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FIRST QUARTER MONITORING REPORT

JANUARY TO MARCH 1996

KIN-BUC LANDFILL OPERABLE UNITS 1 AND 2

Prepared for

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EXECUTIVE SUMMARY

The Kin-Buc Landfill Site is a closed 200-acre industrial/commercial landfill located in Edison, New Jersey, which operated under a New Jersey Department of Environmental Protection (NJDEP) permit until 1976. The United States Environmental Protection Agency (USEPA) placed the Kin-Buc Landfill on the National Priority List (NPL) in 1981. Between 1983 and 1988, the Respondents conducted a Remedial Investigation/Feasibility Study (RI/FS) which resulted in a Record of Decision (ROD) by USEPA in 1990 which called for source control of Operable Unit 1 (OU1), and a second RI/FS to determine the nature and extent of contamination outside the source area, thus defining Operable Unit 2 (OU2). Following the completion of this RI/FS, a second ROD was issued for OU2 in 1992.

OU1 includes both Kin-Buc I and II mounds, the former Pool C Area, and a portion of the Low-Lying area between Kin-Buc I and the Edison Landfill. The remedial action specified in the ROD for OU1 included the construction of a slurry wall around OU1, the collection and treatment of leachate and groundwater from within the containment area, and the capping of the area within the slurry wall. OU2 includes Mound B, Edmonds Creek and adjacent wetlands, the remaining Low-Lying Area between OU1 and the Edison Landfill, Martins Creek and the Raritan River. The OU2 ROD called for the excavation and disposal of PCB-contaminated sediments from within the Edmonds Creek Marsh Area, the restoration of disturbed wetland areas and groundwater/surface water monitoring. Remedial construction activities for both OU1 and OU2 were completed by the end of August 1995. In accordance with the RODs, water quality and landfill gas monitoring is required to evaluate the effectiveness of the remedial actions. This report documents the results of the first quarterly monitoring since the completion of the remedial actions.

The OU1 groundwater monitoring well network consists of wells located on either side of the slurry wall to monitor water quality and elevations in the three different hydrogeologic units. The OU2 groundwater and surface water monitoring network also provides for water quality monitoring in the three water-bearing zones (refuse, sand and gravel, and bedrock). The OU2 monitoring program is designed to monitor water quality in the Low-Lying Area, Mound B and the Raritan River following the containment of OU1.

The key findings made during the First Quarter of 1996 are summarized as follows:

- Volatile organic compounds (VOCs) were detected in the OU1 wells in all three water-bearing zones. The compounds detected were found to be similar on both sides of the slurry wall. Concentrations were less outside the wall than inside the wall except at Transect Location No. 4. The only wells in which no VOCs were detected

were W-10G and 10R. The only semi-volatile compound detected at an elevated concentration was naphthalene in W-1R. Pesticide detection was generally sporadic and at trace levels, and for the most part were found at higher concentrations inside the wall at transects where they were detected. PCBs were limited to three refuse wells and one bedrock well (W-4R), all at trace levels. Elevated metals concentrations were limited to iron and manganese in the OU1 wells and, with the exception of wells W-2G and W-6R, were found to be at similar or lower concentrations in the wells located outside of the slurry wall in comparison to the wells located on the inside at a transect location.

- Overall water quality in the three hydraulic zones of OU2 was observed to be better than the water in the respective units of OU1 during the First Quarter of 1996. The total number of detections and concentrations of the specified analytes were less for the OU2 wells than what was observed in OU1 wells. VOCs were the only notable exception. VOCs were detected at similar concentrations in the refuse and the sand and gravel wells in OU2, as those detected in the OU1 wells. No VOCs were detected in the OU2 bedrock wells. The detection of semi-volatile compounds was limited to trace concentrations in a limited number of refuse and sand and gravel wells. Trace level pesticides were detected in two of the refuse wells. No PCBs were detected in any of the OU2 monitoring wells. Like OU1, elevated metals concentrations were for the most part limited to iron and manganese in the OU2 wells, although the levels were lower than those observed in OU1.

- Trichloroethene was the only VOC detected in monitoring well GEI-10S. Trichloroethene was not detected in any other monitoring well in OU1 or OU2. No SVOCs were detected in GEI-10S. Overall, inorganic concentrations were also generally lower than other sand and gravel wells, indicating a difference in water quality in GEI-10S relative to the rest of the site.

- No observable impact to the Raritan River water quality was noted based on the First Quarter of 1996 sampling results.

- Combustible gas was not detected in any of the six gas monitoring wells located on the north side of OU1.

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1 INTRODUCTION

1.1 Purpose of Monitoring

The purpose of the monitoring program is to evaluate the effectiveness of the Operable Units 1 and 2 Remedial Design/Remedial Action (RD/RA). The First Quarter 1996 monitoring provides baseline water quality data following the implementation of the OU1 remedy.

1.2 Purpose of Report

The purpose of this report is to present the OU1 and OU2 monitoring program findings for the First Quarter of 1996. The data obtained during this Initial post-closure monitoring period will be used to develop a basis for evaluating future analytical results. The report documents groundwater quality for Operable Unit 1 inside and outside of the circumferential soil-bentonite slurry wall which will be used to evaluate the performance of the slurry wall as a hydraulic barrier. Operable Unit 2 groundwater quality will document water quality in the Low-Lying Area and Mound B after containment of OU1. Surface water quality of the Raritan River is also examined relative to site groundwater quality.

1.3 Site Background

The Kin-Buc Landfill Site is a 200-acre closed industrial/commercial landfill located at the end of Meadow Road in Edison, New Jersey. The site is bordered by the Edmonds Creek Marsh Area (ECMA) to the east, the Edison Landfill to the south, the Raritan River to the west, and industrial use to the north. The Kin-Buc Landfill was used for the disposal of municipal, industrial, and hazardous waste as early as 1947. The largest volumes of waste apparently consisted of industrial waste material, wastewater/liquid and sludge. It was a State-approved (NJDEP) landfill between 1971 and 1976. In 1976, the NJDEP revoked Kin-Buc's operating permit upon USEPA investigation. In 1981, Kin-Buc was placed on the CERCLA Superfund National Priorities List (NPL).

A Record of Decision (ROD) issued in September 1990 by the USEPA to the Respondents, mandated a Remedial Design/Remedial Action for Operable Unit 1. The Remedial Action construction was implemented between March 1994 and August 1995, and included the construction of a circumferential slurry wall, collection and treatment of leachate and groundwater from within the slurry wall containment area and construction of a low

permeability final cover system (Blasland, Bouck & Lee, September 1995, Revised February 1996). A separate ROD was issued by the USEPA to the Respondents in November 1992 for Operable Unit 2. The Remedial Action for OU2 included the excavation of PCB-contaminated sediment from within the ECMA, disposal of the excavated material within the OU1 slurry wall, and restoration of those excavated wetlands. Operable Unit 2 Remedial Action was substantially completed in July 1995 (Blasland, Bouck & Lee, September 1995, Revised February 1996).

1.4 First Quarter Monitoring Activities

Monitoring and sampling for the First Quarter 1996 (January to March) took place according to the procedures and methods outlined in the Operations and Maintenance Manual for the Kin-Buc Landfill prepared on behalf of the Respondents by Wheelabrator EOS in September 1995 as modified by letter to EPA dated February 28, 1996. The modified hydraulic monitoring program did not occur during the First Quarter 1996 since informal acceptance of the modification did not occur until April 1996 at a Kin-Buc field meeting. Continuous water level monitoring has since been initiated for the Second Quarter 1996 with the informal acceptance of the modified hydraulic monitoring plan.

The groundwater and surface water monitoring program in the Operations and Maintenance Manual was based on the OU1 Remedial Design/Remedial Action Groundwater Monitoring Plan and the OU2 Closure Plan Final Addendum No. 1 (Wehran Engineering Corporation, December 1992 and August 1994).

The groundwater and surface water samples for the First Quarter 1996 were analyzed by EMCON's subcontract laboratory, NYTEST Environmental (NJ Certification No. 73469) for the analytes listed in Table 1-1, for the Initial monitoring parameters in accordance with the methods specified. A total of 40 groundwater monitoring wells, four surface water locations, and six gas monitoring wells were sampled over a 4-day field effort on March 5, 6, 7 and 8, 1996.

For OU1, samples were collected from 26 new monitoring wells installed during Operable Unit 1 Remedial Construction Activities. The 26 wells are located at five transects across the OU1 slurry wall as shown on Drawing 1, and listed on Table 1-2.

The groundwater monitoring system for OU2 consists of five monitoring well triplets in the Low-Lying Area and Mound B, as shown on Figure 1-1, and an upgradient location north of OU1, as shown on Drawing 1. Of the total 16 monitoring wells, 14 were sampled for the First Quarter 1996 since two wells, GEI-6S and GEI-7G, were dry at the time of sample collection. Four surface water monitoring locations in the Raritan River adjacent to Mound B are indicated on Figure 1-2. The groundwater and surface water monitoring network for OU2 is listed on Table 1-3.

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2 DESCRIPTION OF MONITORING PROGRAM

2.1 Operable Unit 1

The groundwater monitoring system for Operable Unit 1 is located in the component areas consisting of:

- Kin-Buc I Mound
- Kin-Buc II Mound
- Pool C Area
- Low-Lying Area contained by circumferential slurry wall

The groundwater monitoring well network (Table 1-2), consists of 10 wells screened in the refuse/fill, 6 wells screened in the sand and gravel, and 10 wells screened in the bedrock. The OU1 monitoring well network is designed to monitor groundwater quality and elevations inside and outside of the slurry wall to evaluate the performance of the slurry wall as a hydraulic barrier. The monitoring wells are located along 5 transects which are installed in pairs to monitor the same hydrogeologic units across the slurry wall, so that water quality on either side of the wall can be evaluated. The well pairs are indicated in Table 2-1.

At three transects, the monitoring wells are installed as pairs that monitor the refuse, sand and gravel, and bedrock units. These locations are:

- Transect Location No. 2: W-3G/W-4G, W-3S/W-4S, W-3R/W-4R
- Transect Location No. 3: W-5G/W-6G, W-5S/W-6S, W-5R/W-6R
- Transect Location No. 4: W-7G/W-8G, W-7S/W-8S, W-7R/W-8R

Two transects have monitoring wells installed as pairs in the refuse and bedrock units due to the absence of sand and gravel deposits in those areas of the site. These locations are:

- Transect Location No. 1: W-1G/W-2G, W-1R/W-2R
- Transect Location No. 5: W-9G/W-10G, W-9R/W-10R.

A discussion of groundwater quality observations follows in Sections 3.1 through 3.3 for each hydrogeologic unit.

2.2 Operable Unit 2

The groundwater and surface water monitoring system for Operable Unit 2 monitors groundwater quality in the Low-Lying Area and Mound B, following containment of OU1 as well as the water quality of the Raritan River that may be attributable to site contaminants. The groundwater monitoring well network is listed on Table 1-3 and consists of five wells screened in the refuse, five wells in the sand and gravel, and six wells in the bedrock (including one upgradient bedrock location). The locations of the wells were chosen based on prior groundwater quality data and anticipated groundwater flow direction, following installation of the OU1 slurry wall.

The surface water monitoring network, which is also listed on Table 1-3, consists of 4 locations in the Raritan River adjacent to Mound B. The upstream sampling point (RR-01) is located downstream of the confluence with Mill Brook/Martin's Creek and represents background. Two other sampling points are adjacent to Mound B (RR-02 and 03). The fourth monitoring location (RR-04) is located downstream of the OU1 leachate treatment plant discharge. Figure 1-2 depicts the surface water monitoring locations.

A discussion of groundwater quality observations follows in Section 4.1 through 4.3 for each hydrogeologic unit. Surface water results are discussed in Section 4.4.

THREE

3 OU1 GROUNDWATER QUALITY

Groundwater quality results for the OU1 monitoring wells is summarized in Table 3-1. The database includes volatile organics (VOCs), semi-volatile organics (SVOCs), pesticides/PCBs, inorganics, and general chemistry parameters. The analytical report is provided in Appendix A. Field data sheets are provided in Appendix B. QA/QC sample results for OU1 are provided in Appendix C.

3.1 Refuse Wells

Similar VOC constituents were detected in the refuse wells at locations inside and outside the slurry wall. Transect location No. 4 near the former Pool C Area at well pair W-7G and W-8G was the only transect location where the outside paired well evidenced higher concentrations than the inside well. The wells showed part-per-million (ppm) concentrations of several VOCs, notable benzene (1,700 and 1,300 ug/l), chlorobenzene (1,700 and 3,400 ug/l), and ethylbenzene (1,400 and 980 ug/l), respectively, with somewhat lower presence of toluene and chlorinated benzenes. The same non-aromatic constituents were also present in nearly the same concentration range at well pair W-3G /W-4G and W-5G/W-6G. Other wells evidenced far lower concentrations of VOCs (under 50 ug/l).

SVOCs were not generally apparent in refuse wells. Occasional detections of polynuclear aromatic hydrocarbons (PAHs), principally naphthalene, were reported. The maximum concentration was 54 ug/l naphthalene in W-8G outside the slurry wall. W-7G, just inside the wall, showed naphthalene at 38 ug/l. Scattered low-level pesticide presence (up to 1.5 ug/l) was found in W-3G (inside), W-7G (inside), and W-8G (outside). PCB presence was limited to 16 ug/l of Aroclor-1242 (AR) in W-6G (outside), and 11 ug/l and 8.1 ug/l of AR-1248 in well pair W-7G and W-8G, respectively.

The inorganic constituents, iron and arsenic, in well W-3G (inside), were evidenced at 40,000 ug/l (40 ppm) and 111 ug/l, respectively. Concentrations in the outside paired W-4G were lower. Overall, the elements showing the highest concentrations relative to typical groundwater presence were iron, manganese and sodium. Elevated concentrations of heavy metals such as cadmium, lead or mercury, was not evidenced.

Leachate indicators such as BOD, COD, chloride and sulfate, were higher in well W-1G (inside), than W-2G, paired on the outside of the wall. High chloride concentrations (in the range of 1,000 mg/l or higher) were observed in all the refuse wells except W-6G and W-10G.

These two wells, both outside the wall, were also lower than other locations in a variety of other indicator parameters.

3.2 Sand and Gravel Wells

Well pair W-3S and W-4S evidenced detections of the VOCs chloroethane, methylene chloride, benzene, toluene, chlorobenzene and ethylbenzene. Concentrations of toluene and chlorobenzene up to 1,400 ug/l were noted, with lower concentrations of benzene and methylene chloride, under 100 ug/l. W-7S (inside), contained a similar array and concentration range of VOCs (maximum of 700 ug/l chlorobenzene). These constituents were observed at substantially lower levels in its counterpart on the outside of the wall, W-8S.

Low-level SVOC presence in sand and gravel wells was inconsistent and did not indicate overall contamination. The maximum concentration observed was 390 ug/l for 4-chloro-3-methlyphenol in W-3S (inside), a compound that was not detected elsewhere. Monitoring well pair W-3S and W-4S contained a variety of pesticides, the maximum detection being 39 ug/l of heptachlor in W-3S (inside). Only traces (0.5 ug/l or less) of pesticides were reported in other sand and gravel wells. No PCBs were detected.

The W-3S/W-4S well pair also showed the highest inorganic and indicator parameter presence, although concentrations outside the wall (W-4S) were about half as much as detected inside (W-3S) for the most elevated constituents (iron, manganese, chloride, and sodium). A similar pattern was noted in the W-7S/W-8S pair, with the inside well indicating higher concentrations. The sodium concentration in W-7S (inside), was especially high (2,510 mg/l).

3.3 Rock Wells

The bedrock well pair W-1R and W-2R, were found to have the highest concentration of VOCs in the bedrock wells. Principal constituents detected were chlorinated solvents, benzene, and toluene. Methylene chloride was detected in the hundreds of part-per-million (ppm) concentration range in both W-1R and W-2R. 1,1- and 1,2-dichlorethene (DCE), 1,1- and 1,2-dichloroethane (DCA), 1,1,1-trichloroethane (TCA), trichloroethene (TCE), and tetrachloroethene (PCE) were also present at ppm levels in these two wells. Other rock wells were substantially less impacted. Monitoring well W-3R (inside), contained toluene and chlorobenzene at 580 ug/l as well as chloromethane, methylene, chloride, and benzene ranging from 29 to 48 ug/l. Toluene and chlorobenzene were also reported at 54 and 30 ug/l, respectively, at W-4R, the well paired outside the slurry wall with W-3R. Trace levels of benzene (16 ug/l), chlorobenzene (12 ug/l), ethylbenzene (3 ug/l) and methylene chloride (13 ug/l) were detected in W-5R, located inside the slurry wall. VOCs in other rock wells (W-6R, 7R, 8R, 9R and 10R) were present at only trace levels (below 20 ug/l).

In the SVOC fraction, detection was primarily limited to phenol, which was found in well pair W-1R/W-2R and W-5R (inside) at 39,000, 20,000, and 44 ug/l, respectively. Scattered PAHs

were also detected in several wells. Naphthalene was detected at 1,200 ug/l in W-1R (inside). Pesticide contamination was not generally apparent. Heptachlor at 5.7 ug/l in W-3R (inside), was the only pesticide detected above 1 ug/l. Traces of gamma-BHC were detected in W-3R (inside) while heptachlor and aldrin were detected in W-4R (outside). The only PCB detected was AR-1242 in W-4R at a concentration of 74 ug/l.

The bedrock well pair W-1R/W-2R evidenced detections of inorganic and general chemistry parameters. Iron was present in the range of 1,000 ppm (1,000,000 ug/l) in both wells; manganese was also elevated, at 32,400 ug/l (inside) to 53,100 ug/l (outside), respectively. In other bedrock wells, iron ranged from 3,530 to 39,000 ug/l, and manganese from 256 to 3,010 ug/l. Other inorganics present in W-1R and W-2R well above typical groundwater concentrations were selenium and sodium, although sodium concentrations were in the same range (hundreds-of thousands of ug/l) in all rock wells except W-9R and W-10R, which were about an order of magnitude lower. An elevated concentration of barium was limited to well W-4R at 5,810 ug/l, located outside the slurry wall.

General chemistry analyses revealed elevated BOD, COD and sulfate in well pair W-1R/W-2R. Concentrations of all three parameters and most other general chemistry parameters were higher at W-1R, located inside the wall. Chloride concentrations in the 1,000s of mg/l range were observed in all the bedrock wells.

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4 OU2 GROUNDWATER/SURFACE WATER QUALITY

Groundwater quality results for the OU2 monitoring wells is summarized in Table 4-1. Surface water quality data is summarized in Table 4-2. The database includes volatile organics (VOCs) semi-volatile organics (SVOCs), pesticide/PCBs, inorganics, and general chemistry parameters. The analytical report is provided in Appendix A. Field data sheets are presented in Appendix B. QA/QC sample results for OU2 is presented in Appendix D.

4.1 Refuse Wells

The principal VOC detected in refuse wells was benzene, which ranged from 14 to 1,200 ug/l. Other constituents (chlorinated solvents) were present at 50 ug/l or less. The highest concentration of VOCs were detected in well GEI-5G, with VOCs totaling approximately 1,300ug/l. This well is located at the southwest corner of Mound B. SVOCs were largely absent from refuse wells, with the exception of traces (10 ug/l or less) of dichlorobenzene and naphthalene. Pesticides were also detected at only trace levels in two wells. Lindane was detected at 0.7 ug/l in GEI-5G. Aldrin was detected in GEI-6G at 0.05 ug/l. PCBs were not detected in any of the OU2 refuse wells.

Among the inorganics, the only notable elevated concentration was 1,440 ug/l of manganese in GEI-3G. Arsenic was detected in well GEI-10G at 10.6 ug/l but was not detected in the Mound B refuse wells. General chemistry analysis revealed chloride at 5,685 and 2,788 mg/l in GEI-6G and GEI-5G, respectively. Overall, however, GEI-5G did not show higher concentrations of inorganics or indicator parameters compared with the other refuse wells.

4.2 Sand and Gravel Wells

Different VOC constituents were detected in the sand and gravel wells than the refuse wells. In addition to benzene and chlorinated benzenes, toluene and ethylbenzene were also present. Total VOC concentrations in wells WE-3S, WE-5S and WE-7S were similar to refuse wells (in the range of several hundred ug/l). GEI-10S, which is removed from the other wells somewhat and located just west of the Edison Landfill, did not show any of the same VOCs. TCE (Trichloroethene) at 59 ug/l was the only VOC detected at this location.

SVOCs were limited to trace detections (3 ug/l or less) of PAHs. A single detection of 1,2-dichlorobenzene at 9 ug/l was noted in WE-3S. No pesticides or PCBs were evidenced in any sand or gravel wells.

Iron, manganese, and sodium concentrations were elevated in wells WE-3S, WE-5S and WE-7S. The indicator parameters, chloride and total dissolved solids, were detected at similar elevated levels in the three wells. Chloride was reported at 188,119 mg/l, 14,037 mg/l and 7,907 mg/l, for WE-3S, WE-5S and WE-7S, respectively, while TDS was detected at 8,922 mg/l, 6,694 mg/l and 3,392 mg/l, respectively. Overall, GEI-10S contained lower concentrations of inorganics and indicator parameters than the other sand and gravel wells. Chloride was the only elevated constituent, at 9,908 mg/l.

4.3 Rock Wells

VOC contamination was not identified in the OU2 bedrock wells. Traces of methylene chloride and phthalates are likely attributable to laboratory contamination. Likewise, SVOCs were not detected in any of the bedrock wells, except for trace detections of phthalates. No pesticides/PCBs were detected in any of the bedrock wells.

The indicator parameters, chloride, total dissolved solids and hardness were elevated for all the bedrock wells, except for the upgradient location WE-114D. Chloride and hardness were highest at 23,339 mg/l and 2,350 mg/l, respectively, in well WE-3R. TDS was highest at 10,646 mg/l in well WE-10R.

Among the inorganics, sodium was elevated (in the millions of ug/l), for all the rock wells except WE-114D. Iron and manganese were elevated (up to 29,100 and 2,460 ug/l, respectively), for all the rock wells.

4.4 Surface Water

Trace levels of benzene were detected in the Raritan River at locations RR-03 and RR-04 (2 and 1 ug/l, respectively). Other organics were not detected, with the exception of phthalates. The phthalate detections are likely the result of laboratory artifact. No pesticides or PCBs were detected.

The most upstream location, RR-01 at Martin's Creek, contained arsenic, iron and manganese concentrations approximately twice what was present in the other surface water locations. Lead was evidenced at this location at 97.6 ug/l. All the inorganic concentrations were increased at RR-01. Leachate indicator parameter concentrations were unremarkable in all surface water samples, with concentrations less than what was detected in OU2 groundwater.

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5 LANDFILL GAS MIGRATION MONITORING

All areas of OU1 exterior to the slurry wall contain waste materials except along the northern edge of the landfill boundary. Gas monitoring in the areas containing waste materials will likely reveal combustible gas. Since no on-site OU1 buildings are present, except the leachate treatment facility, which has its own engineered gas monitoring and control system, gas migration monitoring in the waste areas is not required by the monitoring plan.

The purpose of the gas migration monitoring program is to monitor for off-site gas migration in those areas where gas migration or accumulation could cause potential problems. Six gas migration monitoring wells are located outside of the circumferential slurry wall along the northern edge of the landfill boundary. The well locations are depicted on Drawing 1 are spaced in 200-foot increments. Gas is not expected to be evidenced for the following reasons: the slurry wall will act as an effective barrier, the presence of an active gas extraction system, a high water table inhibiting gas migration, and no nearby off-site buildings.

5.1 Gas Monitoring Well Results

Measurements of percent combustible gas (% GAS) and percent lower explosive limit (% LEL) were performed in the six gas migration monitoring wells indicated in Table 5-1 on March 8, 1996. The wells were monitored according to Attachment 1 of the Operations and Maintenance Manual for the Kin-Buc Landfill (Wheelabrator, 1995). An MSA Model 62S Gascope, was used to measure the concentration of combustible gas at each well by inserting the meter's sample tubing into the well and drawing the sample through the meter with a hand-operated aspirator bulb. No detectable levels of percent combustible gas or percent lower explosive limit were evidenced in the six gas migration monitoring wells (Table 5-1).

5.2 Operational Flare Monitoring Results

The percent combustible gas by volume (% GAS) at the landfill's operational flare was recorded on March 8, 1995. Because of incompatibility of the MSA Gascope with the flare inlet sample port, an accurate reading could not be made. Subsequent % GAS monitoring was performed with the landfill's Landtec gas meter. Monitoring at that time revealed combustible gas at the flare inlet at 55 percent.

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6 WATER QUALITY RESULTS OVERVIEW

The Remedial Design/Remedial Action for Operable Units 1 and 2 was substantially completed by the Respondents by July 1995. Post-remedial monitoring and sampling of groundwater, surface water and landfill gas was initiated in the last month (March 1996) of the First Quarter 1996 (January, February, March). The remedial controls (circumferential slurry wall, leachate treatment, groundwater treatment, and final cap and cover) have been in place for only a short period of time. Monitoring and sampling in March 1996 represents one round of data collection at the initiation of the monitoring program. The data collected is intended to provide background water quality levels against which future results can be compared. The discussion following in Sections 6-1 and 6-2 contains no specific comment on the overall effectiveness of the remedial controls or indication of trends, since at this time in the beginning of the monitoring program neither may be evidenced in whole or in part.

6.1 Operable Unit 1

Similar VOC constituents were detected across the wall in the refuse, sand and gravel, and bedrock zones. Concentrations, with the exception of the refuse wells W-7G and W-8G at Transect location No. 4, were generally lower outside the wall than inside the wall. In the refuse, well pair W-7G and W-8G showed the greatest concentration of VOCs. The sand and gravel unit showed the highest concentrations of VOCs at well pair W-3S and W-4S. The highest VOC levels in the bedrock was at well pair W-1R/W-2R.

