

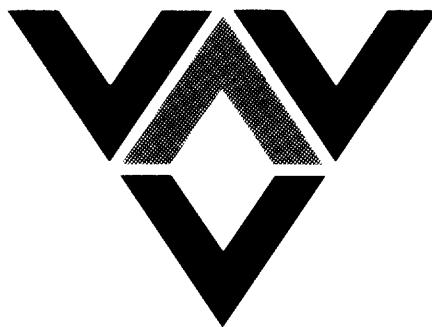


PE905696

APPENDIX 8 FROM WCR
VELOCITY DATA
BOGGY CREEK-1
WI053

APPENDIX -8

Synthetic Seismograms Velocity Data



SYNTHETIC SEISMOGRAMS

BOGGY CREEK #1

PEP 104

Victoria

for

Gas and Fuel Exploration N.L.

recorded by

VELOCITY DATA PTY. LTD.

processed by



Integrated Seismic Technologies

Brisbane, Australia

January 29, 1992

CONTENTS

SUMMARY	...	...	...	1
GENERAL INFORMATION	...	...	...	1
CHECKSHOT DATA	...	...	...	2
SONIC DATA	...	...	...	2
DENSITY DATA	...	...	...	3
CALIBRATION OF SONIC LOG				
Method	...	...	...	3
Results	...	...	...	3
CALIBRATION OF DENSITY DATA				4
REFLECTION COEFFICIENT GENERATION				4
MULTIPLES	...	...	...
WAVELETS	...	...	...
SEISMOGRAM DISPLAYS	...	...	...	4
Tables				
Table 1	Time-depth values			
Enclosures				
1.	Synthetic seismograms			
2.	Calculation Sheet			

SUMMARY

Synthetic seismograms have been produced for the Boggy Creek No 1 well, PEP 104, 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 Gearhart 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	:	Boggy Creek #1
Location	:	PEP104, Victoria
Coordinates	:	Latitude 038 31 34.1
	:	Longitude 142 49 28.1
Velocity Survey	:	Velocity Data Pty Ltd
Wireline Logging	:	Gearhart
Elevation of KB	:	34.9m above sea level
Elevation of Ground	:	30.0m above sea level
Elevation of Seismic Datum	:	0.0m above sea level
Casing depth	:	320.0m below KB
Total Depth of well	:	1900.0m below KB

CHECK SHOT DATA

Recorded by : Velocity Data Pty Ltd
Date : January 5th 1992
Energy Source : Explosive, AN-60
Shot Location : Flare Pit
Charge Size : 0.25 / 2 (125 grm) sticks
Average Shot Depth : 4 metres
Average Shot Offset : 60 metres
Number of shots used : 26
Number of levels recorded : 22

SONIC DATA

Recorded by : Gearhart
Date : January 5th 1992
Top logged interval : 320.1m below KB
Bottom logged interval : 1884.6m below KB
Logging units : microseconds/metre

DENSITY DATA

Recorded by : Gearhart
Top logged interval : 880.3m below KB
Bottom logged interval : 1894.8m below KB
Logging units : grms/cc

CALIBRATION OF SONIC LOG**Method**

The sonic log was extended to 2000 metres below KB in order to get full wavelet response at the end of the sonic. Unlike the checkshot survey in which the sonic was eliminated above 540m, the full extent of the sonic was utilised during processing of the seismograms.

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 large towards the top portion of the hole. This lead to large discrepancies between the time depth tables and the check shot values. While the entire sonic has been calibrated with the checkshot for the purpose of generating synthetic seismograms, the figures and tables found towards the rear of the report have been generated using those sonic values greater than 540m.

The largest adjustment was 66.67 μ secs/metre on the interval 540 to 570 metres below KB.

In aggregate, the shot and sonic interval times differed by 2.2 msec over the logged portion of the well.

CALIBRATION OF DENSITY DATA

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 four are presented:

- 1) Bandpass 10-50Hz Zero Phase Normal Polarity
- 2) Bandpass 10-50Hz Zero Phase Reverse Polarity
- 3) Ricker 50Hz Zero Phase Normal Polarity
- 4) Ricker 50Hz Zero Phase Reverse 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 306 msec for the start of the sonic was taken from the checkshot results.

A seismic section was received and the initial trials were FAXED for approval. From the results obtained it would appear that a meaningful tie between the synthetic seismograms and seismic section had been established.



**Troy Peters
Geophysicist**

TABLE 1.

Time-Depth curve values

Page 1.

Well : BOGGY CREEK #1
 Survey units : METRES
 Calibrated sonic interval velocities used from 507.5 to 1845.0

