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Task 3 - Round 4

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11 January 1985
82C4495-3G

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

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

Dear Mr. Marean:

Woodward-Clyde Consultants is pleased to present the results of the fourth quarterly round of Task 3 sampling for ground water and surface water at the Lockport Coal Tar Site. Sample collection was performed on 17 September through 21 September 1984.

Samples were collected from 20 wells, including the two most recently installed wells, MW-18 and MW-19. Canal samples were also collected from two depths at four locations. One of these locations was approximately 4 miles upstream of the site, above the Sulphur Springs Guard Lock in Pendleton, New York. All samples were analyzed by General Testing Corporation for total phenols, volatile aromatics and poly-aromatic hydrocarbons. Water levels were measured in all wells. The canal was full during this round of sampling.

No sample could be collected from monitoring well MW-2. This well was found to be blocked at a depth of approximately 18 feet. A 5-foot long, stainless-steel, closed-end pipe with attached rope was used to push the obstruction down 5 feet, at which point, the steel slug became lodged and could not be removed.

As part of Task 7 activities a sample of the dark, oily, free-floating substance previously observed in MW-17 was collected and maintained on site for possible future analysis.

Sampling Procedures

Sampling procedures were generally similar to those used during previous sampling events and are detailed in Attachment A. Prior to collection of water samples, a minimum of three volumes of water present in each well were bailed using a PVC bailer. A sample of free-floating hydrocarbons was collected from well MW-17 prior to evacuation, using a bailer. One 1-liter, one 500-ml and one vial sample were collected at each of the 20 sampled wells. To minimize the opportunity for cross contamination, sampling was sequenced from the least potentially contaminated wells to the more highly potentially contaminated wells. An individual bailer was assigned for use at each well, and a minimum of two bailfuls were discarded before a sample was collected. Water levels were measured immediately after the well cap was removed.

A Kemmerer sampler was used to collect the deep surface water samples. This bailer and the PVC bailer used to collect the shallow surface water samples were decontaminated between each sample collection.

Results

Ground-Water Flow. Water levels in the wells closest to the canal were higher than levels measured during the third sampling round, apparently still in response to the canal filling which began in early May 1984. Wells farther from the canal showed decreased water elevations, a seasonal trend attributable to decreased recharge from precipitation.

The response of wells sealed in the Rochester Member, between sampling rounds, was not consistent: the water level in wells MW-6 and MW-7 rose 3.0 and 0.8 feet, respectively, while the level in MW-12 fell 0.6 feet. The ground-water gradient within the Rochester Member, as determined from water levels in these wells, is toward the northwest at 0.11 ft/ft (580 feet per mile). This

direction is consistent with previous sampling round data. The computed gradient falls within the range of previous sample round data: 0.03 in mid-November 1983 with the canal full, to 0.24 in March 1984 with the canal emptied.

As in previous sampling rounds, the direction of vertical ground-water gradients, at the three Rochester Member well locations, is downward. Water levels in the unsealed wells at these locations are consistently higher than levels in the deeper wells; head ditterences ranged from 5.2 feet at the MW-3/MW-7 well pair to 26.7 feet at the MW-11/MW-12 well pair.

The local horizontal ground-water gradient, as determined from September 1984 data from unsealed wells (Figure 1), remains to the northwest and toward the canal. The general configuration of the ground-water table shown in Figure 1 is similar to that inferred tor the previous sampling round. The steepest gradient, approximately 0.13 (700 feet per mile) is found adjacent to the canal. Elsewhere, gradients range from approximately 0.03 to 0.08 (160 to 420 feet per mile).

Ground-Water Quality. Results of previous Task 3 sampling events were reviewed and compared with results of fourth 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 sampling took place 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 earlier. All available analytical data are summarized in Tables 1 through 8.

A white, stringy material was again noted in several wells during evacuation and sampling. The unidentified material which may be organic in nature, appeared to be more abundant than in previous sampling rounds.

