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SEMI-ANNUAL CORRECTIVE ACTION ASSESSMENT INTERIM MEASURES PROGRESS REPORT FOR SITE 11 OCTOBER 1999 - MARCH 2000 NSB KINGS BAY GA
4/30/2000
BECHTEL ENVIRONMENTAL

NSB Kings Bay Administrative Record
Document Index Number

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# SEMIANNUAL CORRECTIVE ACTION ASSESSSMENT/ INTERIM MEASURES PROGRESS REPORT October 1999 – March 2000

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

Prepared for

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND

Under Contract No. N62467-93-D-0936
Bechtel Job No. 22567

Prepared by

BECHTEL ENVIRONMENTAL, INC.
151 LAFAYETTE DR.
OAK RIDGE, TENNESSEE

April 2000

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April 26, 2000

Mr. Anthony Robinson - Code 18511
Remedial Project Manager
Naval Facilities Command Southern Division
2155 Eagle Drive
P.O. Box 190010
North Charleston SC 29406

SUBJECT: Bechtel Job No. 22567-625
Department of the Navy Contract No. N62467-93-D-0936
**D.O. 109, Final Semi-Annual Corrective Action Assessment/Interim Measures Progress Report October 1999–March 2000, Site 11, Old Camden County Landfill, NSB Kings Bay, Georgia**
**Subject Code: 1200**

Dear Mr. Robinson:

Enclosed please find two copies of the above-referenced report. Bechtel completed the third injection of Phase 3 treatment on April 19, 2000. Two rounds of post-treatment groundwater sampling/analyses are scheduled for April 27 and May 29, 2000. A letter completion report, including details and results of Phase 3 treatment, is scheduled for June 30, 2000.

It has been a pleasure assisting you and the Navy with this project. If you have any questions concerning this matter, or need additional information, please call Mark Gage at (865) 220-6421, or me at (865) 220-6407.

Sincerely,

M. A. Gage

for O. N. McNeil, Jr., P.E.
Program Manager

MG/ch Lr2024

Enclosure: as stated

Cc: Mike Herron, SOUTHDIV, w/o
John Garner, NSB Kings Bay, GA, w/2

# SEMIANNUAL CORRECTIVE ACTION ASSESSMENT/

# INTERIM MEASURES PROGRESS REPORT

# OCTOBER 1999–MARCH 20000

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

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APRIL 2000

REVISION 0

## GEOLOGIST'S CERTIFICATION

The work described and professional opinions rendered in this document, *Semiannual Corrective Action Assessment/Interim Measures Progress Report, October 1999–March 2000, Site 11, Old Camden County Landfill, Naval Submarine Base, Kings Bay, Georgia, April 2000, Revision 0,* were conducted and developed using commonly accepted procedures consistent with applicable standards of practice. The observations and opinions presented were developed under the supervision of a professional geologist registered in the State of Georgia.

Mark A. Gage
Professional Geologist
State of Georgia License No. 001167
Expires December 31, 2001



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Oak Ridge, TN 37831-0350 USA

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## ACRONYMS AND ABREVIATIONS

| | |
|---|---|
| BECHTEL | Bechtel Environmental, Inc. |
| DCE | cis 1,2-dichloroethene |
| ENCO | Environmental Conservation Laboratories |
| PCE | tetrachloroethene |
| TCE | trichloroethene |

## UNITS OF MEASUREMENT

| | |
|---|---|
| bls | below land surface |
| $ft^3$ | cubic foot |
| ft | foot |
| gal | gallon |
| $ft^2$ | square foot |
| µg/L | micrograms per liter |
| ppb | parts per billion |

# 1.0 INTRODUCTION

Bechtel Environmental, Inc. (Bechtel) has been contracted by the Department of the Navy, Naval Facilities Command, Southern Division, to provide remedial services as the Navy's Environmental Response Action Contractor. Under Delivery Order 109, Task 1, of the Prime Contract N62467-93-D-0936, Bechtel has been contracted to conduct Interim Measures for remediation of source area contaminated groundwater at Site 11, Old Camden County Landfill at the Naval Submarine Base (NSB) Kings Bay. The treatment area and site map is displayed in Figure 1.

This Semiannual Corrective Action Assessment / Interim Measures Progress Report summarizes the Interim Measures, monitoring activities, and remediation progress during October 1, 1999 to March 31, 2000. The report presents; (1) 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

Activities during this period included drilling and injector installation, site survey, Phase 3 in-situ chemical oxidation treatment, and groundwater sampling and analyses. Analytical results are discussed in section 3.0.

## 2.1 DRILLING AND INJECTOR INSTALLATION

During January 4–January 6, 2000, Bechtel and subcontractor Partridge Well Drilling of Jacksonville, Florida installed 10 injectors (I-60 through I-69) at locations shown in Figure 2. Phase 3 injectors were used for Phase 3 chemical oxidation treatment. All injectors were installed and constructed as directed by Geo-Cleanse International Inc. of Kenilworth, New Jersey. Boreholes for injector installation were drilled using the hollow stem auger technique. Injector depths ranged from approximately 24- to 40-ft below grade. All injectors were constructed of 1 1/4-inch diameter well screen and casing. The screens consisted of a 3-ft section of 0.01-inch, slotted, stainless steel. Riser casing consisted of Schedule 80 black steel pipe and couplings, and extended from several inches to approximately 1-ft above grade. A 6/20 silica sand pack was placed around the screens, a 1- to 2-ft layer of bentonite pellets/chips was added above the sand pack, and the remainder of the annulas was filled with a cement/bentonite grout to the land surface. The top of each injector was threaded and designed to accommodate the patented Geo-Cleanse® Mixing Head. Table 1 summarizes the injector completion information. Injector completion logs are provided in Appendix A.

## 2.2 SITE SURVEY

L.D. BRADLEY Land Surveyors of Jacksonville, Florida performed a site survey on January 17, 2000. Both the horizontal and vertical locations of newly installed injectors I-60 through I-69 were surveyed. The horizontal locations were referenced to North American Data 1983, and the vertical locations were referenced to National Geodetic Vertical Datum 1929. A copy of the site survey in included as Appendix B.

## 2.3 PHASE 3 CHEMICAL OXIDATION TREATMENT

Two injections were performed as part of the Phase 3 treatment. Bechtel subcontractor Geo-Cleanse International, Inc., of Kenilwoth, New Jersey performed all chemical oxidation treatment. The first injection was performed during January 17–25, 2000. During this event, approximately 4,300 gallons of 50% hydrogen peroxide and an equivalent volume of ferrous iron catalyst were injected into selected injectors. Selected injectors included all injectors where the total chlorinated ethenes concentration exceeded the target goal of 100 µg/L. The second injection was performed during March 7–9, 2000 and involved approximately 3,000 gallons of 50% hydrogen peroxide and approximately 9,000 gallons of ferrous iron catalyst. Phase 3 treatment is currently in progress. A complete report of the Phase 3 treatment activities and results will be issued by Geo-Cleanse for the next semi-annual report. Analytical results used to evaluate the effectiveness of the treatment to date are provided in the following section.

# 3.0 ANALYTICAL DATA

To evaluate treatment performance, pre-, during-, and post-injection groundwater samples were collected and submitted for chemical analyses. All samples were submitted to ENCO laboratories of Jacksonville, Florida for chlorinated hydrocarbon analysis using EPA Method 8021. One pre-treatment (1/7/00), one during the first injection (1/22/00), and one post-injection (2/2/00) were performed for the first injection, and one post-injection sampling (3/25/00) was performed for second injection. Results are summarized in Table 2. Complete analytical reports are provided in Appendix C.

Pre-treatment samples were collected on January 7, 2000 to establish a baseline of analytical data. Results show tetrachloroethene (PCE) concentrations ranging from 1.0 µg/L at I-68 to a maximum concentration of 130,000 µg/L at location I-60. Trichloroethene (TCE) was detected at injectors I-14, I-25, I-61, I-62, and I-65 at concentrations ranging from 160 to 3,500 µg/L. Cis 1, 2-Dichloroethene (DCE) was mostly not detected with the only detection of 4.2 µg/L at I-24. Vinyl Chloride was not detected; however, the detection limits were elevated for most of the samples due to the required dilution for the high PCE concentration. PCE is the most prevalent contaminant in this area.

Selected injectors were sampled during the first injection to evaluate the effectiveness of the treatment. On January 22, 2000 existing injector I-14 and all newly installed injectors except I-68 were sampled and analyzed for chlorinated hydrocarbons analysis. Results in Table 2 show a reduction in PCE concentrations in all injectors sampled. Injector I-60 showed an 85% reduction from 130,000 µg/L to 20,000 µg/L.

Post first injection samples were collected on February 2–3, 2000 to evaluated the first injection treatment. Results show PCE concentrations decreased from 88% to 99% in all of the newly installed injectors except I-68. The hot spot area at I-60 decreased from 130,000 µg/L to 660 µg/L. Existing injectors I-12, I-13, I-18, I-25, and I-26 showed a slight increase.

Post second injection samples were collected on March 25, 2000 to evaluate the second injection treatment. Results show a PCE increase above the target goal at injectors I-11, I-13, I-27, I-60, I-62, I-65, I-66, and I-69.

# 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.

Previous in-situ chemical oxidation treatment of the original source area (phase 1 and phase 2 treatment) has reduced the total chlorinated ethene concentrations to the target goal of less than 100 μg/L. Phase 3 treatment of the new source area is ongoing. After two injections, results show a 99% reduction in chlorinated ethene concentrations. However, nine of the 19 injectors sampled after the second injection exceed the target level. A third injection is planned for mid-April.

## 4.1 GROUNDWATER

Depth-to-water measurements and water level elevations were calculated for February 2000. Figure 3 depicts the groundwater elevation and flow direction for this period. Generally, depth to water was approximately 10-ft below grade at the landfill. The groundwater flow direction is to the west-northwest with a gradient of 0.002 to 0.005.

## 4.2 TOTAL CHLORINATED ETHENES ISOPLETHS

Total chlorinated ethene isopleths were developed for pre- and post-injection sample results. Figure 4 displays the concentration contours for the pre-treatment or baseline sampling results. The figure shows the highest concentrations at the phase 3 area with a maximum 130,000 μg/L total chlorinated ethenes centered at I-60.

Figure 5 shows the concentration contours for the post first injection event. Concentrations in the area of I-60 have decreased 99% but exceed the target goal at injectors I-12, I-13, I-18, I-25, I-26, I-60, I-62, I-66, I-67, and I-68.

Figure 6 displays the post second injection total chlorinated ethenes concentrations. Generally there is a continual reduction in concentrations. However, a marker increase is observed at I-60 and injectors I-11, I-13, I-25, I-27, I-62, I-65, I-66, and I-69 still exceed the target goal of 100 μg/L.

## 4.3 QUANTITY OF CHLORINATED HYDROCARBONS REMOVED

The estimated quantity of chlorinated hydrocarbons removed to date using both ex-situ treatment and in-situ chemical oxidation is 231 lbs. This estimate was determined using the calculation method presented below. The method uses dissolved plume dimensions and the average total dissolved chlorinated hydrocarbons throughout the plume. Ex-situ treatment of 1,030,800 gallons using the onsite treatment facility during Phase 1 and in-situ treatment during Phase 1 and Phase 2 was included in the estimate.

Several assumptions are required for this calculation. The assumptions are based on the extent, thickness, and observed concentration of the dissolved plume for the Phase 3 area.

**Phase 3 Treatment**

| Assumptions | Value |
|---|---|
| Plume length | 50 ft |
| Width | 50 ft |
| Average thickness | 30 ft |
| Porosity | 0.30 |
| Average total chlorinated hydrocarbon (TCH) concentration | 65,000 ppb |

| Calculation | |
|---|---|
| Vol. contaminated water = 2,500 $ft^2$ * 30 ft (thick) * 0.30 (porosity) * 7.48 $gal/ft^3$ | 168,300 gal |
| Dissolved Cont. Mass (lbs) = 168,300 gal * 8.345 lbs/gal * 65,000 lbs TCH/ 1,000,000,000 lbs | **91 lbs** |
| **Phase 1 and 2 Treatments** | **140 lbs** |
| **TOTAL** | **231 lbs** |

## 5.0 PROJECTED WORK FOR THE NEXT REPORTING PERIOD

Bechtel and its subcontractor Geo-Cleanse will apply a third injection as part of Phase 3 treatment. This is scheduled for April 17–20, 2000. All injectors exceeding the target goal of 100 µg/L total chlorinated ethenes will be subject to treatment with hydrogen peroxide. Two rounds of groundwater sampling and analyses will follow to determine the effectiveness of this third injection. The first post-third injection sampling will be the last week of April or the first week of May 2000. The second post-third injection sampling event will be approximately 30 days after the first sampling event. The data will be reviewed, and Geo-Cleanse will then write a report detailing the activities and results of the Phase 3 treatment. The Phase 3 report will be provided in the next Progress Report.

# REFERENCES

Bechtel Environmental Inc., 1999. *Semi-annual Corrective Action Assessment/Interim Measures Progress Report, May–September 1999.* Prepared for SOUTHNAVFACENGCOM, Charleston, South Carolina (October).

