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7121/1-1 WELL, NORWAY: HYDROCARBON SOURCE ANALYSES

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Research Application Report

PROCEDURES

1. C₁ - C₄ - Two hundred eighty-two unwashed canned samples were analyzed for gases (Table 1). Compositions and concentrations of hydrocarbon gases in the air spaces above the cuttings in the sample cans were determined by gas chromatography. Similar data were obtained on gases released from standard mixtures of cuttings and tap water after two minutes of agitation in a Waring Blender. Combined results on the "air space gas" plus the "cuttings gas" were calculated for each sample. The data were plotted graphically to show vertical variations in total cuttings gas (C₁-C₄) and a graphical plot was also made of the percent "wet gas" in total gas (Figure 1).
2. T.O.C. - The cuttings samples were washed, and while they were still wet chips were "picked" from 81 selected samples for further analyses (Table 2). We attempted to pick chips of reasonably uniform fine-grained lithologies from the heterogeneous mixtures of cuttings in the original samples. The total organic carbon was measured with

a commercial LECO Carbon Determinator after carbonate was first removed from the samples by use of HCl. These results are given in Table 2A, and they are plotted graphically in Figure 1. Similar results were obtained for 38 sidewall core samples (Table 2B) after washing them to remove drilling mud.

3. C₄ - C₇ - Routine gas chromatographic procedures were used to determine amounts and compositions of light gasolines (C₄-C₇) in 85 of the samples that were analyzed for T.O.C. (Tables 3 and 8).
4. Visual Kerogen - Visual kerogen characteristics by transmitted light were determined for 54 cuttings samples and 33 core samples (Table 4). Determinations were made with a palynological microscope utilizing transmitted light through dispersed organic matter on standard slide mounts. The organic matter was separated from the samples by removing rock matrix materials with HF and HCl. The descriptions were based on the so-called "Staplin" nomenclature. In Table 4 most of the kerogens are shown to contain "indeterminate fines". Chemical and lithologic data were used to aid in making our "Best Guesses" as to what the fines probably include with respect to more oil-prone or more gas-prone material.
5. Rock Eval Pyrolysis - Forty-seven cuttings samples and 30 sidewall core samples (those with greater than .5% T.O.C.) were analyzed routinely by Rock-Eval pyrolysis (Table 5). The results are given for hydrogen and oxygen indices using the LECO TOC values, and they are summarized graphically in Figures 2 and 3.
6. Vitrinite (R₀) - Thirty-two samples were analyzed by Geo-Strat Inc. for vitrinite reflectance (Table 6 and Figures 4, 5). Only the shallowest samples contained good coaly materials such as we prefer for this measurement.
7. Heavy (C₁₅₊) Hydrocarbons - Twenty-three gross cuttings samples were analyzed for C₁₅₊ compounds. The samples were soxhlet-extracted in a Tecator apparatus with a methanol and methylene chloride mixture, and the extracts were desphalted in excess pentane. After desphalting the pentane-solubles were analyzed by liquid column chromatography (Table 7). Gas chromatograms were obtained of those 19 saturate fractions that were sufficiently large for the analysis (Figures 6a-6i).

TABLEIA
C1-C4 HYDROCARBON ANALYSES - AIR SPACE AT TOP OF CANS

		GAS CONCENTRATION (VOLUME GAS PER MILLION VOLUMES CUTTINGS)						GAS COMPOSITION (PERCENT)											
SPL NO	R DEPTH (M)	METHANE C1	ETHANE C2	PROPANE C3	IBUTANE IC4	NBUTANE C4	MET C2-C4	TOTAL C1-C4	MET/TOTAL PERCENT	TOTAL GAS					MET GAS				
										M	E	P	IB	NB	E	P	IB	NB	
891660	4 4420	294.53	.00	7.76	2.34	2.41	12.51	307.04	4.0744	95	0	3	1	1	0	62	19	19	
89166R	4 4440	320.37	.00	10.00	3.15	2.13	15.28	335.65	4.5524	95	0	3	1	1	0	65	21	14	
89166S	4 4460	211.05	.00	1.84	.56	.33	2.73	213.78	1.2770	99	0	1	0	0	0	67	21	12	
89166T	4 4480	2.23	.00	.00	.00	.00	.00	2.23	.0000	100	0	0	0	0	100	0	0	0	
89177A	4 4500	110.52	.00	.46	.11	.09	.66	111.18	.5936	100	0	0	0	0	0	69	17	14	
89177B	4 4520	251.46	.00	1.27	.28	.25	1.80	253.26	.7107	99	0	1	0	0	0	70	16	14	
89177C	4 4540	188.93	.00	.70	.18	.00	.88	189.81	.4636	100	0	0	0	0	0	80	20	0	
89177D	4 4560	201.16	.00	.92	.17	.00	1.09	202.25	.5389	100	0	0	0	0	0	84	16	0	
89177E	4 4580	83.82	.00	.72	.00	.00	.72	84.54	.8517	99	0	1	0	0	0	100	0	0	
89177F	4 4600	83.44	.00	1.18	.22	.24	1.64	85.08	1.9276	99	0	1	0	0	0	72	13	15	
89177G	4 4620	88.84	.00	1.22	.29	.37	1.88	90.72	2.0723	99	0	1	0	0	0	65	15	20	
89177H	4 4640	35.30	.00	.40	.10	.12	.62	35.92	1.7261	99	0	1	0	0	0	63	16	19	
89177I	4 4660	58.10	3.75	10.76	5.23	4.71	24.45	82.55	29.6184	70	5	13	6	6	15	45	21	19	
89177J	4 4680	66.10	1.14	1.00	.21	.15	2.50	68.60	3.6443	97	2	1	0	0	0	46	40	8	
89177K	4 4700	49.64	.00	1.86	.58	.41	2.85	52.49	5.4296	94	0	4	1	1	0	66	20	14	
89177L	4 4720	53.45	2.39	6.96	4.45	3.45	17.25	70.70	24.3989	76	3	10	6	5	14	40	26	20	
89177M	4 4740	17.45	.69	1.83	.76	.70	3.98	21.43	18.5721	81	3	9	4	3	17	46	19	18	
89177N	4 4760	1.28	.00	.00	.00	.00	.00	1.28	.0000	100	0	0	0	0	100	0	0	0	
89177O	4 4780	10.52	.00	.31	.00	.19	.50	11.02	4.5372	95	0	3	0	2	0	62	0	38	
89177P	4 4800	10.53	.00	.74	.15	.25	1.14	11.67	9.7686	91	0	6	1	2	0	65	13	22	
89177Q	4 4820	22.99	.00	1.07	.38	.54	1.99	24.98	7.9664	92	0	4	2	2	0	54	19	27	
89177R	4 4840	7.31	.90	1.29	.37	.63	3.19	10.50	30.3810	69	9	12	4	6	28	40	12	20	
89177S	4 4860	70.88	.00	.52	.00	.11	.63	71.51	.8810	99	0	1	0	0	0	83	0	17	
89177T	4 4880	18.56	.00	.37	.00	.00	.37	18.93	1.9546	98	0	2	0	0	0	100	0	0	
89188A	4 4900	14.85	.00	.36	.00	.00	.36	15.21	2.3649	98	0	2	0	0	0	100	0	0	
89188B	4 4920	16.74	.67	.76	.22	.22	1.87	18.61	10.0484	90	4	4	1	1	36	40	12	12	
89188C	4 4940	39.37	3.75	4.57	1.79	2.56	12.67	52.04	24.3467	76	7	9	3	5	30	36	14	20	
89188D	4 4960	28.35	1.63	3.74	1.43	1.81	8.61	34.96	23.2955	77	4	10	4	5	19	43	17	21	
89188E	4 4980	10.51	1.89	2.32	.47	.86	5.54	16.05	34.5171	66	12	14	3	5	34	42	8	16	
89188F	4 5000	61.85	.00	1.24	.37	.51	2.12	63.97	3.3161	96	0	2	1	1	0	59	17	24	

*BX = CUTTINGS NOT ANALYZED *CX = AIR SPACE GAS NOT RUN ST = SIDE TRACK SAMPLE

TABLE 1B

CI-C4 HYDROCARBON ANALYSES - CUTTINGS ONLY

GAS CONCENTRATION (VOLUME GAS PER MILLION VOLUMES CUTTINGS)

GAS COMPOSITION (PERCENT)