Semi-volatile organics were not detected at elevated concentrations in any of the three hydrogeologic units. Detections were few with different constituents in the OU1 wells evidenced. The only notable detection was naphthalene at W-1R located inside the wall.

Detections of pesticides/PCBs were not widespread in the three hydrogeologic units at the site. Pesticide detections were not apparent in the bedrock. No PCBs were detected in the sand and gravel. PCB detections were low-level, but highest inside the slurry wall at W-7G. Pesticides were evidenced highest inside the wall at W-3S.

Inorganic parameters were detected in the refuse and in the sand and gravel wells at the W-3G/W-4G and W-3S/W-4S pairs. Iron was elevated in both units, while arsenic was detected at elevated concentrations only in the refuse. Both iron and arsenic showed higher concentrations inside than outside the wall. Overall, iron, manganese, sodium, and chloride were found to be elevated in both units relative to typical groundwater levels. The bedrock well pair W-1R/W-2R was found to have the highest iron and manganese concentrations.

Other bedrock wells evidenced iron and manganese, although to a lesser extent. Selenium and sodium were also evidenced in well pair W-1R and W-2R. Cadmium, lead and mercury were not evidenced in the OU1 wells. Barium was detected in well W-4R at an elevated level.

Concentrations of leachate indicator parameters were most frequently lower outside than inside the slurry wall at the refuse, sand and gravel and bedrock units. Well pair W-1G/W-2G showed decreased levels outside the wall for BOD, COD, chloride, and sulfate. Chloride was detected at a lesser concentration at W-3S outside the wall than W-4S (inside), while BOD, COD, and sulfate were evidenced less at well W-2R (outside), then W-1R (inside).

6.2 Operable Unit 2

Volatile organic compounds were detected in the OU2 refuse and sand and gravel wells. The highest VOC concentrations were detected in GEI-5G, screened in the refuse. The surface water samples, RR-03 and 04, collected adjacent to GEI-5G, showed trace levels of benzene. Although total concentrations of VOCs in the refuse wells and the sand and gravel were similar, the units contained a different array of constituents. TCE was only detected at GEI-10S, which is located adjacent to the Edison Landfill.

Semi-volatile organics were not detected in the rock wells or the surface water samples. Trace levels, less than 10 ug/l, were evidenced in the refuse and sand and gravel wells.

Pesticides detected were limited to lindane and aldrin in GEI-5G and GEI-6G, respectively. Both wells are screened in refuse adjacent to Mound B. No pesticides were detected in the sand and gravel wells, bedrock wells, or surface water samples. No PCBs were detected in any of the OU2 samples.

Iron, manganese, and sodium concentrations were found to be elevated in the sand and gravel and rock wells. Manganese in well GEI-3G was the only elevated metal in the refuse unit. Sodium levels in the upgradient monitoring well WE-114D, were in order of magnitude less than other bedrock wells. The surface water sample location RR-01 just downstream of Martin's Creek contained elevated concentrations of total arsenic, iron, manganese and lead. Since lead was not found to be a site contaminant in groundwater, its presence in surface water is probably not site-related.

The leachate indicator parameters, chloride, total dissolved solids and hardness were evidenced in the sand and gravel and bedrock wells. In the refuse wells, only chloride was notably evidenced. Concentrations of all the indicator parameters in the surface water of the Raritan River were less than what was detected in OU2 groundwater. The levels of indicator parameters (and inorganics) detected in GEI-10S were generally less than other OU2 sand and gravel wells. The upgradient monitoring point, WE-114D, evidenced substantially low concentrations of the indicator parameters.

REFERENCES

References:

Proposed Groundwater Monitoring Plan for the Kin-Buc Landfill Operable Unit 1 RD/RA, Wehran Engineering Corporation, Middletown, New York, December 1992.

Final Addendum 1 to the Proposed Groundwater Monitoring Plan for the Kin-Buc Landfill Operable Unit 1 Closure Plan Re: OU2 Groundwater and Surface Water Monitoring, Wehran Engineering Corporation, Middletown, New York, August 1994.

Operations and Maintenance Manual for the Kin-Buc Landfill, Wheelabrator EOS, Inc., Pittsburgh, PA, August 1995.

Remedial Action Report for Operable Unit 2 for the Kin-Buc Landfill Superfund Site, Blasland, Bouck & Lee, Inc., January 1996.

Appendix C Groundwater, Surface Water, Wetlands and Biota Monitoring Plans for the Kin-Buc Landfill Operable Units 1 and 2, Wheelabrator EOS, Inc., Pittsburgh, PA, August 1995.

Remedial Action Report Volume I Remedial Action Report, Tables, Appendices A1-A5 for the Kin-Buc Landfill Operable Unit 1, Blasland, Bouck & Lee, Inc., September 1995, Revised February 1996.

TABLES

Table 1-1

Kin-Buc Landfill
Operable Units 1 and 2
Groundwater Quality Monitoring Plan

Parameters[1,2]	Method
Arsenic (As)[4]	EPA 206.2
Barium (Ba)[4]	EPA 200.7
Biochemical Oxygen Demand (BOD)[3,4]	EPA 405.1
Cadmium (Cd)[4]	EPA 200.7
Chloride (Cl)[3,4]	EPA 325.3
Chromium (Hexavalent Cr + 6)[4]	EPA 218.5
Chemical Oxygen Demand (COD)[3,4]	EPA 410.1
Color[3,4]	EPA 110.2
Coliforms (total, fecal, strep)[3,4]	SM 908A, 909C, 910B
Copper (Cu)[3,4]	EPA 200.7
Cyanide (CN)[4]	EPA 335.2
Fluoride (F)[4]	EPA 340.2
Foaming Agents (MBAS)[3,4]	EPA 425.1
Hardness ($CaC0_3$)[4]	EPA 130.1
Iron (Fe)[3,4]	EPA 200.7
Lead (Pb)[3,4]	EPA 239.2
Manganese (Mn)[4]	EPA 200.7
Mercury (Hg)[4]	EPA 245.1
Nitrate Nitrogen (NO_3-N)[3,4]	EPA 352.1
Ammonium Nitrogen (NH_4-N)[3,4]	EPA 350.2
Odor[3,4]	EPA 140.1
pH[3,4]	Field
Phenolic Compounds[3,4]	EPA 420.1
PP Volatile Organics (including dichlorobenzene isomers)[4]	EPA 624
Selenium (Se)[4]	EPA 270.3
Silver (Ag)[4]	EPA 200.7
Sodium (Na)[3,4]	EPA 200.7
Sulfates (SO_4)[3,4]	EPA 375.3
Total Dissolved Solids (TDS)[3,4]	EPA 160.1
Total Organic Carbon (TOC)[3,4]	EPA 415.1
Total Organic Halides (TOX)[4]	EPA 9020
Turbidity[4]	EPA 180.1
Zinc (Zn)[3,4]	EPA 200.7

Notes:

1. Parameter list from NJAC 7:14A-10.12 et seq., Discharges from Sanitary Landfills.
2. The initial analysis will be performed for the annual list of parameters plus PP acid/base neutrals, (EPA 625) and PP pesticides/PCBs, including gamma BHC — Lindane, DDT, metabolites, and methoxychlor (EPA 608).
3. Quarterly Parameters.
4. Annual Parameters.

Table 1-2

Kin-Buc Landfill
Operable Unit 1
Groundwater Monitoring Well Network/Transects

Transect Location No.	Screened Hydrogeologic Unit	Well Location Inside Slurry Wall	Paired Well Location Outside Slurry Wall
1	Refuse/Fill	W-1G	W-2G
	Bedrock	W-1R	W-2R
2	Refuse/Fill	W-3G	W-4G
	Sand and Gravel	W-3S	W-4S
	Bedrock	W-3R	W-4R
3	Refuse/Fill	W-5G	W-6G
	Sand and Gravel	W-5S	W-6S
	Bedrock	W-5R	W-6R
4	Refuse/Fill	W-7G	W-8G
	Sand and Gravel	W-7S	W-8S
	Bedrock	W-7R	W-8R
5	Refuse/Fill	W-9G	W-10G
	Bedrock	W-9R	W-10R

Table 1-3

Kin-Buc Landfill
Operable Unit 2
Groundwater and Surface Water Monitoring Network

Well Location	Screened Hydrogeologic Unit
Low-Lying Area	
GEI-10G	Fill/Refuse
GEI-10S	Sand & Gravel
WE-10R	Bedrock
GEI-3G	Fill/Refuse
WE-3S	Sand & Gravel
WE-3R	Bedrock
Mound B	
GEI-5G	Fill/Refuse
WE-5S	Sand & Gravel
WE-5R	Bedrock
GEI-6G	Fill/Refuse
GEI-6S	Sand & Gravel
WE-6R	Bedrock
GEI-7G	Fill/Refuse
WE-7S	Sand & Gravel
WE-7R	Bedrock
Upgradient	
WE-114D	Bedrock
Surface Water	
RR-01	Raritan River
RR-02	Raritan River
RR-03	Raritan River
RR-04	Raritan River

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 1

	W-1G	W-2G	W-1R	W-2R
Volatiles (ug/l) *Dilution Factor*	1.0	1.0	1/2500DL	10/2500DL
Chloromethane	<2.0	<2.0	<2.0	<20
Bromomethane	<1.0	<1.0	<1.0	<10
Vinyl Chloride	<1.0	<1.0	110	310
Chloroethane	<1.0	<1.0	<1.0	<10
Methylene Chloride	<3.0	<3.0	320000 DL	160000 DL
1,1-Dichloroethene	<2.0	<2.0	1600E	7900E
1,1Dichloroethane	5	<1.0	1100E	2200E
Chloroform	<1.0	<1.0	590E	1400
1,2-Dichloroethane	<1.0	<1.0	480E	690
1,1,1-Trichloroethane	<1.0	<1.0	1000E	3700E
Carbon tetrachloride	<2.0	<2.0	<2.0	<20
Bromodichloromethane	<1.0	<1.0	<1.0	<10
1,2-Dichloropropane	<1.0	<1.0	<1.0	<10
cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<10
Trichloroethene	<2.0	<2.0	6900 DL	10000E
Dibromochloromethane	<1.0	<1.0	<1.0	<10
1,1,2-trichloroethane	<1.0	<1.0	66.0	700
Benzene	10.0	3.0	160	300
trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<10
Bromoform	<1.0	<1.0	<1.0	<10
Tetrachloroethene	<3.0	<3.0	7700 DL	9000E
1,1,2,2-Tetrachloroethane	<2.0	<2.0	8.0	120
Toluene	<2.0	160	7100 DL	9100E
Chlorobenzene	<2.0	<2.0	82.0	63.0
Ethylbenzene	3.0	2.0	260E	380
Trichloromonofluoromethane	<2.0	<2.0	200E	<20
1,3-Dichlorobenzene	<2.0	<2.0	<2.0	<20
1,4-Dichlorobenzene	<2.0	<2.0	<2.0	<20
1,2-Dichlorobenzene	<2.0	<2.0	34.0	41.0
2-Chloroethylvinyl Ether	<4.0	<4.0	<4.0	<40
Trans, 1,2-Dichloroethene	<1.0	<1.0	<1.0	2600E
Semi-Volatiles (ug/l) *Dilution Factor*	1.0	1.0	5.0/500 DL	5.0/500 DL
Phenol	<1.0	<1.0	39000 DL	20000 DL
bis(2-Chloroethyl) Ether	<1.0	<1.0	<5.0	<5.0
2-Chlorophenol	<1.0	<1.0	<5.0	<5.0
1,3-Dichlorobenzene	<1.0	<1.0	<5.0	<5.0
1,4-Dichlorobenzene	<1.0	<1.0	<5.0	<5.0
1,2-Dichlorobenzene	<1.0	<1.0	<5.0	<5.0
2,2'- oxybis(1-Chloropropane)	<1.0	<1.0	<5.0	<5.0
N-Nitroso-di-n-propylamine	<1.0	<1.0	<5.0	<5.0
Hexachloroethane	<1.0	<1.0	<5.0	<5.0
Nitrobenzene	<1.0	<1.0	<5.0	<5.0
Isophorone	<1.0	<1.0	<5.0	<5.0
2-Nitrophenol	<1.0	<1.0	<5.0	<5.0
2,4-Dimethylphenol	<2.0	<2.0	<10.0	<10.0
2,4-Dichlorophenol	<1.0	<1.0	<5.0	<5.0

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 1

	W-1G	W-2G	W-1R	W-2R
1,2,4-Trichlorobenzene	<1.0	<1.0	<5.0	<5.0
Naphthalene	<1.0	4.0	1200E	<5.0
Hexachlorobutadiene	<1.0	<1.0	<5.0	<5.0
bis-(2-Chloroethoxy)methane	<1.0	<1.0	<5.0	<5.0
4-Chloro-3-Methylphenol	<1.0	<1.0	<5.0	<5.0
Hexachlorocyclopentadiene	<1.0	<1.0	<5.0	<5.0
2,4,6-Trichlorophenol	<1.0	<1.0	<5.0	<5.0
2-Chloronapthalene	<1.0	<1.0	<5.0	<5.0
Dimethylphthalate	<1.0	<1.0	<5.0	<5.0
Acenaphthylene	<1.0	2.0	<5.0	<5.0
2,6-Dinitrotoluene	<1.0	<1.0	<5.0	<5.0
Acenaphthene	<1.0	<1.0	<5.0	<5.0
2,4-Dinitrophenol	<1.0	<1.0	<5.0	<5.0
4-Nitrophenol	<1.0	<1.0	<5.0	<5.0
2,4-Dinitrotoluene	<1.0	<1.0	<5.0	<5.0
Diethylphthalate	<1.0	<1.0	<5.0	<5.0
4-Chlorophenyl-phenylether	<1.0	<1.0	<5.0	<5.0
Fluorene	<1.0	2.0	<5.0	<5.0
4,6-Dinitro-2-methylphenol	<1.0	<1.0	<5.0	<5.0
N-Nitrosodiphenylamine	<1.0	<1.0	<5.0	<5.0
4-Bromophenyl-phenylether	<1.0	<1.0	<5.0	<5.0
Hexachlorobenzene	<1.0	<1.0	<5.0	<5.0
Pentachlorophenol	<1.0	<1.0	<5.0	<5.0
Phenanthrene	<1.0	2.0	<5.0	<5.0
Anthracene	<1.0	<1.0	<5.0	<5.0
Di-n-butylphthalate	<1.0	<1.0	<5.0	<5.0
Fluoranthene	<1.0	<1.0	<5.0	<5.0
Pyrene	<1.0	<1.0	<5.0	<5.0
Butylbenzylphthalate	<1.0	<1.0	<5.0	<5.0
3,3'-Dichlorobenzidine	<1.0	<1.0	<5.0	<5.0
Benzo(a)anthrance	<1.0	<1.0	<5.0	<5.0
Chrysene	<1.0	<1.0	<5.0	<5.0
bis(2-Ethylhexyl)phthalate	<1.0	<1.0	<5.0	<5.0
Di-n-octylphalate	<1.0	<1.0	<5.0	<5.0
Benzo(b)fluoranthene	<1.0	<1.0	<5.0	<5.0
Benzo(k)fluoranthene	<1.0	<1.0	<5.0	<5.0
Benzo(a)pyrene	<1.0	<1.0	<5.0	<5.0
Indeno(1,2,3-cd)pyrene	<1.0	<1.0	<5.0	<5.0
Dibenz(a,h)anthracene	<1.0	<1.0	<5.0	<5.0
Benzo(g,h,i)perylene	<1.0	<1.0	<5.0	<5.0
N-Nitrosodimethylamine	<1.0	<1.0	<5.0	<5.0
Benzidine	<1.0	<1.0	<5.0	<5.0

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 1

	W-1G	W-2G	W-1R	W-2R
Pesticide/PCB (ug/l) *Dilution Factor*	1.0	1.0	6.0	6.0
alpha-BHC	<0.05	<0.05	<0.30	<0.30
beta-BHC	<0.05	<0.05	<0.30	<0.30
delta-BHC	<0.05	<0.05	<0.30	<0.30
gamma-BHC (Lindane)	<0.05	<0.05	<0.30	<0.30
Heptachlor	<0.05	<0.05	<0.30	<0.30
Aldrin	<0.05	<0.05	<0.30	<0.30
Heptachlor Epoxide	<0.05	<0.05	<0.30	<0.30
Endosulfan 1	<0.05	<0.05	<0.30	0.43
Dieldrin	<0.10	<0.10	<0.60	<0.60
4,4'-DDE	<0.10	<0.10	<0.60	<0.60
Endrin	<0.10	<0.10	<0.60	<0.60
Endosulfan 2	<0.10	<0.10	<0.60	<0.60
4,4'-DDD	<0.10	<0.10	<0.60	<0.60
Endosulfan Sulfate	<0.10	<0.10	<0.60	<0.60
4,4'-DDT	<0.10	<0.10	<0.60	<0.60
Methoxychlor	<0.50	<0.50	<3.0	<3.0
Endrin Ketone	<0.10	<0.10	<0.60	<0.60
Endrin Aldehyde	<0.10	<0.10	<0.60	<0.60
alpha-Chlordane	<0.05	<0.05	<0.30	<0.30
gamma-Chlordane	<0.05	<0.05	<0.30	<0.30
Toxaphene	<1.0	<1.0	<6.0	<6.0
Aroclor-1016	<1.0	<1.0	<6.0	<6.0
Aroclor-1221	<2.0	<2.0	<12.0	<12.0
Aroclor-1232	<1.0	<1.0	<6.0	<6.0
Aroclor-1242	<1.0	<1.0	<6.0	<6.0
Aroclor-1248	<1.0	<1.0	<6.0	<6.0
Aroclor-1254	<1.0	<1.0	<6.0	<6.0
Aroclor-1260	<1.0	<1.0	<6.0	<6.0
Dissolved Metals (ug/l)				
Arsenic	25.4	37.1	20.8	20.4
Barium	389	616	93.4	79.3
Cadmium	<0.30	<0.30	<0.30	<0.3
Copper	105	14.7	40.2	26.4
Iron	19800	59400	1330000	932000
Lead	1.7	<1.4	<1.4	<1.4
Manganese	3320	8040	53100	32400
Mercury	<0.20	<0.20	<0.20	<0.20
Selenium	6.1	9.6	94.6	63.0
Silver	<1.3	<1.3	6.4	2.4
Sodium	331000	204000	1440000	928000
Zinc	77	48.9	9430	13500

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 1

	W-1G	W-2G	W-1R	W-2R
General Chemistry (mg/l)				
pH	6.74	6.81	5.1	5.13
Color, Pt-Co	30.0	30.0	NA	NA
Fecal Coliforms	<1	<1.0	<1	<1.0
Fecal Streptococcus	<1	<1.0	<1	<1.0
Total Coliforms	<1	<1.0	<1	<1.0
Turbidity	35	3400	43	27
Ammonia, Nitrogen	9.12	0.07	23.4	78.4
BOD	25.7	33	18500	11500
COD	104.6	290	21040	14720
Chloride	903	296	4338	3193
Chromium, Hexavalent	<0.01	<0.01	0.08	<0.01
Fluoride	0.14	0.14	1.1	0.34
Hardness	756	1338	9260	5660
Nitrate, Nitrogen	<0.04	<0.04	<0.04	<0.04
Phenols	0.143	0.228	2.56	0.791
Sulfate	126	11.6	2740	2480
Surfactants	0.1	0.39	0.87	0.53
Total Cyanide	<0.01	<0.01	<0.01	<0.01
Total Dissolved Solids	3580	1580	1165	174
Total Organic Carbon	42.5	70.7	426	514
Total Organic Halides	<0.05	<0.5	1.8	2.2

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 2

	W-3G	W-4G	W-3S	W-4S	W-4R	W-3R
Volatiles (ug/l) *Dilution Factor*	10.0	5.0	5.0/10 DL	5.0/10 DL	1.0	5.0
Chloromethane	<20	<10.0	<10.0	<10.0	<2.0	<10.0
Bromomethane	<10	<5.0	<5.0	<5.0	<1.0	<5.0
Vinyl Chloride	<10	<5.0	<5.0	<5.0	<1.0	<5.0
Chloroethane	<10	<5.0	30.0	<5.0	<1.0	48.0
Methylene Chloride	37.0	25.0	18.0	22.0	<3.0	29.0
1,1-Dichloroethene	<20	<10.0	<10	<10	<2.0	<10
1,1Dichloroethane	<10	<5.0	5.0	<5.0	<1.0	<5.0
Chloroform	<10	<5.0	<5.0	<5.0	<1.0	<5.0
1,2-Dichloroethane	<10	<5.0	<5.0	<5.0	<1.0	<5.0
1,1,1-Trichloroethane	<10	<5.0	<5.0	<5.0	<1.0	<5.0
Carbon tetrachloride	<20	<10.0	<10.0	<10.0	<2.0	<10.0
Bromodichloromethane	<10	<5.0	<5.0	<5.0	<1.0	<5.0
1,2-Dichloropropane	<10	<5.0	<5.0	<5.0	<1.0	<5.0
cis-1,3-Dichloropropene	<10	<5.0	<5.0	<5.0	<1.0	<5.0
Trichloroethene	<20	<10.0	<10.0	<10.0	<2.0	<10.0
Dibromochloromethane	<10	<5.0	<5.0	<5.0	<1.0	<5.0
1,1,2-trichloroethane	<10	<5.0	<5.0	<5.0	<1.0	<5.0
Benzene	1200	530	79.0	44.0	15.0	58.0
trans-1,3-Dichloropropene	<10	<5.0	<5.0	<5.0	<1.0	<5.0
Bromoform	<10	<5.0	<5.0	<5.0	<1.0	<5.0
Tetrachloroethene	<30	<15.0	<15.0	<15.0	<3.0	<15.0
1,1,2,2-Tetrachloroethane	<20	<10.0	<10.0	<10.0	<2.0	<10.0
Toluene	100	40	710	130	54	580
Chlorobenzene	1000	720	1400 DL	1100 DL	30	580
Ethylbenzene	240	240	47.0	51.0	6.0	31.0
Trichloromonofluoromethane	<20	<10.0	<10.0	<10.0	<2.0	<10.0
1,3-Dichlorobenzene	<20	<10.0	<10.0	<10.0	<2.0	<10.0
1,4-Dichlorobenzene	<20	<10.0	<10.0	<10.0	<2.0	<10.0
1,2-Dichlorobenzene	<20	<10.0	<10.0	<10.0	<2.0	<10.0
2-Chloroethylvinyl Ether	<40	<20.0	<20.0	<20.0	<4.0	<20.0
Trans, 1,2-Dichloroethene	<10	<5.0	<5.0	<5.0	<1.0	<5.0
Semi-Volatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0/10 DL	1.0/10 DL	1.0	1.0/10 DL
Phenol	<1.0	<1.0	210 DL	<1.0	<1.0	<1.0
bis(2-Chloroethyl) Ether	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,2'- oxybis(1-Chloropropane)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitroso-di-n-propylamine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nitrobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isophorone	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dimethylphenol	49	<2.0	<2.0	7	<2.0	<2.0
2,4-Dichlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 2

	W-3G	W-4G	W-3S	W-4S	W-4R	W-3R
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	12.0	32.0	<1.0	2.0	<1.0	1.0
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bis-(2-Chloroethoxy)methane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-Methylphenol	<1.0	<1.0	390 DL	220 DL	7.0	210 DL
Hexachlorocyclopentadiene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4,6-Trichlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chloronapthalene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dimethylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,6-Dinotrotoluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Nitrophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Diethylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Chlorophenyl-phenylether	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4,6-Dinitro-2-methylphenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosodiphenylamine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Bromophenyl-phenylether	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	<1.0	1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Di-n-butylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Butylbenzylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
3,3'-Dichlorobenzidine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)anthrance	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bis(2-Ethylhexyl)phthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Di-n-octylphalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Indeno(1,2,3-cd)pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosodimethylamine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzidine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 2

	W-3G	W-4G	W-3S	W-4S	W-4R	W-3R
Pesticide/PCB (ug/l) *Dilution Factor*	2.0	1.0	50.0	1.0/50 DL	1.0	1.0/20 DL
alpha-BHC	<0.10	<0.05	9.4	4.0 DL	<0.05	<0.05
beta-BHC	<0.10	<0.05	26.0	20.0 DL	<0.05	<0.05
delta-BHC	<0.10	<0.05	14.0	<0.05	<0.05	<0.05
gamma-BHC (Lindane)	1.0	<0.05	26.0	<0.05	<0.05	0.41
Heptachlor	<1.0	<0.05	39.0	0.32	0.76	5.7 DL
Aldrin	<1.0	0.07	<2.5	<0.05	0.11	0.28
Heptachlor Epoxide	<1.0	<0.05	<2.5	<0.05	<0.05	<0.05
Endosulfan 1	<1.0	<0.05	9.6	1.20 DL	<0.05	<0.05
Dieldrin	<0.20	<0.1	<5.0	<0.10	<0.10	<0.10
4,4'-DDE	0.24	<0.10	<5.0	<0.10	<0.10	<0.10
Endrin	<0.20	<0.10	<5.0	<0.10	<0.10	<0.10
Endosulfan 2	<0.20	<0.10	<5.0	<0.10	<0.10	<0.10
4,4'-DDD	0.15	0.12	<5.0	<0.10	<0.10	<0.10
Endosulfan Sulfate	<0.20	<0.1	<5.0	2.0	<0.10	<0.10
4,4'-DDT	<0.20	<0.1	<5.0	1.5	<0.10	<0.10
Methoxychlor	<1.0	<0.5	<25	<0.50	<0.50	<0.50
Endrin Ketone	<0.20	<0.1	<5.0	0.49	<0.10	<0.10
Endrin Aldehyde	<0.20	<0.10	<5.0	<0.10	<0.10	<0.10
alpha-Chlordane	<0.10	<0.05	<2.5	<0.05	<0.05	<0.05
gamma-Chlordane	<0.10	<0.05	<2.5	0.1	<0.05	<0.05
Toxaphene	<2.0	<1.0	<50	<1.0	<1.0	<1.0
Aroclor-1016	<2.0	<1.0	<50	<1.0	<1.0	<1.0
Aroclor-1221	<4.0	<2.0	<100	<2.0	<2.0	<2.0
Aroclor-1232	<2.0	<1.0	<50	<1.0	<3.0	<1.0
Aroclor-1242	<2.0	<1.0	<50	<1.0	74.0	<1.0
Aroclor-1248	<2.0	<1.0	<50	<1.0	<3.0	<1.0
Aroclor-1254	<2.0	<1.0	<50	<1.0	<3.0	<1.0
Aroclor-1260	<2.0	<1.0	<50	<1.0	<3.0	<1.0
Dissolved Metals (ug/l)						
Arsenic	111	94.6	182	52.7	<5.1	<5.1
Barium	337	282	863	438	5810	2020
Cadmium	<0.30	<0.3	<0.30	<0.3	<0.30	<0.30
Copper	7.1	39.9	25.6	38.4	29.8	17.6
Iron	40000	7510	166000	71100	19100	24300
Lead	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
Manganese	1060	486	6590	4070	2210	1480
Mercury	0.53	0.68	0.71	0.22	<0.20	<0.20
Selenium	<4.4	<4.4	8.8	7.0	<4.4	<4.4
Silver	<1.3	<1.3	<1.3	2.2	<1.3	<1.3
Sodium	563000	415000	696000	595000	654000	588000
Zinc	11	41.3	12	51.8	18.1	24.6

