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Task 3 - Round 5

1-11-85

Woodward-Clyde Consultants

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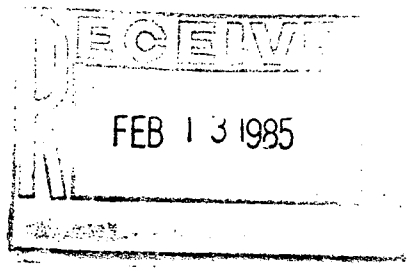


Mr. James B. Marean
New York State Electric and Gas Corporation
87-89 Chenango St.
Binghamton, New York 13902

RE: Results of Fifth Round Task 3
Water Sampling
Lockport Coal Tar Site

Dear Mr. Marean:

Woodward-Clyde Consultants is pleased to present the results of the fifth quarterly round of Task 3 sampling of ground water and surface water at the Lockport Coal Tar Site. Samples were collected on 8 October through 12 October 1984. A total of 28 samples, 20 from ground-water wells and 8 from canal surface water, were collected by WCC and analyzed by General Testing Corporation for total phenols, volatile aromatics and poly-aromatic hydrocarbons. At NYSEG's request, a sample of free-floating hydrocarbon was collected from MW-15. This sample, along with the hydrocarbon sample collected from MW-17 during the previous sampling round, were analyzed by General Testing Corporation for gasoline, fuel oil, and diesel fuel. Water levels in all wells were measured prior to sampling. An obstruction at 18 feet prevented sample collection from MW-2. The canal was full during the entire sampling round.

Sampling Procedures

Prior to sample collection, a minimum of three volumes of standing water were removed from each well with a PVC bailer. The free-floating hydrocarbon sample from MW-15 was collected prior to well evacuation. One each 1000-ml, 500-ml and 40-ml sample bottles were collected at the 20 wells. To minimize potential cross-contamination between wells, the least potentially

contaminated wells were sampled first and separate bailers were assigned to each well.

A Kemmerer sampler designed to sample water at discrete depths was used to collect the deep surface water sample. The shallow sample was collected with a PVC bailer. Both samplers were decontaminated between sample sites.

Complete surface and ground-water sampling procedures are detailed in Attachment A to the Fourth Quarterly Ground-Water Sampling Report.

Results

Ground-Water Flow. Water levels were generally lower than the last round of sampling which took place three weeks earlier on 17-21 September. Water levels in two wells located relatively close to the canal (MW-15 and MW-18) rose 3.3 and 0.5 feet, respectively. Water levels in MW-3, MW-5 and MW-14, located 300 feet or more from the canal, also rose. Levels in the remaining wells, which include both sealed and unsealed wells, adjacent to the canal as well as further away, decreased from 0.4 feet in MW-1 to 8.5 feet in IW-2.

Water level fluctuations in Rochester Member monitoring wells have been inconsistent in the past. The current sampling round's water level response of wells sealed in the Rochester Member was even less consistent than in previous sampling rounds. When measured on October 8, the water level in MW-6 was more than 25 feet lower than when measured in September. Water levels in the other two screened Rochester wells (MW-7 and MW-12) fell by only 4.6 and 0.4 feet, respectively. This results in a computed ground-water gradient of 0.11 feet/feet (580 feet per mile) toward the east; the computed gradient direction from previous sampling rounds has always been to the northwest.

The validity of water levels and perhaps even the analytical data from these screened wells sealed in the Rochester Member must be questioned at this point. Water levels in these wells appear to recover very slowly, if at all, after pre-sampling evacuation. We suspect that, at least in MW-12, something is clogging the screen and preventing the well from recovering to the hydrostatic water level. A white, stringy, sometimes filmy material, first reported in the third round sampling report, has been coming up with the water during bailing of some sealed, as well as unsealed, wells. This material has become more evident in recent sampling rounds and is suspected of being a bacterial growth that inhabits the filter pack surrounding the wells. it probably would not affect flow into unsealed wells, but may clog up the small openings in the well screens.

The local horizontal ground-water gradient, as determined from October 1984 data from unsealed wells (Figure 1), is to the northwest toward the canal. The general configuration of the ground-water table shown in Figure i is similar to that inferred from the previous sampling rounds. The steepest gradient, approximately 0.14 (750 feet per mile), is found adjacent to the canal. Elsewhere, gradients range from approximately 0.05 to 0.07 (260 to 370 feet per mile).

Ground-Water Quality. Analytical results of previous sampling events were reviewed and compared with results of fifth round Task 3 sampling. The first round of Task 3 samples was collected on 28 November to 2 December 1983, with the canal level lowered for the winter months. The second round of Task 3 samples was collected on 12-14 March 1984, also with the canal level lowered. Third round samples were collected on 15-17 May 1984 with canal filling initiated two weeks before sampling. Fourth round samples were collected on 17-21 September 1984. All available analytical data are summarized in Tables 1 through 9.

The distribution of total phenol in groundwater is similar to that observed during the previous sampling event in September. Levels in most wells were comparable to earlier sample round levels. Phenol levels dropped an order of magnitude in MW-4 (0.40 ppm to 0.01 ppm) and MW-12 (0.077 ppm to 0.006 ppm), and to below detection in MW-8 and MW-11. Phenol levels in the recently installed wells MW-18 and MW-19, which had low levels in September 1984 (0.006 and 0.007 ppm, respectively), both dropped to below detection limits. The highest levels were found in MW-10 (2.80 ppm) located just north of the site, followed by MW-3 at 1.47 ppm and MW-7 at 1.26 ppm. Phenol concentrations generally decreased with distance from this zone.

The nested deep and shallow (unsealed) well pair MW-6/IW-2 show greater phenol concentrations in the deep well MW-6 (0.139 ppm) than in the shallow well IW-2 (below detection limits). However, the differences between shallow/deep well phenol concentrations in the other two nested pairs are not significant; phenol concentrations are relatively high in both MW-3 (1.47 ppm) and MW-7 (1.26 ppm) and relatively low in both MW-11 (below detection limits) and MW-12 (0.006 ppm).

The general lateral distribution pattern of total volatile aromatics in groundwater (Figure 3) is similar to that observed in September 1984. Concentrations fell an order of magnitude or more in MW-1 (1.5 to 0.007 ppm), MW-6 (3.1 to 0.74 ppm), MW-7 (31.0 to 4.7 ppm), MW-11 (4.0 to 0.009 ppm) and MW-17 (15.9 to 4.4 ppm). Highest concentrations were found in wells MW-3, MW-7 and MW-10 (2.2, 4.7 and 5.4 ppm) in the vicinity of the western end of the site, and MW-17 (4.4 ppm) located downgradient of the site.

Concentrations of volatile aromatics were much higher in deep, sealed well MW-6 (0.740 ppm) than in the adjacent unsealed well IW-2 (0.001 ppm). Samples from the two other pairs of nested deep and shallow or unsealed wells (MW-12/MW-11 and MW-7/MW-3) showed concentration differences of less than an order of magnitude with depth (0.036/0.009 ppm and 4.7/2.0 ppm).

As discussed in the fourth round sampling report, gasoline hod been suspected in well MW-17, which is located immediately downgradient of the gas station across Lagrange Street from the site. Analysis of the previously collected product showed 632,000 ppm (63%) gasoline with 55,000 ppm (5.5%) #2 fuel oil/diesel fuel, thereby confirming the presence of gasoline in the well. The volatile aromatic concentration in this well was among the highest measured in this sampling round (4.44 ppm). Volatile aromatics, particularly benzene, toluene, and xylene, are associated with gasoline.

