1880	1891	2248	340.0	179.1	1898	1911	2438
325.0	172.8	1881	1892	2321	341.0	179.5	1900	1913	2538
326.0	173.2	1882	1893	2399	342.0	179.9	1901	1915	2542
327.0	173.7	1883	1895	2376	343.0	180.3	1902	1916	2492
328.0	174.1	1884	1896	2406	344.0	180.7	1904	1918	2482
329.0	174.5	1886	1898	2388	345.0	181.1	1905	1919	2526
330.0	174.9	1887	1899	2332	346.0	181.5	1906	1921	2545
331.0	175.3	1888	1900	2348	347.0	181.9	1908	1922	2565
332.0	175.8	1889	1901	2318	348.0	182.3	1909	1924	2587
333.0	176.2	1890	1902	2344	349.0	182.7	1911	1926	2610
334.0	176.6	1891	1904	2361	350.0	183.0	1912	1927	2636
335.0	177.0	1892	1905	2404	351.0	183.4	1914	1929	2663
336.0	177.5	1893	1906	2358	352.0	183.8	1915	1931	2693

PE906767

This is an enclosure indicator page.  
The enclosure PE906767 is enclosed within the  
container PE906766 at this location in this  
document.

The enclosure PE906767 has the following characteristics:

ITEM\_BARCODE = PE906767  
CONTAINER\_BARCODE = PE906766  
NAME = Shot Calculations, 1 of 2  
BASIN = OTWAY  
PERMIT = PEP100  
TYPE = WELL  
SUBTYPE = DIAGRAM  
DESCRIPTION = Shot Calculations, 1 of 2, Nalangil-1  
REMARKS =  
DATE\_CREATED = 7/08/90  
DATE\_RECEIVED = 16/03/93  
W\_NO = W1035  
WELL\_NAME = NALANGIL-1  
CONTRACTOR = VELSEIS PTY LTD  
CLIENT\_OP\_CO = GAS AND FUEL EXPORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906768

This is an enclosure indicator page.  
The enclosure PE906768 is enclosed within the  
container PE906766 at this location in this  
document.

The enclosure PE906768 has the following characteristics:  
ITEM\_BARCODE = PE906768  
CONTAINER\_BARCODE = PE906766  
NAME = Shot Calculations, 2 of 2  
BASIN = OTWAY  
PERMIT = PEP100  
TYPE = WELL  
SUBTYPE = DIAGRAM  
DESCRIPTION = Shot Calculations, 2 of 2, Nalangil-1  
REMARKS =  
DATE\_CREATED = 7/08/90  
DATE\_RECEIVED = 16/03/93  
W\_NO = W1035  
WELL\_NAME = NALANGIL-1  
CONTRACTOR = VELSEIS PTY LTD  
CLIENT\_OP\_CO = GAS AND FUEL EXPORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906769

This is an enclosure indicator page.  
The enclosure PE906769 is enclosed within the  
container PE906766 at this location in this  
document.

The enclosure PE906769 has the following characteristics:

ITEM\_BARCODE = PE906769  
CONTAINER\_BARCODE = PE906766  
NAME = Sonic Drift Data, 1 of 2  
BASIN = OTWAY  
PERMIT = PEP100  
TYPE = WELL  
SUBTYPE = DIAGRAM  
DESCRIPTION = Sonic Drift Data, 1 of 2, Nalangil-1  
REMARKS =  
DATE\_CREATED = 7/08/90  
DATE\_RECEIVED = 16/03/93  
W\_NO = W1035  
WELL\_NAME = NALANGIL-1  
CONTRACTOR = VELSEIS PTY LTD  
CLIENT\_OP\_CO = GAS AND FUEL EXPORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906770

This is an enclosure indicator page.  
The enclosure PE906770 is enclosed within the  
container PE906766 at this location in this  
document.

The enclosure PE906770 has the following characteristics:

ITEM\_BARCODE = PE906770  
CONTAINER\_BARCODE = PE906766  
NAME = Sonic Drift Data, 2 of 2  
BASIN = OTWAY  
PERMIT = PEP100  
TYPE = WELL  
SUBTYPE = DIAGRAM  
DESCRIPTION = Sonic Drift Data, 2 of 2, Nalangil-1  
REMARKS =  
DATE\_CREATED = 7/08/90  
DATE\_RECEIVED = 16/03/93  
W\_NO = W1035  
WELL\_NAME = NALANGIL-1  
CONTRACTOR = VELSEIS PTY LTD  
CLIENT\_OP\_CO = GAS AND FUEL EXPORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906771

This is an enclosure indicator page.  
The enclosure PE906771 is enclosed within the  
container PE906766 at this location in this  
document.

The enclosure PE906771 has the following characteristics:

ITEM\_BARCODE = PE906771  
CONTAINER\_BARCODE = PE906766  
    NAME = Sonic Calibrations Data  
    BASIN = OTWAY  
    PERMIT = PEP100  
    TYPE = WELL  
    SUBTYPE = DIAGRAM  
    DESCRIPTION = Sonic Calibrations Data, Nalangil-1  
    REMARKS =  
    DATE\_CREATED = 7/08/90  
    DATE\_RECEIVED = 16/03/93  
    W\_NO = W1035  
    WELL\_NAME = NALANGIL-1  
    CONTRACTOR = VELSEIS PTY LTD  
    CLIENT\_OP\_CO = GAS AND FUEL EXPORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)



PE604727

This is an enclosure indicator page.  
The enclosure PE604727 is enclosed within the  
container PE906766 at this location in this  
document.

The enclosure PE604727 has the following characteristics:

ITEM\_BARCODE = PE604727  
CONTAINER\_BARCODE = PE906766  
NAME = Synthetic Seismogram  
BASIN = OTWAY  
PERMIT = PEP100  
TYPE = WELL  
SUBTYPE = SYNTH\_SEISMOGRAPH  
DESCRIPTION = Synthetic Seismogram, Nalangil-1  
REMARKS =  
DATE\_CREATED =  
DATE\_RECEIVED = 16/03/93  
W\_NO = W1035  
WELL\_NAME = NALANGIL-1  
CONTRACTOR = VELSEIS PTY LTD  
CLIENT\_OP\_CO = GAS AND FUEL EXPORATION NL

(Inserted by DNRE - Vic Govt Mines Dept)