RF/RMRS-97-080.UN
Revision 1

Best Available Copy

Data Summary Report for IHSSs 170, 174A, and 174B, Property Utilization & Storage Yard

Best Available Copy

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

September 25, 1999

DEC 2001
RECEIVED
RECORDS CENTER

1/471

Best Available Copy

ADMIN RECORD

I170-A-00018

TABLE OF CONTENTS

Section — Page

1.0 INTRODUCTION 4
1.1 Background 4
1.2 Hydrogeologic and Contaminant Setting 6
2.0 FIELD ACTIVITIES 6
2.1 Data Quality Objectives 6
2.2 Sampling 8
2.3 Analytical Results 8
2.4 Abandonment of Borehole Locations 10
2.5 Waste Disposotion 10
3.0 CONCLUSIONS AND RECOMMENDATIONS 12
4.0 REFERENCES 12

LIST OF TABLES

Table — Page

2-1 Data Quality Summary 9
2-2 Quality Control Sample Summary 9
2-3 Summary of Soil VOC Analytical Results 11
2-4 Summary of Groundwater VOC Analytical Results 11

LIST OF FIGURES

Figures — Page

1-1 IHSSs 170, 174A & 174B, Property Utilization & Storage Yard Location Map 5
2-1 IHSSs 170, 174A & 174B, Property Utilization & Storage Yard Boring Location Map 6

LIST OF APPENDICES

Appendix

A BORING LOGS
B VOC ANALYTICAL RESULTS
C TCLP-METALS ANALYTICAL RESULTS
D SURFACE SOIL RADIOLOGICAL RESULTS
E DATA USABILITY

2

ACRONYMS

DOE/RFFO	U.S. Department of Energy/Rocky Flats Field Office
FIDLER	Field Instrument for Detection of Low Energy Radiation
IHSSs	Individual Hazardous Substance Sites
K-H	Kaiser-Hill Company, Inc.
OU	Operable Unit
PCBs	Polychlorinated Biphynels
PID	Photolonization Detector
PU&D Yard	Property Utilization and Disposal Storage Yard
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFI1RI	RCRA Facility Investigation/Remedial Investigation
RFETS	Rocky Flats Environmental Technology Site
RMRS	Rocky Mountain Remediation Services
SAP	Sampling Analysis Plan
PCE	tetrachloroethene
1,1,1-TCA	1,1,1-trichloroethane
TCE	trichloroethene
VOCS	volatile organic compounds
WARP	Well Abandonment and Replacement Program

1.0 INTRODUCTION

The purpose of this Data Summary Report is to document the pre-remedial investigation of Individual Hazardous Substance Sites (IHSSs) 170 and 174A and 174B, also known as the Property Utilization, Storage, and Disposal Storage Yard (PU&D Yard), at the Rocky Flats Environmental Technology Site (RFETS). The purpose of the pre-remedial investigation was to identify if a source of volatile organic compounds (VOCs) in subsurface soil was present in the PU&D Yard that could be impacting groundwater requiring remedial action (RMRS, 1997). The objective of the investigation was to evaluate subsurface soil for VOCs by further investigating the soil gas survey anomalies, two areas of surface staining in the east central portion of IHSS 170, and two attempted well point locations approximately 570 and 680 feet east of IHSS 170 where anomalous organic vapor readings were observed during Well Abandonment and Replacement Program (WARP) FY97 field work. This Data Summary Report summarizes the field activities and analytical results from the activities to locate potential residual VOC contamination equal to or greater than the Rocky Flats Cleanup Agreement (RFCA) Tier I subsurface soil action levels (DOE, 1996). On the basis of the analytical results from this pre-remedial investigation, a VOC contaminant source equal to or above the RFCA Tier I subsurface soil action levels was not identified and the PU&D Yard (IHSSs 170, 174A, and 174B) will not require remediation. This investigation was conducted by Rocky Mountain Remediation Services (RMRS) Environmental Restoration Projects Group on behalf of Kaiser-Hill Company, Inc. (K-H) for the U.S. Department of Energy/Rocky Flats Field Office (DOE/RFFO).

1.1 Background

The PU&D Yard IHSSs are located in the northwest buffer zone and were former storage areas for empty drums, cargo boxes, excess materials, and dumpsters from 1974 until 1994 (Figure 1 - 1). Some drums may have contained unknown residual quantities and types of chlorinated hydrocarbons and chemicals. Two areas within IHSS 170 were specified for the storage of hazardous materials. Specifically, empty drums were stored at IHSS 174A and IHSS 174B was designated for a dumpster. The dumpster contained stainless steel metal chips and lathe turnings coated with freon-based or oil-based lathe coolant. Potential VOC contamination was suspected as a result of the potential of leaking drums containing residual chlorinated hydrocarbons or metal turnings coated with residual chlorinated hydrocarbons at the surface, or as surface spills.

Previous information on IHSSs 170, 174A, and 174B (formerly part of Operable Unit 10 [OU 10]) is documented in an internal letter (Rockwell, 1987), the Closure Plan for the Container Storage Area (Rockwell, 1988), the OU 10 Phase I Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation (RFURI) Work Plan (DOE 1992a), Draft Technical Memorandum No. 1 - Data Summary for OU 10 (EG&G, 1995a), the Final Historical Release Report (DOE, 1992b) and the Hydrogeologic and Geologic Characterization Reports for RFETS (EG&G, 1995b and 1995c).

Specifically, the scope of this investigation was based on the soil gas survey performed per the Phase I RFI/RI which consisted of 235 soil gas sample locations (EG&G, 1995a). Figure 1-1 shows the soil gas survey locations and anomalies which indicated possible subsurface contamination in three investigative areas, (1) the east-southeast side of IHSS 170, (2) the northeast corner of IHSS 170 and IHSS 174A, and (3) the surface stain area in IHSS 174B. The primary volatile organic compounds (VOCs) detected in soil gas were: acetone, benzene, trichloroethene (TCE), tetrachloroethene (PCE), and 1,1,1-trichloroethane (1,1,1-TCA).

The Phase I RFI/RI Work Plan (DOE, 1992a) indicated the presence of chlorinated solvents (PCE at 94 μg/Kg and 1, 1, 1 -TCA at 160 μg/Kg) in near-surface soil in two of the 14 one foot deep soil samples from IHSS 174A (Figure 1-1). The approximate area where these two samples were collected were investigated as part of this investigation. In addition, a total of 71 surface soil locations

(Figure 1-1) were sampled in the PU&D Yard IHSSs (EG&G, 1995a). Thirty-seven soil samples from IHSS 170, twenty-six soil samples from IHSS 174A, and eight soil samples from IHSS 174B were analyzed for total metals, semi-volatile organic compounds, pesticides, and polychlorinated biphenyl's (PCBs). The PCB aroclor- 1254 was observed in four samples from IHSS 174A (EG&G, 1995a) at concentrations greater than the RFCA Tier II surface soil action level but less than the RFCA Tier I surface soil action level (DOE, 1996). Beryllium was observed in two samples from IHSS 174A (EG&G, 1995a) at concentrations greater than the RFCA Tier II surface soil action level but less than the RFCA Tier I surface soil action level (DOE, 1996). Vanadium was observed in one sample from IHSS 174A at a concentration of 43,400 mg/Kg (EG&G, 1995a) which is greater than the RFCA Tier I surface soil action level for industrial use but less than the RFCA Tier I surface soil action level for open space use (DOE, 1996).

High Purity Geranium and Sodium Iodide surveys of IHSSs 170, 174A, and 174B were also performed as part of the RFI/RI (EG&G, 1995a) with no anomalous results observed. However, according to an internal letter (Rockwell, 1987), a small spill of approximately 100 grams of green powder was reported from a drum in December 1987. The powder contained approximately 60 percent aluminum oxide, 32.5 percent chromium oxide, 3,000 pCi/g plutonium, 1,000 pCi/g americium, and 100 pCi/g uranium-235. Approximately 95 percent of the spilled powder was contained in the sample.

1.2 Hydrogeologic and Contaminant Setting

The PU&D Yard is located on an eastward sloping pediment surface where 30 to 40 feet of unconsolidated surficial materials of the Rocky Flats Alluvium overlie weathered claystone bedrock of the Laramie Formation (EG&G, 1995b). Depth to groundwater is approximately five to 20 feet with a hydraulic gradient of 0.01 ft/ft towards the east (EG&G, 1995c). Concentrations of 1,1-Dichloroethene, PCE, and TCE greater than RFCA Tier II groundwater action levels (DOE, 1996) are observed in groundwater monitoring well 70393, upgradient of IHSS 114, the Present Landfill, and in groundwater seep monitoring location 61495, above North Walnut Creek (Figure 1-1).

2.0 FIELD ACTIVITIES

This section describes the sampling and data quality results collected per the SAP for the preremedial investigation of IHSSs 170, 174A, and 174B (RMRS, 1997). Data requirements to support this project were developed using criteria established in *Guidance for the Data Quality Objective Process,* EPA QA/G-4 (EPA, 1994). The data gaps, study boundaries, and decisions are described below.

The primary data gap was the lack of subsurface VOC data for soil and groundwater. Twenty soil borings were advanced as shown on Figure 2-1 and thirty-eight subsurface soil samples were collected for VOC analyses to evaluate subsurface soil for VOC contamination equal to or greater than the RFCA Tier I subsurface soil action levels (DOE, 1996). Six groundwater samples were collected to characterize VOC contamination to assist with source delineation.

Four groundwater monitoring wells were installed to the north, east, west, and south of IHSS 170 as shown on Figure 1-1, as part of the Groundwater Monitoring Program FY97 WARP and agreed to by the regulators. Hollow-stem auger drilling methodology was utilized and 20 composite soil samples from drummed soil cuttings were collected for TCLP-metals analysis for RCRA waste characterization. Soil analytical results for total VOCs were also used for RCRA waste characterization.

2.1 Data Quality Objectives

The data quality objectives for this investigation are summarized in Tables 2-1 and 2-2. Deviations from the SAP (RMRS, 1997) are a minimum of one VOC sample collected per boring instead of three per boring as planned due to shallow groundwater conditions encountered and one additional soil boring BHI8997 was located southwest of BH17497 due to detectable concentrations of PCE

observed in subsurface soil. In addition, soil analyses were performed by EPA SW846/8260 instead of EPA SW846/8240. One soil boring, BH18897, was not abandoned and was subsequently utilized by the WARP to install monitoring well 01797. Investigative, quality control, and quality assurance samples were collected as summarized in Table 2-2. In addition, a summary of data usability on validated data is provided in Appendix E.

2.2 Sampling

Twenty soil borings were drilled during this investigation as shown on Figure 2-1 and samples were collected as described below. Borings were drilled one to two feet into groundwater or to a sufficient depth to confirm or collect groundwater samples. Thirteen soil borings were located over VOC soil gas survey anomalies delineated by the 1994 soil gas survey (Figure 1-1 and 2-1). Two soil borings were located over two additional areas of surficial oil staining (Figure 1-1 and 2-1), two soil borings were located over the two surface soil locations with detectable VOCs in IHSS 174A, and one soil boring was located 15 feet southwest of BH17497 where PCE was observed in subsurface soil. Two soil borings were located over two attempted well point locations approximately 570 and 680 feet east of IHSS 170 where anomalous organic vapor readings were observed by the WARP on August 28, 1997 (Figure 2-1). Soil boring locations were radiologically surveyed using the Field Instrument for Detection of Low Energy Radiation (FIDLER) per FO. 16, "Field Radiological Measurements".

Subsurface soil samples were collected at five foot intervals, or where visible staining or other indications of VOC contamination were present. Two-foot core runs using a split-spoon sampler were collected with a hollow-stem auger drill rig, logged in the field, and field screened for VOCs. A Photoionization Detector (PID) was used in the field to screen the collected core to assist in identifying the intervals where VOCs may be present. Soil core was visually logged per the SAP (RMRS, 1997) by the field geologist and boring logs are presented in Appendix A. Radiological screening samples, when required, were composited from the 0.5 foot interval above the VOC sample. Three surface soil samples were collected adjacent to BH17997 (Figure 2- 1) where the highest FIDLER survey measurements were recorded.

Groundwater was encountered between 5 and 20 feet below ground surface in the investigation areas (Appendix A). Groundwater samples were collected either through the hollow-stem auger or from the open borehole with a bailer from each investigative area with sufficient groundwater from the western, upgradient, boring (Figure 2-1).

2.3 Analytical Results

Analytical results for VOCs in soil and the RFCA Tier I subsurface soil action levels for VOCs identified during this investigation are summarized in Table 2-3. Analytical results for VOCs in groundwater and the Tier II groundwater action levels for VOCs identified during this investigation are summarized in Table 2-4. Form 1 VOC analytical results are presented in Appendix B.

Analytes detected in the subsurface soil are methylene chloride, PCE, and napthalene. Concentrations of methylene chloride in subsurface soil that exceed ten times the maximum amount detected in quality control laboratory blanks, trip blanks, and rinse blanks and should be considered a positive result (EPA, 1989) (Table 2-3 and Appendix B and E). However, the maximum concentration of methylene chloride of 3,000 µg/Kg does not exceed the RFCA Tier I subsurface soil action level of 5.77 mg/Kg (Table 2-3). One sample from BH18997 had an estimated concentration of TCE of 360 µg/Kg, which is below the RFCA Tier I subsurface soil action level (Table 2-3). Napthalene was observed in one sample from BH17897 with an estimated concentration of 390 µg/Kg, which is well below the RFCA Tier I subsurface soil action level of 1,460 µg /Kg (Table 2-3). Concentrations of PCE were observed in three subsurface soil samples from boring BH17497 with a maximum of 5.7 mg/Kg (Table 2-3). This concentration of PCE is below the RFCA Tier I subsurface soil action level of 11.5 mg/Kg (Table 2-4). No other VOCs were observed in surrounding borings (Table 2-3 and Figure 2-1).

9

Table 2-1 **Data Quality Summary**

Data Quality Objective	Activity	Results
Locate concentrations of VOCs in soil equal to or greater than the Tier I subsurface soil action levels listed in Table 2-3. Document concentrations of radionuclides in surface soil.	20 soil borings were drilled from 8 to 22 feet or one to two feet into groundwater. A minimum of one soil sample per boring was analyzed for VOCs. Two QC samples (one duplicate and one rinsate) were collected per 20 real samples and one trip blank per cooler. Analyses were by USEPA VOA by SW846/8260. Three surface soil samples and one duplicate were collected based on the three highest FIDLER survey results and analyzed for radioisotopes by HPGe.	PCE was detected in 3 of 38 samples with a maximum concentration of 5,700 µg/Kg. TCE was detected in one of 38 samples with an estimate concentration of 390 µg/Kg. Napthalene was deteced in one of 38 samples with an estimated concentration of 390 µg/Kg. Methylene chloride was detected in 28 of 38 samples with a maximum concentration of 3,000 µg/Kg.
Characterize groundwater for the presence of VOCs. Assist with delineation of residual VOC source area.	20 soil borings were drilled to a sufficient depth to collect ground water samples with six soil borings having a groundwater sample collected and analyzed for VOCs. Two QC samples (one duplicate and one rinsate) was collecter per 20 real groundwater samples and one trip blank per cooler. Analyses were by SW846/8260.	1,1,1-TCA was detected of 3 of 6 samples with a maximum concentration of 14 µg/L. PCE was detectd in 5 of 6 samples with a maximum concentration of 1,700 µg/L, which is less than 10 times the level observed in the method blank and therefore is eliminated from the sample results. Acetone was observed on 1 of 6 samples with a concentration of 4 µg/L, which is less than the concentration observed in the method blank and therefore is eliminated from the sample results. Trichlorotrifluoroethane was observed in 3 of 6 samples with a maximum concentration of 40 µg/L. TCE and 1,1-DCE were observed in 1 of 6 samples with concentrations of 2.7 and 5.5 µg/L, respectively.
Characterize investigative derived materials (IDM) – soil cuttings from hollow-stem auger drilling for RCRA waste disposition.	One composite sample per borehole from 20 soil borings were collected and analyzed for TCLP-metals. Two QC samples (one duplicate and one rinsate) were collected per 20 real samples. Results of VOC soil samples as described above were utilized for this objective.	VOC results as summarized above. TCLP-metals – see Appendix C.

J = Estimated concentration of anlyte detected below method practical quantitation limit.
B = Analyte appears in method blank.
1,1-DCE = 1,1-Dichloroethene

Table 2-2 **Quality Control Sample Summary**

Type of Samples	Number of REAL	Number of DUPLICATE	Number of TRIP BLANK	Number of RINSE BLANK
BH	38	2	10	2
BP	20	1	NA	1
GW	6	1	2	1
SS	3	1	NA	NA

Note: BH = soil samples, BP = IDM soil samples, GW = groundwater samples, and SS = surface soil samples.

10

Analytes detected in groundwater include acetone, methylene chloride, 1,1-DCE, 1,1,1-TCA, PCE, TCE, and trichlorotrifluoroethane (Table 2-4). One detectable concentration of acetone was observed which is less than the concentration observed in the laboratory method blank, therefore, acetone is eliminated from the data set (EPA, 1989).. Concentrations of methylene chloride in groundwater are less than ten times the maximum amount detected in quality control laboratory method blanks (16 µg/L), trip blanks, and rinse blanks and will be eliminated from the data summary (EPA, 1989) (Table 2-4 and Appendix B and E). The VOCs TCE and 1, 1 -DCE were observed in one sample location BH18897, downgradient of IHSS 170, at concentrations of 2.7J µg /L and 5.5 µg /L, respectively. Both concentrations are below the RFCA Tier II groundwater action level. The VOC 1,1,1-TCA was observed in two sample locations, BH17997 and BH18197, at concentrations well below the RFCA Tier II groundwater action level (Table 2-4). Concentrations of PCE were observed in two groundwater sample locations; one from boring BH17497 with 1.7 mg/L and the second from boring BH18197 with 15 µg/L (Table 2-4). These concentrations of PCE are above the RFCA Tier II action level of 5 µg/L (Table 2-4). Trichlorotrifluoroethane (Freon 113) was observed in three sample locations BH17897 and BH17997 at concentrations of 3.5 J µg/L and 40 µg/L, respectively and at sample location BH18897 with 4.6 J µg/L (Table 2-4). Trichlorotrifluoroethane does not have an action level under RFCA or a Programmatic Preliminary Remediation Guideline (PPRG), and is not considered a highly toxic compound.

TCLP-metals analytical results for RCRA waste characterization are presented in Appendix C and discussed in Section 2.5, below.

Surface soil analytical results for radiological isotopes are presented in Appendix D. Concentrations of radiological isotopes are below background and the RFCA Tier I and Tier II surface soil action levels (DOE, 1996).

A summary of data usability on validated data is provided in Appendix E.

2.4 Abandonment of Borehole Locations

After completion of sampling at each location, boreholes were abandoned, except location BH18897 which was utilized by the WARP for construction of monitoring well 01797. Each boring location was identified with the unique location number assigned on a survey marker. Each boring location was surveyed for northing and easting coordinates, and elevation using a Global Positioning Satellite receiver. Survey coordinates are noted on the boring logs in Appendix A.

2.5 Waste Disposition

Soil cuttings generated by hollow-stem auger drilling were monitored, containerized, and managed per plant procedures. Drums were characterized as Investigative Derived Material (IDM) - soil, labeled as hazardous waste, and temporarily stored in RCRA storage unit 18.03 pending receipt of analytical results. Analytical results for TCLP-metals are presented in Appendix C and VOA analytical results are summarized in Section 2.3. On the basis of the VOC analyses none of the IDM-soil exhibits VOC levels equal to or above the RFCA Tier I subsurface soil action levels. In addition, none of the VOC results could exceed a VOC toxicity characteristic as defined in 6 CCR 1007-3, Part 261.24. Therefore, the soil is not hazardous for VOCs per 6 CCR 1007-3, Part 261.24. On the basis of the TCLP-metals analytical results, none of the IDM soil exhibits hazardous metal concentrations per 6 CCR 1007-3, Part 261.24. Therefore, IDM-soil generated during this investigation will be placed back onto the surface of IHSSs 170, 174A, and 174B.

11

Table 2-3 Summary of Soil VOC Analytical Results

Borehole No.	Sample Depth	Sample No.	PCE	TCE	Methylene Chloride	Napthalene
			11,500[a]	9,270[a]	5,770[a]	5,770,000[a]
17097	5.0-5.5	BH17000RM	ND<625	ND<625	620J	ND<625
	10.0-10.5	BH17001RM	ND<625	ND<625	664	ND<630
17197	5.5-6.0	BH17003RM	ND<625	ND<625	685	ND<630
	10.25-10.5	BH17004RM	ND<625	ND<625	689	ND<630
17297	5.0-5.5	BH17007RM	ND<630	ND<630	1600B	ND<630
	10.5-11.0	BH17008RM	ND<630	ND<630	1400B	ND<630
17397	5.0-5.5	BH17009RM	ND<630	ND<630	1300B	ND<630
	10.5-11.0	BH17010RM	ND<630	ND<630	1500B	ND<630
17497	4.3-4.9	BH17012RM	750	ND<630	ND<630	ND<630
	8.5-9.0	BH17013RM	830	ND<630	ND<630	ND<630
	11.0-11.5	BH17014RM	5700	ND<630	ND<630	ND<630
17597	4.7-5.3	BH17015RM	ND<630	ND<630	ND<630	ND<630
	11.0-11.5	BH17016RM	ND<630	ND<630	ND<630	ND<630
	10.5-11.0	BH17005RM	ND<630	ND<630	330JB	ND<630
17697	5.5-6.0	BH17018RM	ND<630	ND<630	530JB	ND<630
	9.8-10.3	BH17019RM	ND<630	ND<630	610JB	ND<630
17797	4.4-4.9	BH17020RM	ND<630	ND<630	2100JB	ND<630
17897	5.4-5.9	BH17023RM	ND<630	ND<630	ND<630	390J
17997	5.0-5.5	BH17024RM	ND<630	ND<630	ND<630	ND<630
	9.5-10.0	BH17025RM	ND<630	ND<630	ND<630	ND<630
	15.0-15.5	BH17026RM	ND<630	ND<630	ND<630	ND<630
	19.5-20.0	BH17027RM	ND<630	ND<630	ND<630	ND<630
18097	5.0-5.5	BH17028RM	ND<630	ND<630	440JB	ND<630
	4.5-5.0	BH17029RM	ND<630	ND<630	420JB	ND<630
18197	5.0-5.5	BH17030RM	ND<630	ND<630	2600JB	ND<630
18297	5.0-5.5	BH17032RM	ND<630	ND<630	400JB	ND<630
18397	5.0-5.5	BH17033RM	ND<630	ND<630	400JB	ND<630
18497	5.0-5.5	BH17034RM	ND<630	ND<630	410JB	ND<630
18597	5.0-5.5	BH17037RM	ND<630	ND<630	370JB	ND<630
18697	5.0-5.5	BH17038RM	ND<630	ND<630	400JB	ND<630
18797	4.5-5.0	BH17041RM	ND<630	ND<630	9.2JB	ND<630
	10.5-11.0	BH17042RM	ND<630	ND<630	6.6JB	ND<630
	14.0-14.5	BH17040RM	ND<630	ND<630	8.7JB	ND<630
	20.5-21.5	BH17043RM	ND<630	ND<630	9.1JB	ND<630
18897	4.5-5.0	BH17044RM	ND<630	ND<630	9.3JB	ND<630
	11.0-11.5	BH17045RM	ND<630	ND<630	9JB	ND<630
	15.0-15.5	BH17046RM	ND<630	ND<630	5.8JB	ND<630
	20.5-21.5	BH17047RM	ND<630	ND<630	5.6JB	ND<630
18997	5.0-5.5	BH117049RM	ND<630	360J	430JB	ND<630
	9.5-10.0	BH117050RM	ND<630	ND<630	3000B	ND<630

Note: RFCA Tier I subsurface soil action level (DOE, 1996); * = duplicate sample; sample units are in WKg, J estimated concentration of analyte detected below method practical quantitation limit; and B analyte appears in method blank.

