ADDENDUM TO *REMEDIAL ACTION REPORT – AREAS 1, 1A, AND 5 BLOCK 105.01, LOT 8) UOP UPLANDS SITE REMEDIATION, EAST RUTHERFORD, NJ* (PREPARED BY ENSR INTERNATIONAL - DATED AUGUST 2000)

AREA 1, 1A, AND 5 GROUNDWATER

PRE-REMEDIAL AND POST REMEDIAL SUMMARY

INTRODUCTION

lower case

This document serves as an addendum to the *REMEDIAL ACTION REPORT – AREAS 1, 1A, AND 5 BLOCK 105.01, LOT 8) UOP UPLANDS SITE REMEDIATION, EAST RUTHERFORD, NJ (PREPARED BY ENSR INTERNATIONAL - DATED AUGUST 2000)* and provides a summary of the following:

- Areas 1, 1A, and 5 pre and post remedial groundwater chemical characteristics;
- Hydraulic characteristics and receptor evaluation; and
- Conclusions.

This document was developed as a direct result of the May 15, 2003 meeting that was attended by EPA, NJDEP, Honeywell, O'Brien & Gere, and ENSR International.

PRE-REMEDIAL GROUNDWATER INVESTIGATION

NJDEP determined that the site's shallow groundwater is a non-potable, Class III-B aquifer, hydraulically connected to a saline surface water body. The letter associated with this Class III-B determination is included in Appendix B of the Remedial Action Report for Areas 1, 1A, and 5. As a result of this determination, the NJDEP Surface Water Quality Criteria have been used as a standard for comparison to the site's water quality. The applicable Surface Water Quality Criteria Category related to the site has been determined to be SE2 waters.

(SWQC) SWQC

Groundwater remedial investigation (RI) activities were conducted in Areas 1, 1A, and 5 during 1983, 1985, and 1991. In 25 of the groundwater monitoring wells located in Areas 1, 1A, and 5 the analytical results indicated that the shallow groundwater was impacted with volatiles, semi-volatiles, and inorganics.

Drawing 1 provides the location of each of the 25-groundwater monitoring wells and the associated

analytical results during ~~the~~ collected each sampling period~~s~~. The analytical results shown on Drawing 1 are the parameters with concentrations detected above the NJDEP Surface Water Quality Criteria (N.J.A.C. 7:9B) of SE2 waters.

Table 1 provides a summary of the most current Surface Water Quality Criteria (SE2 waters) for the site parameters. Table 2 provides a summary of the analytical results for all parameters analyzed during the groundwater RI in Areas 1, 1A, and 5.

POST-REMEDIAL GROUNDWATER CHARACTERISTICS

As discussed in Section 4.0 of the *REMEDIAL ACTION REPORT – AREAS 1, 1A, AND 5 BLOCK 105.01, LOT 8) UOP UPLANDS SITE REMEDIATION, EAST RUTHERFORD, NJ*, over 56,000 cubic yards of soils impacted with VOCs (~13,000 cubic yards), PCBs/PAHs (~27,000 cubic yards), and Lead (15,000 cubic yards) were excavated and placed beneath the on-site multi-media or disposed off-site during the remedial phase. In addition, the storm, process, and sanitary sewer networks in Areas 1, 1A, and 5 were either removed or cleaned. In addition to the sewer pipe, sewer sediments and appurtenances, the surrounding and underlying soil were excavated and removed down to the confining clay layer (7'-8' below grade). Over 2,600 cy of process and sanitary sewer sediment and soil was excavated. Source removal activities ended in March 1999.

Treatment, collection, and analysis of groundwater in Areas 1, 1A, and 5 started in 1996 and continued until October 1998. Approximately 4,850,000 gallons of groundwater from Areas 1, 1A, and 5 was pumped from the subsurface groundwater collection trenches to the on-site treatment system and discharged on-site in accordance with the NJPDES Discharge Permit Equivalent.

Groundwater samples were collected in analyzed from the groundwater collection trenches and monitoring wells during and after the remedial activities in Areas 1, 1A, and 5. The analytical results indicate that the groundwater is impacted with concentrations of volatiles, semi-volatiles, and inorganics exceeding the current Surface Water Quality Criteria (SE2 waters). In general, ~~there is~~ a decreasing trend ~~in the concentrations~~ is exhibited ~~of these parameters during the sampling rounds~~.

Drawing 2 provides the location of each of the groundwater monitoring wells and groundwater collection trench points and the associated analytical results during the sampling periods. The analytical results shown on Drawing 1 are the parameters with concentrations detected above the NJDEP Surface Water Quality Criteria (N.J.A.C. 7:9B) of SE2 waters. SWQC

Table 3 provides a summary of the analytical results for all parameters detected during the post-remedial phase in Area 2.

HYDRAULIC CHARACTERISTICS AND RECEPTOR EVALUATION

name

Geraghty & Miller, Inc. performed Field permeability tests during November 1986 in eight monitoring wells at the site (*Remedial Investigation Report Areas 1, 1A, 2, and 5 UOP Site East Rutherford, New Jersey, May 1998, Volume 2*, prepared by Geraghty & Miller, Inc.). These slug tests were performed to determine the hydraulic conductivity (permeability) at shallow to intermediate depths across the site. The hydraulic conductivity values that were determined indicate that at shallow to intermediate depths the site is characterized by low permeability, with values ranging from 0.0037 ft/day at former Well 3S to 1.58 ft/day at former Well 23I.

Based on the groundwater contours in the vicinity of Areas 1, 1A, and 5 the groundwater flow direction is towards the north (away from Ackerman's Creek), west (towards Area 2), and southwest (towards Ackerman's Creek). This information was obtained from Plate 2 Water Table Contour Map of the *Investigation of Groundwater Conditions on Universal Oil Products Inc.'s Site East Rutherford, New Jersey, May 1984*, prepared by Geraghty & Miller, Inc).

CONCLUSIONS

All source removal activities for the Uplands soils have been completed in Areas 1, 1A, and 5. The general decreasing concentration trends of the parameters above the Surface Water Quality Criteria (SE2 waters) is direct result of these source removal activities. SWQC

The low permeability characteristics of the site and substantiate the conclusion that the Class III-B impacted groundwater (exceeding SE2 Surface Water Quality Criteria) in Areas 1, 1A, and 5 does not pose a source of contamination to Ackerman's Creek. In addition, the aforementioned May 1984 Investigation Report by Geraghty & Miller indicated that the general absence of detectable organic contamination in the surface water bodies sampled during that investigation indicates that the discharge of contaminated groundwater to these drainage canals and the creeks has essentially no measurable impact on the quality of those waters.

Table 1
NJDEP Surface Water Quality Criteria - Class SE2

Constituent	Surface Water Quality Criteria (ug/l)
Vinyl Chloride	525
Trichloroethylene	81
Tetrachloroethylene	4.29
Chlorobenzene	21,000
Benzene	71
Bis (2-ehtylhexyl) Phthalate	5.92
Bis (2-Chloroethyl) Ether	1.4
Arsenic	0.136
Cyanide	1
Lead	24
Manganese	100
Mercury	0.146
Benzo(a)anthracene	0.031
Benzo(b)fluoranthene	0.031
Benzo(k)fluoranthene	0.031
Benzo(a)pyrene	0.031
Chrysene	0.031
Indeno(1,2,3-cd)pyrene	0.031
N-Nitrosodiphenylamine	16.2
Total PCBs	0.00017

TABLE 2
AREAS 1, 1A, 5 PRE-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NJ

Constituents	Water Quality Criteria [1]	Well 1I	Well 6I		Well 7S		Well 7I		Well 7D		
		(11/83)	(11/83)	(1/85)	(11/83)	(1/85)	(11/83)	(1/85)	(11/83)	(1/85)	(11/83)
VOCs											
Vinyl Chloride	525	-	-	-	-	-	-	-	-	-	-
Chloroethane	NONE	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	1600	-	-	-	-	-	-	-	-	-	-
Acetone	NONE	-	-	-	84	69	-	-	-	-	-
1,1-Dichloroethylene	NONE	-	-	-	-	-	-	-	-	-	-
1,1-Dicloroethane	NONE	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	NONE	-	820	120	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	99	-	-	-	-	-	-	-	-	-	-
Vinyl Acetate	NONE	-	26	-	-	-	-	-	-	-	-
Trichloroethylene	81	-	**1000**	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	NONE	-	-	-	-	-	-	-	-	-	-
Benzene	71	-	**18000**	**36500**	**160**	-	**640**	**780**	-	-	-
4-Methyl-2-Pentanone	NONE	-	-	-	-	-	-	-	-	-	-
2-Hexanone	NONE	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	4.29	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	NONE	-	3800	-	-	-	42	-	-	-	-
Toluene	200000	-	11	-	26	-	90	30	3.8	-	-
Chlorobenzene	21000	-	18	-	-	-	110	55	-	-	-
Ethylbenzene	27900	-	11	-	-	-	15	-	-	-	-
Total Xylenes	NONE	-	26	-	-	-	70	50	-	-	-
Total VOCs	NONE	NA	NA	36620	NA	69	NA	915	NA	0	NA
BNAs											
Benzidine	0.000535	-	-	NA	-	NA	-	NA	-	NA	-
1,2,4-Trichlorobenzene	113	-	-	NA	-	NA	-	NA	-	NA	-
Hexachloroethane	12.4	-	-	NA	-	NA	-	NA	-	NA	-
Bis(2-Chloroethyl)Ether	1.4	-	-	NA	-	NA	**13**	NA	-	NA	-
1,2-Dichlorobenzene	16500	-	-	NA	-	NA	-	NA	-	NA	-
1,3-Dichlorobenzene	22200	-	-	NA	-	NA	-	NA	-	NA	-
1,4-Dichlorobenzene	3159	-	-	NA	-	NA	-	NA	-	NA	-
Naphthalene	NONE	-	-	NA	-	NA	6.6	NA	-	NA	-
Bis(2-ethylhexyl)phthalate	5.92	-	-	NA	**8**	NA	**36**	NA	-	NA	-
Di-n-butyl phthalate	15700	-	9.1	NA	-	NA	18	NA	-	NA	-
Diethyl Phthalate	111000	18	-	NA	-	NA	-	NA	-	NA	-
Acenaphthylene	NONE	-	-	NA	-	NA	-	NA	-	NA	-
Fluorene	NONE	-	-	NA	-	NA	-	NA	-	NA	-
Phenanthrene	NONE	-	-	NA	-	NA	-	NA	-	NA	-
Phenol	4.6E+06	-	88	NA	-	NA	8.2	NA	-	NA	-
Total BNAs	NONE	NA	176.1	276.5	8	NA	60.2	33	NA	9.1	4
Total PCBs	0.00017	-	NA	-	NA	-	NA	-	NA	-	NA
NON-PRIORITY POLLUTANT HAZARDOUS COMPOUNDS											
Benzoic Acid	NONE	-	-	NA	-	NA	-	NA	-	NA	-
2-Methylphenol	NONE	-	-	NA	-	NA	28	NA	-	NA	-
4-Methylphenol	NONE	-	-	NA	-	NA	24	NA	-	NA	-
Aniline	NONE	-	-	NA	-	NA	-	NA	-	NA	-
Benzyl Alcohol	NONE	-	14	NA	-	NA	-	NA	-	NA	-
4-Chloroaniline	NONE	-	-	NA	-	NA	-	NA	-	NA	-
OTHER CONSTITUENTS											
Phenol as phenol	4.6E+06	1	1200	NA	3	NA	64	NA	-	NA	2
Arsenic as As	0.136	**2**	**3**	**2.5**	-	**9**	**21**	**60**	-	-	-
Cadmium as Cd	NONE	9	-	-	6	7	-	-	-	-	3
Chromium as Cr	3230	10	-	-	8	-	11	-	5	-	-
Copper	5.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	-	-	-	**20**	-	-	-	-	-	-
Lead as Pb	24	**120**	13	-	**88**	13	**40**	-	6	-	**60**
Mercury	0.146	NA	NA	-	NA	-	NA	-	NA	-	NA
Manganese as Mn	100	**18000**	**720**	NA	**460**	NA	**670**	NA	70	NA	**500**
Silver	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	20	20	NA	220	NA	40	NA	-	NA	20

