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SEMI-ANNUAL CORRECTIVE ACTION ASSESSMENT REPORT FOR SITE 11 APRIL -
SEPTEMBER 2000 NSB KINGS BAY GA
10/30/2000
J A JONES MANAGEMENT SERVICES



Semi-Annual Corrective Action Assessment Report

April - September 2000
FINAL

Site 11, Old Camden County Landfill
Naval Submarine Base Kings Bay, Georgia

Prepared for:
Naval Submarine Base
Kings Bay, Georgia
Facilities and Environmental Directorate

Prepared by:



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**SEMIANNUAL CORRECTIVE ACTION ASSESSMENT
REPORT**

April – September 2000

SITE 11, OLD CAMDEN COUNTY LANDFILL
NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

Prepared for:

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA
FACILITIES AND ENVIRONMENTAL DIRECTORATE

Prepared by:

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Kings Bay, Georgia 31547

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The work described and professional opinions rendered in this document, *Semiannual Corrective Action Assessment Report April – September 2000, Site 11, Old Camden County Landfill, Naval Submarine Base Kings Bay, Georgia* were conducted and developed using commonly accepted procedures consistent with applicable standards of practice. The scope of services and activities described in this document were developed under the supervision of a professional geologist registered in the State of Georgia as certified in the *Final Completion Report for In-Situ Chemical Oxidation, Site 11 Old Camden County Landfill, Naval Submarine Base Kings Bay, Georgia, July 2000*.



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ACRONYMS

IAJMS	J.A. Jones Management Services
BEI	Bechtel Environmental, Inc.
NSB	Naval Submarine Base

UNITS OF MEASURE

Ft	Foot
Gal	Gallon
Lb	Pounds
In.	Inch
MSL	Mean sea level
µg/L	Micrograms per liter
ppb	Parts per billion
ppm	Parts per million
sf	Square foot

1.0 INTRODUCTION

J.A. Jones Management Services (JAJMS) has been contracted by the Department of the Navy, Submarine Base Kings Bay to provide groundwater monitoring services at Site 11, Old Camden County Landfill at the Naval Submarine Base (NSB) Kings Bay.

This Semiannual Corrective Action Assessment Report summarizes the Interim Measures, monitoring activities, and remediation progress during May 1 to September 30, 2000. The report presents 1) the conclusion of the Phase 3 in-situ chemical oxidation treatment; 2) sampling and analyses activities; 3) overall status of remediation; and 4) projected work for the next reporting period.

2.0 SUMMARY OF ACTIVITIES

During this reporting period, the Phase 3 in-situ, chemical oxidation treatment was continued as part of the ongoing corrective action efforts. Quarterly groundwater sampling and analyses of monitoring wells was conducted for compliance with the Groundwater Protection Standards in accordance with the RCRA permit. Analytical results are discussed in section 3.0.

2.1 PHASE 3 IN-SITU CHEMICAL OXIDATION

Bechtel Environmental, Inc. (BEI) subcontractor, Geo-Cleanse International, Inc. of Kenilworth, New Jersey performed the third injection for the Phase 3 in-situ chemical oxidation treatment on April 17 to April 19, 2000. Approximately 1,500 gallons of peroxide and an equivalent amount of catalyst were injected.

2.2 GROUNDWATER MONITORING WELLS

Quarterly groundwater sampling was conducted by JAJMS on May 5, 2000 and August 7-10, 2000. The August 2000 results, which include annual Appendix IX sampling and analysis, have not been received but will be discussed in the *Annual Groundwater Monitoring Report* due in October 2000. The May 2000 sampling and analytical results are detailed in the *Quarterly Groundwater Monitoring Report, April-June 2000, Site 11 Old Camden County Landfill Naval Submarine Base Kings Bay Georgia* (JAJMS 2000a).

3.0 ANALYTICAL DATA

This section provides a summary of the analytical results associated with sampling and analyses efforts for in-situ chemical oxidation and groundwater monitoring well activities. All samples associated with the in-situ chemical oxidation were submitted to ENCO laboratories for chemical analyses. All samples associated with the quarterly groundwater monitoring wells were submitted to Columbia Analytical Laboratories. Quality assurance and quality control was

maintained through collection of duplicate samples and conformance with the laboratory's Comprehensive Quality Assurance Manual for Contract Laboratories.

3.1 PHASE 3 IN-SITU CHEMICAL OXIDATION

Pre-phase 3 treatment, first injection (Table 1 and Figure 1) show total chlorinated concentrations for I-60 at 130,000 µg/L. Post-phase 3 treatment, third injection samples were collected on April 27, 2000. The results in (Table 1 and Figure 2) show total chlorinated concentration for all injectors except I-60 and I-62 to be within the treatment goal of 100 µg/L. Results for I-60 were 180 µg/L and I-62 were 160 µg/L. A second post-phase 3 treatment, third injection sampling was performed on May 30, 2000. Results in (Table 1 and Figure 3) showed a concentration increase in 15 of the 18 injectors sampled. The highest concentration of 10,000 µg/L was observed at injector I-60. The significant increase observed at I-60 suggests the presence of a source area below I-60.