Datum	One-way	-----VELOCITIES-----			Datum	One-way	-----VELOCITIES-----		
Depth	time(ms)	Average	RMS	Interval	Depth	time(ms)	Average	RMS	Interval
2.5	1.3	1963	1963	1963	102.5	53.2	1927	1927	1857
5.0	2.6	1961	1961	1958	105.0	54.5	1925	1925	1856
7.5	3.8	1958	1958	1954	107.5	55.9	1923	1924	1856
10.0	5.1	1957	1957	1951	110.0	57.2	1922	1922	1856
12.5	6.4	1955	1955	1950	112.5	58.6	1920	1921	1856
15.0	7.7	1954	1954	1948	115.0	59.9	1919	1919	1855
17.5	9.0	1953	1953	1948	117.5	61.3	1917	1918	1855
20.0	10.2	1952	1952	1947	120.0	62.6	1916	1916	1855
22.5	11.5	1952	1952	1947	122.5	64.0	1915	1915	1855
25.0	12.8	1951	1951	1947	125.0	65.3	1914	1914	1855
27.5	14.1	1951	1951	1947	127.5	66.7	1912	1913	1855
30.0	15.4	1950	1950	1946	130.0	68.0	1911	1912	1855
32.5	16.7	1950	1950	1946	132.5	69.4	1910	1911	1855
35.0	17.9	1950	1950	1946	135.0	70.7	1909	1910	1855
37.5	19.2	1950	1950	1946	137.5	72.1	1908	1909	1855
40.0	20.5	1949	1949	1946	140.0	73.4	1907	1908	1855
42.5	21.8	1949	1949	1946	142.5	74.8	1906	1907	1855
45.0	23.1	1949	1949	1946	145.0	76.1	1905	1906	1855
47.5	24.4	1949	1949	1946	147.5	77.5	1904	1905	1855
50.0	25.7	1949	1949	1946	150.0	78.8	1904	1904	1855
52.5	26.9	1949	1949	1946	152.5	80.1	1903	1903	1855
55.0	28.2	1948	1948	1946	155.0	81.5	1902	1902	1855
57.5	29.5	1948	1948	1945	157.5	82.8	1901	1902	1855
60.0	30.8	1948	1948	1945	160.0	84.2	1900	1901	1855
62.5	32.1	1948	1948	1944	162.5	85.5	1900	1900	1855
65.0	33.4	1948	1948	1943	165.0	86.9	1899	1900	1855
67.5	34.7	1948	1948	1941	167.5	88.2	1898	1899	1855
70.0	35.9	1947	1947	1939	170.0	89.6	1898	1898	1855
72.5	37.2	1947	1947	1935	172.5	90.9	1897	1898	1855
75.0	38.5	1946	1946	1929	175.0	92.3	1897	1897	1855
77.5	39.8	1945	1945	1921	177.5	93.6	1896	1896	1855
80.0	41.1	1944	1944	1908	180.0	95.0	1895	1896	1855
82.5	42.5	1943	1943	1892	182.5	96.3	1895	1895	1855
85.0	43.8	1941	1941	1880	185.0	97.7	1894	1895	1855
87.5	45.1	1939	1939	1871	187.5	99.0	1894	1894	1855
90.0	46.5	1937	1937	1866	190.0	100.4	1893	1894	1855
92.5	47.8	1934	1935	1862	192.5	101.7	1893	1893	1855
95.0	49.2	1932	1933	1860	195.0	103.1	1892	1893	1855
97.5	50.5	1930	1931	1858	197.5	104.4	1892	1892	1855
100.0	51.9	1929	1929	1857	200.0	105.7	1891	1892	1855

TABLE 1.

Time-Depth curve values

Page 2.

Well : BOGGY CREEK #1

Survey units : METRES

Calibrated sonic interval velocities used from 507.5 to 1845.0

Client : GAS AND FUEL EXPLORATION N.L.

Datum : 0.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
202.5	107.1	1891	1891	1855	302.5	161.0	1879	1880	1866
205.0	108.4	1890	1891	1855	305.0	162.3	1879	1880	1871
207.5	109.8	1890	1890	1855	307.5	163.6	1879	1880	1879
210.0	111.1	1890	1890	1855	310.0	165.0	1879	1880	1891
212.5	112.5	1889	1890	1855	312.5	166.3	1879	1880	1910
215.0	113.8	1889	1889	1855	315.0	167.6	1880	1880	1938
217.5	115.2	1888	1889	1855	317.5	168.8	1881	1881	1970
220.0	116.5	1888	1888	1855	320.0	170.1	1881	1882	1993
222.5	117.9	1888	1888	1855	322.5	171.3	1882	1883	2008
225.0	119.2	1887	1888	1855	325.0	172.6	1883	1884	2018
227.5	120.6	1887	1887	1855	327.5	173.8	1884	1885	2025
230.0	121.9	1886	1887	1855	330.0	175.0	1885	1886	2030
232.5	123.3	1886	1887	1855	332.5	176.3	1886	1887	2033
235.0	124.6	1886	1886	1855	335.0	177.5	1887	1888	2035
237.5	126.0	1885	1886	1855	337.5	178.7	1888	1889	2036
240.0	127.3	1885	1884	1855	340.0	179.9	1889	1890	2037
242.5	128.7	1885	1885	1855	342.5	181.2	1890	1891	2038
245.0	130.0	1885	1885	1855	345.0	182.4	1891	1892	2038
247.5	131.4	1884	1885	1855	347.5	183.6	1892	1893	2039
250.0	132.7	1884	1884	1855	350.0	184.9	1893	1894	2039
252.5	134.0	1884	1884	1855	352.5	186.1	1894	1895	2039
255.0	135.4	1883	1884	1855	355.0	187.3	1895	1896	2039
257.5	136.7	1883	1884	1855	357.5	188.5	1896	1897	2039
260.0	138.1	1883	1883	1855	360.0	189.8	1897	1898	2039
262.5	139.4	1883	1883	1855	362.5	191.0	1898	1899	2039
265.0	140.8	1882	1883	1855	365.0	192.2	1899	1900	2039
267.5	142.1	1882	1882	1855	367.5	193.4	1900	1901	2039
270.0	143.5	1882	1882	1855	370.0	194.7	1901	1902	2039
272.5	144.8	1882	1882	1855	372.5	195.9	1902	1903	2040
275.0	146.2	1881	1882	1855	375.0	197.1	1902	1904	2040
277.5	147.5	1881	1882	1855	377.5	198.3	1903	1904	2040
280.0	148.9	1881	1881	1856	380.0	199.6	1904	1905	2041
282.5	150.2	1881	1881	1856	382.5	200.8	1905	1906	2041
285.0	151.6	1880	1881	1856	385.0	202.0	1906	1907	2042
287.5	152.9	1880	1881	1856	387.5	203.2	1907	1908	2044
290.0	154.3	1880	1880	1857	390.0	204.5	1907	1909	2046
292.5	155.6	1880	1880	1857	392.5	205.7	1908	1910	2049
295.0	156.9	1880	1880	1858	395.0	206.9	1909	1910	2054
297.5	158.3	1879	1880	1860	397.5	208.1	1910	1911	2062
300.0	159.6	1879	1890	1862	400.0	209.3	1911	1912	2074

TABLE 1.

Time-Depth curve values

Page 3.

Well : BOGGY CREEK #1

Survey units : METRES

Calibrated sonic interval velocities used from 507.5 to 1845.0

Client : GAS AND FUEL EXPLORATION N.L.