[1] NJDEP Criteria for Class SE surface waters
Numbers in **bold** are exeedances of SWCC SE2.
All concentrations in ug/L, except as noted.
"NA" = Not Analyzed or Results Not Available
"-" = Not Detected

TABLE 2
AREAS 1, 1A, 5 PRE-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NJ

Constituents	Water Quality Criteria[1]	Well 8I		Well 10I		Well 15I	Well 17I	Well 18I	Well 19I	Well 20I	Well 21I
		Dup. (11/83)	(1/85)	(11/83)	(1/85)	(1/85)	(1/85)	(1/85)	(1/85)	(1/85)	(1/85)
VOCs											
Vinyl Chloride	525	-	-	340	-	-	-	-	-	-	-
Chloroethane	NONE	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	1600	-	-	-	-	-	-	-	-	-	-
Acetone	NONE	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	NONE	-	-	-	-	-	-	-	-	-	-
1,1-Dicloroethane	NONE	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	NONE	-	-	41	-	-	-	-	-	-	140
cis-1,2-Dichloroethylene	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	99	-	-	-	-	-	-	-	-	-	-
Vinyl Acetate	NONE	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	81	-	-	1.1	-	-	-	-	-	-	-
1,1,2-Trichloroethane	NONE	-	-	-	-	-	-	-	-	-	-
Benzene	71	-	-	46	-	-	**35000**	-	-	51	**6300**
4-Methyl-2-Pentanone	NONE	-	-	-	-	-	-	-	-	-	-
2-Hexanone	NONE	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	4.29	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	NONE	-	-	-	-	-	-	-	-	-	-
Toluene	200000	-	-	21	-	-	110	-	38.5	-	870
Chlorobenzene	21000	-	-	10	-	-	**21000**	-	6800	-	70
Ethylbenzene	27900	-	-	54	-	-	-	-	-	-	65
Total Xylenes	NONE	-	-	76	-	-	-	-	-	-	230
Total VOCs	NONE	NA	0	NA	0	0	56110	0	6838.5	51	7675
BNAs											
Benzidine	0.000535	-	NA	-	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	113	-	NA	-	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	12.4	-	NA	-	NA	NA	NA	NA	NA	NA	NA
Bis(2-Chloroethyl)Ether	1.4	-	NA	-	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	16500	-	NA	-	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	22200	-	NA	-	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	3159	-	NA	-	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NONE	-	NA	10	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	5.92	-	NA	-	NA	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	15700	-	NA	-	NA	NA	NA	NA	NA	NA	NA
Diethyl Phthalate	111000	-	NA	-	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NONE	-	NA	-	NA	NA	NA	NA	NA	NA	NA
Fluorene	NONE	-	NA	-	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NONE	-	NA	-	NA	NA	NA	NA	NA	NA	NA
Phenol	4.6E+06	-	NA	-	NA	NA	NA	NA	NA	NA	NA
Total BNAs	NONE	NA	NA	10	NA	NA	542	NA	3286.5	NA	71.4
Total PCBs	0.00017	-	-	-	-	**13**	-	-	-	-	-
NON-PRIORITY POLLUTANT HAZARDOUS COMPOUNDS											
Benzoic Acid	NONE	-	NA	-	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	-	NA	-	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	-	NA	-	NA	NA	NA	NA	NA	NA	NA
Aniline	NONE	-	NA	-	NA	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	-	NA	-	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	-	NA	-	NA	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS											
Phenol as phenol	4.6E+06	4	NA	31	NA	NA	NA	NA	NA	NA	NA
Arsenic as As	0.136	-	-	**7**	-	-	-	**8**	**13**	**10**	**10**
Cadmium as Cd	NONE	3	-	-	-	-	-	8	1.5	6	5
Chromium as Cr	3230	-	-	-	-	-	-	-	-	-	20
Copper	5.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	-	-	**50**	-	NA	NA	NA	NA	NA	NA
Lead as Pb	24	12	9	**28**	-	9	-	**26**	10.5	**24**	-
Mercury	0.146	NA	NA	NA	-	-	-	-	-	-	-
Manganese as Mn	100	**470**	NA	**4300**	NA	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	-	-	10	-	10	-
Zinc as Zn	NONE	20	NA	30	NA	NA	NA	NA	NA	NA	NA

[1] NJDEP Criteria for Class SE surface waters
Numbers in **bold** are exeedances of SWCC SE2.
All concentrations in ug/L, except as noted.
"NA" = Not Analyzed or Results Not Available
"-" = Not Detected

TABLE 2
AREAS 1, 1A, 5 PRE-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NJ

Constituents	Water Quality Criteria [1]	Well 22I (1/85)	Well 24I (1/85)	Well 25I (1/85)	Well 26I (1/85)	Well 27I (12/86)	Well 28I (12/86)	Well 29I (12/86)	Well 30I (12/86)	Well 31I (12/86)	Well 32S (7/91)
VOCs											
Vinyl Chloride	525	-	30.5	-	-	320	-	-	-	-	-
Chloroethane	NONE	-	-	-	-	-	-	-	-	-	NA
Methylene Chloride	1600	-	-	-	-	-	1.8	5.45	8.1	2.6	106
Acetone	NONE	-	-	-	-	170	30	20	-	-	166
1,1-Dichloroethylene	NONE	-	-	-	-	23	-	-	-	-	NA
1,1-Dicloroethane	NONE	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	NONE	-	140	-	-	6300	-	4.05	-	-	-
cis-1,2-Dichloroethylene	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	99	-	-	25	-	**480**	1.7	1.275	-	-	-
Vinyl Acetate	NONE	-	-	-	-	-	-	-	-	-	NA
Trichloroethylene	81	-	-	-	-	**21000**	9.3	-	-	-	-
1,1,2-Trichloroethane	NONE	-	-	-	-	27	-	-	-	-	NA
Benzene	71	**170**	**925**	17	-	**2100**	-	2.2	-	-	**706**
4-Methyl-2-Pentanone	NONE	69	9.5	-	-	370	-	-	-	-	NA
2-Hexanone	NONE	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	4.29	-	-	-	-	**750**	-	-	-	-	NA
1,1,2,2-Tetrachloroethane	NONE	-	-	-	-	1600	-	1	-	-	-
Toluene	200000	16	1800	3.1	-	14000	3	1.31	-	-	17
Chlorobenzene	21000	2300	370	100	-	1300	1200	-	-	-	108
Ethylbenzene	27900	-	355	-	-	2800	100	-	-	-	-
Total Xylenes	NONE	19	330	2.6	-	15000	31	-	-	-	-
Total VOCs	NONE	2574	3960	147.7	0	66240	1376.8	35.285	8.1	2.6	1103
BNAs											
Benzidine	0.000535	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	113	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	12.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-Chloroethyl)Ether	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	16500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	22200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	3159	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	5.92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	15700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl Phthalate	111000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	4.6E+06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total BNAs	NONE	2123.8	244.7	136	NA	13848	425	120.9	22.4	21	-
Total PCBs	0.00017	-	-	**46**	**3.75**	-	-	-	-	-	-
NON-PRIORITY POLLUTANT HAZARDOUS COMPOUNDS											
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS											
Phenol as phenol	4.6E+06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic as As	0.136	**3**	-	**5**	**5**	**60**	-	-	-	-	<10
Cadmium as Cd	NONE	2	-	-	-	-	-	-	-	-	NA
Chromium as Cr	3230	-	-	-	7.5	-	-	3.5	-	-	<10
Copper	5.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	**12**	-	**20**	-	**13**	<10
Lead as Pb	24	13	-	7	**70**	-	-	-	-	7.2	1.3
Mercury	0.146	-	-	-	**0.5**	-	-	-	-	-	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	NONE	10	-	-	-	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

[1] NJDEP Criteria for Class SE surface waters
Numbers in **bold** are exeedances of SWCC SE2.
All concentrations in ug/L, except as noted.
"NA" = Not Analyzed or Results Not Available
"-" = Not Detected

TABLE 2
AREAS 1, 1A, 5 PRE-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NJ

Constituents	Water Quality Criteria [1]	Well 33S (7/91)	MW-35 (12/92)	MW-36 (12/92)	MW-37 (12/92)	MW-38 (12/92)	MW-38 Dup. (12/92)	OLD MW17 (11/83)
VOCs								
Vinyl Chloride	525	-	95	<25	<1000	<10	<10	120
Chloroethane	NONE	NA	NA	NA	NA	NA	NA	-
Methylene Chloride	1600	-	NA	NA	NA	NA	NA	-
Acetone	NONE	320	NA	NA	NA	NA	NA	-
1,1-Dichloroethylene	NONE	NA	NA	NA	NA	NA	NA	-
1,1-Dicloroethane	NONE	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	NONE	114	960	<13	6100	1	2	330
cis-1,2-Dichloroethylene	NONE	114	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	99	-	NA	NA	NA	NA	NA	-
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA	-
Trichloroethylene	81	-	11	<13	**6700**	1.15	2	15
1,1,2-Trichloroethane	NONE	NA	NA	NA	NA	NA	NA	-
Benzene	71	**2535**	**225**	**288**	**1800**	26	28	**92**
4-Methyl-2-Pentanone	NONE	NA	NA	NA	NA	NA	NA	4.1
2-Hexanone	NONE	139	NA	NA	NA	NA	NA	-
Tetrachloroethylene	4.29	NA	<25	<13	**2900**	<5	2	4.2
1,1,2,2-Tetrachloroethane	NONE	-	80	<13	7600	<5	<5	-
Toluene	200000	12800	20	135	7400	2.3	3	160
Chlorobenzene	21000	272	275	325	1400	27	29	100
Ethylbenzene	27900	226	6	<13	380	<5	<5	10
Total Xylenes	NONE	182	13	7	2000	2	3	210
Total VOCs	NONE	16600	1800	1200	38900	60	70	NA
BNAs								
Benzidine	0.000535	NA	NA	NA	NA	NA	NA	-
1,2,4-Trichlorobenzene	113	NA	NA	NA	NA	NA	NA	29
Hexachloroethane	12.4	NA	NA	NA	NA	NA	NA	-
Bis(2-Chloroethyl)Ether	1.4	NA	<9.5	<10	<19	<9.5	**1.4**	-
1,2-Dichlorobenzene	16500	NA	61	194	295	<9.5	<9.8	150
1,3-Dichlorobenzene	22200	NA	<9.5	<10	27	<9.5	<9.5	90
1,4-Dichlorobenzene	3159	NA	<9.5	6.4	86	<9.5	1.4	35
Naphthalene	NONE	NA	<9.5	<10	4.9	12	12	7.5
Bis(2-ethylhexyl)phthalate	5.92	NA	<9.5	**9.8**	<19	<9.5	<9.5	-
Di-n-butyl phthalate	15700	NA	NA	NA	NA	NA	NA	-
Diethyl Phthalate	111000	NA	<9.5	<10	<19	<9.5	2.6	-
Acenaphthylene	NONE	NA	NA	NA	NA	NA	NA	-
Fluorene	NONE	NA	NA	NA	NA	NA	NA	-
Phenanthrene	NONE	NA	<9.5	<10	<19	1.1	9.5	-
Phenol	4.6E+06	NA	17	2.1	12	<9.5	3.9	-
Total BNAs	NONE	7875	78	212	425	13	31	NA
Total PCBs	0.00017	-	NA	NA	NA	NA	NA	NA
NON-PRIORITY POLLUTANT HAZARDOUS COMPOUNDS								
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA	-
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA	-
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA	-
Aniline	NONE	NA	NA	NA	NA	NA	NA	-
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA	7.1
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA	-
OTHER CONSTITUENTS								
Phenol as phenol	4.6E+06	NA	NA	NA	NA	NA	NA	530
Arsenic as As	0.136	**12**	NA	NA	NA	NA	NA	**29**
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA	2
Chromium as Cr	3230	22	NA	NA	NA	NA	NA	6
Copper	5.6	NA	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	<10	NA	NA	NA	NA	NA	**360**
Lead as Pb	24	**242**	NA	NA	NA	NA	NA	**80**
Mercury	0.146	NA	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA	**27000**
Silver	NONE	NA	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA	20