The concentration of volatile aromatics in MW-15 decreased dramatically from 4.8 ppm in the third sampling round to 0.017 ppm in the fourth round and remains at a relatively low 0.013 ppm during the current sampling round. A distinct petroleum-like odor in well MW-15 had been noted during earlier sampling rounds. As part of fifth round sampling the laboratory analysis included tests for gasoline, #2 fuel oil and diesel fuel. No gasoline was detected but 10,000 ppm or 1% of #2 fuel oil and diesel fuel were found in the sample of floating product.

The general lateral distribution pattern of total poly-aromatic hydrocarbons in ground water (Figure 4) is similar to that observed in September 1983 with concentrations greater than 8 ppm in wells MW-6, MW-10, MW-3, IW-1, and MW-7. Concentrations of poly-aromatic hydrocarbons generally decrease radially from this zone. Levels above 1.0 ppm were found in wells MW-8, MW-11, MW-12, MW-17. The relatively large area over which poly-aromatic hydrocarbons have been detected in wells suggests that these compounds may be moving and dispersing in partial response to transport mechanisms other than the flow of groundwater.

The concentration of both volatile aromatics and poly-aromatic hydrocarbons were below the detection limit in all three wells surrounding MW-15. This suggests that either an isolated source of potential contamination exists within several hundred feet of MW-15 or, if the substances are

attributable to the substation site, that an unidentified, discrete migration pathway exists between the site and MW-15.

Although the distribution of poly-aromatic hydrocarbon concentrations in the site vicinity is similar to that described during earlier sampling rounds, concentrations of contaminants in most wells have changed significantly since the fourth sampling round: Eight wells showed substantial decreases (MW-1, MW-2, MW-7, MW-15, MW-16, MW-18, MW-19 and IW-2), four wells showed increases (MW-4, MW-8, MW-10, IW-1) while the remaining eight wells did not change substantially. Although the deep wells of the three deep/shallow nested well pairs all had higher concentrations of poly-aromatic hydrocarbons than their associated shallow wells, only the deeper of the MW-6/IW-2 pair had a significantly higher concentration (8.68 ppm in MW-6) than the shallow member (IW-2 at below detection limits). All four wells of the remaining well pairs (MW-3/MW-7 and MW-11/MW-12) had concentrations greater than 1.0 ppm.

Surface Water Quality

Phenol concentrations were below detection limits in all surface water samples. Total poly-aromatic hydrocarbon levels were less than 0.100 ppm in all samples. Levels at CSL-1 (just upstream of the site) were not markedly different than concentrations at CSL-2 (adjacent to the site and downstream of the canal seep) with levels at 0.021 to 0.051 ppm in the shallow samples (CSL-1(s) and CSL-2(s) and 0.070 to 0.081 ppm in the deeper samples (CSL-2(d) and CSL-1(d). The concentration at the deeper downstream location (CSL-3(d)) fell to below detection limits (0.005 ppm). The concentrations in the shallow location (CSL-3(s) - 0.050 ppm) remained closed to the levels found in the upstream samples.

Conclusions

1. Water levels in most wells decreased after the fourth round of sampling, which took place three weeks earlier in September.

2. Phenols, volatile aromatics, and poly-aromatic hydrocarbons continue to be present within the site vicinity groundwater.

3. The general distribution of phenols, volatile aromatics, and poly-aromatic hydrocarbons remains basically unchanged.

4. The presence of gasoline in monitoring well MW-17 was confirmed.

5. Monitoring well MW-15 is located in an area in which the ground water has been contaminated by #2 fuel oil/diesel fuel. The source is not known.

6. The highest level of coal tar indicator parameters detected in the canal was at the sampling location immediately downstream of the site, although concentrations were only slightly greater than upstream samples.

7. Some well screens appear to be partially clogged with unidentified, possibly bacterial, growths.

If you have any questions concerning the results of the fifth round of sampling, please do not hesitate to call.

Very truly yours,

Donald R. Ganser
Project Manager

DRG:js
D1122/211

Table 1

Chemical Parameters Detected in One or More Samples at the Lockport Coal Tar Site

		February 2-3, 1983							May 4, 1983				
		Sample Location							Sampling Location				
Parameter	Units[a]	Soil	Seep 1	Seep 2	MW-1	MW-2	MW-3	MW-4	IW-2	MW-1	MW-2	MW-3	MW-4	IW-2
Total Phenol	ppm	8.4[b]	1.971	0.045	0.028	0.030	0.747	ND	0.016	ND	0.115	0.424	0.022	ND
BOD (5 day)	ppm	NA	420	15.6	11.7	19.2	120	6.3	7.2					
Chromium (total)	ppm	9.5[b]	1.45	ND	ND	ND	ND	ND	ND					
Chromium (hexavalent)	ppm	NA	0.28	ND	ND	ND	ND	ND	ND					
Copper	ppm	16.5[b]	1.53	ND	ND	ND	ND	ND	ND					
Zinc	ppm	30[b]	7.2	0.03	ND	ND	ND	ND	0.08					
Antimony	ppm	2[b]	0.9	ND	ND	ND	0.3	0.4	ND					
Method 602 (Aromatics)														
Benzene	ppm	ND	0.059	ND	0.066	ND	3.05	ND	0.014	0.016	1.58	4.12	0.003	0.008
Toluene	ppm	0.07[b]	ND	ND	0.120	ND	2.38	ND	0.003	ND	0.95	3.90	0.003	0.003
Ethyl Benzene	ppm	0.07[b]	ND	ND	0.033	ND	0.73	ND	ND	0.001	0.43	1.61	ND	0.001
p-Xylene	ppm	ND	0.072	0.002	0.019	ND	0.20	ND	ND	0.010	0.48	0.34	ND	0.001
o-Xylene	ppm	ND	0.120	0.025	0.032	ND	0.39	ND	0.002	0.020	0.57	0.57	ND	0.001
Styrene	ppm	ND	ND	ND	0.004	ND	0.51	ND	ND	ND	ND	0.43	ND	ND
n-Propylbenzene	ppm	ND	ND	ND	0.003	ND	0.03	ND	ND	ND	0.07	ND	ND	ND
Method 604 (phenolics)														
Phenol	ppm	ND	ND	0.03	ND	ND	ND	ND	ND					
4-chloro-3-Methylphenol	ppm	ND	0.60	ND	ND	ND	ND	ND	ND					
Dinitrophenol	ppm	ND	3.5	ND	ND	ND	ND	ND	ND					
Pentachlorophenol	ppm	ND	2.7	ND	ND	ND	ND	ND	ND					
Base Neutrals														
Acenaphthene	ppb	68,000	310	160	ND	NA	190	ND	ND					
Acenaphthylene	ppb	16,000	660	110	ND	NA	570	ND	ND	60	ND	5,700	ND	ND
Anthracene	ppb	15,000	110	27	ND	NA	130	ND	ND					
Benzo (A) Anthracene	ppb	20,000	100	16	ND	NA	81	ND	ND					
Benzo (A) pyrene	ppb	14,000	ND	ND	ND	NA	51	ND	ND					
3,4-Benzofluoranthene	ppb	19,000	13	13	ND	NA	49	ND	ND					
Benzoperylene	ppb	5,600	ND	ND	ND	NA	43	ND	ND					
Benzo (K) fluoranthene	ppb	19,000	13	13	ND	NA	69	ND	ND					
Bis(2-Ethylhexyl)Phthalate	ppb	ND	86	ND	ND	NA	ND	ND	ND					
Chrysene	ppb	16,000	67	10	ND	NA	60	ND	ND					
Fluoranthene	ppb	32,000	240	37	ND	NA	120	ND	ND					
Indeno (1,2,3-CD) Pyrene	ppb	9,600	ND	ND	ND	NA	ND	ND	ND					
Naphthalene	ppb	220,000	3,100	79	250	NA	5,700	ND	ND	750	280	28,300	ND	ND
Phenanthrene	ppb	96,000	750	120	ND	NA	500	ND	ND	66	180	10,000	ND	ND
Pyrene	ppb	52,000	320	44	ND	NA	140	ND	ND					

NOTES:

a. ppm means mg/l for water samples and mg/kg for soil sample.
ppb means ug/l for water samples and ug/kg for soil sample.

b. Sample collected November 23, 1982, delivered to laboratory December 6, 1982.