Table 2-4 Summary of Groundwater VOC Analytical Results

Borehole No.	Sample Depth	Sample No.	1,1-DCE	1,1,1-TCA	PCE	TCE	Trichloro-trifluoroethane
			7[a]	200[a]	5[a]	5[a]	NA[a]
17497	10.3	GW17000RM	ND<250	ND<250	1,700	ND<250	ND<250
17897	7.33	GW17001RM	ND<5	ND<5	ND<5	ND<5	3.5J
17997	7.9	GW17002RM	ND<5	2.1J	ND<5	ND<5	40
	7.9	GW17003RM*	ND<5	ND<5	ND<5	ND<5	36
18097	7.2	GW17006RM	ND<5	ND<5	ND<5	ND<5	ND<5
18197	8.9	GW17007RM	ND<5	6.3	15	ND<5	ND<5
18897	20.51	GW17009RM	5.5	14	ND<5	2.7J	4.6J

Note: * = duplicate sample, all values are reported in ~tg/L.
[a]= RFCA Tier II Groundwater Action Levels (DOE, 1996)
J Estimated concentration of analyte detected below method practical quantitation limit.
B Analyte appears in method blank.
Nb^ = Not available, there is no action level per RFCA or PPRG for this compound.

12

3.0 CONCLUSIONS AND RECOMMENDATIONS

Detectable concentrations of PCE in soil and groundwater from location BH17497 are most likely a result of previous drum storage and handling operations in IHSS 174A. The proximity of adjacent soil borings (Figure 2-1) to BH17497 with no detectable PCE indicates a small area of residual diffuse soil contamination that is less than the RFCA Tier I subsurface soil action level for PCE. However, the residual PCE soil contamination appears to be contributing to groundwater contamination greater than the RFCA Tier I groundwater action level. Concentrations of methylene chloride observed in soil appear to be a laboratory artifact even though the EPA guidance for comparison of concentrations detected in blanks with concentrations detected in samples indicates the results are positive. The concentrations of methylene chloride observed are below the RFCA Tier I subsurface soil action level and methylene chloride was not observed in the previous soil gas survey. The concentrations of TCE and napthalene are well below their respective RFCA Tier I subsurface soil action levels. No other VOCs were observed in subsurface soil.

Detectable concentrations of 1,1,1-TCA and PCE were observed in groundwater from boring BH18197. The concentration of PCE is greater than the Tier II groundwater action level and is probably a result of previous storage and handling operations in the southeast corner of IHSS 170. Residual subsurface soil contamination is probably located to the west towards BH18097, where no VOCs were observed in soil or groundwater. BH18097 is located approximately 120-feet to the west of BH18197 (Figure 2- 1).

Trichlorotrifluoroethane (Freon 113) was observed in two groundwater sample locations, BH17897 and BH17997. The source of the trichlorotrifluoroethane is probably residual subsurface soil contamination adjacent to and west of BH17997 in IHSS 174B, where the dumpster containing stainless steel metal chips and lathe turnings coated with freon-based coolants was located (Figure 2-1). A medium method detection level was used for subsurface soil which may have prevented detections of trichlorotrifluoroethane in subsurface soil. Location BH18897 also had estimated concentrations of TCE and trichlorotrifluoroethane and concentrations of 1,1-DCE and 1,1,1-TCA. The VOCs 1,1-DCE and TCE are breakdown products of PCE and IHSS 170 could have been the source of the contaminants. However, BH18897 is located downgradient of IHSS 170 and there could be other residual subsurface sources in the existing PU&D yard, which has been used as a materials storage area since 1972.

On the basis of the analytical results from this pre-remedial investigation, a VOC contaminant source equal to or above the RFCA Tier I subsurface soil action levels was not identified and the area of IHSSs 170, 174A, and 174B will not require remediation. However, residual diffuse VOC contamination less than the Tier I subsurface soil action levels is present in IHSS 174A, which impacts groundwater in the investigative area. On the basis of the previous radiological evaluations and the limited radiological analyses performed as part of this investigation there appears to be no surficial radiological contamination equal to or greater than the RFCA Tier I surface soil action levels for radionuclides requiring remediation. However, the area should be revegetated as a maintenance action to improve the proposed future use as open space due to the surficial debris and undesirable noxious weeds present at the site. According to

RFETS ecologists, a recommended revegetation plan would consist of scarifying the upper 8-inches of topsoil, placing 3-inches of imported weed-free topsoil over the area, and then reseeding using an RFETS approved seed mixture, a no-till drill, and hydromulch.

4.0 REFERENCES

EG&G Rocky Flats, 1995a, *Draft Technical Memorandum 1, Operable Unit 10, Other Outside Closures,* Rocky Flats Environmental Technology Site, Golden, Colorado, January.

EG&G Rocky Flats, 1995b, *Geologic Characterization Report for the Rocky Flats Environmental Technology Site,* Rocky Flats Environmental Technology Site, Golden, Colorado, March.

EG&G Rocky Flats, 1995c, *Hydrogeologic Characterization Report for the Rocky Flats Environmental Technology Site,* Rocky Flats Environmental Technology Site, Golden, Colorado, April.

RMRS, 1995, *Quality Assurance Program Plan (QAPP),* 95-QAPP-001, Golden, Colorado.

RMRS, 1997, *Sampling Analysis Plan for the Pre-Remedial Investigation of IHSSs 170, 174A, and 174B, Property Utilization & Storage Yard,* RF/RMRS-97-036, Rev. 0, Rocky Flats Environmental Technology Site, Golden, Colorado, August.

Rockwell, 1987, *Letter to File from F. Blaha, dated December 17, 1987, Rocky Flats Plant, Golden, Colorado.*

Rockwell, 1988, *Closure Plan for the Container Storage Area,* Rocky Flats Plant, Golden, Colorado.

U.S. Department of Energy (DOE), 1992a, *Final Phase I RFYRI Work Plan, Rocky Flats Plant, Other Outside Closures (Operable Unit 10),* Rocky Flats Plant, Golden, Colorado.

U.S. Department of Energy (DOE), 1992b, *Historical Release Report for the Rocky Flats Plant,* Rocky Flats Plant, Golden, Colorado, June.

U.S. Department of Energy (DOE), 1996, *Final Rocky Flats Cleanup Agreement,* Rocky Flats Environmental Technology Site, Golden, Colorado, September.

U.S. Environmental Protection Agency (EPA), 1989, *Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual (Part A),* EPA/540/1-89/002, December.

EPA, 1994, *Guidancefor the Data Quality Objectives Process,* EPA/G-4, September.

APPENDIX A

BORING LOGS

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 2

Borehole Number: BH17097
Location - North: 751819 East: 2082088
Date: 8-18-97
Geologist: M. Wood
Drilling Equip.: CME 75, 4 1/4 ID/8 OD

Surface Elevation: 6004
Area: IHSS 170
Total Depth: 15.3 FL
Company: RMRS Project No.: CB0320 IN
Sample Type: Split Spoon, 2"

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.8/2.0					GC	1		0.0-1.8 Clayey Gravel (GC) grayish brown (5YR 3/2) f-c gravel, f-c sand, mod plastic clay matrix, some silt very dense, moist
										No Recov 1.8-2.0
		1.8/2.0					GC	2		2.0-3.8 Same as above 0.0-1.8 28 43
								3		No recov. 3.8-4.0
		0/1.0						4		1010 no recovery 4.0-5.0, hard drilling
		.5/2.0	BH17000RM				GC	5		BH17000RM, bottle 001, for VOC event 001 rad screen = bottle 002 5.0-5.5 Very dense, same as above 0.0-1.8 10:20 5-7 13 23 23 23
								6		No Recov. 5.5-7.0
		2.0/2.0					GC	7	1028	7.0-9.0 same as above 0.0-1.8 becomes mod yellowish brown 10YR 5/4, increase clay and silt @ 45% 5 7 12 19
								8		
		2.0/2.0					GC	9	1035	9.0-11.0 same as above 20 28 18 23 becomes moist

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

16

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT — FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH17097
Location - North: 751819 East: 2082088
Date: 8/18/97
Geologist: M. Wood
Drilling Equip.: CME 75

Surface Elevation: 6004
Area: IHSS 170
Total Depth: 15.3 ft
Company: RMRS Project No. CB032
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION (mw 8/18/97)
			BH17097RM				GC			10.0-10.5 sample BH17009RM bottle 3 event 2 red screen = bottle 004
		2.0/2.0						11	1045	11.0 - ~~13.0~~ 12.85 mw 8/18/97 same as above 0.0-1.8 moist-damp, very dense; 28, 32, 38, 40
								12		
		2.9/2.0					GC	13		12.85 - ~~15.0~~ 14.5 mw 8/18/97 same as above 0.0-1.8; 22, 40, 40, 17
								14		14.5-15.3 clayey gravel c-gravel f-c sand med lt gray (N6) clay matrix
								15		TD = 15.3 ft
										mw 8/20/97 BH17009RM, bottle 005, event 3 1115 0-15 Drums E06284RM E06285RM

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

17

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 2

Borehole Number: BH17197
Location - North: 751802 East: 2082052
Date: 8-18-97
Geologist: M. Wind
Drilling Equip.: CME-75

Surface Elevation: 6005
Area: IHSS 170
Total Depth: 15.0
Company: RMRS
Project No. CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.3/2.0					GC	1	1315 22 17 18 21	0.0-1.3 Clayey Gravel, GC, grayish brown (5YR 3/2), f-c gravel, f-c sand silty clay matrix, very dense dry, slightly moist, subrounded gravel
										No Recov 1.3-2.0
		2.0/2.0					GC	2 3	1320 17 22 18 21	2.0-4.0 same as above 0.0-1.3, moist becomes grayish orange (10YR 7/4)
		0.0/1.0	BH17003RM					4 5	NR 30 16 22 21 36	4.0-5.0 No Recov, hand drilling
		2.0/2.0						6		5.0-7.0 same as above 0.0-1.3 ~~2.0-4.0~~ mwj 3/18/97 BH17003RM 5.5-6.0
		2.0/2.0					GC	7 8	1345 5 9 18 16	cont same as 0.0-1.3 ~~SAA 2.0-4.0~~ mwj 8/18/97 7.0-7.5 becomes mod yellowish brown (10YR 5/4) to dark yellowish orange (10YR 6/6) 7.5-9.0 dark yellowish orange to pale yellowish brown (10YR 6/2) mod plastic clay matrix
		2.0/2.0					GC	9 10	1352 5 12 21 26	9.0-11.0 cont same as 0.0-1.3

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

18

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH17197
Location - North: 751802 East: 2082052
Date: 8-18-97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6005
Area: FHSS 170
Total Depth: 15
Company: RMRS Project No.: CB0320 IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 4/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
			BH17004RM				GC	10		10.25 10.5 BH 17004RM VOA 10.0-10.25 Rad Screen
		0.0/2.0						11		11.0-13.0 Hand drilling No Recov becomes dark gray (N3)
								12		
		1.5/2.0					GC	13	GC	13.0-14.5 saturated at 13.0 ft becomes mod yellowish brown (10YR 5/4) 33 39 31 35 continued clayey gravel, f-c grn subangular, f-c sand, very dense
								14		No Recov 14.5-15.0
								15		14:20 water level at 10.8 BGS BH17003RM TCLP-metals 0-15.0 TD = 15.0 ft drum E06286 and E06287 15:35 water level at 4.85 BGS

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

14

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH 17297
Location - North: 751789 East: 2082027
Date: 8-19-97
Geologist: M. Wood
Drilling Equip.: CME 75

Surface Elevation: 6006
Area: FHSS 170
Total Depth: 11.8 ft
Company: RMRS
Project No.: CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL _____ DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		0.5/2.0					GC	1	1110 17 4 5 8	0.0-0.5 Clayey Gravel, GC, dusky brown (5YR 2/2), f-c gravel, f-c sand, clay matrix, sl plastic, dense dry. No Recovery 0.5-2.0
		1.5/2.0					GC	2, 3	1117 21 17 22 36	2.0-3.5 becomes mod yellowish brown (10YR 5/4), very dense dry-moist. No Recov 3.5-4.0
		1.5/2.0	BH17007RM				GC	4, 5	1125 19 22 24 32 1125	4.0-5.5 same as above, 2.0-3.5 5mw 8/19/97. 5.0-5.5 BH17007RM VOA + red screen 4.5-5.0. No Recov 5.5-6.0
		1.6/2.0					GC	6, 7	1135 7 13 11 24	6.0-7.6 Same as above 2.0-3.5 becomes pale olive (10Y 6/2). No Recov 7.6-8.0
		1.6/2.0					GC	8, 9, 10	1143 17 30 41 37	8.0-9.6 same as 2.0-3.5 becomes pale red (5R 6/2) w/ pale olive (10Y 6/2). No Recov 9.6-10.0

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

20

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 2 OF 2

Borehole Number: BH 17297
Location - North: 751789 East: 2082027
Date: 8/19/97
Geologist: M. Wood
Drilling Equip.: CME 75

Surface Elevation: 6006
Area: IHSS 170
Total Depth: 11.8 ft
Company: RMRS Project No.: CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.8/2.8	BH17008RM				GC	10	1150	17 23 25 50 for 5in 10.0-11.8 10.5-11.00 BH17008RM VOA cond 10.0-10.5 screen moist-wet becomes modyellowish brown (10YR 5/4)
								11		
								12		~~No Recov 11.8-12.0~~ MRW 8/19/97 12:10 water level at 10.32 ft check TD at 11.8 ft BP17000RM for TCLP metals - drums E06288 at 12:50 E06289

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

21

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 2

Borehole Number: BH17397
Location - North: 751778 East: 2082036
Date: 8-19-97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6006
Area: IHSS 174A
Total Depth: 12.0
Company: RMRS
Project No.: CB0520IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL _____ DATE 4/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.3/2.0					GM/SM	1	1515	0.0-0.8 s. Hy sandy ~~gravel~~, GM/SM black (N1) f-c sand, some gravel, dry, dense
							GC	2	1325	0.8-1.0 clayey gravel (GC) dry-moist, dense f-c gravel f-c sand 1.0-1.3 clayey gravel (GC), dark reddish brown (10YR 3/4) moist, dense f-c gravel f-c sand si plastic dry matrix 1.3-2.0 No Recovery
		1.7/2.0					GC	3		2.0-3.7 clayey gravel, GC, mod reddish brown (10R 4/6), moist f-c gravel, f-c sand clay matrix, si plastic 3.7-4.0 No Recov.
		1.8/2.0	BH17009RM				GC	4	1540	4.0-5.8 same as 2.0-3.7 becomes mod yellowish brown (10YR 5/4) mottled w/ reddish brown very dense 5.0-5.5 BH17009RM VOA 4.5-5.0 rad screen 5.8-6.0 No Recov.
		1.1/2.0					GC	6	1555	6.0-7.1 cont mottled same as 2.0-3.7
								7		No Recov 7.1-8.0
		1.8/2.0					GC	8	1610	8.0-9.8 cont same as above 2.0-3.7 becomes moist to wet very dense poss water at 9.5 ft
								9		
								10		No Recov 9.8-10.0

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

22

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH17397
Location - North: 751778 East: 2082036
Date: 8-19-97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6006
Area: IHSS 174A
Total Depth: 12.0
Company: RMRS
Project No: B0320IW
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.8/2.0	BH17010RM				GC	10	1620	10.0 – 11.8 same as 2.0-3.7
									16 27 35 27	BH17010RM VOA 10.5-11.0 and screen 10.0-10.5
								11		
										11.8-12.0 No Recov
								12	1630	check TD at 12.0 = TD water on tip of water level probe
									1635	BP17001RM ~~E06290~~ mw 8/20/97 E06291

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

23

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 2

Borehole Number: BH 17497
Location - North: 751766 East: 2082017
Date: 8/20/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6007
Area: FHSS 174A
Total Depth: 14.0
Company: RMRS Project No.: CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR
APPROVAL [signature] DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	BOIU LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.0/2.0					GC / GM	10/14		0-1.0 silty clayey gravel, GC/GM mod yellowish brown (10YR5/4) to dark yellowish brown (10YR4/2) f-c gravel, f-c sand, mod dense 0.8-1.0 clay matrix, sl plastic dry sl moist
								1		9, 16, 18, 9
										No Recov 1.0-2.0
								2		2.0-2.8 same as 0-1.0
		1.2/2.0					GC			14, 10, 16, 19 2.8-3.2 clayey gravel, GC dusky green (5G3/2) f-c gravel, f-c sand clay matrix, plastic, to organic mod dense
								3		
										No Recov 3.2-4.0
								4	1030	4.0-4.9 same as 2.8-3.2 very dense
		0.9/1.4	BH17012RM				GC			12, 20, 40 fn sm 4.3-4.9 BH17012RM VOA + Rad screen 4.0-4.3
								5		
										No Recov 4.9-~~5.4~~ 6.5 MM 8-20-97
								6		Pit hits 5.4-6.5 drill past rock to 6.5
										6.5-7.6 same as 2.8-3.2 becomes pale olive (10Y6/2) moist
		1.1/2.0					GC	7		18, 8, 12, 4
								8		No Recov 7.6-8.5
		0.4/2.0	BH17013RM				GC		1105	8.5-9.0 same as 6.5-7.6 No Recov 9.0-10.5 w.ll f.y + sample from 10.0-12.0 8.5-9.0 BH17013RM - VOA
								9		
								10		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

24

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH17497
Location - North: 751766 East: 2082017
Date: 8/20/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6007
Area: IHSS 174A
Total Depth: 14.0
Company: RMRS
Project No: EB0320 IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature]

DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		2.0/2.0	BH17014RM				GC	10	1133	10.0-12.0 same as 6.5-7.6 dense, moist, becomes dusky yellow (5Y6/4)
								11		16 15 16 15 BH17014RM 11.0-11.5 VOA radscreen 10.5-11.0
		2.0/2.0					SM	12	1145	12.0-14.0 132 8/20/97 Sandy silt, SM, dusky yellow (5Y6/4) saturated, 10% f sand, tr f-gravel clayey-silt, plastic, stiff
							SW	13		4 6 23 44 13.2-14.0 Gravelly sand, SW, mottled dark yellowish orange (10YR6/6) to dusky yellow (5Y6/4) f-c sand, f-c gravel, sl clay/silt matrix
								14		drum E06290 BP17005RM 12:05
										1200 water at 13.2 ft TD check 13.75, TD=14.0 ft
										1320 water at 10.3 ft
										1330 water sample GW17000RM

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 2

Borehole Number: BH17597
Location - North: 751758 East: 2082044
Date: 8/20/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6006
Area: IHSS 174A
Total Depth: 12.0
Company: RMRS Project No.: CBO320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		0.5/2.0					GC	1355		0.0-0.5 Clayey Gravel GC, grayish brown (5YR 3/2) f-c gravel, f-c sand, clay matrix moist
								1		5 6 8 6
										No Recov 0.5-2.0
		1.2/2.0					GC	2	1402	2.0-3.2 same as 0.0-0.5, mottled becomes dusky yellow green (5GY 5/2) at 2.8 ft
								3		7 23 29 26
										No Recov 3.2-4.0
		1.3/2.0	BH17015RM				GC	4	1415	4.0-5.3 same as 2.0-3.2
								5		18 26 21 22 4.7-5.3 BH17015RM VOA 4.2-4.7 rod screen
										No Recov 5.3-6.0
								6		1505 Resume drilling mw 8/20/97 6.0-~~8.0~~ 7.05 same as 2.0-3.2 mod yellowish brown moist
		1.75/2.0								15 14 10 9
							SM/ML	7		7.05-7.75 silty sand/sandy silt, SM/ML dusky yellow (5Y 6/4) f-m sand, clayey silt, plastic, firm to very stiff
										No Recov 7.75-8.0
		1.5/1.5					SM/ML	8	1524	5 8.08-9.3 same as 7.05-7.75
										10 50 fin lime 9.3-9.5 Quartzite cobble, saturated - water in hole/on barrel
								9	GW	will drill to 10.0 then sample
								10		No Recov 9.5-10.0

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

26

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH17597
Location - North: 751758 East: 2082044
Date: 8/20/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6006
Area: IHSS 174A
Total Depth: 12.0
Company: RMRS
Project No: CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature]

DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		2.0/2.0	BH17016RM				GW	10	1535	10.0 - 12.0 ~~sand~~ ~~clayey~~ silty sandy gravel (GW) MW 8/20/97 34 gray, shorerise (10YR 7/4) f-c gravel 36 f-c sand, dense 44 BH17016RM voa 10.0-11.5 wet-moist 55 rod screen 10.0-10.5 dup 10.5-11.0
								11		
								12		TD=12.0 ft water at 9.0-9.5 15:52 check for water - no water observed in hole BP17006RM 0-12.0 1555 drum E06292

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

27

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 2

Borehole Number: BH17697
Location - North: 751757 East: 2082033
Date: 8-21-97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6006
Area: IHSS 174A
Total Depth: 13.0
Company: RMRS Project No.: CBD320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/LITHOLOGIC LOG	SAMPLE DESCRIPTION
		0.9/2.0					GM	0908		0.0 - 0.9 silty Gravel (GM) 4 8 5 5 pale brown (5YR 5/2) f-c gravel some f-c sand, silt matrix, organics dry - sl moist
								1		No Recov 0.9-2.0
		1.2/2.0					GC	2	1025	2.0-3.2 clayey Gravel (GC) 10 18 38 34 mod reddish brown (10R 4/6 f-c gravel, f-c sand, sl plastic clay matrix ~30% sl plastic sl moist dense,
								3		No Recov 3.2-4.0
								4		No Recov 4.0-5.0 - 8/21/97
		1.0/2.0	BH17018RM				GC	5	0725	5.0-6.0 same as 2.0-3.2 12 32 24 14 5.0-5.5 BH17018RM rad 5.5-6.0 BH17018RM VOA
								6		No Recov 6.0-7.0
		1.3/2.0					GC	7		7.0-8.3 same as 2.0-3.2 3 8 16 28 becomes mod yellowish brown (10YR 5/4), dense, moist
								8	0943	No Recov 8.3-9.0
		1.3/2.0	BH17019RM				GC	9	0950	9.0-10.3 same as 2.0-3.2 16 32 22 22 9.3-9.8 rad screen 9.8-10.3 BH17019RM VOA
								10		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

28

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH17697
Location - North: 751757 East: 2082033
Date: 8-21-97
Geologist: Mr Wood
Drilling Equip.: CME-75

Surface Elevation: 6006
Area: IHSS
Total Depth: 13.0
Company: RMRS
Project No.: CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
								10		No Recov 10.3 - 11.0
		15/2.0					GC/GW	11	1005	11.0 - 12.5 cont clayey gravel GC to sandy gravel GW, saturated - water at 11 ft; 17, 36, 19, 23
								12		No Recov 12.5-13.0; 10:20 water level at 10.5 ft
									1015	- TD at 13.0
								13		No Recov 12.5 - 13.0
										E062930 Molinum; 1025 BP17006RM 0-13.0; 12:50 water level at 6.6 ft

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

29

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT — FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 1

Borehole Number: BH17797
Location - North: 751707 East: 2081957
Date: 8/21/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6009
Area: FHSS 120
Total Depth: 8.0 ft
Company: EMRS
Project No.: CBU320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.3/2.0					GC	1	1055	0.0 – 1.3 silty clayey gravel (GC), grayish brown (5YR 3/2), f-c gravel, f-c sand, silt/clay matrix, dry – sl moist, sl plastic matrix, dense to mdm dense. 60 14 7 5
										No Recov 1.3-2.0
		1.4/2.0					GC	2, 3		2.0 – 3.6 clayey gravel, GC, mod reddish brown (10YR 4/6) f-c gravel, f-c sand, clay matrix, plastic, moist, dense. 6 18 18 19
										No Recov 3.6-4.0
		1.4/2.0	BH17020RM				GC	4, 5	1118	4.0 – 5.4 cont same as 2.0-3.6. 18 44 32 50. 1118 BH17020RM 4.4-4.9 VOA 4.0-4.4 rad screen
										No Recov 5.4-6.0 7.8 mw 8/21/97
		1.8/2.0					GC	6, 7	1129	6.0 – 7.8 cont same as 2.0-3.6 becomes darkyellowish orange (10YR 6/6) w/caliche encounter water, saturated-wet. 24 45 25 29. ~~6.7~~ 7.8 mw 8/21/97
										No Recov. 7.8-8.0
								8		12:50 water level at 6.6
										TD at 8.0 ft
								9		1308 BP17008RM 0-8.0 drum EOG294