[1] NJDEP Criteria for Class SE surface waters
Numbers in **bold** are exeedances of SWCC SE2.
All concentrations in ug/L, except as noted.
"NA" = Not Analyzed or Results Not Available
"-" = Not Detected

TABLE 3
AREAS 1, 1A, AND 5 POST-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-3(1)-01	LS-3(1)-02	LS-3(1)-02	LS-3(1)-04	LS-3(1)-04D	LS-3(2)-01
		04/04/97	4/22/98	5/18/98	10/28/98	10/28/98	8/27/97
VOCs							
Vinyl Chloride	525	<10.0	<100(D)	<50.0(D)	<50	<50	41.3
Chloroethane	NONE	<10.0	<100(D)	<50.0(D)	<50	<50	<10.0
Methylene Chloride	1600	<5.0	16(J)(D)	<25.0(D)	<30	<30	<5.0
Acetone	NONE	<100.0	190(J)(D)	<500(D)	<50	<50	<100
1,1-Dichloroethylene	NONE	<5.0	<50.0(D)	<25.0(D)	<20	<20	<5.0
1,1-Dichloroethane	NONE	<5.0	<50.0(D)	<25.0(D)	<50	<50	<5.0
trans-1,2-Dichloroethylene	NONE	<5.0	34(J)(D)	<25.0(D)	<50	<50	8.6
cis-1,2-Dichloroethylene	NONE	<5.0	1040(D)	<25.0(D)	<50	<50	22.5
1,2-Dichloroethane	99	<5.0	<50.0(D)	<25.0(D)	<20	<20	5.6
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	<5.0	<50.0(D)	<25.0(D)	<10	<10	<5.0
1,1,2-Trichloroethane	NONE	<5.0	<50.0(D)	<25.0(D)	<30	<30	<5.0
Benzene	71	48.4	**931(D)**	**103(D)**	29.0	42.0	**244**
4-Methyl-2-Pentanone	NONE	<50.0	<500(D)	<250(D)	<50	<50	<50.0
2-Hexanone	NONE	<50.0	<500(D)	<250(D)	<50	<50	<50.0
Tetrachloroethylene	4.29	<5.0	<50.0(D)	<25.0(D)	<10	<10	<5.0
1,1,2,2-Tetrachloroethane	NONE	<5.0	<50.0(D)	<25.0(D)	<10	<10	<5.0
Toluene	200,000	11.3	106(D)	<25.0(D)	<50	<50	15.6
Chlorobenzene	21,000	293	140(D)	756(D)	900.0	1400.0	433(D)
Ethylbenzene	27,900	<5.0	49(J)(D)	<25.0(D)	<40	<40	12.7
Total Xylenes	NONE	<10.0	58(J)(D)	<50.0(D)	<50	<50	18.7
Total VOCs	NONE	352.7	1628(D)	859(D)	929	1442	802
BNAs							
Benzidine	0.000535	<5.7	<5.7	<6.0	<22	<21	<6.3
1,2,4-Trichlorobenzene	113	<1.9	<1.9	<2.0	<1.2	<1.2	<2.1
Hexachloroethane	12.4	<1.6	<1.6	<2.0	<0.9	<0.8	<1.8
Bis(2-Chloroethyl)Ether	1.4	<5.7	<5.7	<6.0	<1.0	<0.9	<6.3
1,2-Dichlorobenzene	16,500	5.5	451(D)	747(D)	200	250	2270(D)
1,3-Dichlorobenzene	22,200	<1.9	<1.9	<2.0	<1.1	<1.1	68.0
1,4-Dichlorobenzene	3159	<4.4	<4.4	<4.4	<1.2	<1.2	165
Naphthalene	NONE	3.3	12.0	18.5	8.6	11	1.7(J)
Bis(2-ethylhexyl)phthalate	5.92	<2.5	<2.5	1.2(J)	5.5	<1.2	5.0
Di-n-butyl phthalate	15,700	<2.5	<2.5	<3.0	<0.3	<0.3	<2.8
Diethyl Phthalate	111,000	<1.9	<1.9	<2.0	<0.3	<0.3	<2.1
Acenaphthylene	NONE	<3.5	<3.5	<4.0	<0.7	<0.7	<3.9
Fluorene	NONE	<1.9	<1.9	<2.0	<0.6	<0.5	<2.1
Phenanthrene	NONE	<5.4	<5.4	<5.4	<0.3	<0.3	<5.9
Phenol	4.6E+06	<1.5	4.4	8.8	<1.4	<1.4	4.8
N-Nitrosodiphenylamine	16.2	<1.9	<1.9	<2.0	<0.4	<0.4	<2.1
Benzo(a)anthracene	0.031	<7.8	<7.8	<8.0	<0.2	<0.2	<8.6
Chrysene	0.031	<2.5	<2.5	<3.0	<0.3	<0.3	<2.8
Benzo(b)fluoranthene	0.031	<4.8	<4.8	<5.0	<0.1	<0.1	<5.3
Benzo(k)fluoranthene	0.031	<2.5	<2.5	<3.0	<0.2	<0.2	<2.8
Benzo(a)pyrene	0.031	<2.5	<2.5	<3.0	<0.2	<0.2	<2.8
Indeno(1,2,3-cd)pyrene	0.031	<3.7	<3.7	<4.0	<0.2	<0.2	<4.1
Total BNAs	NONE	8.8	467.4	775.5	14.1	11	2515.5
Total PCBs	0.00017	-	-	-	**0.61**	-	**0.940**
NON-PRIORITY POLLUTANT							
HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	**7.9**	**1.0(B)**	**2.0(B)**	<3.8	**11.3**	**4.1**
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	**25.5**	2.3	15.5	<2.5	2.7	**77.3**
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

[1] NJDEP Criteria for Class SE surface waters
J = An estimated value
D = Analysis at a secondary dilution
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E = Estimated value due to interferences
Numbers in **bold** are exceedances of SWCC SE2.
"NA" = Not Analyzed or Results Not Available
"-" = Not Detected

TABLE 3
AREAS 1, 1A, AND 5 POST-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-3(2)-02	LS-3(2)-03	LS-3(3)-01	LS-3(3)-01	LS-3(3)-01D	LS-3(3)-02
		11/21/97	7/22/98	11/21/96	11/21/97	11/21/97	4/22/98
VOCs							
Vinyl Chloride	525	12.3	<500	29.1	39.0	38.7	<100(D)
Chloroethane	NONE	<10.0	<500	<10.0	<10.0	<10.0	<100(D)
Methylene Chloride	1600	<5.0	<300	<5.0	<5.0	<5.0	<50(D)
Acetone	NONE	21(J)	<500	<100	225	24(J)	<1000(D)
1,1-Dichloroethylene	NONE	<5.0	<200	<5.0	<5.0	<5.0	<50(D)
1,1-Dichloroethane	NONE	<5.0	<500	<5.0	<5.0	<5.0	<50(D)
trans-1,2-Dichloroethylene	NONE	<5.0	<500	6.5	5.2	<5.0	<50(D)
cis-1,2-Dichloroethylene	NONE	24.8	<500	37.5	78.8	75	<50(D)
1,2-Dichloroethane	99	<5.0	<200	<5.0	<5.0	<5.0	<50(D)
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	5.7	<100	<5.0	<5.0	<5.0	<50(D)
1,1,2-Trichloroethane	NONE	<5.0	<300	<5.0	<5.0	<5.0	<50(D)
Benzene	71	**117**	**91(J)**	70.0	**103**	**98.3**	**115(D)**
4-Methyl-2-Pentanone	NONE	<50.0	<500	<50.0	<50.0	<50.0	<500(D)
2-Hexanone	NONE	<50.0	<500	<50.0	<50.0	<50.0	<500(D)
Tetrachloroethylene	4.29	<5.0	<100	<5.0	<5.0	<5.0	<50(D)
1,1,2,2-Tetrachloroethane	NONE	<5.0	<100	7.9	<5.0	<5.0	<50(D)
Toluene	200,000	291	<500	27.6	21.7	20.6	<50(D)
Chlorobenzene	21,000	1100(D)	1900	24.1	85.6	80.3	1180(D)
Ethylbenzene	27,900	28.3	<400	8.3	8.9	8.3	<50(D)
Total Xylenes	NONE	39.2	<500	25.1	21.7	20.7	<100(D)
Total VOCs	NONE	1639	1991	236.1	589	366	1295(D)
BNAs							
Benzidine	0.000535	<5.7	<25	<6.3	<5.7	<5.7	<5.7
1,2,4-Trichlorobenzene	113	1.7(J)	<190	<2.1	<1.9	<1.9	<1.9
Hexachloroethane	12.4	<1.6	<120	<1.8	<1.6	<1.6	<1.6
Bis(2-Chloroethyl)Ether	1.4	<5.7	<62	<6.3	<5.7	<5.7	<5.7
1,2-Dichlorobenzene	16,500	4630(D)	5100	44.6	<1.9	<1.9	40.5
1,3-Dichlorobenzene	22,200	4.1	<170	<2.1	<1.9	<1.9	4.8
1,4-Dichlorobenzene	3159	108	<180	5.1	<4.4	<4.4	12.3
Naphthalene	NONE	2.8	<130	<2.0	<1.8	<1.8	<1.8
Bis(2-ethylhexyl)phthalate	5.92	<2.5	<58	<2.8	<2.5	<2.5	<2.5
Di-n-butyl phthalate	15,700	<2.5	<48	<2.8	<2.5	<2.5	<2.5
Diethyl Phthalate	111,000	<1.9	<58	<2.1	<1.9	<1.9	<1.9
Acenaphthylene	NONE	<3.5	<140	<3.9	<3.5	<3.5	<3.5
Fluorene	NONE	<1.9	<98	<2.1	<1.9	<1.9	<1.9
Phenanthrene	NONE	<5.4	<52	<6.0	<5.4	<5.4	<5.4
Phenol	4.6E+06	2.7	<56	<1.7	<1.5	<1.5	<1.5
N-Nitrosodiphenylamine	16.2	<1.9	<56	<2.1	<1.9	<1.9	<1.9
Benzo(a)anthracene	0.031	<7.8	<42	<8.7	<7.8	<7.8	<7.8
Chrysene	0.031	<2.5	<43	<2.6	<2.5	<2.5	<2.5
Benzo(b)fluoranthene	0.031	<4.8	<37	<5.3	<4.8	<4.8	<4.8
Benzo(k)fluoranthene	0.031	<2.5	<46	<2.8	<2.5	<2.5	<2.5
Benzo(a)pyrene	0.031	<2.5	<40	<2.8	<2.5	<2.5	<2.5
Indeno(1,2,3-cd)pyrene	0.031	<3.7	<35	<4.1	<3.7	<3.7	<3.7
Total BNAs	NONE	4749.3	5100	49.7	-	-	57.6
Total PCBs	0.00017	**2.34**	**0.53**	-	**0.536**	-	-
NON-PRIORITY POLLUTANT							
HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	<7.5	**5.8**	<1.0	<7.5	<7.5	**2.0(B)**
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	<1	<5.0	<1.5	<1	<1	3.0
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