# FIGURES

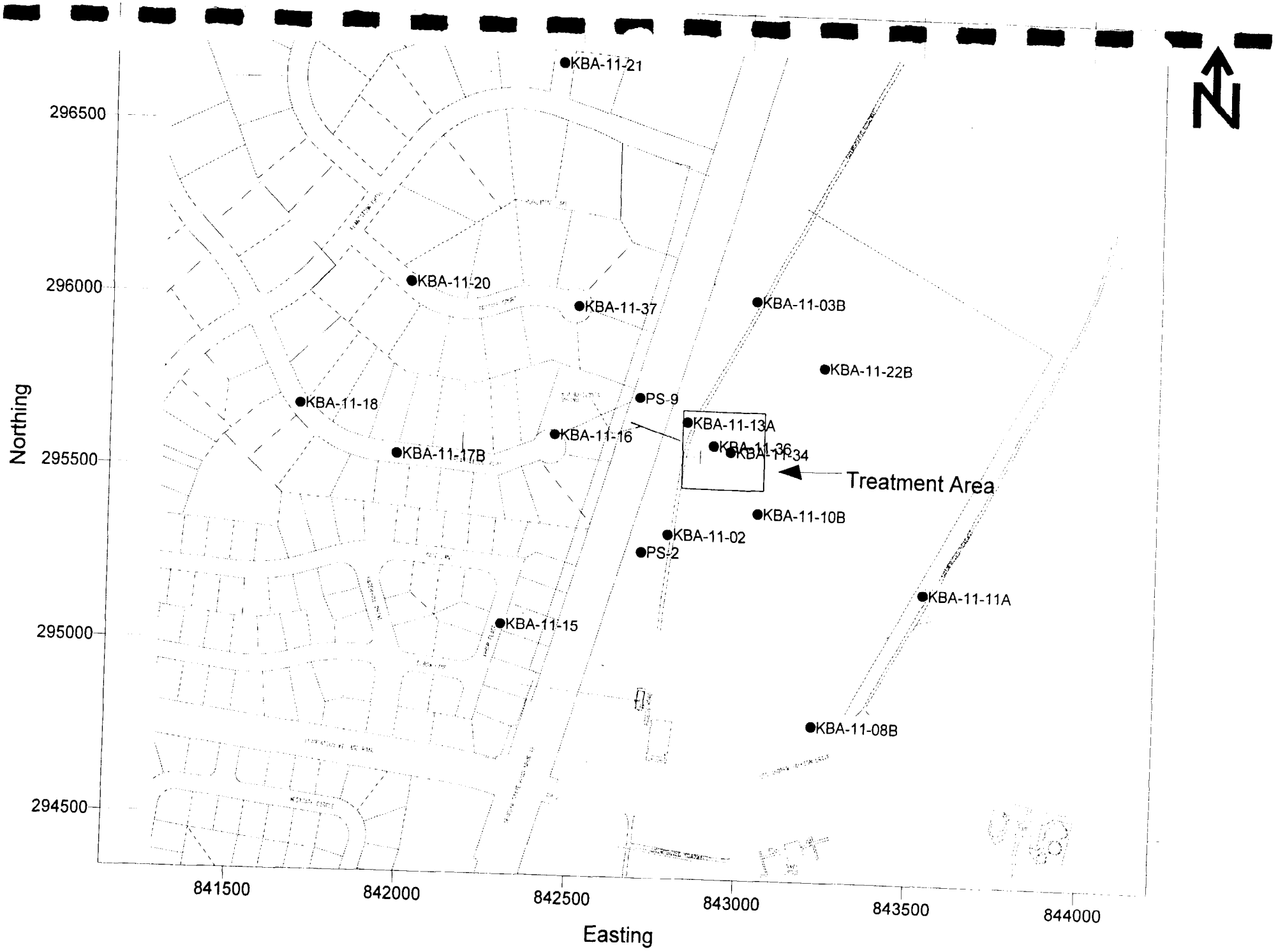



Figure 1 - Site 11 Naval Subase Kings Bay, GA

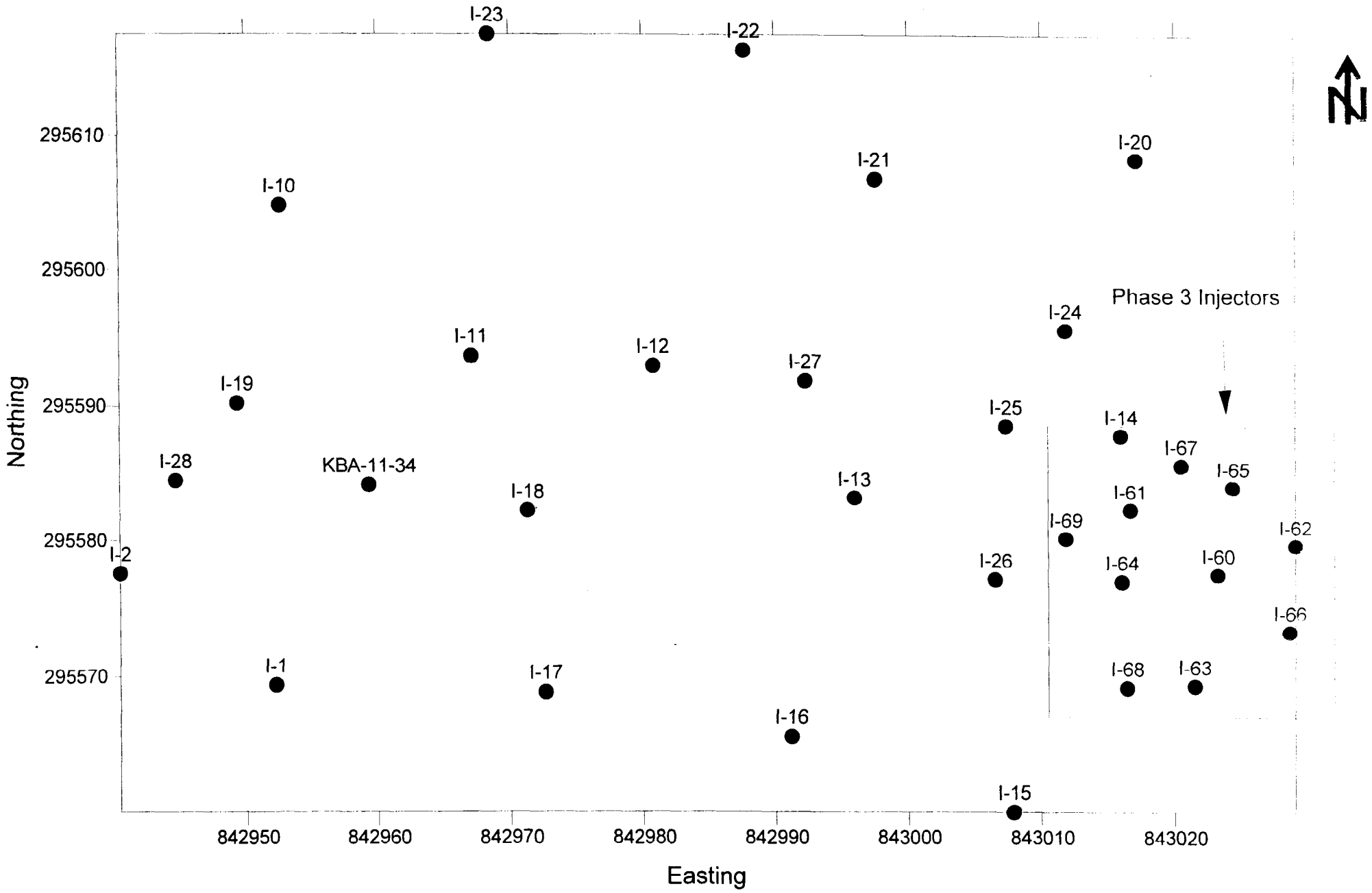



Figure 2 - Phase 3 Injector Locations

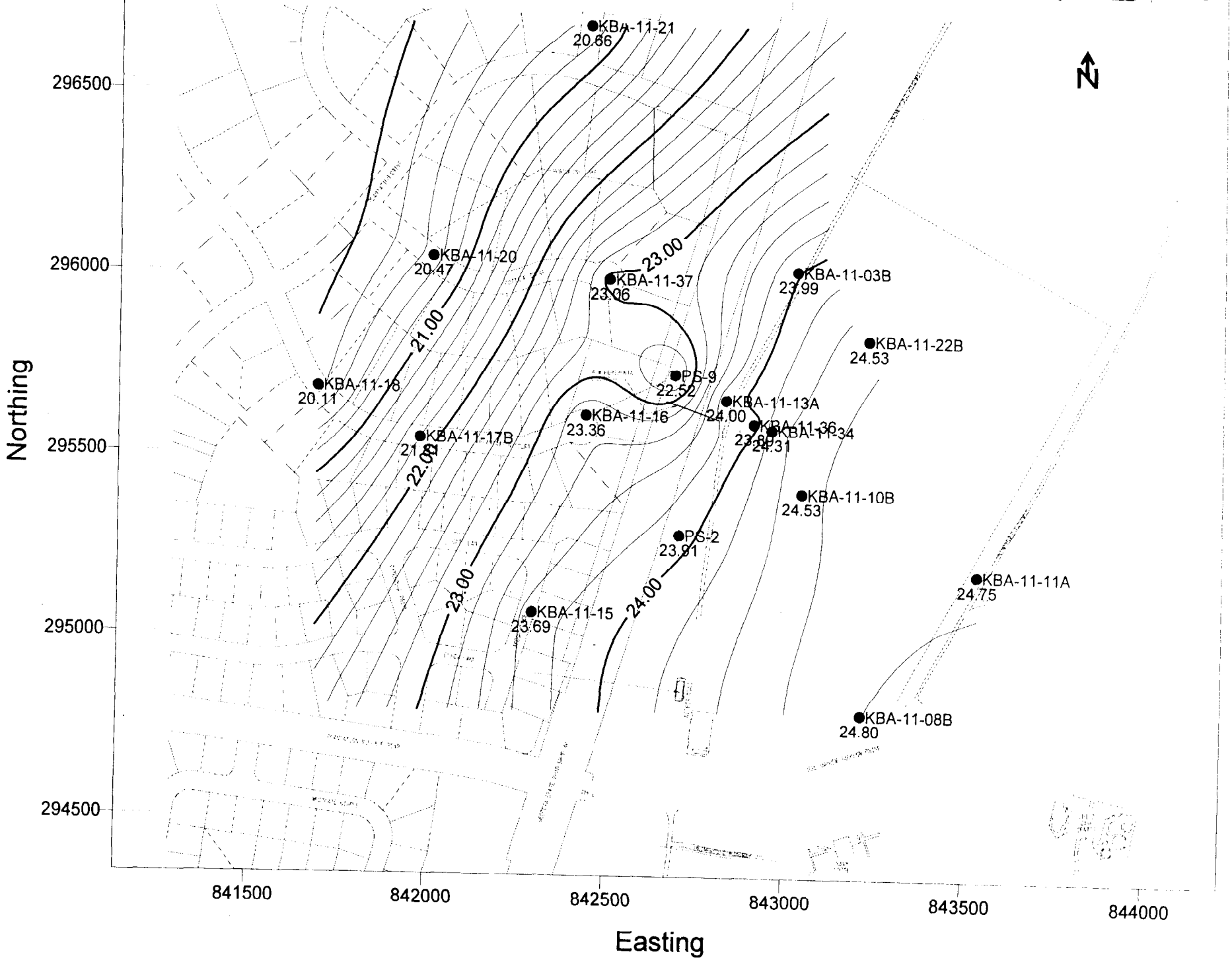



Figure 3 - Groundwater Elevation Contour Map, February 2000

Contour Interval = 0.2 ft

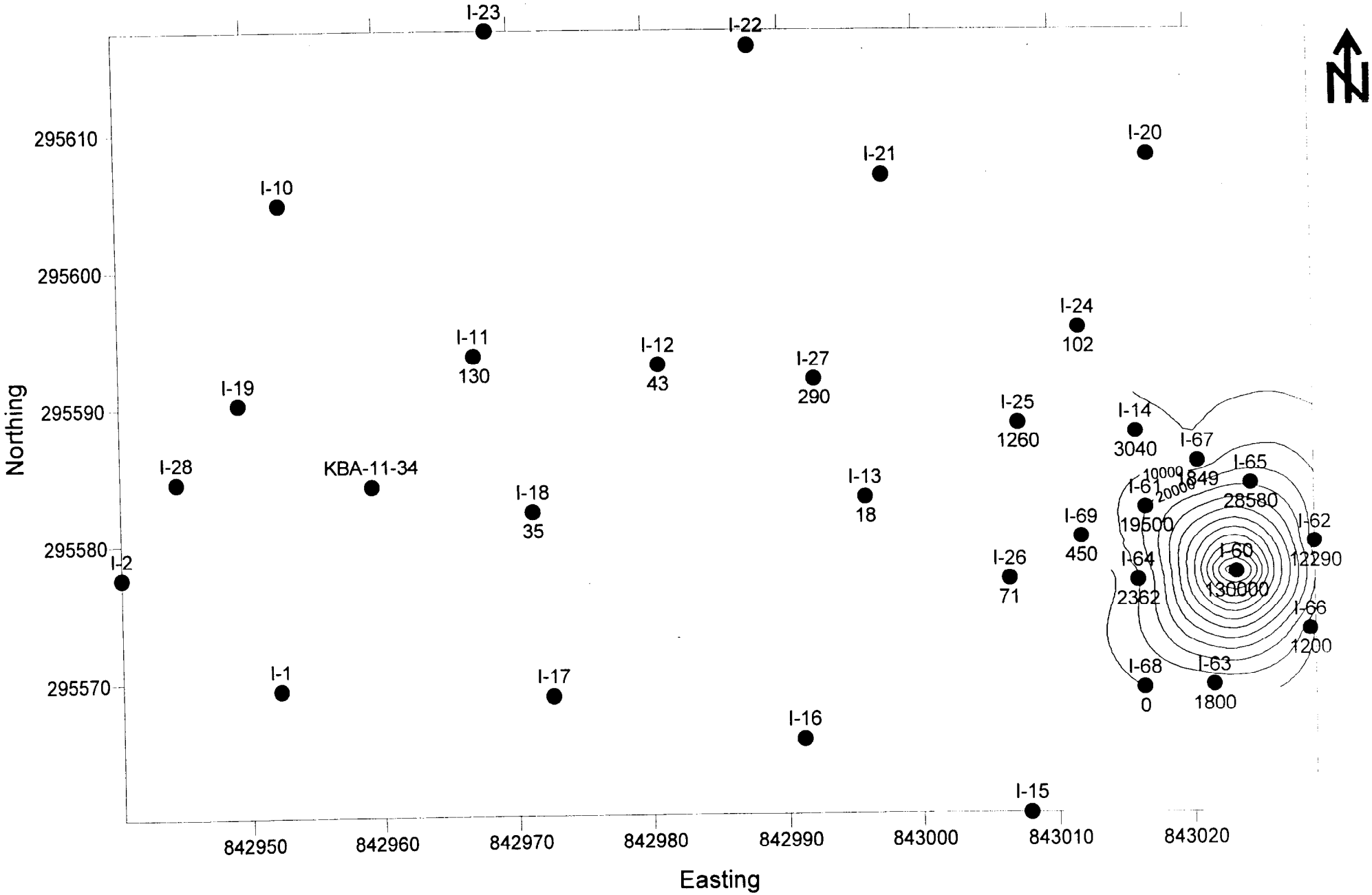



Figure 4 - Pre-Treatment Total Chlorinated Ethenes (ug/L), 1/7/00 Contour Interval = 10,000 ug/L

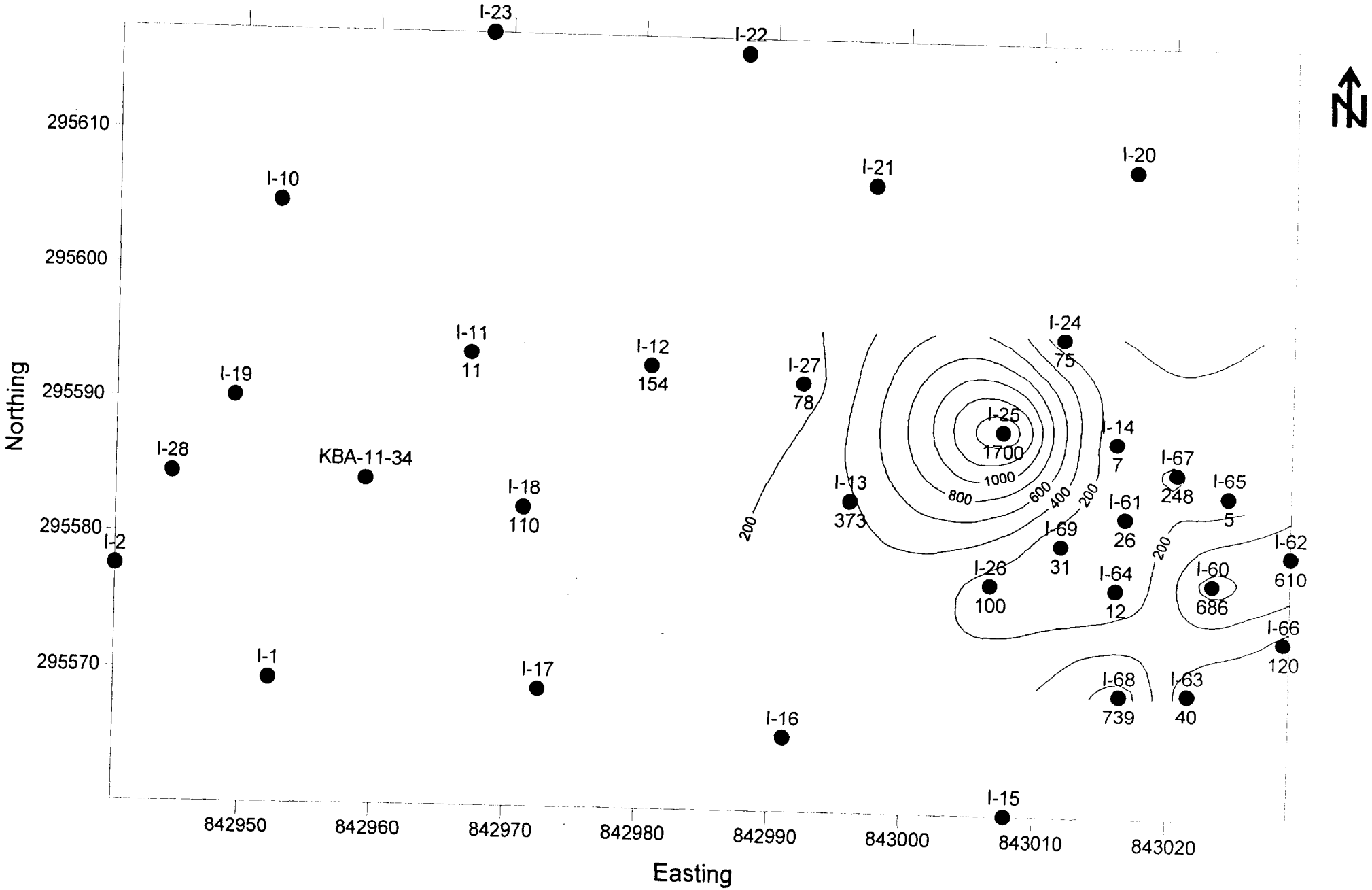



Figure 5 - Post 1st Injection, Total Chlorinated Ethenes (ug/L), 2/2/00 Contour Interval = 200 ug/L

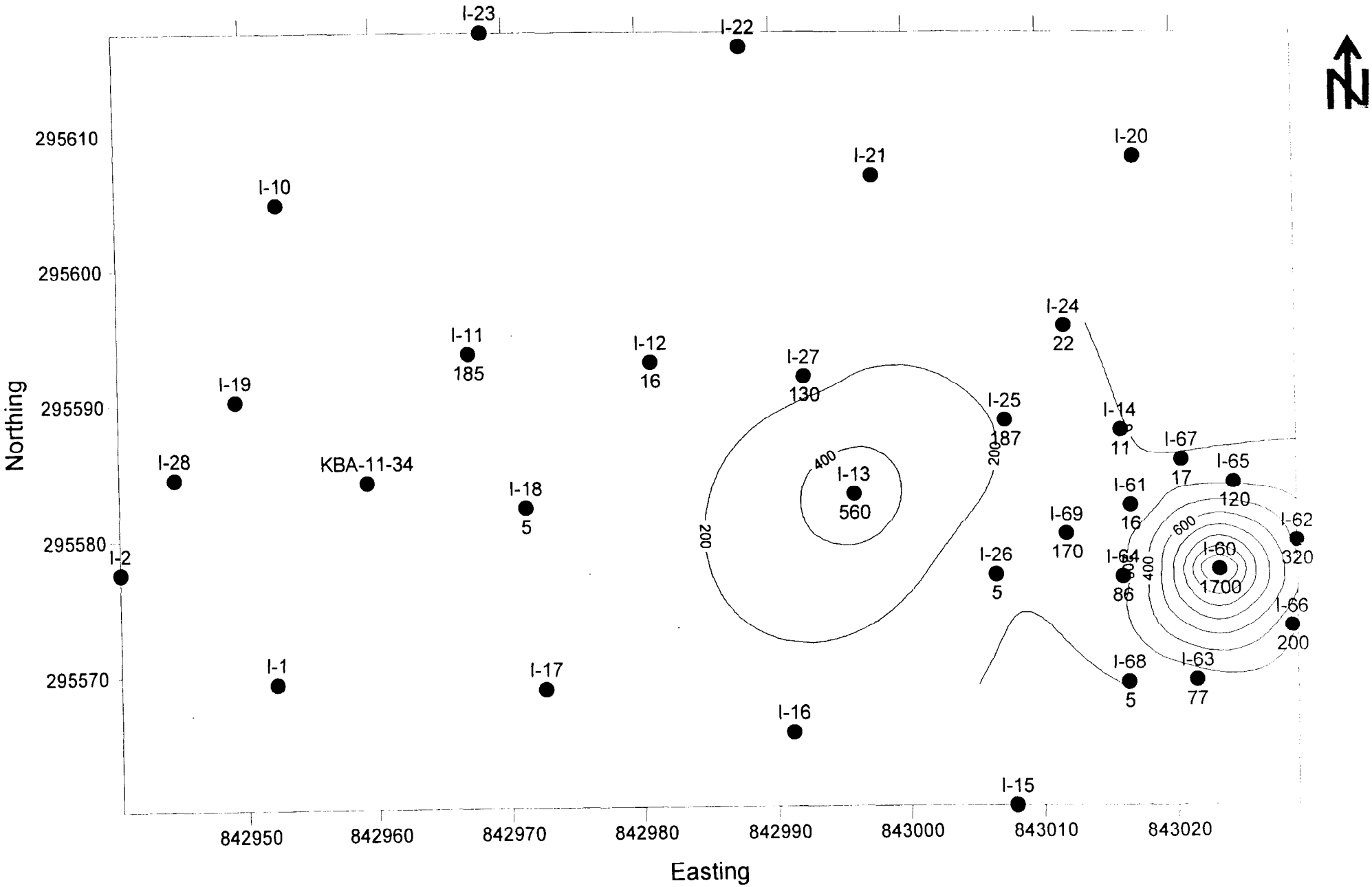



Figure 6 - Post 2nd Injection, Total Chlorinated Ethenes (ug/L), 3/25/00 Contour Interval = 200 ug/L

# TABLES

**Table 1 - Injector Completion Summary**

| Injector | Date Installed | Total Depth (ft bls) | Top Screen (ft bls) |
|---|---|---|---|
| I-60 | 1/4/2000 | 39.3 | 36.3 |
| I-61 | 1/5/2000 | 32.8 | 29.8 |
| I-62 | 1/4/2000 | 33 | 30 |
| I-63 | 1/5/2000 | 32.9 | 29.9 |
| I-64 | 1/6/2000 | 29.6 | 26.6 |
| I-65 | 1/4/2000 | 30 | 27 |
| I-66 | 1/5/2000 | 30.2 | 27.2 |
| I-67 | 1/4/2000 | 24.2 | 21.2 |
| I-68 | 1/6/2000 | 24 | 21 |
| I-69 | 1/5/2000 | 23.7 | 20.7 |

Table 2 - 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 |
| 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 |
| 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 |
| 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 |
| I-18 | 1/7/2000 | 31.0 | 3.3 | 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| | 3/25/2000 | 1700.0 | 20U | 20U | 20U | 1700.0 |
| I-61 | 1/7/2000 | 16000.0 | 3500.0 | 10U | 10U | 19500.0 |
| | 1/22/2000 | 290.0 | 20U | 20U | 20U | 290.0 |
| | 2/2/2000 | 26.0 | 1U | 1U | 1U | 26.0 |
| | 3/25/2000 | 16.0 | 1U | 1U | 1U | 16.0 |
| 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 |
| 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 |

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, 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-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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |

Events

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

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.

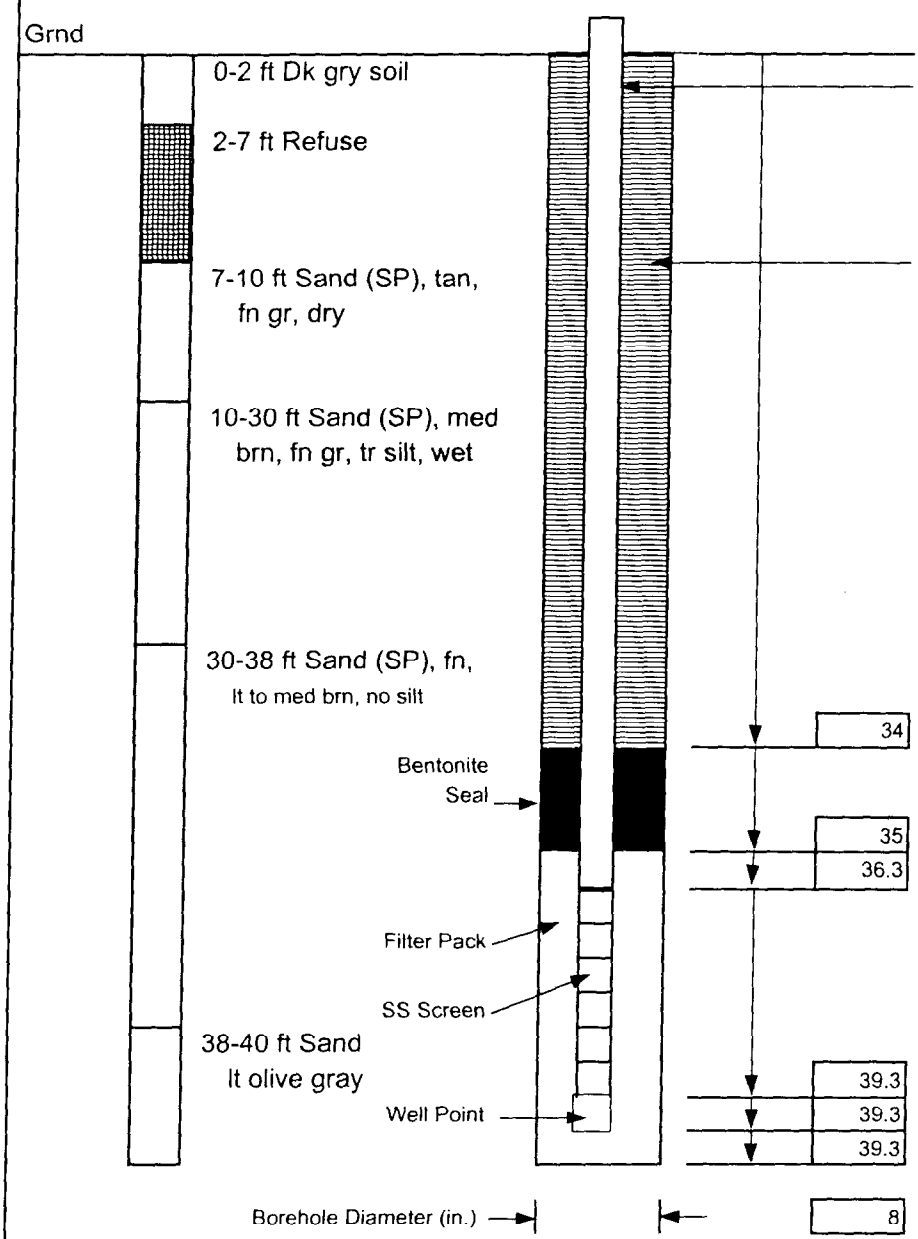
# APPENDIX A

# INJECTOR COMPLETION LOGS

# Injector Construction Log

| | | |
|---|---|---|
| **Navy RAC** | Site: Site 11, NSB Kings Bay, GA | Well No.: I-60 |
| Drilling Company: Partridge Well Drilling | Project No.: 22567-625 | Logged By: M. Gage |
| Driller: Jeff Weatherford | Date Started: 1/4/00 | Coordinates: |
| Drilling Equipment: Failing Speedstar | Date Completed: 1/4/00 | N 295577.61 |
| Drilling Method: HAS | Depth to Water: 10 ft bgs | E 843023.18 |
| Drilling Fluid: None | TOC Elevation: 35.49 | |

Generalized Drill Log




**MATERIALS**

**Riser Pipe**

| | |
|---|---|
| Type | Sch. 80 Black Iron |
| Diameter (in.) | 1.25 |
| Length (ft) | 37 |

**Backfill**

| | |
|---|---|
| Type | Cement/bentonite Grout |
| Length (ft) | 35 |
| Placement | Tremie |

**Seal**

| | |
|---|---|
| Type | Bentonite Pellets |
| Length (ft) | 1 |
| Placement | Pour |

**Filter Pack**

| | |
|---|---|
| Type | 6/20 Silica Sd |
| Length (ft) | 4 ft |
| Placement | tremie |
| Amount Placed | 2.5 sx |

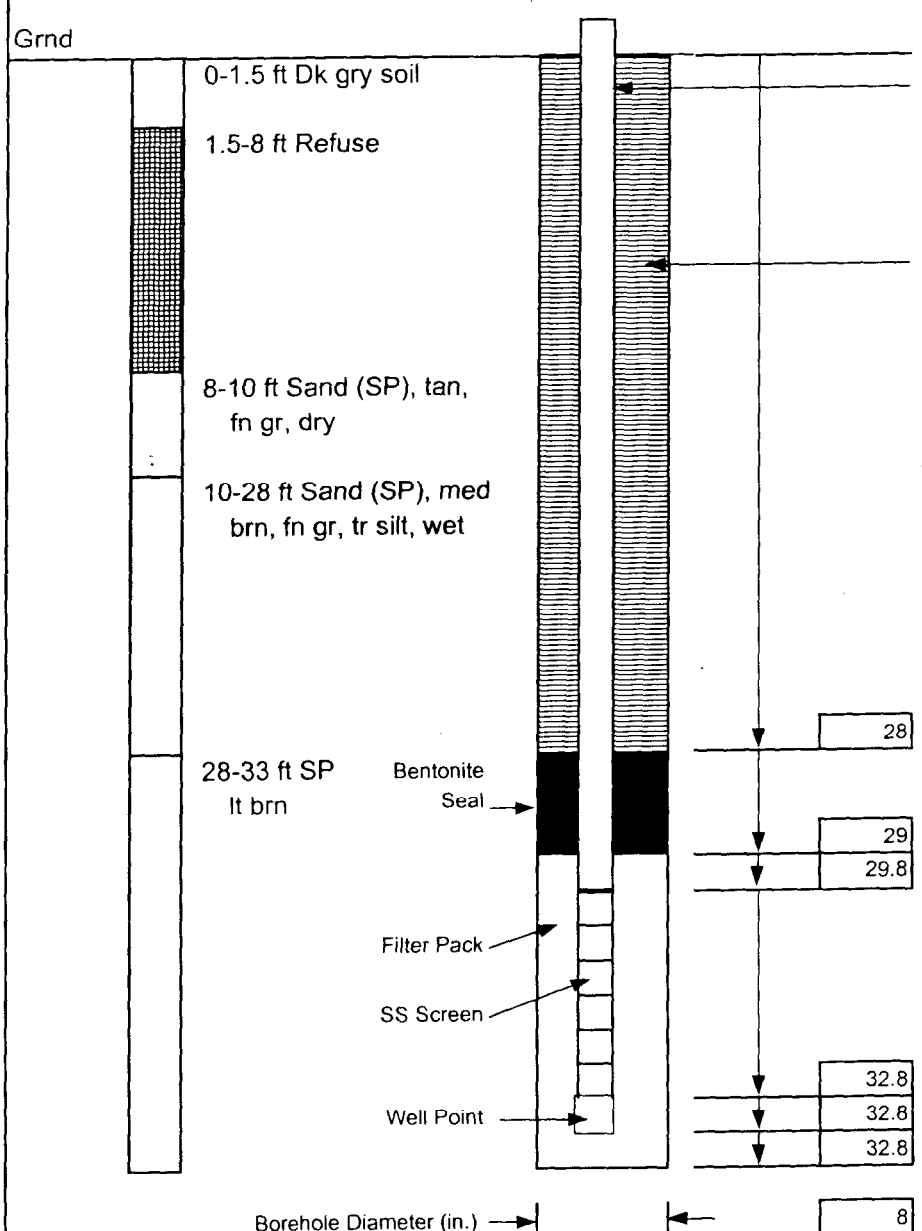
**Screen**

| | |
|---|---|
| Type | GA 60 SS |
| Length (ft) | 3 ft |
| Diameter (in.) | 1.25 |
| Slot Size (in.) | 0.01 |
| Slot Type | Machine Slotted |

# Injector Construction Log

| | | | | | |
|---|---|---|---|---|---|
| **Navy RAC** | | Site: | Site 11, NSB Kings Bay, GA | Well No.: | I-61 |
| Drilling Company: | Partridge Well Drilling | Project No.: | 22567-625 | Logged By: | M. Gage |
| Driller: | Jeff Weatherford | Date Started: | 1/5/00 | Coordinates: | |
| Drilling Equipment: | Failing Speedstar | Date Completed: | 1/5/00 | N 295582.48 | |
| Drilling Method: | HAS | Depth to Water: | 10 ft bgs | E 843016.60 | |
| Drilling Fluid: | None | TOC Elevation: | 34.99 | | |

Generalized Drill Log




## MATERIALS

**Riser Pipe**

| | |
|---|---|
| Type | Sch. 80 Black Iron |
| Diameter (in.) | 1.25 |
| Length (ft) | 30 |

**Backfill**

| | |
|---|---|
| Type | Cement/bentonite Grout |
| Length (ft) | 28 |
| Placement | Tremie |

**Seal**

| | |
|---|---|
| Type | Bentonite Chips |
| Length (ft) | 1 |
| Placement | Pour |