Datum : 0.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
402.5	210.5	1912	1913	2091	502.5	254.5	1975	1981	2307
405.0	211.7	1913	1915	2118	505.0	255.6	1976	1982	2316
407.5	212.8	1915	1916	2159	507.5	255.3	1988	1982	2329
410.0	214.0	1916	1918	2200	510.0	256.1	1991	1985	2855
412.5	215.1	1918	1919	2228	512.5	257.0	1994	1989	2880
415.0	216.2	1919	1921	2248	515.0	258.0	1996	1992	2614
417.5	217.3	1921	1923	2261	517.5	258.9	1999	1994	2597
420.0	218.4	1923	1925	2270	520.0	259.9	2000	1996	2454
422.5	219.5	1925	1927	2276	522.5	261.3	2000	1996	1850
425.0	220.6	1926	1929	2280	525.0	262.8	1998	1994	1645
427.5	221.7	1928	1931	2282	527.5	264.2	1997	1993	1831
430.0	222.8	1930	1933	2284	530.0	265.8	1994	1990	1521
432.5	223.9	1932	1935	2285	532.5	267.5	1991	1988	1526
435.0	225.0	1933	1936	2286	535.0	269.1	1988	1985	1553
437.5	226.1	1935	1938	2286	537.5	270.4	1988	1985	1882
440.0	227.2	1937	1940	2287	540.0	271.4	1990	1988	2612
442.5	228.3	1938	1942	2287	542.5	272.2	1993	1991	2861
445.0	229.4	1940	1944	2287	545.0	273.3	1994	1993	2433
447.5	230.5	1942	1945	2287	547.5	274.0	1998	1997	3202
450.0	231.6	1943	1947	2287	550.0	274.9	2001	2001	2840
452.5	232.6	1945	1949	2287	552.5	275.8	2003	2004	2860
455.0	233.7	1947	1951	2288	555.0	276.7	2005	2006	2637
457.5	234.8	1948	1952	2288	557.5	277.7	2007	2008	2521
460.0	235.9	1950	1954	2288	560.0	279.0	2007	2008	2001
462.5	237.0	1951	1956	2288	562.5	280.3	2007	2008	1869
465.0	238.1	1953	1957	2288	565.0	281.4	2008	2009	2286
467.5	239.2	1954	1959	2288	567.5	282.4	2010	2011	2531
470.0	240.3	1956	1961	2288	570.0	283.5	2010	2012	2200
472.5	241.4	1957	1962	2288	572.5	284.6	2012	2013	2432
475.0	242.5	1959	1964	2288	575.0	285.4	2015	2017	3026
477.5	243.6	1960	1965	2288	577.5	286.4	2016	2019	2434
480.0	244.7	1962	1967	2288	580.0	287.3	2019	2022	2786
482.5	245.8	1963	1968	2288	582.5	288.2	2021	2024	2776
485.0	246.9	1965	1970	2289	585.0	289.1	2023	2027	2697
487.5	247.9	1966	1972	2289	587.5	290.1	2025	2029	2503
490.0	249.0	1968	1973	2290	590.0	291.2	2026	2030	2340
492.5	250.1	1969	1975	2291	592.5	292.2	2027	2032	2442
495.0	251.2	1970	1976	2293	595.0	293.3	2029	2033	2396
497.5	252.3	1972	1978	2296	597.5	294.4	2029	2034	2175
500.0	253.4	1973	1979	2300	600.0	295.5	2030	2035	2321

TABLE 1.

Time-Depth curve values

Page 4.

Well : BOGGY CREEK #1

Client : GAS AND FUEL EXPLORATION N.L.

Survey units : METRES

Datum : 0.0

Calibrated sonic interval velocities used from 507.5 to 1845.0

Datum	One-way	-----VELOCITIES-----			Datum	One-way	-----VELOCITIES-----		
Depth	time(ms)	Average	RMS	Interval	Depth	time(ms)	Average	RMS	Interval
602.5	296.5	2032	2036	2466	702.5	336.1	2090	2101	2887
605.0	297.8	2031	2036	1903	705.0	337.0	2092	2104	2937
607.5	298.9	2032	2037	2347	707.5	337.9	2094	2106	2805
610.0	299.8	2034	2039	2685	710.0	338.8	2096	2107	2666
612.5	300.8	2036	2041	2465	712.5	339.8	2097	2109	2595
615.0	301.8	2037	2043	2502	715.0	340.7	2099	2111	2653
617.5	302.8	2039	2045	2666	717.5	341.7	2100	2112	2624
620.0	303.7	2042	2047	2760	720.0	342.6	2101	2114	2586
622.5	304.6	2043	2049	2623	722.5	343.5	2103	2116	2941
625.0	305.6	2045	2051	2637	725.0	344.3	2106	2119	3014
627.5	306.6	2047	2053	2545	727.5	345.1	2108	2121	3029
630.0	307.6	2048	2055	2543	730.0	346.0	2110	2124	2881
632.5	308.5	2050	2057	2555	732.5	346.9	2111	2126	2730
635.0	309.7	2051	2057	2190	735.0	347.8	2113	2128	2834
637.5	310.8	2051	2058	2212	737.5	348.8	2115	2129	2645
640.0	311.8	2053	2059	2480	740.0	349.7	2116	2131	2737
642.5	312.8	2054	2061	2580	742.5	350.6	2118	2133	2770
645.0	313.7	2056	2064	2772	745.0	351.4	2120	2136	3113
647.5	314.7	2058	2065	2564	747.5	352.3	2122	2137	2644
650.0	315.6	2059	2067	2570	750.0	353.3	2123	2139	2674
652.5	316.7	2061	2068	2449	752.5	354.2	2124	2140	2590
655.0	317.8	2061	2069	2237	755.0	355.2	2126	2141	2574
657.5	318.8	2063	2071	2529	757.5	356.1	2127	2143	2817
660.0	319.7	2064	2072	2547	760.0	357.0	2129	2145	2777
662.5	320.8	2065	2074	2460	762.5	357.9	2131	2147	2864
665.0	321.8	2066	2075	2351	765.0	358.7	2133	2150	3019
667.5	322.8	2068	2076	2483	767.5	359.5	2135	2152	3133
670.0	323.8	2069	2078	2595	770.0	360.4	2137	2154	2854
672.5	324.8	2071	2079	2495	772.5	361.2	2139	2156	2851
675.0	325.8	2072	2080	2370	775.0	362.1	2140	2159	2991
677.5	326.8	2073	2082	2593	777.5	363.0	2142	2160	2802
680.0	327.7	2075	2084	2669	780.0	363.9	2143	2162	2647
682.5	328.7	2076	2085	2623	782.5	364.7	2146	2164	3079
685.0	329.6	2078	2087	2653	785.0	365.6	2147	2166	2839
687.5	330.6	2079	2089	2557	787.5	366.5	2149	2168	2736
690.0	331.6	2081	2090	2555	790.0	367.4	2150	2169	2766
692.5	332.6	2082	2092	2462	792.5	368.3	2152	2171	2884
695.0	333.6	2083	2093	2602	795.0	369.2	2154	2173	2867
697.5	334.5	2085	2095	2713	797.5	370.0	2155	2175	2941
700.0	335.3	2086	2099	3245	800.0	370.8	2157	2178	3004