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TABLE 3
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UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-3(3)-02D	LS-3(3)-03	LS-3(3)-03D	LS-3(04)-01	LS-3(4)-01	LS-3(4)-02
		4/22/98	9/30/98	9/30/98	9/18/96	9/30/97	12/15/97
VOCs							
Vinyl Chloride	525	<100(D)	<5.0	<5.0	<10.0	<10.0	<10.0
Chloroethane	NONE	<100(D)	<5.0	<5.0	<10.0	<10.0	<10.0
Methylene Chloride	1600	<50(D)	<3.0	<3.0	<5.0	<5.0	<5.0
Acetone	NONE	<1000(D)	<5.0	<5.0	<100	<100	<100
1,1-Dichloroethylene	NONE	<50(D)	<2.0	<2.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	NONE	<50(D)	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethylene	NONE	27(J)(D)	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethylene	NONE	710(D)	0.6(J)	0.6(J)	<5.0	<5.0	<5.0
1,2-Dichloroethane	99	<50(D)	<2.0	<2.0	<5.0	<5.0	<5.0
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	<50(D)	<1.0	0.5(J)	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	NONE	<50(D)	<3.0	<3.0	<5.0	<5.0	<5.0
Benzene	71	**705(D)**	18	18	<5.0	<5.0	<5.0
4-Methyl-2-Pentanone	NONE	<500(D)	<5.0	<5.0	<50.0	<50.0	<50.0
2-Hexanone	NONE	<500(D)	<5.0	<5.0	<50.0	<50.0	<50.0
Tetrachloroethylene	4.29	<50(D)	<1.0	<1.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane	NONE	<50(D)	<1.0	<1.0	<5.0	<5.0	<5.0
Toluene	200,000	71(D)	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	21,000	100(D)	52	46	7.0	35.2	<5.0
Ethylbenzene	27,900	36(J)(D)	2.5(J)	2.1(J)	<5.0	<5.0	<5.0
Total Xylenes	NONE	41(J)(D)	<5.0	<5.0	<10.0	<10.0	<10.0
Total VOCs	NONE	1690(D)	74.0(J)	67.2(J)	7.0	35.2	<100
BNAs							
Benzidine	0.000535	<5.7	<22	<20	NA	<5.9	<6.3
1,2,4-Trichlorobenzene	113	<1.9	<1.2	<1.1	NA	<2.0	<2.1
Hexachloroethane	12.4	<1.6	<0.9	<0.8	NA	<1.6	<1.8
Bis(2-Chloroethyl)Ether	1.4	<5.7	<1.0	<0.9	NA	<5.9	<6.3
1,2-Dichlorobenzene	16,500	25.5	25	24	NA	31.5	6.1
1,3-Dichlorobenzene	22,200	3.1	<1.1	0.8(J)	NA	<2.0	<2.1
1,4-Dichlorobenzene	3159	8.6	<1.2	2.8	NA	<4.5	<4.8
Naphthalene	NONE	<1.8	<1.0	<1.0	NA	<1.9	<2.0
Bis(2-ethylhexyl)phthalate	5.92	<2.5	<1.2	<1.1	NA	<2.6	<2.8
Di-n-butyl phthalate	15,700	<2.5	<0.3	<0.3	NA	<2.6	<2.8
Diethyl Phthalate	111,000	5.0	<0.3	<0.3	NA	<2.0	<2.1
Acenaphthylene	NONE	<3.5	<0.7	<0.7	NA	<3.6	<3.9
Fluorene	NONE	<1.9	<0.6	<0.5	NA	<2.0	<2.1
Phenanthrene	NONE	<5.4	<0.3	<0.3	NA	<5.6	<5.9
Phenol	4.6E+06	<1.5	<1.4	<1.3	NA	<1.5	1380(D)
N-Nitrosodiphenylamine	16.2	<1.9	<0.7	<0.4	NA	<2.0	<2.1
Benzo(a)anthracene	0.031	<7.8	<0.2	<0.2	NA	<8.0	<8.6
Chrysene	0.031	<2.5	<0.3	<0.3	NA	<2.6	<2.8
Benzo(b)fluoranthene	0.031	<4.8	<0.1	<0.1	NA	<4.9	<5.3
Benzo(k)fluoranthene	0.031	<2.5	<0.2	<0.2	NA	<2.6	<2.8
Benzo(a)pyrene	0.031	<2.5	<0.2	<0.2	NA	<2.6	<2.8
Indeno(1,2,3-cd)pyrene	0.031	<3.7	<0.2	<0.2	NA	<3.8	<4.1
Total BNAs	NONE	42.2	25	27.6	NA	31.5	1386.1
Total PCBs	0.00017	-	-	-	NA	-	-
NON-PRIORITY POLLUTANT							
HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	**1.9(B)**	<2.0	<2.0	NA	**2.0**	<1
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	3.0	<2.8	<2.8	NA	10.0	3.6
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

[1] NJDEP Criteria for Class SE surface waters
J = An estimated value
D = Analysis at a secondary dilution
B = Value is ? MDL but ? Instrument Detection Limit
E = Estimated value due to interferences
Numbers in **bold** are exceedances of SWCC SE2.
"NA" = Not Analyzed or Results Not Available
"-" = Not Detected

TABLE 3
AREAS 1, 1A, AND 5 POST-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-3(4)-02D	LS-3(4)-03	LS-3(5)-01	LS-3(5)-02	LS-3(5)-03	LS-3(5)-03D
		12/15/97	8/26/98	04/04/97	12/15/97	8/26/98	8/26/98
VOCs							
Vinyl Chloride	525	<10.0	<50	348(D)	6.2(J)	1.7(J)	1.7(J)
Chloroethane	NONE	<10.0	<50	<10.0	<10.0	<5.0	<5.0
Methylene Chloride	1600	<5.0	<30	<5.0	<5.0	0.8(J)(B)	0.7(J)(B)
Acetone	NONE	<100	<50	<100	40(J)	22	<5.0
1,1-Dichloroethylene	NONE	<5.0	<20	<5.0	<5.0	<2.0	<2.0
1,1-Dichloroethane	NONE	<5.0	<50	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethylene	NONE	<5.0	<50	206	<5.0	<5.0	<5.0
cis-1,2-Dichloroethylene	NONE	<5.0	<50	2020(D)	9.1	1.1(J)	0.9(J)
1,2-Dichloroethane	99	<5.0	<20	<5.0	<5.0	<2.0	<2.0
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	<5.0	<10	24.1	<5.0	0.8(J)	0.6(J)
1,1,2-Trichloroethane	NONE	<5.0	<30	<5.0	<5.0	<3.0	<3.0
Benzene	71	<5.0	9.3(J)	**1420(D)**	**83.1**	**160**	**150**
4-Methyl-2-Pentanone	NONE	<50.0	<50	<50.0	<50.0	<5.0	<5.0
2-Hexanone	NONE	<50.0	<50	<50.0	<50.0	<5.0	<5.0
Tetrachloroethylene	4.29	<5.0	<10	<5.0	<5.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	NONE	<5.0	<10	158	<5.0	<1.0	<1.0
Toluene	200,000	<5.0	<50	1870(D)	<5.0	<5.0	<5.0
Chlorobenzene	21,000	11.6	820	170	43.2	93	89
Ethylbenzene	27,900	<5.0	<40	117	14.1	21	21
Total Xylenes	NONE	<10.0	<50	468	17.6	6.9	6.6
Total VOCs	NONE	11.6	829	6801	213	311	272
BNAs							
Benzidine	0.000535	<6.0	<2.5	<5.7	<6.0	<0.5	<0.5
1,2,4-Trichlorobenzene	113	<2.0	<19	4.2	<2.0	<3.7	<3.8
Hexachloroethane	12.4	<2.0	<12	<1.6	<2.0	<2.4	<2.4
Bis(2-Chloroethyl)Ether	1.4	<6.0	<6.2	<5.7	<6.0	<1.2	<1.2
1,2-Dichlorobenzene	16,500	12.8	310	137	48.7	35	36
1,3-Dichlorobenzene	22,200	<2.0	<17	12.4	3.8	3.5	3.7
1,4-Dichlorobenzene	3159	<4.4	26	19.7	9.6	10	10
Naphthalene	NONE	<2.0	13	<1.8	<2.0	<2.5	<2.6
Bis(2-ethylhexyl)phthalate	5.92	<3.0	<5.8	<2.5	1.4(J)	<1.1	1.6
Di-n-butyl phthalate	15,700	<3.0	<4.8	<2.5	<3.0	<1.0	<1.0
Diethyl Phthalate	111,000	<2.0	<5.8	<1.9	<2.0	<1.2	<1.2
Acenaphthylene	NONE	<4.0	<10	<3.5	<4.0	<2.0	<2.8
Fluorene	NONE	<2.0	<9.8	<1.9	<2.0	<1.9	<2.0
Phenanthrene	NONE	<5.4	<5.2	<5.4	<5.4	<1.0	<1.1
Phenol	4.6E+06	<2.0	<5.6	148	<2.0	7.4	2.9
N-Nitrosodiphenylamine	16.2	<2.0	<5.6	<1.9	<2.0	<1.1	<1.1
Benzo(a)anthracene	0.031	<8.0	<4.2	<7.8	<8.0	<0.8	<0.9
Chrysene	0.031	<3.0	<4.3	<2.5	<3.0	<0.9	<0.9
Benzo(b)fluoranthene	0.031	<5.0	<3.7	<4.8	<5.0	<0.7	<0.8
Benzo(k)fluoranthene	0.031	<3.0	<4.6	<2.5	<3.0	<0.9	<0.9
Benzo(a)pyrene	0.031	<3.0	<4.0	<2.5	<3.0	<0.8	<0.8
Indeno(1,2,3-cd)pyrene	0.031	<4.0	<3.5	<3.7	<4.0	<0.7	<0.7
Total BNAs	NONE	12.8	349	321.3	63.5	55.9	54.2
Total PCBs	0.00017	-	-	-	-	-	-
NON-PRIORITY POLLUTANT HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	<1	**3.1**	<4.8	**1.6(B)**	<2.0	<2.0
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	2(B)	<2.0	<1.8	<1	<2.8	<2.8
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

[1] NJDEP Criteria for Class SE surface waters
J = An estimated value
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Numbers in **bold** are exceedances of SWCC SE2.
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TABLE 3
AREAS 1, 1A, AND 5 POST-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-3(6)-01	LS-3(6)-01D	LS-3(6)-02	LS-3(6)-01	LS-3(6)-02	LS-3(6)-03
		5/29/96	5/29/96	7/10/96	7/18/96	8/19/96	9/18/96
VOCs							
Vinyl Chloride	525	<100	<100	**709**	466	309	14.2
Chloroethane	NONE	<100	<100	<200(D)	<2.6	<10.0	<10.0
Methylene Chloride	1600	<50	<50	<100(D)	<2.8	<5.0	<5.0
Acetone	NONE	1560	987(J)	2000	NA	<100	<100
1,1-Dichloroethylene	NONE	<50	<50	<100(D)	<2.8	<5.0	<5.0
1,1-Dichloroethane	NONE	<50	<50	<100(D)	<4.7	<5.0	<5.0
trans-1,2-Dichloroethylene	NONE	<50	<50	88.8(J)	45.1	28.0	5.1
cis-1,2-Dichloroethylene	NONE	191	151	734	NA	280	52.3
1,2-Dichloroethane	99	<50	<50	<100(D)	<2.8	<5.0	<5.0
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	**195**	**156**	**115**	19.1	9.5	7.8
1,1,2-Trichloroethane	NONE	<50	<50	<100(D)	<5.0	<5.0	<5.0
Benzene	71	**693**	**529**	**5550**	**1420**	**528**	34.3
4-Methyl-2-Pentanone	NONE	<500	<500	<100(D)	NA	<50.0	<50.0
2-Hexanone	NONE	<50	<500	<100(D)	NA	<5.0	<50.0
Tetrachloroethylene	4.29	<50	<50	<100(D)	3.47(J)	**252**	<5.0
1,1,2,2-Tetrachloroethane	NONE	4814(J)	38.2(J)	<100(D)	33.2	103	9.6
Toluene	200,000	3570	2830	728	396	5.1	7.8
Chlorobenzene	21,000	114	93.3	<100(D)	28.1	64.4	14.3
Ethylbenzene	27,900	45.1(J)	31.8(J)	<100(D)	16.4	<5.0	8.9
Total Xylenes	NONE	58.4	47.6(J)	<200(D)	NA	125	28.1
Total VOCs	NONE	6470	4864	9925	2427.37	1506	182.4
BNAs							
Benzidine	0.000535	NA	NA	NA	<50.0	<5.7	<5.7
1,2,4-Trichlorobenzene	113	NA	NA	NA	1.44(J)	6.4	1.6(J)
Hexachloroethane	12.4	NA	NA	NA	<10.0	<1.6	<1.6
Bis(2-Chloroethyl)Ether	1.4	NA	NA	NA	<10.0	<5.7	<5.7
1,2-Dichlorobenzene	16,500	NA	NA	NA	16.8	74.9	5.5
1,3-Dichlorobenzene	22,200	NA	NA	NA	3.87(J)	<1.9	2.3
1,4-Dichlorobenzene	3159	NA	NA	NA	<4.4	16.3	4.6
Naphthalene	NONE	NA	NA	NA	2.12(J)	<1.8	<1.8
Bis(2-ethylhexyl)phthalate	5.92	NA	NA	NA	<10.0	<2.5	<2.5
Di-n-butyl phthalate	15,700	NA	NA	NA	<10.0	<2.5	<2.5
Diethyl Phthalate	111,000	NA	NA	NA	<10.0	6.6	<1.9
Acenaphthylene	NONE	NA	NA	NA	<10.0	<3.5	<3.5
Fluorene	NONE	NA	NA	NA	<10.0	<1.9	<1.9
Phenanthrene	NONE	NA	NA	NA	<10.0	<5.4	<5.4
Phenol	4.6E+06	NA	NA	NA	47.6	<1.5	<1.5
N-Nitrosodiphenylamine	16.2	NA	NA	NA	<10.0	<1.9	<1.9
Benzo(a)anthracene	0.031	NA	NA	NA	<10.0	<7.8	<7.8
Chrysene	0.031	NA	NA	NA	<10.0	<2.5	<2.5
Benzo(b)fluoranthene	0.031	NA	NA	NA	<10.0	<4.8	<4.8
Benzo(k)fluoranthene	0.031	NA	NA	NA	<10.0	<2.5	<2.5
Benzo(a)pyrene	0.031	NA	NA	NA	<10.0	<2.5	<2.5
Indeno(1,2,3-cd)pyrene	0.031	NA	NA	NA	<10.0	<3.7	<3.7
Total BNAs	NONE	NA	NA	NA	71.83	104.2	14
Total PCBs	0.00017	NA	NA	NA	-	-	-
NON-PRIORITY POLLUTANT							
HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	NA	NA	NA	**3.67(B)**	**2.22(B)**	**10.9**
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	NA	NA	NA	3.44	4.32	<2.0
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