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 2

	W-3G	W-4G	W-3S	W-4S	W-4R	W-3R
General Chemistry (mg/l)						
pH	7.07	7.56	6.57	6.75	6.6	6.61
Color, Pt-Co	120	120	80	120	20	80
Fecal Coliforms	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fecal Streptococcus	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Coliforms	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Turbidity	22400	180	2000	2500	162	222
Ammonia, Nitrogen	342.6	214.9	76.2	32.2	<0.05	<0.05
BOD	573	68.0	236	40.0	<3	18.0
COD	111	844	319	818	94	524
Chloride	1239	969	2048	1576	2452	1711
Chromium, Hexavalent	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoride	0.11	0.26	0.1	0.11	0.13	0.22
Hardness	1046	672	978	900	1522	780
Nitrate, Nitrogen	0.15	<0.04	<0.04	<0.04	0.1	<0.04
Phenols	0.232	0.05	0.208	0.238	0.101	0.27
Sulfate	38.4	18.3	7.2	9.0	5.6	4.5
Surfactants	1.22	0.7	0.44	0.31	0.31	0.45
Total Cyanide	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Dissolved Solids	4296	3158	6536	3796	5814	3770
Total Organic Carbon	236	142.2	450	141.6	15.4	50.3
Total Organic Halides	0.9	<0.5	2.1	<0.5	<0.5	<0.5

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 3

	W-5G	W-6G	W-5S	W-6S	W-5R	W-6R
Volatiles (ug/l) *Dilution Factor*	5.0/10 DL	1.0/5 DL	1.0	1.0	1.0	1.0
Chloromethane	<10.0	<2.0	<2.0	<2.0	<2.0	<2.0
Bromomethane	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	25.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene Chloride	<15.0	<3.0	15	<3.0	13.0	<3.0
1,1-Dichloroethene	<10.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1Dichloroethane	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	<10.0	<2.0	<2.0	<2.0	<2.0	<2.0
Bromodichloromethane	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	<10.0	<2.0	5.0	<2.0	<2.0	<2.0
Dibromochloromethane	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloroethane	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	1300 DL	700 DL	12.0	43.0	16.0	3.0
trans-1,3-Dichloropropene	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<15.0	<3.0	<3.0	<3.0	<3.0	<3.0
1,1,2,2-Tetrachloroethane	<10.0	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene	<10	<2.0	<2.0	2.0	<2.0	<2.0
Chlorobenzene	520	180	4.0	13.0	12.0	18.0
Ethylbenzene	15.0	4.0	<2.0	<2.0	3.0	<2.0
Trichloromonofluoromethane	<10.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,3-Dichlorobenzene	<10	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene	<10	6.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichlorobenzene	<10	<2.0	<2.0	<2.0	<2.0	<2.0
2-Chloroethylvinyl Ether	<20	<4.0	<4.0	<4.0	<4.0	<4.0
Trans, 1,2-Dichloroethene	<5	<1.0	<1.0	<1.0	<1.0	<1.0
Semi-Volatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0	1.0	1.0
Phenol	<1.0	<1.0	<1.0	47	44	<1.0
bis(2-Chloroethyl) Ether	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	<1.0	5.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,2'- oxybis(1-Chloropropane)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitroso-di-n-propylamine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nitrobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isophorone	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dimethylphenol	<2.0	<2.0	<2.0	8.0	<2.0	<2.0
2,4-Dichlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 3

	W-5G	W-6G	W-5S	W-6S	W-5R	W-6R
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	11.0	18.0	<1.0	<1.0	<1.0	<1.0
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bis-(2-Chloroethoxy)methane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-Methylphenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorocyclopentadiene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4,6-Trichlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chloronapthalene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dimethylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,6-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Nitrophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Diethylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Chlorophenyl-phenylether	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4,6-Dinitro-2-methylphenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosodiphenylamine	3.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Bromophenyl-phenylether	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Di-n-butylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Butylbenzylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
3,3'-Dichlorobenzidine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)anthrance	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bis(2-Ethylhexyl)phthalate	9.0	36.0	<1.0	<1.0	<1.0	<1.0
Di-n-octylphalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Indeno(1,2,3-cd)pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosodimethylamine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzidine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 3

	W-5G	W-6G	W-5S	W-6S	W-5R	W-6R
Pesticide/PCB (ug/l) *Dilution Factor*	3.0	1.0	1.0	1.0	1.0	1.0
alpha-BHC	<0.15	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	<0.15	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	<0.15	<0.05	0.11	0.05	<0.05	<0.05
gamma-BHC (Lindane)	<0.15	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	<0.15	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	<0.15	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor Epoxide	<0.15	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan 1	<0.15	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	<0.30	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	<0.30	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin	<0.30	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan 2	<0.30	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	<0.30	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan Sulfate	<0.30	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	1.4	<0.10	<0.10	<0.10	<0.10	<0.10
Methoxychlor	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50
Endrin Ketone	<0.3	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin Aldehyde	<0.3	<0.10	<0.10	<0.10	<0.10	<0.10
alpha-Chlordane	<0.15	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-Chlordane	<0.15	<0.05	<0.05	<0.05	<0.05	<0.05
Toxaphene	<3	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1016	<3	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1221	<6	<2.0	<2.0	<2.0	<2.0	<2.0
Aroclor-1232	<3	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1242	74.0	16.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1248	<3	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1254	<3	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1260	<3	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Metals (ug/l)						
Arsenic	<5.1	<5.1	<5.1	6.9	41.0	6.6
Barium	432	418	457	959	440	357
Cadmium	<0.30	<0.30	<0.3	<0.3	0.89	<0.30
Copper	5.7	26	23.7	37.7	11.2	20.2
Iron	42800	58600	13100	7730	1780	38900
Lead	<1.4	<1.4	<1.4	<1.4	6.9	<1.4
Manganese	290	238	3170	1050	256	3010
Mercury	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20
Selenium	<4.4	6.7	<4.4	4.9	41.2	<4.4
Silver	<1.3	<1.3	<1.3	<1.3	1.6	<1.3
Sodium	164000	45000	866000	847000	840000	852000
Zinc	51.0	24.8	1060	<3.3	35.0	62.4

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 3

	W-5G	W-6G	W-5S	W-6S	W-5R	W-6R
General Chemistry (mg/l)						
pH	6.85	6.63	6.78	6.94	7.2	6.73
Color, Pt-Co	50	40	20	60	80	40
Fecal Coliforms	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fecal Streptococcus	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Coliforms	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Turbidity	1320	1250	198	110	96	1200
Ammonia, Nitrogen	95	79.4	1.41	18.05	1.97	<0.05
BOD	30.3	28.3	7.7	47.3	24.7	18.3
COD	498	890	114	217	177	123
Chloride	768	<1.0	4540	2586	3799	9861
Chromium, Hexavalent	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoride	0.07	0.02	0.05	0.04	0.11	0.06
Hardness	560	334	2250	1318	1106	2050
Nitrate, Nitrogen	<0.04	<0.04	0.09	0.07	0.11	0.05
Phenols	0.043	0.136	0.024	0.014	0.096	0.023
Sulfate	11.6	13.2	291	10.9	63.5	217
Surfactants	0.83	0.2	1.24	0.9	1.47	1.47
Total Cyanide	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Dissolved Solids	1452	666	8826	4528	7496	8618
Total Organic Carbon	59.8	30.2	14.4	57.8	33.1	18.1
Total Organic Halides	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 4

	W-7G	W-8G	W-7S	W-8S	W-7R	W-8R
Volatiles (ug/l) *Dilution Factor*	5.0/25 DL	5.0/25 DL	1.0/5.0 DL	1.0	1.0	1.0
Chloromethane	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
Bromomethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Methylene Chloride	<15.0	<15.0	<3.0	<3.0	<3.0	<3.0
1,1-Dichloroethene	<10.0	<10.	<2.0	<2.0	<2.0	<2.0
1,1Dichloroethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Chloroform	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
Bromodichloromethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
Dibromochloromethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloroethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Benzene	1700 DL	1300 DL	370 DL	94.0	2.0	12.0
trans-1,3-Dichloropropene	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Bromoform	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<15.0	<15.0	<3.0	<3.0	<3.0	<3.0
1,1,2,2-Tetrachloroethane	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
Toluene	480	92.0	8.0	<2.0	<2.0	<2.0
Chlorobenzene	1700	3400	700 DL	120	6.0	11.0
Ethylbenzene	1400	980	98	<2.0	<2.0	<2.0
Trichloromonofluoromethane	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
1,3-Dichlorobenzene	17.0	37.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene	76.0	170	6.0	<2.0	<2.0	<2.0
1,2-Dichlorobenzene	22.0	44.0	14.0	<2.0	<2.0	<2.0
2-Chloroethylvinyl Ether	<20.0	<20.0	<4.0	<4.0	<4.0	<4.0
Trans, 1,2-Dichloroethene	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Semi-Volatiles (ug/l) *Dilution Factor*	1.0	1.0/4.0 DL	1.0	1.0	1.0	1.0
Phenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bis(2-Chloroethyl) Ether	<1.0	<1.0	<1.0	1.0	<1.0	<1.0
2-Chlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	7.0	21.0	1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	22.0	67.0	7.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	5.0	19.0	12.0	<1.0	3.0	<1.0
2,2'- oxybis(1-Chloropropane)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitroso-di-n-propylamine	<1.0	<1.0	<1.0	5.0	<1.0	<1.0
Hexachloroethane	<1.0	<1.0	<1.0	1.0	<1.0	<1.0
Nitrobenzene	<1.0	<1.0	<1.0	4.0	<1.0	<1.0
Isophorone	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dimethylphenol	36.0	<1.0	<2.0	<2.0	<2.0	<2.0
2,4-Dichlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 4

		86				
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	38.0	54.0	14.0	<1.0	2.0	<1.0
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bis-(2-Chloroethoxy)methane	<1.0	<1.0	<1.0	1.0	<1.0	<1.0
4-Chloro-3-Methylphenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorocyclopentadiene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4,6-Trichlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chloronapthalene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dimethylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,6-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Nitrophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Diethylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Chlorophenyl-phenylether	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	<1.0	3.0	<1.0	<1.0	<1.0	<1.0
4,6-Dinitro-2-methylphenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosodiphenylamine	<1.0	20	<1.0	<1.0	<1.0	<1.0
4-Bromophenyl-phenylether	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	<1.0	5.0	<1.0	<1.0	<1.0	<1.0
Anthracene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Di-n-butylphthalate	<1.0	5.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	<1.0	3.0	<1.0	<1.0	<1.0	<1.0
Pyrene	<1.0	1.0	<1.0	<1.0	<1.0	<1.0
Butylbenzylphthalate	<1.0	5.0	<1.0	<1.0	<1.0	<1.0
3,3'-Dichlorobenzidine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)anthrance	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bis(2-Ethylhexyl)phthalate	22.0	240 DL	<1.0	<1.0	1.0	<1.0
Di-n-octylphalate	<1.0	13.0	<1.0	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Indeno(1,2,3-cd)pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosodimethylamine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzidine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

E - Estimated Value, exceeds calibration curve range.

W-

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 4

Pesticide/PCB (ug/l) *Dilution Factor*	2.0	2.0	1.0	1.0	1.0	1.0
alpha-BHC	<0.10	<0.10	<0.05	<0.05	<0.05	<0.05
beta-BHC	<0.10	<0.10	<0.05	<0.05	<0.05	<0.05
delta-BHC	<0.10	<0.10	<0.05	<0.05	<0.05	<0.05
gamma-BHC (Lindane)	1.5	<0.10	0.25	<0.05	<0.05	<0.05
Heptachlor	<0.10	<1.0	<0.05	<0.05	<0.05	<0.05
Aldrin	0.43	0.68	<0.05	<0.05	<0.05	<0.05
Heptachlor Epoxide	<0.10	<0.10	<0.05	<0.05	<0.05	<0.05
Endosulfan 1	<0.10	<0.10	<0.05	<0.05	<0.05	<0.05
Dieldrin	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10
Endrin	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10
Endosulfan 2	0.23	<0.20	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10
Endosulfan Sulfate	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10
Methoxychlor	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Endrin Ketone	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10
Endrin Aldehyde	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10
alpha-Chlordane	<0.10	<0.10	<0.05	<0.05	<0.05	<0.05
gamma-Chlordane	<0.10	<0.10	<0.05	<0.05	<0.05	<0.05
Toxaphene	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1016	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1221	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0
Aroclor-1232	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1242	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1248	11.0	8.1	<1.0	<1.0	<1.0	<1.0
Aroclor-1254	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1260	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0
Dissolved Metals (ug/l)						
Arsenic	15.7	9.2	7.8	<5.1	<5.1	12.0
Barium	1750	514	557	727	638	800
Cadmium	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Copper	<1.7	13.3	5.4	23.1	<1.7	11.4
Iron	35900	37600	3400	3670	17700	8970
Lead	<1.4	2.7	<1.4	5.6	<1.4	<1.4
Manganese	227	1200	578	960	2770	697
Mercury	0.3	0.54	<0.20	<0.20	<0.20	<0.20
Selenium	<4.4	9.2	<4.4	<4.4	<4.4	<4.4
Silver	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3
Sodium	767000	429000	2510000	1030000	1060000	2840000
Zinc	14.6	12.0	<3.3	51.5	111	10.7

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 4

General Chemistry (mg/l)						
pH	6.79	6.4	6.68	6.84	6.79	6.49
Color, Pt-Co	100	60	40	80	40	50
Fecal Coliforms	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fecal Streptococcus	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Coliforms	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Turbidity	28	16	24	57	230	10
Ammonia, Nitrogen	299.2	247.5	8.86	2.95	3.8	<0.05
BOD	55.7	<3.0	<3.0	9.1	<3.0	<3.0
COD	1450	727	584	150	150	153
Chloride	2452	2317	4001	6224	5348	5483
Chromium, Hexavalent	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoride	0.07	0.09	0.05	0.03	0.04	0.04
Hardness	676	570	1748	2120	2114	2230
Nitrate, Nitrogen	<0.04	0.04	0.05	0.07	0.1	0.09
Phenols	0.283	0.228	0.038	0.027	0.022	0.035
Sulfate	7.9	7.1	178	201	450	380
Surfactants	0.68	1.47	0.33	0.63	0.59	0.3
Total Cyanide	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Dissolved Solids	3474	2086	10400	10396	10352	11012
Total Organic Carbon	234.9	158	37.2	26.1	23.7	24.7
Total Organic Halides	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 5

	W-9G	W-10G	W-9R	W-10R
Volatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0
Chloromethane	<2.0	<2.0	<2.0	<2.0
Bromomethane	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<1.0	<1.0	<1.0	<1.0
Chloroethane	<1.0	<1.0	<1.0	<1.0
Methylene Chloride	<3.0	<3.0	<3.0	<3.0
1,1-Dichloroethene	<2.0	<2.0	<2.0	<2.0
1,1Dichloroethane	6.0	<1.0	2.0	<1.0
Chloroform	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	<2.0	<2.0	<2.0	<2.0
Bromodichloromethane	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0
Trichloroethene	2.0	<2.0	<2.0	<2.0
Dibromochloromethane	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloroethane	<1.0	<1.0	<1.0	<1.0
Benzene	41.0	<1.0	2.0	<1.0
trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0
Bromoform	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<3.0	<3.0	<3.0	<3.0
1,1,2,2-Tetrachloroethane	<2.0	<2.0	<2.0	<2.0
Toluene	<2.0	<2.0	<2.0	<2.0
Chlorobenzene	2.0	<2.0	<2.0	<2.0
Ethylbenzene	<2.0	<2.0	<2.0	<2.0
Trichloromonofluoromethane	<2.0	<2.0	<2.0	<2.0
1,3-Dichlorobenzene	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene	<2.0	<2.0	<2.0	<2.0
1,2-Dichlorobenzene	2.0	<2.0	<2.0	<2.0
2-Chloroethylvinyl Ether	<4.0	<4.0	<4.0	<4.0
Trans, 1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0
Semi-Volatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0
Phenol	<1.0	<1.0	<1.0	<1.0
bis(2-Chloroethyl) Ether	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0
2,2'- oxybis(1-Chloropropane)	<1.0	<1.0	<1.0	<1.0
N-Nitroso-di-n-propylamine	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	<1.0	<1.0	<1.0	<1.0
Nitrobenzene	<1.0	<1.0	<1.0	<1.0
Isophorone	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	<1.0	<1.0	<1.0	<1.0
2,4-Dimethylphenol	<2.0	<2.0	<2.0	<2.0
2,4-Dichlorophenol	<1.0	<1.0	<1.0	<1.0

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 5

1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0
Naphthalene	<1.0	<1.0	<1.0	<1.0
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0
bis-(2-Chloroethoxy)methane	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-Methylphenol	<1.0	<1.0	<1.0	<1.0
Hexachlorocyclopentadiene	<1.0	<1.0	<1.0	<1.0
2,4,6-Trichlorophenol	<1.0	<1.0	<1.0	<1.0
2-Chloronapthalene	<1.0	<1.0	<1.0	<1.0
Dimethylphthalate	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	<1.0	<1.0	<1.0	<1.0
2,6-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0
Acenaphthene	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrophenol	<1.0	<1.0	<1.0	<1.0
4-Nitrophenol	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0
Diethylphthalate	<1.0	<1.0	<1.0	<1.0
4-Chlorophenyl-phenylether	<1.0	<1.0	<1.0	<1.0
Fluorene	<1.0	<1.0	<1.0	<1.0
4,6-Dinitro-2-methylphenol	<1.0	<1.0	<1.0	<1.0
N-Nitrosodiphenylamine	<1.0	<1.0	<1.0	<1.0
4-Bromophenyl-phenylether	<1.0	<1.0	<1.0	<1.0
Hexachlorobenzene	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	<1.0	<1.0	<1.0	<1.0
Phenanthrene	<1.0	<1.0	<1.0	<1.0
Anthracene	<1.0	<1.0	<1.0	<1.0
Di-n-butylphthalate	<1.0	<1.0	<1.0	<1.0
Fluoranthene	<1.0	<1.0	<1.0	<1.0
Pyrene	<1.0	<1.0	<1.0	<1.0
Butylbenzylphthalate	<1.0	<1.0	<1.0	<1.0
3,3'-Dichlorobenzidine	<1.0	<1.0	<1.0	<1.0
Benzo(a)anthrance	<1.0	<1.0	<1.0	<1.0
Chrysene	<1.0	<1.0	<1.0	<1.0
bis(2-Ethylhexyl)phthalate	<1.0	<1.0	<1.0	1.0
Di-n-octylphalate	<1.0	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	<1.0	<1.0	<1.0	<1.0
Indeno(1,2,3-cd)pyrene	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	<1.0
N-Nitrosodimethylamine	<1.0	<1.0	<1.0	<1.0
Benzidine	<1.0	<1.0	<1.0	<1.0

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 5

Pesticide/PCB (ug/l) *Dilution Factor*	1.0	1.67	1.0	1.0
alpha-BHC	<0.05	<0.08	<0.05	<0.05
beta-BHC	<0.05	<0.08	<0.05	<0.05
delta-BHC	<0.05	<0.08	<0.05	<0.05
gamma-BHC (Lindane)	<0.05	<0.08	<0.05	<0.05
Heptachlor	<0.05	<0.08	<0.05	<0.05
Aldrin	<0.05	<0.08	<0.05	<0.05
Heptachlor Epoxide	<0.05	<0.08	<0.05	<0.05
Endosulfan 1	<0.05	<0.08	<0.05	<0.05
Dieldrin	<0.10	<0.17	<0.10	<0.10
4,4'-DDE	<0.10	<0.17	<0.10	<0.10
Endrin	<0.10	<0.17	<0.10	<0.10
Endosulfan 2	<0.10	<0.17	<0.10	<0.10
4,4'-DDD	<0.10	<0.17	<0.10	<0.10
Endosulfan Sulfate	<0.10	<0.17	<0.10	<0.10
4,4'-DDT	<0.10	<0.17	<0.10	<0.10
Methoxychlor	<0.50	<0.83	<0.50	<0.50
Endrin Ketone	<0.10	<0.17	<0.10	<0.10
Endrin Aldehyde	<0.10	<0.17	<0.10	<0.10
alpha-Chlordane	<0.05	<0.08	<0.05	<0.05
gamma-Chlordane	<0.05	<0.08	<0.05	<0.05
Toxaphene	<1.0	<1.7	<1.0	<1.0
Aroclor-1016	<1.0	<1.7	<1.0	<1.0
Aroclor-1221	<2.0	<3.3	<2.0	<2.0
Aroclor-1232	<1.0	<1.7	<1.0	<1.0
Aroclor-1242	<1.0	<1.7	<1.0	<1.0
Aroclor-1248	<1.0	<1.7	<1.0	<1.0
Aroclor-1254	<1.0	<1.7	<1.0	<1.0
Aroclor-1260	<1.0	<1.7	<1.0	<1.0
Dissolved Metals (ug/l)				
Arsenic	13.8	<5.1	<5.1	<5.1
Barium	68.2	53.3	167	68.8
Cadmium	<0.30	0.91	<0.30	<0.30
Copper	20.8	44.2	14.3	35.9
Iron	87700	20500	31400	3530
Lead	<1.4	2.8	<1.4	2.6
Manganese	2620	953	1550	380
Mercury	<0.20	<0.20	<0.20	<0.20
Selenium	9.2	<4.4	11.9	5.9
Silver	<1.3	<1.3	<1.3	<1.3
Sodium	37600	13700	20100	12000
Zinc	76.6	188	62.6	70.4

E - Estimated Value, exceeds calibration curve range.

Table 3-1
Kin-Buc Landfill Operable Unit 1
Groundwater Monitoring Results
Transect Location No. 5

General Chemistry (mg/l)				
pH	5.59	5.69	6	6.23
Color, Pt-Co	<10	<10	NA	NA
Fecal Coliforms	<1.0	NA	<1.0	<1.0
Fecal Streptococcus	<1.0	NA	<1.0	<1.0
Total Coliforms	<1.0	NA	<1.0	<1.0
Turbidity	70	60	31	46
Ammonia, Nitrogen	<0.05	<0.05	<0.05	<0.05
BOD	3.5	<3.0	<3.0	<3.0
COD	61.3	11.3	23.9	14.4
Chloride	1037	229	59.3	18.9
Chromium, Hexavalent	<0.1	<0.01	<0.01	<0.01
Fluoride	0.08	0.03	0.06	0.06
Hardness	952		312	91.2
Nitrate, Nitrogen	<0.04	0.07	<0.04	<0.04
Phenols	0.094	<0.0035	0.456	0.353
Sulfate	299	174	267	68.1
Surfactants	0.18	0.08	<0.05	<0.05
Total Cyanide	<0.01	<0.01	<0.01	<0.01
Total Dissolved Solids	1101	410	1713	1683
Total Organic Carbon	13.1	1.5	1.85	<1
Total Organic Halides	<0.5	<0.5	<0.5	<0.5

E - Estimated Value, exceeds calibration curve range.