TABLE 1.

Time-Depth curve values

Page 5.

Well : BOGGY CREEK #1

Survey units : METRES

Calibrated sonic interval velocities used from 507.5 to 1845.0

Client : GAS AND FUEL EXPLORATION N.L.

Datum : 0.0

Datum	One-way	-----VELOCITIES-----			Datum	One-way	-----VELOCITIES-----		
Depth	time(ms)	Average	RMS	Interval	Depth	time(ms)	Average	RMS	Interval
802.5	371.7	2159	2179	2865	902.5	407.1	2217	2244	3180
805.0	372.6	2161	2182	2944	905.0	407.9	2219	2247	3221
807.5	373.4	2162	2184	2912	907.5	408.6	2221	2249	3223
810.0	374.3	2164	2185	2901	910.0	409.4	2223	2251	3307
812.5	375.2	2166	2187	2807	912.5	410.2	2225	2253	3156
815.0	376.0	2167	2189	2894	915.0	411.0	2226	2255	3071
817.5	376.9	2169	2191	2945	917.5	411.8	2228	2257	2969
820.0	377.8	2171	2193	2837	920.0	412.7	2229	2258	2902
822.5	378.7	2172	2194	2681	922.5	413.6	2231	2260	2901
825.0	379.6	2173	2195	2691	925.0	414.4	2232	2261	2873
827.5	380.6	2174	2196	2580	927.5	415.3	2233	2263	2928
830.0	381.6	2175	2197	2412	930.0	416.1	2235	2265	3047
832.5	382.8	2175	2197	2078	932.5	416.9	2237	2267	3201
835.0	383.9	2175	2197	2313	935.0	417.7	2238	2269	3088
837.5	384.9	2176	2198	2662	937.5	418.5	2240	2271	3000
840.0	385.7	2178	2200	2925	940.0	419.3	2242	2272	3112
842.5	386.6	2179	2202	2923	942.5	420.2	2243	2274	2946
845.0	387.4	2181	2204	2860	945.0	421.1	2244	2275	2743
847.5	388.3	2183	2206	2913	947.5	422.0	2245	2276	2828
850.0	389.1	2184	2208	2978	950.0	422.9	2247	2278	2802
852.5	390.0	2186	2209	2848	952.5	423.7	2248	2279	2892
855.0	390.9	2187	2211	2752	955.0	424.6	2249	2281	2940
857.5	391.8	2189	2212	2840	957.5	425.4	2251	2282	3112
860.0	392.7	2190	2214	2792	960.0	426.2	2252	2284	3092
862.5	393.6	2191	2215	2623	962.5	427.0	2254	2286	2936
865.0	394.6	2192	2216	2679	965.0	427.9	2255	2287	3006
867.5	395.5	2193	2217	2706	967.5	428.8	2257	2289	2839
870.0	396.4	2195	2219	2704	970.0	429.9	2256	2288	2215
872.5	397.3	2196	2220	2985	972.5	431.0	2256	2288	2184
875.0	398.1	2198	2222	2923	975.0	432.0	2257	2289	2545
877.5	398.9	2200	2224	3057	977.5	433.0	2258	2290	2620
880.0	399.7	2202	2227	3198	980.0	433.8	2259	2291	2837
882.5	400.6	2203	2228	2962	982.5	434.7	2260	2292	2927
885.0	401.4	2205	2230	3106	985.0	435.6	2261	2294	2863
887.5	402.2	2207	2232	3067	987.5	436.5	2262	2295	2807
890.0	403.0	2208	2234	2983	990.0	437.4	2264	2296	2764
892.5	403.8	2210	2237	3207	992.5	438.2	2265	2297	2894
895.0	404.6	2212	2239	3110	995.0	439.1	2266	2299	3031
897.5	405.4	2214	2240	2976	997.5	439.9	2267	2300	2841
900.0	406.3	2215	2242	2948	1000.0	440.9	2268	2301	2672

TABLE 1.

Time-Depth curve values

Page 6.

Well : BOGGY CREEK #1

Survey units : METRES

Calibrated sonic interval velocities used from 507.5 to 1845.0

Client : GAS AND FUEL EXPLORATION N.L.