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TABLE 3
AREAS 1, 1A, AND 5 POST-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-3(6)-04	LS-3(6)-05	LS-3(6)-06	LS-3(6)-07	LS-3(6)-07D	LS-3(6)-08
		10/21/96	11/25/96	5/27/97	6/22/98	6/22/98	10/28/98
VOCs							
Vinyl Chloride	525	21.8	41.1	<50.0(D)	<120	<120	<120
Chloroethane	NONE	<10.0	<10.0	<50.0(D)	<120	<120	<120
Methylene Chloride	1600	<5.0	<5.0	<25.0(D)	<75	<75	<75
Acetone	NONE	<100	<100	<500(D)	<120	<120	<120
1,1-Dichloroethylene	NONE	<5.0	<5.0	<25.0(D)	<50	<50	<50
1,1-Dichloroethane	NONE	<5.0	<5.0	<25.0(D)	<120	<120	<120
trans-1,2-Dichloroethylene	NONE	<5.0	<5.0	<25.0(D)	<120	<120	<120
cis-1,2-Dichloroethylene	NONE	<5.0	<5.0	<25.0(D)	<120	<120	<120
1,2-Dichloroethane	99	<5.0	<5.0	<25.0(D)	<50	<50	<50
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	<5.0	<5.0	<25.0(D)	<25	<25	<25
1,1,2-Trichloroethane	NONE	<5.0	<5.0	<25.0(D)	<75	<75	<75
Benzene	71	**296**	**1660(D)**	**1100(D)**	**2600**	**3000**	**3500**
4-Methyl-2-Pentanone	NONE	<50.0	<50.0	<250(D)	<120	<120	<120
2-Hexanone	NONE	<50.0	<50.0	<250(D)	<120	<120	<120
Tetrachloroethylene	4.29	<5.0	<5.0	<25.0(D)	<25	<25	<25
1,1,2,2-Tetrachloroethane	NONE	<5.0	<5.0	<25.0(D)	110(J)	<25	<25
Toluene	200,000	5.1	17.2	39.5(D)	<25	200	30(J)
Chlorobenzene	21,000	8.9	97.0	<25.0(D)	79(J)	100(J)	120(J)
Ethylbenzene	27,900	<5.0	41.0	<25.0(D)	20(J)	24(J)	31(J)
Total Xylenes	NONE	<10.0	32.5	<50.0(D)	<120	<120	<120
Total VOCs	NONE	332	1889	1140	2809	3324	3681
BNAs							
Benzidine	0.000535	<6.3	<5.7	<5.9	<190	<200	<400
1,2,4-Trichlorobenzene	113	<2.1	<1.9	<2.0	<12	<12	<23
Hexachloroethane	12.4	<1.8	<1.6	<1.6	<7.8	<8.2	<16
Bis(2-Chloroethyl)Ether	1.4	<6.3	<5.7	<5.9	<8.8	<9.3	<18
1,2-Dichlorobenzene	16,500	10.2	23.0	10.3	<9.4	<9.9	<18
1,3-Dichlorobenzene	22,200	<2.1	<1.9	<2.0	<9.6	<10	<20
1,4-Dichlorobenzene	3159	<4.8	<4.4	<4.5	<11	<11	<22
Naphthalene	NONE	<2.0	<1.8	<1.9	<9.6	<10	<20
Bis(2-ethylhexyl)phthalate	5.92	<2.8	<2.5	<2.6	<11	<11	<22
Di-n-butyl phthalate	15,700	<2.8	<2.5	<2.6	<3.0	<3.2	<6.0
Diethyl Phthalate	111,000	<2.1	<1.9	<2.0	<2.8	<2.9	<5.8
Acenaphthylene	NONE	<3.9	<3.5	<3.6	<6.2	<6.9	<12
Fluorene	NONE	<2.1	<1.9	<2.0	<5.2	<5.5	<10
Phenanthrene	NONE	<6.0	<5.4	<5.6	<2.8	<2.9	<5.8
Phenol	4.6E+06	<1.7	25.2	23.4	43	22	<27
N-Nitrosodiphenylamine	16.2	<2.1	<1.9	<2.0	<3.8	<4.0	<8.0
Benzo(a)anthracene	0.031	<8.7	<7.8	<8.0	<2.0	<2.1	<4.1
Chrysene	0.031	<2.8	<2.5	<2.6	<2.6	<2.7	<5.4
Benzo(b)fluoranthene	0.031	<5.3	<4.8	<4.9	<1.0	<1.0	<2.1
Benzo(k)fluoranthene	0.031	<2.8	<2.5	<2.6	<1.6	<1.7	<3.1
Benzo(a)pyrene	0.031	<2.8	<2.5	<2.6	<1.4	<1.5	<3.1
Indeno(1,2,3-cd)pyrene	0.031	<4.1	<3.7	<3.8	<1.4	<1.5	<3.1
Total BNAs	NONE	10.2	48.2	33.7	43	22	-
Total PCBs	0.00017	-	-	**0.60**	-	-	-
NON-PRIORITY POLLUTANT							
HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	<0.9	**1.8**	<5.0	<3.8	<3.8	<3.8
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	3.11	3.7	2.9	<2.5	<2.5	<2.5
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

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TABLE 3
AREAS 1, 1A, AND 5 POST-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-3(8)-01	LS-3(8)-02	LS-3(8)-03	LS-3(8)-04	LS-3(8)-04D	LS-3(9)-01
		04/04/97	7/23/97	6/22/98	7/22/98	7/22/98	5/27/97
VOCs							
Vinyl Chloride	525	409	<10.0	210	27	26	<50.5(D)
Chloroethane	NONE	<10.0	<10.0	<25	<25	<25	<50.0(D)
Methylene Chloride	1600	6.5	<5.0	<15	<15	<15	<25.0(D)
Acetone	NONE	377	<100	<25	<25	<25	<500(D)
1,1-Dichloroethylene	NONE	8.6	<5.0	4.3(J)	<10	<10	<25.0(D)
1,1-Dichloroethane	NONE	<5.0	<5.0	<25	<25	<25	<25.0(D)
trans-1,2-Dichloroethylene	NONE	87.1	<5.0	680	<25	<25	<25.0(D)
cis-1,2-Dichloroethylene	NONE	2470(D)	<5.0	29	<25	<25	218(D)
1,2-Dichloroethane	99	<5.0	<5.0	<10	<10	<10	<25.0(D)
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	10.1	<5.0	16	<5.0	<5.0	<25.0(D)
1,1,2-Trichloroethane	NONE	<5.0	<5.0	<15	<15	<15	<25.0(D)
Benzene	71	**2770(D)**	**744(D)**	**680**	**780**	**610**	**1130(D)**
4-Methyl-2-Pentanone	NONE	<50.0	<50.0	<25	<25	<25	<250(D)
2-Hexanone	NONE	<50.0	<50.0	<25	<25	<25	<250(D)
Tetrachloroethylene	4.29	<5.0	<5.0	<5.0	<5.0	<5.0	<25.0(D)
1,1,2,2-Tetrachloroethane	NONE	5.1	<5.0	<5.0	<5.0	<5.0	<25.0(D)
Toluene	200,000	7790(D)	<5.0	200	15(J)	12(J)	306(D)
Chlorobenzene	21,000	454	556(D)	210	580	460	548(D)
Ethylbenzene	27,900	282	<5.0	44	190	160	155(D)
Total Xylenes	NONE	1464(D)	84	96	110	86	243(D)
Total VOCs	NONE	16,142	1384	2206	1702	1354	2650(D)
BNAs							
Benzidine	0.000535	<5.7	<6.4	<97	<2.6	<2.6	<6.3
1,2,4-Trichlorobenzene	113	2.1	<2.1	<5.8	<19	<20	<2.1
Hexachloroethane	12.4	<1.6	<1.8	<3.9	<12	<13	<1.8
Bis(2-Chloroethyl)Ether	1.4	<5.7	<6.4	<4.4	<6.3	<6.5	<6.3
1,2-Dichlorobenzene	16,500	462	34.0	59	89	95	87.8
1,3-Dichlorobenzene	22,200	6.3	<2.1	<4.8	<18	<18	13.9
1,4-Dichlorobenzene	3159	27.5	10.5	<5.4	<18	<18	29.8
Naphthalene	NONE	23.2	5.8	<4.8	<13	<13	<2.0
Bis(2-ethylhexyl)phthalate	5.92	<2.5	<2.8	<5.4	<5.9	<6.1	<2.8
Di-n-butyl phthalate	15,700	<2.5	<2.8	<1.5	<4.9	<5.1	<2.8
Diethyl Phthalate	111,000	<1.9	<2.1	<1.4	<6.0	<6.2	<2.1
Acenaphthylene	NONE	<3.5	<3.9	<3.3	<14	<11	<3.9
Fluorene	NONE	<1.9	<2.1	<2.6	<10	<10	<2.1
Phenanthrene	NONE	<5.4	<6.0	<1.4	<5.4	<5.5	42.3
Phenol	4.6E+06	578	<1.7	7.4	<5.7	<5.8	17.4
N-Nitrosodiphenylamine	16.2	<1.9	<2.1	<1.9	<5.7	<5.8	<2.1
Benzo(a)anthracene	0.031	<7.8	<8.7	<1.0	<4.3	<4.5	**17.8**
Chrysene	0.031	<2.5	<2.8	<1.3	<4.4	<4.6	**18.0**
Benzo(b)fluoranthene	0.031	<4.8	<5.4	<0.5	<3.8	<3.9	**20.6**
Benzo(k)fluoranthene	0.031	<2.5	<2.8	<0.8	<4.7	<4.9	**7.9**
Benzo(a)pyrene	0.031	<2.5	<2.8	<0.7	<4.1	<4.2	**11.4**
Indeno(1,2,3-cd)pyrene	0.031	<3.7	<4.1	<0.7	<3.6	<3.7	<4.1
Total BNAs	NONE	1099.1	50.3	66.4	89	95	266.9
Total PCBs	0.00017	**2.04**	**0.700**	**1.3**	**1.0**	**1.4**	**111**
NON-PRIORITY POLLUTANT							
HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	<4.8	**3.6**	<3.8	<2.5	<3.8	<5.0
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	1.7(B)	7.7	<2.5	<3.8	<5.0	**54.8**
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