GEI-7G
DRY

Table 4-1
Kin-Buc Landfill Operable Unit 2
Groundwater Monitoring Results
Refuse Wells

"B" "B"

	GEI-3G	GEI-5G	GEI-6G	GEI-10G
Volatiles (ug/l) *Dilution Factor*	1.0/ 5DL	1.0/10DL	1.0	1.0/ 5DL
Chloromethane	<2.0	<2.0	<2.0	<2.0
Bromomethane	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<1.0	<1.0	<1.0	<1.0
Chloroethane	<1.0	12.0	<1.0	<1.0
Methylene Chloride	6.0	5.0	5.0	<3.0
1,1-Dichloroethene	<2.0	<2.0	<2.0	<2.0
1,1Dichloroethane	<1.0	<1.0	<1.0	<1.0
Chloroform	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	<2.0	<2.0	<2.0	<2.0
Bromodichloromethane	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0
Trichloroethene	<2.0	<2.0	<2.0	<2.0
Dibromochloromethane	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloroethane	<1.0	<1.0	<1.0	<1.0
Benzene	350 DL	1200 DL	14.0	410 DL
trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0
Bromoform	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<3.0	<3.0	<3.0	<3.0
1,1,2,2-Tetrachloroethane	<2.0	<2.0	<2.0	<2.0
Toluene	<2.0	<2.0	<2.0	3.0
Chlorobenzene	44.0	50.0	<2.0	290 DL
Ethylbenzene	<2.0	22.0	<2.0	<2.0
Trichloromonofluoromethane	<2.0	<2.0	<2.0	<2.0
1,3-Dichlorobenzene	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene	6.0	6.0	<2.0	6.0
1,2-Dichlorobenzene	<2.0	3.0	<2.0	<2.0
2-Chloroethylvinyl Ether	<4.0	<4.0	<4.0	<4.0
Trans, 1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0
Semivolatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0
Phenol	<1.0	<1.0	<1.0	<1.0
bis(2-Chloroethyl) Ether	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	5.0	5.0	<1.0	5.0
1,2-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0
2,2'- oxybis(1-Chloropropane)	<1.0	<1.0	<1.0	<1.0
N-Nitroso-di-n-propylamine	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	<1.0	<1.0	<1.0	<1.0
Nitrobenzene	<1.0	<1.0	<1.0	<1.0
Isophorone	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	<1.0	<1.0	<1.0	<1.0
2,4-Dimethylphenol	<2.0	<2.0	<2.0	<2.0
2,4-Dichlorophenol	<1.0	<1.0	<1.0	<1.0

500051

Table 4-1
Kin-Buc Landfill Operable Unit 2
Groundwater Monitoring Results
Refuse Wells

	GEI-3G	GEI-5G	GEI-6G	GEI-10G
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0
Naphthalene	3.0	4.0	2.0	10.0
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0
bis-(2-Chloroethoxy)methane	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-Methylphenol	<1.0	<1.0	<1.0	<1.0
Hexachlorocyclopentadiene	<1.0	<1.0	<1.0	<1.0
2,4,6-Trichlorophenol	<1.0	<1.0	<1.0	<1.0
2-Chloronapthalene	<1.0	<1.0	<1.0	<1.0
Dimethylphthalate	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	<1.0	<1.0	<1.0	<1.0
2,6-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0
Acenaphthene	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrophenol	<1.0	<1.0	<1.0	<1.0
4-Nitrophenol	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0
Diethylphthalate	<1.0	<1.0	<1.0	<1.0
4-Chlorophenyl-phenylether	<1.0	<1.0	<1.0	<1.0
Fluorene	<1.0	<1.0	<1.0	<1.0
4,6-Dinitro-2-methylphenol	<1.0	<1.0	<1.0	<1.0
N-Nitrosodiphenylamine	<1.0	<1.0	<1.0	5.0
4-Bromophenyl-phenylether	<1.0	<1.0	<1.0	<1.0
Hexachlorobenzene	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	<1.0	<1.0	<1.0	<1.0
Phenanthrene	<1.0	<1.0	<1.0	<1.0
Anthracene	<1.0	<1.0	<1.0	<1.0
Di-n-butylphthalate	<1.0	<1.0	<1.0	<1.0
Fluoranthene	<1.0	<1.0	<1.0	<1.0
Pyrene	<1.0	<1.0	<1.0	<1.0
Butylbenzylphthalate	<1.0	<1.0	<1.0	<1.0
3,3'-Dichlorobenzidine	<1.0	<1.0	<1.0	<1.0
Benzo(a)anthrance	<1.0	<1.0	<1.0	<1.0
Chrysene	<1.0	<1.0	<1.0	<1.0
bis(2-Ethylhexyl)phthalate	4.0	3.0	5.0	<1.0
Di-n-octylphalate	<1.0	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	<1.0	<1.0	<1.0	<1.0
Indeno(1,2,3-cd)pyrene	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	<1.0
N-Nitrosodimethylamine	<1.0	<1.0	<1.0	<1.0
Benzidine	<1.0	<1.0	<1.0	<1.0

500052

Table 4-1
Kin-Buc Landfill Operable Unit 2
Groundwater Monitoring Results
Refuse Wells

	GEI-3G	GEI-5G	GEI-6G	GEI-10G
Pesticide/PCB (ug/l) *Dilution Factor*	1.0	4.0	1.0	1.0
alpha-BHC	<0.05	<0.20	<0.05	<0.05
beta-BHC	<0.05	<0.20	<0.05	<0.05
delta-BHC	<0.05	<0.20	<0.05	<0.05
gamma-BHC (Lindane)	<0.05	0.7	<0.05	<0.05
Heptachlor	<0.05	<0.20	<0.05	<0.05
Aldrin	<0.05	<0.20	0.05	0.09
Heptachlor Epoxide	<0.05	<0.20	<0.05	<0.05
Endosulfan 1	<0.05	<0.20	<0.05	<0.05
Dieldrin	<0.10	<0.40	<0.10	<0.10
4,4'-DDE	<0.10	<0.40	<0.10	<0.10
Endrin	<0.10	<0.40	<0.10	<0.10
Endosulfan 2	<0.10	<0.40	<0.10	<0.10
4,4'-DDD	<0.10	<0.40	<0.10	<0.10
Endosulfan Sulfate	<0.10	<0.40	<0.10	<0.10
4,4'-DDT	<0.10	<0.40	<0.10	<0.10
Methoxychlor	<0.50	<2.00	<0.50	<0.50
Endrin Ketone	<0.10	<0.40	<0.10	<0.10
Endrin Aldehyde	<0.10	<0.40	<0.10	<0.10
alpha-Chlordane	<0.05	<0.20	<0.05	<0.05
gamma-Chlordane	<0.05	<0.20	<0.05	<0.05
Toxaphene	<1.0	<4.0	<1.0	<1.0
Aroclor-1016	<1.0	<4.0	<1.0	<1.0
Aroclor-1221	<2.0	<8.0	<1.0	<2.0
Aroclor-1232	<1.0	<0.40	<1.0	<1.0
Aroclor-1242	<1.0	<0.40	<1.0	<1.0
Aroclor-1248	<1.0	<0.40	<1.0	<1.0
Aroclor-1254	<1.0	<0.40	<1.0	<1.0
Aroclor-1260	<1.0	<0.40	<1.0	<1.0
Dissolved Metals (ug/l)				
Arsenic	<5.1	<5.1	<5.1	10.6
Barium	423	386	168	440
Cadmium	<0.3	1.1	1.1	3.7
Copper	<1.7	15.2	23.9	14.1
Iron	64700	35500	9920	53300
Lead	<1.4	14.8	11.6	<1.4
Manganese	1440	118	141	259
Mercury	<0.2	<0.2	0.21	<0.2
Selenium	5.2	<4.4	<4.4	<4.4
Silver	<1.3	<1.3	<1.3	<1.3
Sodium	46900	425000	1230000	88000
Zinc	14	17.3	82.5	37.4

500053

Table 4-1
Kin-Buc Landfill Operable Unit 2
Groundwater Monitoring Results
Refuse Wells

-B'1

	GEI-3G	GEI-5G	GEI-6G	GEI-10G
General Chemistry (mg/l)				
pH	6.27	6.43	6.87	6.08
Color, Pt-Co	20.0	80.0	160.0	90.0
Fecal Coliforms	<1.0	<1.0	<1.0	<1.0
Fecal Streptococcus	<1.0	<1.0	<1.0	<1.0
Total Coliforms	<1.0	<1.0	<1.0	<1.0
Turbidity	340	2550	150	29
Ammonia, Nitrogen	61.1	259.9	596	76.6
BOD	7.6	38	60	<3.0
COD	84.7	442	1080	159
Chloride	296	2788	5685	94.3
Chromium, Hexavalent	<0.01	<0.01	<0.01	<0.01
Fluoride	0.03	0.04	0.09	0.03
Hardness	360	528	1120	452
Nitrate, Nitrogen	<0.04	0.08	0.52	<0.04
Phenols	0.014	0.004	0.005	0.022
Sulfate	74.5	8.3	12.6	13.8
Surfactants	0.34	0.95	0.85	0.18
Total Cyanide	<0.01	<0.01	<0.01	<0.01
Total Dissolved Solid	444	1788	4356	830
Total Organic Carbon	23.2	<1.0	<1.0	28.5
Total Organic Halides	<0.5	<0.5	<0.5	<0.5

500054

Table 4-1
Kin-Buc Landfill Operable Unit 2
Groundwater Monitoring Results
Sand Gravel Wells

B'

GEI 6S
DRY

	WE-3S	WE-5S	WE-7S	GEI-10S
Volatiles (ug/l) *Dilution Factor*	5.0	5.0	1.0/ 5DL	1.0
Chloromethane	<10.0	<10.0	<2.0	<2.0
Bromomethane	<5.0	<5.0	<1.0	<1.0
Vinyl Chloride	<5.0	<5.0	<1.0	<1.0
Chloroethane	<5.0	<5.0	23	<1.0
Methylene Chloride	29.0	23.0	6.0	<3.0
1,1-Dichloroethene	<10.0	<10.0	<2.0	<2.0
1,1Dichloroethane	<5.0	<5.0	<1.0	<1.0
Chloroform	<5.0	<5.0	<1.0	<1.0
1,2-Dichloroethane	<5.0	<5.0	<1.0	<1.0
1,1,1-Trichloroethane	<5.0	<5.0	<1.0	<1.0
Carbon tetrachloride	<10.0	<10.0	<2.0	<2.0
Bromodichloromethane	<5.0	<5.0	<1.0	<1.0
1,2-Dichloropropane	<5.0	<5.0	<1.0	<1.0
cis-1,3-Dichloropropene	<5.0	<5.0	<1.0	<1.0
Trichloroethene	<10.0	<10.0	<2.0	59.0
Dibromochloromethane	<5.0	<5.0	<1.0	<1.0
1,1,2-trichloroethane	<5.0	<5.0	<1.0	<1.0
Benzene	21.0	500.0	29.0	<1.0
trans-1,3-Dichloropropene	<5.0	<5.0	<1.0	<1.0
Bromoform	<5.0	<5.0	<1.0	<1.0
Tetrachloroethene	<15.0	<15.0	<3.0	<3.0
1,1,2,2-Tetrachloroethane	<10.0	<10.0	<2.0	<2.0
Toluene	540	12.0	6.0	<2.0
Chlorobenzene	<10.0	<10.0	410 DL	<2.0
Ethylbenzene	70.0	42.0	6.0	<2.0
Trichloromonofluoromethane	<10.0	<10.0	<2.0	<2.0
1,3-Dichlorobenzene	<10.0	<10.0	<2.0	<2.0
1,4-Dichlorobenzene	<10.0	<10.0	2.0	<2.0
1,2-Dichlorobenzene	16.0	<10.0	<2.0	<2.0
2-Chloroethylvinyl Ether	<20.0	<20.0	<4.0	<4.0
Trans, 1,2-Dichloroethene	<5.0	<5.0	<1.0	<1.0
Semivolatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0
Phenol	<1.0	<1.0	<1.0	<1.0
bis(2-Chloroethyl) Ether	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	9.0	<1.0	<1.0	<1.0
2,2'- oxybis(1-Chloropropane)	<1.0	<1.0	<1.0	<1.0
N-Nitroso-di-n-propylamine	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	<1.0	<1.0	<1.0	<1.0
Nitrobenzene	<1.0	<1.0	<1.0	<1.0
Isophorone	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	<1.0	<1.0	<1.0	<1.0
2,4-Dimethylphenol	<2.0	<2.0	<2.0	<2.0
2,4-Dichlorophenol	<1.0	<1.0	<1.0	<1.0

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Table 4-1
Kin-Buc Landfill Operable Unit 2
Groundwater Monitoring Results
Sand Gravel Wells

	WE-3S	WE-5S	WE-7S	GEI-10S
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0
Naphthalene	<1.0	2.0	<1.0	<1.0
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0
bis-(2-Chloroethoxy)methane	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-Methylphenol	<1.0	<1.0	<1.0	<1.0
Hexachlorocyclopentadiene	<1.0	<1.0	<1.0	<1.0
2,4,6-Trichlorophenol	<1.0	<1.0	<1.0	<1.0
2-Chloronapthalene	<1.0	<1.0	<1.0	<1.0
Dimethylphthalate	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	<1.0	6.0	<1.0	<1.0
2,6-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0
Acenaphthene	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrophenol	<1.0	<1.0	<1.0	<1.0
4-Nitrophenol	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0
Diethylphthalate	<1.0	<1.0	<1.0	<1.0
4-Chlorophenyl-phenylether	<1.0	<1.0	<1.0	<1.0
Fluorene	<1.0	<1.0	<1.0	<1.0
4,6-Dinitro-2-methylphenol	<1.0	<1.0	<1.0	<1.0
N-Nitrosodiphenylamine	<1.0	<1.0	<1.0	<1.0
4-Bromophenyl-phenylether	<1.0	<1.0	<1.0	<1.0
Hexachlorobenzene	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	<1.0	<1.0	<1.0	<1.0
Phenanthrene	<1.0	<1.0	<1.0	<1.0
Anthracene	<1.0	<1.0	<1.0	<1.0
Di-n-butylphthalate	<1.0	<1.0	<1.0	<1.0
Fluoranthene	<1.0	<1.0	<1.0	<1.0
Pyrene	<1.0	<1.0	<1.0	<1.0
Butylbenzylphthalate	<1.0	<1.0	<1.0	<1.0
3,3'-Dichlorobenzidine	<1.0	<1.0	<1.0	<1.0
Benzo(a)anthrance	<1.0	<1.0	<1.0	<1.0
Chrysene	<1.0	<1.0	<1.0	<1.0
bis(2-Ethylhexyl)phthalate	<1.0	<1.0	<1.0	2.0
Di-n-octylphalate	<1.0	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	<1.0	<1.0	<1.0	<1.0
Indeno(1,2,3-cd)pyrene	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	<1.0
N-Nitrosodimethylamine	<1.0	<1.0	<1.0	<1.0
Benzidine	<1.0	<1.0	<1.0	<1.0

500056

Table 4-1
Kin-Buc Landfill Operable Unit 2
Groundwater Monitoring Results
Sand Gravel Wells

-B"

	WE-3S	WE-5S	WE-7S	GEI-10S
Pesticide/PCB (ug/l) *Dilution Factor*	5.0	1.0	3.0	1.0
alpha-BHC	<0.25	<0.05	<0.15	<0.05
beta-BHC	<0.25	<0.05	<0.15	<0.05
delta-BHC	<0.25	<0.05	0.16	<0.05
gamma-BHC (Lindane)	<0.25	<0.05	<0.15	<0.05
Heptachlor	<0.25	<0.05	<0.15	<0.05
Aldrin	<0.25	<0.05	<0.15	<0.05
Heptachlor Epoxide	<0.25	<0.05	<0.15	<0.05
Endosulfan 1	<0.25	<0.05	<0.15	<0.05
Dieldrin	<0.50	<0.10	<0.30	<0.10
4,4'-DDE	<0.50	<0.10	<0.30	<0.10
Endrin	<0.50	<0.10	<0.30	<0.10
Endosulfan 2	<0.50	<0.10	<0.30	<0.10
4,4'-DDD	<0.50	<0.10	<0.30	<0.10
Endosulfan Sulfate	<0.50	<0.10	<0.30	<0.10
4,4'-DDT	<0.50	<0.10	<0.30	<0.10
Methoxychlor	<2.50	<0.50	<1.50	<0.50
Endrin Ketone	<0.50	<0.10	<0.30	<0.10
Endrin Aldehyde	<0.50	<0.10	<0.30	<0.10
alpha-Chlordane	<0.25	<0.05	<0.15	<0.05
gamma-Chlordane	<0.25	<0.05	<0.15	<0.05
Toxaphene	<5.0	<1.0	<3.0	<1.0
Aroclor-1016	<5.0	<1.0	<3.0	<1.0
Aroclor-1221	<10.0	<1.0	<6.0	<2.0
Aroclor-1232	<5.0	<1.0	<3.0	<1.0
Aroclor-1242	<5.0	<1.0	<3.0	<1.0
Aroclor-1248	<5.0	<1.0	<3.0	<1.0
Aroclor-1254	<5.0	<1.0	<3.0	<1.0
Aroclor-1260	<5.0	<1.0	<3.0	<1.0
Dissolved Metals (ug/l)				
Arsenic	16	9.4	20.7	12.8
Barium	259	585	170	211
Cadmium	<0.3	<0.3	<0.3	2.8
Copper	<1.7	12	19	35.4
Iron	74400	74100	20700	12900
Lead	<1.4	<1.4	5.3	5.4
Manganese	1450	5160	1650	843
Mercury	<0.2	<0.2	0.32	<0.2
Selenium	8.1	4.8	<4.4	<4.4
Silver	<1.3	<1.3	<1.3	11
Sodium	3110000	2410000	1320000	2500000
Zinc	<3.3	<3.3	56.3	39.8

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Table 4-1
Kin-Buc Landfill Operable Unit 2
Groundwater Monitoring Results
Sand Gravel Wells

	WE-3S	WE-5S	WE-7S	GEI-10S
General Chemistry (mg/l)				
pH	6.21	6.37	6.62	6.25
Color, Pt-Co	60.0	60.0	100	50
Fecal Coliforms	<1.0	<1.0	<1.0	<1.0
Fecal Streptococcus	<1.0	<1.0	<1.0	<1.0
Total Coliforms	<1.0	<1.0	<1.0	<1.0
Turbidity	540	700	2700	26.0
Ammonia, Nitrogen	15.1	11.5	31.4	2.32
BOD	28.7	38.6	11.7	<3.0
COD	978	442	134	147
Chloride	188119	14037	7907	5146
Chromium, Hexavalent	<0.01	<0.01	<0.01	<0.01
Fluoride	0.12	0.1	0.16	0.04
Hardness	1766	1100	700	2400
Nitrate, Nitrogen	<0.04	0.6	0.04	0.12
Phenols	0.005	0.0035	0.005	0.011
Sulfate	82.6	54.9	16.4	372
Surfactants	1.08	0.58	0.32	0.58
Total Cyanide	<0.01	<0.01	<0.01	<0.01
Total Dissolved Solid	8922	6694	3592	9908
Total Organic Carbon	339	<1.0	<1.0	20.1
Total Organic Halides	0.7	<0.5	<0.5	<0.5

500058

Table 4-1
Kin-Buc Landfill Operable Unit 2
Groundwater Monitoring Results
Bedrock Wells

	WE-3R	WE-5R	WE-6R	WE-7R	WE-10R	WE-114D
Volatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0	1.0	1.0
Chloromethane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Bromomethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene Chloride	5	4.0	4.0	<3.0	<3.0	7
1,1-Dichloroethene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1Dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Bromodichloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dibromochloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	>1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
1,1,2,2-Tetrachloroethane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chlorobenzene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Ethylbenzene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Trichloromonofluoromethane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,3-Dichlorobenzene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichlorobenzene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
2-Chloroethylvinyl Ether	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Trans, 1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Semivolatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0	1.0	1.0
Phenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bis(2-Chloroethyl) Ether	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,2'- oxybis(1-Chloropropane)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitroso-di-n-propylamine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nitrobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isophorone	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dimethylphenol	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
2,4-Dichlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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Table 4-1
Kin-Buc Landfill Operable Unit 2
Groundwater Monitoring Results
Bedrock Wells

"B"

	WE-3R	WE-5R	WE-6R	WE-7R	WE-10R	WE-114D
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bis-(2-Chloroethoxy)methane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-Methylphenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorocyclopentadiene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4,6-Trichlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chloronapthalene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dimethylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,6-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Nitrophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Diethylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Chlorophenyl-phenylether	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4,6-Dinitro-2-methylphenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosodiphenylamine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Bromophenyl-phenylether	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorobenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Di-n-butylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Butylbenzylphthalate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
3,3'-Dichlorobenzidine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)anthrance	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bis(2-Ethylhexyl)phthalate	1.0	7.0	25.0	39.0	1.0	1.0
Di-n-octylphalate	<1.0	<1.0	3.0	2.0	<1.0	<1.0
Benzo(b)fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Indeno(1,2,3-cd)pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosodimethylamine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzidine	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

500060

Table 4-1
Kin-Buc Landfill Operable Unit 2
Groundwater Monitoring Results
Bedrock Wells

	WE-3R	WE-5R	WE-6R	WE-7R	WE-10R	WE-114D
Pesticide/PCB (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0	1.0	1.0
alpha-BHC	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC (Lindane)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor Epoxide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan 2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan Sulfate	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Methoxychlor	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Endrin Ketone	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin Aldehyde	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
alpha-Chlordane	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-Chlordane	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toxaphene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1016	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1221	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0
Aroclor-1232	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1242	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1248	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1254	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1260	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Metals (ug/l)						
Arsenic	6.8	<5.1	<5.1	<5.1	97.9	<5.1
Barium	172	57.5	557	93.4	109	71.1
Cadmium	<0.3	2.1	<0.3	<0.3	<0.3	<0.3
Copper	<1.7	16.9	3.4	14.9	31.4	25.9
Iron	20000	8220	29100	21400	17400	17800
Lead	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
Manganese	892	626	1570	2130	2460	980
Mercury	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Selenium	<4.4	<4.4	9.1	<4.4	<4.4	<4.4
Silver	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3
Sodium	3530000	1700000	1350000	2000000	2700000	23000
Zinc	12.3	52.1	<3.3	8	22.2	34.1

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Table 4-1
Kin-Buc Landfill Operable Unit 2
Groundwater Monitoring Results
Bedrock Wells

	WE-3R	WE-5R	WE-6R	WE-7R	WE-10R	WE-114D
General Chemistry (mg/l)						
pH	6.16	6.18	6.39	6.28	6.64	6.38
Color, Pt-Co	40	40	40	<10	<10.0	<10.0
Fecal Coliforms	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fecal Streptococcus	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Coliforms	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Turbidity	180.0	140.0	310.0	120.0	17.0	17.0
Ammonia, Nitrogen	0.96	0.93	10.4	0.1	0.88	<0.05
BOD	<3.0	<3.0	30.4	13.2	<3.0	6.1
COD	118	73.7	84.4	36.5	101.4	12.0
Chloride	23399	21917	18348	12421	5483	26.9
Chromium, Hexavalent	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoride	0.04	0.04	0.09	0.05	0.07	0.04
Hardness	2350	1154	1816	1228	2170	270.0
Nitrate, Nitrogen	0.04	0.12	0.44	0.09	0.12	<1.0
Phenols	0.004	0.006	0.021	0.02	0.026	<0.0035
Sulfate	232	389	191	169	575	189
Surfactants	0.71	0.55	0.57	0.3	0.26	0.16
Total Cyanide	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Dissolved Solid	10198	9658	7734	4230	10646	452
Total Organic Carbon	18	<1.0	<1.0	<1.0	4.4	<1
Total Organic Halides	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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Table 4-2

Kin-Buc Landfill
Operable Unit 2
Surface Water Monitoring Results

Parameter(s)	RR-01	RR-02	RR-03	RR-04
Volatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0
Chloromethane	<2.0	<2.0	<2.0	<2.0
Bromomethane	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<1.0	<1.0	<1.0	<1.0
Chloroethane	<1.0	<1.0	<1.0	<1.0
Methylene Chloride	<3.0	<3.0	<3.0	<3.0
1,1-Dichloroethene	<2.0	<2.0	<2.0	<2.0
1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0
Chloroform	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	<2.0	<2.0	<2.0	<2.0
Bromodichloromethane	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0
Trichloroethene	<2.0	<2.0	<2.0	<2.0
Dibromochloromethane	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloroethane	<1.0	<1.0	<1.0	<1.0
Benzene	<1.0	<1.0	2	1
trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0
Bromoform	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<3.0	<3.0	<3.0	<3.0
1,1,2,2-Tetrachloroethane	<2.0	<2.0	<2.0	<2.0
Toluene	<2.0	<2.0	<2.0	<2.0
Chlorobenzene	<2.0	<2.0	<2.0	<2.0
Ethylbenzene	<2.0	<2.0	<2.0	<2.0
Trichloromonofluoromethane	<2.0	<2.0	<2.0	<2.0
1,3-Dichlorobenzene	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene	<2.0	<2.0	<2.0	<2.0
1,2-Dichlorobenzene	<2.0	<2.0	<2.0	<2.0
2-Chloroethylvinyl Ether	<4.0	<4.0	<4.0	<4.0
Trans, 1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0
Semi-Volatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0
Phenol	<1.0	<1.0	<1.0	<1.0
bis(2-Chloroethyl) Ether	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0
2,2'- oxybis(1-Chloropropane)	<1.0	<1.0	<1.0	<1.0
N-Nitroso-di-n-propylamine	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	<1.0	<1.0	<1.0	<1.0
Nitrobenzene	<1.0	<1.0	<1.0	<1.0
Isophorone	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	<1.0	<1.0	<1.0	<1.0
2,4-Dimethylphenol	<2.0	<2.0	<2.0	<2.0
2,4-Dichlorophenol	<1.0	<1.0	<1.0	<1.0

Table 4-2

Kin-Buc Landfill
Operable Unit 2
Surface Water Monitoring Results

Parameter(s)	RR-01	RR-02	RR-03	RR-04
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0
Naphthalene	<1.0	<1.0	<1.0	<1.0
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0
bis-(2-Chloroethoxy)methane	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-Methylphenol	<1.0	<1.0	<1.0	<1.0
Hexachlorocyclopentadiene	<1.0	<1.0	<1.0	<1.0
2,4,6-Trichlorophenol	<1.0	<1.0	<1.0	<1.0
2-Chloronapthalene	<1.0	<1.0	<1.0	<1.0
Dimethylphthalate	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	<1.0	<1.0	<1.0	<1.0
2,6-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0
Acenaphthene	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrophenol	<1.0	<1.0	<1.0	<1.0
4-Nitrophenol	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0
Diethylphthalate	<1.0	<1.0	1	<1.0
4-Chlorophenyl-phenylether	<1.0	<1.0	<1.0	<1.0
Fluorene	<1.0	<1.0	<1.0	<1.0
4,6-Dinitro-2-methylphenol	<1.0	<1.0	<1.0	<1.0
N-Nitrosodiphenylamine	<1.0	<1.0	<1.0	<1.0
4-Bromophenyl-phenylether	<1.0	<1.0	<1.0	<1.0
Hexachlorobenzene	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	<1.0	<1.0	<1.0	<1.0
Phenanthrene	<1.0	<1.0	<1.0	<1.0
Anthracene	<1.0	<1.0	<1.0	<1.0
Di-n-butylphthalate	<1.0	<1.0	1	<1.0
Fluoranthene	<1.0	<1.0	<1.0	<1.0
Pyrene	<1.0	<1.0	<1.0	<1.0
Butylbenzylphthalate	<1.0	<1.0	<1.0	<1.0
3,3'-Dichlorobenzidine	<1.0	<1.0	<1.0	<1.0
Benzo(a)anthrance	<1.0	<1.0	<1.0	<1.0
Chrysene	<1.0	<1.0	<1.0	<1.0
bis(2-Ethylhexyl)phthalate	1	2	2	3
Di-n-octylphalate	<1.0	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	<1.0	<1.0	<1.0	<1.0
Indeno(1,2,3-cd)pyrene	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	<1.0
N-Nitrosodimethylamine	<1.0	<1.0	<1.0	<1.0
Benzidine	<1.0	<1.0	<1.0	<1.0
Pesticide/PCB (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0
alpha-BHC	<0.05	<0.05	<0.05	<0.05
beta-BHC	<0.05	<0.05	<0.05	<0.05
delta-BHC	<0.05	<0.05	<0.05	<0.05
gamma-BHC (Lindane)	<0.05	<0.05	<0.05	<0.05