**Filter Pack**

| | |
|---|---|
| Type | 6/20 Silica Sd |
| Length (ft) | 4 ft |
| Placement | tremie |
| Amount Placed | 2.5 sx |

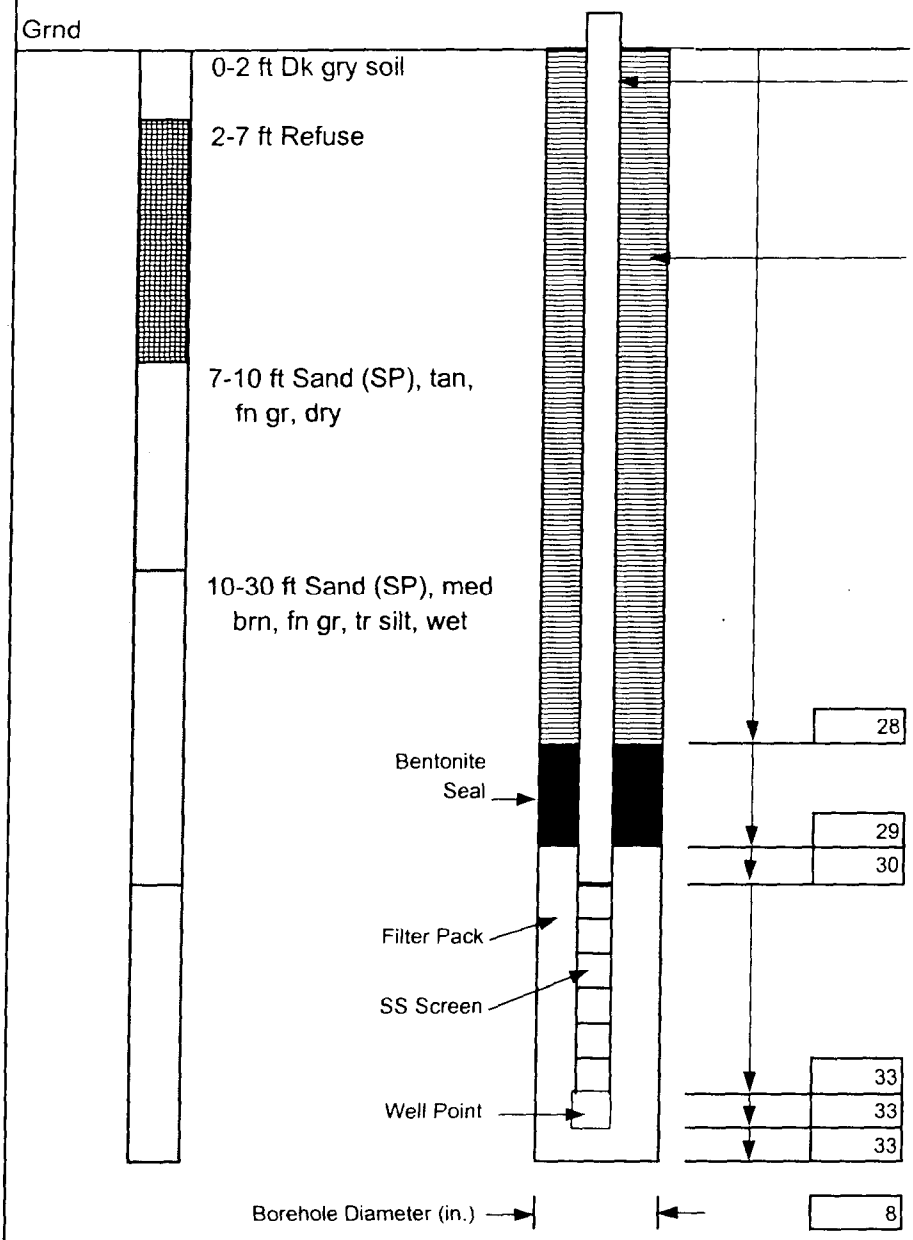
**Screen**

| | |
|---|---|
| Type | GA 60 SS |
| Length (ft) | 3 ft |
| Diameter (in.) | 1.25 |
| Slot Size (in.) | 0.01 |
| Slot Type | Machine Slotted |

# Injector Construction Log

| | | | | | |
|---|---|---|---|---|---|
| **Navy RAC** | | Site: | Site 11, NSB Kings Bay, GA | Well No.: | I-62 |
| Drilling Company: | Partridge Well Drilling | Project No.: | 22567-625 | Logged By: | M. Gage |
| Driller: | Jeff Weatherford | Date Started: | 1/4/00 | Coordinates: | |
| Drilling Equipment: | Failing Speedstar | Date Completed: | 1/4/00 | N 295579.82 | |
| Drilling Method: | HAS | Depth to Water: | 10 ft bgs | E 843029.00 | |
| Drilling Fluid: | None | TOC Elevation: | 34.93 | | |

Generalized Drill Log




**MATERIALS**

**Riser Pipe**

| | |
|---|---|
| Type | Sch. 80 Black Iron |
| Diameter (in.) | 1.25 |
| Length (ft) | 30 |

**Backfill**

| | |
|---|---|
| Type | Cement/bentonite Grout |
| Length (ft) | 27 |
| Placement | Tremie |

**Seal**

| | |
|---|---|
| Type | Bentonite Chips |
| Length (ft) | 1 |
| Placement | Pour |

**Filter Pack**

| | |
|---|---|
| Type | 6/20 Silica Sd |
| Length (ft) | 4 ft |
| Placement | tremie |
| Amount Placed | 2.5 sx |

**Screen**

| | |
|---|---|
| Type | GA 60 SS |
| Length (ft) | 3 ft |
| Diameter (in.) | 1.25 |
| Slot Size (in.) | 0.01 |
| Slot Type | Machine Slotted |

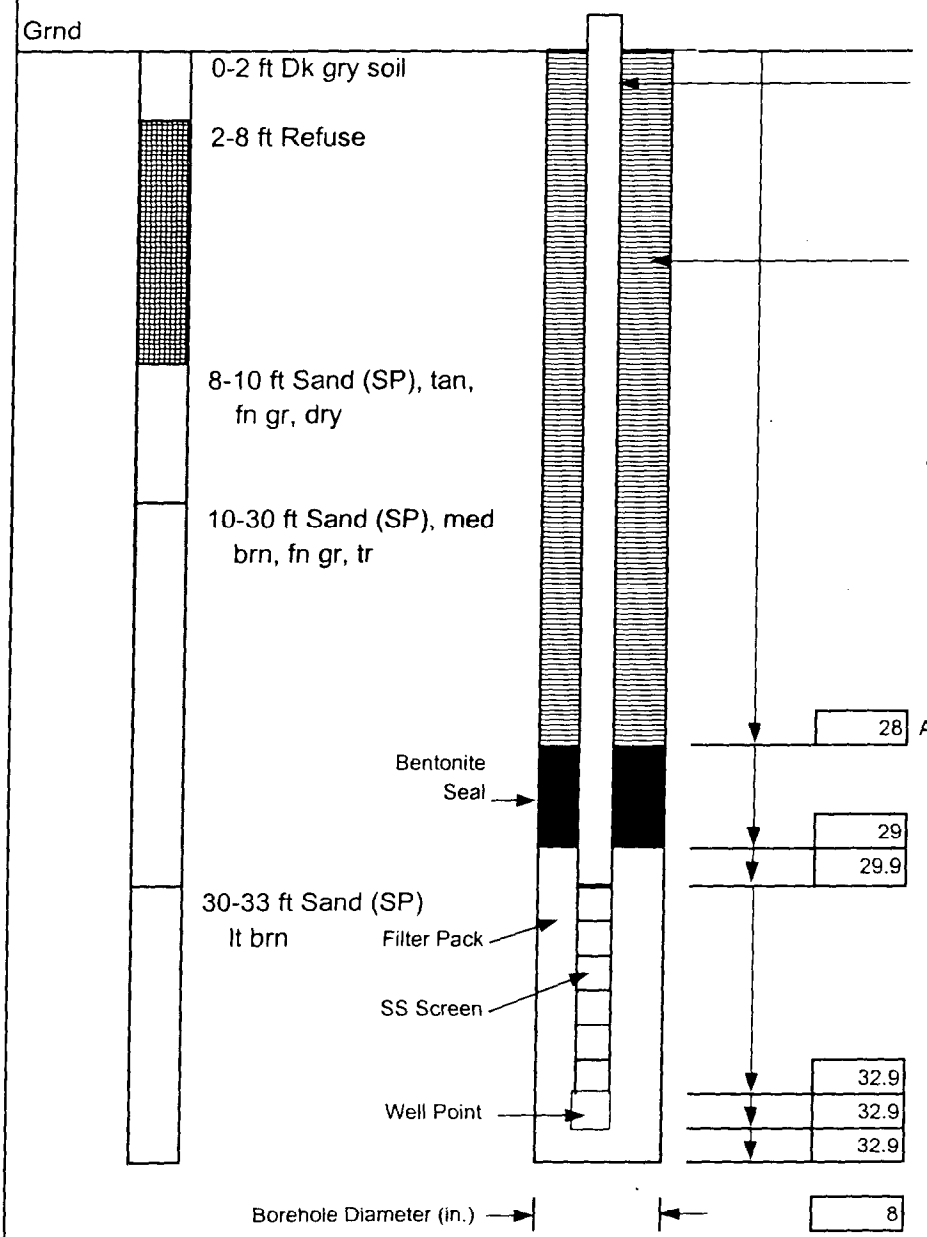
# APPENDIX B

# SITE SURVEY

# Injector Construction Log

| | | |
|---|---|---|
| **Navy RAC** | Site: Site 11, NSB Kings Bay, GA | Well No.: I-63 |
| Drilling Company: Partridge Well Drilling | Project No.: 22567-625 | Logged By: M. Gage |
| Driller: Jeff Weatherford | Date Started: 1/5/00 | Coordinates: |
| Drilling Equipment: Failing Speedstar | Date Completed: 1/5/00 | N 295569.35 |
| Drilling Method: HAS | Depth to Water: 10 ft bgs | E 843021.46 |
| Drilling Fluid: None | TOC Elevation: 35.14 | |

Generalized Drill Log




**MATERIALS**

**Riser Pipe**

| | |
|---|---|
| Type | Sch. 80 Black Iron |
| Diameter (in.) | 1.25 |
| Length (ft) | 30 |

**Backfill**

| | |
|---|---|
| Type | Cement/bentonite Grout |
| Length (ft) | 28 |
| Placement | Tremie |

**Seal**

| | |
|---|---|
| Type | Bentonite Pellets |
| Length (ft) | 1 |
| Placement | Pour |

**Filter Pack**

| | |
|---|---|
| Type | 6/20 Silica Sd |
| Length (ft) | 4 ft |
| Placement | tremie |
| Amount Placed | 2.5 sx |

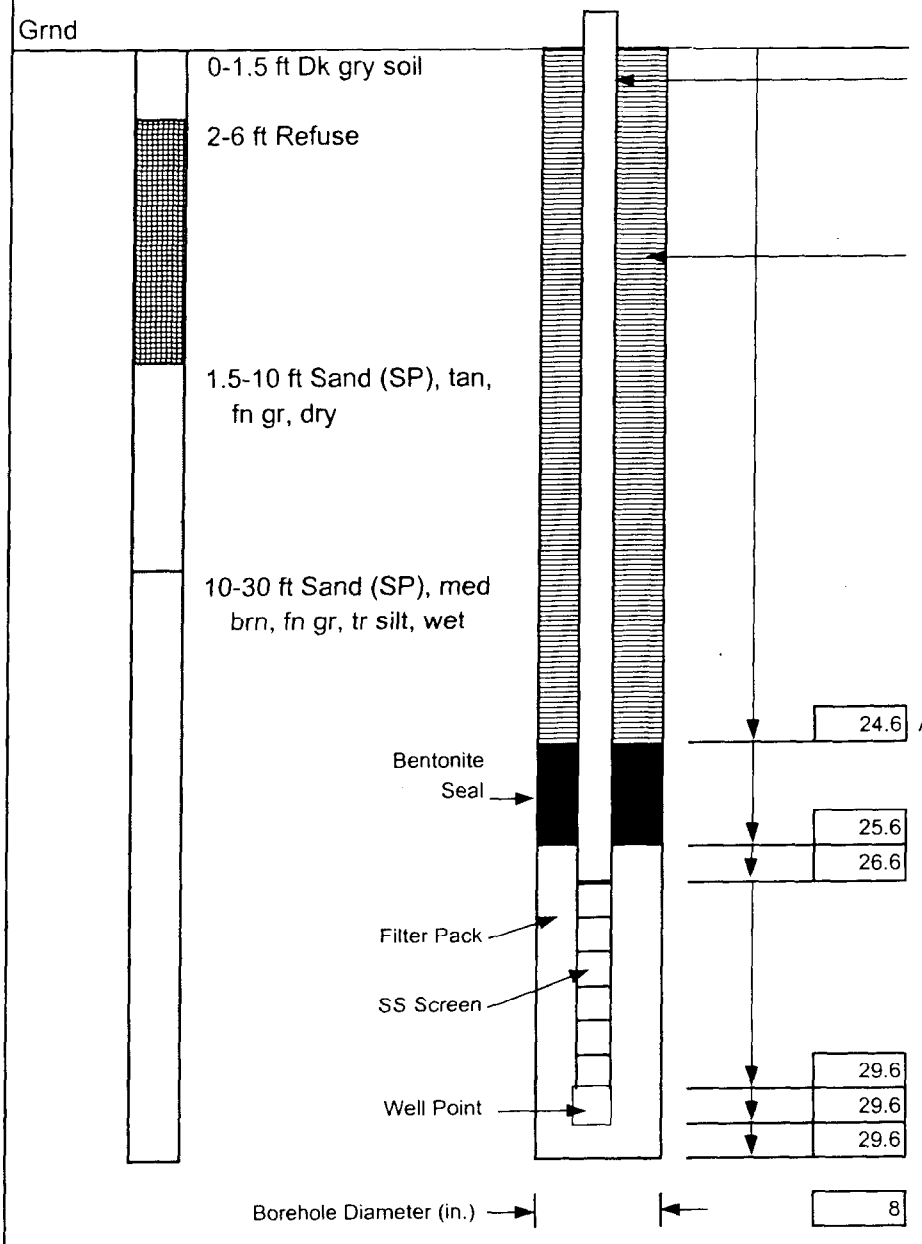
**Screen**

| | |
|---|---|
| Type | GA 60 SS |
| Length (ft) | 3 ft |
| Diameter (in.) | 1.25 |
| Slot Size (in.) | 0.01 |
| Slot Type | Machine Slotted |

# Injector Construction Log

| | | | | | |
|---|---|---|---|---|---|
| **Navy RAC** | | Site: | Site 11, NSB Kings Bay, GA | Well No.: | I-64 |
| Drilling Company: | Partridge Well Drilling | Project No.: | 22567-625 | Logged By: | M. Gage |
| Driller: | Jeff Weatherford | Date Started: | 1/6/00 | Coordinates: | |
| Drilling Equipment: | Failing Speedstar | Date Completed: | 1/6/00 | N 295577.08 | |
| Drilling Method: | HAS | Depth to Water: | 10 ft bgs | E 843015.97 | |
| Drilling Fluid: | None | TOC Elevation: | 35.23 | | |

Generalized Drill Log




## MATERIALS

**Riser Pipe**

| | |
|---|---|
| Type | Sch. 80 Black Iron |
| Diameter (in.) | 1.25 |
| Length (ft) | 27 |

**Backfill**

| | |
|---|---|
| Type | Cement/bentonite Grout |
| Length (ft) | 25 |
| Placement | Tremie |

**Seal**

| | |
|---|---|
| Type | Bentonite Pellets |
| Length (ft) | 1 |
| Placement | Pour |

**Filter Pack**

| | |
|---|---|
| Type | 6/20 Silica Sd |
| Length (ft) | 4 ft |
| Placement | tremie |
| Amount Placed | 2.5 sx |

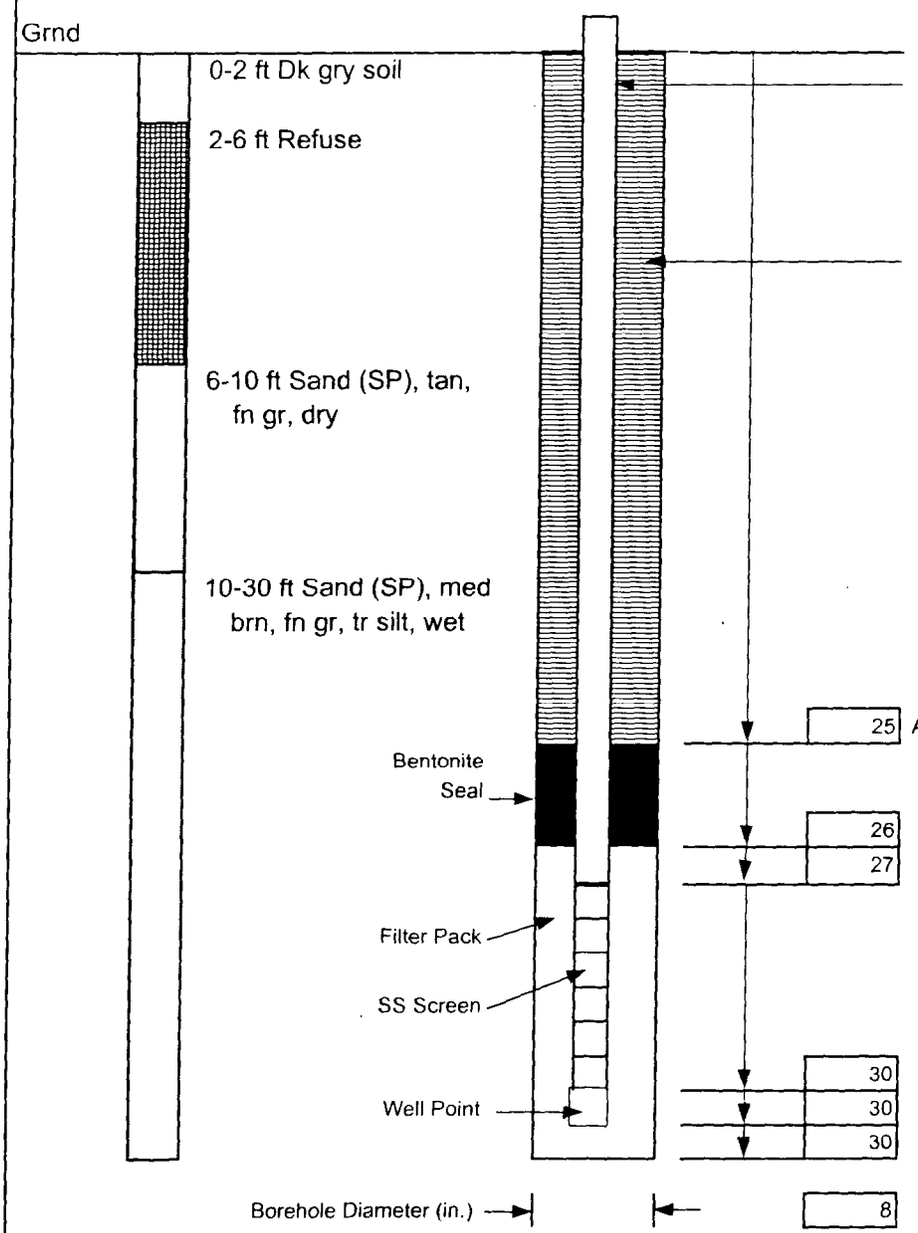
**Screen**

| | |
|---|---|
| Type | GA 60 SS |
| Length (ft) | 3 ft |
| Diameter (in.) | 1.25 |
| Slot Size (in.) | 0.01 |
| Slot Type | Machine Slotted |

# Injector Construction Log

| | | |
|---|---|---|
| **Navy RAC** | Site: Site 11, NSB Kings Bay, GA | Well No.: I-65 |
| Drilling Company: Partridge Well Drilling | Project No.: 22567-625 | Logged By: M. Gage |
| Driller: Jeff Weatherford | Date Started: 1/4/00 | Coordinates: |
| Drilling Equipment: Failing Speedstar | Date Completed: 1/4/00 | N 295584.22 |
| Drilling Method: HAS | Depth to Water: 10 ft bgs | E 843024.31 |
| Drilling Fluid: None | TOC Elevation: 34.87 | |

Generalized Drill Log




**MATERIALS**

**Riser Pipe**

| | |
|---|---|
| Type | Sch. 80 Black Iron |
| Diameter (in.) | 1.25 |
| Length (ft) | 27 |

**Backfill**

| | |
|---|---|
| Type | Cement/bentonite Grout |
| Length (ft) | 25 |
| Placement | Tremie |

**Seal**

| | |
|---|---|
| Type | Bentonite Chips |
| Length (ft) | 1 |
| Placement | Pour |

**Filter Pack**

| | |
|---|---|
| Type | 6/20 Silica Sd |
| Length (ft) | 4 ft |
| Placement | tremie |
| Amount Placed | 2.5 sx |

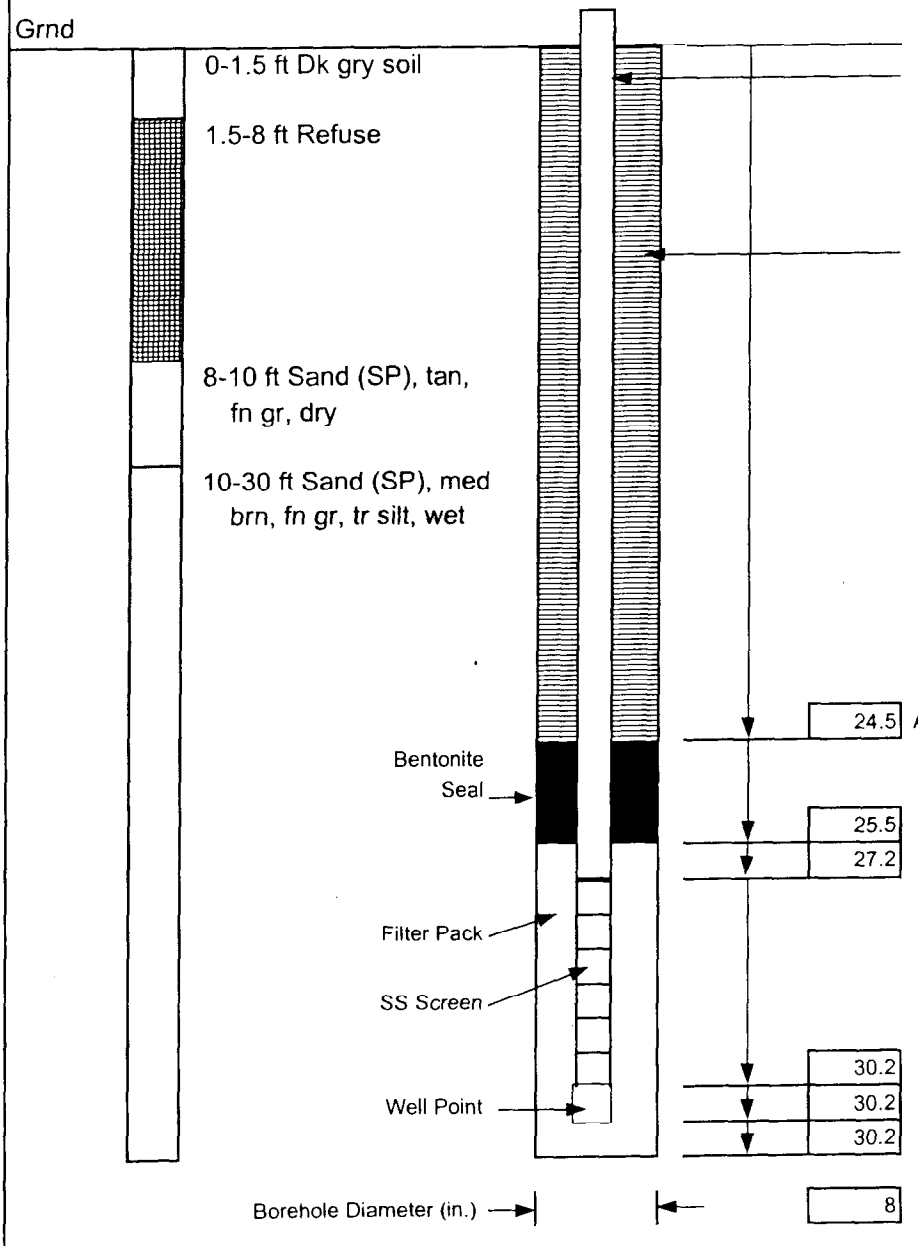
**Screen**

| | |
|---|---|
| Type | GA 60 SS |
| Length (ft) | 3 ft |
| Diameter (in.) | 1.25 |
| Slot Size (in.) | 0.01 |
| Slot Type | Machine Slotted |