NA means not analyzed
ND means not detected (detection limits may vary)

TABLE 2

CHEMICAL ANALYSES - TASK 3 SOIL, SURFACE WATER AND PRELIMINARY GROUND WATER SAMPLING

NYSEG COAL TAR SITE

(Chemical Parameters Detected in One or More Samples)

		19-21 October 1983 Sample Location[b]								7 November 1983 Sample Location			11 November 1983 Sample Location			18 November 1983 Sample Location		
Parameter	Units[a]	CSL-1	CSL-2	CSL-3	TT-2/5-1[b]	TT-5/5-1[b]	TT-2/5-2[b]	All-4/5-1[b]	All-6/5-1[b]	MW-8	MW-9	MW-13	CSL-1	CSL-2	CSL-3	CSL-1	CSL-2	CSL-3
Total Phenol	ppm	0.005	0.157	0.010	0.73	3.69	2440	1.06	0.47	0.010	0.047	ND	ND	ND	ND	ND	ND	ND
Method 607 (Aromatics)																		
Benzene	ppm	ND	ND	ND	0.041	0.008	128	6.6	0.09	0.180	0.005	0.004	ND	ND	ND	ND	ND	ND
Toluene	ppm	ND	ND	ND	0.049	0.006	155	26.0	0.05	0.015	0.003	0.004	ND	ND	ND	ND	ND	ND
Ethyl Benzene	ppm	ND	ND	ND	0.006	0.007	10.4	53.1	0.91	0.260	0.011	0.009	ND	ND	ND	ND	ND	ND
p-Xylene	ppm	ND	ND	ND	0.0979	0.002	25.5	1.5	1.619	0.024	0.006	0.012	ND	ND	ND	ND	ND	ND
m-Xylene	ppm	ND	ND	ND		0.008	79.4	60.4		0.018	0.010	0.027	ND	ND	ND	ND	ND	ND
o-Xylene	ppm	ND	ND	ND	0.073	0.004	46.0	11.3	1.05	0.040	0.010	0.019	ND	ND	ND	ND	ND	ND
Styrene	ppm	ND	ND	ND	0.022	0.029	104	14.8	2.19	0.001	0.002	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ppm	ND	ND	ND	0.006	0.003	4.9	4.8	2.09	0.023	0.002	ND	ND	ND	ND	ND	ND	ND
Method 610 (Poly-Aromatic Hydrocarbons)																		
Acenaphthene	ppm	ND	ND	ND	2.5	3.8	3000	250	6.5	1.28	0.045	0.006	ND	ND	ND	ND	ND	ND
Acenaphthylene	ppm	ND	ND	ND	1.8	3.6	4500	960	0.6	0.15	0.087	0.013	ND	ND	ND	ND	ND	ND
Anthracene[c]	ppm	ND	ND	ND	23	3.5	13,700	4600	14	2.08	0.19	0.020	0.017	0.018	0.006	0.002	0.004	ND
Benzo (A) Anthracene	ppm	ND	ND	ND	22	40	2000	330	12	0.16	0.043	ND	0.013	0.015	ND	ND	ND	ND
Benzo (A) pyrene	ppm	ND	ND	ND	27	52	1500	360	12	0.15	0.051	ND	0.010	ND	ND	ND	0.008	ND
Benzoperylene	ppm	ND	ND	ND	10	15	300	69	7.6	0.039	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (K) fluoranthene[d]	ppm	ND	ND	ND	24	44	1600	210	11	0.092	0.050	ND	0.005	ND	ND	ND	0.007	ND
Chrysene	ppm	ND	ND	ND	16	33	1300	340	88	0.13	0.039	ND	0.013	0.015	ND	ND	ND	ND
Fluoranthene	ppm	ND	ND	ND	25	118	5300	690	18	0.61	0.034	0.005	0.006	0.009	ND	0.002	0.005	ND
Fluorene	ppm	ND	ND	ND	3.6	6.5	4500	1300	5.7	2.03	0.10	0.028	0.010	ND	ND	ND	ND	ND
Indeno (1,2,3-CD) Pyrene[e]	ppm	ND	ND	ND	26	24	690	80	5.8	0.053	0.020	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ppm	ND	ND	ND	6.1	3.8	29,000	1900	49	0.85	0.075	ND	ND	ND	ND	ND	ND	ND
Pyrene	ppm	ND	ND	ND	29	948	4500	1000	18	2.81	0.064	0.006	0.011	0.006	ND	0.003	0.006	0.003

Notes:

a. ppm means mg/l for water samples and ug/g for soil samples.
b. Soil samples
c. Elutes with Phenanthrene
d. Elutes with Benzo (H) Fluoranthene
e. Elutes with Dibenzo (A,H) Anthracene
f. Less than 5 ppm
g. Elutes with m-Xylene
h. CSL means canal sampling location
   TT means test trench
   All means auger boring

NA means not analyzed
ND means not detected (detection limits may vary)

TABLE 3

CHEMICAL ANALYSES - TASK 3 FIRST ROUND SAMPLING

NYSEG COAL TAR SITE

(Chemical Parameters Detected in One or More Samples)