A complete set of the analytical results for the Phase 3 in-situ chemical oxidation is found in Attachment 1 of the *Completion Report for In-Situ Chemical Oxidation, Site 11 Old Camden County Landfill, Naval Submarine Base, Kings Bay, Georgia* (BEI 2000a). Complete details of the phase 3 treatment are provided in the Geo-Cleanse International, Inc. *Effectiveness Evaluation Report, Geo-Cleanse Treatment Program, Phase III, Naval Submarine Base Kings Bay, Site 11, Kings Bay Georgia* (Geo-Cleanse 2000a) included as Attachment 2 to the *Completion Report for In-Situ Chemical Oxidation, Site 11 Old Camden County Landfill, Naval Submarine Base, Kings Bay, Georgia* (BEI 2000a).

3.2 GROUNDWATER MONITORING WELLS

Six (6) groundwater monitoring wells were sampled and analyzed for Groundwater Protection Standard constituents on May 5, 2000. Four of the six wells exceeded the Groundwater Protection Standards for one or more of the constituents. This data is presented in Table 2.

4.0 STATUS OF REMEDIATION

Groundwater measurements and analyses data were used to evaluate the status of the remediation at Site 11. To illustrate the remediation progress, total chlorinated ethene isopleths were developed for the pre- and post-treatment sampling events. A calculation is also presented estimating the quantity of hazardous constituents eliminated.

4.1 GROUNDWATER

Water level elevations were calculated for the May 2000 sampling event of the groundwater monitoring wells. Figure 4 depicts the groundwater elevation and flow direction for this period.

4.2 CHLORINATED CONSTITUENT ISOPLETHS

Chlorinated constituent isopleths were developed for total chlorinated ethenes for the pre- and post-injection sample results. Figure 1 displays the concentration contours for the pre-phase 3 treatment, first injection. The figure shows the highest concentration at the phase 3 areas with a maximum concentration total chlorinated ethenes centered at I-60. Figure 2 shows the concentration contours for the post third injection event (April 27, 2000). Concentrations in the area of I-60 have decreased to 180 ug/L. Figure 3 shows the concentration contours for the post third injection event (May 30, 2000). Concentrations in the area of I-60 increased to 10,000 µg/L that suggests the presence of a new source area.

4.3 QUANTITY OF CHLORINATED HYDROCARBONS REMOVED

The estimated quantity of chlorinated hydrocarbons removed from Phase 1 and 2 and 3 (only 1st and 2nd injection) treatments using both ex-situ treatment and in-situ chemical oxidation is 231 lbs. This estimate was determined using plume dimensions and the average total dissolved chlorinated hydrocarbons throughout the plume. Analytical results from the third injection of the Phase 3 treatment indicate that the maximum concentration increased from 1,700 ppb (after the 2nd injection) to 10,000 ppb (after the 3rd injection). Chlorinated hydrocarbons were not removed during this 3rd injection and therefore, the quantity of hydrocarbons removed was not calculated.

5.0 PROJECTED WORK FOR THE NEXT REPORTING PERIOD

As recommended by BEI, a Geoprobe investigation is recommended to define the extent of the source area below the 60 series injectors. A mobile, onsite laboratory is recommended to provide immediate analyses of the collected samples. A complete summary of the recommendations is detailed in the *Completion Report for In-Situ Chemical Oxidation, Site 11 Old Camden County Landfill, Naval Submarine Base, Kings Bay, Georgia* (BEI 2000a).

A new contractor, CH2MHILL, who was awarded the remediation contract on August 31, 2000, will provide remediation support. A continuation of the work conducted by BEI should commence October 2000. JAJMS will continue to conduct the quarterly groundwater monitoring in accordance with the RCRA Permit.

6.0 REFERENCES

The following references were used in this report:

Quarterly Groundwater Monitoring Report, April-June 2000, Site 11 Old Camden County Landfill Naval Submarine Base Kings Bay Georgia (JAJMS 2000a).

Completion Report for In-Situ Chemical Oxidation, Site 11 Old Camden County Landfill, Naval Submarine Base, Kings Bay, Georgia (BEI 2000a).