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

30

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT — FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH17897
Location - North: 751662 East: 2081908
Date: 8/22/97
Geologist: CME 75 mwood 8/22/97
Drilling Equip.: CME-75

Surface Elevation: 6011
Area: IHSS 170
Total Depth: 11.4
Company: RMRS Project No.: RB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR
APPROVAL [signature] DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		0.9/2.0					GM	1	1053 8 13 10 7	0.0–0.9 silty gravel (GM), pale yellowish brown (10YR6/2) f-c gravel, f-c sand, silt, organics, dry-moist
										No Recov 0.9-2.0
		1.1/2.0					GM	2	1105 6 12 18 21	2.0–3.1 cont/same as 0.0-0.9
								3		2.8 becomes moderate brown (5YR4/4)
										No Recov 3.1-4.0
		2.0/2.0	BH17023RM				GC	4	1113 13 18 8 8	5.4 MRW ~~[illegible]~~ clayey gravel (GC), 4.0–~~6.0~~ 8/22/97 pale olive (10Y6/2) f-c gravel, dense, f-c sand, clay matrix, sl plastic, moist
								5	1113	5.4-5.9 BH17023RM voa
							m2/SM			5.4-6.0 sandy silt (ML)/silty sand (SM) f-m sand, silt, some clay plastic, moist, stiff
								6	11 5	6.0–6.7 same as 5.4-6.0
		2.0/2.0					GC	7	23 37 46	6.7–8.0 same as 4.0-5.4 becomes mod yellowish brown (10YR5/4)
		1.0/2.0					GC/GW	8	30 38 40 32	8.0–9.0 same as 4.0-5.4 less clay more silt and sand GC/GW
								9		No Recov 9.0-10.0
										-1140 water on auger bit
								10		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

31

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH 17897
Location - North: 751662 East: 2081908
Date: 8/22/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6011
Area: IHSS 170
Total Depth: 11.4
Company: RMRS
Project No.: CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL

DATE 9/23/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.4/10.0					SW	10	1143 20 27 50 for 5in	10.0 – 11.4 Gravelly Sand, SW, dark yellowish brown (10YR 4/2) f-c sand, very dense, saturated f-c gravel some silt & clay TD = 11.4 ft
								11		sampler is saturated, decide not to take VOA sample for soil
										1043 water level at 8.1
								12		E06295
										1122 BP17009RM
										1155 GW17001RM
										water at 7.33' at 11:55
										12:19 water at 6.75'

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

32

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT — FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 7 mw 3 8/22/97

Borehole Number: BH1799 7
Location - North: 751544 East: 2081777
Date: 8/22/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6014
Area: IHSS 174B
Total Depth: 22.0
Company: RMRS
Project No.: CB0320JN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.3/2.0					GC	1414	GC 11 13 8 10	0.0-1.3 clayey gravel w/some s. lt dark reddish brown (10YR 3/4) to grayish brown (5YR 3/2) f-c gravel f-c sand, dry-moist, dense clay matrix, sl plastic trace metal shavings 0.0-0.2
								1		No Recov 1.3-2.0
		1.9/2.0				mw & 8/22/97	GC	2	1424 13 19 22 33	2.0-3.9 cont same as 0.0-1.3
								3		No Recov. 3.9-4.0
		2.0/2.0	BH17024RM				GC	4	1432 20 27 22 35	4.0-6.0 same as 0.0-1.3 clayey gravel, becomes moist very dense, BH17024RM VOA 5.0-5.5
								5		
								6		6.0-7.0 hand drilling, gravel/cobbles No Recovery
								7		7.0-~~8.0~~ 8.0 mw 8/22/97 No Recovery due to lost pin on hex rod bit ~~Recov. 0~~ slough in sided augers mw 8/22/97 8.0-8.5
								8	1505	
		1.8/2.0	BH17025RM				GC	9	19 16 25 29	8.5-10.3 ~~same~~ as 0.0-1.3 clayey gravel 9.5-10.0 BH17025RM mw 8/25/97
								10		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

33

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 2 OF 2 3 mw 8/22/97

Borehole Number: BH17997
Location - North: 751544 East: 2081777
Date: 8/22/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6014
Area: IHSS 174B
Total Depth: 22.0
Company: RMRS Project No.: CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR
APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.7/1.7 mw 8/22/97					GC			3 mw 8/22/97
							SC	11		10.3 – 12.0 clayey sand w/ gravel (SC), mod yellowish brown (10YR 5/4) to dark yellowish orange (10YR 6/6) f-c sand, some f-c gravel, silt/clay matrix sl plastic, moist
								12	1550	1525 check for water - no water
		2.0/2.0					GC			12.0 – 13.0 clayey gravel same as 0.0 – 1.3 mw 8/22/97
								13		
							SC			13.0 – 14.0 same as 10.3 – 12.0 clayey sand
								14		
		2.0/2.0	BH17026RM				SW		1600	14.0 – 16.0 Gravelly sand, SW light brown (5YR 5/6) f-c sand, f-c gravel, some silt + clay matrix moist, dense
								15		15.0 – 15.5 BH17026RM VOA
		2.0/2.0						16		16.0 – 18.0 cont same as 14.0 – 16.0 trace cobbles
								17		becomes moist to wet at 17.0
								18	mw 8/22/97 1619	
		2.0/2.0	BH17027RM				SC		1616	18.0 – 20.0 gravelly clayey sand (SC) mottled grayish orange (10YR 7/4) to light brown (5YR 5/6) f-c sand, f-c gravel silty clay matrix, sl plastic
								19		19.5 – 20.0 BH17027RM VOA
								20		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

34

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT

FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH17997
Location - North: 751544 East: 2081777
Date: 8/22/97
Geologist: M. Ward
Drilling Equip.: CME-75

Surface Elevation: 6014
Area: FHSS 174B
Total Depth: 22.0
Company: RMRS Project No. CB
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.7/2.0					CL	20		20.0 - 21.7 Sandy clay with gravel CL pale olive (10Y 6/2) f-c sand plastic, hard, moist some f-c gravel
								21		7 24 20 23
										No Recov 21.7 - 22.0
								22		TD = 22.0
										8/25/97 10:25
								23		E08296RM BP17010RM 0-22.0
										E06297RM
										10:47 water level at 7.9 ft
								24		
										GW17002RM 10:50
										GW17003RM Dup 10:52
										GW17005RM RB 1100

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

44

35

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT — FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 1

Borehole Number: BH18097
Location - North: 751587 East: 2081996
Date: 8/25/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6010
Area: IHSS 170
Total Depth: 10.0
Company: RMRS
Project No.: CB03201N
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL _____ DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.5/2.0					GM	1144		0.0-1.5 Silty Gravel (GM) dark yellowish brown (10YR 4/2) dry-moist, f-c gravel, f-c sand clayey silt matrix, mdm dense trace Cu tailings at surface at 0.8 becomes dark reddish brown (10R 3/4)
								1	16 7 9 10	
										No Recov 1.5-2.0
		1.7/2.0					GC	2	1200	2.0-3.7 Clayey Gravel (GC) dark reddish brown (10R 3/4) f-c gravel, f-c sand, moist clay matrix, slplastic at 3.2 becomes light-pale olive (10Y 6/2)
									12 22 21 20	
								3		
								4		No Recov. 3.7-4.0
		1.5/2.0	BH17028RM BH17029RM				GC		1107	4.0-5.5 same as 2.0-3.7 dense, pale olive (10Y 6/2)
									24 29 38 24	
								5		BH17028RM voa - 5.0-5.5 BH17029RM 4.5-5.0 dup
										No Recov 5.5-6.0
		1.7/2.0					GC	6	1115	6.0-7.7 same as 2.0-3.7 orange brown limonite (FeO) stn
									25 25 35	
								7	50 for 5 in	
										No Recov 7.7-8.0
		1.7/2.0					GW/SW	8	1178	8.0-9.7 Sandy Gravel/gravelly sand orange brown f-c gravel, f-c sand, saturated dense w/ some silt and clay matrix water in sampler
									49 71	
								9	47 50 for 5 in	
									1342	water level at 7.2 ft - collect GW17006RM
										No Recov 9.7-10.0 GW
								10		TD = 10.0 ft

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

E06298RM
BP17011RM
012RM dup
013RM RB

36

(4011-930-01 M-930) Form GT.1A (03/01/92)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF ___

Borehole Number: BH18197
Location - North: 751591 East: 2082087
Date: 8/25/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6008
Area: IHSS 120
Total Depth: 10.0
Company: RMRS Project No. CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.6/2.0					GM	1455	GM	0.0-1.6 silty gravel (GM) w/clay 11 dark yellowish brown (10YR 4/2) to 11 dark reddish brown (10R 3/4) 12 f-c gravel, f-c sand, dry-moist, 4 mdm dense, dry matrix sl plastic
		1.1/1.5					GM	2	1500	No Recov 1.6-2.0 2.0-3.1 same as 0.0-1.6 11 25 50 for 5in
		2.0/2.0	BH17030RM				SC	4	1507	No Recov 3.1-3.5 hard drilling 3.5-4.0 No Recov 4.0-6.0 clayey sand, SC, w/gravel 18 21 11 19 5.0-5.5 BH17030RM voa mod yellowish brown (10YR 5/4) f-c sand, some gravel, f-c, sl plastic clay in matrix moist to wet, dense
		1.6/2.0					SC	6	1516	12 6.0-7.6 14 same as 4.0-6.0 16 w/more gravel 27 7.2-7.4 sand (SP) orange brown f-m sand, wet-moist,
							SP	7		
		1.6/2.0					SW	8		No Recov 7.6-8.0 8.0-9.6 gravelly sand (SW) orange brown, f-c sand 20 f-c gravel, trace silt, clay 30 wet-saturated 25 1540 mw 8/25/97 21 water level at 9.5 GW17007RM 1558 water level at 8.9 sampler saturated, TD = 10.0
								9		
								10		No Recovery 9.6-10.0

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible
(2) Core breaks cannot be matched, accurate footage measurements not possible.

drum E06304RM
BP17014RM

37

(4011-930-0134-930)(Form GT.1A)(03/01/92)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT — FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 1

Borehole Number: BH18297
Location - North: 751568 East: 2082133
Date: 8/27/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6006
Area: IHSS 170
Total Depth: 10.0
Company: RMRS
Project No. CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL _____ DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		0.6/2.0					GM	1	1005 5 8 9 9	0.0–0.6 Silty Gravel, GM, grayish brown (5YR 3/2) f-c gravel, f-c sand, silty-clay matrix, dry-sl moist, med dense
										No Recov. 0.6–2.0
		0.3/2.0					GM	2	1020 14 14 14 34	2.0–2.3 same as 0.0–0.6 encounter qtzite cobble very poor recovery
								3		No Recov 2.3–4.0
		2.0/2.0	BH17032RM				GC	4	1017 15 15 36 34	4.0–6.0 clayey gravel, GC, pale olive (10YR 6/2), f-c gravel, f-c sand, silty clay matrix, plastic moist, very dense BH17032RM 5.0–5.5
								5		
		2.0/2.0					SW	6	1023 27 30 37 37	6.0–8.0 Gravelly sand (SW) med yellowish brown (10YR 5/4) f-c sand, f-c gravel, wet-sat saturated at 6.3 very dense
								7		
		1.5/2.0						8	1040 69 41 25 35	8.0–9.5 same as 6.0–8.0 1045 water level at 7.09 1100 water level at 6.46
								9		
								10		TD = 10.0 No Recovery 9.5–10.0 1050 BH17015RM 0–10.0'

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

38

E06283

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 1

Borehole Number: BH18397
Location - North: 751605 East: 2082125
Date: 8/28/97
Geologist: M Wood
Drilling Equip.: CME-75

Surface Elevation: 6007
Area: IHSS120
Total Depth: 8.8
Company: RMRS Project No. CB0320IA
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.5/2.0					GM	1	1030	0.0 – ~~0.5~~ 1.0 mw 8/27/97 silty gravel GM 10 grayish brown (5YR 3/2) f-c gravel 12 f-c sand, silt/clay matrix, dry-moist mdm dense 15 ~~0.5~~ 1.0 – 1.5 clayey gravel GC, dark reddish brown (10R 3/4) 13 mw 8/27/97 f-c gravel, f-c sand, clay matrix, sl plastic mdm dense, moist
							GC	2		No Recov 1.5-2.0 2.0 – ~~3.65~~ 2.4 same as 1.0-1.5
		1.65/2.0					CL	3		8 5 8 21 2.4-3.2 sandy clay (CL) f-sand, some silt, plastic, moist
							GC	4	1152	3.2-3.65 clayey gravel, GC same as 1.0-1.5 pale olive (10Y 6/2) No Recov becomes 3.65-4.0 4.0 – 6.0 same as 3.2-3.65, GC 16 26 24 40
		2.0/2.0	BH17033RM					5		BH17033RM 5.0-5.5 vea
		1.5/~~2.0~~ 1.5 mw 8/27/97					SW	6	1200	33 55 50 for 5 in 6.0 – 7.5 clayey gravelly sand (SW) yellowish gray (5Y 7/2) f-c sand saturated f-c gravel at 6.1-6.2 very dense
								7		
		0.2/.8						8	1207	8.0 – 8.~~8~~ 2 mw 8/27/97 same as 6.0-7.5 37 50 for 4 in - gravel zone, very hard, very poor recovery
								9		No Recov 8.2-8.8, TD = 8.8 13:40 ~~12:15~~ water level at 7.43 ~~12:30~~ mw 8/27/97 13:48 water level at 6.6
								10		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

drum E06300
1220 BP17016RM 0-8

39

(4011-930-0134-930)(Form GT 1A)(03/01/92)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 1

Borehole Number: BH18497
Location - North: 751620 East: 2082174
Date: 8/27/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6006
Area: IHSS 170
Total Depth: 9.0
Company: RMRS Project No.: CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/LITHOLOGIC LOG	SAMPLE DESCRIPTION
		0.9/2.0					GM		1408	0.0 – 0.8 silty Gravel, GM, grayish brown (5YR 3/2) f-c gravel, f-c sand, silt, dry-sl moist, mdm dense 9 gw 8/27/97
								1		0.8 – 0.8 clayey gravel, GC, dark reddish brown (10R 3/4) f-c gravel, f-c sand, sl plastic-plastic clay matrix, moist mdm dense No Recov 0.9-2.0
		1.8/2.0					GC	2	1415	2.0 – 3.8 Same as 0.8-0.9 becomes mod yellowish brown at 2.25 (10YR 5/4)
								3		
		2.0/2.0	BH17034RM				GC	4	1422	4.0 – 6.0 same as 2.0-3.8 BH17034RM voa 5.0-5.5
								5		
		—						6		No Recovery 6.0-7.0 driller notes water
		1.8/2.0					SW	7	1435	7.0 – 8.8 Gravelly sand (SW) dark yellowish orange (10YR 6/6) f-c sand, f-c gravel, trace silt + clay, saturated, very dense No Recov 8.8-9.0
								8		TD=9.0 ft
								9		14:52 water level at 5.97
								10		

NOTES: General: USCS is modified for this log as follows: E06303 RM
Materials amounts are estimated by % volume instead of % weight. 15:01 BP17017RM 0-9.0
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

40

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 1

Borehole Number: BH18597
Location - North: 751642 East: 2082120
Date: 8-28-97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6006
Area: ~~FHSS~~ 170
Total Depth: 9.0
Company: RMRS Project No. CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.0/2.0					GC	1	1152	0.0 – 1.0 silty clayey gravel (GC) 13 dark yellowish brown (10YR5/2) 18 7 becomes dark reddish brown 15 (10R3/4) at 0.5, f-c gravel f-c sand, silty clay matrix, sl plastic dry-moist mdm dense No Recov 1.0-2.0
		2.0/2.0					GC	2	1158	2.0 – 4.0 same as 0.0-1.0 19 becomes dense 30 becomes yellowish gray (5Y7/2) 23 at 3.8 24
		2.0/2.0	BH17037RM				GC	4	1205	4.0 – 6.0 same as 0.0-1.0 23 becomes mod yellowish brown 27 (10YR5/4) + very dense 20 30
								5		BH17037RM vol 5.0-5.5
		1.6/2.0					SW	6	1212	6.0 – 7.6 gravelly sand (SW) 12 w/some clay, mod yellowish brown 20 (10YR5/4), f-c sand, f-c gravel 40 29 some silt and clay matrix wet to saturated, very dense water on sample barrel water at @ 6.2 ft -6.4
								7		
		1.0/1.0					GC	8	1218	No Recov 7.6-8.0 8.0 – 9.0 clayey gravel (GC) light olive gray (5Y5/2), f-c gravel 6 f-c sand, sl plastic clay matrix 17 50 for lin
								9		TD = 9.0
								mw 8/27/97		13:50 water level at 6.95
								10		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible
(2) Core breaks cannot be matched, accurate footage measurements not possible

E06301
BP17018RM 0-9.0'
1228

41

(4011-930-0134-930)(Form GT.1A)(03/01/92)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT — FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 1

Borehole Number: BH18697
Location - North: 751650 East: 2082148
Date: 8/28/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6005
Area: IHSS 120
Total Depth: 10.0
Company: RMRS
Project No. CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		0.8/2.0					GC	1	1253 14 19 20 19	0.0 - 0.8 clayey gravel, GC, dark reddish brown (10R 3/4) f-c gravel, f-c sand, sl plastic clay matrix, dense, sl. moist-moist
		2.0/2.0								0.8 - 2.0 No Recov
							GC	2	1309	2.0 - 4.0 cont GC same as 0.0 - becomes light brown (5YR 6/6) to light brown (5YR 4/4)
								3	23 24 18 23	
		2.0/2.0	BH17038RM				GC	4	1313 1443 mw 8/28/97 26 39 40 40	4.0 - 6.0 same as 0.0 - 0.8
								5		BH17038RM VOA 5.0-5.5
		1.9/2.0					SW	6	1322 1428 mw 8/28/97 24 34 41 34	6.0 - 7.9 Gravelly ~~clay~~ sand (SW) with clay, dark yellowish orange (10YR 6/6) f-c sand, f-c gravel wet-saturated some-trace clay very dense
								7		estimated of 6.2 to 6.4
								8	1335	No Recov 7.9 - 8.0
		1.1/2.0								8.0 - 8.8 same as 6.0 - 7.9
							GC	9	27 32 34 25	8.8 - 9.7 clayey gravel, GC, mottled dark yellowish orange (10YR 6/6), moderate (5YR 4/6), to mod yellowish brown (10YR 5/4), f-c gravel, f-c sand, calcified clay matrix, wet-moist
								10		No Recovery 9.7 - 10.0 TD = 10.0

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

E06299
BP17019RM
1350

42

4011-930-0134-930X(Form GT.1A)(03/01/92)

1355 water level

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT-1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 3

Borehole Number: BH 18797
Location - North: 751756 East: 2082637
Date: 9/2/97
Geologist: M. Ward
Drilling Equip.: CME-75

Surface Elevation: 5997
Area: PU+D
Total Depth: 22.0
Company: RMRS Project No. CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.7/2.0					GC	0935		0.0-1.7 clayey gravel, GC, mod brown (5YR 3/4) to dusky brown (5YR 2/2) f-c gravel, f-c sand, moist, sl plastic clay matrix ~~1.0-1.5 BH17040RM voa~~ 0940 MW 9/2/97 mdm dense
								1		No Recov 1.7-2.0
		1.5/2.0					GC	2	945	2.0-3.5 same as 0.0-1.7
								3		No Recov 3.5-4.0
		1.5/20	BH17041RM				ML	4	0950	4.0-5.5 sandy ~~clay~~ silt, ~~CL~~ ML, dusky yellow (5Y 6/4) f-m sand, trace gravel, moist, stiff, sl plastic silty clay MW 9/2/97
								5		BH17041RM voa 4.5-5.0
										No Recov 4.5-6.0
		1.5/20					ML	6	1002	6.0-7.5 cont same as 4.0-5.5
								7		No Recov 7.5-8.0
		1.7/2.0					CL/GC	8	1010	8.0-9.7 Gravelly clay (CL)/GC w/ sand yellowish gray (5Y 7/2) f-c gravel, f-c sand, silty clay matrix, moist, very stiff to hard
								9		No Recov 9.7-10.0
								10		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

43

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT-1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 2 OF 3

Borehole Number: BH18797
Location - North: 751756 East: 2082637
Date: 9/2/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 5997
Area: PU+D
Total Depth: 22.0
Company: RMRS
Project No.: CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.2/2.0	BH17042RM				GW	10	1027	10.0-11.2 sandy Gravel GW w/clay light brown (5YR 5/6) to yellowish gray (5Y 7/2) f-c gravel, f-c sand, sl plastic clay matrix, very dense moist-wet-poss water; 26, 18, 36, 50 for 5in
								11		BH17042RM von 10.5-11.0
		1.4/2.0					GW	12	1057	No Recov. 11.2-12.0; 12.0-13.4 same as 10.0-11.2
			BH17040RM					13		No Recov 13.4-14.0
		1.0/1.0					GW	14	1103	14.0-15.0 same as 10.0-11.2; 46, ~~50 for 5in~~ 80 per 9/2/97
								15		BH17040RM von 14.0-14.5
		2.0/2.0					SC	16		hand drilling 15.0-16.0-No Recov; 16.0-16.5 clayey sand (SC), l-shot brown (5YR 6/6) f-c sand, plastic clay matrix, moist; 6, 7, 8, 18
							CL	17		16.5-17.5 clay (CL/CH), pale olive (10Y 6/2), moist, stiff, w/trace sand
		2.0/2.0					SC	18	1028	17.5-18.0 clayey sand SC same as 16.0-16.5; 18.0-19.6 same as 16.0-16.5; 5, 8, 10, 12
								19		19.6-20.0 clay CL same as 16.5-17.5
							CL	20		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

44

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT-1A (REV. 72)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 3 OF 3

Borehole Number: BH18797
Location - North: 751756 East: 2082637
Date: 9/2/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 5997
Area: PU+D
Total Depth: 22.0
Company: RMRS Project No.: CB032UIN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		2/20	BH17043RM				CL	20	1140	20.0 - 20.2 clay same as 16.5-17.5
							SC			20.2-22.0 clayey sand, sand same as 16.0=16.5 moist to wet
								21		
										BH17043RM voa 20.5-21.0 1800 water level at 21.5
								22		TD=22.0
								23		BP17020RM 0-22.0' 1305 E063149RM mw 9/3/97
								24		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

45

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH18897
Location - North: 751768 East: 2082780
Date: 9/2/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 5995
Area: PU+D, IHSS 120
Total Depth: 22.0
Company: RMRS
Project No.: BD320FN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.4/2.0					GM	1	1355 9 8 13 17	0.0-1.4 silty Gravel GM, w/clay grayish brown (5YR3/2) f-c gravel fr sand, sl moist, sl plastic clay matrix Trace roots at 0.0-0.2, dense
										No Recov 1.4-2.0
		2.0/2.0					GC	2	1352 17 23 34 34	2.0-4.0 Clayey gravel, GC moderate brown (5YR4/4), f-c gravel fr sand, sl moist, sl plastic clay matrix, very dense
								3		
		0.5/0.9	BH17044RM				GC	4	1411 30 50 for 5in	4.0-4.5 same as 2.0-4.0
								5		BH17044RM voa 4.0-4.5
										No Recov 4.5-6.0
		2.0/2.0					GC	6	1424 17 21 23 17	6.0-8.0 cont same as 2.0-4.0 trace caliche
								7		
		1.6/2.0					GC	8	1430 18 19 12 15	8.0-9.6 same as 2.0-4.0
								9		
								10		No Recov 9.6-10.0