28 November 1983 - 2 December 1983
Sample Location

Parameter	Units[a]	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15[f]	MW-16	MW-17	IW-1	IW-2
Total Phenol	ppm	0.085	0.081	1.09	0.016	0.005	0.010	6.38	0.016	0.005	9.17	0.057	0.021	0.006	0.007	ND	0.008	0.151	0.017	0.020
Method 602 (Aromatics)																				
Benzene	ppm	0.170	0.520	4.18	0.003	0.005	0.008	3.56	0.052	0.011	6.36	1.06	0.33	ND	0.001	0.012	0.002	2.3	ND	ND
Toluene	ppm	0.230	0.270	3.78	ND	0.001	0.029	3.44	0.005	0.007	4.98	1.46	0.61	ND	0.007	0.027	0.003	11.4	0.005	0.001
Ethyl Benzene	ppm	0.260	0.190	1.96	ND	0.004	0.013	0.99	0.044	0.003	1.01	0.61	1.36	ND	ND	0.057	0.026	4.8	0.004	ND
p-Xylene	ppm	0.041	0.230	0.42	ND	0.002	0.006	0.76	0.012	0.005	0.68	1.06	0.10	ND	ND	0.120	0.007	5.7	0.005	ND
m-Xylene	ppm	0.081	0.110	1.06	ND	ND	0.017	0.67	0.009	ND	1.63	1.22	0.35	ND	ND	0.097	0.007	15.1	0.010	0.001
o-Xylene	ppm	0.062	0.280	0.76	ND	0.002	0.011	0.46	0.016	0.001	1.16	1.47	0.54	ND	ND	0.076	0.015	10.9	0.008	ND
Styrene	ppm	0.005	ND	0.56	ND	ND	ND	0.90	0.001	ND	0.42	ND	ND	ND	ND	ND	ND	ND[e]	ND	ND
n-Propylbenzene	ppm	0.016	0.083	ND	ND	ND	0.002	0.048	0.007	ND	0.04	0.06	0.09	ND	ND	ND	ND	3.9	0.002	ND
Method 610 (Poly-Aromatic Hydrocarbons)																				
Acenapthene	ppm	0.14	0.017	1.9	ND	ND	0.003	22	0.12	0.022	1.7	0.10	37	0.007	ND	3.9	ND	6.2	ND	0.008
Acenapthylene	ppm	0.088	0.013	3.2	ND	0.012	0.003	49	0.049	0.016	2.2	ND	1.8	0.021	ND	7.6	ND	2.4	ND	ND
Anthracene[b]	ppm	0.20	0.058	6.2	0.003	0.007	0.011	99	0.25	0.12	34	0.92	97	0.002	ND	3.1	ND	3.4	ND	0.002
Benzo (A) Anthracene	ppm	ND	0.012	0.88	ND	ND	ND	11	0.022	ND	0.58	0.25	2.5	ND	ND	ND	ND	0.18	ND	ND
Benzo (A) pyrene	ppm	ND	0.016	0.86	ND	ND	ND	11	0.025	0.008	0.55	0.13	2.6	ND	ND	ND	ND	ND	ND	ND
Benzo (g,h,i) perylene	ppm	ND	ND	0.24	ND	ND	ND	3.9	0.002	ND	ND	ND	0.59	ND	ND	ND	ND	ND	ND	ND
Benzo (K) fluoranthene[c]	ppm	ND	0.008	0.57	ND	ND	ND	7.1	0.015	ND	0.31	0.069	1.5	ND	ND	ND	ND	0.12	ND	0.004
Chrysene	ppm	0.43	0.011	0.77	0.006	0.006	0.036	8.0	0.016	0.011	0.37	0.27	1.8	ND	ND	ND	ND	0.16	ND	0.016
Fluoranthene	ppm	0.23	0.032	1.5	0.002	0.003	0.037	11	0.050	0.016	1.1	0.34	4.4	0.007	0.003	ND	ND	0.46	ND	0.016
Fluorene	ppm	0.095	0.022	2.2	ND	0.005	ND	38	0.13	0.068	1.6	0.40	3.1	0.017	ND	2.1	ND	2.6	ND	0.002
Indeno (1,2,3-CD) Pyrene[d]	ppm	ND	ND	0.27	ND	ND	ND	3.5	0.004	ND	ND	ND	0.66	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ppm	3.0	0.011	22	ND	0.012	0.036	97	0.12	0.077	54	0.42	37	0.002	ND	5.6	ND	47	ND	0.002
Pyrene	ppm	0.33	0.026	1.2	0.003	0.003	0.041	33	0.051	0.017	1.2	0.40	5.5	0.009	0.003	ND	ND	0.32	ND	0.019

Notes:

a. ppm means mg/l
b. Elutes with Phenanthrene
c. Elutes with Benzo (B) Fluoranthene
d. Elutes with Dibenzo (A,H) Anthracene
e. Less than 1 ppm
f. Sampled 21 December 1983

ND means not detected (detection limits may vary)

TABLE 4

CHEMICAL ANALYSES - TASK 3 SECOND ROUND SAMPLING
NYSEG COAL TAR SITE

(Chemical Parameters Detected in One or More Samples)

12 March - 14 March 1984
Sample Location

Parameter	Units[a]	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15[f]	MW-16	MW-17	IW-1	IW-2
Total Phenol	ppm	0.014	0.033	1.03	0.020	ND	0.062	0.734	0.008	ND	4.33	0.009	0.032	ND	ND	ND	0.007	0.056	0.145	0.010
Method 610 (Poly-Aromatic Hydrocarbons)																				
Acenapthene	ppm	0.380	0.110	3.770	0.031	ND	0.120	0.940	0.250	0.074	0.240	ND	0.610	ND	ND	NA	0.120	ND	0.210	ND
Acenapthylene	ppm	0.130	ND	5.910	0.0036	0.012	0.097	1.470	0.062	0.160	ND[e]	ND	0.120	0.0046	ND	NA	0.110	ND	ND	0.0099
Anthracene[b]	ppm	0.420	0.280	31.800	0.063	0.0051	0.310	1.950	0.450	0.300	2.450	0.046	0.450	0.016	ND	NA	0.100	ND	0.330	0.0078
Benzo (A) Anthracene	ppm	0.460	0.170	1.240	0.050	0.0056	0.290	1.150[f]	0.038	0.015	ND[e]	0.0083	0.270	0.016	ND	NA	0.0077	ND	0.510.	0.017
Benzo (A) pyrene	ppm	ND	0.200	1.740	0.012	ND	ND	0.370	0.074	0.022	ND[e]	0.010	0.130	0.0099	ND	NA	0.012	ND	ND	ND
Benzo (g,h,i) perylene	ppm	ND	ND	1.180	ND	ND	ND	ND[e]	0.044	ND	ND[e]	ND	ND	ND	ND	NA	ND	ND	ND	ND
Benzo (K) fluoranthene[c]	ppm	ND	0.190	0.980	0.0072	ND	ND	0.450	0.058	0.012	ND[e]	0.0055	0.260	0.0077	ND	NA	0.095	ND	0.600	ND
Chrysene	ppm	ND	0.350	1.490	ND	ND	0.210	f	0.051	0.023	0.350	0.0083	ND	ND	ND	NA	0.012	ND	ND	ND
Fluoranthene	ppm	0.130	0.260	3.110	0.037	0.0046	0.200	0.520	0.190	0.092	0.270	0.016	0.088	0.0065	ND	NA	0.025	ND	0.450	ND
Fluorene	ppm	0.350	0.130	5.480	0.028	0.0067	0.140	1.590	0.270	0.130	0.460	0.018	0.520	0.023	ND	NA	0.094	ND	0.150	0.0062
Indeno (1,2,3-CD) Pyrene[d]	ppm	ND	ND	0.300	ND	ND	ND	ND[e]	0.032	0.019	ND[e]	ND	ND	ND	ND	NA	ND	ND	ND	ND
Naphthalene	ppm	1.060	0.190	31.400	0.015	ND	0.640	7.060	0.036	0.110	6.760	0.071	1.110	ND	ND	NA	0.0046	1.090	0.037	0.025
Pyrene	ppm	0.180	0.310	3.900	0.044	0.0045	0.270	0.660	0.170	0.124	0.760	0.024	0.150	0.0091	ND	NA	0.031	ND	0.700	0.0045

Notes:

a. ppm means mg/l
b. Elutes with Phenanthrene
c. Elutes with Benzo (B) Fluoranthene
d. Elutes with Dibenzo (A,H) Anthracene
e. Less than 0.1 ppm
f. Benzo (A) Anthracene and Chrysene eluted together

ND means not detected

TABLE 5

CHEMICAL ANALYSES - TASK 3 THIRD ROUND SAMPLING

NYSEG COAL TAR SITE

(Chemical Parameters Detected in One or More Samples)