*Effectiveness Evaluation Report, Geo-Cleanse Treatment Program, Phase III, Naval Submarine
Base Kings Bay, Site 11, Kings Bay Georgia (Geo-Cleanse 2000a)*

FIGURES

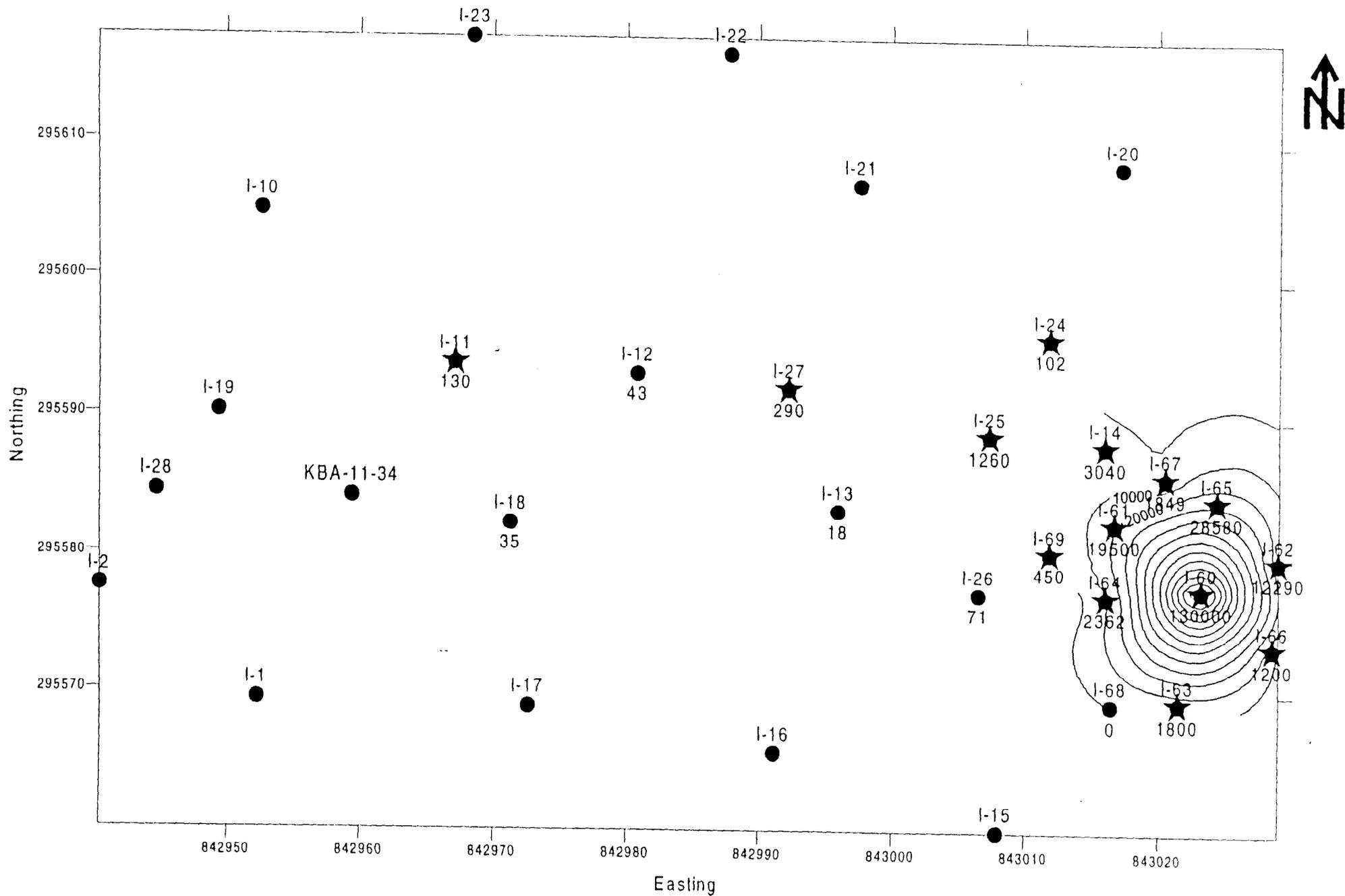


Figure 1 - Pre-Phase 3 Treatment, 1st Injection, Total Chlorinated Ethenes (ppb) - 1/7/00 Contour Interval = 10,000 ppb
 Reference: Final Completion Report for the In-Situ Chemical Oxidation, Site 11 Old Camden County Landfill, Naval Submarine Base
 Kings Bay, Georgia, BEI, July 2000