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

46

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH18897
Location - North: 751768 East: 2082780
Date: 9/2/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 5995
Area: PU + D IHSS 170
Total Depth: 22.0
Company: RMRS Project No. CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		2.0/2.0	BH17045RM				GC	10	1438	10.0 – 11.8 same as 2.0-4.0
										24 24 22 11
								11		BH17045RM 11.0-11.5
										11.8-12.0 sandy clay (CL) mod brown (5YR 4/4) to pale olive (10Y6/2) f-m sand, moist, plastic
		0.6/2.0					CL	12	1504	
								13		12.0 – 12.6 same as 11.8-12.0
										6 6 9 10 No Recov 12.6-14.0
		2.0/2.0	BH17046RM				CL	14	1512	14.0 – 16.0 same as 11.8-12.0
										3 5 7 7
								15		BH17046RM 15.0-15.5 Von
		2.0/2.0						16		16.0 – 17.0 same as 11.8-12.0
										4 8 12 16
							SC	17		17.0 – 18.0 clayey sand (SC) w/ trace gravel, light brown (5YR 5/6) moist, f-c sand mdm dense, plastic clay matrix
		2.0/2.0					CL	18		18.0 – 20.0 sandy clay, CL, f-m sand, plastic, stiff to very stiff
										3 4 7 11 increase in sand 19.8'
								19		
								20		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

47

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

Borehole Number: BH18897
Location - North: 751768 East: 2082780
Date: 9/2/97
Geologist: M. Word
Drilling Equip.: CME-75

Surface Elevation: 5995
Area: PU+D, IHSS 170
Total Depth: 22.0
Company: RMRS Project No.: CR0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR

APPROVAL _____ DATE _____

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		20/2.0	BH17047RM				CL	20		20.0-21.3 same as 18.0-20.0
										5 6 9 11 21.3-22.0 same as 17.0-18.0 wet-sat.
								21		
							SC			BH17047RM voa 20.5-21.0
								22		TD=22.0
										E06315RM & E06317RM
										1552 BP17021RM 0.28.0
								23		9/3/97 0905 water at 20.51
										GW17009RM voa 0930 sl brown/turbid
								24		turn boring over to WARP to install monitoring well
								25		
								26		
								27		
								28		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

48

(4011-930-0134-930)(Form GT.1A)(03/01/92)

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 1 OF 2

Borehole Number: BH18997
Location - North: 751751 East: 2082010
Date: 9/4/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6007
Area: IHSS 174A
Total Depth: 12.4 ft
Company: RMRS Project No.: CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		1.6/2.0					GM		0930 11 16 11	0.0-1.0 silty gravel, GM, dark yellowish brown (10YR4/2), f-c gravel, f-c sand, silt, clay, mdm dense
							GC	1	16	1.0-1.6 clayey Gravel, GC dark reddish brown (10R3/4) f-c gravel, f-c sand moist mdm dense, sl plastic clay matrix
										No Recov 1.6-2.0
		2.0/2.0					GC	2	0937	2.0-4.0 cont same as 1.0-1.6
								3		
		1.5/2.0	BH17049RM				GC	4	0958 15 22 33 22	4.0-5.5 same as 1.0-1.6
								5		BH17049RM voa 5.0-5.5 rad screen 4.5-5.0
		2.0/2.0								No Recov 5.5-6.0
							GC	6	1006 19 19 13 14	6.0-8.0 same as 1.0-1.6 becomes pale olive (10Y6/2)
								7		
		2.0/2.0					GC	8	1015 10 24 8 52	8.0-10.0 same as 1.0-1.6 pale olive (10Y6/2) to dusky red (5R3/4)
								9		BH17050RM voa 9.5-10.0 rad screen 9.0-9.5
								10		

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

49

U.S. DEPARTMENT OF ENERGY ROCKY FLATS PLANT FORM GT.1A (REV. 2)

ROCKY FLATS PLANT BOREHOLE LOG

PAGE 2 OF 2

Borehole Number: BH18997
Location - North: 751751 East: 2082010
Date: 9/4/97
Geologist: M. Wood
Drilling Equip.: CME-75

Surface Elevation: 6007
Area: IHSS 174A
Total Depth: 12.4 ft
Company: RMRS Project No.: CB0320IN
Sample Type: SS

EG&G LOGGING SUPERVISOR APPROVAL [signature] DATE 9/24/97

TOP/BOTTOM OF CORE IN BOX	TOP/BOTTOM OF INTERVAL	FEET OF CORE IN INTERVAL (FIELD MEASUREMENT)	SAMPLE NUMBER	FRACTURE ANGLE	BEDDING ANGLE	GRAIN SIZE DISTRIBUTION	USCS SYMBOL	DEPTH IN FEET	SOIL/ LITHOLOGIC LOG	SAMPLE DESCRIPTION
		0.2/0.4					GC	10	10:45	10.0 – 10.2 same as 1.0-1.6 dark yellowish orange (10YR 6/0) 100 fr Sm moist encounter cobble/boulder at 10.4 break SS - drill to 12.0; water at 11.0 No Recov. 10.2-12.0
								11	11:05	12.0 – 12.4 Gravelly sand (SW) 50 fr Sm mod yellowish brown (10YR 5/4) to orange brown f-c sand, f-c gravel, wet-saturated, very dense trace clay/silt
							SW	12		TD = 12.4
								13		BP17D22RM 0-12.0 1110
								14		E06316RM

NOTES: General: USCS is modified for this log as follows:
Materials amounts are estimated by % volume instead of % weight.
(1) Badly broken core, accurate footage measurements not possible.
(2) Core breaks cannot be matched, accurate footage measurements not possible.

50

(4011-930-0134-930)(Form GT.1A)(03/01/92)

APPENDIX B

VOC ANALYTICAL RESULTS

IHSS 170/174 SAMPLE COLLECTION FORMS

LOGBOOK: ER-IHSS 170/174-LB-97-222

DATE: 8/19/97

RIN#: 97A2438 SAMPLERS: M. Wood

QC/PEER REVIEW: C Bogert B Bogert 8/20/97
Print/Sign/Date

	TIME	EVENT	BOTTLE	ANALYTE	RFEDS #	LOCATION	QC
	1125	001	001	VOA MET RAD	BH17007RM	17297	TB RB DUP
	1125	001	002	VOA MET RAD	BH17007RM	17297	TB RB DUP
				VOA MET RAD			TB RB DUP
	1150	002	003	VOA MET RAD	BH17008RM	17297	TB RB DUP
	1150	002	004	VOA MET RAD	BH17008RM	17297	TB RB DUP
				VOA MET RAD			TB RB DUP
	1250	003	005	VOA MET RAD	BP17000RM	17297	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1540	004	006	VOA MET RAD	BH17009RM	17397	TB RB DUP
		004	007	VOA MET RAD	BH17009RM		TB RB DUP
				VOA MET RAD			TB RB DUP
	1620	005	008	VOA MET RAD	BH17010RM	17397	TB RB DUP
	1620	005	009	VOA MET RAD	BH17010RM	17397	TB RB DUP
				VOA MET RAD			TB RB
	1635	006	010	VOA MET RAD	BP17001RM	17397	TB RB
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1700	007	011	VOA MET RAD	BH17011RM	17397	TB RB DUP
		007	012	VOA MET RAD	BH17011RM	17397	TB RB DUP
				VOA MET RAD			TB RB DUP
		008		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		009		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		010		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		011		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		012		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		013		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB
		014		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		015		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP

8-19-97

52

IHSS 170/174 SAMPLE COLLECTION FORMS

LOGBOOK: ER-IHSS 170/174-LB-97-222

DATE: 8/18/97

RIN#: 97A2437 **SAMPLERS:** M R WOOD

QC/PEER REVIEW: CBogert CBogert 8/18/97
Print/Sign/Date

	TIME	EVENT	BOTTLE	ANALYTE	RFEDS #	LOCATION	QC
	1020	001	001	VOA MET RAD	BH17000RM	17097	TB RB DUP
		001	002	VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1045	002	003	VOA MET RAD	BH17001RM	17097	TB RB DUP
		002	004	VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1115	003	005	VOA MET RAD	CB 8/20/97 BH17002RM	17097	TB RB DUP
			~~012~~	~~VOA MET RAD~~ MAW 8/18/97			TB RB DUP
				VOA MET RAD			TB RB DUP
	1330	004	006	VOA MET RAD	BH17003RM	17197	TB RB DUP
		004	007	VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1352	005	008	VOA MET RAD	BH17004RM	17197	TB RB DUP
		005	009	VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1420	006	010	VOA MET RAD	CB 8/20/97 BH17005RM	17197	TB RB DUP
			~~011~~	~~VOA MET RAD~~ MAW 8/18/97			TB RB DUP
				VOA MET RAD			TB RB DUP
	1500	007	011	VOA MET RAD	BH17006RM	17197	TB RB DUP
	1500	007	012	VOA MET RAD	BH17006RM	17197	TB RB DUP
				VOA MET RAD			TB RB DUP
		008		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		009		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		010		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		011		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		012		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		013		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		014		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		015		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP

53

IHSS 170/174 SAMPLE COLLECTION FORMS

LOGBOOK: ER-IHSS 170/174-LB-97-222

DATE: 8/21/97

RIN#: 97A2440 SAMPLERS: MR Wood

QC/PEER REVIEW: C Bogert C Bogert 8/25/97
Print/Sign/Date

	TIME	EVENT	BOTTLE	ANALYTE	RFEDS #	LOCATION	QC
	0925	001	001	(VOA) MET RAD	BH17018RM	BH17697	TB RB DUP
	0925	001	002	VOA MET (RAD)	BH17018RM	17697	TB RB DUP
				VOA MET RAD	MRW 8/21/97		TB RB DUP
	0950	002	003	(VOA) MET RAD	BH17019RM	17697	TB RB DUP
	0950	002	004	VOA MET (RAD)	BH17019RM MRW 8/21/97	17697	TB RB DUP
	1010	006	005/006a	(VOA) MET RAD	BH17008RM	17697	TB (RB) DUP
	1025	003	007	VOA (MET) RAD	BP17007RM	17697	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1118	004	008	(VOA) MET RAD	BH17020RM	BH17797	TB RB DUP
	1118	004	009	VOA MET (RAD)	BH17020RM	17797	TB RB DUP
				VOA MET RAD			TB RB DUP
		005	~~010~~	~~(VOA) MET RAD~~	MRW 8-21-97 BH17021RM	~~17797~~	TB RB DUP
			~~011~~	~~VOA MET (RAD)~~	~~BH17021RM~~ MRW 8/21/97	~~17797~~	TB RB DUP
	1308	005	010	VOA (MET) RAD	BP17608RM	17797	TB RB
		006		VOA MET RAD		MRW 8/21/97	TB RB
	1500	007	011	(VOA) MET RAD	BH17021RM	17797	(TB) RB DUP
	1500	007	012	(VOA) MET RAD	BH17021RM	17797	(TB) RB DUP
		007		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		008		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		009		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		010		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		011		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		012		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		013		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		014		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		015		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP

54

IHSS 170/174 SAMPLE COLLECTION FORMS

LOGBOOK: ER-IHSS 170/174-LB-97-222

DATE: 8/20/97

RIN#: 97A24 39 **SAMPLERS:** R. Wood

QC/PEER REVIEW: C Bogert C Bogert 8/25/97
Print/Sign/Date

	TIME	EVENT	BOTTLE	ANALYTE	RFEDS #	LOCATION	QC
	1030	001	001	(VOA) MET RAD	BH17012RM	BH 17497	TB RB DUP
	1030	001	002	VOA MET (RAD)	BH17012RM	17497	TB RB DUP
				VOA MET RAD			TB RB DUP
	1103	002	003	(VOA) MET RAD	BH17013RM	17497	TB RB DUP
			~~004~~	~~VOA MET (RAD)~~	~~BH17013RM~~	~~17497~~	TB RB DUP
	1103	002	004	VOA MET (RAD)	MRW 8-20-97 BH17013RM	stet 17497	TB RB DUP
	1133	003	005	VOA MET (RAD)	BH17014RM	17497	TB RB DUP
	1133	003	006	(VOA) MET RAD	BH17014RM	17497	TB RB DUP
				VOA MET RAD	MRW 8-20-97		TB RB DUP
	1205	004	007	VOA (MET) RAD	BH17005RM	17497	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1330	005	008	(VOA) MET RAD	GW17000RM	17497	TB RB DUP
	1330	005	009	(VOA) MET RAD	GW17000RM	17497	TB RB DUP
	1330	005	010	VOA MET (RAD)	GW17000RM	17497	TB RB
	1415	006	011	(VOA) MET RAD	BH17015RM	17597	TB RB DUP
	1415	006	012	VOA MET (RAD)	BH17015RM	17597	TB RB DUP
				VOA MET RAD			TB RB DUP
	1533	007	013	(VOA) MET RAD	BH17016RM	17597	TB RB DUP
	1533	007	014	VOA MET (RAD)	BH17016RM	17597	TB RB DUP
	~~1533~~	~~007~~	~~015~~	~~(VOA) MET RAD~~	~~BH17016RM~~ CB 8/25/97	~~17597~~	~~TB RB (DUP)~~
	1555	008	016	VOA (MET) RAD	BP17006RM	17597	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1615	009	017	(VOA) MET RAD	BH17017RM	17597	(TB) RB DUP
	1615	009	018	(VOA) MET RAD	BH17017RM	17597	(TB) RB DUP
				VOA MET RAD			TB RB DUP
	1533	010	015	(VOA) MET RAD	BH17005RM	17597	TB RB (DUP)
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		011		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		012		VOA MET RAD			TB RB DUP
				VOA MET RAD	BH 8/20/97		TB RB DUP
				VOA MET RAD			TB RB DUP
		013		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		014		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		015		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP

55

IHSS 170/174 SAMPLE COLLECTION FORMS

LOGBOOK: ER-IHSS 170/174-LB-97-222

DATE: 8/25/97

RIN#: 97A24 42 SAMPLERS: M. Wood

QC/PEER REVIEW: CBogert CBogert 8/26/97
Print/Sign/Date

	TIME	EVENT	BOTTLE	ANALYTE	RFEDS #	LOCATION	QC
	1050	001	001	(VOA) MET RAD	GW17002RM	BH 17997	TB RB DUP
	1050		002	(VOA) MET RAD	GW17002RM	17997	TB RB DUP
		MRW 8/25/97	~~003~~	~~(VOA) MET RAD~~	~~GW17003RM~~		TB RB DUP
	1052	002	003	(VOA) MET RAD	GW17003RM	17997	TB RB (DUP)
	1052		004	(VOA) MET RAD	GW17003RM	17997	TB RB (DUP)
				VOA MET RAD			TB RB DUP
	1000	003	005	(VOA) MET RAD	GW17004RM	17997	(TB) RB DUP
	1000		006	(VOA) MET RAD	GW17004RM	17997	(TB) RB DUP
				VOA MET RAD			TB RB DUP
	1100	004	007	(VOA) MET RAD	GW17005RM	17997	TB (RB) DUP
			008	(VOA) MET RAD	GW17005RM	17997	TB (RB) DUP
				VOA MET RAD			TB RB DUP
	1025	005	009	VOA (MET) RAD	BP17010RM	17997	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1107	006	010	(VOA) MET RAD	BH17028RM	BH18097	TB RB
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1110	007	011	(VOA) MET RAD	BH17029RM	18097	TB RB (DUP)
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		~~008~~	~~012~~	~~(VOA) MET RAD~~	~~BH17030RM~~	~~18097~~	~~TB RB DUP~~ MRW 8/25/97
	1342	008	012	(VOA) MET RAD	GW17006RM	18097	TB RB DUP
	1342	008	013	(VOA) MET RAD	GW17006RM	18097	TB RB DUP
	1355	009	014	VOA (MET) RAD	BP17011RM	18097	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1357	010	015	VOA (MET) RAD	BP17012RM	18097	TB RB (DUP)
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1405	011	016	VOA (MET) RAD	BP17013RM	18097	TB (RB) DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1507	012	017	(VOA) MET RAD	BH17030RM	BH 18197	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1535	013	018	VOA (MET) RAD	BP17014RM	18197	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD	MRW 8/25/97		TB RB DUP
	1600	014	019	(VOA) MET RAD	~~BH17~~GW17007RM	18197	TB RB DUP
			020	(VOA) MET RAD	GW17007RM	18197	TB RB DUP
				VOA MET RAD			TB RB DUP
		015		~~VOA MET RAD~~	MRW		TB RB DUP
				VOA MET RAD	8-25-97		TB RB DUP
				VOA MET RAD			TB RB DUP

56

IHSS 170/174 SAMPLE COLLECTION FORMS

LOGBOOK: ER-IHSS 170/174-LB-97-222

DATE: 8/22/97

RIN#: 97A2441 **SAMPLERS:** M R Wood

QC/PEER REVIEW: C Bogert C Bogert 8/25/97
Print/Sign/Date

	TIME	EVENT	BOTTLE	ANALYTE	RFEDS #	LOCATION	QC
	1037	001	001	VOA MET RAD	BH17022RM	BH17897	TB RB DUP
	1037		002	VOA MET RAD	BH17022RM	BH17897	TB RB DUP
				VOA MET RAD			TB RB DUP
	1113	002	003	VOA MET RAD	BH17023RM	BH17897	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1432	003	004	VOA MET RAD	BH17024RM	BH17997	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1155	004	005	VOA MET RAD	GW17001RM	BH17897	TB RB DUP
	1155		006	VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1212	005	007	VOA MET RAD	BP17009RM	BH17897	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		~~006~~	~~008~~	~~VOA MET RAD~~	GW17002RM	~~BH17997~~	~~TB RB DUP~~
			~~009~~	~~VOA MET RAD~~	~~GW17002RM~~	~~BH17997~~	~~TB RB DUP~~
			~~010/011~~	~~VOA MET RAD~~	~~GW17002RM~~		~~TB RB DUP~~
	1505	007	012	VOA MET RAD	BH17025RM	17997	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1600	008	013	VOA MET RAD	BH17026RM	17997	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1616	009	014	VOA MET RAD	BH17027RM	17997	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		010		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		011		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		012		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		013		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		014		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		015		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP

MRW 97
8/22

57

IHSS 170/174 SAMPLE COLLECTION FORMS

LOGBOOK: ER-IHSS 170/174-LB-97-222

DATE: 8-28-97

RIN#: 97A2444 **SAMPLERS:** M. R. Wood

QC/PEER REVIEW: CBogert CBogert 8/29/97
Print/Sign/Date

	TIME	EVENT	BOTTLE	ANALYTE	RFEDS #	LOCATION	QC
	1125	001	001	(VOA) MET RAD	BH17036RM	BH18597	(TB) RB DUP
	1125		002	(VOA) MET RAD	BH17036RM	18597	(TB) RB DUP
				VOA MET RAD			TB RB DUP
	1205	002	003	(VOA) MET RAD	BH17037RM	18597	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1228	003	004	VOA (MET) RAD	BP17018RM	18597	TB RB DUP
				VOA MET RAD			TB RB DUP
	1313			VOA MET RAD			TB RB DUP
	1313	004	005	(VOA) MET RAD	BH17038RM	BH18697	TB RB DUP
	8/28/97			VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1350	005	006	VOA (MET) RAD	BP17019RM	18697	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB D
		006		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		007		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		008		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		009		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		010		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		011		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		012		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		013		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		014		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		015		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP

8-28-97

58

IHSS 170/174 SAMPLE COLLECTION FORMS

LOGBOOK: ER-IHSS 170/174-LB-97-222

DATE: 8-27-97

RIN#: 97A2443 **SAMPLERS:** M.R. Wood

QC/PEER REVIEW: C Bogert C Bogert 8/27/97
Print/Sign/Date

	TIME	EVENT	BOTTLE	ANALYTE	RFEDS #	LOCATION	QC
	0840	001	001	VOA MET RAD	BH17031RM	BH18297	TB RB DUP
	0840	002	002	VOA MET RAD	BH17031RM	18297	TB RB DUP
				VOA MET RAD			TB RB DUP
	1017	002	003	VOA MET RAD	BH17032RM	18297	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1050	003	004	VOA MET RAD	BP17015RM	18297	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1152	004	005	VOA MET RAD	BH17033RM	BH18397	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1220	005	006	VOA MET RAD	BP17016RM	18397	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1422	006	007	VOA MET RAD	BH17034RM	BH18497	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1445	007	008	VOA MET RAD	BH17035RM	18497	TB RB DUP
		007	009	VOA MET RAD	BH17035RM	18497	TB RB DUP
				VOA MET RAD			TB RB DUP
	1500	008	010	VOA MET RAD	BP17017RM	18497	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		009		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		010		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		011		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		012		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		013		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		014		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		015		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP

8-27-97

59

IHSS 170/174 SAMPLE COLLECTION FORMS

LOGBOOK: ER-IHSS 170/174-LB-97-222

DATE: 9/3/97

RIN#: 97A2446 **SAMPLERS:** M R Wood

QC/PEER REVIEW: C Bogert C Bogert 9/3/97
Print/Sign/Date

	TIME	EVENT	BOTTLE	ANALYTE	RFEDS #	LOCATION	QC
	0920	001	001	(VOA) MET RAD	GW17008RM	BH18897	(TB) RB DUP
	0920		002	(VOA) MET RAD	GW17008RM	BH18897	(TB) RB DUP
				VOA MET RAD			TB RB DUP
	0930	002	003	(VOA) MET RAD	GW17009RM	BH18897	TB RB DUP
	0930		004	(VOA) MET RAD	GW17009RM	BH18897	TB RB DUP
				VOA MET RAD			TB RB DUP
	1105	003	005	VOA MET (RAD)	SS17000RM	SS17097	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1107	004	006	VOA MET (RAD)	SS17001RM	SS17097	TB RB (DUP)
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1120	005	007	VOA MET (RAD)	SS17002RM	SS17197	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB D
	1125	006	008	VOA MET (RAD)	SS17003RM	SS17297	TB RB DU
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		007		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		008		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		009		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		010		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		011		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		012		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		013		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DU
				VOA MET RAD			TB RB DU
		014		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		015		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			

M R Wood 9-3-97

60

IHSS 170/174 SAMPLE COLLECTION FORMS

LOGBOOK: ER-IHSS 170/174-LB-97-222

DATE: 9/2/97

RIN#: 97A24 45 SAMPLERS: M R Wood

QC/PEER REVIEW: C Boger + C Boger 9/3/97
Print/Sign/Date

	TIME	EVENT	BOTTLE	ANALYTE	RFEDS #	LOCATION	QC
	0915	001	001	(VOA) MET RAD	BH17039RM	BH18797	(TB) RB DUP
			002	(VOA) MET RAD	BH17040RM	BH18797	(TB) RB DUP
				VOA MET RAD	29 mw 9/2/97		TB RB DUP
	~~0940~~	~~002~~ mw	~~003~~	~~(VOA) MET RAD~~	~~BH17040RM~~	~~18797~~	~~TB RB DUP~~
		9/2/97		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	0950	003	004	(VOA) MET RAD	BH17041RM	18797	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1027	004	005	(VOA) MET RAD	BH17042RM	18797	TB RB DUP
	1105	002	003	(VOA) MET RAD	BH17040RM	18797	TB RB DUP
				VOA MET RAD			TB RB DUP
	1140	005	006	(VOA) MET RAD	BH17043RM	18797	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1305	006	007	VOA (MET) RAD	BP17020RM	18797	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1411	007	008	(VOA) MET RAD	BH17044RM	18897	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1438	008	009	(VOA) MET RAD	BH17045RM	18897	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1518	009	010	(VOA) MET RAD	BH17046RM	18897	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1540	010	011	(VOA) MET RAD	BH17047RM	18897	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
	1552	011	012	VOA (MET) RAD	BP17021RM	18897	TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		012		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		013		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		014		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		015		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP

9708.223

1 of 1

SAMPLERS (Signature) M Wood

REPORT IDENTIFICATION NUMBER (RIN) 97A2437

LAB/LOCATION: Paragon

RFETS CONTRACTOR RMRS

ROCKY FLATS
ENVIRONMENTAL TECHNOLOGY SITE
CHAIN OF CUSTODY NUMBER REP 901509

	DATE	TIME	EVENT	BOTTLE	USER ID	LOCATION	CONTAINER	MATRIX	Cadmium-4	Mod Level 8260	SS01B006	SS01B005	8260
01	8/18/97	1020	001	001	BH17000RM	BH17097	core	S	X		U		
02		1045	002	003	BH17001RM	BH17097	core	S	X		U		
03		1330	004	006	BH17003RM	BH17197	120mLG	S	X		U		
04		1352	005	008	BH17004RM	BH17197	core	S	X		U		
05		1500	007	011	BH17006RM	BH17197	40mLG	W	X	X		R	
06		1500	007	012				W	X	X			

DB 8/18/97

Relinquished By:	Date	Time	Received By/Organization	Date	Time		
Mark Wood	8/18/97	1510	[signature]	8/18/97	1510	PCKG REC'D/CUSTODY SEALS INTACT	✓
[signature]	8/19/97	1625	Tom Lindsay	8/19/97	1625	SAMPLE LABELS/COCs AGREE	✓
			Brian Penman / Paragon	8/20/97	0840	TEMPERATURE AT TIME OF RECEIPT 5 °C	

REMARKS:

Charge #

Project PU+D

Shipping Requirements: Overnight Delivery [X] 2-Day Delivery [ ] Air Bill No.