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E = Estimated value due to interferences
Numbers in **bold** are exceedances of SWCC SE2.
"NA" = Not Analyzed or Results Not Available
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TABLE 3
AREAS 1, 1A, AND 5 POST-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-3(10)-01	LS-3(10)-01	LS-3(11)-03	LS-3(11)-01	LS-3(11)-02	LS-2(12)-01
		10/23/96	8/27/97	8/14/96	5/18/98	8/26/98	8/19/96
VOCs							
Vinyl Chloride	525	82.9	<10.0	<10.0	<10.0	86	46.9
Chloroethane	NONE	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Methylene Chloride	1600	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0
Acetone	NONE	<100	<100	<100	<100	<10	<100
1,1-Dichloroethylene	NONE	<5.0	<5.0	<5.0	<5.0	<4.0	<5.0
1,1-Dichloroethane	NONE	<5.0	<5.0	<5.0	<5.0	<10	<5.0
trans-1,2-Dichloroethylene	NONE	7.4	<5.0	<5.0	<5.0	20	54.2
cis-1,2-Dichloroethylene	NONE	15.8	<5.0	17.4	<5.0	21	1300(D)
1,2-Dichloroethane	99	11.4	11.7	<5.0	<5.0	<4.0	<5.0
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	<5.0	<5.0	<5.0	<5.0	<2.0	26
1,1,2-Trichloroethane	NONE	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0
Benzene	71	**222**	**728(D)**	31.6	68.0	**270**	**625(D)**
4-Methyl-2-Pentanone	NONE	<50.0	<50.0	<50.0	<50.0	<10	<50.0
2-Hexanone	NONE	<50.0	<50.0	<50.0	<50.0	<10	<50.0
Tetrachloroethylene	4.29	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
1,1,2,2-Tetrachloroethane	NONE	<5.0	<5.0	<5.0	<5.0	<2.0	<5.0
Toluene	200,000	99.4	180	<5.0	<5.0	7.0(J)	2030(D)
Chlorobenzene	21,000	280	1330(D)	<5.0	38.6	21	158
Ethylbenzene	27,900	103	226	<5.0	<5.0	1.4(J)	114
Total Xylenes	NONE	103	231	<5.0	<10.0	2.8(J)	225
Total VOCs	NONE	924	2707	49.0	106.6	429	4580
BNAs							
Benzidine	0.000535	NA	<6.3	NA	<5.7	<5.1	<5.7
1,2,4-Trichlorobenzene	113	NA	1.6(J)	NA	<1.9	<38	<1.9
Hexachloroethane	12.4	NA	<1.8	NA	<1.6	<24	<1.6
Bis(2-Chloroethyl)Ether	1.4	NA	**3.6(J)**	NA	<5.7	<12	<5.7
1,2-Dichlorobenzene	16,500	NA	60.5	NA	2.3	<34	19.5
1,3-Dichlorobenzene	22,200	NA	68.0	NA	<1.9	<35	<1.9
1,4-Dichlorobenzene	3159	NA	165	NA	<4.4	<36	3.4(J)
Naphthalene	NONE	NA	<2.0	NA	<1.8	<26	<1.8
Bis(2-ethylhexyl)phthalate	5.92	NA	**6.6**	NA	1.5(J)	**120**	<2.5
Di-n-butyl phthalate	15,700	NA	<2.8	NA	<2.5	<9.8	3.1
Diethyl Phthalate	111,000	NA	<2.1	NA	<1.9	<12	2.8
Acenaphthylene	NONE	NA	<3.9	NA	<3.5	<21	<3.5
Fluorene	NONE	NA	<2.1	NA	<1.9	<20	<1.9
Phenanthrene	NONE	NA	<5.9	NA	<5.4	<11	<5.4
Phenol	4.6E+06	NA	4.8	NA	<1.5	<11	22.1
N-Nitrosodiphenylamine	16.2	NA	<2.1	NA	<1.9	<11	<1.9
Benzo(a)anthracene	0.031	NA	**3.2(J)**	NA	<7.8	<8.6	<7.8
Chrysene	0.031	NA	**3.3**	NA	<2.5	<8.8	<2.5
Benzo(b)fluoranthene	0.031	NA	**5.4**	NA	<4.8	<7.6	<4.8
Benzo(k)fluoranthene	0.031	NA	**2.8**	NA	<2.5	<9.4	<2.5
Benzo(a)pyrene	0.031	NA	**3.2**	NA	<2.5	<8.2	<2.5
Indeno(1,2,3-cd)pyrene	0.031	NA	**1.3(J)**	NA	<3.7	<7.1	<3.7
Total BNAs	NONE	NA	261.3	NA	3.8	120	50.9
Total PCBs	0.00017	NA	**6.88**	NA	**1.84**	**0.56**	**1.58**
NON-PRIORITY POLLUTANT							
HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	NA	**2.6(B)**	NA	**7.0**	**6.0**	**5.44**
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	NA	10.7	NA	23.9	7.4	6.0
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

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TABLE 3
AREAS 1, 1A, AND 5 POST-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-2(12)-01	LS-2(12)-03	LS-2(12)-02	LS-2(12)-04	LS-2(12)-05	LS-2(12)-06
		9/18/96	10/21/96	11/21/96	11/25/96	04/04/97	5/27/97
VOCs							
Vinyl Chloride	525	106	<10.0	150	189	47.8	12.5
Chloroethane	NONE	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene Chloride	1600	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Acetone	NONE	<100	<100	<100	<100	<100.0	<100
1,1-Dichloroethylene	NONE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	NONE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethylene	NONE	107	<5.0	55.9	63.0	9.4	5.3
cis-1,2-Dichloroethylene	NONE	1140(D)	<5.0	947	1100(D)	149	154
1,2-Dichloroethane	99	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	66.1	<5.0	12.8	14.6	<5.0	<5.0
1,1,2-Trichloroethane	NONE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	71	**1270(D)**	<5.0	**823**	**1370(D)**	**732(D)**	**140**
4-Methyl-2-Pentanone	NONE	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
2-Hexanone	NONE	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Tetrachloroethylene	4.29	**7.6**	<5.0	<5.0	<5.0	**6.4**	<5.0
1,1,2,2-Tetrachloroethane	NONE	11.1	<5.0	11.1	9.5	17.3	<5.0
Toluene	200,000	3000(D)	<5.0	1120	1810(D)	<5.0	192
Chlorobenzene	21,000	311	<5.0	191	280	150	51.5
Ethylbenzene	27,900	260	<5.0	140	188	67.3	25.7
Total Xylenes	NONE	879	<10.0	209	260	98.0	38.1
Total VOCs	NONE	7158	<100	3660	5284	1277	619
BNAs							
Benzidine	0.000535	NA	<5.7	<5.7	<5.7	<5.7	<5.7
1,2,4-Trichlorobenzene	113	NA	<1.9	<1.9	<1.9	<1.9	<1.9
Hexachloroethane	12.4	NA	<1.6	<1.6	<1.6	<1.6	<1.6
Bis(2-Chloroethyl)Ether	1.4	NA	<5.7	<5.7	<5.7	<5.7	<5.7
1,2-Dichlorobenzene	16,500	NA	94.2	66.6	72.8	56.9	24.4
1,3-Dichlorobenzene	22,200	NA	<1.9	2.5	<1.9	4.3	<1.9
1,4-Dichlorobenzene	3159	NA	23.1	10.6	13.1	15.1	5.7
Naphthalene	NONE	NA	<1.8	2.5	<1.8	3.2	<1.8
Bis(2-ethylhexyl)phthalate	5.92	NA	<2.5	<2.5	<2.5	<2.5	<2.5
Di-n-butyl phthalate	15,700	NA	<2.5	<2.5	<2.5	<2.5	<2.5
Diethyl Phthalate	111,000	NA	8.3	<1.9	<1.9	<1.9	<1.9
Acenaphthylene	NONE	NA	<3.5	<3.5	<3.5	<3.5	<3.5
Fluorene	NONE	NA	<1.9	<1.9	<1.9	<1.9	<1.9
Phenanthrene	NONE	NA	<5.4	<5.4	<5.4	<5.4	<5.4
Phenol	4.6E+06	NA	<1.5	<1.5	<1.5	26	<1.5
N-Nitrosodiphenylamine	16.2	NA	<1.9	<1.9	<1.9	<1.9	<1.9
Benzo(a)anthracene	0.031	NA	<7.8	<7.8	<7.8	<7.8	<7.8
Chrysene	0.031	NA	<2.5	<2.5	<2.5	<2.5	<2.5
Benzo(b)fluoranthene	0.031	NA	<4.8	<4.8	<4.8	<4.8	<4.8
Benzo(k)fluoranthene	0.031	NA	<2.5	<2.5	<2.5	<2.5	<2.5
Benzo(a)pyrene	0.031	NA	<2.5	<2.5	<2.5	<2.5	<2.5
Indeno(1,2,3-cd)pyrene	0.031	NA	<3.7	<3.7	<3.7	<3.7	<3.7
Total BNAs	NONE	NA	125.6	82.2	85.9	105.5	30.1
Total PCBs	0.00017	NA	**0.56**	-	-	-	-
NON-PRIORITY POLLUTANT							
HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	NA	**6.3**	**2.90**	**2.44**	<4.8	<5.0
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	NA	3.0	2.08	<1.49	<1.7	2.5
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