SPL NO	R	DEPTH (M)	GAS CONCENTRATION (VOLUME GAS PER MILLION VOLUMES CUTTINGS)					GAS COMPOSITION (PERCENT)												
			METHANE C1	ETHANE C2	PROPANE C3	IBUTANE IC4	NBUTANE C4	MET C2-C4	TOTAL C1-C4	MET/TOTAL PERCENT			TOTAL GAS M E P ID NB				MET GAS E P ID NB			
86790D	4	1620	571.31	284.18	2141.81	762.48	2601.55	5790.02	6361.33	91.0190	9	4	34	12	41	5	37	13	45	
87186H	4	1430	2304.85	1876.21	4161.01	722.21	2629.99	9389.42	11694.26	80.2908	20	16	36	6	22	20	44	8	28	
87186I	4	1440	3736.34	2737.52	5077.59	999.76	3133.19	11948.06	15684.39	76.1780	24	17	33	6	20	23	43	8	26	
86790E	4	1450	3565.99	1995.59	4493.25	1009.80	3136.81	10635.45	14201.43	74.8900	25	14	32	7	22	19	43	9	29	
87186J	4	1460	439.17	314.07	1921.60	421.90	1466.31	4123.88	4763.05	86.5807	13	7	40	9	31	8	46	10	36	
87186K	4	1470	722.79	630.36	2367.55	435.90	1666.42	5080.23	5803.02	87.5466	12	11	40	8	29	12	46	9	33	
86790F	4	1680	933.57	592.13	1363.27	261.54	904.58	2921.52	3855.09	75.7834	24	10	36	7	23	13	47	9	31	
87186L	4	1690	1611.66	1054.10	2190.83	331.83	1136.19	4712.15	6323.80	74.5145	25	17	35	5	18	22	47	7	24	
87186M	4	1700	2779.63	1768.49	3131.62	440.51	1435.15	6775.77	9555.39	70.9104	29	19	32	5	15	26	46	7	21	
86790G	4	1710	2225.72	1643.22	3583.00	538.25	1701.95	7466.42	9692.14	77.0358	23	17	36	6	18	22	48	7	23	
87186N	4	1720	1538.23	973.97	2740.80	460.61	1488.09	5665.47	7001.70	80.8871	19	14	39	7	21	17	49	8	26	
87186O	4	1730	5516.63	3126.52	4199.86	523.22	1459.24	9308.84	14825.46	62.7896	37	21	28	4	10	34	44	6	16	
86790H	4	1740	3010.93	2109.47	4057.91	599.00	1824.75	8591.13	11602.05	74.0484	26	18	35	5	16	25	47	7	21	
87186P	4	1750	1884.55	1197.80	3041.26	465.88	1516.10	6221.04	8105.59	76.7500	23	15	37	6	19	19	50	7	24	
87186Q	4	1760	10668.61	4007.89	4856.32	613.80	1865.26	11361.27	22009.87	51.5281	49	18	22	3	8	35	44	5	16	
86790I	4	1770	2352.60	1709.36	3777.88	534.08	1724.34	7745.66	10098.25	76.7030	23	17	38	5	17	22	49	7	22	
87186R	4	1780	1608.67	1033.23	2995.24	453.73	1465.28	5947.48	7556.14	78.7106	21	14	40	6	19	17	50	8	25	
87186S	4	1790	1386.93	1138.39	3667.48	623.09	1939.56	7368.52	8755.45	84.1592	16	13	42	7	22	15	51	8	26	
86790J	4	1800	1091.04	857.37	2590.27	447.06	1427.08	5321.78	6412.81	82.9867	17	13	41	7	22	16	49	8	27	
87186T	4	1810	901.33	507.08	2311.92	461.69	1454.63	4735.32	5636.65	84.0095	16	9	41	8	26	11	48	10	31	
86790K	4	1830	751.00	607.55	2695.32	508.54	1690.69	5502.10	6253.09	87.9901	12	10	43	8	27	11	49	9	31	
87197A	4	1840	659.00	483.68	2217.02	393.25	1327.43	4421.38	5080.58	87.0285	13	10	43	8	26	11	50	9	30	
87197B	4	1850	862.20	709.10	2842.17	514.08	1606.34	5671.69	6533.89	86.8042	13	11	43	8	25	13	50	9	28	
86790L	4	1860	682.17	674.90	3038.85	500.50	1638.01	5852.26	6534.43	89.5604	10	10	47	8	25	12	51	9	28	
87197C	4	1870	933.11	730.20	2676.77	421.02	1374.10	5202.09	6135.20	84.7909	15	12	44	7	22	14	52	8	26	
87197D	4	1880	1653.71	871.02	2643.09	376.86	1262.27	5153.24	6806.95	75.7056	24	13	38	6	19	17	52	7	24	
86790M	4	1890	722.41	560.45	2457.71	383.06	1245.42	4646.84	5369.25	86.5454	13	10	47	7	23	12	53	8	27	
87197E	4	1900	733.85	554.96	2160.48	311.20	1004.58	4031.22	4765.07	84.5994	15	12	45	7	21	14	53	8	25	
87197F	4	1905	714.10	519.12	2231.12	325.84	1021.32	4097.40	4811.50	85.1585	15	11	46	7	21	13	54	8	25	
86790N	4	1930	741.98	510.04	2342.52	343.37	1074.15	4270.08	5012.06	85.1961	15	10	47	7	21	12	55	8	25	
87197G	4	1940	2320.70	1128.80	3436.23	815.46	2237.91	7618.40	9939.09	76.6509	23	11	35	8	23	15	45	11	29	
87197H	4	1945	966.44	658.43	2747.26	552.39	1632.48	5590.56	6536.99	85.5219	14	10	43	8	25	12	49	10	29	
86790O	4	1960	760.10	659.09	2836.68	556.08	1702.80	5754.45	6514.74	88.3328	12	10	43	9	26	11	49	10	30	
87197I	4	1970	695.55	622.98	3102.12	573.67	1881.93	6180.70	6876.25	89.8847	10	9	46	8	27	10	51	9	30	
87197J	4	1980	804.76	819.99	3506.09	634.44	1958.34	6918.86	7723.61	89.5806	10	11	46	8	25	12	51	9	28	
86790P	4	1990	974.59	940.37	3608.84	598.21	1906.14	7053.56	8028.14	87.8605	12	12	45	7	24	13	52	8	27	
87197K	4	2000	686.96	663.69	2940.64	495.27	1574.42	5674.02	6360.98	89.2004	11	10	46	8	25	12	51	9	28	
86790Q	4	2010	766.25	670.30	2806.27	459.87	1472.27	5408.71	6174.95	87.5912	12	11	46	7	24	12	52	9	27	
87197L	4	2020	635.55	461.97	2129.45	307.79	1016.61	3915.82	4351.37	86.0361	14	10	47	7	22	12	54	8	26	
86790R	4	2030	704.04	507.92	2342.87	358.34	1025.51	4214.64	4918.68	85.6864	14	10	48	7	21	12	56	8	24	
87197M	4	2050	585.38	359.42	1606.81	230.70	601.84	2798.77	3364.15	82.7023	17	11	47	7	18	13	57	7	16	
87197N	4	2060	905.87	1415.79	3539.23	444.58	1025.52	6425.12	7330.98	87.6454	12	11	49	6	14	22	55	7	22	
86790S	4	2070	845.45	1065.83	2644.79	336.43	708.50	4755.53	5601.00	84.9054	15	19	47	6	13	22	56	7	15	
87197O	4	2080	934.24	1484.58	3070.66	363.79	669.59	5588.62	6522.86	85.6774	14	23	47	6	10	27	54	7	12	
87197P	4	2090	624.33	937.18	2506.15	343.19	620.96	4487.48	5033.80	87.5577	12	18	50	7	12	21	57	8	14	
86790T	4	2100	654.98	767.10	2003.08	282.96	489.23	3541.47	4193.45	84.3920	16	18	47	7	12	22	56	8	14	
87197Q	4	2110	597.26	483.91	1486.32	221.95	354.42	2546.60	3143.86	81.0023	19	15	48	7	11	19	58	9	14	
86790U	4	2120	602.23	419.70	1195.97	170.40	244.52	2030.59	2632.82	77.1260	23	16	46	6	9	21	59	8	12	
87197R	4	2140	581.78	528.17	1506.40	217.21	322.26	2574.04	3155.82	81.5649	18	17	48	7	10	21	58	8	13	
86790V	4	2150	615.45	540.99	1562.82	222.99	311.26	2646.46	3261.51	81.1299	19	17	47	7	10	20	60	8	12	
87615A	4	2160	530.52	317.18	998.74	122.32	252.86	1691.10	2221.62	76.1201	24	14	45	6	11	19	59	7	15	
87615B	4	2180	616.95	493.99	1063.15	142.25	332.39	2031.78	2648.73	76.7077	23	19	40	5	13	24	53	7	16	
87615C	4	2200	515.05	293.38	1537.00	278.55	836.77	2945.70	3460.75	85.1174	15	8	45	8	24	10	53	9	28	
87615D	4	2220	1389.15	1665.62	8200.65	1880.83	5415.81	17162.91	18552.05	92.5122	7	9	45	10	29	10	47	11	32	
87615E	4	2240	788.48	929.90	2913.06	437.30	1238.87	5519.13	6307.60	87.4997	13	15	45	7	20	17	53	8	22	
87615F	4	2260	891.97	807.00	2591.32	355.28	1069.28	4822.88	5714.84	84.3922	16	14	45	6	19	17	54	7	22	
87615G	4	2280	1067.07	1700.63	4583.74	561.18	1831.34	8676.89	9743.96	89.0489	11	17	47	6	19	20	53	6	21	
87615H	4	2300	1284.55	1833.25	4751.76	745.91	2420.51	9751.43	11035.97	88.3604	12	17	42	7	22	19	48	8	25	
87615I	4	2320	1189.26	899.82	2736.53	501.88	1736.73	5874.96	7064.21	83.1651	17	13	38	7	25	15	46	9	30	
87615J	4	2340	1208.06	1471.01	4216.49	1080.17	2873.20	9640.87	10848.92	88.8648	11	14	39	10	26	15	44	11	30	
87615K	4	2360	1212.11	1432.14	3956.97	868.50	2516.86	8774.47	9986.58	87.8626	12	14	40	9	25	16	45	10	29	
87615L	4	2380	1350.73	1600.70	4563.45	1496.18	4652.70	14313.03	15663.76	91.3767	9	10	41	10	30	11	46	10	33	
87615M	4	2400	621.79	580.14	3618.85	1055.28	3395.44	8449.73	9071.51	93.1458	7	6	38	12	37	7	41	12	40	
87615N	4	2420	1146.94	1419.42	4814.93	1047.06	3033.16	10314.57	11461.50	89.9932	10	12	43	9	26	14	47	10	29	
87615O	4																			