APO COC 6/5/97

U = 3 day TA

62

IHSS 170/174 SAMPLE COLLECTION FORMS

LOGBOOK: ER-IHSS 170/174-LB-97-222

DATE: 9/4/97

RIN#: 97A2447 SAMPLERS: M. R. Wood

QC/PEER REVIEW: C Bogert C Bogert 9/8/97
Print/Sign/Date

	TIME	EVENT	BOTTLE	ANALYTE	RFEDS #	LOCATION	QC
	0900	001	001	VOA MET RAD	BH17048RM	BH18997	TB RB DUP
	0900		002	VOA MET RAD	BH17048RM	18997	TB RB DUP
				VOA MET RAD			TB RB DUP
	0958	002	003	VOA MET RAD	BH17049RM	18997	TB RB DUP
	0958		004	VOA MET RAD	BH17049RM	18997	TB RB DUP
				VOA MET RAD			TB RB DUP
	1015	003	005	VOA MET RAD	BH17050RM	18997	TB RB DUP
	1015		006	VOA MET RAD	BH17050RM	18997	TB RB DUP
				VOA MET RAD	MWood 9/4/97		TB RB DUP
		~~004~~	~~007~~	~~VOA MET RAD~~	~~BH17051RM~~	~~18997~~	~~TB RB DUP~~
			~~008~~	~~VOA MET RAD~~	~~BH17051RM~~	~~18997~~	~~TB RB DUP~~
		Rejected		VOA MET RAD		MW 9/4/97	TB RB DUP
	1110	005	007	VOA MET RAD	BP17022RM	18997	TB RB DUP
	1110		008	VOA MET RAD	BP17022RM	18997	TB RB DUP
				VOA MET RAD			TB RB DUP
		006		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		007		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		008		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		009		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		010		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		011		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		012		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		013		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		014		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
		015		VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP
				VOA MET RAD			TB RB DUP

MWood 9/4/97

63

7-09.112

1 of 1

SAMPLERS (Signature) MR Wood

REPORT IDENTIFICATION NUMBER (RIN) 97A2447

LAB/LOCATION: Paragon

RFETS CONTRACTOR RMRS

ROCKY FLATS
ENVIRONMENTAL TECHNOLOGY SITE
CHAIN OF CUSTODY NUMBER RFP901569

DATE	TIME	EVENT	BOTTLE	USER ID	LOCATION	CONTAINER	MATRIX	Cooler #	HNO3	HNO3	HCl			SS01B005 8260	SS01B010 Med Level 8260										
9-4-97	0900	001	001	BH17048RM	BH18997	40ml	W	X			X			R											
9-4-97	0900	001	002	BH17048RM	BH18997	40ml	W	X			X														
9-4-97	0958	002	003	BH17049RM	BH18997	Core	S	X								1									
9-4-97	1015	003	005	BH17050RM	BH18997	Core	S	X								1									
~~9-4-97~~	~~1110~~	~~004~~	~~007~~	~~BP17002RM~~	~~BH18997~~	~~KMK 9-4-97~~	~~S~~																		

CB 9/8/97

Relinquished By:	Date	Time	Received By/Organization	Date	Time		
Mark Wood	9/4/97	1150	Kristen Kelly	9-4-97	1150	PCNG REC'D/CUSTODY SEALS INTACT	
Kristen Kelly	9-9-97	1100	K. Marks	9-9-97	11:50	SAMPLE LABELS/COCs AGREE	
K Marks	9-9-97	13:20	Don Sipper	9/8/97	13:20	TEMPERATURE AT TIME OF RECEIPT ___°C	

REMARKS:

Charge # CB0320IN

Project PU+D

Shipping Requirements: Overnight Delivery ☐ 2-Day Delivery ☐ Air Bill No.

Hand Carry

* 7 day TA

APO COC 8/8/97

64

1 of 1

SAMPLERS (Signature) MR WOOD / 97-09-038

REPORT IDENTIFICATION NUMBER (RIN) 97A 2446 LAB/LOCATION: Paragon

RFETS CONTRACTOR RMRS

ROCKY FLATS
ENVIRONMENTAL TECHNOLOGY SITE
CHAIN OF CUSTODY NUMBER RFP901570

DATE	TIME	EVENT	BOTTLE	USER ID	LOCATION	CONTAINER	MATRIX	Cooled to 4°C	NaOH	HNO3	HCl	SS01B005	VOA 8260	
9/3/97	0920	001	001	GW17008RM	BH8897	40mLG	W	X			X	R		-01
↓	↓	↓	002	↓	↓	↓	W	X			X			
↓	0930	002	003	GW17009RM	↓	↓	GW	X			X	U		-02
↓	↓	↓	004	↓	↓	↓	GW	X			X			

CB 9/3/97

Relinquished By:	Date	Time	Received By/Organization	Date	Time
Mark Wood	9/3/97	1000	T891C Refrig	9/3/97	1000
T891C Refrig	9-3-97	1335	Kirsten Kelly	9-3-97	1335
Kirsten Kelly	9-3-97	1345	T891R K Mahe	9-3-97	13:45
K. Mahe	9-3-97	13:50	S Bayly	9/4/97	1080

LABORATORY USE ONLY	
PCKG REC'D/CUSTODY SEALS INTACT	
SAMPLE LABELS/COCs AGREE	
TEMPERATURE AT TIME OF RECEIPT 5°C	

REMARKS: FedX

Charge # CB0320IN

Project PU+D

Shipping Requirements: Overnight Delivery ☒ 2-Day Delivery ☐ Air Bill No. 4336 4340 0469

APO COC 8/5/97

65

Fed X

97-09-017

SAMPLERS (Signature) M R Wood

REPORT IDENTIFICATION NUMBER (RIN) 97A2445

LAB/LOCATION: Paragon

RFETS CONTRACTOR RMRS

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE CHAIN OF CUSTODY NUMBER RFP 901567

DATE	TIME	EVENT	BOTTLE	USER ID	LOCATION	CONTAINER	MATRIX	Cooled to 4°C	[illegible]	[illegible]	[illegible]	HCl	B010 ~~SS01B006~~ 9/3/97	Med level 8260	SS01B005 8260	
9/2/97	0915	001	001	BH17039RM	BH18797	40ML G	W	X				X			R	01
↓	↓	↓	002	↓	↓	↓	↓	X				X				
	0950	003	004	BH17041RM	BH18797	Core	S	X					″			02
	1027	004	005	BH17042RM	BH18797			X					″			03
	1105	002	003	BH17040RM	BH18797			X					″			04
	1140	005	006	BH17043RM	BH18797			X					″			05
	1411	007	008	BH17044RM	BH18897			X					″			06
	1438	008	009	BH17045RM	BH18897			X					″			07
	1512	009	010	BH17046RM	BH18897	↓		X					″			08
↓	1540	010	011	BH17097RM	BH18897	↓	↓	X					″			09
				Rea 9/3/97												

Relinquished By:	Date	Time	Received By/Organization	Date	Time	
Mark Wood	9/2/97	1615	T891C Refrig	9/2/97	1615	PCKG REC'D/CUSTODY SEALS INTACT
T891C Refrig	9/3/97	0835	[signature]	9/3/97	0835	SAMPLE LABELS/COCs AGREE
[signature]	9/3/97	0845	[signature]	9/3/97	0850	TEMPERATURE AT TIME OF RECEIPT 3 °C
[signature]	9/3/97	0855	[signature]	9/3/97	0855	

REMARKS: 3 day TAT B

Charge #

Relinquished by — [signature] 9/3/97 @ 1030 Received by [signature] 9/3/97 @ 1030

Project PU & D

Shipping Requirements: Overnight Delivery ☐ 2-Day Delivery ☐ Air Bill No. HAND DELIVERED

APO COC 6/5/97

66

1 of 1

SAMPLERS (Signature) MR WOOD / 97-09-003

REPORT IDENTIFICATION NUMBER (RIN) 97A2444 LAB/LOCATION: Paragon

RFETS CONTRACTOR RMRS

ROCKY FLATS
ENVIRONMENTAL TECHNOLOGY SITE
CHAIN OF CUSTODY NUMBER RFP901566

DATE	TIME	EVENT	BOTTLE	USER ID	LOCATION	CONTAINER	MATRIX	Cooled to 4°C	HNO3	HNO3	H2SO4	NaOH	8010	SS01B006	mod Level 8260	SS01B005	8260										
8/28/97	1125	001	001	BH17036RM	BH18597	40mLG	W	X				X				R											
	↓	001	002	↓	↓	↓	W	X				X															
	1205	002	003	BH17037RM	↓	Core	S	X						U													
↓	1313	004	005	BH17038RM	BH18697	Core	S	X						U													

CB 8/29/97

>01
-02
-03

Relinquished By:	Date	Time	Received By/Organization	Date	Time		
Mark Wood	8/29/97	1000	[signature]	8/29/97	1000	PCKG REC'D/CUSTODY SEALS INTACT	Y
[signature]	9/2/97	1050	[signature]	9/2/97	1050	SAMPLE LABELS/COCs AGREE	Y
[signature]	9/2/97	1300	[signature]	9/2/97	1300	TEMPERATURE AT TIME OF RECEIPT 6 °C	

REMARKS:

Charge # CB0320AN

Project PU+D

Shipping Requirements: Overnight Delivery ☒ 2-Day Delivery ☐ Air Bill No.

Hand Deliver

APO COC 8/5/97

67

SAMPLERS (Signature) MRWOOD / 97-09-002

REPORT IDENTIFICATION NUMBER (RIN) 97A2443 LAB/LOCATION: Paragon

RFETS CONTRACTOR RMRS

ROCKY FLATS
ENVIRONMENTAL TECHNOLOGY SITE
CHAIN OF CUSTODY NUMBER RFP901563

DATE	TIME	EVENT	BOTTLE	USER ID	LOCATION	CONTAINER	MATRIX	Gamma Spec	Beta	Alpha	Rad	VOC	SS01B8005 Rad Level	SS01B8005 8260												
8/27/97	0840	001	001	BH17031RM	BH18297	40mLG	W	X				X		R												01
	0840	↓	002	↓	↓	40mLG	↓	X				X														
	1017	002	003	BH17032RM	↓	Core	S	X					U													02
	1152	005	005	BH17033RM	BH18397	↓	↓	X					U													03
	1422	006	007	BH17034RM	BH18497	↓	↓	X					U													04
	1445	007	008	BH17035RM	↓	40mLG	W	X				X		R												05
↓	↓	↓	009	↓	↓	↓	W	X				X														

CB 8/28/97

Relinquished By:	Date	Time	Received By/Organization	Date	Time		
Mark Wood	8/27/97	1610	T891C refrig.	8/27/97	1610	PCKG REC'D/CUSTODY SEALS INTACT	Y
T891C Refrig	8/28/97	0815	Rachel Miller	8/28/97	0815	SAMPLE LABELS/COCs AGREE	Y
Rachel Miller	8/28/97	0906	J Yancey	8/28/97	0906	TEMPERATURE AT TIME OF RECEIPT 6 °C	
J Yancey	8/28/97	0920	Rachel Miller	8/28/97	0920		
REMARKS: Rachel Miller	8/28/97	1240	T891 Refrig	8/28/97	1240	Charge # CB0320AN	
T891C Refrig	9/2/97	1040	Rachel Miller	9/2/97	1040	Project PU+D	

Shipping Requirements: Overnight Delivery ☒ 2-Day Delivery ☐ Air Bill No. Fed X 03 9/2/97

Rachel Miller	9/2/97	1050	[signature]	9/2/97	1300
[signature]	9/2/97	1100	Hand Delivery		
			J Bayley PAI	9/2/97	1300

APO COC 8/5/97

68

9708-324

2 of 2

SAMPLERS (Signature) M R. WOOD

REPORT IDENTIFICATION NUMBER (RIN) 97A2442

LAB/LOCATION: Paragon

RFETS CONTRACTOR RMRS

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE CHAIN OF CUSTODY RFP901562

	DATE	TIME	EVENT	BOTTLE	USER ID	LOCATION	CONTAINER	MATRIX	Cooled to 4°C	NaOH	HNO3	H2SO4	HCl	SS01B006	Med level 8260	SS01_B005 8260								
08	8/25/97	1507	012	017	BH17030RM	BH18197	Core	S	X					M										
09	↓	1600	014	019	GW17007RM	BH18197	40mLG	W	X			X				M								
		↓	↓	020	↓	↓	↓	↓	X			X												

Run 8/26/97

Relinquished By:	Date	Time	Received By/Organization	Date	Time
Merle Wood	8/26/97	0845	T891C Refrig	8/26/97	0845
T891C Refrig	8/26/97	1110	[illegible]	8/26/97	1110
[illegible]	8/26/97	1130	[illegible]	8/26/97	1130
[illegible]	8/26/97	1300	[illegible]	8/26/97	1030

LABORATORY USE ONLY

PCKG REC'D/CUSTODY SEALS INTACT	
SAMPLE LABELS/COCs AGREE	
TEMPERATURE AT TIME OF RECEIPT ___°C	

REMARKS:

Charge #

Project # PU&D

Requi[illegible]ivery time: Overnight Delivery ☒ 2-Day Delivery ☐ Air B[illegible]

APO COC DRA[illegible] 5/15/97

SEP 08 '97 12:45PM PARAGON ANALYTICS INCORPORATED P.54

69

9708-324

1 of 2

SAMPLERS (Signature) M R WOOD

REPORT IDENTIFICATION NUMBER (RIN) 97A2442

LAB/LOCATION: PARAGON

RFETS CONTRACTOR RMRS

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE CHAIN OF CUSTODY RFP901562

	DATE	TIME	EVENT	BOTTLE	USER ID	LOCATION	CONTAINER	MATRIX	Cooled to 4°C	NaOH	HNO3	H2SO4	HCl			5501 B0006 mod 1141 8240	5501 B0005 8260									
01	8/25/97	1050	001	001	GW17002RM	BH17097	40MLG	W	X				X				U									
		1050	001	002	↓		↓	↓	X				X													
02		1052	002	003	GW17003RM			W	X				X				U									
		1052	002	004					X				X													
03		1000	003	005	GW17004RM				X				X				U									
		↓	003	006					X				X													
04		1100	004	007	GW17005RM				X				X				U									
		↓	004	008		↓	↓	↓	X				X													
05		1107	006	010	BH17028RM	BH18097	Core	S	X						U											
06		1110	007	011	BH17029RM	BH18097	↓	↓	X						U											
		1342	008	012	GW17006RM		40MLG	W	X				X				U									
07	↓	↓	008	013	↓	↓			X				X													

Relinquished By:	Date	Time	Received By/Organization	Date	Time
Mark Wood	8/26/97	0845	T891C Refrig	8/26/97	0845
T891C Refrig	8/26/97	1110	[illegible]	8/26/97	1110
[illegible]	8/26/97	1130	[illegible]	8/26/97	1130
[illegible]	8/26/97	1300	[illegible]	8/27/97	1050

LABORATORY USE ONLY	
PCKG RECD/CUSTODY SEALS INTACT	
SAMPLE LABELS/COCs AGREE	
TEMPERATURE AT TIME OF RECEIPT ___ °C	

REMARKS:

Charge #

Project # PU&D

Requir[illegible] delivery time: Overnight Delivery [X] 2-Day Delivery [ ] Air F[illegible]

APO COC DRAFT 5/15/97

SEP 03 '97 12:44PM PARAGON ANALYTICS INCORPORATED P.53

70

SAMPLERS (Signature) M. R. WOOD 1708-323

REPORT IDENTIFICATION NUMBER (RIN) 97A2441 LAB/LOCATION: PARAGON

RFETS CONTRACTOR RMRS

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE CHAIN OF CUSTODY NUMBER RFP901559

DATE	TIME	EVENT	BOTTLE	USER ID	LOCATION	CONTAINER	MATRIX	Cooler Temp °C	HCN	HCL	HNO3	H2SO4	NaOH	SS01B006 Mod Kwd 8260	SS01B005 8260											
8/20/97	1037	001	001*	BH17022RM	BH17897	40MLG	✓ W	X			X				U											01
✓	↓	↓	002*	↓	↓	↓	✓ ↓	X			X				U											
✓	1113	002	003*	BH17023RM	↓	core	✓ S	X						U												02
✓	1432	003	004*	BH17024RM	BH17897	↓	✓ ↓	X						U												03
✓	1155	004	005*	SW17001RM	BH17897	40MLG	✓ W	X			X				U											
✓	↓	↓	006*	↓	↓	↓	✓ ↓	X			X				U											04
✓	1507	007	012*	BH17025RM	BH17897	core	✓ S	X						U												05
✓	1600	008	013*	BH17026RM	BH17897	↓	✓ ↓	X						U												06
✓	1616	009	014*	BH17027RM	↓	↓	✓ ↓	X						U												07

Relinquished By:	Date	Time	Received By/Organization	Date	Time	
Mark Wood	8/25/97	0815	Rachel [illegible]	8/25/97	0815	PCKG REC'D/CUSTODY SEALS INTACT
Rachel [illegible]	8/26/97	1130	[illegible]	8/26/97	1130	SAMPLE LABELS/COCs AGREE
[illegible]	8/26/97	1300				TEMPERATURE AT TIME OF RECEIPT ___ °C

REMARKS:

Charge # CB0320AN

Project PU&D

Shipping Requirements: Overnight Delivery ☒ 2-Day Delivery ☐ Air Bill No.

APO COC 8/5/97

71

9708321

SAMPLERS (Signature) M R WOOD

REPORT IDENTIFICATION NUMBER (RIN) 97A2440

LAB/LOCATION: PARAGON

RFETS CONTRACTOR RMRS

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE CHAIN OF CUSTODY NUMBER RFP 901557

DATE	TIME	EVENT	BOTTLE	USER ID	LOCATION	CONTAINER	MATRIX	Cooler Temp	VOCs	SVOCs	PH/COD	TSS	SS01B006 Mod Level 8260	SS01B005 8260													
8/21/97	0925	001	001*	BH17018RM	BH17697	Core	✓ S	X					U														01
✓	0950	002	002*	BH17019RM	↓	↓	✓ ↓	X					U														02
✓	1010	006	005*	BH17002RM		40mLG	✓ W	X			X			U													03
✓	1010	006	006*	BH17002RM	↓	↓	✓ ↓	X			X			U													
✓	1118	004	008*	BH17020RM	BH17797	Core	✓ S	X					U														04
✓	1500	007	011*	BH17021RM	BH17797	40mLG	✓ W	X			X			U													05
✓	1500	007	012*	BH17021RM	↓	↓	✓ ↓	X			X			U													

8/26/97

Relinquished By:	Date	Time	Received By/Organization	Date	Time	
Mark Wood	8-21-97	1510	T891C Sample Refrigerator	8/21/97	1510	PCKG REC'D/CUSTODY SEALS INTACT
T891C Sample Refrigerator	8-26-97	0740	[illegible]	8/26/97	0740	SAMPLE LABELS/DOCs AGREE
[illegible]	8/26/97	0930	[illegible]	8/26/97	0930	TEMPERATURE AT TIME OF RECEIPT ___ °C
[illegible]	8/26/97	1200	[illegible]	8/27/97	1030	

REMARKS:

Charge # UB0320AX

Project Pu & D

Shipping Requirements: Overnight Delivery [X] 2-Day Delivery [ ] Air Bill No.

APO COC 8/5/97

72

9708 520 — 1 of 1

SAMPLERS (Signature) MR WOOD

REPORT IDENTIFICATION NUMBER (RIN) 97A2439 LAB/LOCATION Paragon

RFETS CONTRACTOR RMRS

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE CHAIN OF CUSTODY NUMBER REP901555

DATE	TIME	EVENT	BOTTLE	USER ID	LOCATION	CONTAINER	MATRIX	Charge #	Metals	Cyanide	Rad Gas	Rad		S501B006 Mod Level 8260	S501B005 8260										
8/20/97	1030	001	001	BH17012RM	BH17497	Core	✓ S	X						U											
	1103	002	003	BH17013RM	BH17497	↓	✓	X						U											
	1133	003	006	BH17014RM	BH17497	↓	✓ ↓	X						U											
	1330	005	009	GW17000RM	↓	40 mLG	✓ W	X			X				U										
	1330	005	009	GW17000RM	↓	↓	✓ ↓	X			X				U										
	1533	007	013	BH17016RM	BH17597	Core	✓ S	X						U											
	1533	008	015	BH17016RM	↓	↓	✓ ↓	X						U											
	1615	009	017	BH17017RM	↓	40 mLG	✓ W	X			X				U										
	1615	009	018	BH17017RM	↓	↓	✓ ↓	X			X				U										
	1415	006	011	BH17015RM	↓	Core	✓ S	X						U											
					8/21/97																				

Relinquished By:	Date	Time	Received By/Organization	Date	Time		
Marlene Wood	8-21-97	0835	[illegible]	8/21/97	0835	PCK3 REC'D/CUSTODY SEALS INTACT	
[illegible]	8/25/97	1135	[illegible]	8/25/97	1135	SAMPLE LABELS/COCs AGREE	
[illegible]	8/26/97	0745	[illegible]	8/26/97	0745	TEMPERATURE AT TIME OF RECEIPT ___ °C	
[illegible]	8/26/97	0930	[illegible]	8/26/97	0930		
REMARKS: [illegible]	8/26/97	1200	[illegible]	8/27/97	1030	Charge # CB0320AN	
						Project PU+D	

Shipping Requirements: Overnight Delivery ☒ 2-Day Delivery ☐ Air Bill No.