# Injector Construction Log

| | | |
|---|---|---|
| **Navy RAC** | Site: Site 11, NSB Kings Bay, GA | Well No.: I-66 |
| Drilling Company: Partridge Well Drilling | Project No.: 22567-625 | Logged By: M. Gage |
| Driller: Jeff Weatherford | Date Started: 1/5/00 | Coordinates: |
| Drilling Equipment: Failing Speedstar | Date Completed: 1/5/00 | N 295573.37 |
| Drilling Method: HAS | Depth to Water: 10 ft bgs | E 843028.58 |
| Drilling Fluid: None | TOC Elevation: 35.72 | |

Generalized Drill Log




**MATERIALS**

**Riser Pipe**

| | |
|---|---|
| Type | Sch. 80 Black Iron |
| Diameter (in.) | 1.25 |
| Length (ft) | 28 |

**Backfill**

| | |
|---|---|
| Type | Cement/bentonite Grout |
| Length (ft) | 24.5 |
| Placement | Tremie |

**Seal**

| | |
|---|---|
| Type | Bentonite Pellets |
| Length (ft) | 1 |
| Placement | Pour |

**Filter Pack**

| | |
|---|---|
| Type | 6/20 Silica Sd |
| Length (ft) | 4 ft |
| Placement | tremie |
| Amount Placed | 2.5 sx |

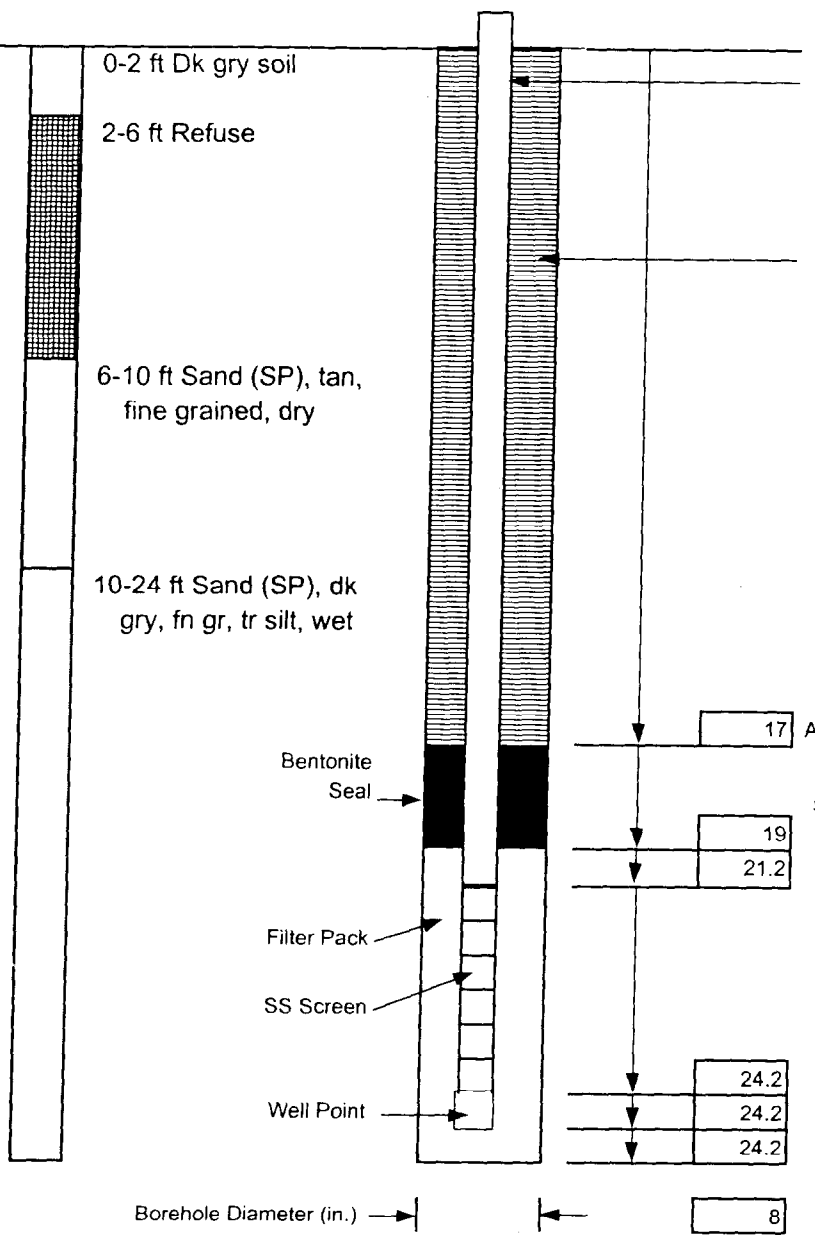
**Screen**

| | |
|---|---|
| Type | GA 60 SS |
| Length (ft) | 3 ft |
| Diameter (in.) | 1.25 |
| Slot Size (in.) | 0.01 |
| Slot Type | Machine Slotted |

# Injector Construction Log

| | | |
|---|---|---|
| **Navy RAC** | Site: Site 11, NSB Kings Bay, GA | Well No.: I-67 |
| Drilling Company: Partridge Well Drilling | Project No.: 22567-625 | Logged By: M. Gage |
| Driller: Jeff Weatherford | Date Started: 1/4/00 | Coordinates: |
| Drilling Equipment: Failing Speedstar | Date Completed: 1/4/00 | N 295585.87 |
| Drilling Method: HAS | Depth to Water: 10 ft bgs | E 843020.43 |
| Drilling Fluid: None | TOC Elevation: 35.65 | |

Generalized Drill Log




**MATERIALS**

**Riser Pipe**

| | |
|---|---|
| Type | Sch. 80 Black Iron |
| Diameter (in.) | 1.25 |
| Length (ft) | 21 |

**Backfill**

| | |
|---|---|
| Type | Cement/bentonite Grout |
| Length (ft) | 17 |
| Placement | Tremie |

**Seal**

| | |
|---|---|
| Type | Bentonite Chips |
| Length (ft) | 2 |
| Placement | Pour |

**Filter Pack**

| | |
|---|---|
| Type | 6/20 Silica Sd |
| Length (ft) | 5 ft |
| Placement | tremie |
| Amount Placed | 3.5 sx |

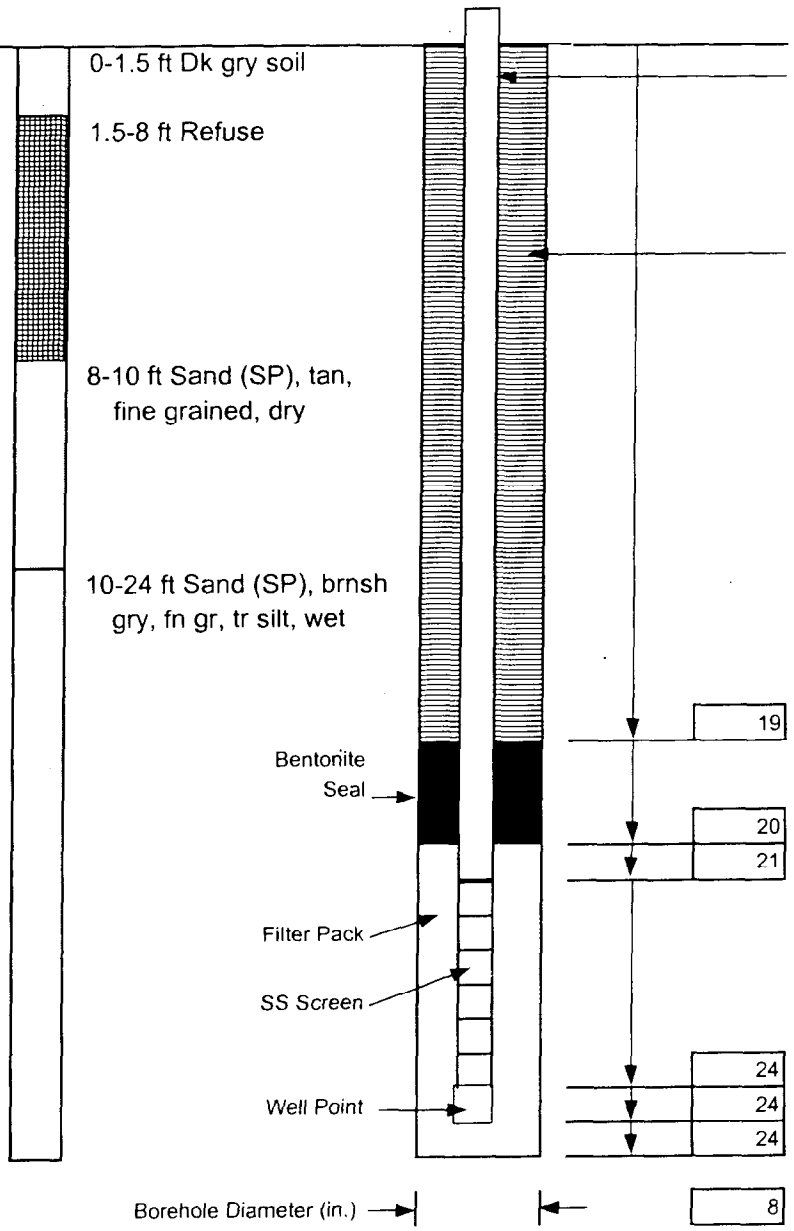
**Screen**

| | |
|---|---|
| Type | Schedule 40 SS |
| Length (ft) | 3 ft |
| Diameter (in.) | 1.25 |
| Slot Size (in.) | 0.01 |
| Slot Type | Machine Slotted |

# Injector Construction Log

| | | |
|---|---|---|
| **Navy RAC** | Site: Site 11, NSB Kings Bay, GA | Well No.: I-68 |
| Drilling Company: Partridge Well Drilling | Project No.: 22567-625 | Logged By: M. Gage |
| Driller: Jeff Weatherford | Date Started: 1/6/00 | Coordinates: |
| Drilling Equipment: Failing Speedstar | Date Completed: 1/6/00 | N 295569.18 |
| Drilling Method: HAS | Depth to Water: 10 ft bgs | E 843016.37 |
| Drilling Fluid: None | TOC Elevation: 35.26 | |

Generalized Drill Log




**MATERIALS**

**Riser Pipe**

| | |
|---|---|
| Type | Sch. 80 Black Iron |
| Diameter (in.) | 1.25 |
| Length (ft) | 21 |

**Backfill**

| | |
|---|---|
| Type | Cement/bentonite Grout |
| Length (ft) | 19 |
| Placement | Tremie |

**Seal**

| | |
|---|---|
| Type | Bentonite Pellets |
| Length (ft) | 2 |
| Placement | Pour |

**Filter Pack**

| | |
|---|---|
| Type | 6/20 Silica Sd |
| Length (ft) | 4 |
| Placement | tremie |
| Amount Placed | 3.5 sx |

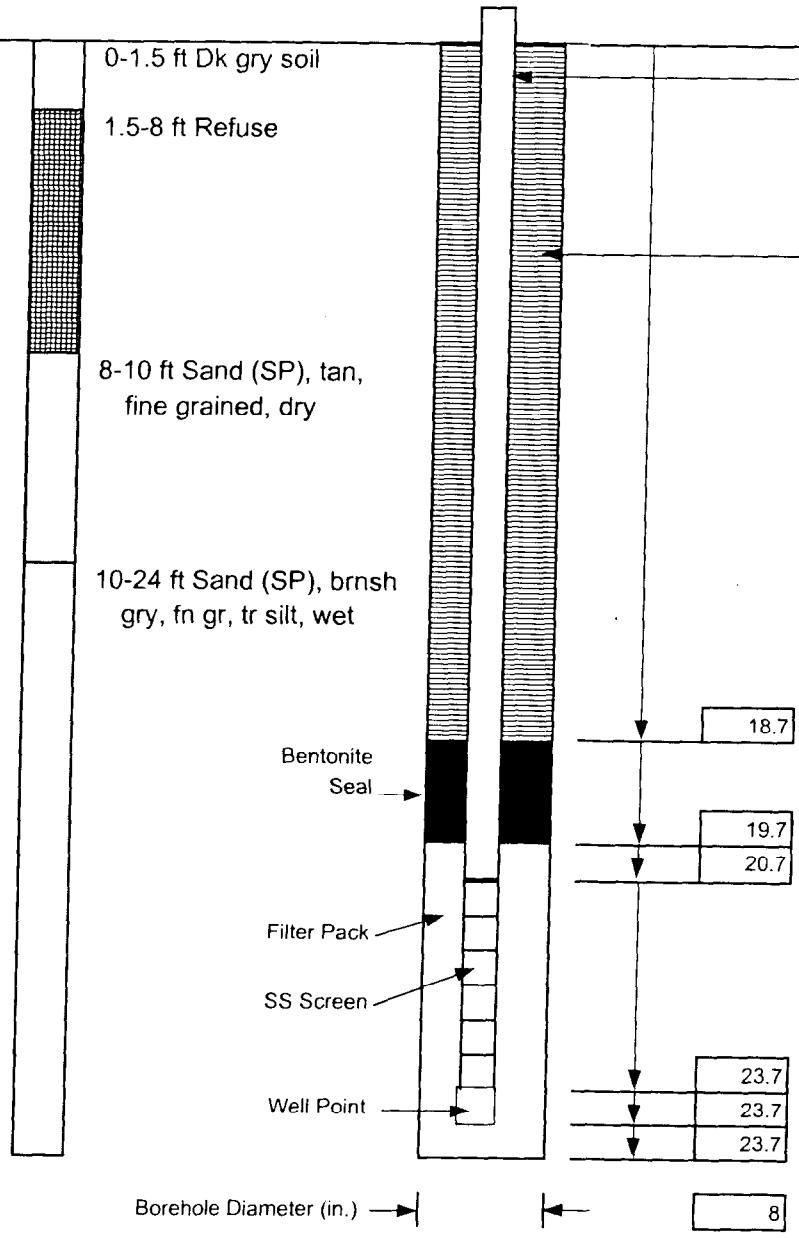
**Screen**

| | |
|---|---|
| Type | Schedule 40 SS |
| Length (ft) | 3 |
| Diameter (in.) | 1.25 |
| Slot Size (in.) | 0.01 |
| Slot Type | Machine Slotted |

# Injector Construction Log

| Navy RAC | Site: Site 11, NSB Kings Bay, GA | Well No.: I-69 |
|---|---|---|
| Drilling Company: Partridge Well Drilling | Project No.: 22567-625 | Logged By: M. Gage |
| Driller: Jeff Weatherford | Date Started: 1/5/00 | Coordinates: |
| Drilling Equipment: Failing Speedstar | Date Completed: 1/5/00 | N 295580.32 |
| Drilling Method: HAS | Depth to Water: 10 ft bgs | E 843011.79 |
| Drilling Fluid: None | TOC Elevation: 35.8 | |

Generalized Drill Log




**MATERIALS**

**Riser Pipe**

| | |
|---|---|
| Type | Sch. 80 Black Iron |
| Diameter (in.) | 1.25 |
| Length (ft) | 21 |

**Backfill**

| | |
|---|---|
| Type | Cement/bentonite Grout |
| Length (ft) | 18.7 |
| Placement | Tremie |

**Seal**

| | |
|---|---|
| Type | Bentonite Pellets |
| Length (ft) | 1 |
| Placement | Pour |

**Filter Pack**

| | |
|---|---|
| Type | 6/20 Silica Sd |
| Length (ft) | 4 |
| Placement | tremie |
| Amount Placed | 3.5 sx |

**Screen**

| | |
|---|---|
| Type | Schedule 40 SS |
| Length (ft) | 3 |
| Diameter (in.) | 1.25 |
| Slot Size (in.) | 0.01 |
| Slot Type | Machine Slotted |

# APPENDIX C

# ANALYTICAL REPORTS

**CLIENT** : Bechtel Environmental, Inc.
**ADDRESS**: NAS Jacksonville
P.O. Box 171
Jacksonville, FL 32215

**REPORT #** : JAX10459
**DATE SUBMITTED**: March 26, 2000
**DATE REPORTED** : March 31, 2000



**ATTENTION**: Mr. Mark Gage

**SAMPLE IDENTIFICATION**

Samples submitted and
identified by client as:

PROJECT #: SITE 11

NSB Kings Bay

03/25/00

| | | |
|---|---|---|
| #1 | - I-11 | @ 08:00 |
| #2 | - I-12 | @ 08:30 |
| #3 | - I-13 | @ 09:30 |
| #4 | - I-14 | @ 12:00 |
| #5 | - I-18 | @ 09:00 |
| #6 | - I-24 | @ 17:10 |
| #7 | - I-25 | @ 11:00 |
| #8 | - I-26 | @ 10:30 |
| #9 | - I-27 | @ 10:00 |
| #10 | - I-60 | @ 13:45 |
| #11 | - I-61 | @ 12:45 |
| #12 | - I-62 | @ 15:25 |
| #13 | - I-63 | @ 16:25 |
| #14 | - I-64 | @ 13:15 |
| #15 | - I-65 | @ 14:50 |

***CONTINUED***

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Bechtel Environmental, Inc.
ADDRESS: NAS Jacksonville
P.O. Box 171
Jacksonville, FL 32215

REPORT # : JAX10459
DATE SUBMITTED: March 26, 2000
DATE REPORTED : March 31, 2000



ATTENTION: Mr. Mark Gage

## SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

PROJECT #: SITE 11

NSB Kings Bay

03/25/00

#16 I-66 @ 15:55
#17 - I 67 @ 14:20
#18 - I-68 @ 16:55
#19 - I-69 @ 11:30
#20 - DUP-01 @ 00:00

PROJECT MANAGER Scott D. Martin

ENCO LABORATORIES
REPORT # : JAX10459
DATE REPORTED: March 31, 2000
REFERENCE : SITE 11
PROJECT NAME : NSB Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-11 | | | I-12 | Units |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 5.0 | U | D1 | 1.0 U | µg/L |
| Chloromethane | 10 | U | D1 | 2.0 U | µg/L |
| Vinyl Chloride | 5.0 | U | D1 | 1.0 U | µg/L |
| Bromomethane | 5.0 | U | D1 | 1.0 U | µg/L |
| Chloroethane | 10 | U | D1 | 2.0 U | µg/L |
| Trichlorofluoromethane | 10 | U | D1 | 2.0 U | µg/L |
| 1,1-Dichloroethene | 5.0 | U | D1 | 1.0 U | µg/L |
| Methylene Chloride | 10 | U | D1 | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 5.0 | U | D1 | 1.0 U | µg/L |
| 1,1-Dichloroethane | 5.0 | U | D1 | 1.0 U | µg/L |
| 2-Dichloroethene | **35** | | D1 | 1.0 U | µg/L |
| Chloroform | 5.0 | U | D1 | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 5.0 | U | D1 | 1.0 U | µg/L |
| Carbon Tetrachloride | 5.0 | U | D1 | 1.0 U | µg/L |
| 1,2-Dichloroethane | 5.0 | U | D1 | 1.0 U | µg/L |
| Trichloroethene | 5.0 | U | D1 | 1.0 U | µg/L |
| 1,2-Dichloropropane | 5.0 | U | D1 | 1.0 U | µg/L |
| Bromodichloromethane | 5.0 | U | D1 | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 5.0 | U | D1 | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 5.0 | U | D1 | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 5.0 | U | D1 | 1.0 U | µg/L |
| Tetrachloroethene | **150** | | D1 | **16** | µg/L |
| Dibromochloromethane | 5.0 | U | D1 | **1.6** | µg/L |
| Chlorobenzene | 5.0 | U | D1 | 1.0 U | µg/L |
| Bromoform | 5.0 | U | D1 | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 5.0 | U | D1 | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 5.0 | U | D1 | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 5.0 | U | D1 | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 5.0 | U | D1 | 1.0 U | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 92 | 92 | 52-167 |
| Date Analyzed | 03/29/00 | 03/29/00 | |

U Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:5 dilution.