Table 4-2

Kin-Buc Landfill
Operable Unit 2
Surface Water Monitoring Results

Parameter(s)	RR-01	RR-02	RR-03	RR-04
Heptachlor	<0.05	<0.05	<0.05	<0.05
Aldrin	<0.05	<0.05	<0.05	<0.05
Heptachlor Epoxide	<0.05	<0.05	<0.05	<0.05
Endosulfan 1	<0.05	<0.05	<0.05	<0.05
Dieldrin	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	<0.10	<0.10	<0.10	<0.10
Endrin	<0.10	<0.10	<0.10	<0.10
Endosulfan 2	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	<0.10	<0.10	<0.10	<0.10
Endosulfan Sulfate	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	<0.10	<0.10	<0.10	<0.10
Methoxychlor	<0.50	<0.50	<0.50	<0.50
Endrin Ketone	<0.10	<0.10	<0.10	<0.10
Endrin Aldehyde	<0.10	<0.10	<0.10	<0.10
alpha-Chlordane	<0.05	<0.05	<0.05	<0.05
gamma-Chlordane	<0.05	<0.05	<0.05	<0.05
Toxaphene	<1.0	<1.0	<1.0	<1.0
Aroclor-1016	<1.0	<1.0	<1.0	<1.0
Aroclor-1221	<1.0	<1.0	<1.0	<1.0
Aroclor-1232	<1.0	<1.0	<1.0	<1.0
Aroclor-1242	<1.0	<1.0	<1.0	<1.0
Aroclor-1248	<1.0	<1.0	<1.0	<1.0
Aroclor-1254	<1.0	<1.0	<1.0	<1.0
Aroclor-1260	<1.0	<1.0	<1.0	<1.0
Total Metals (ug/l)				
Arsenic	12.6	6.1	6.3	5.5
Barium	181	109	79.5	80.5
Cadmium	1.4	0.55	0.59	0.33
Copper	49.9	28.4	48	38.6
Iron	11900	5870	4200	7360
Lead	97.6	41.3	24.8	30.1
Manganese	328	172	152	206
Mercury	<0.2	<0.2	<0.2	<0.2
Selenium	<4.4	<4.4	<4.4	<4.4
Silver	<1.3	<1.3	<1.3	<1.3
Sodium	56200	42400	41000	32900
Zinc	282	129	108	118
General Chemistry (mg/l)				
pH	6.86	6.73	6.65	6.46
Color, Pt-Co	<10	<10	<10	<10
Fecal Coliforms	<1	<1	<1	<1
Fecal Streptococcus	<1	<1	<1	<1
Total Coliforms	<1	<1	<1	<1
Turbidity	18	24	<0.1	28
Ammonia, Nitrogen	<0.05	<0.05	0.26	0.52
BOD	<3	<3	<3	<3
COD	89.1	41.8	34.2	38.6

Table 4-2

Kin-Buc Landfill
Operable Unit 2
Surface Water Monitoring Results

Parameter(s)	RR-01	RR-02	RR-03	RR-04
Chloride	<1	<1	162	94.3
Chromium, Hexavalent	<0.01	<0.01	<0.01	<0.01
Fluoride	0.03	0.03	0.05	0.04
Hardness	46	46	48	56
Nitrate, Nitrogen	0.4	0.78	0.87	0.91
Phenols	<0.0035	<0.0035	<0.0035	<0.0035
Sulfate	17.5	19.1	25.8	37.1
Surfactants	0.07	0.08	0.05	<0.05
Total Cyanide	<0.01	<0.01	<0.01	<0.01
Total Dissolved Solid	182	180	186	186
Total Organic Carbon	2	2.3	2.3	3.1
Total Organic Halides	<0.5	<0.5	<0.5	<0.5

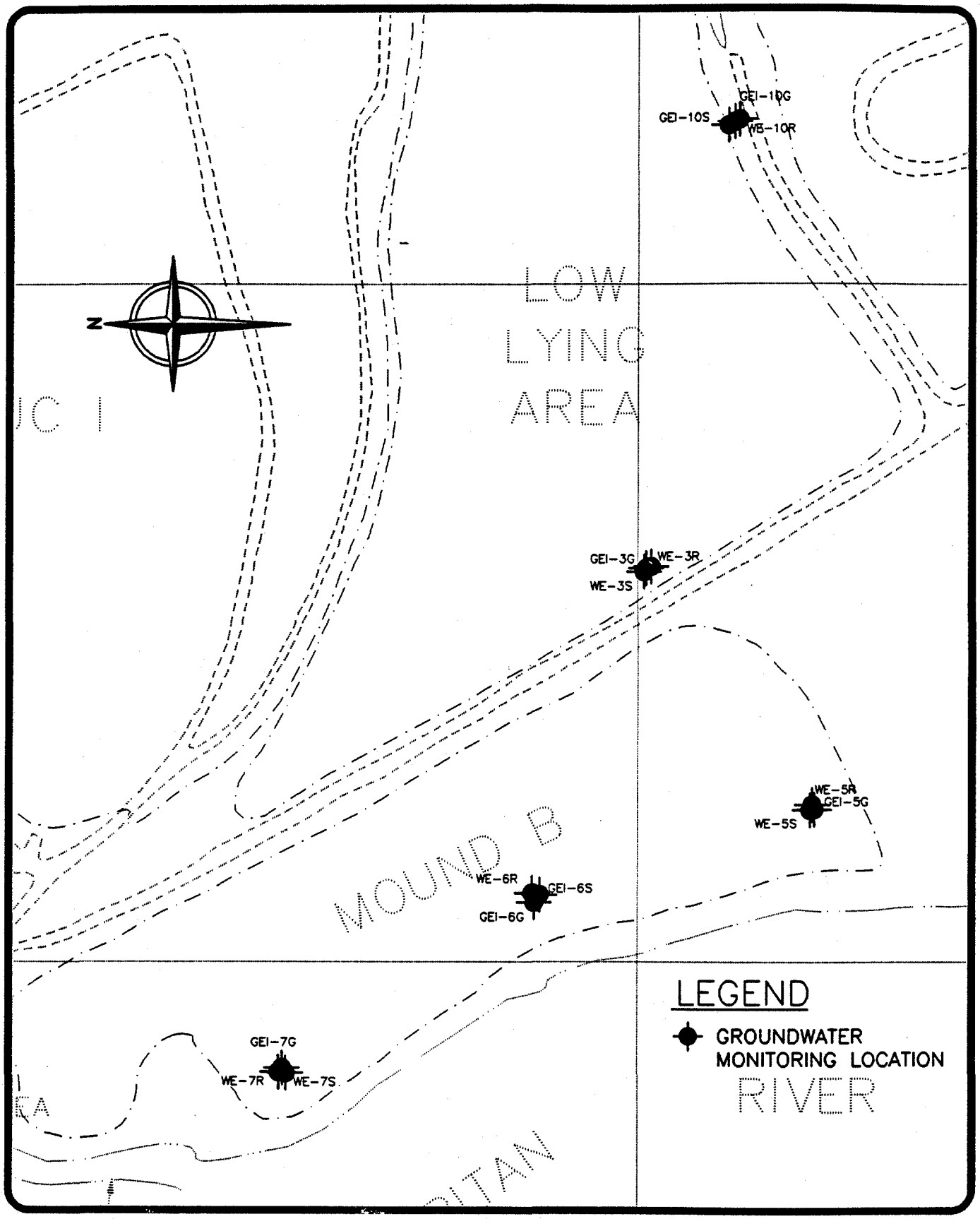
Table 5-1

Kin-Buc Landfill
Operable Unit 1
Gas Monitoring Well Network/Results

Well (Network) Location	Monitoring Result	
	% LEL	% GAS
GMW-01	0	0
GMW-02	0	0
GMW-03	0	0
GMW-04	0	0
GMW-05	0	0
GMW-06	0	0
Operational Flare Inlet	NA	55*

* Result recorded by landfill personnel week of March 11, 1996.

FIGURES



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Scale: 1 = 200.0000 Date: 5/22/96 Time: 11:42 AM Operator: STERWILL

EMCON

DATE
DWN DBT
APP RB
REV

KINBUC LANDFILL

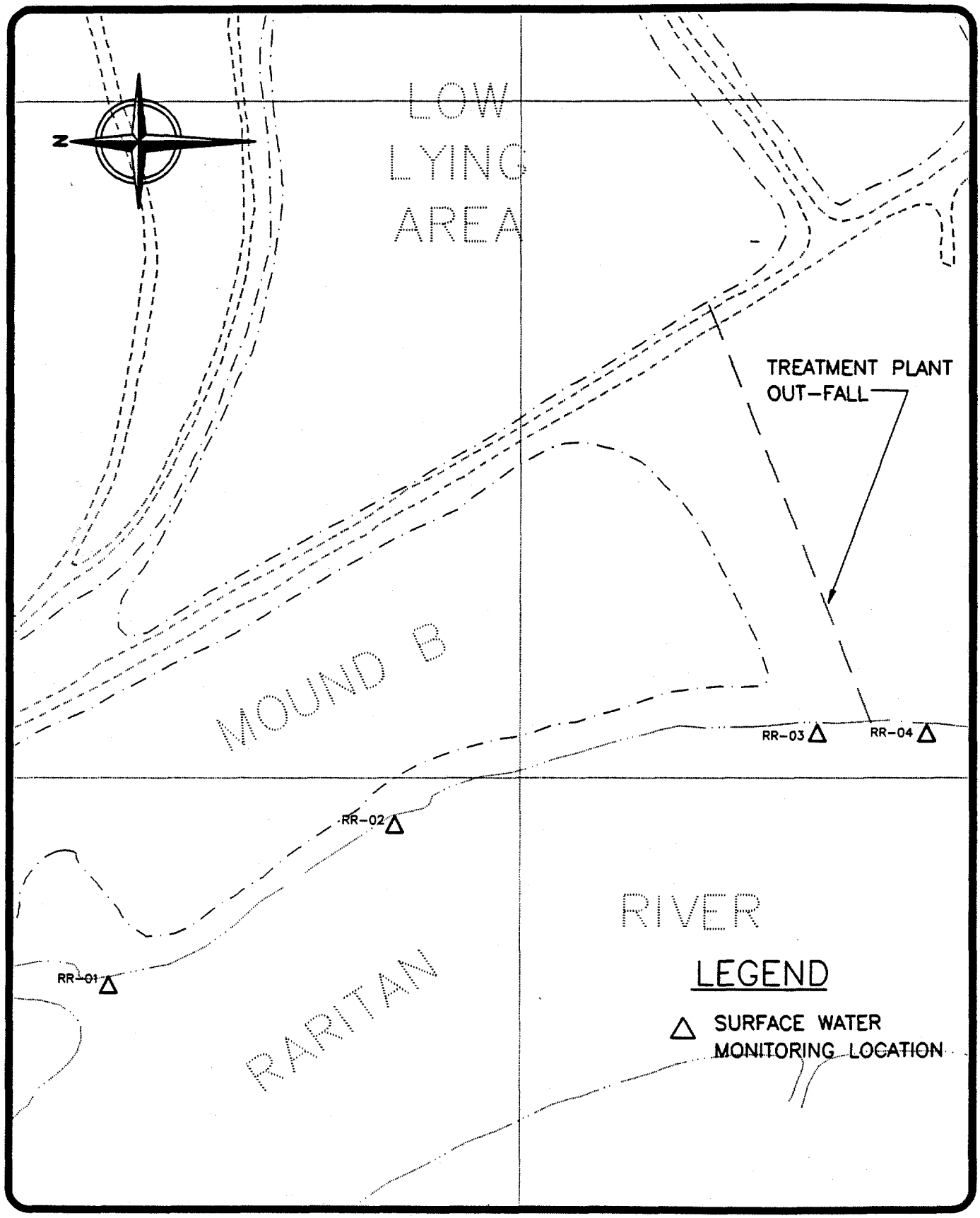
EDISON TOWNSHIP, NEW JERSEY

OU2 GROUNDWATER MONITORING LOCATIONS

FIGURE
1-1

PROJECT NO.
12568-001.000

500069



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emcon

DATE
DWN DBT
APP RB
REV

KINBUC LANDFILL

EDISON TOWNSHIP, NEW JERSEY

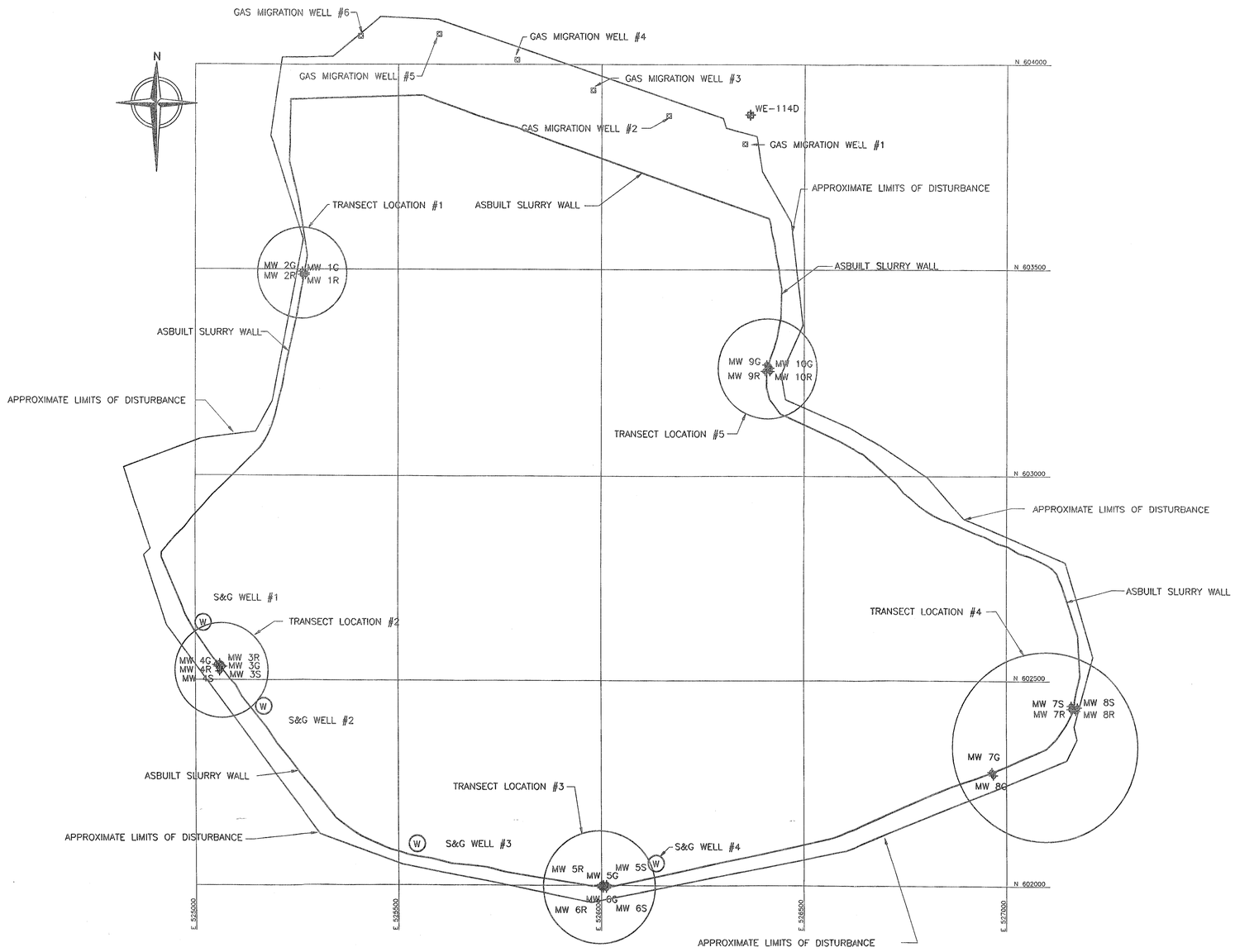
OU2 SURFACE WATER MONITORING LOCATIONS

FIGURE
1-2

PROJECT NO.
12568-001.000

500070

DRAWINGS



LEGEND

- NEW MONITORING WELLS
- NEW SAND & GRAVEL PUMPING WELLS
- NEW GAS MIGRATION WELLS
- OU2 UPGRADIENT MONITORING WELL (APPROXIMATE LOCATION)

SOURCE: BASEMAP DATA TAKEN FROM PLAN SHEET 10A OF MAP ENTITLED "KINBUC LANDFILL FINAL WELL LOCATION PLAN" PREPARED BY CONTI ENVIRONMENTAL INC. DATED JULY 17, 1995.

0 150 300
SCALE IN FEET

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

DATE OF ISSUE 5/96 DWN BY SDT DES BY RB CHK BY APP BY

EMCON

KIN-BUC LANDFILL OPERABLE UNIT 2
SEDIMENT EXCAVATION & WETLAND RESTORATION
EDISON TOWNSHIP, NEW JERSEY

OPERABLE UNIT 1 MONITORING NETWORK

DRAWING NO. 1
PROJECT NO. 12568-001.000

ene-mtown2/data: F:\DWG\12568001\MAKBSC01.dwg Xrefs: 24X36, MAKBWS01, MAKBBD02 Scale: 1 = 150.0000 Date: 8/7/96 Time: 3:29 PM Operator: FDEGEORG

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APPENDIX A

APPENDIX A

ANALYTICAL REPORT

(UNDER SEPARATE COVER)

APPENDIX B

APPENDIX B

FIELD DATA SHEETS

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-1G
sample date/time: 3/5 1515 3/6 835 3/7 850
(lab) sample number: NEI # 004
field personnel: R. Biersfine D. Griggs B. Koerner J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): moderate wind, clear, cool, 40's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 14.27' from [x] well casing from [ ] protective casing
bottom depth: 20.30' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 0.96
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 18
volume purged: 4.5 gal
well volumes: 4
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~16'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [ ] yes
sediment? [ ] no [ ] yes
color? [x] no [ ] yes
- [ ] clear
- [x] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.16
temp (C): 11.6
cond (umhos): 2500
ORP (mV): 17.9
turb (NTU):
PID (ppm): 0

comments / remarks:
- FB-01 #003 at 1500
- OW1 well
- TB-01 # 099

500077

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-1R
sample date/time: 3/5/96 1600
(lab) sample number: NEI # 007
field personnel: R. Bierstone, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): moderate wind, clear, cool, 40's

SAMPLE TYPE
- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA
casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 17.81' from [x] well casing from [ ] protective casing
bottom depth: 35.19' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 2.78 gal
well condition: OK

MONITORING WELL PURGE DATA
- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 34
volume purged: 8.5 gal
well volumes: 3
time purge complete:
well evacuated? [x] yes Last bail to 1/4 bailer [ ] no

SAMPLING DATA
- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~20'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [x] yes strong
sediment? [ ] no [x] yes green + tan
color? [ ] no [x] yes green
- [x] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 5.37
temp (C): 12.1
cond (umhos): 14,000
ORP (mV): 43.7
turb (NTU):
PID (ppm): 4.8

comments / remarks:
-FB-01 #003 at 1500
-OW1 well
-TB01 #099

500078

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-2G
sample date/time: 3/5 1425, 3/6 825, 3/7 840
(lab) sample number: NEI # 002
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): moderate wind, clear, cool, 40's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 13.30' from [x] well casing from [ ] protective casing
bottom depth: 20.74' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 1.19 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [ ] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 18
volume purged: 4.5 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~16'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes unknown
sediment? [ ] no [ ] yes
color? [x] no [ ] yes
- [ ] clear
- [x] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.08
temp (C): 11.3
cond (umhos): 2275
ORP (mV): 12.1
turb (NTU):
PID (ppm): 0

comments / remarks:
- FB-01 # 003 at 1500
- OU1 well
- TB-01 # 099

500079

EMCON

FIELD SAMPLING DATA SHEET

sample ID W-2R
sample date/time 3/5/96 1340
(lab) sample number NEI # 001
field personnel R. Bierstine D. Griggs B. Kornner J. Kreiger
project Kin Buc
project number 12568-001.000
observer
weather conditions (estimate wind, cloud, precip, humidity, temp) moderate wind, clear, cool, 40's

SAMPLE TYPE
[ ] composite [X] grab
[X] groundwater [ ] surface water [ ] soil [ ] sediment
[ ] leachate [ ] industrial [ ] storm sewer [ ] gas
[ ] other

MONITORING WELL DATA
casing diameter 2 inch [X] PVC [ ] steel [ ] other
static water level 21.82' from [X] well casing from [ ] protective casing
bottom depth 35.08' from [X] well casing from [ ] protective casing
static water level indicator type [ ] steel tape [X] electronic [ ] other
linear conversion 0.16 water volume in well 2.12 gal
well condition OK

MONITORING WELL PURGE DATA
[ ] submersible pump [ ] peristaltic pump [ ] suction pump [ ] PVC bailer
[ ] poly bailer [✓] teflon bailer [ ] other
dedicated purge equipment? [✓] yes [ ] no
pumping rate elapsed time
bail volume 1/4 gal number of bails 28
volume purged 7 gal well volumes 3
time purge complete well evacuated? [ ] yes [✓] no

SAMPLING DATA
[ ] pump [ ] PVC bailer [ ] poly bailer [X] teflon bailer
[ ] stainless bucket [ ] poly cup [ ] tedlar bag [ ] direct
[ ] hand corer [ ] hand auger [ ] stainless spoon [ ] split spoon
[ ] other
dedicated sampling equipment? [X] yes [ ] no
metals field filtered? [X] yes [ ] no
depth of sample ~25'
sample containers Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [X] yes refuse
sediment? [ ] no [X] yes red
color? [ ] no [X] yes green/brown
[ ] clear [X] turbid [ ] sheen [ ] immiscible product
[ ] other
pH (SU) 5.07 temp (C) 12.7 cond (umhos) 11500
ORP (mV) 66.7 turb (NTU) PID (ppm) 2.3
comments / remarks - FB-01 #003 at 1500
- OW1 well
- TB-01 #099

500080

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-36
sample date/time: 3/6/96 1030
(lab) sample number: NEI # 011
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, breezy, cool, 40's, rain

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [ ] PVC
- [ ] steel
- [ ] other

static water level: 8.98' from [x] well casing from [ ] protective casing
bottom depth: 19.00' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 1.61 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 15
volume purged: 5 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~11'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes — petrol/solvent
sediment? [ ] no [ ] yes — high cap filter
color? [x] no [ ] yes
- [ ] clear
- [x] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.97
temp (C): 8.8
cond (umhos): 5350
ORP (mV): -22.6
turb (NTU):
PID (ppm): 0

comments / remarks: - DUP #012 performed on 1 well

500081

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-35
sample date/time: 3/6/96 1000
(lab) sample number: NEI # 010
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, breezy, rain, 40's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 19.66' from [x] well casing from [ ] protective casing
bottom depth: 31.28 from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 1.86 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 18
volume purged: 6 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~22
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes petro
sediment? [ ] no [ ] yes high cap filter
color? [x] no [ ] yes
- [ ] clear
- [x] turbid
- [x] sheen
- [ ] immiscible product
- [x] other oil sheen

pH (SU): 6.47
temp (C): 12.4
cond (umhos): 7000
ORP (mV): 4.3
turb (NTU):
PID (ppm): 0

comments / remarks: old well

500082

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-3R
sample date/time: 3/6/96 1105
(lab) sample number: NEI #013
field personnel: R. Biersfine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, rain, breezy, cool, 40's

SAMPLE TYPE
- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 21.47' from [x] well casing from [ ] protective casing
bottom depth: 53.46' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 5.12 gal
well condition: OK

MONITORING WELL PURGE DATA
- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 32
volume purged: 15.5 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA
- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~24'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes: volcanic
sediment? [ ] no [x] yes: tan
color? [x] no [ ] yes:
- [x] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.64
temp (C): 14.3
cond (umhos): 4850
ORP (mV): 2.1
turb (NTU):
PID (ppm): 0

comments / remarks: OUI well

500083

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-46
sample date/time: 3/6/96 1205 1645
(lab) sample number: NEI # 015
field personnel: R. Bierstine D. Griggs B. Koerner J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, rain, breezy, cool, 40's

SAMPLE TYPE
- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [ ] PVC
- [ ] steel
- [ ] other

static water level: 9.07' from [x] well casing from [ ] protective casing
bottom depth: 17.37' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 1.33 gal
well condition: OK

MONITORING WELL PURGE DATA
- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 10
volume purged: 2 1/2 gal
well volumes: 2
time purge complete:
well evacuated? [x] yes [ ] no