15 May - 17 May 1984
Sample Location

Parameter	Units[a]	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15[f]	MW-16	MW-17	TW-1	TW-2
Total Phenol	ppm	0.026	0.065	0.870	0.005	ND	0.129	0.541	0.006	ND	2.89	0.028	0.018	ND	ND	0.006	0.005	0.029	0.017	0.005
Method 602 (Aromatics)																				
Benzene	ppm	0.410	2.000	2.200	ND	0.0033	0.380	6.300	0.047	0.0056	6.000	0.062	0.170	1.200	ND	0.049	0.0015	ND	ND	ND
Toluene	ppm	0.810	0.810	3.700	ND	ND	0.900	7.500	0.0017	0.0015	5.400	0.016	0.170	0.870	ND	0.210	0.0017	ND	ND	ND
Ethyl Benzene	ppm	0.760	0.053	7.600	ND	0.0033	0.910	2.100	0.0069	0.0060	0.150	ND	0.460	0.630	ND	0.470	0.017	ND	ND	ND
p-Xylene	ppm	0.100	0.880[e]	2.500[e]	ND	0.015[e]	0.150	2.000[e]	0.017	0.0016	>3.000[e]	0.700[e]	0.130	2.100	ND	1.000	0.0046	ND	ND	ND
m-Xylene	ppm	0.270			ND		0.310		0.0096	0.0050			0.310	3.100	ND	0.670	0.0057	ND	ND	ND
o-Xylene	ppm	0.030	0.830	1.000	ND	0.0011	0.300	0.860	0.019	0.0065	1.200	0.490	0.220	3.100	ND	0.400	0.0095	ND	ND	ND
Styrene	ppm	0.019	ND	1.200	ND	ND	0.061	1.600	ND	ND	0.390	ND	ND	ND	ND	1.100	ND	ND	ND	ND
n-Propylbenzene	ppm	0.030	ND	ND	ND	ND	0.028	ND	0.0010	ND	ND	ND	0.024	ND	ND	1.000	ND	ND	ND	ND
Method 610 (Poly-Aromatic Hydrocarbons)																				
Acenapthene	ppm	0.580	ND	6.700	ND	ND	0.110	6.500	0.410	0.035	0.390	ND	1.300	ND	0.042	2.070	ND	0.200	ND	ND
Acenapthylene	ppm	0.250	ND	2.100	ND	ND	0.160	29.000	0.120	0.056	0.280	ND	0.340	ND	0.023	1.090	ND	0.120	ND	ND
Anthracene[b]	ppm	0.540	0.084	37.000	ND	ND	0.053	49.000	ND	0.072	0.930	0.067	1.700	ND	0.031	2.820	ND	0.023	ND	ND
Benzo (A) Anthracene	ppm	0.120	0.010	5.400	ND	ND	ND	7.300	ND	ND	ND	ND	0.190	ND	ND	ND	ND	ND	ND	ND
Benzo (A) pyrene	ppm	0.190	ND	4.400	ND	ND	ND	6.100	ND	ND	ND	ND	0.220	ND	ND	ND	ND	ND	ND	ND
Benzo (g,h,i) perylene	ppm	ND	ND	1.500	ND	ND	ND	2.000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (K) fluoranthene[c]	ppm	0.170	ND	3.200	ND	ND	ND	4.200	ND	ND	ND	ND	0.120	ND	ND	ND	ND	ND	ND	ND
Chrysene	ppm	ND	0.016	4.200	ND	ND	ND	5.700	ND	ND	ND	ND	0.160	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ppm	0.160	0.040	11.000	ND	ND	ND	15.000	ND	0.010	0.130	ND	0.190	ND	0.010	0.610	ND	ND	ND	ND
Fluorene	ppm	0.570	ND	21.000	ND	ND	0.120	27.000	0.480	0.056	0.170	ND	1.200	ND	0.058	3.960	0.059	0.210	ND	ND
Indeno (1,2,3-CD) Pyrene[d]	ppm	ND	ND	1.400	ND	ND	ND	1.900	ND	ND	ND	ND	0.056	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ppm	1.200	0.460	210.000	ND	ND	1.600	240.000	1.300	0.079	3.200	0.300	4.000	ND	ND	0.560	0.029	2.500	ND	ND
Pyrene	ppm	0.170	0.042	17.000	ND	ND	ND	20.000	ND	0.016	0.120	ND	0.540	ND	0.019	ND	ND	ND	ND	ND

Notes:

a. ppm means mg/l
b. Elutes with Phenanthrene
c. Elutes with Benzo (B) Fluoranthene
d. Elutes with Dibenzo (A,H) Anthracene
e. Elutes with m-Xylene

ND means not detected (detection limits may vary)

1365/180

TABLE 6

CHEMICAL ANALYSES - TASK 3 FOURTH ROUND SAMPLING GROUND-WATER SAMPLES

NYSEG COAL TAR SITE

(Chemical Parameters Detected in One or More Samples)

17 September - 20 September 1984
Sample Location

Parameter	Units[a]	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	IW-1	IW-2
Total Phenol	ppm	0.141	NA	1.07	0.400	ND	0.165	1.58	0.047	0.010	1.75	0.044	0.077	ND	ND	0.008	0.006	0.095	0.006	0.007	0.013	0.006
Method 602 (Aromatics)																						
Benzene	ppm	0.560	NA	2.700	ND	ND	0.460	11.800	0.140	0.0016	3.050	0.600	0.011	ND	ND	0.0046	ND	0.990	ND	ND	ND	ND
Toluene	ppm	0.510	NA	1.100	0.0038	ND	0.850	10.000	0.0018	0.0015	1.660	0.550	0.011	ND	ND	ND	ND	5.500	ND	0.0011	ND	ND
Ethylbenzene	ppm	0.150	NA	0.530	0.0015	0.0024	0.840	2.900	0.0063	ND	0.190	0.180	0.031	ND	ND	ND	ND	1.300	0.0014	ND	ND	ND
p-Xylene	ppm	0.180	NA	0.370	0.0022	0.003	0.540	2.80	0.021	ND	0.600	1.500	0.012	ND	ND	0.013	0.0076	5.000	ND	0.0018	ND	ND
m-Xylene	ppm												0.011	ND	ND						ND	ND
o-Xylene	ppm	0.100	NA	0.180	ND	0.0011	0.280	1.300	0.100	0.0017	0.270	1.200	0.021	ND	ND	ND	ND	2.400	ND	0.001	ND	ND
Styrene	ppm	ND	NA	0.052	ND	ND	0.053	1.900	ND	ND	0.150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ppm	0.013	NA	0.0027	ND	ND	0.032	0.290	0.013	ND	ND	ND	0.024	ND	ND	ND	ND	0.700	ND	ND	ND	ND
Method 610 (Poly-Aromatic Hydrocarbons)																						
Acenaphthene	ppm	0.750	NA	1.100	ND	ND	1.400	1.300	0.190	ND	0.034	0.055	0.340	ND	ND	0.440	ND	0.430	0.013	ND	ND	ND
Acenaphthylene	ppm	0.160	NA	0.990	ND	ND	0.042	5.500	ND	0.066	0.071	ND	0.064	ND	ND	0.180	ND	0.120	ND	ND	ND	ND
Anthracene[b]	ppm	1.300	NA	2.300	ND	ND	0.084	9.600	0.270	0.099	0.064	0.093	0.210	ND	ND	0.520	ND	0.340	ND	ND	ND	ND
Benzo (a) anthracene	ppm	0.180	NA	0.390	ND	0.047	0.052	1.400	ND	ND	ND	0.054	ND	ND	ND	0.024	ND	ND	0.130	ND	ND	0.067	0.019
Benzo (a) pyrene	ppm	0.180	NA	0.270	ND	ND	ND	1.200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (g,h,i) perylene	ppm	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (k) fluoranthene[c]	ppm	0.150	NA	0.250	ND	ND	ND	0.950	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.013
Chrysene	ppm	0.170	NA	0.770	ND	0.190	0.160	1.900	0.190	0.130	ND	0.190	0.72	ND	0.160	ND	0.032	0.610	0.290	0.053	0.280	0.150
Fluoranthene	ppm	0.330	NA	0.710	ND	ND	0.034	2.500	0.074	ND	0.012	ND	ND	ND	ND	ND	ND	0.210	ND	ND	ND	ND
Fluorene	ppm	0.480	NA	1.200	ND	ND	0.021	6.900	0.180	0.081	0.045	0.054	ND	ND	ND	0.780	ND	ND	ND	ND	ND	0.011
Indeno (1,2,3-cd) Pyrene[d]	ppm	0.160	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.200	ND	ND	ND	ND	ND	ND	ND	ND	0.014
Naphthalene	ppm	3.7	NA	10.000	ND	ND	0.310	29.000	0.087	0.076	2.800	0.300	6.200	ND	ND	0.030	ND	0.130	ND	ND	ND	ND
Pyrene	ppm	0.420	NA	0.280	ND	ND	0.036	3.100	0.071	ND	0.010	0.047	0.540	ND	ND	ND	ND	0.082	ND	ND	ND	ND