ENCO LABORATORIES
REPORT # : JAX10459
DATE REPORTED: March 31, 2000
REFERENCE : SITE 11
PROJECT NAME : NSB Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-13 | | I-14 | Units |
|---|---|---|---|---|
| Dichlorodifluoromethane | 5.0 U | D1 | 1.0 U | µg/L |
| Chloromethane | 10 U | D1 | 2.0 U | µg/L |
| Vinyl Chloride | 5.0 U | D1 | 1.0 U | µg/L |
| Bromomethane | 5.0 U | D1 | 1.0 U | µg/L |
| Chloroethane | 10 U | D1 | 2.0 U | µg/L |
| Trichlorofluoromethane | 10 U | D1 | 2.0 U | µg/L |
| 1,1-Dichloroethene | 5.0 U | D1 | 1.0 U | µg/L |
| Methylene Chloride | **10** I | D1 | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 5.0 U | D1 | 1.0 U | µg/L |
| 1,1-Dichloroethane | 5.0 U | D1 | 1.0 U | µg/L |
| c-1,2-Dichloroethene | 5.0 U | D1 | 1.0 U | µg/L |
| Chloroform | 5.0 U | D1 | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 5.0 U | D1 | 1.0 U | µg/L |
| Carbon Tetrachloride | 5.0 U | D1 | 1.0 U | µg/L |
| 1,2-Dichloroethane | 5.0 U | D1 | 1.0 U | µg/L |
| Trichloroethene | 5.0 U | D1 | 1.0 U | µg/L |
| 1,2-Dichloropropane | 5.0 U | D1 | 1.0 U | µg/L |
| Bromodichloromethane | 5.0 U | D1 | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 5.0 U | D1 | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 5.0 U | D1 | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 5.0 U | D1 | 1.0 U | µg/L |
| Tetrachloroethene | **560** | D1 | **11** | µg/L |
| Dibromochloromethane | 5.0 U | D1 | **1.0** | µg/L |
| Chlorobenzene | 5.0 U | D1 | 1.0 U | µg/L |
| Bromoform | 5.0 U | D1 | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 5.0 U | D1 | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 5.0 U | D1 | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 5.0 U | D1 | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 5.0 U | D1 | 1.0 U | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 64 | 94 | 52-167 |
| Date Analyzed | 03/28/00 | 03/29/00 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
D1 = Analyte value determined from a 1:5 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-18 | I-24 | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| c-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | **4.6** | **22** | µg/L |
| Dibromochloromethane | **3.6** | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 66 | 93 | 52-167 |
| Date Analyzed | 03/31/00 | 03/29/00 | |

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

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RESULTS OF ANALYSIS

| PA METHOD 8021 - VOLATILE ORGANICS | I-25 | I-26 | Units |
|---|---|---|---|
| ichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| hloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| romomethane | 1.0 U | 1.0 U | µg/L |
| hloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| ethylene Chloride | 2.0 U | 2.0 U | µg/L |
| t-1,2-Dichloroethene | **3.0** | 1.0 U | µg/L |
| 1,1-Dichloroethane | **11** | 1.0 U | µg/L |
| -1,2-Dichloroethene | **110** | 1.0 U | µg/L |
| hloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| arbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| romodichloromethane | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| etrachloroethene | **77** | **4.7** | µg/L |
| Dibromochloromethane | 1.0 U | **3.7** | µg/L |
| hlorobenzene | 1.0 U | 1.0 U | µg/L |
| romoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| ,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **rrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| romofluorobenzene | 90 | 57 | 52-167 |
| Date Analyzed | 03/29/00 | 03/28/00 | |

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

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-27 | | | I-60 | | | Units |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Chloromethane | 10 | U | D1 | 40 | U | D2 | µg/L |
| Vinyl Chloride | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Bromomethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Chloroethane | 10 | U | D1 | 40 | U | D2 | µg/L |
| Trichlorofluoromethane | 10 | U | D1 | 40 | U | D2 | µg/L |
| 1,1-Dichloroethene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Methylene Chloride | 10 | U | D1 | 40 | U | D2 | µg/L |
| t-1,2-Dichloroethene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,1-Dichloroethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| c-1,2-Dichloroethene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Chloroform | **6.0** | I | D1 | **140** | | D2 | µg/L |
| 1,1,1-Trichloroethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Carbon Tetrachloride | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,2-Dichloroethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Trichloroethene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,2-Dichloropropane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Bromodichloromethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| t-1,3-Dichloropropene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| c-1,3-Dichloropropene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,1,2-Trichloroethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Tetrachloroethene | **130** | | D1 | **1700** | | D2 | µg/L |
| Dibromochloromethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Chlorobenzene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Bromoform | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,1,2,2-Tetrachloroethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,3-Dichlorobenzene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,4-Dichlorobenzene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,2-Dichlorobenzene | 5.0 | U | D1 | 20 | U | D2 | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 60 | 93 | 52-167 |
| Date Analyzed | 03/28/00 | 03/29/00 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
D1 = Analyte value determined from a 1:5 dilution.
D2 = Analyte value determined from a 1:20 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-61 | I-62 | | Units |
|---|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 5.0 U | D1 | µg/L |
| Chloromethane | 2.0 U | 10 U | D1 | µg/L |
| Vinyl Chloride | 1.0 U | 5.0 U | D1 | µg/L |
| Bromomethane | 1.0 U | 5.0 U | D1 | µg/L |
| Chloroethane | 2.0 U | 10 U | D1 | µg/L |
| Trichlorofluoromethane | 2.0 U | 10 U | D1 | µg/L |
| 1,1-Dichloroethene | 1.0 U | 5.0 U | D1 | µg/L |
| Methylene Chloride | 2.0 U | 10 U | D1 | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 5.0 U | D1 | µg/L |
| 1,1-Dichloroethane | 1.0 U | 5.0 U | D1 | µg/L |
| c-1,2-Dichloroethene | 1.0 U | 5.0 U | D1 | µg/L |
| Chloroform | 1.0 U | **47** | D1 | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 5.0 U | D1 | µg/L |
| Carbon Tetrachloride | 1.0 U | 5.0 U | D1 | µg/L |
| 1,2-Dichloroethane | 1.0 U | 5.0 U | D1 | µg/L |
| Trichloroethene | 1.0 U | 5.0 U | D1 | µg/L |
| 1,2-Dichloropropane | 1.0 U | 5.0 U | D1 | µg/L |
| Bromodichloromethane | 1.0 U | 5.0 U | D1 | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 5.0 U | D1 | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 5.0 U | D1 | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 5.0 U | D1 | µg/L |
| Tetrachloroethene | **16** | **320** | D1 | µg/L |
| Dibromochloromethane | 1.0 U | 5.0 U | D1 | µg/L |
| Chlorobenzene | 1.0 U | 5.0 U | D1 | µg/L |
| Bromoform | 1.0 U | 5.0 U | D1 | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 5.0 U | D1 | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 5.0 U | D1 | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 5.0 U | D1 | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 5.0 U | D1 | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | | **LIMITS** |
| Bromofluorobenzene | 92 | 91 | | 52-167 |
| Date Analyzed | 03/30/00 | 03/29/00 | | |

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

D1 = Analyte value determined from a 1:5 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-63 | I-64 | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| c-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | **3.9** | **5.0** | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | **77** | **86** | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 93 | 93 | 52-167 |
| Date Analyzed | 03/29/00 | 03/29/00 | |

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

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-65 | | | I-66 | | | Units |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Chloromethane | 10 | U | D1 | 40 | U | D2 | µg/L |
| Vinyl Chloride | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Bromomethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Chloroethane | 10 | U | D1 | 40 | U | D2 | µg/L |
| Trichlorofluoromethane | 10 | U | D1 | 40 | U | D2 | µg/L |
| 1,1-Dichloroethene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Methylene Chloride | 10 | U | D1 | 40 | U | D2 | µg/L |
| c-1,2-Dichloroethene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,1-Dichloroethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| t-1,2-Dichloroethene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Chloroform | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,1,1-Trichloroethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Carbon Tetrachloride | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,2-Dichloroethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Trichloroethene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,2-Dichloropropane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Bromodichloromethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| c-1,3-Dichloropropene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| t-1,3-Dichloropropene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,1,2-Trichloroethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Tetrachloroethene | **120** | | D1 | **200** | | D2 | µg/L |
| Dibromochloromethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Chlorobenzene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| Bromoform | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,1,2,2-Tetrachloroethane | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,3-Dichlorobenzene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,4-Dichlorobenzene | 5.0 | U | D1 | 20 | U | D2 | µg/L |
| 1,2-Dichlorobenzene | 5.0 | U | D1 | 20 | U | D2 | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 90 | 67 | 52-167 |
| Date Analyzed | 03/29/00 | 03/29/00 | |

U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:5 dilution.
D2 = Analyte value determined from a 1:20 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-67 | I-68 | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| c-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | **17** | **4.8** | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 90 | 69 | 52-167 |
| Date Analyzed | 03/30/00 | 03/29/00 | |

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

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## RESULTS OF ANALYSIS

| PA METHOD 8021 - VOLATILE ORGANICS | I-69 | | | DUP-01 | | | Units |
|---|---|---|---|---|---|---|---|
| ichlorodifluoromethane | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| hloromethane | 10 | U | D1 | 50 | U | D3 | µg/L |
| Vinyl Chloride | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| romomethane | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| oroethane | 10 | U | D1 | 50 | U | D3 | µg/L |
| richlorofluoromethane | 10 | U | D1 | 50 | U | D3 | µg/L |
| 1,1-Dichloroethene | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| ethylene Chloride | 10 | U | D1 | 50 | U | D3 | µg/L |
| t-1,2-Dichloroethene | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| 1,1-Dichloroethane | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| -1,2-Dichloroethene | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| hloroform | 5.0 | U | D1 | **120** | | D3 | µg/L |
| 1,1,1-Trichloroethane | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| arbon Tetrachloride | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| 2-Dichloroethane | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| Trichloroethene | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| 2-Dichloropropane | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| romodichloromethane | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| c-1,3-Dichloropropene | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| t-1,3-Dichloropropene | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| 1,2-Trichloroethane | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| etrachloroethene | **170** | | D1 | **1400** | | D3 | µg/L |
| Dibromochloromethane | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| hlorobenzene | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| romoform | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| 1,1,2,2-Tetrachloroethane | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| 3-Dichlorobenzene | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| 4-Dichlorobenzene | 5.0 | U | D1 | 25 | U | D3 | µg/L |
| 2-Dichlorobenzene | 5.0 | U | D1 | 25 | U | D3 | µg/L |

| rrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| romofluorobenzene | 95 | 93 | 52-167 |
| Date Analyzed | 03/30/00 | 03/30/00 | |

J = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:5 dilution.
= Analyte value determined from a 1:25 dilution.

ENCO LABORATORIES
REPORT # : JAX10459
DATE REPORTED: March 31, 2000
REFERENCE : SITE 11
PROJECT NAME : NSB Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | LAB BLANK | LAB BLANK | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| c-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | 1.0 U | 1.0 U | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 64 | 93 | 52-167 |
| Date Analyzed | 03/28/00 | 03/29/00 | |

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

ENCO LABORATORIES
REPORT # : JAX10459
DATE REPORTED: March 31, 2000
REFERENCE : SITE 11
PROJECT NAME : NSB Kings Bay



## RESULTS OF ANALYSIS

| PA METHOD 8021 - VOLATILE ORGANICS | LAB BLANK | LAB BLANK | Units |
|---|---|---|---|
| chlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| hloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| romomethane | 1.0 U | 1.0 U | µg/L |
| hloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| ethylene Chloride | 2.0 U | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| hloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| rbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| romodichloromethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| trachloroethene | 1.0 U | 1.0 U | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| lorobenzene | 1.0 U | 1.0 U | µg/L |
| romoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **rrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| omofluorobenzene | 61 | 65 | 52-167 |
| Date Analyzed | 03/29/00 | 03/30/00 | |

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

ENCO LABORATORIES
REPORT # : JAX10459
DATE REPORTED: March 31, 2000
REFERENCE : SITE 11
PROJECT NAME : NSB Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | LAB BLANK | LAB BLANK | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| c-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | 1.0 U | 1.0 U | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 92 | 68 | 52-167 |
| Date Analyzed | 03/30/00 | 03/31/00 | |

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

ENCO LABORATORIES
REPORT # : JAX10459
DATE REPORTED: March 31, 2000
REFERENCE : SITE 11
PROJECT NAME : NSB Kings Bay



## QUALITY CONTROL DATA

| Parameter | % RECOVERY MS/MSD/LCS | ACCEPT LIMITS | % RPD MS/MSD | ACCEPT LIMITS |
|---|---|---|---|---|
| EPA Method 8021 | | | | |
| Methylene Chloride | 109/106/ 94 | 51-155 | 3 | 29 |
| Chloroform | 101/ 96/ 88 | 63-145 | 5 | 16 |
| Carbon Tetrachloride | 110/ 98/ 88 | 64-146 | 12 | 21 |
| Trichloroethene | 115/104/ 94 | 60-140 | 10 | 24 |
| Tetrachloroethene | 105/ 95/ 89 | 66-146 | 10 | 21 |
| Chlorobenzene | 102/ 96/ 86 | 70-137 | 6 | 19 |
| EPA Method 8021 | | | | |
| Methylene Chloride | 106/102/110 | 51-155 | 4 | 29 |
| Chloroform | 106/106/107 | 63-145 | <1 | 16 |
| Carbon Tetrachloride | 106/108/115 | 64-146 | 2 | 21 |
| Trichloroethene | 108/110/114 | 60-140 | 2 | 24 |
| Tetrachloroethene | 100/107/107 | 66-146 | 7 | 21 |
| Chlorobenzene | 98/ 96/104 | 70-137 | 2 | 19 |

Environmental Conservation Laboratories Comprehensive QA Plan #910190

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted

# CHAIN OF CUSTODY RECORD



BECHTEL

Site Name: Site 11 NSB Kings Bay
Delivery Order No.:
Cooler/Crate No.:

SEIR No.:
COC Number:
Lab: ENCO
Field Logbook No.:
Logbook Pg. No.:

Sampled by: M. A. Gage (Print) M. A. Gage (Sign) ____ (Print) ____ (Sign)

**Legend — SAMPLE TYPE**

| | | | |
|---|---|---|---|
| PSB | Preservative Blank | BLS | Blind Spike |
| FDP | Field Duplicate | BLB | Blink Blank |
| ENV | Environmental | PTS | Point Source |
| FDB | Field Blank | FRP | Field Replicate |
| GEO | Geotechnical Sample | RSB | Rinsate Blank |
| MXD | Matrix Spike Duplicate | SPL | Split |
| MXS | Matrix Spike | TRP | Trip Blank |

**MATRIX**

| | | | | | |
|---|---|---|---|---|---|
| AIR | Air | SBS | Subsurface Soil | PTW | Potable Water |
| FLO | Flora | SED | Sediment | SEP | Seeps |
| FAU | Fauna | SFS | Surface Soil | SOL | Solid |
| GWT | Groundwater | SPW | Surface Water | WWT | Waste Water |
| LCH | Leachate | SLG | Sludge | SLW | Solid Waste |
| OIL | Oil | SST | Surface Water Storm Event | | |

**QC LEVELS**

S Sample Results and QC
C Reported
D Sample results, QC and raw data reported
E Sample resuts, blanks, and calibration reportred
S Screening level analysis

| Station ID | BEI Sample ID | Sample Type | Matrix Code | Collection Date/Time | Container ID | Preservative | Pay Item | Parameter | Priority | QC Code |
|---|---|---|---|---|---|---|---|---|---|---|
| I-11 | I-11 | ENV | GWT | 3-25-00/0800 | 01, 02 | HCL | | 8021 | 7-Day TAT | |
| I-12 | I-12 | | | /0830 | | | | | | |
| I-13 | I-13 | | | /0930 | | | | | | |
| I-14 | I-14 | | | /1200 | | | | | | |
| I-18 | I-18 | | | /0900 | | | | | | |
| I-24 | I-24 | | | /1710 | | | | | | |

| RELINQUISHED BY | RECEIVED BY | DATE | TIME | REASON FOR TRANSFER |
|---|---|---|---|---|
| M. A. Gage | Lorraine Cattle | 3/24/00 | 1000 | Transfer to Lab |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

COMMENTS/INSTRUCTIONS
Report results to M. A. Gage

| CONTAMINATION | YES | NO |
|---|---|---|
| Radiological | | ✓ |
| Chemical | ✓ | |

Shipper: N/A
Ship to:

Airbill No. N/A
Traffic Report No.

This package conforms to the conditions and limitations specified in 49 CFR 173.421 for excepted radioactive material, limited quantity, n.o.s., UN2910.

# CHAIN OF CUSTODY RECORD (continued)

COC Number _____



| Station ID | BEI Sample ID | Sample Type | Matrix Code | Collection Date/Time | Container ID | Preservative | Pay Item | Parameter | Priority | QC Level |
|---|---|---|---|---|---|---|---|---|---|---|
| I 25 | I 25 | ENV | GWT | 3-25-00/1100 | 01,02 | HCL | | 8021 MTBE | 7 D | |
| I 26 | I 26 | | | /1030 | | | | | | |
| I 27 | I 27 | | | /1000 | | | | | | |
| I 60 | I 60 | | | /1345 | | | | | | |
| I 61 | I 61 | | | /1245 | | | | | | |
| I 62 | I 62 | | | /1525 | | | | | | |
| I 63 | I 63 | | | /1625 | | | | | | |
| I 64 | I 64 | | | /1315 | | | | | | |
| I 65 | I 65 | | | /1450 | | | | | | |
| I 66 | I 66 | | | /1555 | | | | | | |
| I 67 | I 67 | | | /1420 | | | | | | |
| I 68 | I 68 | | | /1655 | | | | | | |
| I 69 | I 69 | | | /1130 | | | | | | |
| DUP-01 | DUP-01 | | | /— | | | | | | |

NFS

017095

CLIENT : Bechtel Environmental, Inc.
ADDRESS: NAS Jacksonville
P.O. Box 171
Jacksonville, FL 32215

REPORT # : JR1511
DATE SUBMITTED: February 3, 2000
DATE REPORTED : February 11, 2000



ATTENTION: Mr. Mark Gage

**SAMPLE IDENTIFICATION**

Samples submitted and
identified by client as:

Site 11 Kings Bay

| | | | |
|---|---|---|---|
| #1 | - I-60 | @ 12:00 | (02/02/00) |
| #2 | - I-61 | @ 15:25 | (02/02/00) |
| #3 | - I-62 | @ 13:45 | (02/02/00) |
| #4 | - I-63 | @ 11:30 | (02/02/00) |
| #5 | - I-64 | @ 16:00 | (02/02/00) |
| #6 | - I-65 | @ 14:20 | (02/02/00) |
| #7 | - I-66 | @ 13:15 | (02/02/00) |
| #8 | - I-67 | @ 14:50 | (02/02/00) |
| #9 | - I-68 | @ 17:00 | (02/02/00) |
| #10 | - I-69 | @ 16:30 | (02/02/00) |
| #11 | - DUP-01 | | (02/02/00) |
| #12 | - I-11 | @ 11:15 | (02/03/00) |
| #13 | - I-12 | @ 10:45 | (02/03/00) |
| #14 | - I-13 | @ 09:45 | (02/03/00) |
| #15 | - I-14 | @ 07:50 | (02/03/00) |

<<<CONTINUED>>>

017095

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Bechtel Environmental, Inc.
ADDRESS: NAS Jacksonville
P.O. Box 171
Jacksonville, FL 32215

REPORT # : JR1511
DATE SUBMITTED: February 3, 2000
DATE REPORTED : February 11, 2000



ATTENTION: Mr. Mark Gage

## SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

Site 11 Kings Bay

| | | | |
|---|---|---|---|
| #16 | - I 24 | | (02/03/00) |
| #17 | - T-25 | @ 08:45 | (02/03/00) |
| #18 | - I-26 | @ 09:15 | (02/03/00) |
| #19 | - I-27 | @ 10:15 | (02/03/00) |
| #20 | - I-18 | @ 11:50 | (02/03/00) |

PROJECT MANAGER Scott D Martin
Scott D. Martin

ENCO LABORATORIES
REPORT # : JR1511
DATE REPORTED: February 11, 2000
REFERENCE : WO# JX179
PROJECT NAME : Site 11 Kings Bay



## RESULTS OF ANALYSIS

| PA METHOD 8021 - VOLATILE ORGANICS | I-60 | | I-61 | Units |
|---|---|---|---|---|
| chlorodifluoromethane | 10 U | D1 | 1.0 U | µg/L |
| loromethane | 20 U | D1 | 2.0 U | µg/L |
| Vinyl Chloride | 10 U | D1 | 1.0 U | µg/L |
| romomethane | 10 U | D1 | 1.0 U | µg/L |
| loroethane | 20 U | D1 | 2.0 U | µg/L |
| richlorofluoromethane | 20 U | D1 | 2.0 U | µg/L |
| 1,1-Dichloroethene | 10 U | D1 | 1.0 U | µg/L |
| thylene Chloride | 20 U | D1 | 2.0 U | µg/L |
| 1,2-Dichloroethene | 10 U | D1 | 1.0 U | µg/L |
| 1,1-Dichloroethane | 10 U | D1 | 1.0 U | µg/L |
| 2-Dichloroethene | **26** | D1 | 1.0 U | µg/L |
| roform | **45** | D1 | **3.0** | µg/L |
| 1,1,1-Trichloroethane | 10 U | D1 | 1.0 U | µg/L |
| rbon Tetrachloride | 10 U | D1 | 1.0 U | µg/L |
| 2-Dichloroethane | 10 U | D1 | 1.0 U | µg/L |
| richloroethene | 10 U | D1 | 1.0 U | µg/L |
| 2-Dichloropropane | 10 U | D1 | 1.0 U | µg/L |
| omodichloromethane | 10 U | D1 | 1.0 U | µg/L |
| 1,3-Dichloropropene | 10 U | D1 | 1.0 U | µg/L |
| -1,3-Dichloropropene | 10 U | D1 | 1.0 U | µg/L |
| 1,2-Trichloroethane | 10 U | D1 | 1.0 U | µg/L |
| trachloroethene | **660** | D1 | **26** | µg/L |
| ibromochloromethane | 10 U | D1 | 1.0 U | µg/L |
| lorobenzene | 10 U | D1 | 1.0 U | µg/L |
| omoform | 10 U | D1 | 1.0 U | µg/L |
| 1,2,2-Tetrachloroethane | 10 U | D1 | 1.0 U | µg/L |
| 3-Dichlorobenzene | 10 U | D1 | 1.0 U | µg/L |
| 4-Dichlorobenzene | 10 U | D1 | 1.0 U | µg/L |
| 2-Dichlorobenzene | 10 U | D1 | 1.0 U | µg/L |
| **rrogate:** | **% RECOV** | | **% RECOV** | **LIMITS** |
| omofluorobenzene | 73 | | 74 | 52-167 |
| ate Analyzed | 02/09/00 | | 02/12/00 | |

= ompound was analyzed for but not detected to the level shown.
= Analyte value determined from a 1:10 dilution.

ENCO LABORATORIES
REPORT # : JR1511
DATE REPORTED: February 11, 2000
REFERENCE : WO# JX179
PROJECT NAME : Site 11 Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-62 | | | I-63 | | Units |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 10 | U | D1 | 1.0 | U | µg/L |
| Chloromethane | 20 | U | D1 | 2.0 | U | µg/L |
| Vinyl Chloride | 10 | U | D1 | 1.0 | U | µg/L |
| Bromomethane | 10 | U | D1 | 1.0 | U | µg/L |
| Chloroethane | 20 | U | D1 | 2.0 | U | µg/L |
| Trichlorofluoromethane | 20 | U | D1 | 2.0 | U | µg/L |
| 1,1-Dichloroethene | 10 | U | D1 | 1.0 | U | µg/L |
| Methylene Chloride | **24** | I | D1 | **2.0** | I | µg/L |
| t-1,2-Dichloroethene | 10 | U | D1 | 1.0 | U | µg/L |
| 1,1-Dichloroethane | 10 | U | D1 | 1.0 | U | µg/L |
| c-1,2-Dichloroethene | 10 | U | D1 | 1.0 | U | µg/L |
| Chloroform | **21** | | D1 | **4.7** | | µg/L |
| 1,1,1-Trichloroethane | 10 | U | D1 | 1.0 | U | µg/L |
| Carbon Tetrachloride | 10 | U | D1 | 1.0 | U | µg/L |
| 1,2-Dichloroethane | 10 | U | D1 | 1.0 | U | µg/L |
| Trichloroethene | 10 | U | D1 | 1.0 | U | µg/L |
| 1,2-Dichloropropane | 10 | U | D1 | 1.0 | U | µg/L |
| Bromodichloromethane | 10 | U | D1 | 1.0 | U | µg/L |
| t-1,3-Dichloropropene | 10 | U | D1 | 1.0 | U | µg/L |
| c-1,3-Dichloropropene | 10 | U | D1 | 1.0 | U | µg/L |
| 1,1,2-Trichloroethane | 10 | U | D1 | 1.0 | U | µg/L |
| Tetrachloroethene | **610** | | D1 | **40** | | µg/L |
| Dibromochloromethane | 10 | U | D1 | 1.0 | U | µg/L |
| Chlorobenzene | 10 | U | D1 | 1.0 | U | µg/L |
| Bromoform | 10 | U | D1 | 1.0 | U | µg/L |
| 1,1,2,2-Tetrachloroethane | 10 | U | D1 | 1.0 | U | µg/L |
| 1,3-Dichlorobenzene | 10 | U | D1 | 1.0 | U | µg/L |
| 1,4-Dichlorobenzene | 10 | U | D1 | 1.0 | U | µg/L |
| 1,2-Dichlorobenzene | 10 | U | D1 | 1.0 | U | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 75 | 61 | 52-167 |
| Date Analyzed | 02/12/00 | 02/12/00 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
D1 = Analyte value determined from a 1:10 dilution.