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UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-2(12)-07	LS-2(12)-08	LS-2(12)-09	LS-2(12)-10	LS-2(13)-01	LS-2(13)-02
		7/23/97	8/27/97	12/15/97	7/22/98	8/14/96	10/23/96
VOCs							
Vinyl Chloride	525	<10.0	22.7	10.9	<5.0	93.4	<10.0
Chloroethane	NONE	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0
Methylene Chloride	1600	<5.0	<5.0	<5.0	<3.0	<5.0	<5.0
Acetone	NONE	<100	<100	<100	<5.0	<100	<100
1,1-Dichloroethylene	NONE	<5.0	<5.0	<5.0	<2.0	<5.0	<5.0
1,1-Dichloroethane	NONE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethylene	NONE	<5.0	<5.0	<5.0	<5.0	17.3	<5.0
cis-1,2-Dichloroethylene	NONE	<5.0	18.6	41.5	1.2(J)	212	<5.0
1,2-Dichloroethane	99	<5.0	<5.0	<5.0	<2.0	<5.0	<5.0
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	<5.0	<5.0	7.3	<1.0	<5.0	<5.0
1,1,2-Trichloroethane	NONE	<5.0	<5.0	<5.0	<3.0	<5.0	<5.0
Benzene	71	<5.0	**152**	24.4	1.7	**206**	5.9
4-Methyl-2-Pentanone	NONE	<50.0	<50.0	<50.0	<5.0	<50.0	<50.0
2-Hexanone	NONE	<50.0	<50.0	<50.0	<5.0	<50.0	<50.0
Tetrachloroethylene	4.29	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane	NONE	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0
Toluene	200,000	306(E)	8.0	55.7	<5.0	186	<5.0
Chlorobenzene	21,000	<5.0	26.4	25.2	3.2(J)	143	16.2
Ethylbenzene	27,900	<5.0	19.7	5.6	1.2(J)	56.4	<5.0
Total Xylenes	NONE	<20.0	15.3	<10.0	<5.0	111	<10.0
Total VOCs	NONE	306	263	176	7.3(J)	1025	22.1
BNAs							
Benzidine	0.000535	<6.3	<6.3	<31.4(D)	<0.5	NA	NA
1,2,4-Trichlorobenzene	113	<2.1	<2.1	<10.5(D)	<3.8	NA	NA
Hexachloroethane	12.4	<1.8	<1.8	<8.8(D)	<2.4	NA	NA
Bis(2-Chloroethyl)Ether	1.4	<6.3	<6.3	<31.4(D)	<1.2	NA	NA
1,2-Dichlorobenzene	16,500	9.7	21.1	33.2(D)	<3.4	NA	NA
1,3-Dichlorobenzene	22,200	<2.1	1.1(J)	<10.5(D)	<3.5	NA	NA
1,4-Dichlorobenzene	3159	<4.8	3.7(J)	<24.2(D)	<3.6	NA	NA
Naphthalene	NONE	<2.0	<2.0	<9.9(D)	<2.6	NA	NA
Bis(2-ethylhexyl)phthalate	5.92	<2.8	2.1(J)	<13.8(D)	<1.2	NA	NA
Di-n-butyl phthalate	15,700	<2.8	<2.8	<13.8(D)	<1.0	NA	NA
Diethyl Phthalate	111,000	<2.1	<2.1	<10.5(D)	<1.2	NA	NA
Acenaphthylene	NONE	<3.9	<3.9	<19.3(D)	<2.1	NA	NA
Fluorene	NONE	<2.1	<2.1	<10.5(D)	<2.0	NA	NA
Phenanthrene	NONE	<5.9	<5.9	<29.7(D)	<1.1	NA	NA
Phenol	4.6E+06	<1.7	<1.7	925(D)	<1.1	NA	NA
N-Nitrosodiphenylamine	16.2	<2.1	<2.1	<10.5(D)	<1.1	NA	NA
Benzo(a)anthracene	0.031	<8.6	<8.6	<42.9(D)	<0.9	NA	NA
Chrysene	0.031	<2.8	<2.8	<13.8(D)	<0.9	NA	NA
Benzo(b)fluoranthene	0.031	<5.3	<5.3	<26.4(D)	<0.8	NA	NA
Benzo(k)fluoranthene	0.031	<2.8	<2.8	<13.8(D)	<0.9	NA	NA
Benzo(a)pyrene	0.031	<2.8	<2.8	<13.8(D)	<0.8	NA	NA
Indeno(1,2,3-cd)pyrene	0.031	<4.1	<4.1	<20.4(D)	<0.7	NA	NA
Total BNAs	NONE	9.7	28	958.2	-	NA	NA
Total PCBs	0.00017	-	-	**0.581**	**0.60**	NA	NA
NON-PRIORITY POLLUTANT							
HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	**1.7(B)**	<2.0	**4.5**	**6.3**	NA	NA
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	6.4	3.5	<1	<5.0	NA	NA
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

[1] NJDEP Criteria for Class SE surface waters
J = An estimated value
D = Analysis at a secondary dilution
B = Value is ? MDL but ? Instrument Detection Limit
E = Estimated value due to interferences
Numbers in **bold** are exceedances of SWCC SE2.
"NA" = Not Analyzed or Results Not Available
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TABLE 3
AREAS 1, 1A, AND 5 POST-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-2(13)-01	LS-2(13)-02	LS-2(13)-03	LS-2(13)-04	LS-2(13)-05	LS-2(13)-06
		04/04/97	5/27/97	8/27/97	9/30/97	11/21/97	6/22/98
VOCs							
Vinyl Chloride	525	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0
Chloroethane	NONE	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0
Methylene Chloride	1600	<5.0	<5.0	<5.0	<5.0	<5.0	<3.0
Acetone	NONE	<100	<100	<100	<100	14(J)	<5.0
1,1-Dichloroethylene	NONE	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
1,1-Dichloroethane	NONE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethylene	NONE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethylene	NONE	<5.0	15.4	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	99	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0
1,1,2-Trichloroethane	NONE	<5.0	<5.0	<5.0	<5.0	<5.0	<3.0
Benzene	71	<5.0	14.9	<5.0	<5.0	**84.1**	42
4-Methyl-2-Pentanone	NONE	<50.0	<50.0	<50.0	<50.0	<50.0	<5.0
2-Hexanone	NONE	<50.0	<50.0	<50.0	<50.0	<50.0	<5.0
Tetrachloroethylene	4.29	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0
1,1,2,2-Tetrachloroethane	NONE	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0
Toluene	200,000	<5.0	<5.0	12.2	<5.0	<5.0	0.6J
Chlorobenzene	21,000	<5.0	12.2	<5.0	5.3	125	88
Ethylbenzene	27,900	<5.0	<5.0	<5.0	<5.0	6.7	<4.0
Total Xylenes	NONE	<100.0	<10.0	5.8	<10.0	<10.0	<5.0
Total VOCs	NONE	<100.0	42.5	18.0	5.3	230	130.6
BNAs							
Benzidine	0.000535	<5.7	<5.9	<6.3	<5.7	<5.7	<19
1,2,4-Trichlorobenzene	113	<1.9	<2.0	<2.1	<1.9	<1.9	<1.2
Hexachloroethane	12.4	<1.6	<1.7	<1.8	<1.6	<1.6	<0.8
Bis(2-Chloroethyl)Ether	1.4	<5.7	<5.9	<6.3	<5.7	<5.7	<0.9
1,2-Dichlorobenzene	16,500	<1.9	<2.0	1.3(J)	7.5	<1.9	<0.9
1,3-Dichlorobenzene	22,200	<1.9	<2.0	<2.1	<1.9	<1.9	<1.0
1,4-Dichlorobenzene	3159	<4.4	<4.6	1.8(J)	<4.4	<4.4	6.0
Naphthalene	NONE	<1.8	<1.9	<2.0	<1.8	<1.8	<1.0
Bis(2-ethylhexyl)phthalate	5.92	<2.5	<2.6	3.8	<2.5	<2.5	1.1
Di-n-butyl phthalate	15,700	<2.5	<2.6	<2.8	<2.5	<2.5	<0.3
Diethyl Phthalate	111,000	<1.9	<2.0	<2.1	<1.9	<1.9	<0.3
Acenaphthylene	NONE	<3.5	<3.6	<3.9	<3.5	<3.5	<0.6
Fluorene	NONE	<1.9	<2.0	<2.1	<1.9	<1.9	<0.5
Phenanthrene	NONE	<5.4	<5.6	<5.9	<5.4	<5.4	<0.3
Phenol	4.6E+06	<1.5	<1.6	<1.7	<1.5	<1.5	<1.3
N-Nitrosodiphenylamine	16.2	<1.9	<2.0	<2.1	<1.9	<1.9	<0.4
Benzo(a)anthracene	0.031	<7.8	<8.1	<8.6	<7.8	<7.8	<0.2
Chrysene	0.031	<2.5	<2.6	<2.8	<2.5	<2.5	<0.3
Benzo(b)fluoranthene	0.031	<4.8	<5.0	<5.3	<4.8	<4.8	<0.1
Benzo(k)fluoranthene	0.031	<2.5	<2.6	<2.8	<2.5	<2.5	<0.2
Benzo(a)pyrene	0.031	<2.5	<2.6	<2.8	<2.5	<2.5	<0.1
Indeno(1,2,3-cd)pyrene	0.031	<3.7	<3.8	<4.1	<3.7	<3.7	<0.1
Total BNAs	NONE	-	-	6.9	7.5	-	7.1
Total PCBs	0.00017	-	-	-	-	-	-
NON-PRIORITY POLLUTANT							
HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	<4.8	<5.0	**7.8**	**10.0**	<1.5	<3.8
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	7.8	3.5	3.3	16.0	<1	3.5
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

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Numbers in **bold** are exceedances of SWCC SE2.
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TABLE 3
AREAS 1, 1A, AND 5 POST-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-2(13)-07	LS-2(18)-01	LS-2(18)-02	LS-2(19)-01	LS-2(19)-02	LS-2(20)-01
		10/28/98	5/18/98	8/26/98	5/18/98	8/26/98	4/22/98
VOCs							
Vinyl Chloride	525	<5.0	81.4	35	85.2	40	<10.0
Chloroethane	NONE	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0
Methylene Chloride	1600	<3.0	<5.0	1.6(J)(B)	<5.0	1.4(J)(B)	<5.0
Acetone	NONE	<5.0	22(J)	42	<100	30	<100.0
1,1-Dichloroethylene	NONE	<2.0	<5.0	<2.0	<5.0	<2.0	<5.0
1,1-Dichloroethane	NONE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethylene	NONE	<5.0	23.4	9.4	24.3	10	<5.0
cis-1,2-Dichloroethylene	NONE	<5.0	147	65	200	72	<5.0
1,2-Dichloroethane	99	<2.0	16.0	<2.0	13.8	7.5	<5.0
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	<1.0	29.1	16	28.4	19	<5.0
1,1,2-Trichloroethane	NONE	<3.0	<5.0	<3.0	<5.0	<3.0	<5.0
Benzene	71	**78.0**	**156**	**97**	**169**	**100**	<5.0
4-Methyl-2-Pentanone	NONE	<5.0	<50.0	2.3(J)	<50.0	1.8(J)	<50.0
2-Hexanone	NONE	<5.0	<50.0	<5.0	<50.0	<5.0	<50.0
Tetrachloroethylene	4.29	<1.0	<5.0	0.6(J)	<5.0	0.6(J)	<5.0
1,1,2,2-Tetrachloroethane	NONE	<1.0	<5.0	<1.0	3.7(J)	<1.0	<5.0
Toluene	200,000	<5.0	148	82	188	100	19.1
Chlorobenzene	21,000	86.0	87.8	72	91.6	78	<5.0
Ethylbenzene	27,900	0.7(J)	31.2	24	35.0	28	3.9(J)
Total Xylenes	NONE	1.4(J)	85.8	52	102.7	64	14.1(J)
Total VOCs	NONE	166.1	838	501	942	553	37.1
BNAs							
Benzidine	0.000535	<40	<6.0	<0.5	<6.0	<0.5	<5.7
1,2,4-Trichlorobenzene	113	<2.3	<2.0	<3.7	<2.0	<3.8	<1.9
Hexachloroethane	12.4	<1.6	<2.0	<2.4	<2.0	<2.4	<1.6
Bis(2-Chloroethyl)Ether	1.4	<1.8	<6.0	<1.2	<6.0	<1.2	<5.7
1,2-Dichlorobenzene	16,500	<1.8	31.8	<3.4	33.3	25	25.2
1,3-Dichlorobenzene	22,200	<2.0	1.7(J)	<3.4	1.7(J)	<3.5	<1.9
1,4-Dichlorobenzene	3159	<2.2	5.3	<3.5	5.6	6.0	3.3(J)
Naphthalene	NONE	<2.0	13.6	23	15.3	25	2.2
Bis(2-ethylhexyl)phthalate	5.92	<2.2	<3.0	<1.1	<3.0	<1.2	<2.5
Di-n-butyl phthalate	15,700	<0.6	<3.0	<1.0	<3.0	<1.0	<2.5
Diethyl Phthalate	111,000	<0.6	<2.0	<1.2	<2.0	<1.2	<1.9
Acenaphthylene	NONE	<1.4	<4.0	<2.0	<4.0	<2.1	<3.5
Fluorene	NONE	<1.0	1.1(J)	<1.9	1.2(J)	2.0	<1.9
Phenanthrene	NONE	<0.6	1.4(J)	2.1	1.5(J)	<1.1	<5.4
Phenol	4.6E+06	<2.7	33.0	34	42.9	36	<1.5
N-Nitrosodiphenylamine	16.2	<0.8	2.1	3.2	2.3	2.6	<1.9
Benzo(a)anthracene	0.031	<0.4	<8.0	<0.8	<8.0	<0.9	<7.8
Chrysene	0.031	<0.5	<3.0	<0.9	<3.0	<0.9	<2.5
Benzo(b)fluoranthene	0.031	<0.2	<5.0	<0.7	<5.0	<0.8	<4.8
Benzo(k)fluoranthene	0.031	<0.3	<3.0	<0.9	<3.0	<0.9	<2.5
Benzo(a)pyrene	0.031	<0.3	<3.0	<0.8	<3.0	<0.8	<2.5
Indeno(1,2,3-cd)pyrene	0.031	<0.3	<4.0	<0.7	<4.0	<0.7	<3.7
Total BNAs	NONE	-	90	62.3	103.8	96.6	30.7
Total PCBs	0.00017	-	-	-	-	-	-
NON-PRIORITY POLLUTANT							
HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	**6.3**	**1.0(B)**	<2.8	<1.0	<2.8	<1.0
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	<2.5	10.9	2.2	7.2	2.3	8.9
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