TABLE 1B

C1-C4 HYDROCARBON ANALYSES - CUTTINGS ONLY

		GAS CONCENTRATION (VOLUME GAS PER MILLION VOLUMES CUTTINGS)						GAS COMPOSITION (PERCENT)												
SPL NO	R	DEPTH (M)	METHANE C1	ETHANE C2	PROPANE C3	IBUTANE IC4	NBUTANE C4	NET C2-C4	TOTAL C1-C4	NET/TOTAL PERCENT	TOTAL GAS					NET GAS				
											M	E	P	I	NB	E	P	I	NB	
87846Q	4	2780	2116.98	3935.73	14179.74	4556.15	13875.01	36546.63	38663.62	94.5246	5	10	37	12	36	11	39	12	38	
87846R	4	2800	1594.31	2589.41	13187.44	4912.41	15030.64	35719.90	37314.21	95.7273	4	7	35	13	41	7	37	14	42	
87846S	4	2820	2619.83	2355.07	5771.26	1784.00	5645.67	15556.00	18175.83	85.5862	14	13	32	10	31	15	38	11	36	
87846T	4	2840	1387.28	1340.71	5157.21	1871.24	5964.96	14334.12	15721.39	91.1759	9	9	33	12	37	9	36	13	42	
88297A	4	2840	1611.55	1436.66	5407.76	2492.81	7873.38	17210.61	18822.17	91.4380	9	8	29	13	41	8	31	14	47	
88297B	4	2880	1937.90	2000.47	6520.09	2584.08	7720.39	18825.03	20762.93	90.6665	9	10	31	12	38	11	35	14	40	
88297C	4	2900	1779.55	1432.34	5315.89	2548.33	7413.50	16710.06	18489.62	98.3754	10	8	29	14	39	9	32	15	44	
88297D	4	2920	1479.71	1127.11	4690.98	2587.95	7608.51	14014.55	17494.27	91.5617	8	6	27	15	44	6	29	16	48	
88297E	4	2940	1554.11	827.83	3910.73	2330.01	4394.22	13464.79	15018.91	89.6522	10	6	26	16	42	6	29	17	48	
88297F	4	2960	1661.08	1288.15	5300.24	2815.65	7584.04	16988.28	18649.35	91.0931	9	7	28	15	41	8	31	17	44	
88297G	4	2980	1303.00	277.99	1714.93	1043.35	2727.28	5763.55	7066.55	81.5610	18	4	24	15	39	5	30	18	47	
88297H	4	3000	1551.41	608.34	2077.56	798.51	2218.90	5701.31	7252.71	78.6094	21	8	29	11	31	11	36	14	39	
88297I	4	3020	2143.75	237.36	453.44	119.48	352.68	1162.96	3306.71	35.1697	64	7	14	4	11	20	40	10	30	
88297J	4	3040	1583.08	97.32	267.77	101.10	254.01	720.20	2303.29	31.2683	69	4	12	4	11	14	37	14	35	
88297K	4	3060	1486.16	.00	221.26	68.08	203.74	493.08	1979.23	24.9127	76	0	11	3	10	0	45	14	41	
88297L	4	3080	1336.51	.00	154.95	.00	100.57	255.52	1592.02	16.8500	84	0	10	0	6	0	61	0	39	
88297M	4	3100	1565.17	176.69	464.77	139.49	415.38	1196.33	2761.50	43.3217	57	6	17	5	15	15	38	12	35	
88297N	4	3120	1500.81	.00	75.37	.00	90.46	165.83	1666.65	9.9499	90	0	5	0	5	0	45	0	55	
88297O	4	3140	2960.08	107.41	235.09	69.79	191.83	604.12	3564.20	16.9497	83	3	7	2	5	18	38	12	32	
88297P	4	3160	3887.76	228.61	285.59	71.86	150.41	736.47	4624.23	15.9263	84	5	6	2	3	31	39	10	20	
88297Q	4	3180	7702.37	296.43	303.66	77.57	176.02	853.68	8556.05	9.9775	90	3	4	1	2	35	35	9	21	
88297S	4	3200	3325.80	.00	82.16	.00	49.51	131.67	3457.47	3.8083	97	0	2	0	1	0	62	0	38	
88297T	4	3220	4106.27	179.02	210.72	57.20	140.34	587.28	4693.54	12.5125	88	4	4	1	3	30	36	10	24	
88297U	4	3240	4514.59	.00	120.54	.00	66.64	187.18	4701.78	3.9810	96	0	3	0	1	0	64	0	36	
88319A	4	3260	3780.26	.00	122.54	.00	56.18	178.72	3958.98	4.5143	96	0	3	0	1	0	69	0	31	
88319B	4	3280	3442.89	170.91	178.36	38.92	88.13	476.32	3919.22	12.1534	88	4	5	1	2	36	37	8	19	
88319C	4	3300	3813.93	163.09	237.68	96.41	217.33	714.51	4528.43	15.7783	84	4	5	2	5	23	34	13	30	
88319D	4	3320	9289.14	404.46	386.20	115.94	253.46	1160.06	10449.21	11.1019	89	4	4	1	2	35	33	10	22	
88319E	4	3340	4065.00	.00	151.04	42.17	96.70	289.91	4354.92	6.6571	94	0	3	1	2	0	52	15	33	
88319F	4	3350	4885.80	205.60	233.19	55.03	118.95	612.77	5498.57	11.1442	89	4	4	1	2	34	38	9	19	
88319G	4	3370	3931.99	.00	170.05	59.97	117.69	347.71	4279.70	8.1246	92	0	4	1	3	0	49	17	34	
88319H	4	3430	1799.23	.00	.00	.00	.00	.00	1799.23	.0000	100	0	0	0	0	100	0	0	0	
88319I	4	3450	1810.53	.00	.00	.00	.00	.00	1810.53	.0000	100	0	0	0	0	100	0	0	0	
88319J	4	3460	2079.81	.00	.00	.00	.00	.00	2079.81	.0000	100	0	0	0	0	100	0	0	0	
88319K	4	3470	2144.51	251.40	121.78	45.18	40.35	458.71	2603.22	17.4209	81	10	5	2	2	54	27	10	9	
88319L	4	3480	2793.72	540.57	153.07	38.30	.00	731.94	3525.67	20.7603	80	15	4	1	0	74	21	5	0	
88319A	4	3500	1713.16	236.50	71.32	15.86	18.63	340.31	2053.47	16.5724	83	12	3	1	1	69	21	5	5	
88313B	4	3520	546.91	.00	8.49	2.24	2.61	13.34	560.25	2.3811	98	0	2	0	0	0	63	17	20	
88313C	4	3540	834.74	30.47	32.55	3.77	7.07	73.86	908.60	8.1290	92	3	4	0	1	41	44	5	10	
88313D	4	3540	704.07	.00	12.29	2.88	.00	15.17	719.24	2.1092	98	0	2	0	0	0	81	19	0	
88313E	4	3580	1963.83	315.17	132.01	7.68	20.51	475.37	2439.20	19.4888	81	13	5	0	1	66	28	2	4	
88313F	4	3600	4158.98	450.95	84.17	3.62	6.63	545.37	4704.34	11.5929	88	10	2	0	0	83	15	1	1	
88313G	4	3620	1038.18	201.49	56.55	4.39	6.89	269.32	1307.50	20.3981	80	15	4	0	1	74	21	2	3	
88313H	4	3640	1390.58	309.92	77.15	3.41	7.01	397.49	1788.07	22.2501	79	17	4	0	0	78	19	1	2	
88313I	4	3640	1100.26	303.33	81.02	5.23	10.80	400.38	1500.64	26.6806	74	20	5	0	1	76	20	1	3	
88313J	4	3680	875.54	248.61	102.66	6.54	15.70	373.51	1247.05	29.9515	70	20	8	1	1	67	27	2	4	
88313K	4	3700	859.41	94.57	72.66	9.96	17.24	194.43	1053.84	18.4497	81	9	7	1	2	49	37	5	9	
88313L	4	3720	1169.94	174.27	51.46	9.48	13.53	248.74	1418.68	17.5532	82	12	4	1	1	70	21	4	5	
88313M	4	3740	1836.97	56.20	38.02	9.17	11.94	115.33	1952.30	5.9074	94	3	2	0	1	49	33	8	10	
88313N	4	3760	1108.42	.00	22.56	4.38	5.56	32.50	1140.92	2.8486	98	0	2	0	0	0	70	13	17	
88313O	4	3780	1382.59	.00	34.56	8.45	10.95	53.96	1436.55	3.7562	96	0	2	1	1	0	64	16	20	
88313P	4	3800	1096.20	.00	32.21	6.53	9.26	48.00	1144.20	4.1951	95	0	3	1	1	0	67	14	19	
88313Q	4	3820	579.96	.00	15.11	.00	3.27	18.38	598.34	3.0718	96	0	3	0	1	0	82	0	18	
88313R	4	3840	446.12	.00	7.56	.00	.00	7.56	453.68	1.6664	98	0	2	0	0	0	0	0	0	
88313S	4	3860	339.50	.00	4.90	.00	.00	4.90	344.40	1.4228	99	0	1	0	0	0	0	0	0	
88313T	4	3880	305.52	.00	7.24	2.28	.00	9.52	315.04	3.0218	97	0	2	1	0	0	0	76	24	0
88924A	4	3910	373.16	.00	.00	.00	.00	.00	373.16	.0000	100	0	0	0	0	100	0	0	0	
88924B	4	3920	281.46	.00	.00	.00	.00	.00	281.46	.0000	100	0	0	0	0	100	0	0	0	
88924C	4	3940	316.04	.00	.00	.00	.00	.00	316.04	.0000	100	0	0	0	0	100	0	0	0	
88924D	4	3960	566.66	.00	3.29	.00	.00	3.29	569.95	.5772	99	0	1	0	0	0	0	0	0	
88924E	4	3980	366.68	.00	.00	.00	.00	.00	366.68	.0000	100	0	0	0	0	100	0	0	0	
88924F	4	4000	555.50	.00	3.72	.00	.00	3.72	559.22	.6652	99	0	1	0	0	0	0	0	0	
88924G	4	4020	354.63	.00	.00	.00	.00	.00	354.63	.0000	100	0	0	0	0	100	0	0	0	
88924H	4	4040	413.33	.00	3.22	.00	.00	3.22	416.55	.7730	99	0	1	0	0	0	0	0	0	
88924I	4	4060	661.23	.00	6.93	.00	.00	6.93	668.16	1.0372	99	0	1	0	0	0	0	0	0	
88924J	4	4070	919.04	.00	11.14	.00	3.03	14.17	933.21	1.5184	99	0	1	0	0	0	0	79	0	21
88924K	4	4080	580.94	.00	.00	.00	.00	.00	580.94	.0000	100	0	0	0	0	100	0	0	0	
88924L	4	4100	337.16	.00	.00	.00	.00	.00	337.16	.0000	100	0	0	0	0	100	0	0	0	
89166A	4	4120	748.57	.00	.00	.00	.00	.00	748.57	.0000	100	0	0	0	0	100	0	0	0	
89166B	4	4140	678.46	.00	.00	.00	.00	.00	678.46</											