Datum : 0.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
1002.5	441.7	2269	2302	2916	1102.5	477.0	2311	2346	3056
1005.0	442.6	2271	2303	2880	1105.0	477.8	2313	2348	3081
1007.5	443.5	2272	2305	2806	1107.5	478.6	2314	2349	3103
1010.0	444.4	2273	2306	2803	1110.0	479.5	2315	2350	2836
1012.5	445.3	2274	2307	2792	1112.5	480.4	2316	2351	2796
1015.0	446.2	2275	2308	2774	1115.0	481.3	2317	2352	2830
1017.5	447.2	2276	2308	2568	1117.5	482.2	2318	2353	2822
1020.0	448.1	2276	2309	2705	1120.0	483.1	2318	2354	2793
1022.5	449.0	2277	2310	2606	1122.5	484.0	2319	2355	2829
1025.0	450.0	2278	2311	2706	1125.0	484.9	2320	2355	2678
1027.5	450.8	2279	2312	2897	1127.5	485.7	2321	2357	3107
1030.0	451.7	2280	2313	2767	1130.0	486.6	2322	2358	2940
1032.5	452.6	2281	2314	2775	1132.5	487.4	2323	2359	2808
1035.0	453.5	2282	2315	2773	1135.0	488.3	2325	2360	3026
1037.5	454.5	2283	2316	2663	1137.5	489.1	2326	2361	2946
1040.0	455.4	2284	2316	2606	1140.0	490.0	2327	2362	2863
1042.5	456.4	2284	2317	2618	1142.5	490.8	2328	2364	3081
1045.0	457.3	2285	2318	2641	1145.0	491.6	2329	2365	3042
1047.5	458.3	2286	2319	2658	1147.5	492.4	2330	2366	3087
1050.0	459.2	2287	2320	2791	1150.0	493.2	2332	2368	3101
1052.5	460.1	2288	2321	2745	1152.5	494.1	2333	2369	2993
1055.0	461.0	2289	2321	2715	1155.0	494.9	2334	2370	3029
1057.5	461.9	2289	2322	2741	1157.5	495.7	2335	2371	3069
1060.0	462.8	2290	2323	2739	1160.0	496.5	2336	2373	3038
1062.5	463.8	2291	2324	2667	1162.5	497.3	2337	2374	3112
1065.0	464.7	2292	2325	2779	1165.0	498.2	2339	2375	3076
1067.5	465.6	2293	2326	2795	1167.5	499.0	2340	2377	3037
1070.0	466.5	2294	2327	2721	1170.0	499.7	2341	2378	3266
1072.5	467.3	2295	2328	3025	1172.5	500.5	2343	2380	3185
1075.0	468.1	2297	2330	3174	1175.0	501.4	2344	2381	2964
1077.5	468.9	2298	2332	3196	1177.5	502.2	2345	2382	3149
1080.0	469.7	2299	2333	3060	1180.0	503.1	2346	2383	2811
1082.5	470.6	2300	2334	2849	1182.5	503.8	2347	2385	3247
1085.0	471.4	2302	2335	3016	1185.0	504.6	2349	2386	3443
1087.5	472.2	2303	2337	3125	1187.5	505.3	2350	2388	3344
1090.0	473.0	2305	2339	3169	1190.0	506.2	2351	2389	2879
1092.5	473.8	2306	2340	3125	1192.5	507.0	2352	2390	2883
1095.0	474.6	2307	2342	3073	1195.0	507.9	2353	2391	2865
1097.5	475.4	2309	2343	3184	1197.5	508.7	2354	2392	3262
1100.0	476.2	2310	2345	3029	1200.0	509.5	2355	2394	3097

TABLE 1.

Time-Depth curve values

Page 7.

Well : BOGGY CREEK #1

Survey units : METRES

Calibrated sonic interval velocities used from 507.5 to 1845.0

Client : GAS AND FUEL EXPLORATION N.L.
Datum : 0.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
1202.5	510.3	2356	2395	2875	1302.5	543.8	2395	2436	2947
1205.0	511.2	2357	2396	2959	1305.0	544.5	2396	2437	3454
1207.5	512.0	2358	2397	2921	1307.5	545.3	2398	2439	3303
1210.0	512.9	2359	2398	3040	1310.0	546.1	2399	2440	3213
1212.5	513.7	2360	2399	2949	1312.5	546.9	2400	2441	3060
1215.0	514.5	2361	2400	3057	1315.0	547.6	2401	2443	3551
1217.5	515.4	2362	2401	2857	1317.5	548.2	2403	2445	3899
1220.0	516.2	2363	2402	3015	1320.0	549.0	2404	2446	3328
1222.5	517.0	2364	2403	3164	1322.5	549.8	2405	2447	3056
1225.0	517.9	2365	2404	2902	1325.0	550.6	2406	2449	3185
1227.5	518.8	2366	2405	2827	1327.5	551.5	2407	2449	2892
1230.0	519.6	2367	2406	2904	1330.0	552.3	2408	2450	2857
1232.5	520.5	2368	2407	2836	1332.5	553.1	2409	2451	3178
1235.0	521.4	2369	2408	2841	1335.0	554.0	2410	2452	2977
1237.5	522.2	2370	2409	3045	1337.5	554.7	2411	2453	3201
1240.0	523.0	2371	2410	3403	1340.0	555.4	2413	2455	3749
1242.5	523.8	2372	2412	3096	1342.5	556.2	2414	2456	3175
1245.0	524.6	2373	2413	3163	1345.0	557.0	2415	2458	3155
1247.5	525.3	2375	2414	3142	1347.5	557.8	2416	2459	3142
1250.0	526.1	2376	2416	3181	1350.0	558.6	2417	2460	3199
1252.5	527.0	2377	2416	2950	1352.5	559.5	2418	2461	2826
1255.0	527.8	2378	2418	3026	1355.0	560.3	2418	2461	2865
1257.5	528.6	2379	2419	2978	1357.5	561.1	2419	2462	3081
1260.0	529.5	2380	2419	2864	1360.0	561.8	2421	2464	3532
1262.5	530.4	2380	2420	2753	1362.5	562.6	2422	2465	3145
1265.0	531.3	2381	2421	2887	1365.0	563.4	2423	2466	3215
1267.5	532.1	2382	2422	3002	1367.5	564.2	2424	2467	3142
1270.0	533.0	2383	2423	3031	1370.0	564.9	2425	2469	3443
1272.5	533.8	2384	2424	2963	1372.5	565.8	2426	2470	3060
1275.0	534.6	2385	2425	3086	1375.0	566.6	2427	2471	3018
1277.5	535.4	2386	2426	3067	1377.5	567.4	2428	2472	3126
1280.0	536.3	2387	2427	2917	1380.0	568.2	2429	2473	3016
1282.5	537.0	2388	2428	3275	1382.5	569.0	2430	2474	3135
1285.0	537.9	2389	2429	2905	1385.0	569.8	2431	2475	3128
1287.5	538.7	2390	2430	3176	1387.5	570.6	2432	2476	3192
1290.0	539.5	2391	2432	3188	1390.0	571.4	2433	2477	3082
1292.5	540.3	2392	2433	3049	1392.5	572.2	2434	2478	3096
1295.0	541.2	2393	2434	2865	1395.0	573.0	2435	2479	3122
1297.5	542.1	2394	2434	2766	1397.5	573.8	2435	2480	3095
1300.0	543.0	2394	2435	2754	1400.0	574.6	2436	2481	3133