Notes:

a. ppm means mg/l
b. Elutes with Phenanthrene
c. Elutes with Benzo (b) Fluoranthene
d. Elutes with Dibenzo (a,h) Anthracene
e. Elutes with m-Xylene
NA means not analyzed
ND means not detected (detection limits may vary)
D65/180

TABLE 7

CHEMICAL ANALYSES - TASK 3 FOURTH ROUND SAMPLING
CANAL WATER SAMPLES

NYSEG COAL TAR SITE

(Chemical Parameters Detected in One or More Samples)

17 September 1984
Sample Location

Parameter	Units[a]	CSL-1(s)	CSL-1(d)	CSL-2(s)	CSL-2(d)	CSL-3(s)	CSL-3(d)	CSL-4(s)	CSL-4(d)
Total Phenol	ppm	0.005	0.006	ND	0.005	ND	0.005	0.005	0.005
Method 602 (Aromatics)									
Benzene	ppm	0.0022	ND	ND	ND	0.0019	ND	ND	ND
Toluene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
p-Xylene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
m-Xylene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Method 610 (Poly-Aromatic Hydrocarbons)									
Acenaphthene	ppm	ND	ND	0.016	0.061	ND	ND	ND	ND
Acenaphthylene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene[b]	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a) anthracene	ppm	0.040	0.460	0.680	0.043	0.029	0.026	ND	ND
Benzo (a) pyrene	ppm	ND	ND	0.044	ND	ND	ND	ND	ND
Benzo (g,h,i) perylene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (k) fluoranthene[c]	ppm	ND	ND	0.083	ND	ND	ND	ND	ND
Chrysene	ppm	0.170	3.400	2.760	0.240	0.180	0.160	ND	ND
Fluoranthene	ppm	ND	ND	0.380	ND	ND	ND	ND	ND
Fluorene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Indeno (1,2,3-cd) pyrene[d]	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ppm	ND	ND	0.160	ND	ND	ND	ND	ND

Notes:

a. ppm means mg/l
b. Elutes with Phenanthrene
c. Elutes with Benzo (b) Fluoranthene
d. Elutes with Dibenzo (a,h) Anthracene
ND means not detected (detection limits may vary)
(s) means shallow canal water sample
(d) means deep canal water sample

TABLE 8

CHEMICAL ANALYSES - TASK 3 FIFTH ROUND SAMPLING GROUND-WATER SAMPLES

NYSEG COAL TAR SITE

(Chemical Parameters Detected in One or More Samples)

9 October 1984 - 12 October 1984
Sample Location

Parameter	Units[a]	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	IW-1	IW-2
Total Phenol	ppm	0.005	NA	1.47	0.010	ND	0.139	1.26	ND	ND	2.80	ND	0.006	ND	ND	ND	ND	0.038	ND	ND	0.013	ND
Method 602 (Aromatics)																						
Benzene	ppm	0.007	NA	0.870	ND	0.004	0.270	1.10	0.120	0.005	2.90	0.003	ND	ND	ND	0.005	ND	0.730	0.007	ND	ND	ND
Toluene	ppm	ND	NA	0.740	0.001	ND	0.180	1.90	0.004	0.001	1.45	0.001	ND	ND	ND	ND	ND	1.66	ND	ND	ND	0.001
Ethylbenzene	ppm	ND	NA	0.300	ND	ND	0.110	0.520	0.059	0.002	0.150	0.001	0.005	ND	ND	ND	ND	0.095	0.002	0.001	ND	ND
p-Xylene	ppm		NA		ND	ND												0.410				
m-Xylene	ppm	ND[e]	NA	0.180[e]	ND	ND	0.085[e]	0.410[e]	0.019[e]	0.003[e]	0.520[e]	0.002[e]	0.006[e]	ND[e]	ND[e]	0.003[e]	ND	0.670[e]	0.003[e]	0.002[e]	ND[e]	ND[e]
o-Xylene	ppm	ND	NA	0.098	ND	ND	0.044	0.270	0.021	0.002	0.250	0.002	0.017	ND	ND	0.005	ND	0.850	0.001	ND	ND	ND
Styrene	ppm	ND	NA	0.029	ND	ND	0.010	0.460	ND	ND	0.140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ppm	ND	NA	0.008	ND	ND	0.041	0.024	0.010	ND	ND	ND	0.002	ND	ND	ND	ND	0.021	ND	ND	ND	ND
Method 610 (Poly-Aromatic Hydrocarbons)																						
Acenaphthene	ppm	0.029	NA	0.510	ND	ND	0.350	0.620	0.530	0.048	0.077	0.021	1.20	ND	ND	0.120	ND	0.041	ND	ND	0.150	ND
Acenaphthylene	ppm	0.039	NA	0.530	ND	ND	0.520	1.20	0.019	0.090	0.090	0.009	0.083	ND	ND	0.044	ND	0.034	ND	ND	ND	ND
Anthracene[b]	ppm	0.008	NA	0.790	ND	ND	0.440	1.30	4.00	0.180	0.140	0.042	0.140	ND	ND	0.054	ND	0.120	ND	ND	0.860	ND
Benzo (a) anthracene	ppm	0.098	NA	ND	ND	ND	0.140	0.320	0.081	0.017	0.022	0.023	0.015	ND	ND	ND	ND	0.042	ND	ND	3.50	ND
Benzo (a) pyrene	ppm	0.068	NA	ND	ND	ND	0.075	0.240	0.055	0.016	ND	0.010	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (g,h,i) perylene	ppm	0.019	NA	ND	ND	ND	ND	ND	0.043	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (k) fluoranthene[c]	ppm	0.043	NA	ND	ND	ND	0.076	0.220	0.036	0.010	ND	0.015	0.007	ND	ND	ND	ND	ND	ND	ND	3.80	ND
Chrysene	ppm	0.050	NA	ND	ND	ND	0.150	0.280	0.055	0.021	0.030	0.039	0.025	ND	ND	0.011	ND	0.052	ND	ND	5.20	ND
Fluoranthene	ppm	0.160	NA	0.160	ND	ND	0.150	0.350	0.130	0.033	0.067	0.022	0.023	ND	ND	ND	ND	0.051	ND	ND	2.70	ND
Fluorene	ppm	0.072	NA	0.750	0.068	0.270	0.930	1.40	0.960	0.120	4.40	0.027	0.160	ND	0.170	0.180	ND	0.690	ND	ND	0.290	ND
Indeno (1,2,3-cd) pyrene[d]	ppm	0.026	NA	ND	ND	ND	0.023	0.110	0.036	0.007	ND	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ppm	ND	NA	5.00	ND	ND	5.60	10.7	0.100	0.076	6.90	1.10	1.90	ND	ND	0.030	ND	1.10	ND	ND	ND	ND
Pyrene	ppm	0.080	NA	0.230	ND	ND	0.230	0.460	0.170	0.048	0.061	0.033	0.029	ND	ND	ND	ND	0.054	ND	ND	2.80	ND