Concentration and distribution of total phenol in groundwater (Figure 2) were similar to those observed during the previous sampling event in May. Increases on the order of one magnitude were noted in MW-1 (from 0.026 to 0.141 ppm), MW-4 (from 0.005 to 0.400 ppm) and MW-8 (from 0.006 to 0.047 ppm) with a drop noted in MW-10 (from 2.89 to 1.75 ppm). Phenol levels in the recently installed wells (MW-18 and MW-19) were 0.006 and 0.007 ppm, respectively, just slightly above the detection limit of 0.005 ppm. High phenol levels (greater than 0.100 ppm) were found in MW-6, MW-7 and MW-10, located on or just north of the site, with the maximum value of 1.75 ppm in MW-10 which is located just off the site. Phenol concentrations generally decreased with distance from this zone. Phenol levels in MW-1 located next to the canal were also above 0.100 ppm.

The nested deep and shallow (unsealed) well pair MW-6/IW-2 show phenol concentrations an order of magnitude higher in the deep well (0.165 ppm in MW-6 and 0.006 ppm in IW-2). Well pair MW-7/MW-3 has phenol concentrations in both wells above 1.0 ppm. Well pair MW-12/MW-11 has phenol concentrations in both wells below 0.100 ppm.

The general lateral distribution pattern of total volatile aromatics in ground water (Figure 3) is similar to that observed in May 1984. Highest concentrations were found in wells MW-3, MW-7, MW-10, in the vicinity of the western end of the site, MW-6 on the north side of the site, and MW-17 located downgradient of the site. Concentrations of volatile aromatics increased above May 1984 levels in wells MW-4 (from below detection limits to 0.0075 ppm), and MW-17 (from below detection limits to 15.9 ppm). However, concentrations dropped in wells MW-3 (13.2 ppm to 4.9 ppm), MW-1 (2.4 ppm to 1.5 ppm), and MW-15 (4.8 ppm to 0.02 ppm) with levels in MW-13 falling from 11.0 ppm to below detection limits. The reasons for these large variations are not know.

Concentrations of volatile aromatics were much higher in the deep, sealed well in each of the well pairs MW-6/iW-2 (3.1 ppm/not detected) and MW-7/MW-3 (31.0 ppm/4.9 ppm). The situation is reversed in the well pair MW-11/MW-12 where the shallow well showed concentrations an order of magnitude higher (4.0 ppm/0.12 ppm).

Well MW-17 is unique among the monitoring well network in that a distinct gasoline odor has been noted in the well. Analytical data, however, has been contradictory, with 54.1 ppm of volatile aromatics measured during the second sampling round but none detected in the next round. Fourth round sampling analysis again showed higher concentrations of volatile aromatics (15.9 ppm). Volatile aromatics, particularly benzene, toulene, and xylene, are typically associated with the presence of gasoline. The well is located immediately downgradient of the gas station across the street from the site.

Concentrations of volatile aromatics were relatively low in water samples from well MW-15 and the newly installed MW-18 (0.001 ppm) and MW-19 (0.004 ppm). The concentration in MW-15 decreased from 4.8 ppm in the third sampling round to 0.017 ppm in the current round. A petroleum-like odor was noted during sampling of MW-15.

The general lateral distribution pattern of total poly-aromatic hydrocarbons in ground water (Figure 4) is similar to that observed in November 1983, March 1984, and May 1984. Highest concentrations were again observed in a narrow area extending northeast from the western end of the site. Levels of poly-aromatic hydrocarbons exceeded 10 ppm in two wells, both of which are on site (MW-3 and MW-7). Levels above 1.0 ppm were also found in MW-1, MW-6, MW-8, MW-10, MW-12, MW-15 and 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 ground-water flow.

Poly-aromatic hydrocarbon concentrations increased above the detection limit in MW-5 (0.24 ppm), IW-1 (0.35 ppm), and IW-2 (0.21 ppm). Concentrations in MW-3 (18.3 ppm), MW-7 (63.4 ppm) and MW-15 (2.0 ppm), although still relatively high, are lower than the third round samples by an order of magnitude. Levels in other wells did not change significantly.