TABLE 1.

Time-Depth curve values

Page 8.

Well : BOGGY CREEK #1

Survey units : METRES

Calibrated sonic interval velocities used from 507.5 to 1845.0

Client : GAS AND FUEL EXPLORATION N.L.

Datum : 0.0

Datum	One-way	-----VELOCITIES-----			Datum	One-way	-----VELOCITIES-----		
Depth	time(ms)	Average	RMS	Interval	Depth	time(ms)	Average	RMS	Interval
1402.5	575.4	2437	2482	3107	1502.5	605.8	2480	2529	3194
1405.0	576.2	2439	2483	3332	1505.0	606.6	2481	2530	3339
1407.5	577.0	2440	2484	3176	1507.5	607.4	2482	2531	3203
1410.0	577.8	2440	2485	3085	1510.0	608.1	2483	2532	3212
1412.5	578.5	2441	2486	3224	1512.5	608.9	2484	2533	3190
1415.0	579.3	2443	2487	3368	1515.0	609.7	2485	2534	3395
1417.5	580.0	2444	2489	3387	1517.5	610.4	2486	2535	3365
1420.0	580.7	2445	2490	3576	1520.0	611.2	2487	2536	3294
1422.5	581.5	2446	2492	3274	1522.5	611.9	2488	2537	3372
1425.0	582.3	2447	2493	3188	1525.0	612.6	2489	2538	3335
1427.5	583.0	2448	2494	3211	1527.5	613.4	2490	2540	3332
1430.0	583.8	2449	2495	3138	1530.0	614.2	2491	2541	3269
1432.5	584.6	2450	2496	3160	1532.5	615.0	2492	2541	2960
1435.0	585.4	2451	2497	3092	1535.0	615.8	2493	2542	3083
1437.5	586.2	2452	2498	3327	1537.5	616.7	2493	2543	2925
1440.0	586.9	2454	2500	3600	1540.0	617.5	2494	2543	3010
1442.5	587.6	2455	2501	3534	1542.5	618.4	2495	2544	2923
1445.0	588.4	2456	2502	3255	1545.0	619.2	2495	2544	2925
1447.5	589.2	2457	2503	3053	1547.5	620.0	2496	2545	2993
1450.0	589.9	2458	2505	3530	1550.0	620.9	2496	2546	3030
1452.5	590.6	2459	2506	3613	1552.5	621.7	2497	2546	2881
1455.0	591.3	2461	2507	3461	1555.0	622.6	2498	2547	2962
1457.5	592.0	2462	2509	3616	1557.5	623.4	2498	2547	2975
1460.0	592.8	2463	2510	3303	1560.0	624.3	2499	2548	2872
1462.5	593.5	2464	2511	3268	1562.5	625.2	2499	2548	2880
1465.0	594.3	2465	2512	3268	1565.0	626.1	2500	2549	2825
1467.5	595.0	2466	2514	3349	1567.5	626.9	2500	2550	3009
1470.0	595.8	2467	2515	3298	1570.0	627.7	2501	2550	3024
1472.5	596.5	2468	2516	3333	1572.5	628.5	2502	2551	2979
1475.0	597.3	2469	2517	3254	1575.0	629.4	2503	2552	3058
1477.5	598.1	2470	2518	3324	1577.5	630.2	2503	2552	2982
1480.0	598.8	2471	2519	3219	1580.0	631.1	2504	2553	2876
1482.5	599.6	2472	2520	3264	1582.5	631.9	2504	2553	3030
1485.0	600.4	2473	2522	3262	1585.0	632.8	2505	2554	2929
1487.5	601.1	2474	2523	3246	1587.5	633.6	2506	2554	2930
1490.0	601.9	2475	2524	3140	1590.0	634.4	2506	2555	2991
1492.5	602.7	2476	2524	3148	1592.5	635.3	2507	2556	2972
1495.0	603.5	2477	2525	3162	1595.0	636.1	2507	2556	2988
1497.5	604.3	2478	2526	3210	1597.5	637.0	2508	2557	2926
1500.0	605.0	2479	2528	3361	1600.0	637.8	2508	2557	2886

TABLE 1.

Time-Depth curve values

Page 9.

Well : BOGGY CREEK #1

Survey units : METRES

Calibrated sonic interval velocities used from 507.5 to 1845.0

Client : GAS AND FUEL EXPLORATION N.L.