ENCO LABORATORIES
REPORT # : JR1511
DATE REPORTED: February 11, 2000
REFERENCE : WO# JX179
PROJECT NAME : Site 11 Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-64 | I-65 | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| c-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | **2.9** | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | **12** | **4.5** | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 65 | 86 | 52-167 |
| Date Analyzed | 02/08/00 | 02/06/00 | |

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

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-66 | | | I-67 | | | Units |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| Chloromethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Vinyl Chloride | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| Bromomethane | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| Chloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Trichlorofluoromethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,1-Dichloroethene | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| Methylene Chloride | 10 | U | D2 | 10 | U | D2 | µg/L |
| c-1,2-Dichloroethene | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| 1,1-Dichloroethane | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| t-1,2-Dichloroethene | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| Chloroform | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| 1,1,1-Trichloroethane | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| Carbon Tetrachloride | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| 1,2-Dichloroethane | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| Trichloroethene | 5.0 | U | D2 | **28** | | D2 | µg/L |
| 1,2-Dichloropropane | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| Bromodichloromethane | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| c-1,3-Dichloropropene | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| t-1,3-Dichloropropene | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| 1,1,2-Trichloroethane | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| Tetrachloroethene | **120** | | D2 | **220** | | D2 | µg/L |
| Dibromochloromethane | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| Chlorobenzene | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| Bromoform | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| 1,1,2,2-Tetrachloroethane | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| 1,3-Dichlorobenzene | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| 1,4-Dichlorobenzene | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |
| 1,2-Dichlorobenzene | 5.0 | U | D2 | 5.0 | U | D2 | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 69 | 68 | 52-167 |
| Date Analyzed | 02/08/00 | 02/08/00 | |

U = Compound was analyzed for but not detected to the level shown.
D2 = Analyte value determined from a 1:5 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | DUP-01 | | I-11 | Units |
|---|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | | 1.0 U | µg/L |
| Chloromethane | 2.0 U | | 2.0 U | µg/L |
| Vinyl Chloride | **1.0** I | | 1.0 U | µg/L |
| Bromomethane | 1.0 U | | 1.0 U | µg/L |
| Chloroethane | 2.0 U | | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | | 1.0 U | µg/L |
| 1,1-Dichloroethane | **4.4** | | **1.1** I | µg/L |
| c-1,2-Dichloroethene | **23** | | **1.4** I | µg/L |
| Chloroform | **37** | | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | | 1.0 U | µg/L |
| Trichloroethene | **2.8** I | | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | | 1.0 U | µg/L |
| Tetrachloroethene | **670** | D1 | **11** | µg/L |
| Dibromochloromethane | 1.0 U | | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | | 1.0 U | µg/L |
| Bromoform | 1.0 U | | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 84 | | 59 | 52-167 |
| Date Analyzed | 02/05/00 | | 02/09/00 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
D1 = Analyte value determined from a 1:10 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-12 | | I-13 | | Units |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | | 1.0 U | | µg/L |
| Chloromethane | 2.0 U | | 2.0 U | | µg/L |
| Vinyl Chloride | 1.0 U | | 1.0 U | | µg/L |
| Bromomethane | 1.0 U | | 1.0 U | | µg/L |
| Chloroethane | 2.0 U | | 2.0 U | | µg/L |
| Trichlorofluoromethane | 2.0 U | | 2.0 U | | µg/L |
| 1,1-Dichloroethene | 1.0 U | | 1.0 U | | µg/L |
| Methylene Chloride | 2.0 U | | 2.0 U | | µg/L |
| t-1,2-Dichloroethene | 1.0 U | | 1.0 U | | µg/L |
| 1,1-Dichloroethane | 1.0 U | | 1.0 U | | µg/L |
| c-1,2-Dichloroethene | 1.0 U | | **1.0** I | | µg/L |
| Chloroform | **2.1** | | 1.0 U | | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | | 1.0 U | | µg/L |
| Carbon Tetrachloride | 1.0 U | | 1.0 U | | µg/L |
| 1,2-Dichloroethane | 1.0 U | | 1.0 U | | µg/L |
| Trichloroethene | **4.2** | | **3.2** | | µg/L |
| 1,2-Dichloropropane | 1.0 U | | 1.0 U | | µg/L |
| Bromodichloromethane | 1.0 U | | 1.0 U | | µg/L |
| t-1,3-Dichloropropene | 1.0 U | | 1.0 U | | µg/L |
| c-1,3-Dichloropropene | 1.0 U | | 1.0 U | | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | | 1.0 U | | µg/L |
| Tetrachloroethene | **150** | D2 | **370** | D2 | µg/L |
| Dibromochloromethane | 1.0 U | | 1.0 U | | µg/L |
| Chlorobenzene | 1.0 U | | 1.0 U | | µg/L |
| Bromoform | 1.0 U | | 1.0 U | | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | | 1.0 U | | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | | 1.0 U | | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | | **2.4** I | | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | | 1.0 U | | µg/L |
| **Surrogate:** | **% RECOV** | | **% RECOV** | | **LIMITS** |
| Bromofluorobenzene | 79 | | 79 | | 52-167 |
| Date Analyzed | 02/06/00 | | 02/06/00 | | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
D2 = Analyte value determined from a 1:5 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-14 | I-24 | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | **4.0** I | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| 2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | 1.0 U | **1.6** I | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | **4.4** | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | **7.4** | **71** | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 69 | 89 | 52-167 |
| Date Analyzed | 02/09/00 | 02/06/00 | |

U Compound was analyzed for but not detected to the level shown.
I Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-25 | | | I-26 | | Units |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 10 | U | D1 | 1.0 | U | µg/L |
| Chloromethane | 20 | U | D1 | 2.0 | U | µg/L |
| Vinyl Chloride | 10 | U | D1 | 1.0 | U | µg/L |
| Bromomethane | 10 | U | D1 | 1.0 | U | µg/L |
| Chloroethane | 20 | U | D1 | 2.0 | U | µg/L |
| Trichlorofluoromethane | 20 | U | D1 | 2.0 | U | µg/L |
| 1,1-Dichloroethene | 10 | U | D1 | 1.0 | U | µg/L |
| Methylene Chloride | 20 | U | D1 | 2.0 | U | µg/L |
| t-1,2-Dichloroethene | 10 | U | D1 | 1.0 | U | µg/L |
| 1,1-Dichloroethane | 10 | U | D1 | 1.0 | U | µg/L |
| c-1,2-Dichloroethene | 10 | U | D1 | 1.0 | U | µg/L |
| Chloroform | **17** | I | D1 | **4.0** | | µg/L |
| 1,1,1-Trichloroethane | 10 | U | D1 | 1.0 | U | µg/L |
| Carbon Tetrachloride | 10 | U | D1 | 1.0 | U | µg/L |
| 1,2-Dichloroethane | 10 | U | D1 | 1.0 | U | µg/L |
| Trichloroethene | 10 | U | D1 | 1.0 | U | µg/L |
| 1,2-Dichloropropane | 10 | U | D1 | 1.0 | U | µg/L |
| Bromodichloromethane | 10 | U | D1 | **1.1** | I | µg/L |
| t-1,3-Dichloropropene | 10 | U | D1 | 1.0 | U | µg/L |
| c-1,3-Dichloropropene | 10 | U | D1 | 1.0 | U | µg/L |
| 1,1,2-Trichloroethane | 10 | U | D1 | 1.0 | U | µg/L |
| Tetrachloroethene | **1700** | | D3 | **100** | | µg/L |
| Dibromochloromethane | 10 | U | D1 | 1.0 | U | µg/L |
| Chlorobenzene | 10 | U | D1 | 1.0 | U | µg/L |
| Bromoform | 10 | U | D1 | 1.0 | U | µg/L |
| 1,1,2,2-Tetrachloroethane | 10 | U | D1 | 1.0 | U | µg/L |
| 1,3-Dichlorobenzene | 10 | U | D1 | 1.0 | U | µg/L |
| 1,4-Dichlorobenzene | 10 | U | D1 | 1.0 | U | µg/L |
| 1,2-Dichlorobenzene | 10 | U | D1 | 1.0 | U | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 88 | 80 | 52-167 |
| Date Analyzed | 02/06/00 | 02/06/00 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
D1 = Analyte value determined from a 1:10 dilution.
D3 = Analyte value determined from a 1:25 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-27 | | | I-18 | | | Units |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 5.0 | U | D2 | 1.0 | U | | µg/L |
| Chloromethane | 10 | U | D2 | 2.0 | U | | µg/L |
| Vinyl Chloride | 5.0 | U | D2 | 1.0 | U | | µg/L |
| Bromomethane | 5.0 | U | D2 | 1.0 | U | | µg/L |
| Chloroethane | 10 | U | D2 | 2.0 | U | | µg/L |
| Trichlorofluoromethane | 10 | U | D2 | 2.0 | U | | µg/L |
| 1,1-Dichloroethene | 5.0 | U | D2 | 1.0 | U | | µg/L |
| Methylene Chloride | 10 | U | D2 | 2.0 | U | | µg/L |
| t-1,2-Dichloroethene | 5.0 | U | D2 | 1.0 | U | | µg/L |
| 1,1-Dichloroethane | 5.0 | U | D2 | 1.0 | U | | µg/L |
| c-1,2-Dichloroethene | 5.0 | U | D2 | 1.0 | U | | µg/L |
| Chloroform | 5.0 | U | D2 | 1.0 | U | | µg/L |
| 1,1,1-Trichloroethane | 5.0 | U | D2 | 1.0 | U | | µg/L |
| Carbon Tetrachloride | 5.0 | U | D2 | 1.0 | U | | µg/L |
| 1,2-Dichloroethane | 5.0 | U | D2 | 1.0 | U | | µg/L |
| Trichloroethene | 5.0 | U | D2 | **1.5** | I | | µg/L |
| 1,2-Dichloropropane | 5.0 | U | D2 | 1.0 | U | | µg/L |
| Bromodichloromethane | 5.0 | U | D2 | 1.0 | U | | µg/L |
| t-1,3-Dichloropropene | 5.0 | U | D2 | 1.0 | U | | µg/L |
| c-1,3-Dichloropropene | 5.0 | U | D2 | 1.0 | U | | µg/L |
| 1,1,2-Trichloroethane | 5.0 | U | D2 | 1.0 | U | | µg/L |
| Tetrachloroethene | **78** | | D2 | **110** | | D2 | µg/L |
| Dibromochloromethane | 5.0 | U | D2 | 1.0 | U | | µg/L |
| Chlorobenzene | 5.0 | U | D2 | 1.0 | U | | µg/L |
| Bromoform | 5.0 | U | D2 | 1.0 | U | | µg/L |
| 1,1,2,2-Tetrachloroethane | 5.0 | U | D2 | 1.0 | U | | µg/L |
| 1,3-Dichlorobenzene | 5.0 | U | D2 | 1.0 | U | | µg/L |
| 1,4-Dichlorobenzene | 5.0 | U | D2 | 1.0 | U | | µg/L |
| 1,2-Dichlorobenzene | 5.0 | U | D2 | 1.0 | U | | µg/L |
| **Surrogate:** | **% RECOV** | | | **% RECOV** | | | **LIMITS** |
| Bromofluorobenzene | 82 | | | 80 | | | 52-167 |
| Date Analyzed | 02/06/00 | | | 02/06/00 | | | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
D2 = Analyte value determined from a 1:5 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | LAB BLANK | LAB BLANK | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| c-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | 1.0 U | 1.0 U | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 89 | 84 | 52-167 |
| Date Analyzed | 02/04/00 | 02/05/00 | |

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

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | LAB BLANK | LAB BLANK | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| c-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | 1.0 U | 1.0 U | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 81 | 81 | 52-167 |
| Date Analyzed | 02/06/00 | 02/06/00 | |

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

ENCO LABORATORIES
REPORT # : JR1511
DATE REPORTED: February 11, 2000
REFERENCE : WO# JX179
PROJECT NAME : Site 11 Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | LAB BLANK | LAB BLANK | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| c-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | 1.0 U | 1.0 U | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 87 | 69 | 52-167 |
| Date Analyzed | 02/07/00 | 02/08/00 | |

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

ENCO LABORATORIES
REPORT # : JR1511
DATE REPORTED: February 11, 2000
REFERENCE : WO# JX179
PROJECT NAME : Site 11 Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | LAB BLANK | LAB BLANK | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| c-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | 1.0 U | 1.0 U | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 69 | 73 | 52-167 |
| Date Analyzed | 02/09/00 | 02/09/00 | |

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

ENCO LABORATORIES
REPORT # : JR1511
DATE REPORTED: February 11, 2000
REFERENCE : WO# JX179
PROJECT NAME : Site 11 Kings Bay



## QUALITY CONTROL DATA

| Parameter | % RECOVERY MS/MSD/LCS | ACCEPT LIMITS | % RPD MS/MSD | ACCEPT LIMITS |
|---|---|---|---|---|
| EPA Method 601/6230D/8010/8021 (I-60,I-61,I-62,I-63,I-64,I-65,I-66,I-67,I-68,I-69,DUP-01) | | | | |
| Methylene Chloride | 88/ 86/ 90 | 51-155 | 2 | 29 |
| Chloroform | 98/ 98/ 92 | 63-145 | <1 | 16 |
| Carbon Tetrachloride | 99/104/100 | 64-146 | 5 | 21 |
| Trichloroethene | 91/ 93/ 95 | 60-140 | 2 | 24 |
| Tetrachloroethene | */ */101 | 66-146 | * | 21 |
| Chlorobenzene | 95/ 92/ 96 | 70-137 | 3 | 19 |
| EPA Method 601/6230D/8010/8021 (I-11,I-12,I-13,I-14,I-24,I-25,I-26,I-27,I-18) | | | | |
| Methylene Chloride | 86/ 82/102 | 51-155 | 5 | 29 |
| Chloroform | 95/ 83/109 | 63-145 | 13 | 16 |
| Carbon Tetrachloride | 89/ 76/120 | 64-146 | 16 | 21 |
| Trichloroethene | 89/ 85/109 | 60-140 | 4 | 24 |
| Tetrachloroethene | 94/104/ 93 | 66-146 | 10 | 21 |
| Chlorobenzene | 86/ 84/ 90 | 70-137 | 2 | 19 |

Environmental Conservation Laboratories Comprehensive QA Plan #910190

* = MS/MSD/RPD unavailable due to high original sample concentration.
< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

# CHAIN OF CUSTODY RECORD



BECHTEL

Site Name: Site 11 Kings Bay
Delivery Order No.:
Cooler/Crate No.:

SEIR No.:
COC Number:
Lab: ENCO
Field Logbook No.:
Logbook Pg. No.:

Sampled by: M.A. Gage (Print) M.A. Gage (Sign) (Print) (Sign)

**Legend — SAMPLE TYPE**

| | | | |
|---|---|---|---|
| PSB | Preservative Blank | BLS | Blind Spike |
| FDP | Field Duplicate | BLB | Blink Blank |
| ENV | Environmental | PTS | Point Source |
| FDB | Field Blank | FRP | Field Replicate |
| GEO | Geotechnical Sample | RSB | Rinsate Blank |
| MXD | Matrix Spike Duplicate | SPL | Split |
| MXS | Matrix Spike | TRP | Trip Blank |

**MATRIX**

| | | | | | |
|---|---|---|---|---|---|
| AIR | Air | SBS | Subsurface Soil | PTW | Potable Water |
| FLO | Flora | SED | Sediment | SEP | Seeps |
| FAU | Fauna | SFS | Surface Soil | SOL | Solid |
| GWT | Groundwater | SPW | Surface Water | WWT | Waste Water |
| LCH | Leachate | SLG | Sludge | SLW | Solid Waste |
| OIL | Oil | SST | Surface Water Storm Event | | |

**QC LEVELS**

S Sample Results and QC
C Reported
D Sample results, QC and raw data reported
E Sample resuts, blanks, and calibration reportred
S Screening level analysis

| Station ID | BEI Sample ID | Sample Type | Matrix Code | Collection Date/Time | Container ID | Preservative | Pay Item | Parameter | Priority | QC Code |
|---|---|---|---|---|---|---|---|---|---|---|
| I-60 | I-60 | ENV | GWT | 2-2-00/1200 | 01, 02 | HCL | | 8021 | 5-Day TAT | |
| I-61 | I-61 | ↓ | ↓ | /1525 | ↓ | ↓ | | ↓ | ↓ | |
| I-62 | I-62 | | | /1345 | | | | | | |
| I-63 | I-63 | | | /1130 | | | | | | |
| I-64 | I-64 | | | /1600 | | | | | | |
| I-65 | I-65 | | | /1420 | | | | | | |

| RELINQUISHED BY | RECEIVED BY | DATE | TIME | REASON FOR TRANSFER |
|---|---|---|---|---|
| M.A. Gage | [illegible] | 2/3/00 | 15:30 | Transfer to ENCO |
| Kevin Gage | [illegible] | 2/3/00 | 15:30 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

COMMENTS/INSTRUCTIONS

JR1511

| CONTAMINATION | YES | NO |
|---|---|---|
| Radiological | | ✓ |
| Chemical | ✓ | |

Shipper: NA

Ship to: NA

Airbill No. NA Traffic Report No.

This package conforms to the conditions and limitations specified in 49 CFR 173.421 for excepted radioactive material, limited quantity, n.o.s., UN2910.

012095

# CHAIN OF CUSTODY RECORD (Continued)



| Station ID | BEI Sample ID | Sample Type | Matrix Code | Collection Date/Time | Container ID | Preservative | Pay Item | Parameter | Priority | QC Level |
|---|---|---|---|---|---|---|---|---|---|---|
| I-66 | I-66 | ENV | GWT | 2-2-00/1315 | 01, 02 | HCL | | 8021 | 5-Day TAT | |
| I-67 | I-67 | | | /1450 | | | | | | |
| I-68 | I-68 | | | /1700 | | | | | | |
| I-69 | I-69 | | | /1630 | | | | | | |
| DUP-01 | DUP-01 | | | / — | | | | | | |
| I-11 | I-11 | | | 2-3-00/1115 | | | | | | |
| I-12 | I-12 | | | /1045 | | | | | | |
| I-13 | I-13 | | | /0945 | | | | | | |
| I-14 | I-14 | | | /0750 | | | | | | |
| I-24 | I-24 | | | / | | | | | | |
| I-25 | I-25 | | | /0845 | | | | | | |
| I-26 | I-26 | | | /0915 | | | | | | |
| I-27 | I-27 | | | /1015 | | | | | | |
| I-18 | I-18 | | | /1150 | | | | | | |

NFS

017095

017122

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Bechtel Environmental, Inc.
ADDRESS: NAS Jacksonville
P.O. Box 171
Jacksonville, FL 32215

REPORT # : JR1364
DATE SUBMITTED: January 22, 2000
DATE REPORTED : January 25, 2000



ATTENTION: Mr. Mark Gage

**SAMPLE IDENTIFICATION**

Samples submitted and
identified by client as:

WO# JX185

Kings Bay

01/22/00

#1 - I-14
#2 - I-60
#3 - I-61
#4 - I-62
#5 - I-63
#6 - I-64
#7 - I-65
#8 - I-66
#9 - I-67
#10 - I-69
#11 - DUP-1

PROJECT MANAGER Scott D. Martin

ENCO LABORATORIES
REPORT # : JR1364
DATE REPORTED: January 25, 2000
REFERENCE : WO# JX185
PROJECT NAME : Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-14 | | | I-60 | | | Units |
|---|---|---|---|---|---|---|---|
| chlorodifluoromethane | 20 | U | D1 | 20 | U | D1 | µg/L |
| Chloromethane | 40 | U | D1 | 40 | U | D1 | µg/L |
| inyl Chloride | 20 | U | D1 | 20 | U | D1 | µg/L |
| romomethane | 20 | U | D1 | 20 | U | D1 | µg/L |
| Chloroethane | 40 | U | D1 | 40 | U | D1 | µg/L |
| richlorofluoromethane | 40 | U | D1 | 40 | U | D1 | µg/L |
| 1-Dichloroethene | 20 | U | D1 | 20 | U | D1 | µg/L |
| ethylene Chloride | 40 | U | D1 | 40 | U | D1 | µg/L |
| t-1,2-Dichloroethene | 20 | U | D1 | 20 | U | D1 | µg/L |
| 1-Dichloroethane | 20 | U | D1 | 20 | U | D1 | µg/L |
| 1,2-Dichloroethene | 20 | U | D1 | **88** | | D1 | µg/L |
| Chloroform | 20 | U | D1 | **34** | I | D1 | µg/L |
| 1-Trichloroethane | 20 | U | D1 | 20 | U | D1 | µg/L |
| on Tetrachloride | 20 | U | D1 | 20 | U | D1 | µg/L |
| 1,2-Dichloroethane | 20 | U | D1 | 20 | U | D1 | µg/L |
| Trichloroethene | 20 | U | D1 | 20 | U | D1 | µg/L |
| 2-Dichloropropane | 20 | U | D1 | 20 | U | D1 | µg/L |
| omodichloromethane | 20 | U | D1 | 20 | U | D1 | µg/L |
| c-1,3-Dichloropropene | 20 | U | D1 | 20 | U | D1 | µg/L |
| 1,3-Dichloropropene | 20 | U | D1 | 20 | U | D1 | µg/L |
| 1,2-Trichloroethane | 20 | U | D1 | 20 | U | D1 | µg/L |
| Tetrachloroethene | **200** | | D1 | **20000** | | D2 | µg/L |
| ibromochloromethane | 20 | U | D1 | 20 | U | D1 | µg/L |
| lorobenzene | 20 | U | D1 | 20 | U | D1 | µg/L |
| omoform | 20 | U | D1 | 20 | U | D1 | µg/L |
| 1,1,2,2-Tetrachloroethane | 20 | U | D1 | 20 | U | D1 | µg/L |
| 3-Dichlorobenzene | 20 | U | D1 | 20 | U | D1 | µg/L |
| 4-Dichlorobenzene | 20 | U | D1 | 20 | U | D1 | µg/L |
| 1,2-Dichlorobenzene | 20 | U | D1 | 20 | U | D1 | µg/L |

| rrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 90 | 66 | 52-167 |
| ate Analyzed | 01/22/00 | 01/22/00 | |

J = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
D1 Analyte value determined from a 1:20 dilution.
D2 - Analyte value determined from a 1:500 dilution.

ENCO LABORATORIES
REPORT # : JR1364
DATE REPORTED: January 25, 2000
REFERENCE : WO# JX185
PROJECT NAME : Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-61 | | I-62 | | Units |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 20 U | D1 | 1.0 U | | µg/L |
| Chloromethane | 40 U | D1 | 2.0 U | | µg/L |
| Vinyl Chloride | 20 U | D1 | 1.0 U | | µg/L |
| Bromomethane | 20 U | D1 | 1.0 U | | µg/L |
| Chloroethane | 40 U | D1 | 2.0 U | | µg/L |
| Trichlorofluoromethane | 40 U | D1 | 2.0 U | | µg/L |
| 1,1-Dichloroethene | 20 U | D1 | 1.0 U | | µg/L |
| Methylene Chloride | 40 U | D1 | 2.0 U | | µg/L |
| t-1,2-Dichloroethene | 20 U | D1 | 1.0 U | | µg/L |
| 1,1-Dichloroethane | 20 U | D1 | 1.0 U | | µg/L |
| c-1,2-Dichloroethene | 20 U | D1 | 1.0 U | | µg/L |
| Chloroform | 20 U | D1 | **90** | | µg/L |
| 1,1,1-Trichloroethane | 20 U | D1 | 1.0 U | | µg/L |
| Carbon Tetrachloride | 20 U | D1 | 1.0 U | | µg/L |
| 1,2-Dichloroethane | 20 U | D1 | 1.0 U | | µg/L |
| Trichloroethene | 20 U | D1 | 1.0 U | | µg/L |
| 1,2-Dichloropropane | 20 U | D1 | 1.0 U | | µg/L |
| Bromodichloromethane | 20 U | D1 | 1.0 U | | µg/L |
| c-1,3-Dichloropropene | 20 U | D1 | 1.0 U | | µg/L |
| t-1,3-Dichloropropene | 20 U | D1 | 1.0 U | | µg/L |
| 1,1,2-Trichloroethane | 20 U | D1 | 1.0 U | | µg/L |
| Tetrachloroethene | **290** | D1 | **950** | D1 | µg/L |
| Dibromochloromethane | 20 U | D1 | 1.0 U | | µg/L |
| Chlorobenzene | 20 U | D1 | 1.0 U | | µg/L |
| Bromoform | 20 U | D1 | 1.0 U | | µg/L |
| 1,1,2,2-Tetrachloroethane | 20 U | D1 | 1.0 U | | µg/L |
| 1,3-Dichlorobenzene | 20 U | D1 | 1.0 U | | µg/L |
| 1,4-Dichlorobenzene | 20 U | D1 | 1.0 U | | µg/L |
| 1,2-Dichlorobenzene | 20 U | D1 | 1.0 U | | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 87 | 66 | 52-167 |
| Date Analyzed | 01/22/00 | 01/22/00 | |

U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:20 dilution.