SAMPLING DATA
- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~11'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [x] yes unknown
sediment? [ ] no [x] yes brown
color? [x] no [ ] yes
- [ ] clear
- [x] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 7.25
temp (C): 9.4
cond (umhos): 40-50
ORP (mV): -37.6
turb (NTU):
PID (ppm): 0

comments / remarks: OU1 well

500084

EMCON

FIELD SAMPLING DATA SHEET

sample ID W-45 | sample date/time 3/6/96 1130
(lab) sample number NEI # 014 | field personnel R. Biersfine D. Griggs B. Koerner J. Kreiger
project Kin Buc
project number 12568-001.000 | observer
weather conditions (estimate wind, cloud, precip, humidity, temp) Overcast, rain, breezy, wet, 40's

SAMPLE TYPE
[ ] composite [X] grab
[X] groundwater [ ] surface water [ ] soil [ ] sediment
[ ] leachate [ ] industrial [ ] storm sewer [ ] gas
[ ] other

MONITORING WELL DATA
casing diameter 2 in | [X] PVC [ ] steel [ ] other
static water level 18.84' from [X] well casing from [ ] protective casing
bottom depth 31.34 from [X] well casing from [ ] protective casing
static water level indicator type [ ] steel tape [X] electronic [ ] other
linear conversion 0.16 | water volume in well 2.00 gal
well condition OK

MONITORING WELL PURGE DATA
[ ] submersible pump [ ] peristaltic pump [ ] suction pump [ ] PVC bailer
[ ] poly bailer [✓] teflon bailer [ ] other
dedicated purge equipment? [✓] yes [ ] no
pumping rate | elapsed time
bail volume 1/4 gal | number of bails 24
volume purged 6 gal | well volumes 3
time purge complete | well evacuated? [ ] yes [✓] no

SAMPLING DATA
[ ] pump [ ] PVC bailer [ ] poly bailer [X] teflon bailer
[ ] stainless bucket [ ] poly cup [ ] tedlar bag [ ] direct
[ ] hand corer [ ] hand auger [ ] stainless spoon [ ] split spoon
[ ] other
dedicated sampling equipment? [X] yes [ ] no
metals field filtered? [X] yes [ ] no
depth of sample ~22
sample containers Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [X] yes unknown
sediment? [ ] no [X] yes brown
color? [X] no [ ] yes
[ ] clear [X] turbid [ ] sheen [ ] immiscible product
[ ] other
pH (SU) 6.66 | temp (C) 12.7 | cond (umhos) 5000
ORP (mV) -5.1 | turb (NTU) | PID (ppm) 12.8
comments / remarks
OK1 well

500085

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-4R
sample date/time: 3/6/96 1200
(lab) sample number: NEI # 016
field personnel: R. Biersfine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, rain, breezy, cool, 40's

SAMPLE TYPE
- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA
casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 18.67' from [x] well casing from [ ] protective casing
bottom depth: 54.87' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 5.79
well condition: OK

MONITORING WELL PURGE DATA
- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 70
volume purged: 17.5 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA
- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~21'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [x] yes unknown
sediment? [ ] no [x] yes tan
color? [x] no [ ] yes
- [x] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.38
temp (C): 12.9
cond (umhos): 6500
ORP (mV): 3.8
turb (NTU):
PID (ppm): 0

comments / remarks:
- OW1 well
- MS # 017
- MSD # 018

500086

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-561
sample date/time: 3/6/96 1425
(lab) sample number: NEI #020
field personnel: R. Biersfine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, rain, breezy, cool, 40's

SAMPLE TYPE
- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA
casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 12.12' from [x] well casing from [ ] protective casing
bottom depth: 24.22' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 1.94 gal
well condition: OK

MONITORING WELL PURGE DATA
- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4
number of bails: 24
volume purged: 6 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA
- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~15'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [x] yes petro
sediment? [ ] no [ ] yes high cap filter
color? [x] no [ ] yes
- [ ] clear
- [x] turbid
- [ ] sheen
- [ ] immiscible product
- [x] other oil sheen

pH (SU): 6.98
temp (C): 11.1
cond (umhos): 1975
ORP (mV): -24.2
turb (NTU):
PID (ppm): 0

comments / remarks: old well

500087

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-5S
sample date/time: 3/6/96 1445
(lab) sample number: NEI # 021
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, breezy, cool, rain, 40's

SAMPLE TYPE
- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA
casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 22.99' from [x] well casing from [ ] protective casing
bottom depth: 29.97' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 1.12 gal
well condition: OK

MONITORING WELL PURGE DATA
- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4
number of bails: 36
volume purged: 9 gal
well volumes: 3
time purge complete:
well evacuated? [x] yes [ ] no

SAMPLING DATA
- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~26'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [x] yes: unknown
sediment? [ ] no [x] yes: tan
color? [x] no [ ] yes:
- [x] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.93
temp (C): 11.3
cond (umhos): 11000
ORP (mV): -19.5
turb (NTU):
PID (ppm): 0

comments / remarks
- OW1 well
- permit tag labeled W-5R

500088

EMCON

FIELD SAMPLING DATA SHEET

sample ID W-5R
sample date/time 3/6/96 1420
(lab) sample number NEI # 019
field personnel R. Bierstine D. Griggs B. Kornner J. Kreiger
project Kin Buc
project number 12568-001.000
observer
weather conditions (estimate wind, cloud, precip, humidity, temp) overcast, cool, breezy, rain, 40s

SAMPLE TYPE
[ ] composite [X] grab
[X] groundwater [ ] surface water [ ] soil [ ] sediment
[ ] leachate [ ] industrial [ ] storm sewer [ ] gas
[ ] other

MONITORING WELL DATA
casing diameter 2 inch [X] PVC [ ] steel [ ] other
static water level 22.74' from [X] well casing from [ ] protective casing
bottom depth 41.42' from [X] well casing from [ ] protective casing
static water level indicator type [ ] steel tape [X] electronic [ ] other
linear conversion 0.16 water volume in well 2.99 gal
well condition OK

MONITORING WELL PURGE DATA
[ ] submersible pump [ ] peristaltic pump [ ] suction pump [ ] PVC bailer
[ ] poly bailer [X] teflon bailer [ ] other
dedicated purge equipment? [X] yes [ ] no
pumping rate elapsed time
bail volume 1/4 gal number of bails 8
volume purged 2 gal well volumes 2
time purge complete well evacuated? [X] yes [ ] no

SAMPLING DATA
[ ] pump [ ] PVC bailer [ ] poly bailer [X] teflon bailer
[ ] stainless bucket [ ] poly cup [ ] tedlar bag [ ] direct
[ ] hand corer [ ] hand auger [ ] stainless spoon [ ] split spoon
[ ] other
dedicated sampling equipment? [X] yes [ ] no
metals field filtered? [X] yes [ ] no
depth of sample ~25'
sample containers Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [X] yes unknown
sediment? [ ] no [X] yes dk. brown
color? [X] no [ ] yes
[ ] clear [X] turbid slight [ ] sheen [ ] immiscible product
[ ] other
pH (SU) 7.57 temp (C) 12.1 cond (umhos) 9500
ORP (mV) -56.2 turb (NTU) PID (ppm) 0
comments / remarks
- old well
- permit tag lost W-5S

500089

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-6G
sample date/time: 3/6/96 1545
(lab) sample number: NEI # 023
field personnel: R. Biersfine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, cool, breezy, rain

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 11.41' from [x] well casing from [ ] protective casing
bottom depth: 23.78' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 1.96 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 24
volume purged: 6 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~14'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes petro
sediment? [ ] no [ ] yes high cap filter
color? [x] no [ ] yes
- [ ] clear
- [x] turbid
- [x] sheen
- [ ] immiscible product
- [x] other oil sheen

pH (SU): 6.67
temp (C): 10.8
cond (umhos): 1125
ORP (mV): -6.4
turb (NTU):
PID (ppm): 0

comments / remarks
- OH1 well

500090

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-65
sample date/time: 3/6/96 1630
(lab) sample number: NEI # 089
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, cool, rain, breezy, 40's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 22.55'
- from [x] well casing
- from [ ] protective casing

bottom depth: 38.27'
- from [x] well casing
- from [ ] protective casing

static water level indicator type:
- [ ] steel tape
- [x] electronic
- [ ] other

linear conversion: 0.16
water volume in well: 2.52 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment?
- [x] yes
- [ ] no

pumping rate:
elapsed time:
bail volume: 1/4
number of bails: 32
volume purged: 8 gal
well volumes: 3
time purge complete:
well evacuated?
- [ ] yes
- [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment?
- [x] yes
- [ ] no

metals field filtered?
- [x] yes
- [ ] no

depth of sample: ~25'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor?
- [ ] no
- [x] yes — unknown

sediment?
- [ ] no
- [ ] yes — high cap filter

color?
- [ ] no
- [x] yes — black

- [x] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.76
temp (C): 12.9
cond (umhos): 9000
ORP (mV): -9.8
turb (NTU):
PID (ppm):

comments / remarks: at garage
FB-02 at 1650 # 026 OKI well
TB-02 # 078

500091

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-6a
sample date/time: 3/6/96 1530
(lab) sample number: NEI # 022
field personnel: R. Biersfine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, cool, breezy, rain, 40's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 22.02' from [x] well casing from [ ] protective casing
bottom depth: 50.21' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 4.51 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4
number of bails: 21
volume purged: 5 1/4 gal
well volumes: 1 1/2
time purge complete:
well evacuated? [x] yes [ ] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~24'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes: weak urine
sediment? [ ] no [x] yes: brown
color? [x] no [ ] yes
[x] clear → [x] turbid [ ] sheen [ ] immiscible product
[ ] other

pH (SU): 6.75
temp (C): 11.9
cond (umhos): 9,750
ORP (mV): 70.7
turb (NTU):
PID (ppm): 1.6

comments / remarks: OW1 well

500092

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-7G
sample date/time: 3/7/96 1200
(lab) sample number: NEI # 032
field personnel: R. Biersfine, D. Griggs, B. Kornner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, cold, sleet, 30's, windy

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 5.87' from [x] well casing from [ ] protective casing
bottom depth: 19.91' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: ~.25 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 28
volume purged: 7 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~9'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes petro
sediment? [ ] no [ ] yes high cap filter
color? [ ] no [x] yes black
- [ ] clear
- [x] turbid
- [x] sheen
- [ ] immiscible product
- [x] other oil sheen

pH (SU): 7.56
temp (C): 5.6
cond (umhos): 4200
ORP (mV): -63.1
turb (NTU):
PID (ppm):

comments / remarks: OUT well

500093

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-75
sample date/time: 3/7/96 1100
(lab) sample number: NEI # 030
field personnel: R. Biersfine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, wld, sleet 30's, windy

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 9.51'
- from [x] well casing
- from [ ] protective casing

bottom depth: 28.96'
- from [x] well casing
- from [ ] protective casing

static water level indicator type
- [ ] steel tape
- [x] electronic
- [ ] other

linear conversion: 0.16
water volume in well: 3.11 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment?
- [x] yes
- [ ] no

pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 38
volume purged: 9.5 gal
well volumes: 3
time purge complete:
well evacuated?
- [ ] yes
- [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment?
- [x] yes
- [ ] no

metals field filtered?
- [x] yes
- [ ] no

depth of sample:
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor?
- [ ] no
- [x] yes — unknown

sediment?
- [ ] no
- [ ] yes — Light cap filter

color?
- [x] no
- [ ] yes

- [ ] clear
- [x] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 7.23
temp (C): 7.5
cond (umhos): 9250
ORP (mV): -34.0
turb (NTU):
PID (ppm):

comments / remarks
- OW1 well
- DUP # 031

500094

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-7R
sample date/time: 3/6/96 1545
(lab) sample number: NEI # 025
field personnel: R. Biersfine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, cool, rain, breezy, 40's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [ ] PVC
- [ ] steel
- [ ] other

static water level: 9.20' from [x] well casing from [ ] protective casing
bottom depth: 45.09 from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 5.73 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4
number of bails: 52
volume purged: 13 gal
well volumes: 2 1/4
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~12'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [ ] yes
sediment? [ ] no [ ] yes
color? [ ] no [ ] yes
- [ ] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.71
temp (C): 7.6
cond (umhos): 11,000
ORP (mV): -9.1
turb (NTU):
PID (ppm): 0

comments / remarks: OK! well

500095

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-8G
sample date/time: 3/7/96 1230
(lab) sample number: NEI #
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: KinBuc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, cold, sleet, windy, 20's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static ~~water~~ oil level: 10.75' from [x] well casing from [ ] protective casing
bottom depth: 20.00' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 1.48 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [x] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate: 2 GPM
elapsed time: 3 min
bail volume:
number of bails:
volume purged: 6 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [x] pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [x] other: peristaltic

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~15'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes petro
sediment? [ ] no [ ] yes high cap filter
color? [x] no [ ] yes
- [ ] clear
- [x] turbid
- [x] sheen
- [x] immiscible product
- [x] other: oil sheen

pH (SU): 7.14
temp (C): 9.7
cond (umhos): 3450
ORP (mV): -32.1
turb (NTU):
PID (ppm):

comments / remarks: OUI well

500096

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-8S
sample date/time: 3/6/96 1515
(lab) sample number: NEI # 024
field personnel: R. Bierstine, D. Griggs, B. Kormer, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, cool, breezy, rain, 40's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 8.63'
from [x] well casing from [ ] protective casing

bottom depth: 28.53'
from [x] well casing from [ ] protective casing

static water level indicator type: [ ] steel tape [x] electronic [ ] other

linear conversion: 0.16
water volume in well: 3.18 gal

well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no

pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 40
volume purged: 10 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no

metals field filtered? [x] yes [ ] no

depth of sample: ~12
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes slight
sediment? [ ] no [ ] yes
color? [ ] no [ ] yes
- [ ] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU):
temp (C): 7.2
cond (umhos): 16000
ORP (mV): -15.0
turb (NTU):
PID (ppm): 0

comments / remarks: OU1 well sampled by purge crew

500097

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-8R
sample date/time: 3/7/96 1030
(lab) sample number: NEI # 027
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, cold, sleet, 30's, windy

SAMPLE TYPE
- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA
casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 8.24' from [x] well casing from [ ] protective casing
bottom depth: 42.38' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 5.46 gal
well condition: OK

MONITORING WELL PURGE DATA
- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 66
volume purged: 16.5 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA
- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~11
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [x] yes: work house
sediment? [ ] no [x] yes: tan
color? [x] no [ ] yes:
- [ ] clear
- [x] turbid (slight)
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.76
temp (C): 7.4
cond (umhos): 11000
ORP (mV): -10.6
turb (NTU):
PID (ppm): 1

comments / remarks
- OK 1 well
- MS # 028 MSD # 029

500098

EMCON

FIELD SAMPLING DATA SHEET

3/5 1600 3/6 950 3/7 915

sample ID W-96 | sample date/time and 1330 3/8 850
(lab) sample number NEI # 005 | field personnel R. Bierstine D. Griggs B. Koerner J. Kreiger
project Kin Buc
project number 12568-001.000 | observer
weather conditions (estimate wind, cloud, precip, humidity, temp) moderate wind, clear, cool, 40's

SAMPLE TYPE
[ ] composite [X] grab
[X] groundwater [ ] surface water [ ] soil [ ] sediment
[ ] leachate [ ] industrial [ ] storm sewer [ ] gas
[ ] other

MONITORING WELL DATA
casing diameter 2 inch [X] PVC [ ] steel [ ] other
static water level 18.98' from [X] well casing from [ ] protective casing
bottom depth 21.64' from [X] well casing from [ ] protective casing
static water level indicator type [ ] steel tape [X] electronic [ ] other
linear conversion 0.16 water volume in well 0.43 gal
well condition OK

MONITORING WELL PURGE DATA
[ ] submersible pump [✓] peristaltic pump [ ] suction pump [ ] PVC bailer
[ ] poly bailer [✓] teflon bailer [ ] other
dedicated purge equipment? [✓] yes BENT PVC peristaltic pump [ ] no
pumping rate elapsed time
bail volume 1/4 gal then pumped number of bails
volume purged 2.5 gal well volumes 1 1/4
time purge complete well evacuated? [✓] yes [ ] no

SAMPLING DATA
[X] pump [ ] PVC bailer [ ] poly bailer [ ] teflon bailer
[ ] stainless bucket [ ] poly cup [ ] tedlar bag [ ] direct
[ ] hand corer [ ] hand auger [ ] stainless spoon [ ] split spoon
[X] other peristaltic
dedicated sampling equipment? [X] yes [ ] no
metals field filtered? [X] yes [ ] no
depth of sample ~21'
sample containers Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [X] yes slight unknown
sediment? [ ] no [ ] yes
color? [X] no [ ] yes
[ ] clear [X] slight turbid [ ] sheen [ ] immiscible product
[ ] other
pH (SU) 5.28 temp (C) 10.0 cond (umhos) 1100
ORP (mV) 87.8 turb (NTU) PID (ppm) 0
comments / remarks - old well
- well casing labeled as W-95

500099

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-9R
sample date/time: 3/5/96 1545
(lab) sample number: NEI #006
field personnel: R. Biersfine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): moderate wind, clear, cool, 40°C

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 20.41' from [x] well casing from [ ] protective casing
bottom depth: 38.85' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 2.95 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: > 36
volume purged: 9 gal
well volumes: 3
time purge complete:
well evacuated? [x] yes after 7 gal [illegible] 1/4 bail [ ] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~23'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [x] no [ ] yes
sediment? [ ] no [x] yes lt. grey
color? [x] no [ ] yes
[x] clear [ ] turbid [ ] sheen [ ] immiscible product
[ ] other

pH (SU): 5.89
temp (C): 11.9
cond (umhos): 600
ORP (mV): 22.3
turb (NTU):
PID (ppm): 0

comments / remarks: OU1 well

500100

EMCON

FIELD SAMPLING DATA SHEET 3/6 1015 3/7 1145 and

sample ID W-10G
sample date/time 1340 3/8 910 + 1530
(lab) sample number NEI # 009
field personnel R. Biersfine D. Griggs B. Koerner J. Kreiger
project Kin Buc
project number 12568-001.000
observer
weather conditions (estimate wind, cloud, precip, humidity, temp) overcast, breezy, rain, 40's

SAMPLE TYPE
[ ] composite [X] grab
[X] groundwater [ ] surface water [ ] soil [ ] sediment
[ ] leachate [ ] industrial [ ] storm sewer [ ] gas
[ ] other

MONITORING WELL DATA
casing diameter 2 inch [X] PVC [ ] steel [ ] other
static water level 18.69' from [X] well casing from [ ] protective casing
bottom depth 22.28' from [X] well casing from [ ] protective casing
static water level indicator type [ ] steel tape [X] electronic [ ] other
linear conversion 0.16 water volume in well 0.57 gal
well condition well screen may be compromised

MONITORING WELL PURGE DATA
[ ] submersible pump [ ] peristaltic pump [ ] suction pump [ ] PVC bailer
[ ] poly bailer [✓] teflon bailer [ ] other
dedicated purge equipment? [✓] yes [ ] no
pumping rate elapsed time
bail volume 1/4 number of bails 8
volume purged 2 Gal well volumes 1
time purge complete well evacuated? [✓] yes Sandy [ ] no

SAMPLING DATA
[X] pump [ ] PVC bailer [ ] poly bailer [ ] teflon bailer
[ ] stainless bucket [ ] poly cup [ ] tedlar bag [ ] direct
[ ] hand corer [ ] hand auger [ ] stainless spoon [ ] split spoon
[X] other peristaltic
dedicated sampling equipment? [X] yes [ ] no
metals field filtered? [X] yes [ ] no
depth of sample ~22'
sample containers Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [X] no [ ] yes
sediment? [ ] no [X] yes
color? [X] no [ ] yes
[X] clear [ ] turbid [ ] sheen [ ] immiscible product
[ ] other
pH (SU) temp (C) cond (umhos)
ORP (mV) turb (NTU) PID (ppm) 0
comments / remarks
- not enough water for field parameters
- no sample collected for coliforms
- only 1 well / labeled as W-10S

500101

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W- 10R
sample date/time: 3/5/96 1645
(lab) sample number: NEI # 008
field personnel: R. Biersfine D. Griggs B. Koerner J. Kreiger
project: KinBuc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): moderate wind, clear, cool, 40's

SAMPLE TYPE
- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 19.05' from [x] well casing from [ ] protective casing
bottom depth: 33.68' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 2.34 gal
well condition: OK

MONITORING WELL PURGE DATA
- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 30
volume purged: 7.5 gal
well volumes: 3
time purge complete:
well evacuated? [x] yes Slow recovery [ ] no

SAMPLING DATA
- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~21'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes unknown
sediment? [ ] no [x] yes grey
color? [x] no [ ] yes
- [ ] clear
- [x] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.09
temp (C): 11.5
cond (umhos): 220
ORP (mV): 10.2
turb (NTU):
PID (ppm): 0

comments / remarks: OU1 well

500102

13 BREAK

EMCON

FIELD SAMPLING DATA SHEET

sample ID GEI-3G
sample date/time 3/8/96 950
(lab) sample number NEI # 093
field personnel R. Bierstine D. Griggs B. Koerner J. Kreiger
project KinBuc
project number 12568-001.000
observer
weather conditions (estimate wind, cloud, precip, humidity, temp) snow, cold, windy, 20's

SAMPLE TYPE
[ ] composite [X] grab
[X] groundwater [ ] surface water [ ] soil [ ] sediment
[ ] leachate [ ] industrial [ ] storm sewer [ ] gas
[ ] other

MONITORING WELL DATA
casing diameter 4 inch [X] PVC [ ] steel [ ] other
static water level 4.46 from [X] well casing from [ ] protective casing
bottom depth 13.65 from [X] well casing from [ ] protective casing
static water level indicator type [ ] steel tape [X] electronic [ ] other
linear conversion 0.65 water volume in well 5.97 gal
well condition inner casing leaved beyond TOC

MONITORING WELL PURGE DATA
[ ] submersible pump [ ] peristaltic pump [ ] suction pump [ ] PVC bailer
[ ] poly bailer [✓] teflon bailer [ ] other
dedicated purge equipment? [✓] yes [ ] no
pumping rate elapsed time
bail volume 1/4 gal number of bails 72
volume purged 18 gal well volumes 3
time purge complete well evacuated? [ ] yes [✓] no

SAMPLING DATA
[ ] pump [ ] PVC bailer [ ] poly bailer [X] teflon bailer
[ ] stainless bucket [ ] poly cup [ ] tedlar bag [ ] direct
[ ] hand corer [ ] hand auger [ ] stainless spoon [ ] split spoon
[ ] other
dedicated sampling equipment? [X] yes [ ] no
metals field filtered? [X] yes [ ] no
depth of sample ~5
sample containers Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [X] yes petro
sediment? [ ] no [X] yes black/green
color? [ ] no [X] yes black
[ ] clear [X] turbid [ ] sheen [ ] immiscible product
[X] other black suspension
pH (SU) 6.45 temp (C) 5.4 cond (umhos) 900
ORP (mV) 24.9 turb (NTU) PID (ppm)
comments / remarks
our well

500104

EMCON

FIELD SAMPLING DATA SHEET

sample ID: WE-35
sample date/time: 3/8/96 1030
(lab) sample number: NEI # 045
field personnel: R. Biersfine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): snow, cold, windy, 20's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 13.80' from [x] well casing / from [ ] protective casing
bottom depth: 25.38' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 1.85 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4
number of bails: 24
volume purged: 6
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~16
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes — strong
sediment? [ ] no [x] yes — tan
color? [x] no [ ] yes
- [ ] clear
- [x] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.52
temp (C): 9.0
cond (umhos): 9000
ORP (mV): 21.1
turb (NTU):
PID (ppm):

comments / remarks: Our well

500105

EMCON

FIELD SAMPLING DATA SHEET

sample ID: WE-3R
sample date/time: 3/8/96 1015
(lab) sample number: NEI # 044
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): snow, cold, windy, 20's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [ ] PVC
- [x] steel
- [ ] other

static water level: 13.67 from [x] well casing from [ ] protective casing
bottom depth: 46.27 from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 5.22 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4
number of bails: 64
volume purged: 16 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: -16-
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes unknown
sediment? [ ] no [x] yes tan
color? [x] no [ ] yes
- [x] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.57
temp (C): 8.7
cond (umhos): 11,000
ORP (mV): 20.0
turb (NTU):
PID (ppm):

comments / remarks: -Ok2 well

500106

EMCON

FIELD SAMPLING DATA SHEET

sample ID: GEI-5G
sample date/time: 3/8/96 1330
(lab) sample number: NEI # 050
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): cold, snow, windy, 20's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 4 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 8.83 from [x] well casing from [ ] protective casing
bottom depth: 14.43 from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.65
water volume in well: 3.64 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [x] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other

dedicated purge equipment? [ ] yes [x] no
pumping rate: 2 GPM
elapsed time: 7 min
bail volume:
number of bails:
volume purged: 14
well volumes: 3 3/4
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~11
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes petro
sediment? [ ] no [x] yes tan
color? [x] no [ ] yes slight
- [ ] clear
- [x] turbid
- [ ] sheen
- [ ] immiscible product
- [x] other foamy/soapy

pH (SU): 6.73
temp (C): 8.1
cond (umhos): 3075
ORP (mV): 12.2
turb (NTU):
PID (ppm):

comments / remarks: OK2 well

500107

EMCON

FIELD SAMPLING DATA SHEET

sample ID: WE-55
sample date/time: 3/8/96 1510
(lab) sample number: NEI # 054
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): cold, snow, windy, 20's

SAMPLE TYPE
- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 14.30' from [x] well casing from [ ] protective casing
bottom depth: 25.67' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 1.82 gal
well condition: OK

MONITORING WELL PURGE DATA
- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 24
volume purged: 6 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA
- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~16'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [x] yes strong
sediment? [ ] no [x] yes tan
color? [x] no [ ] yes
- [ ] clear
- [x] turbid slight
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.67
temp (C): 11.3
cond (umhos): 8000
ORP (mV): 12.9
turb (NTU):
PID (ppm):
comments / remarks:
- FB-64 # 056 @ 1530 / TB-64 # 096
- OW2 well
- DUP performed # 055