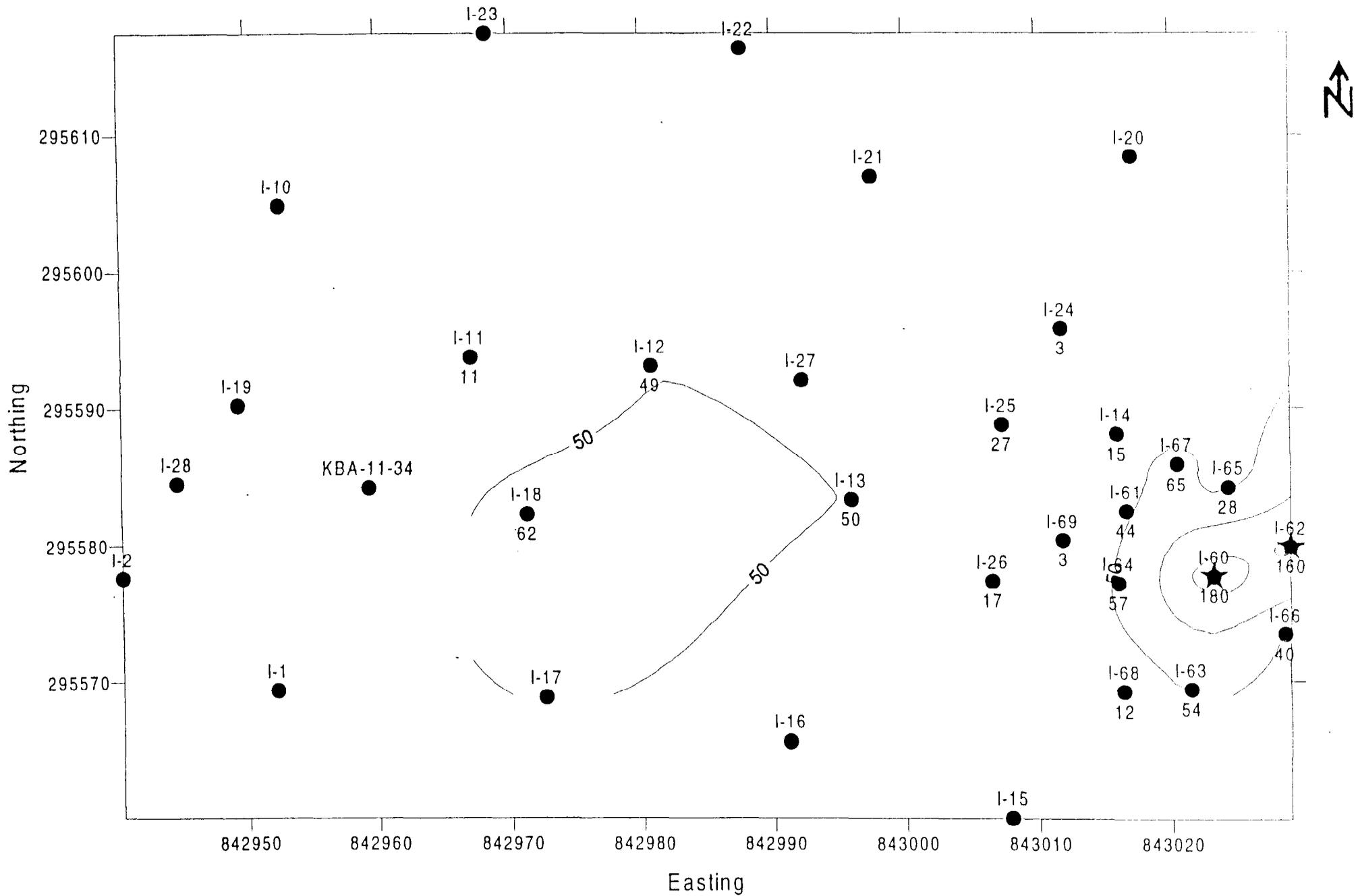


Figure 2 - Post-Phase 3 Treatment, 3rd Injection, Total Chlorinated Ethenes (ppb) - 4/27/00 Contour Interval = 50 ppb

Reference: Final Completion Report for the In-Situ Chemical Oxidation, Site 11 Old Camden County Landfill, Naval Submarine Base Kings Bay, Georgia, BEI, July 2000