TABLE 1B

C1-C4 HYDROCARBON ANALYSES - CUTTINGS ONLY

		GAS CONCENTRATION (VOLUME GAS PER MILLION VOLUMES CUTTINGS)						GAS COMPOSITION (PERCENT)												
SPL NO	R	DEPTH (M)	METHANE C1	ETHANE C2	PROPANE C3	IBUTANE IC4	NBUTANE C4	MET C2-C4	TOTAL C1-C4	MET/TOTAL PERCENT	TOTAL GAS					MET GAS				
											M	E	P	IB	NB	E	P	IB	NB	
89166Q	4	4420	1026.74	.00	3.82	.00	2.06	5.88	1032.62	.5694	100	0	0	0	0	0	45	0	35	
89166R	4	4440	1286.83	.00	.00	.00	.00	.00	1286.83	.0000	100	0	0	0	0	100	0	0	0	
89166S	4	4460	1554.78	.00	.00	.00	.00	.00	1554.78	.0000	100	0	0	0	0	100	0	0	0	
89166T	4	4480	699.77	.00	.00	.00	.00	.00	699.77	.0000	100	0	0	0	0	100	0	0	0	
89177A	4	4500	835.74	.00	4.48	.00	.00	4.48	840.22	.5352	99	0	1	0	0	0	100	0	0	
89177B	4	4520	805.62	.00	3.23	.00	.00	3.23	808.85	.3993	100	0	0	0	0	0	100	0	0	
89177C	4	4540	739.23	.00	.00	.00	.00	.00	739.23	.0000	100	0	0	0	0	100	0	0	0	
89177D	4	4560	893.15	.00	.00	.00	.00	.00	893.15	.0000	100	0	0	0	0	100	0	0	0	
89177E	4	4580	838.59	.00	.00	.00	.00	.00	838.59	.0000	100	0	0	0	0	100	0	0	0	
89177F	4	4600	793.80	.00	.00	.00	.00	.00	793.80	.0000	100	0	0	0	0	100	0	0	0	
89177G	4	4620	806.27	.00	.00	.00	.00	.00	806.27	.0000	100	0	0	0	0	100	0	0	0	
89177H	4	4640	680.48	.00	.00	.00	.00	.00	680.48	.0000	100	0	0	0	0	100	0	0	0	
89177I	4	4660	693.67	.00	5.14	2.43	2.91	10.48	704.15	1.4883	99	0	1	0	0	0	49	23	28	
89177J	4	4680	689.97	.00	.00	.00	.00	.00	689.97	.0000	100	0	0	0	0	100	0	0	0	
89177K	4	4700	590.51	.00	.00	.00	.00	.00	590.51	.0000	100	0	0	0	0	100	0	0	0	
89177L	4	4720	619.73	.00	.00	.00	.00	.00	619.73	.0000	100	0	0	0	0	100	0	0	0	
89177M	4	4740	623.55	.00	.00	.00	.00	.00	623.55	.0000	100	0	0	0	0	100	0	0	0	
89177N	4	4760	572.11	.00	.00	.00	.00	.00	572.11	.0000	100	0	0	0	0	100	0	0	0	
89177O	4	4780	562.37	.00	.00	.00	.00	.00	562.37	.0000	100	0	0	0	0	100	0	0	0	
89177P	4	4800	582.18	.00	.00	.00	.00	.00	582.18	.0000	100	0	0	0	0	100	0	0	0	
89177Q	4	4820	628.34	.00	.00	.00	.00	.00	628.34	.0000	100	0	0	0	0	100	0	0	0	
89177R	4	4840	579.18	.00	.00	.00	.00	.00	579.18	.0000	100	0	0	0	0	100	0	0	0	
89177S	4	4860	903.24	.00	.00	.00	.00	.00	903.24	.0000	100	0	0	0	0	100	0	0	0	
89177T	4	4880	809.34	.00	.00	.00	.00	.00	809.34	.0000	100	0	0	0	0	100	0	0	0	
89188A	4	4900	560.99	.00	.00	.00	.00	.00	560.99	.0000	100	0	0	0	0	100	0	0	0	
89188B	4	4920	657.25	.00	.00	.00	.00	.00	657.25	.0000	100	0	0	0	0	100	0	0	0	
89188C	4	4940	584.07	.00	6.30	3.30	4.74	14.34	598.41	2.3964	97	0	1	1	1	0	44	23	33	
89188D	4	4960	570.03	.00	.00	.00	.00	.00	570.03	.0000	100	0	0	0	0	100	0	0	0	
89188E	4	4980	630.28	.00	.00	.00	.00	.00	630.28	.0000	100	0	0	0	0	100	0	0	0	
89188F	4	5000	638.94	.00	.00	.00	.00	.00	638.94	.0000	100	0	0	0	0	100	0	0	0	

NB = CUTTINGS NOT ANALYZED

MC = AIR SPACE GAS NOT RUN

ST = SIDE TRACK SAMPLE

TABLE I C

C1-C4 HYDROCARBON ANALYSES - CUTTINGS AND AIR SPACE

GAS CONCENTRATION (VOLUME GAS PER MILLION VOLUMES CUTTINGS) GAS COMPOSITION (PERCENT)