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UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-2(20)-02	LS-2(20)-03	LS-2(21)-01	LS-2(21)-02	LS-2(21)-03	LS-2(22)-01
		7/22/98	9/30/98	6/22/98	8/26/98	10/28/98	11/21/97
VOCs							
Vinyl Chloride	525	130	5.5	53	40	110	90.7
Chloroethane	NONE	<10	<5.0	<5.0	<5.0	<10	<10.0
Methylene Chloride	1600	<6.0	<3.0	<5.0	1.4(J)(B)	<6.0	<5.0
Acetone	NONE	<10	<5.0	24	49	43	115
1,1-Dichloroethylene	NONE	<4.0	<2.0	<2.0	<2.0	<4.0	5.1
1,1-Dichloroethane	NONE	<10	<5.0	<5.0	<5.0	<10	<5.0
trans-1,2-Dichloroethylene	NONE	41	2.6(J)	17	11	18	48.4
cis-1,2-Dichloroethylene	NONE	350	6.4	92	73	130	596(D)
1,2-Dichloroethane	99	<4.0	<2.0	<2.0	<2.0	<4.0	<5.0
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	**91**	<1.0	24	20	28	**270(D)**
1,1,2-Trichloroethane	NONE	<6.0	<3.0	<3.0	<3.0	<6.0	<5.0
Benzene	71	**210**	12	**160**	**110**	**230**	**318(D)**
4-Methyl-2-Pentanone	NONE	9.0(J)	<5.0	<5.0	2.7(J)	<10	13.9(J)
2-Hexanone	NONE	<10	<5.0	<5.0	<5.0	<10	<50.0
Tetrachloroethylene	4.29	<2.0	<1.0	0.7(J)	0.6(J)	1.2(J)	<5.0
1,1,2,2-Tetrachloroethane	NONE	<2.0	<1.0	<1.0	<1.0	<2.0	<5.0
Toluene	200,000	220	6.7	190	150	180	311(D)
Chlorobenzene	21,000	130	4.2(J)	91	54	78	50.9
Ethylbenzene	27,900	32	1.4(J)	32	29	38	19.2
Total Xylenes	NONE	95	3.5(J)	95	81	120	66.3
Total VOCs	NONE	1308	42.3(J)	783	622	978	1905
BNAs							
Benzidine	0.000535	<1.0	<20	<19	<0.5	<20	<5.7
1,2,4-Trichlorobenzene	113	7.6	<1.1	<1.2	<3.7	<1.1	<1.9
Hexachloroethane	12.4	<4.9	<0.8	<0.8	<2.4	<0.8	<1.6
Bis(2-Chloroethyl)Ether	1.4	<2.5	<0.9	<0.9	<1.2	<0.9	<5.7
1,2-Dichlorobenzene	16,500	53	<0.9	20	16	13	<1.9
1,3-Dichlorobenzene	22,200	<7.0	<1.0	<1.0	<3.4	<1.0	<1.9
1,4-Dichlorobenzene	3159	<7.1	<1.1	3.7	4.4	3.6	<4.4
Naphthalene	NONE	<5.1	<1.0	17	36	60	<1.8
Bis(2-ethylhexyl)phthalate	5.92	<2.3	2.2	1.2	<1.1	3.8	<2.5
Di-n-butyl phthalate	15,700	<2.0	<0.3	<0.3	<1.0	<0.3	<2.5
Diethyl Phthalate	111,000	<2.4	<0.3	<0.3	<1.2	<0.3	<1.9
Acenaphthylene	NONE	<4.1	<0.7	<0.7	<2.0	<0.7	<3.5
Fluorene	NONE	<4.0	<0.5	2.0	3.2	<0.5	<1.9
Phenanthrene	NONE	<2.1	<0.3	2.1	2.9	6.0	<5.4
Phenol	4.6E+06	<2.2	<1.3	32	28	33	<1.5
N-Nitrosodiphenylamine	16.2	<2.2	<0.4	2.2	1.6	<0.4	<1.9
Benzo(a)anthracene	0.031	<1.7	<0.2	<0.2	<0.8	<0.2	<7.8
Chrysene	0.031	<1.8	<0.3	<0.3	<0.9	<0.3	<2.5
Benzo(b)fluoranthene	0.031	<1.5	<0.1	<0.1	<0.7	<0.1	<4.8
Benzo(k)fluoranthene	0.031	<1.9	<0.2	<0.2	<0.9	<0.2	<2.5
Benzo(a)pyrene	0.031	<1.6	<0.2	<0.1	<0.8	<0.2	<2.5
Indeno(1,2,3-cd)pyrene	0.031	<1.4	<0.2	<0.1	<0.7	<0.2	<3.7
Total BNAs	NONE	60.6	2.2	80.2	92.1	119.4	-
Total PCBs	0.00017	-	-	-	-	-	-
NON-PRIORITY POLLUTANT							
HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	**5.5**	<2.8	<3.8	<2.8	**4.8**	**3**
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	18.4	<2.0	<2.5	5.5	3.6	21.6
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

[1] NJDEP Criteria for Class SE surface waters
J = An estimated value
D = Analysis at a secondary dilution
B = Value is ? MDL but ? Instrument Detection Limit
E = Estimated value due to interferences
Numbers in **bold** are exceedances of SWCC SE2.
"NA" = Not Analyzed or Results Not Available
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TABLE 3
AREAS 1, 1A, AND 5 POST-REMEDIAL GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
UOP SITE
EAST RUTHERFORD, NEW JERSEY

Constituents (Concentrations in ug/L)	Water Quality Criteria [1] (ug/L)	LS-2(22)-02	LS-2(22)-03	LS-2(22)-03	MW-36	MW-37	MW-38
		12/15/97	4/22/98	9/30/98	9/30/98	5/18/98	10/28/98
VOCs							
Vinyl Chloride	525	17.6	10.8	140	<25	304(D)	<5.0
Chloroethane	NONE	<10.0	<10.0	<25	<25	<10.0	<5.0
Methylene Chloride	1600	<5.0	<5.0	<15	<15	<5.0	<3.0
Acetone	NONE	89(J)	40(J)	61	33	<100	<5.0
1,1-Dichloroethylene	NONE	<5.0	<5.0	<10	<10	<5.0	<2.0
1,1-Dichloroethane	NONE	<5.0	<5.0	<25	<25	<5.0	<5.0
trans-1,2-Dichloroethylene	NONE	12.2	64.2	46	<25	95.7	<5.0
cis-1,2-Dichloroethylene	NONE	187	944(D)	350	<25	2410(D)	<5.0
1,2-Dichloroethane	99	<5.0	<5.0	<10	<10	20.6	<2.0
Vinyl Acetate	NONE	NA	NA	NA	NA	NA	NA
Trichloroethylene	81	**98.4**	**290(D)**	**110**	<5.0	**114**	<1.0
1,1,2-Trichloroethane	NONE	<5.0	<5.0	<15	<15	6.0	<3.0
Benzene	71	**129**	37.8	**440**	33	**117**	5.7
4-Methyl-2-Pentanone	NONE	<50.0	<50.0	<25	<25	<50.0	<5.0
2-Hexanone	NONE	<50.0	<50.0	<25	<25	<50.0	<5.0
Tetrachloroethylene	4.29	<5.0	**4.7(J)**	**4.4(J)**	<5.0	**36.4**	<1.0
1,1,2,2-Tetrachloroethane	NONE	<5.0	<5.0	<5.0	<5.0	194	<1.0
Toluene	200,000	144	138	320	6.6(J)	184	<5.0
Chlorobenzene	21,000	21.6	23.1	140	530	67.1	12.0
Ethylbenzene	27,900	7.8	11.5	42	<20	13.4	<4.0
Total Xylenes	NONE	28.0	54.3	140	<25	119.6	1.1(J)
Total VOCs	NONE	735	1618	1793	603	3692	18.8(J)
BNAs							
Benzidine	0.000535	<31.4(D)	<5.7	<97	<97	<6.0	<99
1,2,4-Trichlorobenzene	113	<10.5(D)	<1.9	<5.6	<5.6	3.1	<5.7
Hexachloroethane	12.4	<8.8(D)	<1.6	<3.9	<3.9	<2.0	<4.0
Bis(2-Chloroethyl)Ether	1.4	<31.6(D)	<5.7	<4.4	<4.4	<6.0	<4.5
1,2-Dichlorobenzene	16,500	10.5(D)	29.6	40	120	71.5	<4.4
1,3-Dichlorobenzene	22,200	<10.5(D)	<1.9	2.9(J)	<5.0	25.2	<5.0
1,4-Dichlorobenzene	3159	24.2(D)	6.0	12	3.7(J)	76.4	<5.5
Naphthalene	NONE	<9.9(D)	9.8	70	<4.8	5.4	<4.8
Bis(2-ethylhexyl)phthalate	5.92	<13.8(D)	<2.5	<5.4	<5.4	**94.3**	<5.5
Di-n-butyl phthalate	15,700	<12.1(D)	<2.5	<1.4	<1.4	<3.0	<1.5
Diethyl Phthalate	111,000	<10.5(D)	<1.9	<1.4	<1.4	1.9	<1.4
Acenaphthylene	NONE	<19.3(D)	<3.5	<3.0	<3.4	<4.0	<3.1
Fluorene	NONE	<10.5(D)	<1.9	<2.6	<2.6	<2.0	<2.6
Phenanthrene	NONE	<29.7(D)	<5.4	11	<1.4	<5.4	<1.4
Phenol	4.6E+06	1860(D)	6.9	40	<6.5	8.6	<6.6
N-Nitrosodiphenylamine	16.2	<10.5(D)	1.7(J)	<2.0	<2.0	**16.2**	<2.0
Benzo(a)anthracene	0.031	**42.9(D)**	<7.8	<1.0	<1.0	<8.0	<1.0
Chrysene	0.031	<13.8(D)	<2.5	<1.3	<1.3	<3.0	<1.3
Benzo(b)fluoranthene	0.031	<42.9(D)	<4.8	<0.5	<0.5	<5.0	<0.5
Benzo(k)fluoranthene	0.031	<13.8(D)	<2.5	<0.8	<0.8	<3.0	<0.8
Benzo(a)pyrene	0.031	<13.8(D)	<2.5	<0.8	<0.8	<3.0	<0.8
Indeno(1,2,3-cd)pyrene	0.031	<20.4(D)	<3.7	<0.8	<0.8	<4.0	<0.8
Total BNAs	NONE	1937.6	54	175.9	123.7	302.6	-
Total PCBs	0.00017	-	-	-	**0.97**	-	-
NON-PRIORITY POLLUTANT HAZARDOUS COMPOUNDS							
Benzoic Acid	NONE	NA	NA	NA	NA	NA	NA
2-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
4-Methylphenol	NONE	NA	NA	NA	NA	NA	NA
Aniline	NONE	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	NONE	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NONE	NA	NA	NA	NA	NA	NA
OTHER CONSTITUENTS							
Arsenic as As	0.136	**2**	<1.0	**5.8**	**14.0**	**5.0**	**9.9**
Cadmium as Cd	NONE	NA	NA	NA	NA	NA	NA
Chromium as Cr	3230	NA	NA	NA	NA	NA	NA
Copper	5.6	NA	NA	NA	NA	NA	NA
Cyanide as CN	1	NA	NA	NA	NA	NA	NA
Lead as Pb	24	2.4	4.0	<2.0	**38.4**	<1.5	**28.0**
Mercury	0.146	NA	NA	NA	NA	NA	NA
Manganese as Mn	100	NA	NA	NA	NA	NA	NA
Silver	NONE	NA	NA	NA	NA	NA	NA
Zinc as Zn	NONE	NA	NA	NA	NA	NA	NA

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