The vertical distribution of poly-aromatic hydrocarbons was similar to that observed in the previous sampling round. Within the two pairs of nested deep/shallow wells located north of the site (MW-6/IW-2 and MW-12/MW-11), concentrations of poly-aromatic hydrocarbons were much higher in the two deep wells (2.1 ppm/0.21 ppm in MW-6/IW-2 and 8.3 ppm/0.79 ppm in MW-12/MW-11). This difference is not seen in well pair MW-3/MW-7 with similarly high concentrations found in both wells (18.3 ppm/63.4 ppm).

Surface Water Quality

Concentration of phenols is relatively low (0.005 ppm) in all surface water samples. Sample CSL-4, located four miles upstream of the site, was relatively clean with concentrations for all analyzed compounds, except phenols, below detection limits. The next downstream sample (CSL-1), located just upstream of the site, contained relatively high levels of chrysene, particularly in the deeper sample (3.40 ppm in CSL-1(d)). Although chrysene was also detected at the two sample locations farther downstream, the concentrations were lower. The source of the chrysene is unknown.

The highest poly-aromatic hydrocarbon concentrations were found downstream of CSL-1 at sampling location CSL-2, adjacent to the site and downstream of the canal seep, (4.123 ppm in CSL-2(s) (shallow) and 0.344 ppm in CSL-2(d) (deep). At the downstream sampling location (CSL-3) the poly-aromatic hydrocarbon concentrations were considerably lower (0.209 ppm in CSL-3(s) (shallow) and 0.186 in CSL-3(d) (deep).

Conclusions

1. The configuration of the water table in the site vicinity is similar to that found during the previous sampling rounds. The water level increase in wells closest to the canal is attributable to the continuing rise of water level In the canal.

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. Newly installed wells MW-18 and MW-19 appear to have defined the northeast limit beyond which concentrations of total phenol and volatile aromatics are less than 0.01 ppm. The northewast limit of poly-aromatic hydrocarbon migration has not been defined.

If you have any questions concerning the results of the fourth round of Task 3, please do not hesitate to call.

Very truly yours,

Donald R. Ganser
Project Manager

DRG:js

Encl.

D1116/206

ATTACHMENT A

OUTLINE OF SAMPLING PROCEDURES AT
N.Y.S.E.G.'S COAL TAR SITE, LOCKPORT, N.Y.

CANAL WATER SAMPLING:

1. Near - Surface Water (0-5 ft)

   a.) A 5-ft. long, 2-in. O.D. PVC bailer labeled CSL is used.

   b.) Lower bailer to 5 ft. below water surface - remove full bailer and discharge contents downstream - repeat one more time - use 3rd filled bailer to fill sample jars and vials.

   c.) Upon completion of sampling, rinse bailer with distilled water and wipe dry with clean paper towels before moving to next sample location.

2. Bottom Water

   a.) Use Kemmerer type sampler (constructed of stainless steel with thief devise to sample at any depth).

   b.) Lower bailer to bottom of canal - pull upward 6 inches - trip thief device to allow entry of water - discard first two bails - fill sample containers from subsequent bails.

   c.) Upon completion of sampling (before moving to next sampling location) rinse bailer with distilled water followed by acetone rinse followed by distilled water rinse - dry bailer with clean paper towels.