SPL NO	R	DEPTH (M)	GAS CONCENTRATION (VOLUME GAS PER MILLION VOLUMES CUTTINGS)					GAS COMPOSITION (PERCENT)					WET GAS									
			METHANE C1	ETHANE C2	PROPANE C3	IBUTANE IC4	NBUTANE C4	WET C2-C4	TOTAL C1-C4	MET/TOTAL PERCENT	TOTAL GAS	M	E	P	IB	NB	E	P	IB	NB		
84150A	4	530	1130.34	.00	.00	.00	1.28	1131.62	.1131	100	0	0	0	0	0	0	0	0	0100			
84150B	4	570	10586.60	.00	1.64	.00	.00	1.64	10588.24	.0155	100	0	0	0	0	0	0	0	0100			
84150C	4	600	17178.59	.00	2.81	.00	.48	3.29	17181.87	.0191	100	0	0	0	0	0	0	0	085	0	15	
84150D	4	640	25986.90	.00	2.50	11.62	17.41	31.53	26018.42	.1212	100	0	0	0	0	0	0	0	0	8	37	55
84150E	4	680	5175.80	.00	66.06	155.63	147.52	369.21	5545.00	6.6584	93	0	1	3	3	0	0	0	0	18	42	40
84150F	4	710	17013.91	.00	89.10	142.05	97.53	328.68	17342.58	1.8952	97	0	1	1	1	1	1	0	0	27	43	30
84150G	4	740	13841.68	.00	52.34	72.84	49.31	174.49	14016.16	1.2449	99	0	0	1	1	1	0	0	0	30	42	28
84150H	4	770	4589.17	26.47	65.21	109.37	34.07	235.12	4824.29	4.8737	95	1	1	2	1	1	11	28	47	14		
84150I	4	800	8785.54	.00	83.50	156.68	31.94	271.92	9057.45	3.0022	97	0	1	2	0	0	0	0	31	57	12	
84150J	4	830	5669.61	19.25	48.22	126.00	18.17	211.64	5881.24	3.5986	97	0	1	2	0	0	9	23	59	9		
84150K	4	860	1893.22	.00	36.98	85.01	15.45	137.44	2030.66	6.7682	93	0	2	4	1	0	0	0	27	62	11	
84150L	4	890	1514.87	.00	41.61	72.21	21.15	134.77	1449.64	9.2968	91	0	3	5	1	0	0	0	31	53	16	
84150M	4	900	1751.71	.00	26.77	68.36	15.34	110.47	1862.18	5.9323	94	0	1	4	1	0	0	0	24	62	14	
84150N	4	910	3821.69	.00	37.11	96.73	18.56	152.40	3974.09	3.8348	97	0	1	2	0	0	0	0	24	64	12	
86779A	4	920	510.39	.00	2.29	11.54	.00	13.83	524.22	2.6382	98	0	0	2	0	0	0	0	17	83	0	
87164A	4	930	1637.89	.00	6.22	26.54	4.11	36.87	1674.76	2.2015	98	0	0	2	0	0	0	0	17	72	11	
87164B	4	940	1348.09	4.17	7.71	42.70	3.56	58.14	1406.23	4.1345	96	0	1	3	0	0	7	13	74	6		
86779B	4	950	835.55	.00	12.92	50.15	2.45	65.52	880.87	5.1676	96	0	1	3	0	0	0	0	28	67	5	
87164C	4	960	970.77	.00	10.75	24.17	3.15	38.07	1008.84	3.7736	97	0	1	2	0	0	0	0	28	64	8	
87164D	4	970	1173.33	.00	5.38	10.77	2.05	18.20	1191.53	1.5274	99	0	0	1	0	0	0	0	30	59	11	
86779C	4	980	1590.90	.00	7.39	11.09	3.53	22.01	1612.91	1.3646	99	0	0	1	0	0	0	0	34	50	16	
87164E	4	990	711.46	.00	2.40	3.26	1.78	7.44	718.90	1.0349	100	0	0	0	0	0	0	0	32	44	24	
87164F	4	1000	919.99	.00	3.49	3.83	1.50	8.82	928.81	.9496	100	0	0	0	0	0	0	0	40	43	17	
86779D	4	1010	2385.20	.00	56.84	37.01	18.68	112.53	2497.73	4.5053	96	0	2	1	1	0	0	0	40	53	17	
87164G	4	1020	2459.87	.00	50.60	29.72	10.53	90.85	2550.72	3.5617	97	0	2	1	0	0	0	0	55	33	12	
87164H	4	1025	2740.82	406.89	193.70	187.55	47.39	835.53	3576.35	23.3626	78	11	5	5	1	49	23	22	6			
87164I	4	1030	4050.16	.00	73.09	54.32	19.11	126.52	4176.68	3.0292	97	0	2	1	0	0	0	0	58	27	15	
87164J	4	1030	5568.17	2801.05	737.31	583.56	127.26	4249.18	9817.34	43.2824	56	29	8	6	1	66	17	14	3			
86779E	4	1040	1977.04	.00	30.14	12.14	7.45	49.73	2026.77	2.4537	98	0	1	1	0	0	0	0	61	24	15	
87164K	4	1050	406.34	3.38	5.42	2.60	2.85	14.25	620.59	2.2962	98	1	1	0	0	0	0	0	24	38	20	
87164L	4	1060	6164.70	367.10	217.99	52.85	40.67	678.61	6843.30	9.9164	90	5	3	1	1	0	0	0	54	32	8	
86779F	4	1070	39125.31	2507.83	1268.15	256.09	200.79	4230.86	43356.15	9.7584	90	6	3	1	0	59	30	6	5			
87164M	4	1080	3363.42	381.65	369.42	173.34	111.99	1036.40	4379.82	23.6431	74	9	8	4	3	36	36	17	11			
87164N	4	1090	8117.06	303.27	363.47	166.25	80.48	913.47	9030.52	10.1154	90	3	4	2	1	33	60	18	9			
86779G	4	1100	2139.68	116.81	169.58	84.55	42.09	413.03	2552.71	16.1801	83	5	7	3	2	28	42	20	10			
87164O	4	1110	5060.23	170.97	212.68	123.75	44.80	552.20	5612.42	9.8389	90	3	4	2	1	31	39	22	8			
87164P	4	1120	2922.70	139.65	155.88	120.84	32.49	448.86	3371.56	13.3131	86	4	5	4	1	31	35	27	7			
86779H	4	1130	5484.53	167.19	193.45	133.12	37.87	531.63	6016.16	8.8367	91	3	3	2	1	31	37	25	7			
87164Q	4	1140	2216.56	49.97	129.42	78.68	27.15	285.22	2501.78	11.4007	89	2	5	3	1	18	44	28	10			
87164R	4	1150	1194.24	30.09	191.82	337.08	222.93	781.92	1976.16	39.5676	60	2	10	17	11	4	25	42	29			
86779I	4	1160	2076.18	30.85	194.41	305.43	108.17	638.86	2715.04	23.5304	77	1	7	11	4	5	30	48	17			
87164S	4	1170	1804.07	54.40	225.20	555.12	75.08	911.80	2715.87	33.5730	67	2	8	20	3	6	25	61	8			
87164T	4	1180	1633.52	44.15	197.53	411.79	35.30	688.77	2322.29	29.6591	69	2	9	18	2	6	29	40	5			
86779J	4	1190	1924.31	40.11	189.17	289.46	52.09	571.03	2495.34	22.8839	76	2	8	12	2	7	33	51	9			
87175A	4	1200	4795.23	818.19	975.27	672.93	472.67	2939.86	7734.28	38.0004	61	11	13	9	6	28	33	23	16			
87175B	4	1210	3271.23	1234.39	1255.58	1056.33	813.98	4368.28	7631.51	57.1352	43	16	16	14	11	28	29	24	19			
87175C	4	1215	1687.22	300.98	189.11	180.25	71.35	741.69	2428.91	30.5359	70	12	8	7	3	4	1	25	24	10		
86779K	4	1220	2325.40	363.81	237.37	212.01	72.90	886.09	3211.49	27.5912	73	11	7	7	2	4	1	27	24	8		
87175D	4	1235	19682.46	11559.53	1955.49	956.96	130.64	14602.62	34285.06	42.5918	57	34	6	3	0	79	13	7	1			
87175E	4	1240	8077.11	4566.74	925.63	571.65	83.60	6147.62	14224.72	43.2179	56	32	7	4	1	75	15	9	1			
86779L	4	1250	4701.56	2204.73	591.21	443.92	92.05	3331.91	8033.46	41.4754	59	27	7	6	1	66	18	13	3			
87175F	4	1260	3782.68	1993.52	2655.27	766.50	1011.08	6426.37	10209.04	62.9478	36	20	26	8	10	31	41	12	16			
87175G	4	1270	3627.39	1954.76	2980.63	798.08	1340.56	7074.03	10701.42	66.1037	34	18	28	7	13	28	42	11	19			
86779M	4	1280	4090.34	1706.68	3278.51	928.26	1772.56	7686.06	11776.34	65.2665	35	14	28	8	15	22	43	12	23			
87175H	4	1290	2375.85	1021.54	2878.40	996.98	2161.78	7058.70	9434.55	74.8176	25	11	30	11	23	14	41	14	31			
87175I	4	1300	2497.93	745.78	1455.77	495.33	1031.60	3728.48	6226.40	59.8818	40	12	23	8	17	20	39	13	28			
86779N	4	1310	2117.05	792.67	1515.20	454.68	855.37	3617.92	5734.97	43.0852	37	14	26	8	15	22	41	13	24			
87175J	4	1320	4105.47	1675.25	3212.61	807.06	1392.09	7087.01	11192.47	63.3194	37	15	29	7	12	24	45	11	20			
87175K	4	1330	2225.28	1238.78	3248.98	935.52	1565.72	6989.00	9214.27	75.8497	24	13	36	10	17	18	47	13	22			
86779O	4	1340	2496.31	1206.43	2563.64	723.77	1220.13	5713.97	8210.28	69.5953	30	15	31	9	15	21	45	13	21			
87175L	4	1350	1853.95	781.27	1587.22	452.22	756.46	3577.17	5431.12	65.8643	35	14	29	8	14	22	44	13	21			
86779P	4	1370	4933.26	3449.33	5418.50	3702.29	2439.41	15009.53	21942.78	68.4030	31	16	25	17	11	23	36	25	16			
87175M	4	1380	2131.41	912.90	2433.34	1218.24	1271.65	5836.13	7967.54	73.2488	27	11	31	15	16	16	41	21	22			
87175N	4	1390	1304.21	522.74	1822.43	518.74	1092.89	3956.80	5261.01	75.2099	25	10	34	10	21	13	38	16	30			
86779Q	4	1400	4422.31	2489.40	6105.87	2587.98	4737.49	15920.74	20343.03	70.2614	22	12	30	13	23	16	38	16	30			
87175O	4	1410	3540.85	2208.04	45																	