APO COC 8/3/97

73

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

BH17014RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot: 4
9708320-3	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v08320	

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

14

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439
Reported on: Tuesday, September 02, 1997

Client ID: SH17014RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot: 4
Lab ID: 9708320-3	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v08320	

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	5700	ug/kg	630		

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[redacted]	BH17013RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot:	4
[redacted]	9708320-2	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49	ug/kg	50	98	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	45.6	ug/kg	50	91	76 - 127
2037-26-5	TOLUENE-D8	53.4	ug/kg	50	107	83 - 115

U = Less than the Reporting Limit

76

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[illegible] BH17013RM	**Sample Matrix:** Solid	**Date Collected:** 20-Aug-97	**Sample Aliquot:**	4
[illegible] 9708320-2	**% Moisture:** N/A	**Date Extracted:** 01-Sep-97	**Final Volume:**	10
	Cleanup Method: NONE	**Date Analyzed:** 01-Sep-97	**Dilution:**	50
	Report Basis: AS RECEIVED	**Prep Batch:** v08320		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

77

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439
Reported on: Tuesday, September 02, 1997

BH17013RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot: 4
9708320-2	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v08320	

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630		

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[redacted]	BH17012RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot:	4
[redacted]	9708320-1	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.2	ug/kg	50	96	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	46	ug/kg	50	92	76 - 127
2037-26-5	TOLUENE-D8	51.2	ug/kg	50	102	83 - 115

U = Less than the Reporting Limit

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[redacted] GW17003RM	Sample Matrix: liquid	Date Collected: 25-Aug-97	Sample Aliquot: 5
[redacted] 9708324-2	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v08324	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.5	ug/l	50	99	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	46.6	ug/l	50	93	85 - 115
2037-26-5	TOLUENE-D8	49.2	ug/l	50	98	88 - 110

U = Less than the Reporting Limit

80

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 03, 19

Client ID: GW17004RM
Lab ID: 9708324-3

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	2.7	ug/L	5	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

81

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 03, 19

Client Sample ID: GW17004RM
Lab Sample ID: 9708324-3

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

82

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 03, 19

[illegible]	GW17004RM
[illegible]	9708324-3

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.5	ug/l	50	99	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	45.4	ug/l	50	91	85 - 115
2037-26-5	TOLUENE-D8	49.2	ug/l	50	98	88 - 110

U = Less than the Reporting Limit

83

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

Client ID:	GW17005RM
Lab ID:	9708324-4

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	3.8	ug/L	5	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

GW17005RM
9708324-4

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

85

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[redacted]	GW17005RM	Sample Matrix: liquid	Date Collected: 26-Aug-97	Sample Aliquot:	5
[redacted]	9708324-4	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v08324		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	50.8	ug/l	50	101	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	45	ug/l	50	90	85 - 115
2037-26-5	TOLUENE-D8	50	ug/l	50	100	88 - 110

U = Less than the Reporting Limit

86

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[redacted] GW17006RM
[redacted] 9708324-7

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	5	ug/L	5	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

87

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[redacted] GW17006RM	Sample Matrix: liquid	Date Collected: 25-Aug-97	Sample Aliquot: 5
[redacted] 9708324-7	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v08324	

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

88

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[redacted] GW17006RM	Sample Matrix: liquid	Date Collected: 25-Aug-97	Sample Aliquot:	5
[redacted] 9708324-7	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
	Report Basis: AS RECEIVED	Prep Batch: v08324		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.2	ug/l	50	96	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	46.2	ug/l	50	92	85 - 115
2037-26-5	TOLUENE-D8	50.9	ug/l	50	102	85 - 110

U = Less than the Reporting Limit

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[redacted] GW17007RM
[redacted] 9708324-9

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	5	ug/L	5	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	6.3	ug/L	5		
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	15	ug/L	5		

90

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 03, 19

[redacted]	GW17007RM
[redacted]	9708324-9

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[redacted] GW17007RM	Sample Matrix: liquid	Date Collected: 25-Aug-97	Sample Aliquot:	5
[redacted] 9708324-9	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
	Report Basis: AS RECEIVED	Prep Batch: v08324		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.5	ug/l	50	97	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	45.1	ug/l	50	90	85 - 115
2037-26-5	TOLUENE-D8	51.9	ug/l	50	104	88 - 110

U = Less than the Reporting Limit

92

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709038
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446

Reported on: Tuesday, September 18, 1997

Field ID: GW17008RM
Lab ID: 9709038-1

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 03-Sep-97
Date Extracted: 06-Sep-97
Date Analyzed: 05-Sep-97
Prep Batch: v09038

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	5.2	ug/L	5	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

93

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709038
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446
Reported on: Tuesday, September 16, 1997

Field ID: GW17008RM	Sample Matrix: liquid	Date Collected: 03-Sep-97	Sample Aliquot: 5
Lab ID: 9709038-1	% Moisture: N/A	Date Extracted: 05-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 05-Sep-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v09038	

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U
108-90-7	CHLOROBENZENE	5	ug/L	5	U
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U
100-41-4	ETHYLBENZENE	5	ug/L	5	U
1330-20-7	TOTAL XYLENES	5	ug/L	5	U
100-42-5	STYRENE	5	ug/L	5	U
75-25-2	BROMOFORM	5	ug/L	5	U
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U
108-86-1	BROMOBENZENE	5	ug/L	5	U
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U
91-20-3	NAPHTHALENE	5	ug/L	5	U
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U

94

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709038
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446
Reported on: Tuesday, September 16, 1997

Field ID: GW17008RM	Sample Matrix: liquid	Date Collected: 03-Sep-97	Sample Aliquot:	5
Lab ID: 9709038-1	% Moisture: N/A	Date Extracted: 05-Sep-97	Final Volume:	5
	Cleanup Method: NONE	Date Analyzed: 05-Sep-97	Dilution:	1
	Report Basis: AS RECEIVED	Prep Batch: v09038		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.9	ug/l	50	100	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	47.1	ug/l	50	94	85 - 115
2037-26-5	TOLUENE-D8	56.4	ug/l	50	113	88 - 110

U = Less than the Reporting Limit

95

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709038
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446 Reported on: Tuesday, September 16, 1997

Field ID: IGW17008RM
Lab ID: 9709038-1

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 03-Sep-97
Date Extracted: 05-Sep-97
Date Analyzed: 05-Sep-97
Prep Batch: v09038

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

96

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709038
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446

Reported on: Tuesday, September 18, 1997

Client ID: GW17006RM	Sample Matrix: liquid	Date Collected: 03-Sep-97	Sample Aliquot: 5
Lab ID: 9709038-2	% Moisture: N/A	Date Extracted: 05-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 05-Sep-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v09038	

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5.5	ug/L	5		
76-13-1	TRICHLOROTRIFLUOROETHANE	4.6	ug/L	5	J	
67-64-1	ACETONE	4	ug/L	100	J	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	4.5	ug/L	5	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5.5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	14	ug/L	5		
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	2.7	ug/L	5	J	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

97

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709038
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446
Reported on: Tuesday, September 16, 1997

Field ID: GW17009RM
Lab ID: 9709038-2

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 03-Sep-97
Date Extracted: 05-Sep-97
Date Analyzed: 05-Sep-97
Prep Batch: v09038

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

98

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709038
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446

Reported on: Tuesday, September 16, 1997

Field ID: GW17006RM
Lab ID: 9709038-2

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 03-Sep-97
Date Extracted: 05-Sep-97
Date Analyzed: 05-Sep-97
Prep Batch: v09038

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	46.6	ug/l	50	93	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	46.8	ug/l	50	94	85 - 115
2037-26-5	TOLUENE-D8	50.4	ug/l	50	101	88 - 110

U = Less than the Reporting Limit

99

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709038
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446

Reported on: Tuesday, September 16, 1997

Field ID: GW17009RM
Lab ID: 9709038-2

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 03-Sep-97
Date Extracted: 05-Sep-97
Date Analyzed: 05-Sep-97
Prep Batch: v09038

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

100

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708223
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2437

Reported on: Tuesday, September 16, 1997

Field ID: LABQC
Lab ID: VA970825-1MB

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: NA

Date Collected: 25-Aug-97
Date Extracted: 25-Aug-97
Date Analyzed: 25-Aug-97
Prep Batch: v08223

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/kg	5	U	
74-87-3	CHLOROMETHANE	5	ug/kg	5	U	
75-01-4	VINYL CHLORIDE	10	ug/kg	10	U	
74-83-9	BROMOMETHANE	5	ug/kg	5	U	
75-00-3	CHLOROETHANE	5	ug/kg	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/kg	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/kg	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/kg	5	U	
67-64-1	ACETONE	100	ug/kg	100	U	
75-15-0	CARBON DISULFIDE	5	ug/kg	5	U	
75-09-2	METHYLENE CHLORIDE	5	ug/kg	5	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/kg	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
78-93-3	2-BUTANONE	100	ug/kg	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/kg	5	U	
67-66-3	CHLOROFORM	5	ug/kg	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/kg	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/kg	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/kg	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/kg	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/kg	5	U	
71-43-2	BENZENE	5	ug/kg	5	U	
79-01-6	TRICHLOROETHENE	5	ug/kg	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/kg	5	U	
74-95-3	DIBROMOMETHANE	5	ug/kg	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/kg	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/kg	50	U	
108-88-3	TOLUENE	5	ug/kg	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/kg	5	U	
591-78-6	2-HEXANONE	50	ug/kg	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/kg	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/kg	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/kg	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/kg	5	U	

101

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708223
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2437
Reported on: Tuesday, September 16, 1997

Field ID: LABQC
Lab ID: VA970825-1MB

Sample Matrix:	Solid	Date Collected:	25-Aug-97	Sample Aliquot:	5
% Moisture:	N/A	Date Extracted:	25-Aug-97	Final Volume:	5
Cleanup Method:	NONE	Date Analyzed:	25-Aug-97	Dilution:	1
Report Basis:	NA	Prep Batch:	v08223		

108-90-7	CHLOROBENZENE	5	ug/kg	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/kg	5	U	
100-41-4	ETHYLBENZENE	5	ug/kg	5	U	
1330-20-7	TOTAL XYLENES	5	ug/kg	5	U	
100-42-5	STYRENE	5	ug/kg	5	U	
75-25-2	BROMOFORM	5	ug/kg	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/kg	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/kg	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/kg	5	U	
108-86-1	BROMOBENZENE	5	ug/kg	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/kg	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/kg	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/kg	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/kg	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/kg	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/kg	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/kg	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/kg	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/kg	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/kg	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/kg	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/kg	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/kg	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/kg	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/kg	5	U	
91-20-3	NAPHTHALENE	5	ug/kg	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/kg	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	51.3	ug/kg	50	103	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	46.8	ug/kg	50	94	76 - 127
2037-26-5	TOLUENE-D8	50.3	ug/kg	50	101	83 - 115

U = Less than the Reporting Limit

102

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708223
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2437

Reported on: Tuesday, September 16, 1997

Field ID: LABQC	Sample Matrix: Solid	Date Collected: 25-Aug-97	Sample Aliquot: 5
Lab ID: VA970825-1MB	% Moisture: N/A	Date Extracted: 25-Aug-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 25-Aug-97	Dilution: 1
	Report Basis: DRY WEIGHT	Prep Batch: v08223	

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

103

VOLATILE ORGANICS
Method 8260

Sample ID: SRB1

Lab Name: Paragon Analytics, Inc.
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: Rocky Flats E.T.S. RIN 97A2437
Lab Sample ID: VBLK01
Sample Matrix: Soil
Sample Weight: 5 g

Date Collected: N/A
Date Analyzed: 08-25-97
Dilution Factor: 1
Percent Moisture: 0

Analyte	Conc. (ug/kg)	Reporting Limit (ug/kg)
Dichlorodifluoromethane	ND	10
Chloromethane	ND	10
Vinyl chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Trichlorotrifluoroethane	ND	5
Acetone	ND	20
Iodomethane	ND	5
Carbon Disulfide	ND	5
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Methyl-t-butyl-ether	ND	5
Vinyl acetate	ND	5
cis-1,2-Dichloroethene	ND	5
2-Butanone	ND	20
Bromochloromethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
2,2-Dichloropropane	ND	5
Carbon tetrachloride	ND	5
1,1-Dichloropropene	ND	5
1,2-Dichloroethane	ND	5
Benzene	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Dibromomethane	ND	5
Bromodichloromethane	ND	5
2-Chloroethyl vinyl ether	ND	10
cis-1,3-Dichloropropene	ND	5
4-Methyl-2-Pentanone	ND	20
Toluene	ND	5
trans-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5

104

VOLATILE ORGANICS
Method 8260

Lab Name: Paragon Analytics, Inc.
Client Name: Kaiser-Hill Co., L.L.C.
Lab Sample ID: VBLK01

Sample ID: SRB1

Analyte	Conc. (ug/kg)	Reporting Limit (ug/kg)
2-Hexanone	ND	20
Tetrachloroethene	ND	5
1,3-Dichloropropane	ND	5
Dibromochloromethane	ND	5
1,2-Dibromoethane	ND	5
Chlorobenzene	ND	5
1,1,1,2-Tetrachloroethane	ND	5
Ethylbenzene	ND	5
m,p-Xylene	ND	5
o-Xylene	ND	5
Styrene	ND	5
Bromoform	ND	5
Isopropylbenzene	ND	5
1,2,3-Trichloropropane	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Bromobenzene	ND	5
n-Propylbenzene	ND	5
2-Chlorotoluene	ND	5
1,3,5-Trimethylbenzene	ND	5
4-Chlorotoluene	ND	5
tert-Butylbenzene	ND	5
1,2,4-Trimethylbenzene	ND	5
sec-Butylbenzene	ND	5
1,3-Dichlorobenzene	ND	5
p-Isopropyltoluene	ND	5
1,4-Dichlorobenzene	ND	5
n-Butylbenzene	ND	5
1,2-Dichlorobenzene	ND	5
1,2-Dibromo-3-chloropropane	ND	10
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
Naphthalene	ND	5
1,2,3-Trichlorobenzene	ND	5

SURROGATE RECOVERIES

Analyte	% Recovery	% Rec Limits
Dibromofluoromethane	94	76-127
Toluene-d8	101	83-115
Bromofluorobenzene	103	74-134

ND = Not Detected

105

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2438

Reported on: Tuesday, September 02, 1997

[redacted]	LABQC
[redacted]	VA970901-1MB

Sample Matrix:	Solid	Date Collected:	01-Sep-97	Sample Aliquot:	5
% Moisture:	N/A	Date Extracted:	01-Sep-97	Final Volume:	5
Cleanup Method:	NONE	Date Analyzed:	01-Sep-97	Dilution:	1
Report Basis:	NA	Prep Batch:	v08320		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/kg	5	U	
74-87-3	CHLOROMETHANE	5	ug/kg	5	U	
75-01-4	VINYL CHLORIDE	10	ug/kg	10	U	
74-83-9	BROMOMETHANE	5	ug/kg	5	U	
75-00-3	CHLOROETHANE	5	ug/kg	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/kg	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/kg	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/kg	5	U	
67-64-1	ACETONE	100	ug/kg	100	U	
75-15-0	CARBON DISULFIDE	5	ug/kg	5	U	
75-09-2	METHYLENE CHLORIDE	16	ug/kg	5		
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/kg	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
78-93-3	2-BUTANONE	100	ug/kg	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/kg	5	U	
67-66-3	CHLOROFORM	5	ug/kg	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/kg	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/kg	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/kg	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/kg	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/kg	5	U	
71-43-2	BENZENE	5	ug/kg	5	U	
79-01-6	TRICHLOROETHENE	5	ug/kg	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/kg	5	U	
74-95-3	DIBROMOMETHANE	5	ug/kg	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/kg	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/kg	50	U	
108-88-3	TOLUENE	5	ug/kg	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/kg	5	U	
591-78-6	2-HEXANONE	50	ug/kg	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/kg	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/kg	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/kg	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/kg	5	U	

106

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[illegible]	LABQC
[illegible]	VA970901-1MB

Sample Matrix:	Solid	Date Collected:	01-Sep-97	Sample Aliquot:	5
% Moisture:	N/A	Date Extracted:	01-Sep-97	Final Volume:	5
Cleanup Method:	NONE	Date Analyzed:	01-Sep-97	Dilution:	1
Report Basis:	NA	Prep Batch:	V08320		

108-90-7	CHLOROBENZENE	5	ug/kg	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/kg	5	U	
100-41-4	ETHYLBENZENE	5	ug/kg	5	U	
1330-20-7	TOTAL XYLENES	5	ug/kg	5	U	
100-42-5	STYRENE	5	ug/kg	5	U	
75-25-2	BROMOFORM	5	ug/kg	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/kg	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/kg	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/kg	5	U	
108-86-1	BROMOBENZENE	5	ug/kg	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/kg	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/kg	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/kg	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/kg	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/kg	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/kg	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/kg	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/kg	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/kg	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/kg	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/kg	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/kg	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/kg	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/kg	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/kg	5	U	
91-20-3	NAPHTHALENE	5	ug/kg	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/kg	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.5	ug/kg	50	97	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	49.5	ug/kg	50	99	76 - 127
2037-26-5	TOLUENE-D8	52.8	ug/kg	50	106	83 - 115

U = Less than the Reporting Limit

107

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Peragon Analytics, Inc.
Work Order Number: 9706320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 03, 19

LABQC	Sample Matrix:	liquid	Date Collected:	02-Sep-97	Sample Aliquot:	5
VA970902-1MB	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
	Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
	Report Basis:	NA	Prep Batch:	v08324		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	2.2	ug/L	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	

108

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 03, 19

[redacted]	LABQC
[redacted]	VA970902-1MB

Sample Matrix:	liquid	Date Collected:	02-Sep-97	Sample Aliquot:	5
% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
Report Basis:	NA	Prep Batch:	v08324		

108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.1	ug/l	50	98	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	49.2	ug/l	50	98	85 - 115
2037-26-5	TOLUENE-D8	51.7	ug/l	50	103	88 - 110

U = Less than the Reporting Limit

109

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Tuesday, September 02, 1997

[redacted]	LABQC	Sample Matrix:	Solid	Date Collected:	01-Sep-97	Sample Aliquot:	5
[redacted]	VA970901-1MB	% Moisture:	N/A	Date Extracted:	01-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	01-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v08320		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/kg	5	U	
74-87-3	CHLOROMETHANE	5	ug/kg	5	U	
75-01-4	VINYL CHLORIDE	10	ug/kg	10	U	
74-83-9	BROMOMETHANE	5	ug/kg	5	U	
75-00-3	CHLOROETHANE	5	ug/kg	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/kg	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/kg	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/kg	5	U	
67-64-1	ACETONE	100	ug/kg	100	U	
75-15-0	CARBON DISULFIDE	5	ug/kg	5	U	
75-09-2	METHYLENE CHLORIDE	16	ug/kg	5		
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/kg	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
78-93-3	2-BUTANONE	100	ug/kg	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/kg	5	U	
67-66-3	CHLOROFORM	5	ug/kg	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/kg	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/kg	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/kg	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/kg	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/kg	5	U	
71-43-2	BENZENE	5	ug/kg	5	U	
79-01-6	TRICHLOROETHENE	5	ug/kg	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/kg	5	U	
74-95-3	DIBROMOMETHANE	5	ug/kg	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/kg	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/kg	50	U	
108-88-3	TOLUENE	5	ug/kg	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/kg	5	U	
591-78-6	2-HEXANONE	50	ug/kg	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/kg	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/kg	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/kg	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/kg	5	U	

1110

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Tuesday, September 02, 1997

[redacted]	LABQC	Sample Matrix:	Solid	Date Collected:	01-Sep-97	Sample Aliquot:	5
[redacted]	VA970901-1MB	% Moisture:	N/A	Date Extracted:	01-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	01-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v08320		

108-90-7	CHLOROBENZENE	5	ug/kg	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/kg	5	U	
100-41-4	ETHYLBENZENE	5	ug/kg	5	U	
1330-20-7	TOTAL XYLENES	5	ug/kg	5	U	
100-42-5	STYRENE	5	ug/kg	5	U	
75-25-2	BROMOFORM	5	ug/kg	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/kg	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/kg	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/kg	5	U	
108-86-1	BROMOBENZENE	5	ug/kg	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/kg	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/kg	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/kg	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/kg	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/kg	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/kg	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/kg	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/kg	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/kg	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/kg	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/kg	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/kg	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/kg	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/kg	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/kg	5	U	
91-20-3	NAPHTHALENE	5	ug/kg	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/kg	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.5	ug/kg	50	97	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	49.5	ug/kg	50	99	78 - 127
2037-26-5	TOLUENE-D8	52.8	ug/kg	50	106	83 - 115

U = Less than the Reporting Limit

111

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440
Reported on: Wednesday, September 03, 19

[redacted]	LABQC	Sample Matrix:	liquid	Date Collected:	02-Sep-97	Sample Aliquot:	5
[redacted]	VA970902-1MB	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v08324		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	2.2	ug/L	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	

112

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440 Reported on: Wednesday, September 03, 19

[redacted]	LABQC	Sample Matrix:	liquid	Date Collected:	02-Sep-97	Sample Aliquot:	5
[redacted]	VA970902-1MB	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v08324		

108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.1	ug/l	50	98	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	49.2	ug/l	50	98	85 - 115
2037-26-5	TOLUENE-D8	51.7	ug/l	50	103	88 - 110

U = Less than the Reporting Limit

113

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9706323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441
Reported on: Wednesday, September 03, 19

LABQC
VA970901-1MB

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: NA

Date Collected: 01-Sep-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v03320

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/kg	5	U	
74-87-3	CHLOROMETHANE	5	ug/kg	5	U	
75-01-4	VINYL CHLORIDE	10	ug/kg	10	U	
74-83-9	BROMOMETHANE	5	ug/kg	5	U	
75-00-3	CHLOROETHANE	5	ug/kg	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/kg	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/kg	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/kg	5	U	
67-64-1	ACETONE	100	ug/kg	100	U	
75-15-0	CARBON DISULFIDE	5	ug/kg	5	U	
75-09-2	METHYLENE CHLORIDE	16	ug/kg	5		
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/kg	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
78-93-3	2-BUTANONE	100	ug/kg	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/kg	5	U	
67-66-3	CHLOROFORM	5	ug/kg	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/kg	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/kg	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/kg	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/kg	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/kg	5	U	
71-43-2	BENZENE	5	ug/kg	5	U	
79-01-6	TRICHLOROETHENE	5	ug/kg	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/kg	5	U	
74-95-3	DIBROMOMETHANE	5	ug/kg	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/kg	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/kg	50	U	
108-88-3	TOLUENE	5	ug/kg	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/kg	5	U	
591-78-6	2-HEXANONE	50	ug/kg	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/kg	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/kg	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/kg	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/kg	5	U	

114

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 03, 19

[redacted]	LABQC	Sample Matrix:	Solid	Date Collected:	01-Sep-97	Sample Aliquot:	5
[redacted]	VA970901-1MB	% Moisture:	N/A	Date Extracted:	01-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	01-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v08320		

108-90-7	CHLOROBENZENE	5	ug/kg	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/kg	5	U	
100-41-4	ETHYLBENZENE	5	ug/kg	5	U	
1330-20-7	TOTAL XYLENES	5	ug/kg	5	U	
100-42-5	STYRENE	5	ug/kg	5	U	
75-25-2	BROMOFORM	5	ug/kg	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/kg	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/kg	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/kg	5	U	
108-86-1	BROMOBENZENE	5	ug/kg	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/kg	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/kg	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/kg	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/kg	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/kg	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/kg	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/kg	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/kg	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/kg	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/kg	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/kg	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/kg	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/kg	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/kg	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/kg	5	U	
91-20-3	NAPHTHALENE	5	ug/kg	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/kg	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.5	ug/kg	50	97	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	49.5	ug/kg	50	99	76 - 127
2037-26-5	TOLUENE-D8	52.8	ug/kg	50	106	83 - 115

U = Less than the Reporting Limit

115

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 03, 19

[illegible]	LABQC
[illegible]	VA970902-1MB

Sample Matrix:	liquid	Date Collected:	02-Sep-97	Sample Aliquot:	5
% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
Report Basis:	NA	Prep Batch:	v08324		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	2.2	ug/L	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	

116

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 03, 19

[redacted]	LABQC	Sample Matrix:	liquid	Date Collected:	02-Sep-97	Sample Aliquot:	5
[redacted]	VA970902-1MB	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v08324		

108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.1	ug/l	50	98	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	49.2	ug/l	50	98	85 - 115
2037-26-5	TOLUENE-D8	51.7	ug/l	50	103	88 - 110

U = Less than the Reporting Limit

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[redacted]	LABQC	Sample Matrix:	liquid	Date Collected:	02-Sep-97	Sample Aliquot:	5
[redacted]	VA970902-1MB	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v08324		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	2.2	ug/L	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	

118

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

Lab ID:	LABQC	Sample Matrix:	liquid	Date Collected:	02-Sep-97	Sample Aliquot:	5
Client ID:	VA970902-1MB	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v08324		

108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.1	ug/l	50	96	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	49.2	ug/l	50	98	85 - 115
2037-26-5	TOLUENE-D8	51.7	ug/l	50	103	88 - 110