500108

EMCON

FIELD SAMPLING DATA SHEET

sample ID: WE-5R
sample date/time: 3/8/96 1430
(lab) sample number: NEI # 051
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): cold, snow, 20's, windy

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [ ] PVC
- [x] steel
- [ ] other

static water level: 13.95'
- from [x] well casing
- from [ ] protective casing

bottom depth: 49.11'
- from [x] well casing
- from [ ] protective casing

static water level indicator type
- [ ] steel tape
- [x] electronic
- [ ] other

linear conversion: 0.16
water volume in well: 5.63 gal
well condition: OK

MONITORING WELL PURGE DATA

- [x] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other

dedicated purge equipment?
- [ ] yes
- [ ] no

pumping rate: 3 GPM
elapsed time: 8 min
bail volume:
number of bails:
volume purged: 24 gal
well volumes: 4
time purge complete:
well evacuated?
- [ ] yes
- [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment?
- [x] yes
- [ ] no

metals field filtered?
- [x] yes
- [ ] no

depth of sample: ~16
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor?
- [x] no
- [ ] yes

sediment?
- [ ] no
- [x] yes: tan

color?
- [x] no
- [ ] yes

- [x] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.61
temp (C): 11.0
cond (umhos): 8000
ORP (mV): 15.8
turb (NTU):
PID (ppm):

comments / remarks: -002 well
-MS # 052 / MSD # 053

500109

EMCON

FIELD SAMPLING DATA SHEET

sample ID GEI-6G
sample date/time 3/8/96 1230
(lab) sample number NEI # 049
field personnel R. Biersfine D. Griggs B. Koerner J. Kreiger
project KinBuc
project number 12568-001.000
observer
weather conditions (estimate wind, cloud, precip, humidity, temp) cold, snow, windy, 20's

SAMPLE TYPE
[ ] composite [X] grab
[X] groundwater [ ] surface water [ ] soil [ ] sediment
[ ] leachate [ ] industrial [ ] storm sewer [ ] gas
[ ] other

MONITORING WELL DATA
casing diameter 4 inch [X] PVC [ ] steel [ ] other
static water level 11.23 from [X] well casing from [ ] protective casing
bottom depth 14.60 from [X] well casing from [ ] protective casing
static water level indicator type [ ] steel tape [X] electronic [ ] other
linear conversion 0.65 water volume in well 2.19 gal
well condition ok

MONITORING WELL PURGE DATA
[ ] submersible pump [ ] peristaltic pump [X] suction pump [ ] PVC bailer
[ ] poly bailer [ ] teflon bailer [ ] other
dedicated purge equipment? [ ] yes [X] no
pumping rate 2 gpm elapsed time 3 hr
bail volume number of bails
volume purged 7 gal well volumes 3
time purge complete well evacuated? [ ] yes [X] no

SAMPLING DATA
[ ] pump [ ] PVC bailer [ ] poly bailer [X] teflon bailer
[ ] stainless bucket [ ] poly cup [ ] tedlar bag [ ] direct
[ ] hand corer [ ] hand auger [ ] stainless spoon [ ] split spoon
[ ] other
dedicated sampling equipment? [X] yes [ ] no
metals field filtered? [X] yes [ ] no
depth of sample ~13'
sample containers Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [X] yes unknown
sediment? [ ] no [X] yes brown / black
color? [X] no [ ] yes
[ ] clear [X] turbid [ ] sheen [ ] immiscible product
[X] other soapy / foamy
pH (SU) 7.04 temp (C) 11.1 cond (umhos) 7000
ORP (mV) -8.1 turb (NTU) PID (ppm)
comments / remarks
old well

500110

EMCON

FIELD SAMPLING DATA SHEET

sample ID: WE-6R
sample date/time: 3/8/96 1215
(lab) sample number: NEI #C48
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): cold, snow, windy, 20's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [ ] PVC
- [x] steel
- [ ] other

static water level: 18.74 from [x] well casing from [ ] protective casing
bottom depth: 46.53 from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 4.45 gal
well condition: OK

MONITORING WELL PURGE DATA

- [x] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other

dedicated purge equipment? [ ] yes [ ] no
pumping rate:
elapsed time: 7 min
bail volume:
number of bails:
volume purged: 13.5
well volumes: 3
time purge complete:
well evacuated? [x] yes [ ] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~1
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes sharp
sediment? [ ] no [x] yes grey
color? [x] no [ ] yes
- [ ] clear
- [x] turbid slight
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.80
temp (C): 11.9
cond (umhos): 9500
ORP (mV): 5.6
turb (NTU):
PID (ppm):

comments / remarks: OU2 well

500111

EMCON

FIELD SAMPLING DATA SHEET

sample ID: WE-7S
sample date/time: 3/8/96 1100
(lab) sample number: NEI # 046
field personnel: R. Bierstine, D. Griggs, B. Korner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): snow, cold, windy, 20's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 15.13 from [x] well casing from [ ] protective casing
bottom depth: 29.82 from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 2.35 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [x] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other

dedicated purge equipment? [ ] yes [x] no
pumping rate: 2
elapsed time: 4 MIN
bail volume:
number of bails:
volume purged: 7.5
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~17
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes: slight
sediment? [ ] no [x] yes: brown
color? [x] no [ ] yes:
- [ ] clear
- [x] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.76
temp (C): 12.7
cond (umhos): 4750
ORP (mV): 7.9
turb (NTU):
PID (ppm):

comments / remarks: OU2 well

500112

EMCON

FIELD SAMPLING DATA SHEET

sample ID: WE-17R
sample date/time: 3/8/96 1145
(lab) sample number: NEI # 097
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): cold, snow, windy, 20's

SAMPLE TYPE
- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [ ] PVC
- [x] steel
- [ ] other

static water level: 14.82 from [x] well casing from [ ] protective casing
bottom depth: 72.65 from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 9.25 gal
well condition: OK

MONITORING WELL PURGE DATA
- [x] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other

dedicated purge equipment? [ ] yes [ ] no
pumping rate: 3 gpm
elapsed time: 10 min
bail volume:
number of bails:
volume purged: 28 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [ ] no

SAMPLING DATA
- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~20
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes: brackish
sediment? [ ] no [x] yes: grey
color? [x] no [ ] yes:
- [x] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.71
temp (C): 12.0
cond (umhos): 6250
ORP (mV): 11.3
turb (NTU):
PID (ppm):

comments / remarks: - Our well

500113

EMCON

FIELD SAMPLING DATA SHEET

sample ID: GEI-10G
sample date/time: 3/7/96 1615
(lab) sample number: NEI #
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): Overcast, sleet, windy, cold, 30's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 4 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 0.98' from [x] well casing from [ ] protective casing
bottom depth: 13.78' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.65
water volume in well: 8.32 gal
well condition: Protective casing flooded - needs weep hole

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [x] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other

dedicated purge equipment? [ ] yes [x] no
pumping rate:
elapsed time:
bail volume:
number of bails:
volume purged: 27 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~2'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes petro
sediment? [ ] no [x] yes tan
color? [x] no [ ] yes
- [ ] clear
- [x] turbid slight
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 7.58
temp (C): 6.0
cond (umhos): 1200
ORP (mV): -47.9
turb (NTU):
PID (ppm): NA

comments / remarks: OW2 well

500114

EMCON

FIELD SAMPLING DATA SHEET

sample ID: WE-105
sample date/time: 3/7/96 1630
(lab) sample number: NEI # 035
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, cold, windy, sleet, 30's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [x] PVC
- [ ] steel
- [ ] other

static water level: 12.75' from [x] well casing from [ ] protective casing
bottom depth: 28.98' from [x] well casing from [ ] protective casing
static water level indicator type: [ ] steel tape [x] electronic [ ] other
linear conversion: 0.16
water volume in well: 2.60 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment? [x] yes [ ] no
pumping rate:
elapsed time:
bail volume: 1/4
number of bails: 32
volume purged: 8 gal
well volumes: 3
time purge complete:
well evacuated? [ ] yes [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [x] yes [ ] no
depth of sample: ~15'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor? [ ] no [x] yes: unknown
sediment? [ ] no [x] yes: fine
color? [x] no [ ] yes:
- [ ] clear
- [x] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 6.72
temp (C): 12.5
cond (umhos): 12200
ORP (mV): -15.3
turb (NTU):
PID (ppm):

comments / remarks: at garage
OK2 well
FB-03 at 1700 #036
TB-03 #097 (EMCON H_2O)

500115

EMCON

FIELD SAMPLING DATA SHEET

sample ID: WE-10R
sample date/time: 3/2/96 1545
(lab) sample number: NEI # 088
field personnel: R. Bierstine, D. Griggs, B. Korner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, cold, sleet, windy, 30's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 2 inch
- [ ] PVC
- [x] steel (Stain)
- [ ] other

static water level: 11.99'
- from [x] well casing
- from [ ] protective casing

bottom depth: 41.46'
- from [x] well casing
- from [ ] protective casing

static water level indicator type
- [ ] steel tape
- [x] electronic
- [ ] other

linear conversion: 0.16
water volume in well: 4.72 gal
well condition: OK

MONITORING WELL PURGE DATA

- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] other

dedicated purge equipment?
- [x] yes
- [ ] no

pumping rate:
elapsed time:
bail volume: 1/4 gal
number of bails: 60
volume purged: 15
well volumes: 3
time purge complete:
well evacuated?
- [ ] yes
- [x] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment?
- [x] yes
- [ ] no

metals field filtered?
- [x] yes
- [ ] no

depth of sample: ~14'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor?
- [ ] no
- [x] yes: [illegible]

sediment?
- [ ] no
- [x] yes: fine

color?
- [x] no
- [ ] yes

- [x] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 7.80
temp (C): 10.2
cond (umhos): 12 000
ORP (mV): -66.7
turb (NTU):
PID (ppm): NA

comments / remarks: OK2 well

500116

EMCON

FIELD SAMPLING DATA SHEET

sample ID: W-114D
sample date/time: 3/7/96 1800
(lab) sample number: NEI # 041
field personnel: R. Biersfine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, cold, sleet, windy, 30's

SAMPLE TYPE

- [ ] composite
- [x] grab
- [x] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

casing diameter: 6inch
- [ ] PVC
- [x] steel
- [ ] other

static water level: 13.33'
- from [x] well casing
- from [x] protective casing

bottom depth: 34.65'
- from [x] well casing
- from [x] protective casing

static water level indicator type
- [ ] steel tape
- [x] electronic
- [ ] other

linear conversion: 1.47
water volume in well: 31.34
well condition: Poorly developed

MONITORING WELL PURGE DATA

- [x] submersible pump
- [ ] peristaltic pump
- [x] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other

dedicated purge equipment?
- [ ] yes
- [ ] no

pumping rate:
elapsed time: 20 min
bail volume:
number of bails:
volume purged: 97 gal
well volumes: 3
time purge complete:
well evacuated?
- [x] yes
- [ ] no

SAMPLING DATA

- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [x] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment?
- [x] yes
- [ ] no

metals field filtered?
- [x] yes
- [ ] no

depth of sample: ~20'
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA

odor?
- [ ] no
- [ ] yes

sediment?
- [ ] no
- [ ] yes

color?
- [ ] no
- [ ] yes

- [ ] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 7.07
temp (C): 7.9
cond (umhos): 5000
ORP (mV): -24.0
turb (NTU):
PID (ppm):

comments / remarks: OW2 well - sampled by purge crew

500117

EMCON

FIELD SAMPLING DATA SHEET

sample ID: RR-01
sample date/time: 3/7/96 1705
(lab) sample number: NEI # 040
field personnel: R. Biersfine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): overcast, cold, sleet, windy, 30's

SAMPLE TYPE
- [ ] composite
- [x] grab
- [ ] groundwater
- [x] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA NA
- casing diameter: ____ [ ] PVC [ ] steel [ ] other
- static water level: ____ from [x] well casing from [ ] protective casing
- bottom depth: ____ from [x] well casing from [ ] protective casing
- static water level indicator type [ ] steel tape [x] electronic [ ] other
- linear conversion: ____ water volume in well: ____
- well condition: ____

MONITORING WELL PURGE DATA NA
- [ ] submersible pump [ ] peristaltic pump [ ] suction pump [ ] PVC bailer
- [ ] poly bailer [ ] teflon bailer [ ] other
- dedicated purge equipment? [ ] yes [ ] no
- pumping rate: ____ elapsed time: ____
- bail volume: ____ number of bails: ____
- volume purged: ____ well volumes: ____
- time purge complete: ____ well evacuated? [ ] yes [ ] no

SAMPLING DATA
- [ ] pump [ ] PVC bailer [ ] poly bailer [ ] teflon bailer
- [ ] stainless bucket [ ] poly cup [ ] tedlar bag [x] direct
- [ ] hand corer [ ] hand auger [ ] stainless spoon [ ] split spoon
- [ ] other
- dedicated sampling equipment? [x] yes [ ] no
- metals field filtered? [ ] yes [x] no
- depth of sample: surface
- sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
- odor? [ ] no [ ] yes
- sediment? [ ] no [ ] yes
- color? [ ] no [ ] yes
- [ ] clear [ ] turbid [ ] sheen [ ] immiscible product
- [ ] other
- pH (SU): 8.10 temp (C): 6.4 cond (umhos): 2000
- ORP (mV): -76.2 turb (NTU): ____ PID (ppm): ____
- comments / remarks: - tide just turned in - all monitoring pt - west of Martins Creek - sampled by purge crew

500118

EMCON

FIELD SAMPLING DATA SHEET

sample ID: RR-02
sample date/time: 5/7/96 1635
(lab) sample number: NEI # 039
field personnel: R. Bierstine, D. Griggs, B. Koerner, J. Kreiger
project: Kin Buc
project number: 12568-001.000
observer:
weather conditions (estimate wind, cloud, precip, humidity, temp): Overcast, sleet, cold, windy, 30's

SAMPLE TYPE
- [ ] composite
- [x] grab
- [ ] groundwater
- [x] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA NA

casing diameter: ____ [ ] PVC [ ] steel [ ] other
static water level: ____ from [x] well casing from [ ] protective casing
bottom depth: ____ from [x] well casing from [ ] protective casing
static water level indicator type [ ] steel tape [x] electronic [ ] other
linear conversion: ____ water volume in well: ____
well condition: ____

MONITORING WELL PURGE DATA NA
- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other

dedicated purge equipment? [ ] yes [ ] no
pumping rate: ____ elapsed time: ____
bail volume: ____ number of bails: ____
volume purged: ____ well volumes: ____
time purge complete: ____ well evacuated? [ ] yes [ ] no

SAMPLING DATA
- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [x] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment? [x] yes [ ] no
metals field filtered? [ ] yes [x] no
depth of sample: Surface
sample containers: Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [ ] yes
sediment? [ ] no [ ] yes
color? [ ] no [ ] yes
- [ ] clear
- [ ] turbid
- [ ] sheen
- [ ] immiscible product
- [ ] other

pH (SU): 8.42 temp (C): 0.8 cond (umhos): 1800
ORP (mV): -89.6 turb (NTU): ____ PID (ppm): ____

comments / remarks:
- tide just turned in
- Our monitoring pt
- adjacent Mound B
- Sampled by purge crew

500119

EMCON

FIELD SAMPLING DATA SHEET

sample ID RR-03 sample date/time 3/7/96 1615
(lab) sample number NEI #038 field personnel R. Biersfine D. Griggs
project KinBuc B. Koerner J. Kreiger
project number 12568-001.000 observer
weather conditions (estimate wind, cloud, precip, humidity, temp) overcast, cold, sleet, windy, 30's

SAMPLE TYPE
- [ ] composite
- [x] grab
- [ ] groundwater
- [x] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA NA
- casing diameter
- [ ] PVC
- [ ] steel
- [ ] other
- static water level from [x] well casing from [ ] protective casing
- bottom depth from [x] well casing from [ ] protective casing
- static water level indicator type [ ] steel tape [x] electronic [ ] other
- linear conversion
- water volume in well
- well condition

MONITORING WELL PURGE DATA NA
- [ ] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other
- dedicated purge equipment? [ ] yes [ ] no
- pumping rate
- elapsed time
- bail volume
- number of bails
- volume purged
- well volumes
- time purge complete
- well evacuated? [ ] yes [ ] no

SAMPLING DATA
- [ ] pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [x] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other
- dedicated sampling equipment? [x] yes [ ] no
- metals field filtered? [ ] yes [x] no
- depth of sample Surface
- sample containers Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
- odor? [ ] no [ ] yes
- sediment? [ ] no [ ] yes
- color? [ ] no [ ] yes
- [ ] clear [ ] turbid [ ] sheen [ ] immiscible product
- [ ] other
- pH (SU) 8.69 temp (C) 0.6 cond (umhos) 1900
- ORP (mV) -101.6 turb (NTU) PID (ppm)
- comments / remarks - tide just turned in - OU2 monitoring pt
  - east of discharge force main
  - sampled by purge crew

500120

EMCON

FIELD SAMPLING DATA SHEET

sample ID RB-04 sample date/time 3/7/96 1545
(lab) sample number NEI # 037 field personnel R. Bierstine D. Griggs
project Kin Buc B. Koerner J. Kreiger
project number 12568-001.000 observer
weather conditions (estimate wind, cloud, precip, humidity, temp)
overcast, cold, sleet, windy, 30's

SAMPLE TYPE
[ ] composite [X] grab
[ ] groundwater [X] surface water [ ] soil [ ] sediment
[ ] leachate [ ] industrial [ ] storm sewer [ ] gas
[ ] other

MONITORING WELL DATA N/A
casing diameter [ ] PVC [ ] steel [ ] other
static water level from [X] well casing from [ ] protective casing
bottom depth from [X] well casing from [ ] protective casing
static water level indicator type [ ] steel tape [X] electronic [ ] other
linear conversion water volume in well
well condition

MONITORING WELL PURGE DATA N/A
[ ] submersible pump [ ] peristaltic pump [ ] suction pump [ ] PVC bailer
[ ] poly bailer [ ] teflon bailer [ ] other
dedicated purge equipment? [ ] yes [ ] no
pumping rate elapsed time
bail volume number of bails
volume purged well volumes
time purge complete well evacuated? [ ] yes [ ] no

SAMPLING DATA
[ ] pump [ ] PVC bailer [ ] poly bailer [ ] teflon bailer
[ ] stainless bucket [ ] poly cup [ ] tedlar bag [X] direct
[ ] hand corer [ ] hand auger [ ] stainless spoon [ ] split spoon
[ ] other
dedicated sampling equipment? [X] yes [ ] no
metals field filtered? [ ] yes [X] no
depth of sample surface
sample containers Initial monitoring container set, includes VOA, BNA, PCB

PHYSICAL AND CHEMICAL DATA
odor? [ ] no [ ] yes
sediment? [ ] no [ ] yes
color? [ ] no [ ] yes
[ ] clear [ ] turbid [ ] sheen [ ] immiscible product
[ ] other
pH (SU) 9.25 temp (C) 0.8 cond (umhos) 2200
ORP (mV) -122.5 turb (NTU) PID (ppm)
comments / remarks - tide just turned in - OU2 monitoring pt
- west of discharge force main
- sampled by purge crew

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APPENDIX C

APPENDIX C

OU1 FIELD QA/QC RESULTS

Appendix C
Kin-Buc Landfill Operable Unit 1
Field QA/QC Samples

	FB-01	FB-02	FB-03	TB-01	TB-02	TB-03
Volatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0	1.0	1.0
Chloromethane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Bromomethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene Chloride	4.0	<3.0	<3.0	6.0	<3.0	<3.0
1,1-Dichloroethene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1Dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	<1.0	<1.0	6.0	<1.0	<1.0	6.0
1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0	2.0	<1.0
Carbon tetrachloride	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Bromodichloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dibromochloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
1,1,2,2-Tetrachloroethane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Toluene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chlorobenzene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Ethylbenzene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Trichloromonofluoromethane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,3-Dichlorobenzene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichlorobenzene	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
2-Chloroethylvinyl Ether	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Trans, 1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Semi-Volatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	NA	NA	NA
Phenol	<1.0	<1.0	<1.0	NA	NA	NA
bis(2-Chloroethyl) Ether	<1.0	<1.0	<1.0	NA	NA	NA
2-Chlorophenol	<1.0	<1.0	<1.0	NA	NA	NA
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	NA	NA	NA
1,4-Dichlorobenzene	<1.0	<1.0	<1.0	NA	NA	NA
1,2-Dichlorobenzene	<1.0	<1.0	<1.0	NA	NA	NA
2,2'- oxybis(1-Chloropropane)	<1.0	<1.0	<1.0	NA	NA	NA
N-Nitroso-di-n-propylamine	<1.0	<1.0	<1.0	NA	NA	NA
Hexachloroethane	<1.0	<1.0	<1.0	NA	NA	NA
Nitrobenzene	<1.0	<1.0	<1.0	NA	NA	NA
Isophorone	<1.0	<1.0	<1.0	NA	NA	NA
2-Nitrophenol	<1.0	<1.0	<1.0	NA	NA	NA
2,4-Dimethylphenol	<2.0	<2.0	<2.0	NA	NA	NA
2,4-Dichlorophenol	<1.0	<1.0	<1.0	NA	NA	NA

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Appendix C
Kin-Buc Landfill Operable Unit 1
Field QA/QC Samples

	FB-01	FB-02	FB-03	TB-01	TB-02	TB-03
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	NA	NA	NA
Naphthalene	<1.0	<1.0	<1.0	NA	NA	NA
Hexachlorobutadiene	<1.0	<1.0	<1.0	NA	NA	NA
bis-(2-Chloroethoxy)methane	<1.0	<1.0	<1.0	NA	NA	NA
4-Chloro-3-Methylphenol	<1.0	<1.0	<1.0	NA	NA	NA
Hexachlorocyclopentadiene	<1.0	<1.0	<1.0	NA	NA	NA
2,4,6-Trichlorophenol	<1.0	<1.0	<1.0	NA	NA	NA
2-Chloronapthalene	<1.0	<1.0	<1.0	NA	NA	NA
Dimethylphthalate	<1.0	<1.0	<1.0	NA	NA	NA
Acenaphthylene	<1.0	<1.0	<1.0	NA	NA	NA
2,6-Dinitrotoluene	<1.0	<1.0	<1.0	NA	NA	NA
Acenaphthene	<1.0	<1.0	<1.0	NA	NA	NA
2,4-Dinitrophenol	<1.0	<1.0	<1.0	NA	NA	NA
4-Nitrophenol	<1.0	<1.0	<1.0	NA	NA	NA
2,4-Dinitrotoluene	<1.0	<1.0	<1.0	NA	NA	NA
Diethylphthalate	<1.0	<1.0	<1.0	NA	NA	NA
4-Chlorophenyl-phenylether	<1.0	<1.0	<1.0	NA	NA	NA
Fluorene	<1.0	<1.0	<1.0	NA	NA	NA
4,6-Dinitro-2-methylphenol	<1.0	<1.0	<1.0	NA	NA	NA
N-Nitrosodiphenylamine	<1.0	<1.0	<1.0	NA	NA	NA
4-Bromophenyl-phenylether	<1.0	<1.0	<1.0	NA	NA	NA
Hexachlorobenzene	<1.0	<1.0	<1.0	NA	NA	NA
Pentachlorophenol	<1.0	<1.0	<1.0	NA	NA	NA
Phenanthrene	<1.0	<1.0	<1.0	NA	NA	NA
Anthracene	<1.0	<1.0	<1.0	NA	NA	NA
Di-n-butylphthalate	<1.0	<1.0	<1.0	NA	NA	NA
Fluoranthene	<1.0	<1.0	<1.0	NA	NA	NA
Pyrene	<1.0	<1.0	<1.0	NA	NA	NA
Butylbenzylphthalate	<1.0	<1.0	<1.0	NA	NA	NA
3,3'-Dichlorobenzidine	<1.0	<1.0	<1.0	NA	NA	NA
Benzo(a)anthrance	<1.0	<1.0	<1.0	NA	NA	NA
Chrysene	<1.0	<1.0	<1.0	NA	NA	NA
bis(2-Ethylhexyl)phthalate	<1.0	<1.0	2	NA	NA	NA
Di-n-octylphalate	<1.0	<1.0	<1.0	NA	NA	NA
Benzo(b)fluoranthene	<1.0	<1.0	<1.0	NA	NA	NA
Benzo(k)fluoranthene	<1.0	<1.0	<1.0	NA	NA	NA
Benzo(a)pyrene	<1.0	<1.0	<1.0	NA	NA	NA
Indeo(1,2,3-cd)pyrene	<1.0	<1.0	<1.0	NA	NA	NA
Dibenz(a,h)anthracene	<1.0	<1.0	<1.0	NA	NA	NA
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	NA	NA	NA
N-Nitrosodimethylamine	<1.0	<1.0	<1.0	NA	NA	NA
Benzidine	<1.0	<1.0	<1.0	NA	NA	NA

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Appendix C
Kin-Buc Landfill Operable Unit 1
Field QA/QC Samples