TABLE C
 C1-C4 HYDROCARBON ANALYSES - CUTTINGS AND AIR SPACE

		GAS CONCENTRATION (VOLUME GAS PER MILLION VOLUMES CUTTINGS)									GAS COMPOSITION (PERCENT)							
SPL NO	R DEPTH (M)	METHANE C1	ETHANE C2	PROPANE C3	IBUTANE IC4	NBUTANE C4	HET C2-C4	TOTAL C1-C4	HET/TOTAL	TOTAL GAS M E P IB NB				HET GAS E P IB NB				
86790D	4 1620	1643.89	884.50	4022.84	1349.29	3638.83	9895.46	11539.35	85.7561	14	8	34	12	32	9	40	14	37
87186H	4 1630	9824.12	4301.98	6357.31	1118.94	3317.66	15095.89	24919.99	60.5774	40	17	26	4	13	28	43	7	22
87186I	4 1640	13542.27	5800.16	7957.43	1664.60	4296.87	19719.06	33261.32	59.2853	41	17	24	5	13	29	41	8	22
86790E	4 1650	8519.18	3069.46	6065.07	1360.11	3766.80	14261.44	22780.60	62.6034	37	13	27	6	17	22	42	10	26
87186J	4 1660	649.96	319.81	1937.93	424.99	1473.53	4156.26	4806.22	86.4767	14	7	39	9	31	8	47	10	35
87186K	4 1670	2284.88	1175.32	3297.56	602.24	2027.44	7102.56	9387.44	75.6602	24	13	35	6	22	17	46	8	29
86790F	4 1680	1902.66	632.23	1762.43	333.86	1049.15	3777.67	5680.33	66.5044	34	11	31	6	18	17	46	9	28
87186L	4 1690	5607.65	2524.49	3283.08	489.24	1411.79	7508.60	13116.23	57.2466	42	18	25	4	11	31	43	7	19
87186M	4 1700	6742.97	2848.63	4104.84	597.30	1690.31	9241.08	15984.03	57.8145	41	18	26	4	11	31	45	6	18
86790G	4 1710	4832.49	2406.14	4316.66	641.89	1882.07	9246.76	14079.24	65.6766	34	17	31	5	13	26	47	7	20
87186N	4 1720	4187.47	1871.11	3930.42	674.76	1830.27	8306.56	12494.02	66.4843	34	15	31	5	15	23	47	8	22
87186O	4 1730	11270.81	5013.39	5722.93	802.91	1867.75	13406.98	24677.77	54.3282	46	20	23	3	8	37	43	6	14
86790H	4 1740	7278.66	3202.72	5064.62	760.47	2074.66	11102.47	18381.11	60.4015	40	17	28	4	11	29	45	7	19
87186P	4 1750	4842.37	2052.41	4056.50	679.88	1831.37	8620.16	13462.53	64.0308	36	15	30	5	14	24	47	8	21
87186Q	4 1760	15986.62	5472.23	5980.87	820.01	2162.17	14435.28	30421.88	47.4503	52	18	20	3	7	38	41	6	15
86790I	4 1770	7050.98	2630.82	4764.52	673.04	1960.59	10028.97	17079.93	58.7179	42	15	28	4	11	26	47	7	20
87186R	4 1780	4309.31	1663.66	3878.93	604.06	1699.64	7846.29	12155.59	64.5488	35	14	32	5	14	21	49	8	22
87186S	4 1790	2249.63	1521.16	4285.23	726.73	2113.73	8646.85	10896.48	79.3543	21	14	39	7	19	18	50	8	24
86790J	4 1800	1429.05	920.54	2676.05	462.15	1452.20	5510.94	6939.98	79.4086	21	13	38	7	21	17	49	8	26
87186T	4 1810	1793.24	827.48	2928.28	571.86	1652.26	5979.88	7773.12	76.9302	23	11	38	7	21	14	48	10	28
86790K	4 1830	753.59	608.31	2696.67	508.69	1698.37	5512.04	6265.62	87.9728	12	10	43	8	27	11	49	9	31
87186U	4 1840	1299.82	732.84	2738.66	484.41	1502.52	5458.43	6758.25	80.7669	19	11	41	7	22	13	50	9	28
87197A	4 1850	1661.50	1027.11	3502.03	651.83	1828.67	7009.64	8671.14	80.8387	19	12	40	8	21	15	50	9	26
86790L	4 1860	1378.22	1065.35	5864.78	633.79	1872.95	7436.87	8815.09	84.3652	16	12	44	7	21	14	52	9	25
87197C	4 1870	2220.55	1105.91	3151.58	484.37	1479.78	6221.64	8442.19	73.6970	26	13	37	6	18	18	50	8	24
87197D	4 1880	4267.98	1449.17	3528.03	522.29	1473.25	6224.74	11240.72	62.0311	38	13	31	5	13	21	51	7	21
86790M	4 1890	1527.12	883.17	3010.43	464.24	1385.25	5743.09	7270.21	78.9948	21	12	42	6	19	15	53	8	24
87197E	4 1900	746.80	558.93	2166.99	312.18	1006.29	4044.39	4791.19	84.4131	16	12	44	7	21	14	53	8	25
87197F	4 1905	1564.00	812.44	2749.48	404.50	1143.14	5111.56	6675.56	76.5713	23	12	42	6	17	16	54	8	22
86790N	4 1930	1046.33	659.39	2691.83	396.06	1169.93	4915.21	5961.54	82.4487	18	11	44	7	20	13	55	8	24
87197G	4 1940	4960.60	1890.76	4612.59	1040.38	2620.16	10163.89	15124.48	67.2016	33	13	30	7	17	19	45	10	26
87197H	4 1945	1808.47	1036.37	3586.61	721.18	1918.52	7262.68	9071.14	80.0636	20	11	40	8	21	14	50	10	26
86790O	4 1960	1389.84	974.61	3537.74	696.75	1929.08	7138.18	8528.01	83.7028	16	11	42	8	23	14	49	10	27
87197I	4 1970	1296.09	916.99	3759.83	693.16	2094.24	7464.22	8760.31	85.2050	15	10	43	8	24	12	51	9	28
87197J	4 1980	1530.06	1204.38	4269.34	784.79	2189.45	8447.96	9978.01	84.6658	15	12	43	8	22	14	51	9	26
86790P	4 1990	976.69	941.30	3610.53	598.48	1906.72	7057.03	8033.71	87.8427	12	12	45	7	24	13	52	8	27
87197K	4 2000	1286.31	1060.54	3825.20	657.31	1843.67	7386.72	8673.03	85.1689	15	12	44	8	21	14	52	9	25
86790Q	4 2010	1257.21	877.99	3208.55	523.84	1575.66	6186.06	7443.24	85.1095	17	12	43	7	21	14	53	8	25
87197L	4 2020	1537.15	761.97	2765.26	408.48	1179.19	5114.90	6452.05	79.2756	21	12	43	6	18	15	54	8	23
86790R	4 2030	1087.70	709.30	2776.21	399.30	1133.75	5018.56	6106.26	82.1871	18	12	44	7	19	14	55	8	23
87197M	4 2050	1109.67	544.55	1971.04	289.58	673.78	3480.95	4590.62	75.8274	24	12	43	6	15	16	57	8	19
87197N	4 2060	2307.63	2374.53	4656.32	581.31	1192.50	8804.66	11112.28	79.2336	21	21	42	5	11	27	52	7	14
86798S	4 2070	847.59	1066.60	2645.49	336.51	708.60	4757.20	5604.79	84.8774	15	19	47	6	13	22	56	7	15
87197O	4 2080	2004.90	2176.67	3801.25	455.54	766.68	7200.14	9205.84	78.2195	22	24	41	5	8	30	53	6	11
87197P	4 2090	1010.49	1246.34	2903.39	393.48	680.30	5223.51	6233.99	83.7908	16	20	47	6	11	24	55	8	13
86790T	4 2100	718.16	806.60	2066.90	291.16	499.88	3664.54	4382.70	83.6138	16	18	48	7	11	22	56	8	14
87197Q	4 2110	1029.43	720.66	1797.28	268.90	400.11	3186.95	4216.38	75.5850	24	17	44	6	9	23	56	8	13
86790U	4 2120	971.96	584.17	1410.35	203.55	275.00	2473.07	3445.03	71.7866	28	17	41	6	8	24	57	8	11
87197R	4 2140	1147.53	849.23	1886.83	272.29	366.69	3375.04	4522.57	74.6266	25	19	42	6	8	25	56	8	11
86790V	4 2150	659.70	569.73	1616.76	231.44	328.22	2746.15	3405.85	80.6304	19	17	47	7	10	21	59	8	12
8715A	4 2160	713.47	452.63	1202.24	150.25	288.03	2093.15	2806.62	74.5790	25	16	44	5	10	22	57	7	14
8715B	4 2180	1222.63	816.80	1384.94	184.78	387.26	2773.78	3996.41	69.4068	31	20	34	5	10	29	50	7	14
8715C	4 2200	611.02	375.37	1735.11	306.46	895.63	3312.57	3923.59	84.4270	16	10	43	8	23	11	53	9	27
8715D	4 2220	2853.59	2466.58	9427.94	2092.09	5842.63	19829.24	22682.82	87.4196	13	11	41	9	26	23	58	11	29
8715E	4 2240	1902.60	1907.50	4151.91	566.24	1495.92	8121.57	10024.16	81.0200	19	19	41	6	15	23	52	7	18
8715F	4 2260	1566.18	1262.14	3315.29	451.35	1237.81	6266.59	7832.76	80.0049	20	16	42	6	16	20	53	7	20
8715G	4 2280	2355.37	2770.35	6043.15	740.01	2171.47	11744.98	14100.35	83.2957	17	20	43	5	15	24	52	6	18
8715H	4 2300	2653.11	2760.44	6055.52	935.21	2797.93	12549.10	15202.20	82.5479	17	18	41	6	18	22	49	7	22
8715I	4 2320	2422.55	1399.98	3433.82	631.82	2012.39	7478.01	10100.55	74.0357	26	14	34	6	20	19	46	8	27
8715J	4 2340	1945.40	1975.81	4934.48	1242.56	3153.45	11306.30	13251.69	85.3197	15	15	37	9	24	17	44	11	28
8715K	4 2360	3431.33	2462.79	5312.01	1117.53	2986.94	11879.29	15310.61	77.5886	22	16	35	7	20	21	45	9	25
8715L	4 2380	2816.41	2775.25	8492.48	1819.39	3392.49	18679.61	21496.01	86.8980	13	13	41	8	25	15	46	10	29
8715M	4 2400	1402.16	1146.30	4642.88	1292.29	3964.80	11066.27	12468.42	88.7544	11	9	38	10	32	10	42	12	36
8715N	4 2420	2411.48	2383.93	4331.58	1267.87	3511.31	13494.69	15906.16	84.8394	15	15	40	8	22	18	47	9	26
8715O	4 2440	3754.18	3188.24	6289.30	1248.98	3133.68	13860.20	17614.37	78.6869	21	18	36	7	18	23	45	9	23
8715P	4 2450	4922.23	4978.32	11825.38	3136.48	7337.14	27277.52	32199.73	84.7135	15	15	37	10	23	18	44	11	27