Notes:

a. ppm means mg/l
b. Elutes with Phenanthrene
c. Elutes with Benzo (b) fluoranthene
d. Elutes with Dibenzo (a,h) anthracene
e. Elutes with p-Xylene
NA means not analyzed
ND means not detected (detection limits may vary)

D1122.1/211

TABLE 9

CHEMICAL ANALYSES - TASK 3 FOURTH ROUND SAMPLING CANAL WATER SAMPLES

NYSEG COAL TAR SITE

(Chemical Parameters Detected in One or More Samples)

9 October 1984
Sample Location

Parameter	Units[a]	CSL-1(s)	CSL-1(d)	CSL-2(s)	CSL-2(d)	CSL-3(s)	CSL-3(d)	CSL-4(s)	CSL-4(d)
Total Phenol	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Method 602 (Aromatics)									
Benzene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
p-Xylene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
m-Xylene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Method 610 (Poly-Aromatic Hydrocarbons)									
Acenaphthene	ppm	ND	ND	0.005	ND	ND	ND	ND	ND
Acenaphthylene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene[b]	ppm	ND	0.005	ND	0.005	ND	ND	ND	ND
Benzo (a) anthracene	ppm	0.009	0.023	0.010	0.013	ND	0.012	ND	ND
Benzo (a) pyrene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (g,h,i) perylene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (k) fluoranthene[c]	ppm	ND	0.019	0.014	0.018	ND	0.019	ND	ND
Chrysene	ppm	0.012	0.029	0.017	0.020	ND	0.019	ND	ND
Fluoranthene	ppm	ND	ND	ND	0.007	ND	ND	ND	ND
Fluorene	ppm	ND	0.005	ND	ND	ND	ND	ND	ND
Indeno (1,2,3-cd) pyrene[d]	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ppm	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ppm	ND	ND	0.005	0.007	ND	ND	ND	ND

Notes:

a. ppm means mg/l
b. Elutes with Phenanthrene
c. Elutes with Benzo (b) fluoranthene
d. Elutes with Dibenzo (a,h) anthracene
ND means not detected (detection limits may vary)
(s) means shallow canal water sample
(d) means deep canal water sample

MW-19
581.31

MW-18
590.44

MW-15
570.06

MW 13
575.68

MW-14
606.62

MW-9
595.67

MW-4
608.57

SITE LIMITS

SAXTON ST.

MAIN ST.

WALNUT ST.

GENESSEE ST.

LAGRANGE ST.

B-3

IW-2
597.23

MW-6
558.91

MW-11
584.74

MW-12
560.40

B-2

B-3-2

CSL-2

ERIE CANAL

WEST AVE.

MW-1
568.33

IW-1
589.62

MW-10
558.30

B-3-1

MW-7
579.81

MW-3
590.48

MW-5
595.46

B-1

S. TRANSIT RD.

MW-17
576.26

MW-2

STATE RD.

MW-8
564.56

W. GENESSEE ST.

MW-16
565.46

CSL-1

605
600
595
590
585
580
575
570

0 50 100 150 FT
SCALE

EXPLANATION

- MW-4 — WCC MONITORING WELLS/BORINGS
- 578.3 — ELEVATION OF GROUND WATER MEASURED 8 AND 12 OCTOBER 1984
- CSL-1 — CANAL WATER SAMPLING LOCATION

NOTES:

1. GROUND SURFACE TOPOGRAPHY SUPPLIED BY LOCKWOOD SERVICES.
2. SEALED ROCK WELLS (MW-6, MW-7, AND MW-12) WERE NOT INCLUDED IN CONTOURING.
3. WELL IW-1 WAS NOT INCLUDED IN CONTOURING BECAUSE OF QUESTIONABLE READING.
4. CONTOURS LOCATED APPROXIMATELY.

INFERRED GROUND WATER CONTOUR MAP
OCTOBER – 1984
NYSEG LOCKPORT COAL TAR SITE

WOODWARD—CLYDE CONSULTANTS
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
WAYNE, NEW JERSEY

DR.BY:	BTD	SCALE:	AS SHOWN	PROJ. NO.:	82C4495-3G
CK'D. BY:	MA	DATE:	12 DECEMBER 1984	FIG. NO.:	1

MW-19 (< 0.005)

MW-18 ND (< 0.005)

MW-15 ND (< 0.005)

MW-13 ND (< 0.005)

MW-9 ND (< 0.005)

MW-14 ND (< 0.005)

MW-4 0.010

MW-11 ND (< 0.005)

MW-12 0.006

IW-2 ND (< 0.005)

MW-6 0.139

MW-10 2.80

MW-7 1.26

MW-3 1.47

MW-5 ND (< 0.005)

MW-1 0.005

IW-1 0.013

MW-17 0.038

MW-2 NA

MW-8 ND (< 0.005)

MW-16 ND (< 0.005)

B-1, B-2, B-3, B-3-1, B-3-2

CSL-1, CSL-2

MAIN ST.

WALNUT ST.

GENESSEE ST.

LAGRANGE ST.

SAXTON ST.

SITE LIMITS

S. TRANSIT RD.

STATE RD.

W. GENESSEE ST.

ERIE CANAL

WEST AVE.

SUBSTATION

RUIN

0.01

0.1

1.0

10.0

0 50 100 150 FT
SCALE

EXPLANATION

MW–4	WCC MONITORING WELLS/BORINGS
0.005	CONCENTRATION OF TOTAL PHENOL IN PPM
CSL–1	CANAL WATER SAMPLING LOCATION
NA	NOT ANALYSED
ND	NOT DETECTED

NOTES:

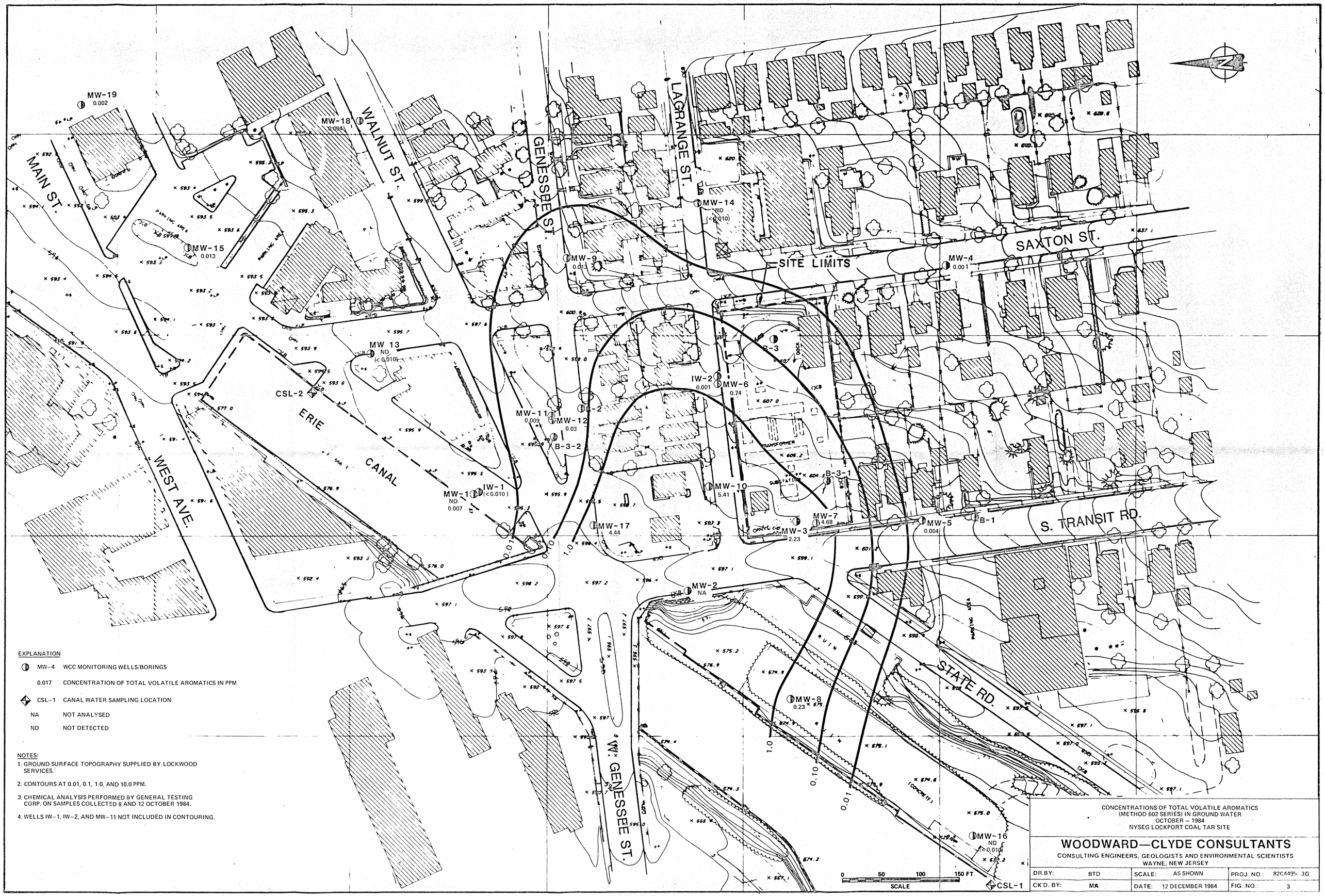
1. GROUND SURFACE TOPOGRAPHY SUPPLIED BY LOCKWOOD SERVICES.
2. CONTOURS AT 0.01, 0.1, 1.0, AND 10.0 PPM.
3. CHEMICAL ANALYSIS PERFORMED BY GENERAL TESTING CORP. ON SAMPLES COLLECTED 8 AND 12 OCTOBER 1984.
4. WELLS IW–1, IW–2, AND MW–11 NOT INCLUDED IN CONTOURING.

CONCENTRATIONS OF TOTAL PHENOL IN GROUND WATER
OCTOBER 1984
NYSEG LOCKPORT COAL TAR SITE

WOODWARD—CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
WAYNE, NEW JERSEY

DR.BY:	BTD	SCALE:	AS SHOWN	PROJ. NO.:	82C4495–3G
CK'D. BY:	MA	DATE:	12 DECEMBER 1984	FIG. NO.:	2



EXPLANATION

MW–4	WCC MONITORING WELLS/BORINGS
0.017	CONCENTRATION OF TOTAL VOLATILE AROMATICS IN PPM
CSL–1	CANAL WATER SAMPLING LOCATION
NA	NOT ANALYSED
ND	NOT DETECTED

NOTES:

1. GROUND SURFACE TOPOGRAPHY SUPPLIED BY LOCKWOOD SERVICES.
2. CONTOURS AT 0.01, 0.1, 1.0, AND 10.0 PPM.
3. CHEMICAL ANALYSIS PERFORMED BY GENERAL TESTING CORP. ON SAMPLES COLLECTED 8 AND 12 OCTOBER 1984.
4. WELLS IW–1, IW–2, AND MW–11 NOT INCLUDED IN CONTOURING.

CONCENTRATIONS OF TOTAL VOLATILE AROMATICS
(METHOD 602 SERIES) IN GROUND WATER
OCTOBER – 1984
NYSEG LOCKPORT COAL TAR SITE

WOODWARD–CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
WAYNE, NEW JERSEY

DR.BY:	BTD	SCALE:	AS SHOWN	PROJ. NO.:	82C4495 3G
CK'D. BY:	MA	DATE:	12 DECEMBER 1984	FIG. NO.:	3

MW-19
ND
(< 0.005)

MW-18
ND
(< 0.005)

MW-15
0.439

MW 13
ND
(< 0.005)

MW-14
0.170

MW-9
0.666

MW-4
0.068

B-3

IW-2
ND
(0.005)

MW-6
8.68

MW-11
1.35

MW-12
3.59

B-2

B-3-2

MW-10
11.8

B-3-1

MW-1
0.693

IW-1
19.3

MW-17
2.18

MW-7
17.2

MW-3
7.97

MW-5
0.270

B-1

MW-2
NA

MW-8
6.22

MW-16
ND
(< 0.005)

CSL-2

CSL-1

MAIN ST.

WALNUT ST.

GENESSEE ST.

LAGRANGE ST.

SAXTON ST.

SITE LIMITS

S. TRANSIT RD.

STATE RD.

W. GENESSEE ST.

WEST AVE.

ERIE CANAL

0.10

0.01

1.0

10.0

EXPLANATION

MW-4	WCC MONITORING WELLS/BORINGS
0.017	CONCENTRATION OF TOTAL POLY AROMATIC HYDROCARBONS IN PPM
CSL-1	CANAL WATER SAMPLING LOCATION
NA	NOT ANALYSED
ND	NOT DETECTED

NOTES:

1. GROUND SURFACE TOPOGRAPHY SUPPLIED BY LOCKWOOD SERVICES.
2. CONTOURS AT 0.01, 0.1, 1.0, AND 10.0 PPM.
3. CHEMICAL ANALYSIS PERFORMED BY GENERAL TESTING CORP. ON SAMPLES COLLECTED 8 AND 12 OCTOBER 1984.
4. WELLS IW-1, IW-2, AND MW-11 NOT INCLUDED IN CONTOURING.

0 50 100 150 FT
SCALE

CONCENTRATIONS OF TOTAL POLY AROMATIC HYDROCARBONS
(METHOD 602 SERIES) IN GROUND WATER
OCTOBER – 1984
NYSEG POCKPORT COAL TAR SITE

WOODWARD—CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
WAYNE, NEW JERSEY

DR.BY:	BTD	SCALE:	AS SHOWN	PROJ. NO.:	82C4495-3G
CK'D. BY:	MA	DATE:	12 DECEMBER 1984	FIG. NO.:	4