MONITORING WELLS

1. Flush-Installed

   a.) Remove utility box cover (thaw with propane torch in sub-freezing weather).

   b.) If utility box contains water, dewater with hand-operated pump - clean all loose sediment from utility box before removing well cap.

   c.) Remove PVC well cop with proper sized socket - use tape measure (100 ft. tape) to measure water level - record water level - wipe tape with clean paper towel before using in any other well.

   d.) Calculate volume of water in well - calculate number of bails to be removed from well to evacuate 3 volumes of water if well cannot be bailed dry.

   e.) Permit well to recharge to a least 1/2 of the static water level.

   f.) Use only bailer designated for that specific well, e.g., use only PVC bailer labeled MW-9 in monitoring well MW-9 - remove requisite number of bails for 3 volumes - remove and discard first two bails before sampling - dispose of discarded water in nearest gutter when bailing or sampling.

   g.) Upon completion of sampling, check small vent hole in well cap. If plugged, clear with wire probe - replace cap on well and tighten securely - replace utility box cover - rinse bailer with distilled water and wipe dry with clean paper towels.

2. Wells with protective steel riser pipe and locking cap (MW-3, MW-7, MW-8, and MW-16)

   a.) Unlock cap (MW-3 has no lock on cap).

   b.) Follow instructions os per flush-installed well.

   c.) Upon completion of sampling reposition locking cap and lock.

SAMPLE COLLECTION

1. Fill one 1000 ml-bottle to 1/2 inch or less of lip and cap tightly.
2. Fill one 500 ml-bottle to 1.2 inch or less of lip and cap tightly.
3. Fill each of two 40 ml vials to overflowing - tightly cap vial making sure white side of sepfum faces water in vial - invert vial - if any bubbles are present repeat filling and capping procedure to eliminate all bubbles.
4. Label all sample containers with well number and store in iced container before shipping to lab.
5. Place transparent tape over all labels before placing in iced container.
6. When packing samples for shipment, do not allow adjacent containers to touch - use packing to separate containers from each other.

MISCELLANEOUS

1. All bailers are stored in NYSEG's storage building at the South Transit St. substation.
2. Two tapes, rinse bottle, orange pail, paper towels and acetone are also in storage building.
3. NYSEG'S Mr. Art Hall has custody of sockets and power bar, rain suit, tyvec suit and hand-operated water pump.
4. Check rope integrity before bailing or sampling.

SAFETY PRECAUTIONS

1. Person sampling must wear:

    a.) Rain suit over clothing.
    b.) Tyvec suit over rain suit.
    c.) Rubber boots.
    d.) Waterproof gloves.
    e.) Safety glass.

f.) Hard hat.

g.) Respirator.

TO PREVENT CROSS CONTAMINATION

1. Do not use any bailer other than the bailer designated for that well.
2. Do not smoke, drink or eat while bailing or sampling.
3. Do not use open flame near monitor wells MW-15 and MW-17.
4. Do not store heavily contaminated bailers, such as MW-7's, such that they come in contact with less contaminated bailers.