ENCO LABORATORIES
REPORT # : JR1364
DATE REPORTED: January 25, 2000
REFERENCE : WO# JX185
PROJECT NAME : Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-63 | I-64 | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | **3.0** I | **6.0** | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| 1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| 2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | **20** | **35** | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 67 | 56 | 52-167 |
| Date Analyzed | 01/23/00 | 01/23/00 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

017122

ENCO LABORATORIES
REPORT # : JR1364
DATE REPORTED: January 25, 2000
REFERENCE : WO# JX185
PROJECT NAME : Kings Bay



RESULTS OF ANALYSIS

| PA METHOD 8021 - OLATILE ORGANICS | I-65 | I-66 | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| hloromethane | **3.0** I | **10** | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| hloroethane | 2.0 U | 2.0 U | µg/L |
| richlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| ethylene Chloride | 2.0 U | 2.0 U | µg/L |
| -1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| -1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| hloroform | **6.2** | 1.0 U | µg/L |
| ,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| richloroethene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| romodichloromethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| -1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| trachloroethene | **28** | **1.5** I | µg/L |
| bromochloromethane | 1.0 U | 1.0 U | µg/L |
| hlorobenzene | 1.0 U | 1.0 U | µg/L |
| omoform | 1.0 U | 1.0 U | µg/L |
| 1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| ,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| urrogate: | % RECOV | % RECOV | LIMITS |
| omofluorobenzene | 53 | 70 | 52-167 |
| te Analyzed | 01/23/00 | 01/23/00 | |

= Compound was analyzed for but not detected to the level shown.
= Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR1364
DATE REPORTED: January 25, 2000
REFERENCE : WO# JX185
PROJECT NAME : Kings Bay



## RESULTS OF ANALYSIS

| PA METHOD 8021 - OLATILE ORGANICS | I-67 | I-69 | Units |
|---|---|---|---|
| ichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| hloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| hloroethane | 2.0 U | 2.0 U | µg/L |
| richlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| ethylene Chloride | 2.0 U | 2.0 U | µg/L |
| -1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| 2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| roform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| richloroethene | **2.9** | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| romodichloromethane | 1.0 U | 1.0 U | µg/L |
| -1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| etrachloroethene | **28** | **36** | µg/L |
| ibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| romoform | 1.0 U | 1.0 U | µg/L |
| 1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| romofluorobenzene | 78 | 68 | 52-167 |
| ate Analyzed | 01/23/00 | 01/23/00 | |

U - Compound was analyzed for but not detected to the level shown.

017122

ENCO LABORATORIES
REPORT # : JR1364
DATE REPORTED: January 25, 2000
REFERENCE : WO# JX185
PROJECT NAME : Kings Bay



RESULTS OF ANALYSIS

| PA METHOD 8021 - LATILE ORGANICS | DUP-1 | | | LAB BLANK | | Units |
|---|---|---|---|---|---|---|
| ichlorodifluoromethane | 20 | U | D1 | 1.0 | U | µg/L |
| loromethane | 40 | U | D1 | 2.0 | U | µg/L |
| hyl Chloride | 20 | U | D1 | 1.0 | U | µg/L |
| romomethane | 20 | U | D1 | 1.0 | U | µg/L |
| loroethane | 40 | U | D1 | 2.0 | U | µg/L |
| hlorofluoromethane | 40 | U | D1 | 2.0 | U | µg/L |
| -Dichloroethene | 20 | U | D1 | 1.0 | U | µg/L |
| ethylene Chloride | 40 | U | D1 | 2.0 | U | µg/L |
| 1,2-Dichloroethene | 20 | U | D1 | 1.0 | U | µg/L |
| 1-Dichloroethane | 20 | U | D1 | 1.0 | U | µg/L |
| -1,2-Dichloroethene | **110** | | D1 | 1.0 | U | µg/L |
| loroform | **52** | | D1 | 1.0 | U | µg/L |
| 1,1-Trichloroethane | 20 | U | D1 | 1.0 | U | µg/L |
| arbon Tetrachloride | 20 | U | D1 | 1.0 | U | µg/L |
| 2-Dichloroethane | 20 | U | D1 | 1.0 | U | µg/L |
| chloroethene | **40** | I | D1 | 1.0 | U | µg/L |
| 2-Dichloropropane | 20 | U | D1 | 1.0 | U | µg/L |
| romodichloromethane | 20 | U | D1 | 1.0 | U | µg/L |
| 1,3-Dichloropropene | 20 | U | D1 | 1.0 | U | µg/L |
| 1,3-Dichloropropene | 20 | U | D1 | 1.0 | U | µg/L |
| ,1,2-Trichloroethane | 20 | U | D1 | 1.0 | U | µg/L |
| trachloroethene | **27000** | | D2 | 1.0 | U | µg/L |
| romochloromethane | 20 | U | D1 | 1.0 | U | µg/L |
| hlorobenzene | 20 | U | D1 | 1.0 | U | µg/L |
| romoform | 20 | U | D1 | 1.0 | U | µg/L |
| 1,2,2-Tetrachloroethane | 20 | U | D1 | 1.0 | U | µg/L |
| 3-Dichlorobenzene | 20 | U | D1 | 1.0 | U | µg/L |
| ,4-Dichlorobenzene | 20 | U | D1 | 1.0 | U | µg/L |
| 2-Dichlorobenzene | 20 | U | D1 | 1.0 | U | µg/L |

| urrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| romofluorobenzene | 89 | 84 | 52-167 |
| te Analyzed | 01/23/00 | 01/22/00 | |

= Compound was analyzed for but not detected to the level shown.
= Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
1 = Analyte value determined from a 1:20 dilution.
= Analyte value determined from a 1:500 dilution.

017122

ENCO LABORATORIES
REPORT # : JR1364
DATE REPORTED: January 25, 2000
REFERENCE : WO# JX185
PROJECT NAME : Kings Bay



## RESULTS OF ANALYSIS

| A METHOD 8021 - LATILE ORGANICS | LAB BLANK | LAB BLANK | Units |
|---|---|---|---|
| chlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| loromethane | 2.0 U | 2.0 U | µg/L |
| inyl Chloride | 1.0 U | 1.0 U | µg/L |
| romomethane | 1.0 U | 1.0 U | µg/L |
| loroethane | 2.0 U | 2.0 U | µg/L |
| ichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| ,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| thylene Chloride | 2.0 U | 2.0 U | µg/L |
| 1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| ,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| -Dichloroethene | 1.0 U | 1.0 U | µg/L |
| oform | 1.0 U | 1.0 U | µg/L |
| ,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| arbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| -Dichloroethane | 1.0 U | 1.0 U | µg/L |
| chloroethene | 1.0 U | 1.0 U | µg/L |
| ,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| omodichloromethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| -1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| rachloroethene | 1.0 U | 1.0 U | µg/L |
| ibromochloromethane | 1.0 U | 1.0 U | µg/L |
| hlorobenzene | 1.0 U | 1.0 U | µg/L |
| omoform | 1.0 U | 1.0 U | µg/L |
| 1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| ,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| -Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| -Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| urrogate: | % RECOV | % RECOV | LIMITS |
| omofluorobenzene | 84 | 77 | 52-167 |
| te Analyzed | 01/22/00 | 01/23/00 | |

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

017122

ENCO LABORATORIES
REPORT # : JR1364
DATE REPORTED: January 25, 2000
REFERENCE : WO# JX185
PROJECT NAME : Kings Bay



## QUALITY CONTROL DATA

| rameter | % RECOVERY MS/MSD/LCS | ACCEPT LIMITS | % RPD MS/MSD | ACCEPT LIMITS |
|---|---|---|---|---|
| A Method 601/6230D/8010/8021 (I-14,I-60,I-61) | | | | |
| thylene Chloride | 91/ 94/ 96 | 51-155 | 3 | 29 |
| hloroform | 88/ 94/ 91 | 63-145 | 6 | 16 |
| arbon Tetrachloride | 92/106/100 | 64-146 | 14 | 21 |
| chloroethene | 97/105/ 98 | 60-140 | 8 | 24 |
| etrachloroethene | 94/ 98/ 99 | 66-146 | 4 | 21 |
| hlorobenzene | 92/ 93/ 93 | 70-137 | 1 | 19 |
| A Method 601/6230D/8010/8021 (I-62,I-63,I-64,I-65,I-66,I-67,I-69,DUP-1) | | | | |
| ethylene Chloride | 84/106/ 76 | 51-155 | 23 | 29 |
| loroform | 92/ 99/ 80 | 63-145 | 7 | 16 |
| rbon Tetrachloride | 118/106/ 80 | 64-146 | 11 | 21 |
| richloroethene | 122/114/ 77 | 60-140 | 7 | 24 |
| etrachloroethene | 111/102/ 75 | 66-146 | 8 | 21 |
| orobenzene | 83/ 94/ 74 | 70-137 | 12 | 19 |

ironmental Conservation Laboratories Comprehensive QA Plan #910190

= Less Than
S = Matrix Spike
D = Matrix Spike Duplicate
CS = Laboratory Control Standard
PD = Relative Percent Difference

s report shall not be reproduced except in full, without the written
pproval of the laboratory. Results for these procedures apply only to
samples as submitted.

# CHAIN OF CUSTODY RECORD



BECHTEL

Site Name: Site 11 Kings Bay
Delivery Order No.:
Cooler/Crate No.:

SEIR No.:
COC Number:
Lab: ENCO
Field Logbook No.:
Logbook Pg. No.:

Sampled by: M.A. Gage (Print) M.A. Gage (Sign) (Print) (Sign)

**Legend — SAMPLE TYPE**

| | | | |
|---|---|---|---|
| PSB | Preservative Blank | BLS | Blind Spike |
| FDP | Field Duplicate | BLB | Blink Blank |
| ENV | Environmental | PTS | Point Source |
| FDB | Field Blank | FRP | Field Replicate |
| GEO | Geotechnical Sample | RSB | Rinsate Blank |
| MXD | Matrix Spike Duplicate | SPL | Split |
| MXS | Matrix Spike | TRP | Trip Blank |

**MATRIX**

| | | | | | |
|---|---|---|---|---|---|
| AIR | Air | SBS | Subsurface Soil | PTW | Potable Water |
| FLO | Flora | SED | Sediment | SEP | Seeps |
| FAU | Fauna | SFS | Surface Soil | SOL | Solid |
| GWT | Groundwater | SPW | Surface Water | WWT | Waste Water |
| LCH | Leachate | SLG | Sludge | SLW | Solid Waste |
| OIL | Oil | SST | Surface Water Storm Event | | |

**QC LEVELS**

S Sample Results and QC
C Reported
D Sample results, QC and raw data reported
E Sample resuts, blanks, and calibration reportred
S Screening level analysis

| Station ID | BEI Sample ID | Sample Type | Matrix Code | Collection Date/Time | Container ID | Preservative | Pay Item | Parameter | Priority | QC Code |
|---|---|---|---|---|---|---|---|---|---|---|
| I-14 | I-14 | ENV | GWT | 1-22-00/1130 | 01 02 | HCL | | 8021 | 24 Hr TAT | |
| I-60 | I-60 | | | /0945 | | | | | | |
| I-61 | I-61 | | | /1200 | | | | | | |
| I-62 | I-62 | | | /0910 | | | | | | |
| I-63 | I-63 | | | /1330 | | | | | | |
| I-64 | I-64 | | | /1230 | | | | | | |

| RELINQUISHED BY | RECEIVED BY | DATE | TIME | REASON FOR TRANSFER |
|---|---|---|---|---|
| M.A. Gage | J. Wilson | 1/22/00 | 1500 | Transfer To ENCO |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

COMMENTS/INSTRUCTIONS
Below 100 ppb PCE

JR1364

| CONTAMINATION | YES | NO |
|---|---|---|
| Radiological | | ✓ |
| Chemical | ✓ | |

Shipper: NA

to: NA

Airbill No. NA Traffic Report No. NA

DUPLICATE

...ns to the conditions and limitations specified in 49 CFR 173.421 for excepted radioactive material, limited quantity, n.o.s., UN2910.

# CHAIN OF CUSTODY RECORD (Continued)



| Station ID | BEI Sample ID | Sample Type | Matrix Code | Collection Date/Time | Container ID | Preservative | Pay Item | Parameter | Priority | QC Level |
|---|---|---|---|---|---|---|---|---|---|---|
| I-65 | I-65 | ENV | GWT | 1-22-00/1015 | 01,02 | HCL | | 8021 | 24 hr TAT | |
| I-66 | I-66 | ↓ | ↓ | 0835 | ↓ | ↓ | | ↓ | ↓ | |
| I-67 | I-67 | ↓ | ↓ | 1050 | ↓ | ↓ | | ↓ | ↓ | |
| I-69 | I-69 | ↓ | ↓ | 1300 | ↓ | ↓ | | ↓ | ↓ | |
| Dup-1 | Dup-1 | ↓ | ↓ | — | ↓ | ↓ | | ↓ | ↓ | |

MFS

DUPLICATE

221710

DUPLICATE

Environmental Conservation Laboratories, Inc.
810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Bechtel Environmental, Inc.
ADDRESS: NAS Jacksonville
P.O. Box 171
Jacksonville, FL 32215

REPORT # : JR1137
DATE SUBMITTED: January 8, 2000
DATE REPORTED : January 12, 2000



ATTENTION: Mr. Mark Gage

## SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

PROJECT #: WO# JX185

Site 11 Kings Bay

| | | | |
|---|---|---|---|
| #1 | - I-27 | @ 08:55 | (01/06/00) |
| #2 | - I-12 | @ 09:30 | (01/06/00) |
| #3 | - I-11 | @ 10:00 | (01/06/00) |
| #4 | - I-18 | @ 10:35 | (01/06/00) |
| #5 | - I-25 | @ 11:15 | (01/06/00) |
| #6 | - I-14 | @ 11:50 | (01/06/00) |
| #7 | - I-24 | @ 12:15 | (01/06/00) |
| #8 | - I-13 | @ 15:30 | (01/06/00) |
| #9 | - I-26 | @ 15:40 | (01/06/00) |
| #10 | - I-68 | @ 08:40 | (01/07/00) |
| #11 | - I-64 | @ 10:20 | (01/07/00) |
| #12 | - I-69 | @ 10:50 | (01/07/00) |
| #13 | - I-61 | @ 11:20 | (01/07/00) |
| #14 | - I-67 | @ 12:30 | (01/07/00) |
| #15 | - I-65 | @ 13:00 | (01/07/00) |

<<<CONTINUED>>>

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

017123

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Bechtel Environmental, Inc.
ADDRESS: NAS Jacksonville
P.O. Box 171
Jacksonville, FL 32215

REPORT # : JR1137
DATE SUBMITTED: January 8, 2000
DATE REPORTED : January 12, 2000



ATTENTION: Mr. Mark Gage

**SAMPLE IDENTIFICATION**

Samples submitted and
identified by client as:

PROJECT #: WO# JX185

Site 11 Kings Bay

#16 - I-62 @ 13:30 (01/07/00)
#17 - I-60 @ 14:00 (01/07/00)
#18 - I-66 @ 14:30 (01/07/00)
#19 - I-63 @ 16:00 (01/07/00)
#20 - DUP-1 (01/07/00)

PROJECT MANAGER Scott D. Martin

ENCO LABORATORIES
REPORT # : JR1137
DATE REPORTED: January 12, 2000
REFERENCE : WO# JX185
PROJECT NAME : Site 11 Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-27 | | | I-12 | | Units |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 5.0 | U | D1 | 1.0 | U | µg/L |
| Chloromethane | 10 | U | D1 | 2.0 | U | µg/L |
| Vinyl Chloride | 5.0 | U | D1 | 1.0 | U | µg/L |
| Bromomethane | 5.0 | U | D1 | 1.0 | U | µg/L |
| Chloroethane | 10 | U | D1 | 2.0 | U | µg/L |
| Trichlorofluoromethane | 10 | U | D1 | 2.0 | U | µg/L |
| 1,1-Dichloroethene | 5.0 | U | D1 | 1.0 | U | µg/L |
| Methylene Chloride | 10 | U | D1 | 2.0 | U | µg/L |
| t-1,2-Dichloroethene | 5.0 | U | D1 | 1.0 | U | µg/L |
| 1,1-Dichloroethane | 5.0 | U | D1 | 1.0 | U | µg/L |
| c-1,2-Dichloroethene | 5.0 | U | D1 | 1.0 | U | µg/L |
| Chloroform | 5.0 | U | D1 | 1.0 | U | µg/L |
| 1,1,1-Trichloroethane | 5.0 | U | D1 | 1.0 | U | µg/L |
| Carbon Tetrachloride | 5.0 | U | D1 | 1.0 | U | µg/L |
| 1,2-Dichloroethane | 5.0 | U | D1 | 1.0 | U | µg/L |
| Trichloroethene | **20** | | D1 | **2.6** | I | µg/L |
| 1,2-Dichloropropane | 5.0 | U | D1 | 1.0 | U | µg/L |
| Bromodichloromethane | 5.0 | U | D1 | 1.0 | U | µg/L |
| t-1,3-Dichloropropene | 5.0 | U | D1 | 1.0 | U | µg/L |
| c-1,3-Dichloropropene | 5.0 | U | D1 | 1.0 | U | µg/L |
| 1,1,2-Trichloroethane | 5.0 | U | D1 | 1.0 | U | µg/L |
| Tetrachloroethene | **270** | | D1 | **43** | | µg/L |
| Dibromochloromethane | 5.0 | U | D1 | 1.0 | U | µg/L |
| Chlorobenzene | 5.0 | U | D1 | 1.0 | U | µg/L |
| Bromoform | 5.0 | U | D1 | 1.0 | U | µg/L |
| 1,1,2,2-Tetrachloroethane | 5.0 | U | D1 | 1.0 | U | µg/L |
| 1,3-Dichlorobenzene | 5.0 | U | D1 | 1.0 | U | µg/L |
| 1,4-Dichlorobenzene | 5.0 | U | D1 | 1.0 | U | µg/L |
| 1,2-Dichlorobenzene | 5.0 | U | D1 | 1.0 | U | µg/L |
| **Surrogate:** | **% RECOV** | | | **% RECOV** | | **LIMITS** |
| Bromofluorobenzene | 64 | | | 61 | | 52-167 |
| Date Analyzed | 01/10/00 | | | 01/11/00 | | |

U = Compound was analyzed for but not detected to the level shown.
I - Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
D1 = Analyte value determined from a 1:5 dilution.

ENCO LABORATORIES
REPORT # : JR1137
DATE REPORTED: January 12, 2000
REFERENCE : WO# JX185
PROJECT NAME : Site 11 Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-11 | | | I-18 | | Units |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 10 | U | D2 | 1.0 | U | µg/L |
| Chloromethane | 20 | U | D2 | 2.0 | U | µg/L |
| Vinyl Chloride | 10 | U | D2 | 1.0 | U | µg/L |
| Bromomethane | 10 | U | D2 | 1.0 | U | µg/L |
| Chloroethane | 20 | U | D2 | 2.0 | U | µg/L |
| Trichlorofluoromethane | 20 | U | D2 | 2.0 | U | µg/L |
| 1,1-Dichloroethene | 10 | U | D2 | 1.0 | U | µg/L |
| Methylene Chloride | 20 | U | D2 | 2.0 | U | µg/L |
| t-1,2-Dichloroethene | 10 | U | D2 | 1.0 | U | µg/L |
| 1,1-Dichloroethane | 10 | U | D2 | 1.0 | U | µg/L |
| c-1,2-Dichloroethene | 10 | U | D2 | 1.0 | U | µg/L |
| Chloroform | 10 | U | D2 | 1.0 | U | µg/L |
| 1,1,1-Trichloroethane | 10 | U | D2 | 1.0 | U | µg/L |
| Carbon Tetrachloride | 10 | U | D2 | 1.0 | U | µg/L |
| 1,2-Dichloroethane | 10 | U | D2 | 1.0 | U | µg/L |
| Trichloroethene | 10 | U | D2 | **3.3** | | µg/L |
| 1,2-Dichloropropane | 10 | U | D2 | 1.0 | U | µg/L |
| Bromodichloromethane | 10 | U | D2 | 1.0 | U | µg/L |
| c-1,3-Dichloropropene | 10 | U | D2 | 1.0 | U | µg/L |
| t-1,3-Dichloropropene | 10 | U | D2 | 1.0 | U | µg/L |
| 1,1,2-Trichloroethane | 10 | U | D2 | 1.0 | U | µg/L |
| Tetrachloroethene | **130** | | D2 | **31** | | µg/L |
| Dibromochloromethane | 10 | U | D2 | 1.0 | U | µg/L |
| Chlorobenzene | 10 | U | D2 | 1.0 | U | µg/L |
| Bromoform | 10 | U | D2 | 1.0 | U | µg/L |
| 1,1,2,2-Tetrachloroethane | 10 | U | D2 | 1.0 | U | µg/L |
| 1,3-Dichlorobenzene | 10 | U | D2 | 1.0 | U | µg/L |
| 1,4-Dichlorobenzene | 10 | U | D2 | 1.0 | U | µg/L |
| 1,2-Dichlorobenzene | 10 | U | D2 | 1.0 | U | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 55 | 52 | 52-167 |
| Date Analyzed | 01/09/00 | 01/11/00 | |

U = Compound was analyzed for but not detected to the level shown.
D2 = Analyte value determined from a 1:10 dilution.