U = Less than the Reporting Limit

119

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 03, 19

[redacted]	LABQC	Sample Matrix:	Solid	Date Collected:	02-Sep-97	Sample Aliquot:	5
[redacted]	VA970902-1sMB	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v083246		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/kg	5	U	
74-87-3	CHLOROMETHANE	5	ug/kg	5	U	
75-01-4	VINYL CHLORIDE	10	ug/kg	10	U	
74-83-9	BROMOMETHANE	5	ug/kg	5	U	
75-00-3	CHLOROETHANE	5	ug/kg	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/kg	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/kg	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/kg	5	U	
67-64-1	ACETONE	100	ug/kg	100	U	
75-15-0	CARBON DISULFIDE	5	ug/kg	5	U	
75-09-2	METHYLENE CHLORIDE	2.2	ug/kg	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/kg	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
78-93-3	2-BUTANONE	100	ug/kg	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/kg	5	U	
67-66-3	CHLOROFORM	5	ug/kg	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/kg	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/kg	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/kg	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/kg	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/kg	5	U	
71-43-2	BENZENE	5	ug/kg	5	U	
79-01-6	TRICHLOROETHENE	5	ug/kg	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/kg	5	U	
74-95-3	DIBROMOMETHANE	5	ug/kg	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/kg	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/kg	50	U	
108-88-3	TOLUENE	5	ug/kg	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/kg	5	U	
591-78-6	2-HEXANONE	50	ug/kg	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/kg	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/kg	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/kg	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/kg	5	U	

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 03, 19

[redacted]	LABQC	Sample Matrix:	Solid	Date Collected:	02-Sep-97	Sample Aliquot:	5
[redacted]	VA970902-1MB	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v08324s		

108-90-7	CHLOROBENZENE	5	ug/kg	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/kg	5	U	
100-41-4	ETHYLBENZENE	5	ug/kg	5	U	
1330-20-7	TOTAL XYLENES	5	ug/kg	5	U	
100-42-5	STYRENE	5	ug/kg	5	U	
75-25-2	BROMOFORM	5	ug/kg	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/kg	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/kg	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/kg	5	U	
108-86-1	BROMOBENZENE	5	ug/kg	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/kg	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/kg	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/kg	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/kg	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/kg	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/kg	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/kg	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/kg	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/kg	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/kg	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/kg	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/kg	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/kg	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/kg	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/kg	5	U	
91-20-3	NAPHTHALENE	5	ug/kg	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/kg	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.1	ug/kg	50	98	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	49.2	ug/kg	50	98	76 - 127
2037-26-5	TOLUENE-D8	51.7	ug/kg	50	103	83 - 116

U = Less than the Reporting Limit

121

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2443

Reported on: Monday, September 08, 1997

[illegible]	LABQC	Sample Matrix:	liquid	Date Collected:	02-Sep-97	Sample Aliquot:	5
[illegible]	VA970902-1MB	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v08324		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	2.2	ug/L	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	

122

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2443
Reported on: Monday, September 08, 1997

LABQC	Sample Matrix:	liquid	Date Collected:	02-Sep-97	Sample Aliquot:	5
VA970902-1MB	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
	Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
	Report Basis:	NA	Prep Batch:	v08324		

108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.1	ug/l	50	98	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	49.2	ug/l	50	98	85 - 115
2037-26-5	TOLUENE-D8	51.7	ug/l	50	103	88 - 110

U = Less than the Reporting Limit

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2443

Reported on: Monday, September 08, 1997

[redacted]	LABQC
[redacted]	VA970902-1MB

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

124

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2443
Reported on: Monday, September 08, 1997

Matrix:	LABQC	Sample Matrix:	Solid	Date Collected:	03-Sep-97	Sample Aliquot:	8
Client ID:	VA970903-1aMB	% Moisture:	N/A	Date Extracted:	03-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	03-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v09017		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/kg	5	U	
74-87-3	CHLOROMETHANE	5	ug/kg	5	U	
75-01-4	VINYL CHLORIDE	10	ug/kg	10	U	
74-83-9	BROMOMETHANE	5	ug/kg	5	U	
75-00-3	CHLOROETHANE	5	ug/kg	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/kg	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/kg	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/kg	5	U	
67-64-1	ACETONE	4.8	ug/kg	100	J	
75-15-0	CARBON DISULFIDE	5	ug/kg	5	U	
75-09-2	METHYLENE CHLORIDE	3.4	ug/kg	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/kg	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
78-93-3	2-BUTANONE	100	ug/kg	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/kg	5	U	
67-66-3	CHLOROFORM	5	ug/kg	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/kg	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/kg	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/kg	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/kg	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/kg	5	U	
71-43-2	BENZENE	5	ug/kg	5	U	
79-01-6	TRICHLOROETHENE	5	ug/kg	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/kg	5	U	
74-95-3	DIBROMOMETHANE	5	ug/kg	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/kg	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/kg	50	U	
108-88-3	TOLUENE	5	ug/kg	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/kg	5	U	
591-78-6	2-HEXANONE	50	ug/kg	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/kg	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/kg	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/kg	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/kg	5	U	

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2443

Reported on: Monday, September 08, 1997

LABQC
VA970903-1sM8

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: NA

Date Collected: 03-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

108-90-7	CHLOROBENZENE	5	ug/kg	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/kg	5	U	
100-41-4	ETHYLBENZENE	5	ug/kg	5	U	
1330-20-7	TOTAL XYLENES	5	ug/kg	5	U	
100-42-5	STYRENE	5	ug/kg	5	U	
75-25-2	BROMOFORM	5	ug/kg	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/kg	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/kg	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/kg	5	U	
108-86-1	BROMOBENZENE	5	ug/kg	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/kg	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/kg	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/kg	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/kg	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/kg	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/kg	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/kg	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/kg	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/kg	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/kg	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/kg	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/kg	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/kg	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/kg	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/kg	5	U	
91-20-3	NAPHTHALENE	5	ug/kg	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/kg	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.3	ug/kg	50	97	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	48.4	ug/kg	50	97	76 - 127
2037-26-5	TOLUENE-D8	52.1	ug/kg	50	104	83 - 115

U = Less than the Reporting Limit

126

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2443

Reported on: Monday, September 08, 1997

LABQC	
VA970903-1sMB	

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: DRY WEIGHT

Date Collected: 03-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

127

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2444
Reported on: Monday, September 08, 1997

[redacted]-LABOC
[redacted]VA970902-1MB

Sample Matrix:	liquid	Date Collected:	02-Sep-97	Sample Aliquot:	5
% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
Report Basis:	NA	Prep Batch:	v08324		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	2.2	ug/L	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	

128

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2444

Reported on: Monday, September 08, 1997

LABQC	Sample Matrix:	liquid	Date Collected:	02-Sep-97	Sample Aliquot:	5
VA970902-1MB	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
	Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
	Report Basis:	NA	Prep Batch:	v08324		

108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.1	ug/l	50	98	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	49.2	ug/l	50	98	85 - 115
2037-26-5	TOLUENE-D8	51.7	ug/l	50	103	88 - 110

U = Less than the Reporting Limit

129

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2444

Reported on: Monday, September 08, 1997

[redacted]LABQC	Sample Matrix: liquid	Date Collected: 02-Sep-97		Sample Aliquot:	5
[redacted]VA970902-1MB	% Moisture: N/A	Date Extracted: 02-Sep-97		Final Volume:	5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97		Dilution:	1
	Report Basis: AS RECEIVED	Prep Batch: v08324			

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

130

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2444
Reported on: Monday, September 08, 1997

[redacted]	LABQC	Sample Matrix:	Solid	Date Collected:	03-Sep-97	Sample Aliquot:	5
[redacted]	VA970903-1sMB	% Moisture:	N/A	Date Extracted:	03-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	03-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v09017		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/kg	5	U	
74-87-3	CHLOROMETHANE	5	ug/kg	5	U	
75-01-4	VINYL CHLORIDE	10	ug/kg	10	U	
74-83-9	BROMOMETHANE	5	ug/kg	5	U	
75-00-3	CHLOROETHANE	5	ug/kg	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/kg	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/kg	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/kg	5	U	
67-64-1	ACETONE	4.8	ug/kg	100	J	
75-15-0	CARBON DISULFIDE	5	ug/kg	5	U	
75-09-2	METHYLENE CHLORIDE	3.4	ug/kg	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/kg	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
78-93-3	2-BUTANONE	100	ug/kg	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/kg	5	U	
67-66-3	CHLOROFORM	5	ug/kg	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/kg	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/kg	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/kg	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/kg	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/kg	5	U	
71-43-2	BENZENE	5	ug/kg	5	U	
79-01-6	TRICHLOROETHENE	5	ug/kg	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/kg	5	U	
74-95-3	DIBROMOMETHANE	5	ug/kg	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/kg	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/kg	50	U	
108-88-3	TOLUENE	5	ug/kg	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/kg	5	U	
591-78-6	2-HEXANONE	50	ug/kg	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/kg	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/kg	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/kg	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/kg	5	U	

131

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2444

Reported on: Monday, September 08, 1997

[redacted] LABQC
[redacted] VA970903-16MB

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: NA

Date Collected: 03-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

108-90-7	CHLOROBENZENE	5	ug/kg	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/kg	5	U	
100-41-4	ETHYLBENZENE	5	ug/kg	5	U	
1330-20-7	TOTAL XYLENES	5	ug/kg	5	U	
100-42-5	STYRENE	5	ug/kg	5	U	
75-25-2	BROMOFORM	5	ug/kg	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/kg	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/kg	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/kg	5	U	
108-86-1	BROMOBENZENE	5	ug/kg	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/kg	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/kg	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/kg	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/kg	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/kg	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/kg	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/kg	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/kg	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/kg	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/kg	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/kg	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/kg	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/kg	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/kg	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/kg	5	U	
91-20-3	NAPHTHALENE	5	ug/kg	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/kg	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.3	ug/kg	50	97	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	48.4	ug/kg	50	97	78 - 127
2037-26-5	TOLUENE-D8	52.1	ug/kg	50	104	83 - 115

U = Less than the Reporting Limit

132

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2444

Reported on: Monday, September 08, 1997

[redacted]	LABQC
[redacted]	VA970903-1sMB

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: DRY WEIGHT

Date Collected: 03-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

133

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445
Reported on: Monday, September 08, 1997

[redacted]	LABQC	Sample Matrix:	Solid	Date Collected:	03-Sep-97	Sample Aliquot:	5
[redacted]	VA970903-1sMB	% Moisture:	N/A	Date Extracted:	03-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	03-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v09017		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/kg	5	U	
74-87-3	CHLOROMETHANE	5	ug/kg	5	U	
75-01-4	VINYL CHLORIDE	10	ug/kg	10	U	
74-83-9	BROMOMETHANE	5	ug/kg	5	U	
75-00-3	CHLOROETHANE	5	ug/kg	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/kg	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/kg	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/kg	5	U	
67-64-1	ACETONE	4.8	ug/kg	100	J	
75-15-0	CARBON DISULFIDE	5	ug/kg	5	U	
75-09-2	METHYLENE CHLORIDE	3.4	ug/kg	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/kg	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
78-93-3	2-BUTANONE	100	ug/kg	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/kg	5	U	
67-66-3	CHLOROFORM	5	ug/kg	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/kg	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/kg	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/kg	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/kg	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/kg	5	U	
71-43-2	BENZENE	5	ug/kg	5	U	
79-01-6	TRICHLOROETHENE	5	ug/kg	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/kg	5	U	
74-95-3	DIBROMOMETHANE	5	ug/kg	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/kg	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/kg	50	U	
108-88-3	TOLUENE	5	ug/kg	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/kg	5	U	
591-78-6	2-HEXANONE	50	ug/kg	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/kg	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/kg	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/kg	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/kg	5	U	

134

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

LABQC	Sample Matrix:	Solid	Date Collected:	03-Sep-97	Sample Aliquot:	5
VA970903-1BMB	% Moisture:	N/A	Date Extracted:	03-Sep-97	Final Volume:	5
	Cleanup Method:	NONE	Date Analyzed:	03-Sep-97	Dilution:	1
	Report Basis:	NA	Prep Batch:	v09017		

108-90-7	CHLOROBENZENE	5	ug/kg	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/kg	5	U	
100-41-4	ETHYLBENZENE	5	ug/kg	5	U	
1330-20-7	TOTAL XYLENES	5	ug/kg	5	U	
100-42-5	STYRENE	5	ug/kg	5	U	
75-25-2	BROMOFORM	5	ug/kg	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/kg	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/kg	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/kg	5	U	
108-86-1	BROMOBENZENE	5	ug/kg	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/kg	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/kg	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/kg	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/kg	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/kg	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/kg	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/kg	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/kg	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/kg	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/kg	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/kg	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/kg	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/kg	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/kg	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/kg	5	U	
91-20-3	NAPHTHALENE	5	ug/kg	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/kg	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.3	ug/kg	50	97	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	48.4	ug/kg	50	97	76 - 127
2037-26-5	TOLUENE-D8	52.1	ug/kg	50	104	83 - 115

U = Less than the Reporting Limit

135

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	LABQC
[redacted]	VA970903-1sMB

Sample Matrix:	Solid	Date Collected:	03-Sep-97	Sample Aliquot:	5
% Moisture:	N/A	Date Extracted:	03-Sep-97	Final Volume:	5
Cleanup Method:	NONE	Date Analyzed:	03-Sep-97	Dilution:	1
Report Basis:	DRY WEIGHT	Prep Batch:	v09017		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
-	NONE DETECTED			

136

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709112
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2447

Reported on: Thursday, September 18, 1997

LABQC	Sample Matrix:	Solid	Date Collected:	17-Sep-97	Sample Aliquot:	5
VA970917-1MB	% Moisture:	N/A	Date Extracted:	17-Sep-97	Final Volume:	5
	Cleanup Method:	NONE	Date Analyzed:	17-Sep-97	Dilution:	1
	Report Basis:	NA	Prep Batch:	v09112		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/kg	5	U	
74-87-3	CHLOROMETHANE	5	ug/kg	5	U	
75-01-4	VINYL CHLORIDE	10	ug/kg	10	U	
74-83-9	BROMOMETHANE	5	ug/kg	5	U	
75-00-3	CHLOROETHANE	5	ug/kg	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/kg	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/kg	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/kg	5	U	
67-64-1	ACETONE	100	ug/kg	100	U	
75-15-0	CARBON DISULFIDE	5	ug/kg	5	U	
75-09-2	METHYLENE CHLORIDE	3.2	ug/kg	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/kg	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
78-93-3	2-BUTANONE	100	ug/kg	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/kg	5	U	
67-66-3	CHLOROFORM	5	ug/kg	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/kg	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/kg	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/kg	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/kg	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/kg	5	U	
71-43-2	BENZENE	5	ug/kg	5	U	
79-01-6	TRICHLOROETHENE	5	ug/kg	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/kg	5	U	
74-95-3	DIBROMOMETHANE	5	ug/kg	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/kg	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/kg	50	U	
108-88-3	TOLUENE	5	ug/kg	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/kg	5	U	
591-78-6	2-HEXANONE	50	ug/kg	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/kg	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/kg	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/kg	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/kg	5	U	

137

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709112
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2447
Reported on: Thursday, September 18, 1997

LABQC		Sample Matrix:	Solid	Date Collected:	17-Sep-97	Sample Aliquot:	5
VA970917-1MB		% Moisture:	N/A	Date Extracted:	17-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	17-Sep-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	v09112		

108-90-7	CHLOROBENZENE	5	ug/kg	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/kg	5	U	
100-41-4	ETHYLBENZENE	5	ug/kg	5	U	
1330-20-7	TOTAL XYLENES	5	ug/kg	5	U	
100-42-5	STYRENE	5	ug/kg	5	U	
75-25-2	BROMOFORM	5	ug/kg	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/kg	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/kg	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/kg	5	U	
108-86-1	BROMOBENZENE	5	ug/kg	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/kg	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/kg	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/kg	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/kg	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/kg	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/kg	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/kg	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/kg	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/kg	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/kg	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/kg	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/kg	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/kg	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/kg	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/kg	5	U	
91-20-3	NAPHTHALENE	5	ug/kg	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/kg	5	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	52.2	ug/kg	50	104	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	50.8	ug/kg	50	102	76 - 127
2037-26-5	TOLUENE-D8	53.8	ug/kg	50	108	83 - 115

U = Less than the Reporting Limit

138

APPENDIX C

TCLP-METALS ANALYTICAL RESULTS

DRUM CHARACTERIZATION SAMPLE SUMMARY

Borehole No.	Drum No.	Sample Depth	Sample No	VOA Haz Dtm	TCLP Metals Haz Dtm	Final Haz Waste Dtm
17097	EO6284RM	5.0-5.5	BH17000RM	Non Haz		Non Haz
	EO6285RM	10.0-10.5	BH17001RM	Non Haz		Non Haz
		0-15.3	BP17004RM		Non Haz	Non Haz
17197	EO6286RM	5.5-6.0	BH17003RM	Non Haz		Non Haz
	EO6287RM	10.25-10.5	BH17004RM	Non Haz		Non Haz
		0-15.0	BP17003RM		Non Haz	Non Haz
17297	EO6288RM	5.0-5.5	BH17007RM	Non Haz		Non Haz
	EO6289RM	10.5-11.0	BH17008RM	Non Haz		Non Haz
		0-11.8	BP17000RM		Non Haz	Non Haz
17397	EO6291RM	5.0-5.5	BH17009RM	Non Haz		Non Haz
		10.5-11.0	BH17010RM	Non Haz		Non Haz
		0-12.0	BP17001RM		Non Haz	Non Haz
17497	EO6290RM	4.3-4.9	BH17012RM	Non Haz		Non Haz
		8.5-9.0	BH17013RM	Non Haz		Non Haz
		11.0-11.5	BH17014RM	Non Haz		Non Haz
		0-14.0	BP17005RM		Non Haz	Non Haz
17597	EO6292RM	4.7-5.3	BH17015RM	Non Haz		Non Haz
		11.0-11.5	BH17016RM	Non Haz		Non Haz
		10.5-11.0	BH17005RM*	Non Haz		Non Haz
		0-12.0	BP17006RM		Non Haz	Non Haz
17697	EO6293RM	5.5-6.0	BH17018RM	Non Haz		Non Haz
		9.8-10.3	BH17019RM	Non Haz		Non Haz
		0-13.0	BP17007RM		Non Haz	Non Haz
17797	EO6294RM	4.4-4.9	BH17020RM	Non Haz		Non Haz
		0-8.0	BP17008RM		Non Haz	Non Haz
17897	EO6295RM	5.4-5.9	BH17023RM	Non Haz		Non Haz
		0-11.4	BP17009RM		Non Haz	Non Haz
17997	EO6296RM	5.0-5.5	BH17024RM	Non Haz		Non Haz
	EO6297RM	9.5-10.0	BH17025RM	Non Haz		Non Haz
		15.0-15.5	BH17026RM	Non Haz		Non Haz
		19.5-20.0	BH17027RM	Non Haz		Non Haz
		0-22.0	BP17010RM		Non Haz	Non Haz
18097	EO6298RM	5.0-5.5	BH17028RM	Non Haz		Non Haz
		4.5-5.0	BH17029RM*	Non Haz		Non Haz
		0-10.0	BP17011RM		Non Haz	Non Haz
		0-10.0	BP17012RM*		Non Haz	Non Haz
18197	EO6304RM	5.0-5.5	BH17030RM	Non Haz		Non Haz
		0-10.0	BP17014RM		Non Haz	Non Haz
18297	EO6283RM	5.0-5.5	BH17032RM	Non Haz		Non Haz
		0-10.0	BP17015RM		Non Haz	Non Haz
18397	EO6300RM	5.0-5.5	BH17033RM	Non Haz		Non Haz
		0-9.0	BP17016RM		Non Haz	Non Haz
18497	EO6303RM	5.0-5.5	BH17034RM	Non Haz		Non Haz
		0-9.0	BP17017RM		Non Haz	Non Haz
18597	EO6301RM	5.0-5.5	BH17037RM	Non Haz		Non Haz
		0-9.0	BP17018RM		Non Haz	Non Haz
18697	EO6299RM	5.0-5.5	BH17038RM	Non Haz		Non Haz
		0-10.0	BP17019RM		Non Haz	Non Haz
18797	EO6314RM	4.5-5.0	BH17041RM	Non Haz		Non Haz
		10.5-11.0	BH17042RM	Non Haz		Non Haz
		14.0-14.5	BH17040RM	Non Haz		Non Haz
		20.5-21.5	BH17043RM	Non Haz		Non Haz
		0-22.0	BP17020RM		Non Haz	Non Haz
18897	EO6315RM	4.5-5.0	BH17044RM	Non Haz		Non Haz
	EO6317RM	11.0-11.5	BH17045RM	Non Haz		Non Haz
		15.0-15.5	BH17046RM	Non Haz		Non Haz
		20.5-21.5	BH17047RM	Non Haz		Non Haz
		0-22.0	BP17021RM		Non Haz	Non Haz
18997	EO6316RM	5.0-5.5	BH17049RM	Non Haz		Non Haz
		9.5-10.0	BH17050RM	Non Haz		Non Haz
		0-12.0	BP17022RM		Non Haz	Non Haz

Note: * = duplicate sample, BH sample units are ug/Kg BP sample units are in ug/L
VOA analyses were evaluated in respect to FO.29 and TCLP metals analyses were evaluated manually against Table 6-1 (FO.29)

94-DME-001741

APPENDIX 4

TCLP REGULATORY LEVELS AND TABLE OF RISK-BASED CONCENTRATIONS

TABLE 6-1

TCLP CONSTITUENTS OF CONCERN MAXIMUM CONTAMINATION LEVELS

CHEMICAL	REGULATORY LEVEL
Arsenic	5.0
Barium	100.0
Benzene	0.5
Cadmium	1.0
Carbon tetrachloride	0.5
Chlordane	0.03
Chlorobenzene	100.0
Chloroform	6.0
Chromium	5.0
o-Cresol	200.0[a]
m-Cresol	200.0[a]
p-Cresol	200.0[a]
Cresol	200.0[a]
2,4-D	10.0
1,4-Dichlorobenzene	7.5
1,2-Dichloroethane	0.5
1,1,-Dichloroethylene	0.7
2,4-Dinotrotoluene	0.13[b]
Endrin	0.02
Heptachlor (and its hydroxide)	0.008
Hexachlorobenzene	0.13[b]
Hexachlorobutadiene	0.5
Hexachloroethane	3.0
Lead	5.0
Lindane	0.4
Mercury	0.2
Methoxychlor	10.0
Methyl ethylketone	200.0
Nitrobenzene	2.0
Pentachlorophenol	100.0
Pyridine	5.0[b]
Selenium	1.0
Silver	5.0
Tetrachloroethylene	0.7
Toxaphene	0.5
Trichloroethylene	0.5
2,4,5-Trichlorophenol	400.0
2,4,6-Trichlorophenol	2.0
2,4,5-TP (Silvex)	1.0
Vinyl chloride	0.2

[a] If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

[b] Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

141

BP17000RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2438-003.005

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2438
Matrix (soil/water): WATER Lab Sample ID: 9708579-01
Level (low/med): LOW__ Date Received: 08/28/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	341	_		P_
7440-36-0	Antimony_	1.8	U		P_
7440-38-2	Arsenic__	2.9	B		P_
7440-39-3	Barium___	408	_		P_
7440-41-7	Beryllium	3.6	_		P_
7440-43-9	Cadmium__	0.57	B		P_
7440-70-2	Calcium__	47900	_		P_
7440-47-3	Chromium_	16.1	_		P_
7440-48-4	Cobalt___	75.6	_		P_
7440-50-8	Copper___	7.7	B		P_
7439-89-6	Iron_____	4990	_		P_
7439-92-1	Lead_____	6.6	B		P_
7439-95-4	Magnesium	10300	_		P_
7439-96-5	Manganese	203	_		P_
7440-02-0	Nickel___	25.4	B		P_
7440-09-7	Potassium	1810	B		P_
7782-49-2	Selenium_	4.0	B		P_
7440-22-4	Silver___	1.1	B		P_
7440-23-5	Sodium___	1390000	_		P_
7440-28-0	Thallium_	2.4	U		P_
7440-62-2	Vanadium_	0.58	B		P_
7440-66-6	Zinc_____	20.0	_		P_
7440-31-5	Tin_____	3.3	B		P_
7440-61-1	Uranium__	9.0	U		P_
7440-24-6_	Strontium	295	_		P_
7439-93-2_	Lithium__	2.0	B		P_
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