Datum : 0.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
1602.5	638.8	2509	2557	2677	1702.5	670.6	2539	2589	3320
1605.0	639.7	2509	2558	2760	1705.0	671.4	2540	2590	3462
1607.5	640.6	2510	2558	2842	1707.5	672.1	2541	2591	3498
1610.0	641.4	2510	2559	2870	1710.0	672.8	2542	2592	3656
1612.5	642.3	2510	2559	2837	1712.5	673.4	2543	2594	4166
1615.0	643.2	2511	2559	2742	1715.0	674.0	2545	2596	4040
1617.5	644.1	2511	2560	3016	1717.5	674.6	2546	2597	3734
1620.0	644.9	2512	2561	2993	1720.0	675.3	2547	2599	3704
1622.5	645.7	2513	2561	3009	1722.5	676.0	2548	2600	3800
1625.0	646.5	2513	2562	3145	1725.0	676.6	2549	2602	3772
1627.5	647.3	2514	2563	3203	1727.5	677.3	2551	2603	3849
1630.0	648.0	2515	2564	3310	1730.0	678.0	2552	2604	3760
1632.5	648.7	2516	2565	3640	1732.5	678.6	2553	2606	3605
1635.0	649.4	2518	2567	3777	1735.0	679.3	2554	2607	3633
1637.5	650.1	2519	2568	3488	1737.5	680.0	2555	2608	3566
1640.0	650.9	2520	2569	3107	1740.0	680.7	2556	2609	3761
1642.5	651.8	2520	2569	2969	1742.5	681.4	2557	2611	3726
1645.0	652.6	2521	2570	2894	1745.0	682.1	2558	2612	3687
1647.5	653.6	2521	2570	2592	1747.5	682.8	2559	2613	3523
1650.0	654.6	2521	2570	2535	1750.0	683.5	2561	2614	3609
1652.5	655.4	2521	2570	2900	1752.5	684.1	2562	2616	3647
1655.0	656.2	2522	2571	3393	1755.0	684.8	2563	2617	3753
1657.5	656.9	2523	2572	3506	1757.5	685.5	2564	2618	3684
1660.0	657.6	2524	2574	3423	1760.0	686.2	2565	2619	3555
1662.5	658.3	2525	2575	3601	1762.5	686.9	2566	2620	3383
1665.0	659.0	2527	2576	3520	1765.0	687.7	2567	2621	3435
1667.5	659.7	2528	2577	3514	1767.5	688.3	2568	2623	3766
1670.0	660.4	2529	2578	3442	1770.0	689.0	2569	2624	3601
1672.5	661.2	2529	2579	3224	1772.5	689.8	2570	2625	3354
1675.0	662.1	2530	2580	2957	1775.0	690.5	2571	2626	3539
1677.5	662.9	2531	2580	3046	1777.5	691.2	2572	2627	3390
1680.0	663.8	2531	2581	2801	1780.0	691.9	2573	2628	3508
1682.5	664.5	2532	2582	3471	1782.5	692.6	2574	2629	3471
1685.0	665.3	2533	2582	3087	1785.0	693.3	2574	2630	3542
1687.5	666.2	2533	2583	2836	1787.5	694.0	2576	2631	3574
1690.0	666.9	2534	2584	3427	1790.0	694.7	2577	2632	3667
1692.5	667.7	2535	2585	3316	1792.5	695.4	2578	2633	3560
1695.0	668.4	2536	2586	3245	1795.0	696.1	2579	2635	3741
1697.5	669.1	2537	2587	3596	1797.5	696.8	2580	2636	3559
1700.0	669.9	2538	2588	3362	1800.0	697.5	2581	2637	3578

TABLE 1.

Time-Depth curve values

Page10.

Well : BOGGY CREEK #1

Survey units : METRES

Calibrated sonic interval velocities used from 507.5 to 1845.0

Client : GAS AND FUEL EXPLORATION N.L.

Datum : 0.0

Datum	One-way	-----VELOCITIES-----				Datum	One-way	-----VELOCITIES-----			
Depth	time(ms)	Average	RMS	Interval		Depth	time(ms)	Average	RMS	Interval	
1802.5	698.2	2582	2638	3615		1825.0	704.3	2591	2649	3553	
1805.0	698.8	2583	2639	3843		1827.5	704.9	2592	2650	3695	
1807.5	699.5	2584	2640	3522		1830.0	705.6	2593	2651	3546	
1810.0	700.2	2585	2641	3561		1832.5	706.3	2594	2653	3720	
1812.5	700.9	2586	2643	3915		1835.0	706.9	2596	2654	4039	
1815.0	701.5	2587	2644	3763		1837.5	707.7	2597	2655	3464	
1817.5	702.2	2588	2645	3574		1840.0	708.3	2598	2656	3646	
1820.0	702.9	2589	2647	3745		1842.5	709.0	2599	2658	4042	
1822.5	703.6	2590	2648	3925		1845.0	709.6	2600	2659	4050	

PE907679

This is an enclosure indicator page.
The enclosure PE907679 is enclosed within the
container PE905696 at this location in this
document.

The enclosure PE907679 has the following characteristics:

ITEM_BARCODE = PE907679
CONTAINER_BARCODE = PE905696
NAME = Time Depth & Velocity Curves
BASIN = OTWAY
PERMIT = PEP 104
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Time Depth and Velocity Curves
(enclosure from Appendix 8 of WCR) for
Boggy Creek-1
REMARKS =
DATE_CREATED = 5/01/92
DATE_RECEIVED =
W_NO = W1053
WELL_NAME = BOGGY CREEK-1
CONTRACTOR = VELOCITY DATA PTY LTD.
CLIENT_OP_CO = GAS AND FUEL EXPLORATION NL.

(Inserted by DNRE - Vic Govt Mines Dept)

PE907663

This is an enclosure indicator page.
The enclosure PE907663 is enclosed within the
container PE905696 at this location in this
document.

The enclosure PE907663 has the following characteristics:

ITEM_BARCODE = PE907663
CONTAINER_BARCODE = PE905696
NAME = Shot Calculations 1 of 6
BASIN = OTWAY
PERMIT = PEP 104
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Shot Calculations, Page 1 of 6,
(enclosure from Appendix 8 of WCR) for
Boggy Creek-1
REMARKS =
DATE_CREATED = 5/01/92
DATE_RECEIVED =
W_NO = W1053
WELL_NAME = BOGGY CREEK-1
CONTRACTOR = VELSEIS PTY.LTD.
CLIENT_OP_CO = GAS AND FUEL EXPLORATION NL.

(Inserted by DNRE - Vic Govt Mines Dept)

PE907664

This is an enclosure indicator page.
The enclosure PE907664 is enclosed within the
container PE905696 at this location in this
document.