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	26[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	0.014	1.58	4.12	0.003	0.008
Toluene	ppm	0.071[b]	ND	ND	0.120	ND	2.38	ND	0.003	ND	0.95	3.90	0.003	0.003
Ethyl Benzene	ppm	0.072[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					
Dinitraphenol	ppm	ND	3.5	ND	ND	ND	ND	ND	ND					
Pentachloraphenol	ppm	ND	2.7	ND	ND	ND	ND	ND	ND					
Base Neutrals														
Acenaphthene	ppb	48,000	310	140	ND	NA	190	ND	ND					
Acenaphthylene	ppb	16,000	440	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	69	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	84	ND	ND	NA	ND	ND	ND					
Chrysene	ppb	14,000	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/S-1[b]	TT-5/S-3[b]	TT-2/S-2[b]	AB-4/S-1[b]	AB-6/S-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	0.42	0.010	0.047	ND	ND	ND	ND	ND	ND	ND
Method 602 (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	0.023	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	3.4	4.5	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	490	80	5.8	0.053	0.020	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ppm	ND	ND	ND	4.1	3.8	29,000	1900	49	0.85	0.075	ND	ND	ND	ND	ND	ND	ND
Pyrene	ppm	ND	ND	ND	24	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 (B) 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
AB 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	0.014	0.005	0.010	6.38	0.014	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	0.220	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	1.34	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	0.26	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	0.014	0.003	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	0.014	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	0.16	0.017	1.9	ND	ND	0.003	22	0.12	0.072	1.7	0.30	37	0.007	ND	3.9	ND	4.7	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	0.056	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	0.007
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	2.9	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	0.0	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	31	0.050	0.014	1.1	0.34	4.4	0.007	0.003	ND	ND	0.46	ND	0.016
Fluorene	ppm	0.095	0.022	2.7	ND	0.005	ND	38	0.13	0.068	1.6	0.40	7.1	0.017	ND	7.3	ND	2.6	ND	0.007
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	0.034	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	1.7	0.003	0.003	0.041	33	0.051	0.017	1.2	0.40	5.5	0.009	0.003	ND	ND	0.37	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	6.33	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	0.076	0.260	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	1.260	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	0.120	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	0.160	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	0.150	0.092	0.220	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	0.440	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	31.600	0.015	ND	0.640	7.040	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	0.130	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	IW-1	IW-2
Total Phenol	ppm	0.076	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	0.0054	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	0.0037	0.0015	5.400	0.016	0.170	0.870	ND	0.710	0.0017	ND	ND	ND
Ethyl Benzene	ppm	0.760	0.053	2.600	ND	0.0033	0.910	2.100	0.0069	0.0060	0.150	ND	0.460	0.610	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	0.0036	>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	0.010	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	0.062	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	0.073	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	1.780	ND	0.033	2.820	ND	0.023	ND	ND
Benzo (A) Anthracene	ppm	0.120	0.030	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	6.600	ND	ND	ND	6.100	ND	ND	ND	ND	0.270	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	0.170	ND	ND	ND	ND	ND	ND	ND
Chrysene	ppm	ND	0.014	4.200	ND	ND	ND	5.700	ND	ND	ND	ND	0.160	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ppm	0.140	0.040	11.000	ND	ND	ND	15.000	ND	0.010	0.130	ND	0.390	ND	0.010	0.410	ND	ND	ND	ND
Fluorene	ppm	0.570	ND	21.000	ND	ND	0.320	27.000	0.480	0.056	0.370	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)

D65/180

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	0.0016	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	0.400	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	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	0.140	1.900	0.190	0.130	ND	0.190	0.72	ND	0.140	ND	0.032	0.410	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	0.0027	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

EXPLANATION

◑	MW–4	WCC MONITORING WELLS/BORINGS
	578.3	ELEVATION OF GROUND WATER MEASURED 17 – 20 SEPTEMBER 1984
◆	CSL–1	CANAL WATER SAMPLING LOCATION

NOTES:

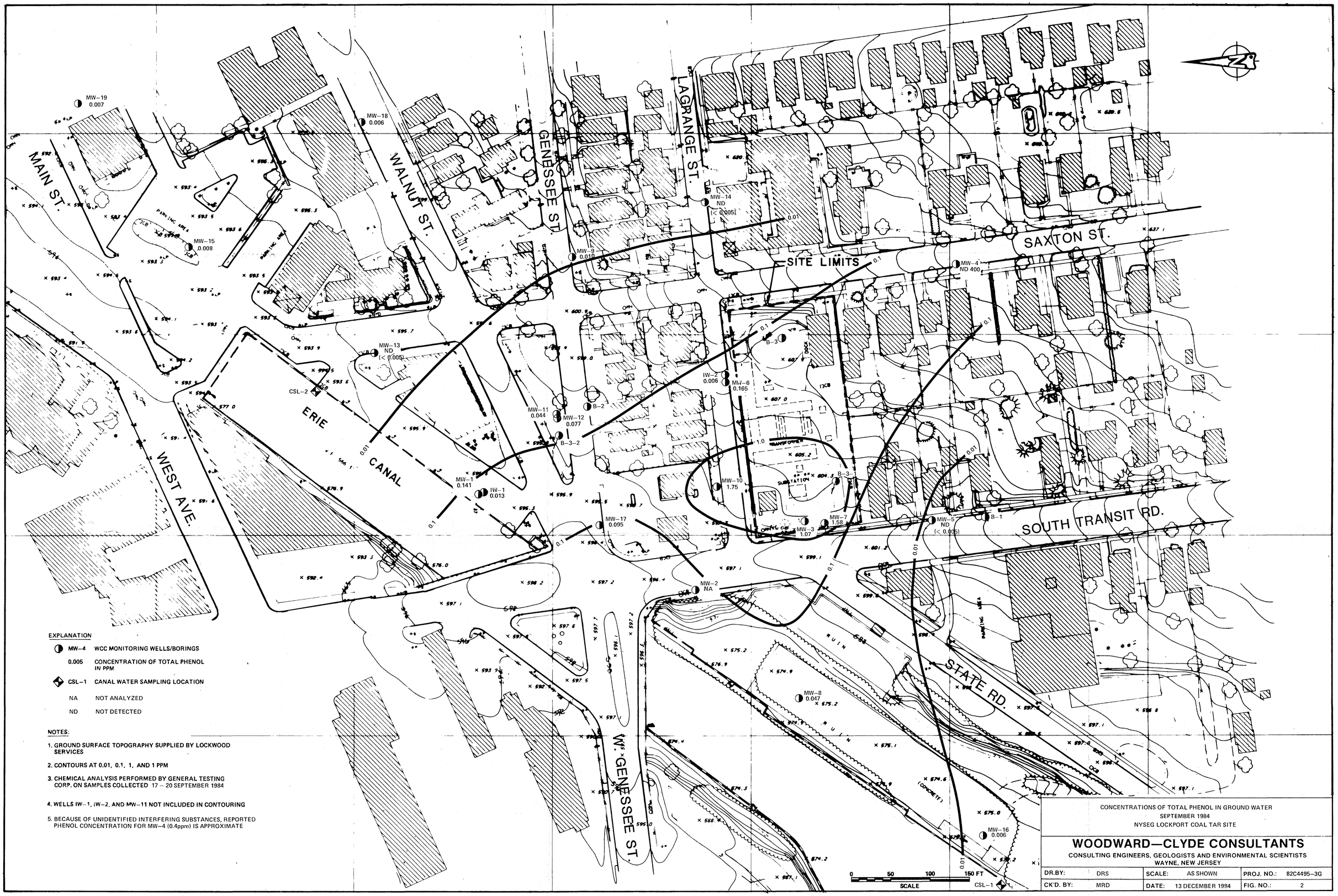
1. GROUND SURFACE TOPOGRAPHY SUPPLIED BY LOCKWOOD SERVICES
2. SEALED ROCK WELLS (MW–6, MW–7, AND MW–12) WERE NOT INCLUDED IN CONTOURING
3. WELL IW–1 WAS NOT INCLUDED IN CONTOURING BECAUSE OF QUESTIONABLE READING
4. CONTOURS LOCATED APPROXIMATELY

INFERRED GROUND WATER CONTOUR MAP
SEPTEMBER 1984
NYSEG LOCKPORT COAL TAR SITE

WOODWARD—CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
WAYNE, NEW JERSEY

DR.BY:	DRS	SCALE:	AS SHOWN	PROJ. NO.:	82C4495–3G
CK'D. BY:	MRD	DATE:	13 DECEMBER 1984	FIG. NO.:	1



EXPLANATION

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

NOTES:

1. GROUND SURFACE TOPOGRAPHY SUPPLIED BY LOCKWOOD SERVICES
2. CONTOURS AT 0.01, 0.1, 1, AND 1 PPM
3. CHEMICAL ANALYSIS PERFORMED BY GENERAL TESTING CORP. ON SAMPLES COLLECTED 17 – 20 SEPTEMBER 1984
4. WELLS IW–1, IW–2, AND MW–11 NOT INCLUDED IN CONTOURING
5. BECAUSE OF UNIDENTIFIED INTERFERING SUBSTANCES, REPORTED PHENOL CONCENTRATION FOR MW–4 (0.4ppm) IS APPROXIMATE