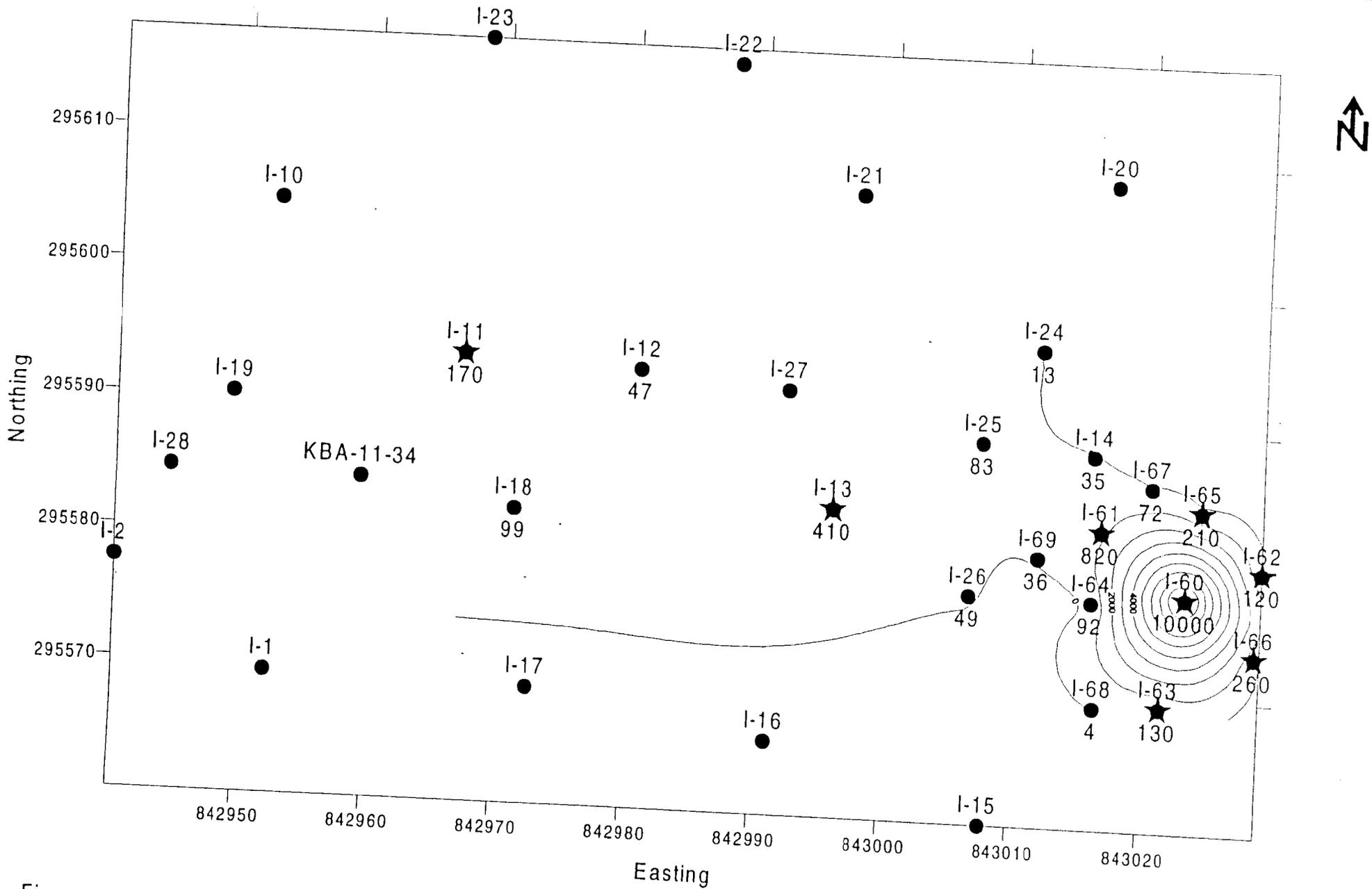


Figure 3 - 2nd Post-Phase 3 Treatment, 3rd Injection, Total Chlorinated Ethenes (ppb) - 5/30/00

Contour Interval = 1000 ppb

Reference: Final Completion Report for the In-Situ Chemical Oxidation, Site 11 Old Camden County Landfill, Naval Submarine Base
Kings Bay, Georgia, BEI, July 2000