The enclosure PE907664 has the following characteristics:

ITEM_BARCODE = PE907664
CONTAINER_BARCODE = PE905696
NAME = Shot Calculations 2 of 6
BASIN = OTWAY
PERMIT = PEP 104
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Shot Calculations, Page 2 of 6,
(enclosure from Appendix 8 of WCR) for
Boggy Creek-1
REMARKS =
DATE_CREATED = 5/01/92
DATE_RECEIVED =
W_NO = W1053
WELL_NAME = BOGGY CREEK-1
CONTRACTOR = VELSEIS PTY.LTD.
CLIENT_OP_CO = GAS AND FUEL EXPLORATION NL.

(Inserted by DNRE - Vic Govt Mines Dept)

PE907670

This is an enclosure indicator page.
The enclosure PE907670 is enclosed within the
container PE905696 at this location in this
document.

The enclosure PE907670 has the following characteristics:

ITEM_BARCODE = PE907670
CONTAINER_BARCODE = PE905696
NAME = Shot Calculations 3 of 6
BASIN = OTWAY
PERMIT = PEP 104
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Shot Calculations, Page 3 of 6,
(enclosure from Appendix 8 of WCR) for
Boggy Creek-1
REMARKS =
DATE_CREATED = 5/01/92
DATE_RECEIVED =
W_NO = W1053
WELL_NAME = BOGGY CREEK-1
CONTRACTOR = VELSEIS PTY.LTD.
CLIENT_OP_CO = GAS AND FUEL EXPLORATION NL.

(Inserted by DNRE - Vic Govt Mines Dept)

PE907665

This is an enclosure indicator page.
The enclosure PE907665 is enclosed within the
container PE905696 at this location in this
document.

The enclosure PE907665 has the following characteristics:

ITEM_BARCODE = PE907665
CONTAINER_BARCODE = PE905696
NAME = Shot Calculations 4 of 6
BASIN = OTWAY
PERMIT = PEP 104
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Shot Calculations, Page 4 of 6,
(enclosure from Appendix 8 of WCR) for
Boggy Creek-1
REMARKS =
DATE_CREATED = 5/01/92
DATE_RECEIVED =
W_NO = W1053
WELL_NAME = BOGGY CREEK-1
CONTRACTOR = VELSEIS PTY.LTD.
CLIENT_OP_CO = GAS AND FUEL EXPLORATION NL.

(Inserted by DNRE - Vic Govt Mines Dept)

PE907666

This is an enclosure indicator page.
The enclosure PE907666 is enclosed within the
container PE905696 at this location in this
document.

The enclosure PE907666 has the following characteristics:

ITEM_BARCODE = PE907666
CONTAINER_BARCODE = PE905696
NAME = Shot Calculations 5 of 6
BASIN = OTWAY
PERMIT = PEP 104
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Shot Calculations, Page 5 of 6,
(enclosure from Appendix 8 of WCR) for
Boggy Creek-1
REMARKS =
DATE_CREATED = 5/01/92
DATE_RECEIVED =
W_NO = W1053
WELL_NAME = BOGGY CREEK-1
CONTRACTOR = VELSEIS PTY LTD.
CLIENT_OP_CO = GAS AND FUEL EXPLORATION NL.

(Inserted by DNRE - Vic Govt Mines Dept)

PE907667

This is an enclosure indicator page.
The enclosure PE907667 is enclosed within the
container PE905696 at this location in this
document.

The enclosure PE907667 has the following characteristics:

ITEM_BARCODE = PE907667
CONTAINER_BARCODE = PE905696
NAME = Shot Calculations 6 of 6
BASIN = OTWAY
PERMIT = PEP 104
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Shot Calculations, Page 6 of 6,
(enclosure from Appendix 8 of WCR) for
Boggy Creek-1
REMARKS =
DATE_CREATED = 5/01/92
DATE_RECEIVED =
W_NO = W1053
WELL_NAME = BOGGY CREEK-1
CONTRACTOR = VELSEIS PTY.LTD.
CLIENT_OP_CO = GAS AND FUEL EXPLORATION NL.

(Inserted by DNRE - Vic Govt Mines Dept)

PE907668

This is an enclosure indicator page.
The enclosure PE907668 is enclosed within the
container PE905696 at this location in this
document.

The enclosure PE907668 has the following characteristics:

ITEM_BARCODE = PE907668
CONTAINER_BARCODE = PE905696
NAME = Synthetic Seismogram 50Hz
BASIN = OTWAY
PERMIT = PEP 104
TYPE = WELL
SUBTYPE = SYNTH_SEISMOGRAM
DESCRIPTION = Synthetic Seismogram, 50Hz, (enclosure
from Appendix 8 of WCR) for Boggy
Creek-1
REMARKS =
DATE_CREATED = 5/01/92
DATE_RECEIVED = 14/01/93
W_NO = W1053
WELL_NAME = BOGGY CREEK-1
CONTRACTOR = VELSEIS PTY.LTD.
CLIENT_OP_CO = GAS AND FUEL EXPLORATION NL.

(Inserted by DNRE - Vic Govt Mines Dept)

PE907669

This is an enclosure indicator page.
The enclosure PE907669 is enclosed within the
container PE905696 at this location in this
document.

The enclosure PE907669 has the following characteristics:

ITEM_BARCODE = PE907669
CONTAINER_BARCODE = PE905696
NAME = Synthetic Seismogram 10-50Hz
BASIN = OTWAY
PERMIT = PEP 104
TYPE = WELL
SUBTYPE = SYNTH_SEISMOGRAM
DESCRIPTION = Synthetic Seismogram, 10-50Hz,
(enclosure from Appendix 8 of WCR) for
Boggy Creek-1
REMARKS =
DATE_CREATED = 5/01/92
DATE_RECEIVED = 14/01/93
W_NO = W1053
WELL_NAME = BOGGY CREEK-1
CONTRACTOR = VELSEIS PTY.LTD.
CLIENT_OP_CO = GAS AND FUEL EXPLORATION NL.

(Inserted by DNRE - Vic Govt Mines Dept)