TABLE 1C

C1-C4 HYDROCARBON ANALYSES - CUTTINGS AND AIR SPACE

SPL NO	R	DEPTH (M)	GAS CONCENTRATION (VOLUME GAS PER MILLION VOLUMES CUTTINGS)						GAS COMPOSITION (PERCENT)											
			METHANE C1	ETHANE C2	PROPANE C3	IBUTANE IC4	NBUTANE C4	MET C2-C4	TOTAL C1-C4	MET/TOTAL PERCENT			TOTAL GAS M E P I B NB				MET GAS E P I B NB			
87846Q	4	2780	7931.23	8683.80	18732.42	6120.72	16439.17	49976.11	57907.35	86.3036	14	15	32	11	28	17	38	12	33	
87846R	4	2800	2981.37	5529.66	16895.33	5712.06	16789.62	44926.67	47908.03	93.7769	6	12	35	12	35	12	38	13	37	
87846S	4	2820	11127.87	7372.16	10268.18	3527.42	8278.74	29446.50	40574.36	72.5742	28	18	25	9	20	25	35	12	28	
87846T	4	2840	5512.24	5255.15	9270.39	3587.09	8486.16	26598.79	32111.01	82.8339	17	16	30	11	26	20	35	13	32	
88297A	4	2860	5111.65	4234.63	8525.31	4081.53	9966.49	26807.96	31919.63	83.9858	16	13	27	13	31	16	32	15	37	
88297B	4	2880	5271.84	4541.57	9237.41	3897.42	9430.99	27107.39	32379.22	83.7185	16	14	29	12	29	17	34	14	35	
88297C	4	2900	1830.77	1496.98	5430.64	2578.46	7479.66	16985.74	18816.53	90.2703	10	8	29	14	39	9	32	15	44	
88297D	4	2920	4364.48	4474.53	8763.35	4647.08	10369.17	28254.13	32618.62	86.6194	13	14	27	14	32	16	31	16	37	
88297E	4	2940	3501.21	3056.55	4900.15	3863.74	8500.71	22321.15	25822.37	86.4411	14	12	27	15	32	14	31	17	38	
88297F	4	2960	4689.20	4334.31	8963.84	4651.84	10033.12	27983.11	32672.30	85.4478	14	13	27	14	32	15	32	17	36	
88297G	4	2980	1898.97	1118.43	4087.26	1988.44	4303.08	11497.21	15396.18	85.8245	14	8	31	15	32	10	36	17	37	
88297H	4	3000	2324.95	1828.19	3969.19	1366.82	3258.97	10423.17	12748.11	81.7625	18	14	31	11	26	18	38	13	31	
88297I	4	3020	4693.32	1107.81	1579.61	418.27	902.06	4007.75	8701.08	46.0604	54	13	18	5	10	28	39	10	23	
88297J	4	3040	2207.57	340.76	620.34	199.89	436.67	1597.66	3805.25	41.9857	59	9	16	5	11	21	39	13	27	
88297K	4	3060	1952.63	207.80	567.21	144.74	360.13	1279.88	3232.50	39.5941	61	6	18	4	11	16	45	11	28	
88297L	4	3080	2024.19	276.43	573.87	80.91	268.51	1199.72	3223.89	37.2134	62	9	18	3	8	23	48	7	22	
88297M	4	3100	2123.86	610.54	1208.03	295.53	731.31	2845.41	4969.27	57.2601	43	12	24	6	15	21	43	10	22	
88297N	4	3120	3240.88	200.56	386.50	145.84	337.78	1070.68	4311.57	24.8327	75	5	9	3	8	19	35	14	32	
88297O	4	3140	6616.28	717.72	966.99	254.48	510.17	2449.36	9065.65	27.0180	72	8	11	3	6	29	40	10	21	
88297P	4	3160	7479.60	848.72	664.30	152.15	265.86	1931.03	9410.63	20.5197	79	9	7	2	3	44	34	8	14	
88297Q	4	3180	14496.51	1036.25	798.08	209.12	368.50	2411.95	16908.47	14.2647	86	6	5	1	2	43	33	9	15	
88297S	4	3200	8279.22	180.97	305.67	74.24	177.40	738.28	9017.50	8.1872	92	2	3	1	2	25	41	10	24	
88297T	4	3220	10537.08	870.05	850.15	226.18	417.85	2364.23	12901.29	18.3255	81	7	7	2	3	36	36	10	18	
88297U	4	3240	11370.47	620.83	522.58	133.54	270.57	1547.52	12918.00	11.9796	88	5	4	1	2	40	34	9	17	
88319A	4	3260	6164.14	130.40	212.61	19.88	84.13	447.02	6611.15	6.7616	94	2	3	0	1	29	48	4	19	
88319B	4	3280	6201.90	327.97	278.60	62.00	117.32	785.89	6987.78	11.2466	88	5	4	1	2	42	35	8	15	
88319C	4	3300	7999.64	444.65	542.29	210.89	383.35	1581.18	9580.81	16.5036	83	5	6	2	4	28	35	13	24	
88319D	4	3320	25114.24	2326.01	1522.88	454.94	803.20	5107.03	30221.28	16.8988	82	8	5	2	3	45	30	9	16	
88319E	4	3340	7919.35	150.12	306.01	92.02	158.36	506.51	8625.87	8.1906	91	2	4	1	2	21	44	13	22	
88319F	4	3350	8178.09	369.19	363.27	91.54	165.84	989.84	9167.93	10.7968	89	4	4	1	2	37	37	9	17	
88319G	4	3370	11124.76	344.28	466.90	165.80	246.40	1223.38	12348.13	9.9074	90	3	4	1	2	28	38	14	20	
88319H	4	3430	2031.27	41.04	22.26	8.69	6.22	78.21	2109.48	3.7075	97	2	1	0	0	53	28	11	8	
88319I	4	3450	2065.39	28.71	13.92	6.37	4.66	53.66	2119.04	2.5323	98	1	1	0	0	53	26	12	9	
88319J	4	3460	2306.79	37.74	11.60	5.09	2.82	57.25	2364.04	2.4217	98	2	0	0	0	66	20	9	5	
88319K	4	3470	3644.77	492.94	204.27	83.34	65.97	846.52	4491.30	18.8480	81	11	5	2	1	58	24	10	8	
88319L	4	3480	5403.59	857.92	206.38	63.48	12.75	1140.53	6544.13	17.4283	83	13	3	1	0	75	18	6	1	
88319A	4	3500	3958.83	453.97	110.40	29.71	23.54	617.62	4576.45	13.4956	86	10	2	1	1	73	18	5	4	
88319B	4	3520	633.13	7.70	15.54	5.05	5.87	34.16	667.29	5.1192	95	1	2	1	1	23	45	15	17	
88319C	4	3540	1030.08	52.25	42.26	5.70	8.54	108.75	1138.83	9.5493	89	5	4	1	1	48	39	5	8	
88319D	4	3560	1119.21	17.57	28.53	8.21	2.59	56.90	1176.11	4.8380	96	1	2	1	0	31	50	14	5	
88319E	4	3580	4395.21	423.75	195.06	15.01	30.90	644.72	5059.93	13.1369	87	8	4	0	1	64	29	2	5	
88319F	4	3600	4754.51	458.75	85.65	3.76	6.72	554.88	5309.38	10.4509	89	9	2	0	0	83	15	1	1	
88319G	4	3620	1865.48	367.50	71.94	5.37	7.98	340.39	2285.87	15.4311	85	12	3	0	0	75	21	2	2	
88319H	4	3640	3504.88	367.50	99.83	4.98	8.32	480.63	3985.51	12.0594	88	9	3	0	1	76	21	1	3	
88319I	4	3660	2028.24	403.37	124.48	9.43	15.77	553.95	2581.29	21.4253	78	16	5	0	1	72	23	2	4	
88319J	4	3680	2178.62	408.10	172.84	15.36	23.68	619.98	2798.60	22.1532	77	15	6	1	1	66	28	2	4	
88319K	4	3700	1942.20	230.50	167.08	38.09	35.42	471.09	2413.29	19.5207	80	10	7	2	1	49	35	8	5	
88319L	4	3720	1984.36	305.69	94.00	20.07	20.82	440.58	2424.94	18.1687	81	13	4	1	1	69	21	5	5	
88319M	4	3740	3980.94	56.20	80.04	26.49	23.13	185.86	4166.80	4.4605	95	1	2	1	1	30	44	14	12	
88319N	4	3760	3202.27	.00	75.99	20.47	16.80	113.26	3315.53	3.4160	96	0	2	1	1	0	67	18	15	
88319O	4	3780	2574.98	23.14	68.41	20.97	20.76	133.28	2708.26	4.9212	94	1	3	1	1	17	51	16	16	
88319P	4	3800	3437.41	.00	91.68	28.28	24.54	144.50	3581.91	4.0342	95	0	3	1	1	0	63	20	17	
88319Q	4	3820	1127.67	24.80	41.47	4.07	7.74	78.08	1205.75	6.4756	94	2	3	0	1	32	53	5	10	
88319R	4	3840	650.53	21.43	22.01	2.43	2.80	48.67	699.20	6.9608	94	3	3	0	0	44	45	5	6	
88319S	4	3860	458.55	13.15	17.50	2.36	3.42	36.43	494.98	7.3599	92	3	4	1	1	36	49	6	9	
88319T	4	3880	406.99	12.99	18.60	4.98	3.87	40.44	447.43	9.0383	91	3	4	1	1	32	46	12	10	
88924A	4	3910	466.71	10.85	6.21	1.22	2.04	20.32	487.03	4.1722	97	2	1	0	0	53	31	6	10	
88924B	4	3920	334.84	5.11	4.34	.77														