TABLES

Table 1 - Analytical Summary, Phase III Treatment, Site 11 NSB Kings Bay, GA

Well ID	Date	Tetrachloroethene (ug/L)	Trichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	Vinyl Chloride (ug/L)	Total Chlorinated Ethenes (ug/L)
I-11	1/7/2000	130.0	10U	10U	10U	130.0
	2/2/2000	11.0	1U	1.4I	1U	11.0
	3/25/2000	150.0	5U	35.0	5U	185.0
	4/27/2000	11.0	1U	1U	1U	11.0
	5/30/2000	170.0	7.0	6.5I	5U	177.0
I-12	1/7/2000	43.0	2.6I	1U	1U	43.0
	2/2/2000	150.0	4.2	1U	1U	154.2
	3/25/2000	16.0	1U	1U	1U	16.0
	4/27/2000	49.0	1U	1U	1U	49.0
	5/30/2000	47.0	1.8I	1U	1U	47.0
	5/30/2000-DUP	50	1.8I	1U	1U	50.0
I-13	1/7/2000	18.0	1.2I	1.3I	1U	18.0
	2/2/2000	370.0	3.2	1I	1U	373.2
	3/25/2000	560.0	5U	5U	5U	560.0
	4/27/2000	12.0	1U	38.0	1U	50.0
	5/30/2000	41.0	5U	5U	5U	41.0
I-14	1/7/2000	2800.0	240.0	15I	10U	3040.0
	1/22/2000	200.0	20U	20U	20U	200.0
	2/2/2000	7.4	1U	1U	1U	7.4
	3/25/2000	11.0	1U	1U	1U	11.0
	4/27/2000	15.0	1U	2I	1U	15.0
	5/30/2000	32.0	2.8I	1.6I	1U	34.8
I-18	1/7/2000	31.0	3.3I	1U	1.0	35.3
	2/2/2000	110.0	1.5I	1U	1U	110.0
	3/25/2000	4.6	1U	1U	1U	4.6
	4/27/2000	62.0	1U	1U	1U	62.0
	5/30/2000	99.0	1.6I	1U	1U	99.0
I-24	1/7/2000	86.0	12.0	4.2	1U	102.2
	2/2/2000	71.0	4.4	1U	1U	75.4
	3/25/2000	22.0	1U	1U	1U	22.0
	4/28/2000	3.2	1U	1U	1U	3.2
	5/30/2000	13.0	1.4I	1.3I	1U	13.0
I-25	1/7/2000	1100.0	160.0	10U	10U	1260.0
	2/2/2000	1700.0	10U	10U	10U	1700.0
	3/25/2000	77.0	1U	110.0	1U	187.0
	4/27/2000	27.0	1U	1.3I	1U	27.0
	5/30/2000	81.0	1U	2.0	1U	83.0
I-26	1/7/2000	71.0	1.6I	1U	1U	71.0
	2/2/2000	100.0	1U	1U	1U	100.0
	3/25/2000	4.7	1U	1U	1U	4.7
	4/27/2000	17.0	1U	1U	1U	17.0
	5/30/2000	49.0	1U	1.5I	1U	49.0

Reference: Final Completion Report for the In-Situ Chemical Oxidation, Site 11 Old Camden County Landfill, Naval Submarine Base Kings Bay, Georgia, BEI, July 2000

U = compound was analyzed for but not detected to the level shown.

I = analyte detected; value is between the method detection limit and the practical quantitation limit.

Table 1 - Analytical Summary, Phase III Treatment, Site 11 NSB Kings Bay, GA

Well ID	Date	Tetrachloroethene (ug/L)	Trichloroethene (ug/L)	cis-1,2- Dichloroethene (ug/L)	Vinyl Chloride (ug/L)	Total Chlorinated Ethenes (ug/L)
I-27	1/7/2000	270.0	20.0	5U	5U	290.0
	2/2/2000	78.0	5U	5U	5U	78.0
	3/25/2000	130.0	5U	5U	5U	130.0
I-60	1/7/2000	130000.0	5000U	5000U	5000U	130000.0
	1/22/2000	20000.0	20U	88.0	20.0	20108.0
	2/2/2000	660.0	10U	26.0	10U	686.0
	2/2/2000 (DUP)	670.0	2.8I	23.0	1.0I	693.0
	3/25/2000	1700.0	20U	20U	20U	1700.0
	3/25/2000 (DUP)	1400.0	25U	120.0	20U	1520.0
	4/27/2000	180.0	5U	5U	5U	180.0
	4/27/00 (DUP)	69.0	1I	1U	1U	69.0
	5/30/2000	10000.0	100U	100U	100U	10000.0
I-61	1/7/2000	16000.0	3500.0	10U	10U	19500.0
	1/7/2000 DUP	14000.0	2300.0	20U	20U	16300.0
	1/22/2000	290.0	20U	20U	20U	290.0
	3/25/2000	16.0	1U	1U	1U	16.0
	4/27/2000	44.0	1U	1U	1U	44.0
	5/30/2000	820.0	20U	20U	20U	820.0
I-62	1/7/2000	12000.0	290.0	20U	20U	12290.0
	1/22/2000	950.0	1U	1U	1U	950.0
	2/2/2000	610.0	10U	10U	10U	610.0
	3/25/2000	320.0	5U	5U	5U	320.0
	4/27/2000	160.0	5U	5U	5U	160.0
	5/30/2000	120.0	5U	5U	5U	120.0
I-63	1/7/2000	1800.0	20U	20U	20U	1800.0
	1/22/2000	20.0	1U	1U	1U	20.0
	2/2/2000	40.0	1U	1U	1U	40.0
	3/25/2000	77.0	1U	1U	1U	77.0
	4/27/2000	54.0	1U	1U	1U	54.0
	5/30/2000	130.0	5U	5U	5U	130.0
I-64	1/7/2000	2300.0	62.0	10U	10U	2362.0
	1/22/2000	35.0	1U	1U	1U	35.0
	2/2/2000	12.0	1U	1U	1U	12.0
	3/25/1999	86.0	1U	1U	1U	86.0
	4/27/2000	57.0	1U	1U	1U	57.0
	5/30/2000	92.0	5U	5U	5U	92.0
	5/30/2000-DUP	93.0	1.5U	1U	1U	93.0
I-65	1/7/2000	28000.0	580.0	10U	10U	28580.0
	1/22/2000	28.0	1U	1U	1U	28.0
	2/2/2000	4.5	1U	1U	1U	4.5
	3/25/2000	120.0	5U	5U	5U	120.0
	4/27/2000	28.0	1U	1U	1U	28.0
	5/30/2000	210.0	5U	5U	5U	210.0