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

WOODWARD—CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
WAYNE, NEW JERSEY

DR.BY:	DRS	SCALE:	AS SHOWN	PROJ. NO.:	82C4495–3G
CK'D. BY:	MRD	DATE:	13 DECEMBER 1984	FIG. NO.:	2

MW–19
0.053

MW–18
0.303

MW–15
1.95

MW–13
ND
(< 0.01)

MW–14
0.164

MW–9
0.447

MW–4
ND
< 0.01

IW–2
0.207

MW–6
2.119

MW–11
0.793

MW–12
8.274

B–2

B–3–2

MW–1
7.98

IW–1
0.347

MW–17
1.822

MW–10
3.036

B–3

MW–7
63.35

MW–3
18.26

MW–5
0.237

B–1

MW–2
NA

MW–8
1.062

MW–16
0.032

CSL–2

CSL–1

MAIN ST.

WALNUT ST.

GENESSEE ST.

LAGRANGE ST.

SAXTON ST.

SITE LIMITS

ERIE CANAL

WEST AVE.

SOUTH TRANSIT RD.

STATE RD.

W. GENESSEE ST.

SUBSTATION

TRANSFORMER

EXPLANATION

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

NOTES:

1. GROUND SURFACE TOPOGRAPHY SUPPLIED BY LOCKWOOD SERVICES
2. CONTOURS AT 0.01, 0.1, 1, AND 10 PPM
3. WELLS IW–1, IW–2, AND MW–11 NOT INCLUDED IN CONTOURING
4. CHEMICAL ANALYSIS PERFORMED BY GENERAL TESTING CORP. ON SAMPLES COLLECTED 17 – 20 SEPTEMBER 1984

0 50 100 150 FT
SCALE

CONCENTRATIONS OF TOTAL POLY AROMATIC HYDROCARBONS
(METHOD 610 SERIES) IN GROUND WATER
SEPTEMBER 1984
NYSEG LOCKPORT COAL TAR SITE

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

DR.BY:	DRS	SCALE:	AS SHOWN	PROJ. NO.:	82C4495–3G
CK'D. BY:	MRD	DATE:	13 DECEMBER 1984	FIG. NO.:	4

MW–19
0.0039

MW–18
0.0014

MW–15
0.0176

MW–13
ND
(< 0.005)

MW–9
.0048

MW–14
ND (< 0.005)

MW–4
0.0075

B–3

IW–2
ND
(< 0.005)

MW–6
3.055

CSL–2

MW–11
4.03

MW–12
0.121

B–2

B–3–2

MW–1
1.513

IW–1
ND (< 0.005)

MW–10
5.92

MW–17
15.89

MW–7
30.99

MW–5
0.0065

B–1

MW–3
4.9347

MW–2
NA

MW–8
0.2821

MW–16
0.0076

CSL–1

MAIN ST.

WALNUT ST.

GENESSEE ST.

LAGRANGE ST.

SAXTON ST.

SITE LIMITS

WEST AVE.

ERIE CANAL

SOUTH TRANSIT RD.

STATE RD.

W. GENESSEE ST.

TRANSFORMER

RUIN

PARKING AREA

EXPLANATION

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

NOTES:

1. GROUND SURFACE TOPOGRAPHY SUPPLIED BY LOCKWOOD SERVICES
2. CONTOURS AT 0.01, 0.1, 1.0, AND 10 PPM
3. CHEMICAL ANALYSIS PERFORMED BY GENERAL TESTING CORP. ON SAMPLES COLLECTED 17 – 20 SEPTEMBER 1984
4. WELLS IW–1, IW–2, AND MW–11 NOT INCLUDED IN CONTOURING

0 50 100 150 FT
SCALE

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

WOODWARD—CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
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