TABLEIC
C1-C4 HYDROCARBON ANALYSES - CUTTINGS AND AIR SPACE

		GAS CONCENTRATION (VOLUME GAS PER MILLION VOLUMES CUTTINGS)						GAS COMPOSITION (PERCENT)										
SPL NO	R DEPTH (M)	METHANE C1	ETHANE C2	PROPANE C3	IBUTANE IC4	NBUTANE C4	MET C2-C4	TOTAL C1-C4	MET/TOTAL PERCENT	TOTAL GAS					MET GAS			
									M	E	P	IB	NB	E	P	IB	NB	
89166Q	4 4420	1321.27	.00	11.58	2.34	4.47	18.39	1339.66	1.3727	99	0	1	0	0	0	63	13	24
89166R	4 4440	1607.20	.00	10.00	3.15	2.13	15.28	1622.48	.9418	99	0	1	0	0	0	65	21	14
89166S	4 4460	1765.83	.00	1.84	.56	.33	2.73	1768.56	.1544	100	0	0	0	0	0	67	21	12
89166T	4 4480	702.00	.00	.00	.00	.00	.00	702.00	.0000	100	0	0	0	0	0	100	0	0
89177A	4 4500	946.26	.00	4.94	.11	.09	5.14	951.40	.5403	99	0	1	0	0	0	96	2	2
89177B	4 4520	1057.08	.00	4.50	.28	.25	5.03	1062.11	.4736	100	0	0	0	0	0	89	6	5
89177C	4 4540	928.16	.00	.70	.18	.00	.88	929.04	.0947	100	0	0	0	0	0	80	20	0
89177D	4 4560	1094.31	.00	.92	.17	.00	1.09	1095.40	.0995	100	0	0	0	0	0	84	16	0
89177E	4 4580	922.41	.00	.72	.00	.00	.72	923.13	.0780	100	0	0	0	0	0	100	0	0
89177F	4 4600	877.24	.00	1.18	.22	.24	1.64	878.88	.1866	100	0	0	0	0	0	72	13	15
89177G	4 4620	895.11	.00	1.22	.29	.37	1.88	896.99	.2096	100	0	0	0	0	0	65	15	20
89177H	4 4640	715.78	.00	.40	.10	.12	1.62	716.40	.0865	100	0	0	0	0	0	65	16	19
89177I	4 4660	751.77	3.75	15.90	7.66	7.62	34.93	786.70	4.4401	96	0	2	1	1	1	45	22	22
89177J	4 4680	756.07	1.14	1.00	.21	.15	2.50	758.57	.3296	100	0	0	0	0	0	46	40	8
89177K	4 4700	640.15	.00	1.86	.58	.41	2.85	643.00	.4432	100	0	0	0	0	0	66	20	14
89177L	4 4720	673.18	2.39	6.96	4.45	3.45	17.25	690.43	2.4984	98	0	1	1	0	0	14	40	26
89177M	4 4740	641.00	.69	1.83	.76	.70	3.98	644.98	.6171	100	0	0	0	0	0	17	46	19
89177N	4 4760	573.39	.00	.00	.00	.00	.00	573.39	.0000	100	0	0	0	0	0	100	0	0
89177O	4 4780	572.89	.00	.31	.00	.19	.50	573.39	.0872	100	0	0	0	0	0	62	0	38
89177P	4 4800	592.71	.00	.74	.15	.25	1.14	593.85	.1920	100	0	0	0	0	0	65	13	22
89177Q	4 4820	651.33	.00	1.07	.38	.54	1.99	653.32	.3046	100	0	0	0	0	0	54	19	27
89177R	4 4840	586.49	.90	1.29	.37	.63	3.19	589.68	.5410	100	0	0	0	0	0	28	40	12
89177S	4 4860	974.12	.00	.52	.00	.11	.63	974.75	.0646	100	0	0	0	0	0	83	0	17
89177T	4 4880	827.90	.00	.37	.00	.00	.37	828.27	.0447	100	0	0	0	0	0	100	0	0
89188A	4 4900	575.84	.00	.36	.00	.00	.36	576.20	.0625	100	0	0	0	0	0	100	0	0
89188B	4 4920	673.99	.67	.76	.22	.22	1.87	675.86	.2767	100	0	0	0	0	0	36	40	12
89188C	4 4940	623.44	3.75	10.87	5.09	7.30	27.01	650.45	4.1525	95	1	2	1	1	1	14	40	19
89188D	4 4960	598.38	1.63	3.74	1.43	1.81	8.61	606.99	1.4185	99	0	1	0	0	0	19	43	17
89188E	4 4980	640.79	1.89	2.32	.47	.86	5.54	646.33	.8571	100	0	0	0	0	0	34	42	8
89188F	4 5000	700.79	.00	1.24	.37	.51	2.12	702.91	.3016	100	0	0	0	0	0	59	17	24

*BX = CUTTINGS NOT ANALYZED *CX = AIR SPACE GAS NOT RUN ST = SIDE TRACK SAMPLE

TABLE ID
CUTTINGS GAS SUMMARY

SAMPLE NO.	DEPTH (M)	TOTAL C1-C4	X WET	X C3+	C3+/C1	C2/C1
84150A	530	1,132			.00	.00
84150B	570	10,588			.00	.00
84150C	600	17,182			.00	.00
84150D	640	26,018			.00	.00
84150E	680	5,545	7	7	.07	.00
84150F	710	17,343	2	2	.02	.00
84150G	740	14,016	1	1	.01	.00
84150H	770	4,824	5	4	.05	.01
84150I	800	9,057	3	3	.03	.00
84150J	830	5,881	4	3	.03	.00
84150K	860	2,031	7	7	.07	.00
84150L	890	1,450	9	9	.10	.00
84150M	900	1,862	6	6	.06	.00
84150N	910	3,974	4	4	.04	.00
86779A	920	524	3	3	.03	.00
87164A	930	1,675	2	2	.02	.00
87164B	940	1,406	4	4	.04	.00
86779B	950	881	5	5	.05	.00
87164C	960	1,009	4	4	.04	.00
87164D	970	1,192	2	2	.02	.00
86779C	980	1,613	1	1	.01	.00
87164E	990	719	1	1	.01	.00
87164F	1000	929	1	1	.01	.00
86779D	1010	2,498	5	5	.05	.00
87164G	1020	2,551	4	4	.04	.00
87164H	1025	3,576	23	12	.16	.15
87164I	1030	4,177	3	3	.03	.00
87164J	1030	9,817	43	15	.26	.50
86779E	1040	2,027	2	2	.03	.00
87164K	1050	6,621	2	2	.02	.01
87164L	1060	6,843	10	5	.05	.06
86779F	1070	43,356	10	4	.04	.06
87164M	1080	4,380	24	15	.20	.11
87164N	1090	9,031	10	7	.08	.04
86779G	1100	2,553	16	12	.14	.05
87164O	1110	5,612	10	7	.08	.03
87164P	1120	3,372	13	9	.11	.05
86779H	1130	6,016	9	6	.07	.03
87164Q	1140	2,502	11	9	.11	.02
87164R	1150	1,976	40	38	.63	.03
86779I	1160	2,715	24	22	.29	.01
87164S	1170	2,716	34	31	.47	.03
87164T	1180	2,322	30	28	.39	.03
86779J	1190	2,495	23	21	.28	.02
87175A	1200	7,734	38	27	.44	.17
87175B	1210	7,632	57	41	.96	.38
87175C	1215	2,429	31	18	.26	.18
86779K	1220	3,211	28	16	.22	.16
87175D	1235	34,285	43	9	.15	.59
87175E	1240	14,225	43	11	.20	.57
86779L	1250	8,033	41	14	.24	.47
87175F	1260	10,209	63	43	1.17	.53
87175G	1270	10,701	66	48	1.41	.54
86779M	1280	11,776	65	51	1.46	.42
87175H	1290	9,435	75	64	2.54	.43
87175I	1300	6,226	60	48	1.19	.30
86779N	1310	5,735	63	49	1.33	.37
87175J	1320	11,192	63	48	1.32	.41
87175K	1330	9,214	76	62	2.58	.56
86779O	1340	8,210	70	55	1.81	.48
87175L	1350	5,431	66	51	1.51	.42
86779P	1370	21,943	68	53	1.67	.50
87175M	1380	7,968	73	62	2.31	.43
87175N	1390	5,261	75	65	2.63	.40
86779Q	1400	20,343	78	66	3.04	.56
87175O	1410	14,029	75	59	2.34	.62
87175P	1420	8,404	76	65	2.68	.47
86779R	1430	8,887	78	65	2.92	.58
87175Q	1440	4,770	82	72	4.09	.56
87175R	1450	6,747	65	54	1.55	.32
86779S	1460	6,743	73	62	2.34	.42
87175S	1470	8,447	79	69	3.34	.53
86779T	1490	10,001	82	72	4.03	.55
87175T	1500	9,963	81	70	3.66	.58
87186A	1510	7,399	82	71	3.93	.57
86790A	1520	6,561	89	80	7.37	.89
87186B	1530	9,607	75	64	2.52	.41
87186C	1540	4,841	89	82	7.15	.62
86790B	1550	5,119	88	82	7.07	.57
87186D	1560	5,090	78	71	3.26	.36
87186E	1570	7,204	79	69	3.35	.48
86790C	1590	12,214	85	72	4.69	.86
87186F	1600	11,361	76	65	2.69	.45
87186G	1610	10,205	82	74	4.13	.45

B = CUTTINGS NOT ANALYZED

C = AIR SPACE GAS NOT RUN

ST = SIDE TRACK SAMPLE