Reference: Final Completion Report for the In-Situ Chemical Oxidation, Site 11 Old Camden County Landfill, Naval Submarine Base Kings Bay, Georgia, BEI, July 2000

U = compound was analyzed for but not detected to the level shown.
 I = analyte detected; value is between the method detection limit and the practical quantitation limit.

Table 1 - Analytical Summary, Phase III Treatment, Site 11 NSB Kings Bay, GA

Well ID	Date	Tetrachloroethene (ug/L)	Trichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	Vinyl Chloride (ug/L)	Total Chlorinated Ethenes (ug/L)
I-66	1/7/2000	1200.0	20U	20U	20U	1200.0
	1/22/2000	1.5I	1U	1U	1U	0.0
	2/2/2000	120.0	5U	5U	5U	120.0
	3/25/2000	200.0	20U	20U	20U	200.0
	4/28/2000	40.0	1U	1U	1U	40.0
	5/30/2000	260.0	5U	5U	5U	260.0
I-67	1/7/2000	1800.0	49.0	10U	10U	1849.0
	1/22/2000	28.0	2.9	1U	1U	30.9
	2/2/2000	220.0	28.0	5U	5U	248.0
	3/25/2000	17.0	1U	1U	1U	17.0
	4/28/2000	62.0	3.3	1U	1U	65.3
	5/30/2000	72.0	5U	5.2I	5U	72.0
I-68	1/7/2000	1I	1U	1U	1U	0.0
	2/2/2000	730.0	9.2	1.4I	1U	739.2
	3/25/2000	4.8	1U	1U	1U	4.8
	4/28/2000	12.0	1U	1U	1U	12.0
	5/30/2000	4.0	1U	1U	1U	4.0
I-69	1/7/2000	450.0	17I	10U	10U	450.0
	1/22/2000	36.0	1U	1U	1U	36.0
	2/2/2000	31.0	1U	1U	1U	31.0
	3/25/2000	170.0	5U	5U	5U	170.0
	4/28/2000	2.9	1U	1U	1U	2.9
	5/30/2000	36.0	1.8I	1U	1U	36.0
<u>Events</u>						
1/7/00 - Baseline sampling						
1/17/00 - 1st injection						
1/22/00 - Sampling during 1st injection						
2/2/00 - Post 1st injection sampling						
3/7/00 - 2nd injection						
3/25/00 - Post 2nd injection sampling						
4/17/00 - 3rd injection						
4/27/00 - Post 3rd injection sampling						
5/30/00 - Post 3rd injection sampling						

Reference: Final Completion Report for the In-Situ Chemical Oxidation, Site 11 Old Camden County Landfill, Naval Submarine Base Kings Bay, Georgia, BEI, July 2000

U = compound was analyzed for but not detected to the level shown.

I = analyte detected; value is between the method detection limit and the practical quantitation limit.

Table 2
 Analytical Summary, Groundwater Protection Standard, NSB Kings Bay

Groundwater Protection Standard	Criteria (µg/L)	KBA-11-02				KBA-11-10B	KBA-11-11A	KBA-11-13A				
		5-4-00	2-11-00	11-9-99	8-3-99	8-2-99	8-2-99	5-4-00	2-11-00	11-9-99	11-9-99 (Duplicate)	8-3-99
Tetrachloroethene	5.0	1.0U	1.0U	3.0U	3.0U	3.0U	3.0U	1.0U	1.0U	30U	3.0U	3.0U
Trichloroethene	5.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	17.0	14.0	151	17	19
Cis -1,2-dichloroethene	70	1.0U	1.0U	1.0U	1.0U	1.6I	1.0U	170	230	260	210	190
Trans-1,2 dichloroethene	100	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	6.0	6.0	10U	6.6	7.4
1,1-dichloroethene	7.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	10U	1.0U	1.0U
1,1-dichloroethane	1.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	10U	1.0U	1.0U
1,2-dichloroethane	5.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	10U	1.0U	1.0U
Vinyl Chloride	2.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	18.0	20.0	46	42	48
Chloroethane	1.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	10U	1.0U	1.0U
Benzene	5.0	1.0U	1.0U	1.0U	1.0U	1.6	1.0U	2.0	2.0	10U	1.31	1.11
Ethylbenzene	700	1.0U	1.0U	1.0U	1.0U	10	1.0U	64	64.0	65	92	66
Toluene	1,000	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	2.0	2.0	10U	4.2	2.7
Total xylenes	10,000	3.0U	3.0U	3.0U	3.0U	3.0U	3.0U	4.0	23.0	241	49	14.4
Chlorobenzene	1.0	1.0U	1.0U	1.0U	1.0U	2.5	1.0U	5.0	6.0	10U	8.2	6.2
1,4-dichlorobenzene	75	1.0U	1.0U	1.0U	1.0U	1.5	1.0U	3.0	4.0	10U	5.2	4.0