ENCO LABORATORIES
REPORT # : JR1137
DATE REPORTED: January 12, 2000
REFERENCE : WO# JX185
PROJECT NAME : Site 11 Kings Bay



## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-25 | | | I-14 | | | Units |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Chloromethane | 20 | U | D2 | 20 | U | D2 | µg/L |
| Vinyl Chloride | 10 | U | D2 | 10 | U | D2 | µg/L |
| Bromomethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Chloroethane | 20 | U | D2 | 20 | U | D2 | µg/L |
| Trichlorofluoromethane | 20 | U | D2 | 20 | U | D2 | µg/L |
| 1,1-Dichloroethene | 10 | U | D2 | 10 | U | D2 | µg/L |
| Methylene Chloride | 20 | U | D2 | 20 | U | D2 | µg/L |
| trans-1,2-Dichloroethene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,1-Dichloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| cis-1,2-Dichloroethene | 10 | U | D2 | **15** | I | D2 | µg/L |
| Chloroform | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,1,1-Trichloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Carbon Tetrachloride | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,2-Dichloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Trichloroethene | **160** | | D2 | **240** | | D2 | µg/L |
| 1,2-Dichloropropane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Bromodichloromethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| trans-1,3-Dichloropropene | 10 | U | D2 | 10 | U | D2 | µg/L |
| cis-1,3-Dichloropropene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,1,2-Trichloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Tetrachloroethene | **1100** | | D2 | **2800** | | D3 | µg/L |
| Dibromochloromethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Chlorobenzene | 10 | U | D2 | 10 | U | D2 | µg/L |
| Bromoform | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,1,2,2-Tetrachloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,3-Dichlorobenzene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,4-Dichlorobenzene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,2-Dichlorobenzene | 10 | U | D2 | 10 | U | D2 | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 57 | 60 | 52-167 |
| Date Analyzed | 01/09/00 | 01/09/00 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
D2 Analyte value determined from a 1:10 dilution.
D3 = Analyte value determined from a 1:50 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-24 | I-13 | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| 1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethene | **4.2** | **1.3** I | µg/L |
| Chloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | **12** | **1.2** I | µg/L |
| 2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| -1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | **86** | **18** | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 61 | 65 | 52-167 |
| Date Analyzed | 01/10/00 | 01/10/00 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

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## RESULTS OF ANALYSIS

| PA METHOD 8021 - OLATILE ORGANICS | I-26 | I-68 | Units |
|---|---|---|---|
| ichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| hloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| hloroethane | 2.0 U | 2.0 U | µg/L |
| richlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| ethylene Chloride | 2.0 U | 2.0 U | µg/L |
| 1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| 2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| roform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| richloroethene | **1.6** I | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| omodichloromethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| trachloroethene | **71** | **1.0** I | µg/L |
| ibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | **5.2** | µg/L |
| omoform | 1.0 U | 1.0 U | µg/L |
| 1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| omofluorobenzene | 66 | 65 | 52-167 |
| te Analyzed | 01/10/00 | 01/10/00 | |

= Compound was analyzed for but not detected to the level shown.
[ nalyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-64 | | | I-69 | | | Units |
|---|---|---|---|---|---|---|---|
| ichlorodifluoromethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Chloromethane | 20 | U | D2 | 20 | U | D2 | µg/L |
| inyl Chloride | 10 | U | D2 | 10 | U | D2 | µg/L |
| romomethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Chloroethane | 20 | U | D2 | 20 | U | D2 | µg/L |
| Trichlorofluoromethane | 20 | U | D2 | 20 | U | D2 | µg/L |
| ,1-Dichloroethene | 10 | U | D2 | 10 | U | D2 | µg/L |
| ethylene Chloride | 20 | U | D2 | 20 | U | D2 | µg/L |
| t-1,2-Dichloroethene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1-Dichloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| -1,2-Dichloroethene | 10 | U | D2 | 10 | U | D2 | µg/L |
| Chloroform | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,1-Trichloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| arbon Tetrachloride | 10 | U | D2 | 10 | U | D2 | µg/L |
| ,2-Dichloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Trichloroethene | **62** | | D2 | **17** | I | D2 | µg/L |
| 2-Dichloropropane | 10 | U | D2 | 10 | U | D2 | µg/L |
| romodichloromethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| c-1,3-Dichloropropene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,3-Dichloropropene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,2-Trichloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Tetrachloroethene | **2300** | | D3 | **450** | | D2 | µg/L |
| ibromochloromethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| lorobenzene | 10 | U | D2 | 10 | U | D2 | µg/L |
| romoform | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,1,2,2-Tetrachloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| 3-Dichlorobenzene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 4-Dichlorobenzene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,2-Dichlorobenzene | 10 | U | D2 | 10 | U | D2 | µg/L |

| rrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 61 | 66 | 52-167 |
| Date Analyzed | 01/10/00 | 01/10/00 | |

U = Compound was analyzed for but not detected to the level shown.
= Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
D2 = Analyte value determined from a 1:10 dilution.
D3 = Analyte value determined from a 1:50 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-61 | | | I-67 | | | Units |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Chloromethane | 20 | U | D2 | 20 | U | D2 | µg/L |
| Vinyl Chloride | 10 | U | D2 | 10 | U | D2 | µg/L |
| Bromomethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Chloroethane | 20 | U | D2 | 20 | U | D2 | µg/L |
| Trichlorofluoromethane | 20 | U | D2 | 20 | U | D2 | µg/L |
| 1,1-Dichloroethene | 10 | U | D2 | 10 | U | D2 | µg/L |
| Methylene Chloride | 20 | U | D2 | 20 | U | D2 | µg/L |
| t-1,2-Dichloroethene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,1-Dichloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| c-1,2-Dichloroethene | 10 | U | D2 | 10 | U | D2 | µg/L |
| Chloroform | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,1,1-Trichloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Carbon Tetrachloride | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,2-Dichloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Trichloroethene | **3500** | | D4 | **49** | | D2 | µg/L |
| 1,2-Dichloropropane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Bromodichloromethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| c-1,3-Dichloropropene | 10 | U | D2 | 10 | U | D2 | µg/L |
| t-1,3-Dichloropropene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,1,2-Trichloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Tetrachloroethene | **16000** | | D4 | **1800** | | D3 | µg/L |
| Dibromochloromethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| Chlorobenzene | 10 | U | D2 | 10 | U | D2 | µg/L |
| Bromoform | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,1,2,2-Tetrachloroethane | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,3-Dichlorobenzene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,4-Dichlorobenzene | 10 | U | D2 | 10 | U | D2 | µg/L |
| 1,2-Dichlorobenzene | 10 | U | D2 | 10 | U | D2 | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 54 | 64 | 52-167 |
| Date Analyzed | 01/10/00 | 01/10/00 | |

U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:10 dilution.
D3 = Analyte value determined from a 1:50 dilution.
D4 = Analyte value determined from a 1:200 dilution.

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RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-65 | | | I-62 | | | Units |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 10 | U | D2 | 20 | U | D5 | µg/L |
| Chloromethane | 20 | U | D2 | 40 | U | D5 | µg/L |
| Vinyl Chloride | 10 | U | D2 | 20 | U | D5 | µg/L |
| Bromomethane | 10 | U | D2 | 20 | U | D5 | µg/L |
| Chloroethane | 20 | U | D2 | 40 | U | D5 | µg/L |
| Trichlorofluoromethane | 20 | U | D2 | 40 | U | D5 | µg/L |
| 1,1-Dichloroethene | 10 | U | D2 | 20 | U | D5 | µg/L |
| Methylene Chloride | 20 | U | D2 | 40 | U | D5 | µg/L |
| t-1,2-Dichloroethene | 10 | U | D2 | **20** | I | D5 | µg/L |
| 1,1-Dichloroethane | 10 | U | D2 | 20 | U | D5 | µg/L |
| c-1,2-Dichloroethene | 10 | U | D2 | 20 | U | D5 | µg/L |
| Chloroform | 10 | U | D2 | 20 | U | D5 | µg/L |
| 1,1,1-Trichloroethane | 10 | U | D2 | 20 | U | D5 | µg/L |
| Carbon Tetrachloride | 10 | U | D2 | 20 | U | D5 | µg/L |
| 1,2-Dichloroethane | 10 | U | D2 | 20 | U | D5 | µg/L |
| Trichloroethene | **580** | | D2 | **290** | | D5 | µg/L |
| 1,2-Dichloropropane | 10 | U | D2 | 20 | U | D5 | µg/L |
| Bromodichloromethane | 10 | U | D2 | 20 | U | D5 | µg/L |
| c-1,3-Dichloropropene | 10 | U | D2 | 20 | U | D5 | µg/L |
| t-1,3-Dichloropropene | 10 | U | D2 | 20 | U | D5 | µg/L |
| 1,1,2-Trichloroethane | 10 | U | D2 | 20 | U | D5 | µg/L |
| Tetrachloroethene | **28000** | | D6 | **12000** | | D4 | µg/L |
| Dibromochloromethane | 10 | U | D2 | 20 | U | D5 | µg/L |
| Chlorobenzene | 10 | U | D2 | 20 | U | D5 | µg/L |
| Bromoform | 10 | U | D2 | 20 | U | D5 | µg/L |
| 1,1,2,2-Tetrachloroethane | 10 | U | D2 | 20 | U | D5 | µg/L |
| 1,3-Dichlorobenzene | 10 | U | D2 | 20 | U | D5 | µg/L |
| 1,4-Dichlorobenzene | 10 | U | D2 | 20 | U | D5 | µg/L |
| 1,2-Dichlorobenzene | 10 | U | D2 | 20 | U | D5 | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 51 | 60 | 52-167 |
| Date Analyzed | 01/10/00 | 01/11/00 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
D2 = Analyte value determined from a 1:10 dilution.
D4 = Analyte value determined from a 1:200 dilution.
D5 = Analyte value determined from a 1:20 dilution.
D6 = Analyte value determined from a 1:500 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-60 | | | I-66 | | | Units |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 5000 | U | D7 | 20 | U | D5 | µg/L |
| Chloromethane | 10000 | U | D7 | 40 | U | D5 | µg/L |
| Vinyl Chloride | 5000 | U | D7 | 20 | U | D5 | µg/L |
| Bromomethane | 5000 | U | D7 | 20 | U | D5 | µg/L |
| Chloroethane | 10000 | U | D7 | 40 | U | D5 | µg/L |
| Trichlorofluoromethane | 10000 | U | D7 | 40 | U | D5 | µg/L |
| 1,1-Dichloroethene | 5000 | U | D7 | 20 | U | D5 | µg/L |
| Methylene Chloride | 10000 | U | D7 | 40 | U | D5 | µg/L |
| trans-1,2-Dichloroethene | 5000 | U | D7 | 20 | U | D5 | µg/L |
| 1,1-Dichloroethane | 5000 | U | D7 | 20 | U | D5 | µg/L |
| cis-1,2-Dichloroethene | 5000 | U | D7 | 20 | U | D5 | µg/L |
| Chloroform | 5000 | U | D7 | 20 | U | D5 | µg/L |
| 1,1,1-Trichloroethane | 5000 | U | D7 | 20 | U | D5 | µg/L |
| Carbon Tetrachloride | 5000 | U | D7 | 20 | U | D5 | µg/L |
| 1,2-Dichloroethane | 5000 | U | D7 | 20 | U | D5 | µg/L |
| Trichloroethene | 5000 | U | D7 | 20 | U | D5 | µg/L |
| 1,2-Dichloropropane | 5000 | U | D7 | 20 | U | D5 | µg/L |
| Bromodichloromethane | 5000 | U | D7 | 20 | U | D5 | µg/L |
| trans-1,3-Dichloropropene | 5000 | U | D7 | 20 | U | D5 | µg/L |
| cis-1,3-Dichloropropene | 5000 | U | D7 | 20 | U | D5 | µg/L |
| 1,1,2-Trichloroethane | 5000 | U | D7 | 20 | U | D5 | µg/L |
| Tetrachloroethene | **130000** | | D7 | **1200** | | D5 | µg/L |
| Dibromochloromethane | 5000 | U | D7 | 20 | U | D5 | µg/L |
| Chlorobenzene | 5000 | U | D7 | 20 | U | D5 | µg/L |
| Bromoform | 5000 | U | D7 | 20 | U | D5 | µg/L |
| 1,1,2,2-Tetrachloroethane | 5000 | U | D7 | 20 | U | D5 | µg/L |
| 1,3-Dichlorobenzene | 5000 | U | D7 | 20 | U | D5 | µg/L |
| 1,4-Dichlorobenzene | 5000 | U | D7 | 20 | U | D5 | µg/L |
| 1,2-Dichlorobenzene | 5000 | U | D7 | 20 | U | D5 | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 63 | 54 | 52-167 |
| Date Analyzed | 01/12/00 | 01/11/00 | |

U - Compound was analyzed for but not detected to the level shown.
D5 Analyte value determined from a 1:20 dilution.
D7 = Analyte value determined from a 1:5000 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | I-63 | | | DUP-1 | | | Units |
|---|---|---|---|---|---|---|---|
| Trichlorodifluoromethane | 20 | U | D5 | 20 | U | D5 | µg/L |
| Chloromethane | 40 | U | D5 | 40 | U | D5 | µg/L |
| Vinyl Chloride | 20 | U | D5 | 20 | U | D5 | µg/L |
| Bromomethane | 20 | U | D5 | 20 | U | D5 | µg/L |
| Chloroethane | 40 | U | D5 | 40 | U | D5 | µg/L |
| Trichlorofluoromethane | 40 | U | D5 | 40 | U | D5 | µg/L |
| 1,1-Dichloroethene | 20 | U | D5 | 20 | U | D5 | µg/L |
| Methylene Chloride | 40 | U | D5 | 40 | U | D5 | µg/L |
| trans-1,2-Dichloroethene | 20 | U | D5 | 20 | U | D5 | µg/L |
| 1,1-Dichloroethane | 20 | U | D5 | 20 | U | D5 | µg/L |
| cis-1,2-Dichloroethene | 20 | U | D5 | 20 | U | D5 | µg/L |
| Chloroform | 20 | U | D5 | 20 | U | D5 | µg/L |
| 1,1,1-Trichloroethane | 20 | U | D5 | 20 | U | D5 | µg/L |
| Carbon Tetrachloride | 20 | U | D5 | 20 | U | D5 | µg/L |
| 1,2-Dichloroethane | 20 | U | D5 | 20 | U | D5 | µg/L |
| Trichloroethene | 20 | U | D5 | **2300** | | D5 | µg/L |
| 1,2-Dichloropropane | 20 | U | D5 | 20 | U | D5 | µg/L |
| Bromodichloromethane | 20 | U | D5 | 20 | U | D5 | µg/L |
| trans-1,3-Dichloropropene | 20 | U | D5 | 20 | U | D5 | µg/L |
| cis-1,3-Dichloropropene | 20 | U | D5 | 20 | U | D5 | µg/L |
| 1,1,2-Trichloroethane | 20 | U | D5 | 20 | U | D5 | µg/L |
| Tetrachloroethene | **1800** | | D5 | **14000** | | D4 | µg/L |
| Dibromochloromethane | 20 | U | D5 | 20 | U | D5 | µg/L |
| Chlorobenzene | 20 | U | D5 | 20 | U | D5 | µg/L |
| Bromoform | 20 | U | D5 | 20 | U | D5 | µg/L |
| 1,1,2,2-Tetrachloroethane | 20 | U | D5 | 20 | U | D5 | µg/L |
| 1,3-Dichlorobenzene | 20 | U | D5 | 20 | U | D5 | µg/L |
| 1,4-Dichlorobenzene | 20 | U | D5 | 20 | U | D5 | µg/L |
| 1,2-Dichlorobenzene | 20 | U | D5 | 20 | U | D5 | µg/L |

| Surrogate: | % RECOV | % RECOV | LIMITS |
|---|---|---|---|
| Bromofluorobenzene | 60 | 53 | 52-167 |
| Date Analyzed | 01/11/00 | 01/11/00 | |

U = Compound was analyzed for but not detected to the level shown.
D4 = Analyte value determined from a 1:200 dilution.
D5 = Analyte value determined from a 1:20 dilution.

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## RESULTS OF ANALYSIS

| EPA METHOD 8021 - VOLATILE ORGANICS | LAB BLANK | LAB BLANK | Units |
|---|---|---|---|
| Dichlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| Chloromethane | 2.0 U | 2.0 U | µg/L |
| Vinyl Chloride | 1.0 U | 1.0 U | µg/L |
| Bromomethane | 1.0 U | 1.0 U | µg/L |
| Chloroethane | 2.0 U | 2.0 U | µg/L |
| Trichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| 1,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Methylene Chloride | 2.0 U | 2.0 U | µg/L |
| t-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| c-1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| Chloroform | 1.0 U | 1.0 U | µg/L |
| 1,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Carbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| Trichloroethene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| Bromodichloromethane | 1.0 U | 1.0 U | µg/L |
| c-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| t-1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| Tetrachloroethene | 1.0 U | 1.0 U | µg/L |
| Dibromochloromethane | 1.0 U | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | 1.0 U | µg/L |
| Bromoform | 1.0 U | 1.0 U | µg/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **Surrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| Bromofluorobenzene | 66 | 55 | 52-167 |
| Date Analyzed | 01/09/00 | 01/10/00 | |

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

017123

ENCO LABORATORIES
REPORT # : JR1137
DATE REPORTED: January 12, 2000
REFERENCE : WO# JX185
PROJECT NAME : Site 11 Kings Bay



## RESULTS OF ANALYSIS

| A METHOD 8021 - LATILE ORGANICS | LAB BLANK | LAB BLANK | Units |
|---|---|---|---|
| chlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| loromethane | 2.0 U | 2.0 U | µg/L |
| inyl Chloride | 1.0 U | 1.0 U | µg/L |
| omomethane | 1.0 U | 1.0 U | µg/L |
| loroethane | 2.0 U | 2.0 U | µg/L |
| ichlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| ,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| thylene Chloride | 2.0 U | 2.0 U | µg/L |
| 1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| ,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| 1,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| loroform | 1.0 U | 1.0 U | µg/L |
| ,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| arbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| 2-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| ichloroethene | 1.0 U | 1.0 U | µg/L |
| ,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| omodichloromethane | 1.0 U | 1.0 U | µg/L |
| ,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| -1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| 1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| rachloroethene | 1.0 U | 1.0 U | µg/L |
| ibromochloromethane | 1.0 U | 1.0 U | µg/L |
| hlorobenzene | 1.0 U | 1.0 U | µg/L |
| omoform | 1.0 U | 1.0 U | µg/L |
| ,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| ,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| -Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| 2-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **urrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| omofluorobenzene | 66 | 55 | 52-167 |
| te Analyzed | 01/09/00 | 01/10/00 | |

Compound was analyzed for but not detected to the level shown.

017123

ENCO LABORATORIES
REPORT # : JR1137
DATE REPORTED: January 12, 2000
REFERENCE : WO# JX185
PROJECT NAME : Site 11 Kings Bay



RESULTS OF ANALYSIS

| METHOD 8021 - LATILE ORGANICS | LAB BLANK | LAB BLANK | Units |
|---|---|---|---|
| hlorodifluoromethane | 1.0 U | 1.0 U | µg/L |
| oromethane | 2.0 U | 2.0 U | µg/L |
| inyl Chloride | 1.0 U | 1.0 U | µg/L |
| omomethane | 1.0 U | 1.0 U | µg/L |
| oroethane | 2.0 U | 2.0 U | µg/L |
| chlorofluoromethane | 2.0 U | 2.0 U | µg/L |
| ,1-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| hylene Chloride | 2.0 U | 2.0 U | µg/L |
| ,2-Dichloroethene | 1.0 U | 1.0 U | µg/L |
| ,1-Dichloroethane | 1.0 U | 1.0 U | µg/L |
| -Dichloroethene | 1.0 U | 1.0 U | µg/L |
| oform | 1.0 U | 1.0 U | µg/L |
| ,1,1-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| arbon Tetrachloride | 1.0 U | 1.0 U | µg/L |
| -Dichloroethane | 1.0 U | 1.0 U | µg/L |
| chloroethene | 1.0 U | 1.0 U | µg/L |
| ,2-Dichloropropane | 1.0 U | 1.0 U | µg/L |
| modichloromethane | 1.0 U | 1.0 U | µg/L |
| ,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| -1,3-Dichloropropene | 1.0 U | 1.0 U | µg/L |
| ,1,2-Trichloroethane | 1.0 U | 1.0 U | µg/L |
| rachloroethene | 1.0 U | 1.0 U | µg/L |
| ibromochloromethane | 1.0 U | 1.0 U | µg/L |
| hlorobenzene | 1.0 U | 1.0 U | µg/L |
| moform | 1.0 U | 1.0 U | µg/L |
| ,2,2-Tetrachloroethane | 1.0 U | 1.0 U | µg/L |
| ,3-Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| -Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| -Dichlorobenzene | 1.0 U | 1.0 U | µg/L |
| **urrogate:** | **% RECOV** | **% RECOV** | **LIMITS** |
| mofluorobenzene | 66 | 76 | 52-167 |
| ate Analyzed | 01/11/00 | 01/12/00 | |

Compound was analyzed for but not detected to the level shown.

017123

ENCO LABORATORIES
REPORT # : JR1137
DATE REPORTED: January 12, 2000
REFERENCE : WO# JX185
PROJECT NAME : Site 11 Kings Bay



## QUALITY CONTROL DATA

| Parameter | % RECOVERY MS/MSD/LCS | ACCEPT LIMITS | % RPD MS/MSD | ACCEPT LIMITS |
|---|---|---|---|---|
| EPA Method 601/6230D/8010/8021 | | | | |
| Methylene Chloride | 88/ 95/ 97 | 51-155 | 8 | 29 |
| Chloroform | 108/101/163 | 63-145 | 7 | 16 |
| Carbon Tetrachloride | 100/ 90/122 | 64-146 | 10 | 21 |
| Trichloroethene | 80/ 83/ 86 | 60-140 | 4 | 24 |
| Tetrachloroethene | */ */ 96 | 66-146 | * | 21 |
| Chlorobenzene | 98/ 98/ 98 | 70-137 | <1 | 19 |

Environmental Conservation Laboratories Comprehensive QA Plan #910190

= MS/MSD/RPD unavailable due to high original sample concentration.
= Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

# CHAIN OF CUSTODY RECORD

BECHTEL

Site Name: Site 11 Kings Bay
Delivery Order No.: 109
Cooler/Crate No.: 1

SEIR No.:
COC Number:
Lab: ENCO
Field Logbook No.:
Logbook Pg. No.:

Sampled by: M. A. Gage (Print) M. A. Gage (Sign) ____ (Print) ____ (Sign)

**Legend — SAMPLE TYPE**

| | | | |
|---|---|---|---|
| PSB | Preservative Blank | BLS | Blind Spike |
| FDP | Field Duplicate | BLB | Blink Blank |
| ENV | Environmental | PTS | Point Source |
| FDB | Field Blank | FRP | Field Replicate |
| GEO | Geotechnical Sample | RSB | Rinsate Blank |
| MXD | Matrix Spike Duplicate | SPL | Split |
| MXS | Matrix Spike | TRP | Trip Blank |

**MATRIX**

| | | | | | |
|---|---|---|---|---|---|
| AIR | Air | SBS | Subsurface Soil | PTW | Potable Water |
| FLO | Flora | SED | Sediment | SEP | Seeps |
| FAU | Fauna | SFS | Surface Soil | SOL | Solid |
| GWT | Groundwater | SPW | Surface Water | WWT | Waste Water |
| LCH | Leachate | SLG | Sludge | SLW | Solid Waste |
| OIL | Oil | SST | Surface Water Storm Event | | |

**QC LEVELS**

S Sample Results and QC
C Reported
D Sample results, QC and raw data reported
E Sample resuts, blanks, and calibration reportred
S Screening level analysis

| Station ID | BEI Sample ID | Sample Type | Matrix Code | Collection Date/Time | Container ID | Preservative | Pay Item | Parameter | Priority | QC Code |
|---|---|---|---|---|---|---|---|---|---|---|
| I-27 | I-27 | ENV | GWT | 1-6-2000/0855 | 01,02 | HCL | | 8021 | 2 DAY TAT | |
| I-12 | I-12 | ↓ | ↓ | /0930 | ↓ | ↓ | | ↓ | ↓ | |
| I-11 | I-11 | ↓ | ↓ | /1000 | ↓ | ↓ | | ↓ | ↓ | |
| I-18 | I-18 | ↓ | ↓ | /1035 | ↓ | ↓ | | ↓ | ↓ | |
| I-25 | I-25 | ↓ | ↓ | /1115 | ↓ | ↓ | | ↓ | ↓ | |
| I-14 | I-14 | ↓ | ↓ | /1150 | ↓ | ↓ | | ↓ | ↓ | |

| RELINQUISHED BY | RECEIVED BY | DATE | TIME | REASON FOR TRANSFER |
|---|---|---|---|---|
| M A Gage | J. Cuilon | 1/6/2000 | 0900 | Transfer to ENCO |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

COMMENTS/INSTRUCTIONS
2 Day TAT!
Most samples HOT!

| CONTAMINATION | YES | NO |
|---|---|---|
| Radiological | | ✓ |
| Chemical | ✓ | |

Shipper: NA Delivered to ENCO
Ship to: NA

Airbill No. NA Traffic Report No. ____

DUPLICATE

This package conforms to the conditions and limitations specified in 49 CFR 173.421 for excepted radioactive material, limited quantity, n.o.s., UN2910.

# CHAIN OF CUSTODY RECORD (Continued)



| Station ID | BEI Sample ID | Sample Type | Matrix Code | Collection Date/Time | Container ID | Preservative | Pay Item | Parameter | Priority | QC Le |
|---|---|---|---|---|---|---|---|---|---|---|
| I-24 | I-24 | ENV | GWT | 1/6/2000/1215 | 01,02 | HCL | | 8021 | 2 DAY TAT | |
| I-13 | I-13 | | | 1530 | | | | | | |
| I-26 | I-26 | | | 1540 | | | | | | |
| I-68 | I-68 | | | 1/7/2000 0840 | | | | | | |
| I-64 | I-64 | | | 1010 | | | | | | |
| I-69 | I-69 | | | 1050 | | | | | | |
| I-61 | I-61 | | | 1120 | | | | | | |
| I-67 | I-67 | | | 1230 | | | | | | |
| I-65 | I-65 | | | 1300 | | | | | | |
| I-62 | I-62 | | | 1330 | | | | | | |
| I-60 | I-60 | | | 1400 | | | | | | |
| I-66 | I-66 | | | 1430 | | | | | | |
| ~~Du~~ I-63 | I-63 | | | 1500 | | | | | | |
| DUP-1 | DUP-1 | | | — | | | | | | |

NFS

DUPLICATE