	FB-01	FB-02	FB-03	TB-01	TB-02	TB-03
Pesticide/PCB (ug/l) *Dilution Factor*	1.0	1.0	1.0	NA	NA	NA
alpha-BHC	<0.05	<0.05	<0.05	NA	NA	NA
beta-BHC	<0.05	<0.05	<0.05	NA	NA	NA
delta-BHC	<0.05	<0.05	<0.05	NA	NA	NA
gamma-BHC (Lindane)	<0.05	<0.05	<0.05	NA	NA	NA
Heptachlor	<0.05	<0.05	<0.05	NA	NA	NA
Aldrin	<0.05	<0.05	<0.05	NA	NA	NA
Heptachlor Epoxide	<0.05	<0.05	<0.05	NA	NA	NA
Endosulfan 1	<0.05	<0.05	<0.05	NA	NA	NA
Dieldrin	<0.10	<0.10	<0.10	NA	NA	NA
4,4'-DDE	<0.10	<0.10	<0.10	NA	NA	NA
Endrin	<0.10	<0.10	<0.10	NA	NA	NA
Endosulfan 2	<0.10	<0.10	<0.10	NA	NA	NA
4,4'-DDD	<0.10	<0.10	<0.10	NA	NA	NA
Endosulfan Sulfate	<0.10	<0.10	<0.10	NA	NA	NA
4,4'-DDT	<0.10	<0.10	<0.10	NA	NA	NA
Methoxychlor	<0.50	<0.50	<0.50	NA	NA	NA
Endrin Ketone	<0.10	<0.10	<0.10	NA	NA	NA
Endrin Aldehyde	<0.10	<0.10	<0.10	NA	NA	NA
alpha-Chlordane	<0.05	<0.05	<0.05	NA	NA	NA
gamma-Chlordane	<0.05	<0.05	<0.05	NA	NA	NA
Toxaphene	<1.0	<1.0	<1.0	NA	NA	NA
Aroclor-1016	<1.0	<1.0	<1.0	NA	NA	NA
Aroclor-1221	<2.0	<2.0	<2.0	NA	NA	NA
Aroclor-1232	<1.0	<1.0	<1.0	NA	NA	NA
Aroclor-1242	<1.0	<1.0	<1.0	NA	NA	NA
Aroclor-1248	<1.0	<1.0	<1.0	NA	NA	NA
Aroclor-1254	<1.0	<1.0	<1.0	NA	NA	NA
Aroclor-1260	<1.0	<1.0	<1.0	NA	NA	NA
Dissolved Metals (ug/l)						
Arsenic	8.3	<5.1	<5.1	NA	NA	NA
Barium	<9.1	<9.1	<9.1	NA	NA	NA
Cadmium	<0.3	<0.3	<0.3	NA	NA	NA
Copper	33.1	<1.7	2.6	NA	NA	NA
Iron	461	27.4	79.6	NA	NA	NA
Lead	2.1	<1.4	<1.4	NA	NA	NA
Manganese	17.3	1.1	1.8	NA	NA	NA
Mercury	<0.2	<0.2	<0.2	NA	NA	NA
Selenium	5.2	<4.4	<4.4	NA	NA	NA
Silver	<1.3	<1.3	<1.3	NA	NA	NA
Sodium	792	1380	<601	NA	NA	NA
Zinc	25.8	<3.3	6.3	NA	NA	NA

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Appendix C
Kin-Buc Landfill Operable Unit 1
Field QA/QC Samples

	FB-01	FB-02	FB-03	TB-01	TB-02	TB-03
General Chemistry (mg/l)						
pH	5.65	5.17	6.32	NA	NA	NA
Color, Pt-Co	NA	<10	<10	NA	NA	NA
Fecal Coliforms	<1.0	<1.0	<1.0	NA	NA	NA
Fecal Streptococcus	<1.0	<1.0	<1.0	NA	NA	NA
Total Coliforms	<1.0	<1.0	<1.0	NA	NA	NA
Turbidity	<0.1	<0.1	<0.1	NA	NA	NA
Ammonia, Nitrogen	<0.05	<0.05	<0.05	NA	NA	NA
BOD	<3.0	<3.0	<3.0	NA	NA	NA
COD	<3.0	<3.0	<3.0	NA	NA	NA
Chloride	<1.0	<1.0	<1.0	NA	NA	NA
Chromium, Hexavalent	<0.01	<0.01	<0.01	NA	NA	NA
Fluoride	0.01	<0.01	<0.01	NA	NA	NA
Hardness	<1.0	<1.0	<1.0	NA	NA	NA
Nitrate, Nitrogen	<0.04	<0.04	0.08	NA	NA	NA
Phenols	0.26	<0.0035	<0.0035	NA	NA	NA
Sulfate	<3.0	<3.0	<3.0	NA	NA	NA
Surfactants	<0.05	<0.05	<0.05	NA	NA	NA
Total Cyanide	<0.01	<0.01	<0.01	NA	NA	NA
Total Dissolved Solids	<10	<10	<10	NA	NA	NA
Total Organic Carbon	<1	<1.0	<1.0	NA	NA	NA
Total Organic Halides	<0.5	<0.5	<0.5	NA	NA	NA

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Appendix C
Kin-Buc Landfill Operable Unit 1
Duplicates Sample Comparison

	W-3G	DUP(3G)	W-7S	DUP(7S)
Volatiles (ug/l) *Dilution Factor*	10.0	10.0	1.0/5 DL	1.0/25 DL
Chloromethane	<20	<20	<2.0	<2.0
Bromomethane	<10	<10	<1.0	<1.0
Vinyl Chloride	<10	<10	<1.0	<1.0
Chloroethane	<10	<10	<1.0	<1.0
Methylene Chloride	37	37	<3.0	<3.0
1,1-Dichloroethene	<20	<20	<2.0	<2.0
1,1Dichloroethane	<10	<10	<1.0	<1.0
Chloroform	<10	<10	<1.0	<1.0
1,2-Dichloroethane	<10	<10	<1.0	<1.0
1,1,1-Trichloroethane	<10	<10	<1.0	<1.0
Carbon tetrachloride	<20	<20	<2.0	<2.0
Bromodichloromethane	<10	<10	<1.0	<1.0
1,2-Dichloropropane	<10	<10	<1.0	<1.0
cis-1,3-Dichloropropene	<10	<10	<1.0	<1.0
Trichloroethene	<20	<20	<2.0	<2.0
Dibromochloromethane	<10	<10	<1.0	<1.0
1,1,2-trichloroethane	<10	<10	<1.0	<1.0
Benzene	1200	1300	370 DL	290 DL
trans-1,3-Dichloropropene	<10	<10	<1.0	<1.0
Bromoform	<10	<10	<1.0	<1.0
Tetrachloroethene	<30	<30	<3.0	<3.0
1,1,2,2-Tetrachloroethane	<20	<20	<2.0	<2.0
Toluene	100	110	8.0	9.0
Chlorobenzene	1000	1100	700 DL	550 DL
Ethylbenzene	240	270	98	97
Trichloromonofluoromethane	<20	<20	<2.0	<2.0
1,3-Dichlorobenzene	<20	<20	<2.0	<2.0
1,4-Dichlorobenzene	<20	<20	6.0	6.0
1,2-Dichlorobenzene	<20	<20	14.0	14.0
2-Chloroethylvinyl Ether	<40	<40	<4.0	<4.0
Trans, 1,2-Dichloroethene	<10	<10	<1.0	<1.0
Semi-Volatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0
Phenol	<1.0	<1.0	<1.0	<1.0
bis(2-Chloroethyl) Ether	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	1.0	<1.0
1,4-Dichlorobenzene	<1.0	<1.0	7.0	5.0
1,2-Dichlorobenzene	<1.0	<1.0	12.0	8.0
2,2'- oxybis(1-Chloropropane)	<1.0	<1.0	<1.0	<1.0
N-Nitroso-di-n-propylamine	<1.0	<1.0	<1.0	<1.0
Hexachloroethane	<1.0	<1.0	<1.0	<1.0
Nitrobenzene	<1.0	<1.0	<1.0	<1.0
Isophorone	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	<1.0	<1.0	<1.0	<1.0
2,4-Dimethylphenol	49	<2.0	<2.0	<2.0
2,4-Dichlorophenol	<1.0	<1.0	<1.0	<1.0

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Appendix C
Kin-Buc Landfill Operable Unit 1
Duplicates Sample Comparison

	W-3G	DUP(3G)	W-7S	DUP(7S)
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	<1.0
Naphthalene	12	13	14.0	10.0
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0
bis-(2-Chloroethoxy)methane	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-Methylphenol	<1.0	<1.0	<1.0	<1.0
Hexachlorocyclopentadiene	<1.0	<1.0	<1.0	<1.0
2,4,6-Trichlorophenol	<1.0	<1.0	<1.0	<1.0
2-Chloronapthalene	<1.0	<1.0	<1.0	<1.0
Dimethylphthalate	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	<1.0	<1.0	<1.0	<1.0
2,6-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0
Acenaphthene	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrophenol	<1.0	<1.0	<1.0	<1.0
4-Nitrophenol	<1.0	<1.0	<1.0	<1.0
2,4-Dinitrotoluene	<1.0	<1.0	<1.0	<1.0
Diethylphthalate	<1.0	<1.0	<1.0	<1.0
4-Chlorophenyl-phenylether	<1.0	<1.0	<1.0	<1.0
Fluorene	<1.0	<1.0	<1.0	<1.0
4,6-Dinitro-2-methylphenol	<1.0	<1.0	<1.0	<1.0
N-Nitrosodiphenylamine	<1.0	<1.0	<1.0	<1.0
4-Bromophenyl-phenylether	<1.0	<1.0	<1.0	<1.0
Hexachlorobenzene	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	<1.0	<1.0	<1.0	<1.0
Phenanthrene	<1.0	<1.0	<1.0	<1.0
Anthracene	<1.0	<1.0	<1.0	<1.0
Di-n-butylphthalate	<1.0	<1.0	<1.0	<1.0
Fluoranthene	<1.0	<1.0	<1.0	<1.0
Pyrene	<1.0	<1.0	<1.0	<1.0
Butylbenzylphthalate	<1.0	<1.0	<1.0	<1.0
3,3'-Dichlorobenzidine	<1.0	<1.0	<1.0	<1.0
Benzo(a)anthrance	<1.0	<1.0	<1.0	<1.0
Chrysene	<1.0	<1.0	<1.0	<1.0
bis(2-Ethylhexyl)phthalate	<1.0	1	<1.0	<1.0
Di-n-octylphalate	<1.0	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	<1.0	<1.0	<1.0	<1.0
Indeno(1,2,3-cd)pyrene	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	<1.0
N-Nitrosodimethylamine	<1.0	<1.0	<1.0	<1.0
Benzidine	<1.0	<1.0	<1.0	<1.0

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Appendix C
Kin-Buc Landfill Operable Unit 1
Duplicates Sample Comparison

	W-3G	DUP(3G)	W-7S	DUP(7S)
Pesticide/PCB (ug/l) *Dilution Factor*	2.0	2.0	1.0	1.0
alpha-BHC	<0.10	<0.10	<0.05	<0.05
beta-BHC	<0.10	<0.10	<0.05	<0.05
delta-BHC	<0.10	<0.10	<0.05	<0.05
gamma-BHC (Lindane)	1	0.86	0.25	0.25
Heptachlor	<1.0	<1.0	<0.05	<0.05
Aldrin	<1.0	<1.0	<0.05	<0.05
Heptachlor Epoxide	<1.0	<1.0	<0.05	<0.05
Endosulfan 1	<1.0	<1.0	<0.05	<0.05
Dieldrin	<0.20	<0.20	<0.10	<0.10
4,4'-DDE	0.24	0.13	<0.10	<0.10
Endrin	<0.20	<0.20	<0.10	<0.10
Endosulfan 2	<0.20	<0.20	<0.10	<0.10
4,4'-DDD	0.15	0.24	<0.10	<0.10
Endosulfan Sulfate	<0.20	<0.20	<0.10	<0.10
4,4'-DDT	<0.20	0.42	<0.10	<0.10
Methoxychlor	<1.0	<1.0	<0.50	<0.50
Endrin Ketone	0.2	0.2	<0.10	<0.10
Endrin Aldehyde	<0.20	<0.20	<0.10	<0.10
alpha-Chlordane	<0.10	0.16	<0.05	<0.05
gamma-Chlordane	<0.10	0.26	<0.05	<0.05
Toxaphene	<2.0	<2.0	<1.0	<1.0
Aroclor-1016	<2.0	<2.0	<1.0	<1.0
Aroclor-1221	<4.0	<4.0	<2.0	<2.0
Aroclor-1232	<2.0	<2.0	<1.0	<1.0
Aroclor-1242	<2.0	<2.0	<1.0	<1.0
Aroclor-1248	<2.0	<2.0	<1.0	<1.0
Aroclor-1254	<2.0	<2.0	<1.0	<1.0
Aroclor-1260	<2.0	<2.0	<1.0	<1.0
Dissolved Metals (ug/l)				
Arsenic	111	112	7.8	<5.1
Barium	337	339	557	571
Cadmium	<0.30	<0.3	<0.30	<0.30
Copper	7.1	7.8	5.4	7.6
Iron	40000	41500	3400	3480
Lead	<1.4	<1.4	<1.4	<1.4
Manganese	1060	1100	578	594
Mercury	0.53	0.48	<0.20	0.49
Selenium	<4.4	6.9	<4.4	11.6
Silver	<1.3	<1.3	<1.3	<1.3
Sodium	563000	568000	2510000	2360000
Zinc	11	8.9	<3.3	<3.3

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Appendix C
Kin-Buc Landfill Operable Unit 1
Duplicates Sample Comparison

	W-3G	DUP(3G)	W-7S	DUP(7S)
General Chemistry (mg/l)				
pH	7.07	7.02	6.68	6.7
Color, Pt-Co	120	120	40	40
Fecal Coliforms	<1.0	<1.0	<1.0	<1.0
Fecal Streptococcus	<1.0	<1.0	<1.0	<1.0
Total Coliforms	<1.0	<1.0	<1.0	<1.0
Turbidity	22400	22000	24	13
Ammonia, Nitrogen	342.6	321.5	8.86	36.85
BOD	573	840	<3.0	<3.0
COD	111	82.3	584	654
Chloride	1239	1037	4001	3799
Chromium, Hexavalent	<0.01	<0.01	<0.01	<0.01
Fluoride	0.11	0.11	0.05	0.04
Hardness	1046	1614	1748	1810
Nitrate, Nitrogen	0.15	0.07	0.05	0.05
Phenols	0.232	0.231	0.038	0.038
Sulfate	38.4	35.8	178	172
Surfactants	1.22	1.3	0.33	0.38
Total Cyanide	<0.01	<0.01	<0.01	<0.01
Total Dissolved Solids	4296	4300	10400	10420
Total Organic Carbon	236	2332	37.2	36.5
Total Organic Halides	0.9	0.8	<0.5	<0.5

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APPENDIX D

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APPENDIX D

OU2 FIELD QA/QC RESULTS

Appendix D
Kin-Buc Landfill Operable Unit 2
Duplicate and Field QA/QC Samples

	WE-5S	DUP(5S)	FB-03	TB-03	FB-04	TB-04
Volatiles (ug/l) *Dilution Factor*	5.0	5.0	1.0	1.0	1.0	1.0
Chloromethane	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
Bromomethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Methylene Chloride	23.0	22.0	<3.0	<3.0	6	6
1,1-Dichloroethene	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
1,1Dichloroethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Chloroform	<5.0	<5.0	6	6	<1.0	<1.0
1,2-Dichloroethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<5.0	<5.0	<1.0	<1.0	2	3
Carbon tetrachloride	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
Bromodichloromethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
Dibromochloromethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloroethane	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Benzene	500.0	290.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Bromoform	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<15.0	<15.0	<3.0	<3.0	<3.0	<3.0
1,1,2,2-Tetrachloroethane	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
Toluene	12.0	<10.0	<2.0	<2.0	<2.0	<2.0
Chlorobenzene	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
Ethylbenzene	42.0	25.0	<2.0	<2.0	<2.0	<2.0
Trichloromonofluoromethane	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
1,3-Dichlorobenzene	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
1,2-Dichlorobenzene	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0
2-Chloroethylvinyl Ether	<20.0	<20.0	<4.0	<4.0	<4.0	<4.0
Trans, 1,2-Dichloroethene	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0
Semivolatiles (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0	1.0	1.0
Phenol	<1.0	<1.0	<1.0	NA	<1.0	NA
bis(2-Chloroethyl) Ether	<1.0	<1.0	<1.0	NA	<1.0	NA
2-Chlorophenol	<1.0	<1.0	<1.0	NA	<1.0	NA
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	NA	<1.0	NA
1,4-Dichlorobenzene	<1.0	<1.0	<1.0	NA	<1.0	NA
1,2-Dichlorobenzene	<1.0	<1.0	<1.0	NA	<1.0	NA
2,2'- oxybis(1-Chloropropane)	<1.0	<1.0	<1.0	NA	<1.0	NA
N-Nitroso-di-n-propylamine	<1.0	<1.0	<1.0	NA	<1.0	NA
Hexachloroethane	<1.0	<1.0	<1.0	NA	<1.0	NA
Nitrobenzene	<1.0	<1.0	<1.0	NA	<1.0	NA
Isophorone	<1.0	<1.0	<1.0	NA	<1.0	NA
2-Nitrophenol	<1.0	<1.0	<1.0	NA	<1.0	NA
2,4-Dimethylphenol	<2.0	<2.0	<2.0	NA	<2.0	NA
2,4-Dichlorophenol	<1.0	<1.0	<1.0	NA	<1.0	NA

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Appendix D
Kin-Buc Landfill Operable Unit 2
Duplicate and Field QA/QC Samples

	WE-5S	DUP(5S)	FB-03	TB-03	FB-04	TB-04
1,2,4-Trichlorobenzene	<1.0	<1.0	<1.0	NA	<1.0	NA
Naphthalene	2	2	<1.0	NA	<1.0	NA
Hexachlorobutadiene	<1.0	<1.0	<1.0	NA	<1.0	NA
bis-(2-Chloroethoxy)methane	<1.0	<1.0	<1.0	NA	<1.0	NA
4-Chloro-3-Methylphenol	<1.0	<1.0	<1.0	NA	<1.0	NA
Hexachlorocyclopentadiene	<1.0	<1.0	<1.0	NA	<1.0	NA
2,4,6-Trichlorophenol	<1.0	<1.0	<1.0	NA	<1.0	NA
2-Chloronapthalene	<1.0	<1.0	<1.0	NA	<1.0	NA
Dimethylphthalate	<1.0	<1.0	<1.0	NA	<1.0	NA
Acenaphthylene	6	7	<1.0	NA	<1.0	NA
2,6-Dinitrotoluene	<1.0	<1.0	<1.0	NA	<1.0	NA
Acenaphthene	<1.0	<1.0	<1.0	NA	<1.0	NA
2,4-Dinitrophenol	<1.0	<1.0	<1.0	NA	<1.0	NA
4-Nitrophenol	<1.0	<1.0	<1.0	NA	<1.0	NA
2,4-Dinitrotoluene	<1.0	<1.0	<1.0	NA	<1.0	NA
Diethylphthalate	<1.0	<1.0	<1.0	NA	<1.0	NA
4-Chlorophenyl-phenylether	<1.0	<1.0	<1.0	NA	<1.0	NA
Fluorene	<1.0	<1.0	<1.0	NA	<1.0	NA
4,6-Dinitro-2-methylphenol	<1.0	<1.0	<1.0	NA	<1.0	NA
N-Nitrosodiphenylamine	<1.0	<1.0	<1.0	NA	<1.0	NA
4-Bromophenyl-phenylether	<1.0	<1.0	<1.0	NA	<1.0	NA
Hexachlorobenzene	<1.0	<1.0	<1.0	NA	<1.0	NA
Pentachlorophenol	<1.0	<1.0	<1.0	NA	<1.0	NA
Phenanthrene	<1.0	<1.0	<1.0	NA	<1.0	NA
Anthracene	<1.0	<1.0	<1.0	NA	<1.0	NA
Di-n-butylphthalate	<1.0	<1.0	<1.0	NA	<1.0	NA
Fluoranthene	<1.0	<1.0	<1.0	NA	<1.0	NA
Pyrene	<1.0	<1.0	<1.0	NA	<1.0	NA
Butylbenzylphthalate	<1.0	<1.0	<1.0	NA	<1.0	NA
3,3'-Dichlorobenzidine	<1.0	<1.0	<1.0	NA	<1.0	NA
Benzo(a)anthrance	<1.0	<1.0	<1.0	NA	<1.0	NA
Chrysene	<1.0	<1.0	<1.0	NA	<1.0	NA
bis(2-Ethylhexyl)phthalate	<1.0	3	2	NA	<1.0	NA
Di-n-octylphalate	<1.0	<1.0	<1.0	NA	<1.0	NA
Benzo(b)fluoranthene	<1.0	<1.0	<1.0	NA	<1.0	NA
Benzo(k)fluoranthene	<1.0	<1.0	<1.0	NA	<1.0	NA
Benzo(a)pyrene	<1.0	<1.0	<1.0	NA	<1.0	NA
Indeno(1,2,3-cd)pyrene	<1.0	<1.0	<1.0	NA	<1.0	NA
Dibenz(a,h)anthracene	<1.0	<1.0	<1.0	NA	<1.0	NA
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	NA	<1.0	NA
N-Nitrosodimethylamine	<1.0	<1.0	<1.0	NA	<1.0	NA
Benzidine	<1.0	<1.0	<1.0	NA	<1.0	NA

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Appendix D
Kin-Buc Landfill Operable Unit 2
Duplicate and Field QA/QC Samples

	WE-5S	DUP(5S)	FB-03	TB-03	FB-04	TB-04
Pesticide/PCB (ug/l) *Dilution Factor*	1.0	1.0	1.0	1.0	1.0	1.0
alpha-BHC	<0.05	<0.05	<0.05	NA	<0.05	NA
beta-BHC	<0.05	<0.05	<0.05	NA	<0.05	NA
delta-BHC	<0.05	<0.05	<0.05	NA	<0.05	NA
gamma-BHC (Lindane)	<0.05	0.08	<0.05	NA	<0.05	NA
Heptachlor	<0.05	<0.05	<0.05	NA	<0.05	NA
Aldrin	<0.05	<0.05	<0.05	NA	<0.05	NA
Heptachlor Epoxide	<0.05	<0.05	<0.05	NA	<0.05	NA
Endosulfan 1	<0.05	<0.05	<0.05	NA	<0.05	NA
Dieldrin	<0.10	<0.10	<0.10	NA	<0.10	NA
4,4'-DDE	<0.10	<0.10	<0.10	NA	<0.10	NA
Endrin	<0.10	<0.10	<0.10	NA	<0.10	NA
Endosulfan 2	<0.10	<0.10	<0.10	NA	<0.10	NA
4,4'-DDD	<0.10	<0.10	<0.10	NA	<0.10	NA
Endosulfan Sulfate	<0.10	<0.10	<0.10	NA	<0.10	NA
4,4'-DDT	<0.10	<0.10	<0.10	NA	<0.10	NA
Methoxychlor	<0.50	<0.50	<0.50	NA	<0.50	NA
Endrin Ketone	<0.10	<0.10	<0.10	NA	<0.10	NA
Endrin Aldehyde	<0.10	<0.10	<0.10	NA	<0.10	NA
alpha-Chlordane	<0.05	<0.05	<0.05	NA	<0.05	NA
gamma-Chlordane	<0.05	<0.05	<0.05	NA	<0.05	NA
Toxaphene	<1.0	<1.0	<1.0	NA	<1.0	NA
Aroclor-1016	<1.0	<1.0	<1.0	NA	<1.0	NA
Aroclor-1221	<1.0	<1.0	<1.0	NA	<1.0	NA
Aroclor-1232	<1.0	<1.0	<1.0	NA	<1.0	NA
Aroclor-1242	<1.0	<1.0	<1.0	NA	<1.0	NA
Aroclor-1248	<1.0	<1.0	<1.0	NA	<1.0	NA
Aroclor-1254	<1.0	<1.0	<1.0	NA	<1.0	NA
Aroclor-1260	<1.0	<1.0	<1.0	NA	<1.0	NA
Dissolved Metals (ug/l)						
Arsenic	9.4	<5.1	<5.1	NA	<5.1	NA
Barium	585	588	<9.1	NA	28.4	NA
Cadmium	<0.3	<0.3	<0.3	NA	<0.3	NA
Copper	12	9.1	2.6	NA	618	NA
Iron	74100	74600	79.6	NA	90.8	NA
Lead	<1.4	<1.4	<1.4	NA	<1.4	NA
Manganese	5160	5180	1.8	NA	5.4	NA
Mercury	<0.2	<0.2	<0.2	NA	<0.2	NA
Selenium	4.8	4.8	<4.4	NA	<4.4	NA
Silver	<1.3	<1.3	<1.3	NA	<1.3	NA
Sodium	2410000	2400000	<601	NA	17000	NA
Zinc	<3.3	<3.3	6.3	NA	12.6	NA

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Appendix D
Kin-Buc Landfill Operable Unit 2
Duplicate and Field QA/QC Samples

	WE-5S	DUP(5S)	FB-03	TB-03	FB-04	TB-04
General Chemistry (mg/l)						
pH	6.37	6.41	6.32	NA	6.29	NA
Color, Pt-Co	60	80	<10	NA	<10	NA
Fecal Coliforms	<1.0	<1	<1	NA	<1	NA
Fecal Streptococcus	<1.0	<1	<1	NA	<1	NA
Total Coliforms	<1.0	<1	<1	NA	<1	NA
Turbidity	700	680	<0.1	NA	<0.1	NA
Ammonia, Nitrogen	11.5	11.86	<0.05	NA	<0.05	NA
BOD	38.6	67.8	<3	NA	<3	NA
COD	442	469	<3	NA	<3	NA
Chloride	14037	13363	<1	NA	47.7	NA
Chromium, Hexavalent	<0.01	<0.01	<0.01	NA	<0.01	NA
Fluoride	0.1	0.1	<0.01	NA	<0.01	NA
Hardness	1100	14	<1	NA	126	NA
Nitrate, Nitrogen	0.6	0.28	0.08	NA	5	NA
Phenols	0.0035	<0.0035	<0.0035	NA	<0.0035	NA
Sulfate	54.9	65.7	<3	NA	17.5	NA
Surfactants	0.58	0.58	<0.05	NA	<0.05	NA
Total Cyanide	<0.01	<0.01	<0.01	NA	<0.01	NA
Total Dissolved Solid	6694	6690	<10	NA	<10	NA
Total Organic Carbon	<1.0	<1	<1	NA	<1	NA
Total Organic Halides	<0.5	<0.5	<0.5	NA	<0.05	NA

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