Notes: I = analyte detected; value is between the method detection level (MDL) and the practical quantitation level (PQL).
 U = compound was analyzed for but not detected to the level shown.
BOLD indicates result exceeds the groundwater protection standard.

Table 2 Continued
 Analytical Summary, Groundwater Protection Standard, NSB Kings Bay

Groundwater Protection Standard	Criteria (µg/L)	KBA-11-13B	KBA-11-15			KBA-11-16				
			Date	8-3-99	2-11-00	2-11-00 (Duplicate)	8-3-99	5-4-00	5-4-00 (Duplicate)	2-11-00
Tetrachloroethene	5.0	3.0U	1.0	1.0	3.0U	1.0U	1.0U	1.0U	3.0U	3.0U
Trichloroethene	5.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
Cis -1,2-dichloroethene	70	1.0U	0.9I	1.0	1.0U	2.0	1.0U	14.0	3.6	1.0U
Trans-1,2 dichloroethene	100	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
1,1-dichloroethene	7.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
1,1-dichloroethane	1.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5.0	1.6I	1.0U
1,2-dichloroethane	5.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
Vinyl Chloride	2.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0	1.4I	1.0U
Chloroethane	1.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
Benzene	5.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
Ethylbenzene	700	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
Toluene	1,000	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
Total xylenes	10,000	3.0U	3.0U	3.0U	3.0U	3.0U	3.0U	3.0U	3.0U	3.0U
Chlorobenzene	1.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
1,4-dichlorobenzene	75	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U

Notes: I = analyte detected; value is between the method detection level (MDL) and the practical quantitation level (PQL).
 U = compound was analyzed for but not detected to the level shown.
BOLD indicates result exceeds the groundwater protection standard.

Table 2 Continued
 Analytical Summary, Groundwater Protection Standard. NSB Kings Bay

Groundwater Protection Standard	Criteria (µg/L)	KBA-11-17B		KBA-11-34				KBA-11-37				PS-2			
		Date	2-11-00	8-3-99	5-4-00	2-11-00	11-9-99	8-3-99	5-4-00	2-11-00	11-9-99	8-16-99	5-4-00	2-11-00	11-9-99
Tetrachloroethene	5.0	1.0U	3.0U	89.0	83.0	22	17	1.0U	1.0U	3.0U	3.0U	1.0U	1.0U	3.0U	3.0U
Trichloroethene	5.0	1.0U	1.0U	1.0	2.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	2.0	2.0	1.4I	1.3I
Cis -1,2-dichloroethene	70	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	17.0	16.0	17	24	57.0	52.0	40	41
Trans-1,2 dichloroethene	100	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	0.5	1.0U	1.0U	1.0U
1,1-dichloroethene	7.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
1,1-dichloroethane	1.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5.0	5.0	5.1	5.6
1,2-dichloroethane	5.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
Vinyl Chloride	2.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.4I	2.5I	1.0U	2.0	2.9	3.2I
Chloroethane	1.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
Benzene	5.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	2.0	2.0	2.0	2.1	8.0	8.0	9.4	9.1
Ethylbenzene	700	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	9.0	14	15	16.0	14.0	16	10
Toluene	1,000	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0	1.0U	1.0U	19.0	37.0	57	43
Total xylenes	10,000	3.0U	3.0U	3.0U	3.0U	3.0U	3.0U	12.0	3.0U	3.0U	3.0U	41.0	40.0	47	29
Chlorobenzene	1.0	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	3.0	2.0	3.1	2.9	0.7	1.0U	1.0U	1.0U
1,4-dichlorobenzene	75	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	3.0	3.0	4.7	3.6	1.0U	1.0U	1.0U	1.0U

Notes: I = analyte detected; value is between the method detection level (MDL) and the practical quantitation level (PQL).
 U = compound was analyzed for but not detected to the level shown.
BOLD indicates result exceeds the groundwater protection standard.