142

BP17001RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2438-006.010

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2438
Matrix (soil/water): WATER Lab Sample ID: 9708579-02
Level (low/med): LOW__ Date Received: 08/28/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	732			P_
7440-36-0	Antimony_	2.0	B		P_
7440-38-2	Arsenic__	6.3	B		P_
7440-39-3	Barium___	295			P_
7440-41-7	Beryllium	3.2			P_
7440-43-9	Cadmium__	2.2	B		P_
7440-70-2	Calcium__	34000			P_
7440-47-3	Chromium_	85.1			P_
7440-48-4	Cobalt___	55.4			P_
7440-50-8	Copper___	133			P_
7439-89-6	Iron_____	33200			P_
7439-92-1	Lead_____	1.2	U		P_
7439-95-4	Magnesium	7350			P_
7439-96-5	Manganese	897			P_
7440-02-0	Nickel___	140			P_
7440-09-7	Potassium	4000	B		P_
7782-49-2	Selenium_	3.7	B		P_
7440-22-4	Silver___	0.60	U		P_
7440-23-5	Sodium___	1390000			P_
7440-28-0	Thallium_	2.4	U		P_
7440-62-2	Vanadium_	186			P_
7440-66-6	Zinc_____	141			P_
7440-31-5	Tin_____	2.4	B		P_
7440-61-1	Uranium__	9.0	U		P_
7440-24-6_	Strontium	198	B		P_
7439-93-2_	Lithium__	2.0	B		P_
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP17003RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2437-006.010

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A243
Matrix (soil/water): WATER Lab Sample ID: 9708500-02
Level (low/med): LOW__ Date Received: 08/26/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	587			P
7440-36-0	Antimony_	2.2	B		P
7440-38-2	Arsenic__	3.8	B		P
7440-39-3	Barium___	539			P
7440-41-7	Beryllium	3.7			P
7440-43-9	Cadmium__	0.47	B		P
7440-70-2	Calcium__	41200			P
7440-47-3	Chromium_	98.1		E	P
7440-48-4	Cobalt___	58.6			P
7440-50-8	Copper___	42.0		E	P
7439-89-6	Iron_____	32700		E	P
7439-92-1	Lead_____	4.8	B		P
7439-95-4	Magnesium	8580			P
7439-96-5	Manganese	712			P
7440-02-0	Nickel___	118			P
7440-09-7	Potassium	3170	B	E	P
7782-49-2	Selenium_	2.9	B		P
7440-22-4	Silver___	2.2	B		P
7440-23-5	Sodium___	1400000			P
7440-28-0	Thallium_	3.4	B		P
7440-62-2	Vanadium_	0.96	B		P
7440-66-6	Zinc_____	30.3			P
7440-31-5	Tin_____	3.6	B		P
7440-61-1	Uranium__	9.0	U		P
7440-24-6_	Strontium	277			P
7439-93-2_	Lithium__	5.9	B		P
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

144

BP17004RM

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2437-003.005

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A243
Matrix (soil/water): WATER Lab Sample ID: 9708500-01
Level (low/med): LOW__ Date Received: 08/26/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	394			P
7440-36-0	Antimony_	2.5	B		P
7440-38-2	Arsenic__	2.5	U		P
7440-39-3	Barium___	523			P
7440-41-7	Beryllium	2.6			P
7440-43-9	Cadmium__	1.3	B		P
7440-70-2	Calcium__	34100			P
7440-47-3	Chromium_	30.3		E	P
7440-48-4	Cobalt___	45.6	B		P
7440-50-8	Copper___	16.4	B	E	P
7439-89-6	Iron____	6100		E	P
7439-92-1	Lead____	399			P
7439-95-4	Magnesium	6670			P
7439-96-5	Manganese	1810			P
7440-02-0	Nickel___	49.8			P
7440-09-7	Potassium	3340	B	E	P
7782-49-2	Selenium_	4.6	B		P
7440-22-4	Silver___	0.60	U		P
7440-23-5	Sodium___	1460000			P
7440-28-0	Thallium_	4.8	B		P
7440-62-2	Vanadium_	0.40	U		P
7440-66-6	Zinc____	50.4			P
7440-31-5	Tin____	2.0	B		P
7440-61-1	Uranium__	9.0	U		P
7440-24-6_	Strontium	211			P
7439-93-2_	Lithium__	4.9	B		P
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

145

BP17005RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2439-004.007

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC00049_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2439
Matrix (soil/water): WATER Lab Sample ID: 9708586-01
Level (low/med): LOW__ Date Received: ~~08/28/97~~ 08/27/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	785	_		P_
7440-36-0	Antimony_	1.8	U		P_
7440-38-2	Arsenic__	4.2	B		P_
7440-39-3	Barium__	452	_		P_
7440-41-7	Beryllium	2.5	_		P_
7440-43-9	Cadmium__	0.41	B		P_
7440-70-2	Calcium__	44000	_		P_
7440-47-3	Chromium_	38.4	_		P_
7440-48-4	Cobalt__	40.1	B		P_
7440-50-8	Copper__	26.3	_		P_
7439-89-6	Iron____	13500	_		P_
7439-92-1	Lead____	4.3	B		P_
7439-95-4	Magnesium	8720	_		P_
7439-96-5	Manganese	430	_		P_
7440-02-0	Nickel__	43.8	_		P_
7440-09-7	Potassium	2890	B		P_
7782-49-2	Selenium_	2.3	U		P_
7440-22-4	Silver__	0.60	U		P_
7440-23-5	Sodium__	1320000	_		P_
7440-28-0	Thallium_	3.1	B		P_
7440-62-2	Vanadium_	0.69	B		P_
7440-66-6	Zinc____	66.9	_		P_
7440-31-5	Tin____	1.6	B		P_
7440-61-1	Uranium__	9.0	U		P_
7440-24-6_	Strontium	251	_		P_
7439-93-2_	Lithium__	3.8	B		P_
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP17006RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2439-008.016

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHCO00497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2439
Matrix (soil/water): WATER Lab Sample ID: 9708586-02
Level (low/med): LOW__ Date Received: ~~08/28/97~~ 08/27/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	546			P
7440-36-0	Antimony	1.8	U		P
7440-38-2	Arsenic	5.4	B		P
7440-39-3	Barium	441			P
7440-41-7	Beryllium	2.5			P
7440-43-9	Cadmium	0.60	B		P
7440-70-2	Calcium	56500			P
7440-47-3	Chromium	20.3			P
7440-48-4	Cobalt	31.7	B		P
7440-50-8	Copper	11.5	B		P
7439-89-6	Iron	3650			P
7439-92-1	Lead	49.0	B		P
7439-95-4	Magnesium	11600			P
7439-96-5	Manganese	224			P
7440-02-0	Nickel	14.9	B		P
7440-09-7	Potassium	1850	B		P
7782-49-2	Selenium	3.0	B		P
7440-22-4	Silver	1.5	B		P
7440-23-5	Sodium	1380000			P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	3.4	B		P
7440-66-6	Zinc	60.3			P
7440-31-5	Tin	4.2	B		P
7440-61-1	Uranium	9.0	U		P
7440-24-6	Strontium	317			P
7439-93-2	Lithium	3.2	B		P
7439-97-6	Mercury	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP17007RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2440-003.007

Lab Name: GENERAL ENGINEERING LABS Contract: KHC00049'
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2440
Matrix (soil/water): WATER Lab Sample ID: 9708585-01
Level (low/med): LOW Date Received: ~~08/28/97~~ 08/27/97 10/6/9
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	398			P
7440-36-0	Antimony	1.8	U		P
7440-38-2	Arsenic	4.6	B		P
7440-39-3	Barium	435			P
7440-41-7	Beryllium	2.6			P
7440-43-9	Cadmium	0.52	B		P
7440-70-2	Calcium	41600			P
7440-47-3	Chromium	80.2			P
7440-48-4	Cobalt	64.2			P
7440-50-8	Copper	14.4	B		P
7439-89-6	Iron	8830			P
7439-92-1	Lead	1.2	B		P
7439-95-4	Magnesium	8220			P
7439-96-5	Manganese	861			P
7440-02-0	Nickel	32.3	B		P
7440-09-7	Potassium	2030	B		P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	0.78	B		P
7440-23-5	Sodium	1320000			P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	11.5	B		P
7440-66-6	Zinc	55.6			P
7440-31-5	Tin	1.4	B		P
7440-61-1	Uranium	9.0	U		P
7440-24-6	Strontium	244			P
7439-93-2	Lithium	3.5	B		P
7439-97-6	Mercury	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP17008RM

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2440-005.010

Lab Name: GENERAL ENGINEERING LABS Contract: KHC00497
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2440
Matrix (soil/water): WATER Lab Sample ID: 9708585-02
Level (low/med): LOW Date Received: ~~08/28/97~~ 08/27/97 10/6/97
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	349			P
7440-36-0	Antimony	2.7	B		P
7440-38-2	Arsenic	3.3	B		P
7440-39-3	Barium	491			P
7440-41-7	Beryllium	2.8			P
7440-43-9	Cadmium	1.8	B		P
7440-70-2	Calcium	41100			P
7440-47-3	Chromium	68.0			P
7440-48-4	Cobalt	68.0			P
7440-50-8	Copper	6.9	B		P
7439-89-6	Iron	4760			P
7439-92-1	Lead	6.8	B		P
7439-95-4	Magnesium	9510			P
7439-96-5	Manganese	788			P
7440-02-0	Nickel	24.0	B		P
7440-09-7	Potassium	3200	B		P
7782-49-2	Selenium	5.4	B		P
7440-22-4	Silver	1.0	B		P
7440-23-5	Sodium	1390000			P
7440-28-0	Thallium	4.0	B		P
7440-62-2	Vanadium	0.40	U		P
7440-66-6	Zinc	61.0			P
7440-31-5	Tin	1.6	B		P
7440-61-1	Uranium	9.0	U		P
7440-24-6	Strontium	263			P
7439-93-2	Lithium	3.5	B		P
7439-97-6	Mercury	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP17009RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2441-005.007

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2441
Matrix (soil/water): WATER Lab Sample ID: 9708587-01
Level (low/med): LOW__ Date Received: ~~08/28/97~~ 08/27/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	347	_		P_
7440-36-0	Antimony_	2.1	B		P_
7440-38-2	Arsenic__	2.5	U		P_
7440-39-3	Barium__	332	_		P_
7440-41-7	Beryllium	3.1	_		P_
7440-43-9	Cadmium__	0.65	B		P_
7440-70-2	Calcium__	42200	_		P_
7440-47-3	Chromium_	29.8	_		P_
7440-48-4	Cobalt__	42.4	B		P_
7440-50-8	Copper__	23.7	B		P_
7439-89-6	Iron____	8710	_		P_
7439-92-1	Lead____	16.5	B		P_
7439-95-4	Magnesium	8850	_		P_
7439-96-5	Manganese	420	_		P_
7440-02-0	Nickel__	43.8	_		P_
7440-09-7	Potassium	2660	B		P_
7782-49-2	Selenium_	4.1	B		P_
7440-22-4	Silver__	0.60	U		P_
7440-23-5	Sodium__	1420000	_		P_
7440-28-0	Thallium_	2.4	U		P_
7440-62-2	Vanadium_	0.40	U		P_
7440-66-6	Zinc____	31.3	_		P_
7440-31-5	Tin____	1.5	B		P_
7440-61-1	Uranium__	9.0	U		P_
7440-24-6_	Strontium	254	_		P_
7439-93-2_	Lithium__	2.6	B		P_
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP17010RM

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2442-005.009

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2442
Matrix (soil/water): WATER Lab Sample ID: 9708584-01
Level (low/med): LOW__ Date Received: 08/27/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	426			P_
7440-36-0	Antimony_	1.8	U		P_
7440-38-2	Arsenic__	3.5	B		P_
7440-39-3	Barium__	624			P_
7440-41-7	Beryllium	2.6			P_
7440-43-9	Cadmium__	0.65	B		P_
7440-70-2	Calcium__	34200			P_
7440-47-3	Chromium_	72.4			P_
7440-48-4	Cobalt__	92.4			P_
7440-50-8	Copper__	22.3	B		P_
7439-89-6	Iron_____	5910			P_
7439-92-1	Lead____	8.4	B		P_
7439-95-4	Magnesium	6790			P_
7439-96-5	Manganese	3610			P_
7440-02-0	Nickel__	48.7			P_
7440-09-7	Potassium	2780	B		P_
7782-49-2	Selenium_	4.3	B		P_
7440-22-4	Silver__	0.97	B		P_
7440-23-5	Sodium__	1360000			P_
7440-28-0	Thallium_	4.4	B		P_
7440-62-2	Vanadium_	0.41	B		P_
7440-66-6	Zinc____	50.7			P_
7440-31-5	Tin_____	1.3	U		P_
7440-61-1	Uranium__	9.0	U		P_
7440-24-6_	Strontium	195	B		P_
7439-93-2_	Lithium__	5.6	B		P_
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP17011RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2442-009.014

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2442
Matrix (soil/water): WATER Lab Sample ID: 9708584-02
Level (low/med): LOW__ Date Received: 08/27/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	550			P_
7440-36-0	Antimony_	1.8	U		P_
7440-38-2	Arsenic__	2.5	U		P_
7440-39-3	Barium___	309			P_
7440-41-7	Beryllium	3.5			P_
7440-43-9	Cadmium__	0.50	B		P_
7440-70-2	Calcium__	36900			P_
7440-47-3	Chromium_	131			P_
7440-48-4	Cobalt___	146			P_
7440-50-8	Copper___	234			P_
7439-89-6	Iron____	20900			P_
7439-92-1	Lead____	4.9	B		P_
7439-95-4	Magnesium	8010			P_
7439-96-5	Manganese	481			P_
7440-02-0	Nickel___	60.6			P_
7440-09-7	Potassium	2190	B		P_
7782-49-2	Selenium_	3.3	B		P_
7440-22-4	Silver___	1.7	B		P_
7440-23-5	Sodium___	1390000			P_
7440-28-0	Thallium_	2.4	U		P_
7440-62-2	Vanadium_	0.70	B		P_
7440-66-6	Zinc____	1400			P_
7440-31-5	Tin_____	3.2	B		P_
7440-61-1	Uranium__	9.0	U		P_
7440-24-6_	Strontium	231			P_
7439-93-2_	Lithium__	5.1	B		P_
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

152

BP17014RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2442-013.018

Lab Name: GENERAL ENGINEERING LABS Contract: KHC000497
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2442
Matrix (soil/water): WATER Lab Sample ID: 9708584-05
Level (low/med): LOW Date Received: 08/27/97
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	418			P
7440-36-0	Antimony	1.8	U		P
7440-38-2	Arsenic	4.5	B		P
7440-39-3	Barium	396			P
7440-41-7	Beryllium	4.2			P
7440-43-9	Cadmium	0.68	B		P
7440-70-2	Calcium	34600			P
7440-47-3	Chromium	28.2			P
7440-48-4	Cobalt	166			P
7440-50-8	Copper	38.6			P
7439-89-6	Iron	11300			P
7439-92-1	Lead	8.8	B		P
7439-95-4	Magnesium	7180			P
7439-96-5	Manganese	2920			P
7440-02-0	Nickel	96.1			P
7440-09-7	Potassium	2600	B		P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	0.67	B		P
7440-23-5	Sodium	1320000			P
7440-28-0	Thallium	7.9	B		P
7440-62-2	Vanadium	0.40	U		P
7440-66-6	Zinc	49.6			P
7440-31-5	Tin	1.4	B		P
7440-61-1	Uranium	9.0	U		P
7440-24-6	Strontium	224			P
7439-93-2	Lithium	5.7	B		P
7439-97-6	Mercury	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP17015RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2443-003.004

Lab Name: GENERAL ENGINEERING LABS Contract: KHC000497
Lab Code: Case No.: SAS No.: SDG No.: 97A2443
Matrix (soil/water): WATER Lab Sample ID: 9709048-01
Level (low/med): LOW Date Received: 09/03/97
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	460		E	P
7440-36-0	Antimony	1.8	U		P
7440-38-2	Arsenic	3.0	B		P
7440-39-3	Barium	451			P
7440-41-7	Beryllium	3.0			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	28200		N	P
7440-47-3	Chromium	25.0		E	P
7440-48-4	Cobalt	88.0		E	P
7440-50-8	Copper	38.3			P
7439-89-6	Iron	9260			P
7439-92-1	Lead	24.0	B		P
7439-95-4	Magnesium	6480		EN	P
7439-96-5	Manganese	1030			P
7440-02-0	Nickel	46.4			P
7440-09-7	Potassium	2980	B	E	P
7782-49-2	Selenium	6.8	B		P
7440-22-4	Silver	1.2	B		P
7440-23-5	Sodium	1450000			P
7440-28-0	Thallium	3.8	B		P
7440-62-2	Vanadium	0.64	B		P
7440-66-6	Zinc	36.2		E	P
7439-98-7	Molybdenu	0.80	U		P
7440-31-5	Tin	3.8	B		P
7440-61-1	Uranium	9.0	U		P
7440-24-6	Strontium	203			P
7439-93-2	Lithium	1.0	U		P
7439-97-6	Mercury	1.0	U		AV

Color Before: Clarity Before: Texture:
Color After: Clarity After: Artifacts:

Comments:

154

BP17016RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2443-005.006

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2443
Matrix (soil/water): WATER Lab Sample ID: 9709048-02
Level (low/med): LOW__ Date Received: 09/03/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	492		E	P
7440-36-0	Antimony_	1.8	B		P
7440-38-2	Arsenic__	2.9	B		P
7440-39-3	Barium___	880			P
7440-41-7	Beryllium	3.7			P
7440-43-9	Cadmium__	0.30	U		P
7440-70-2	Calcium__	64400		N	P
7440-47-3	Chromium_	18.7		E	P
7440-48-4	Cobalt___	6.7	B	E	P
7440-50-8	Copper___	3.0	B		P
7439-89-6	Iron____	1740			P
7439-92-1	Lead____	7.9	B		P
7439-95-4	Magnesium	13400		EN	P
7439-96-5	Manganese	95.4			P
7440-02-0	Nickel___	12.8	B		P
7440-09-7	Potassium	1330	B	E	P
7782-49-2	Selenium_	6.8	B		P
7440-22-4	Silver___	2.0	B		P
7440-23-5	Sodium___	1400000			P
7440-28-0	Thallium_	2.4	U		P
7440-62-2	Vanadium_	0.60	B		P
7440-66-6	Zinc____	51.1		E	P
7439-98-7	Molybdenu	0.80	U		P
7440-31-5	Tin____	2.8	B		P
7440-61-1_	Uranium__	9.0	U		P
7440-24-6_	Strontium	434			P
7439-93-2_	Lithium__	5.8	B		P
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP17017RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2443-008.010

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2443
Matrix (soil/water): WATER Lab Sample ID: 9709048-03
Level (low/med): LOW__ Date Received: 09/03/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	534		E	P
7440-36-0	Antimony	2.5	B		P
7440-38-2	Arsenic	5.2	B		P
7440-39-3	Barium	603			P
7440-41-7	Beryllium	2.7			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	34800		N	P
7440-47-3	Chromium	60.3		E	P
7440-48-4	Cobalt	84.4		E	P
7440-50-8	Copper	28.4			P
7439-89-6	Iron	30700			P
7439-92-1	Lead	9.5	B		P
7439-95-4	Magnesium	7550		EN	P
7439-96-5	Manganese	1050			P
7440-02-0	Nickel	109			P
7440-09-7	Potassium	4140	B	E	P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	2.0	B		P
7440-23-5	Sodium	1440000			P
7440-28-0	Thallium	2.5	B		P
7440-62-2	Vanadium	0.50	B		P
7440-66-6	Zinc	47.5		E	P
7439-98-7	Molybdenu	2.2	B		P
7440-31-5	Tin	2.6	B		P
7440-61-1	Uranium	9.0	U		P
7440-24-6	Strontium	261			P
7439-93-2	Lithium	1.0	U		P
7439-97-6	Mercury	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP 17018RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2444-003.004

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2444
Matrix (soil/water): WATER Lab Sample ID: 9709050-01
Level (low/med): LOW__ Date Received: 09/03/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	425	_	E	P_
7440-36-0	Antimony_	1.8	U		P_
7440-38-2	Arsenic__	2.5	U		P_
7440-39-3	Barium__	418	_		P_
7440-41-7	Beryllium	2.7	_		P_
7440-43-9	Cadmium__	0.30	U		P_
7440-70-2	Calcium__	29700	_	N	P_
7440-47-3	Chromium_	51.9	_	E	P_
7440-48-4	Cobalt__	41.4	B	E	P_
7440-50-8	Copper__	10.3	B		P_
7439-89-6	Iron_____	6790	_		P_
7439-92-1	Lead_____	23.9	B		P_
7439-95-4	Magnesium	5840	_	EN	P_
7439-96-5	Manganese	688	_		P_
7440-02-0	Nickel__	27.0	B		P_
7440-09-7	Potassium	2830	B	E	P_
7782-49-2	Selenium_	5.2	B		P_
7440-22-4	Silver__	1.5	B		P_
7440-23-5	Sodium__	2000000	_		P_
7440-28-0	Thallium_	2.4	U		P_
7440-62-2	Vanadium_	0.43	B		P_
7440-66-6	Zinc_____	31.3	_	E	P_
7439-98-7	Molybdenu	2.2	B		P_
7440-31-5	Tin_____	2.2	B		P_
7440-61-1_	Uranium__	9.0	U		P_
7440-24-6_	Strontium	212	_		P_
7439-93-2_	Lithium__	1.0	U		P_
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN ILM02.1

157

U.S. EPA - CLP

BP17019RM

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2444-005.006

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2444
Matrix (soil/water): WATER Lab Sample ID: 9709050-02
Level (low/med): LOW__ Date Received: 09/03/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	436	_	E	P_
7440-36-0	Antimony_	1.8	U		P_
7440-38-2	Arsenic__	5.8	B		P_
7440-39-3	Barium___	263	_		P_
7440-41-7	Beryllium	2.0	_		P_
7440-43-9	Cadmium__	0.30	U		P_
7440-70-2	Calcium__	16700	_	N	P_
7440-47-3	Chromium_	61.8	_	E	P_
7440-48-4	Cobalt___	44.0	B	E	P_
7440-50-8	Copper___	28.7	_		P_
7439-89-6	Iron____	13100	_		P_
7439-92-1	Lead____	28.8	B		P_
7439-95-4	Magnesium	3300	B	EN	P_
7439-96-5	Manganese	662	_		P_
7440-02-0	Nickel___	45.6	_		P_
7440-09-7	Potassium	3160	B	E	P_
7782-49-2	Selenium_	2.7	B		P_
7440-22-4	Silver___	1.6	B		P_
7440-23-5	Sodium___	1270000	_		P_
7440-28-0	Thallium_	5.3	B		P_
7440-62-2	Vanadium_	0.40	U		P_
7440-66-6	Zinc____	38.5	_	E	P_
7439-98-7	Molybdenu	0.81	B		P_
7440-31-5	Tin____	3.3	B		P_
7440-61-1_	Uranium__	9.8	B		P_
7440-24-6_	Strontium	137	B		P_
7439-93-2_	Lithium__	1.0	U		P_
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP17020RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2445-006.007

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2445
Matrix (soil/water): WATER Lab Sample ID: 9709078-01
Level (low/med): LOW__ Date Received: 09/04/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	466			P
7440-36-0	Antimony	1.8	U		P
7440-38-2	Arsenic	2.7	B		P
7440-39-3	Barium	739			P
7440-41-7	Beryllium	2.3			P
7440-43-9	Cadmium	0.40	B		P
7440-70-2	Calcium	47100			P
7440-47-3	Chromium	63.6			P
7440-48-4	Cobalt	65.8			P
7440-50-8	Copper	17.5	B		P
7439-89-6	Iron	4190		N	P
7439-92-1	Lead	5.4	B		P
7439-95-4	Magnesium	8200			P
7439-96-5	Manganese	2610			P
7440-02-0	Nickel	49.1			P
7440-09-7	Potassium	3410	B	N	P
7782-49-2	Selenium	5.0	B		P
7440-22-4	Silver	0.60	U		P
7440-23-5	Sodium	1620000			P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	0.40	U		P
7440-66-6	Zinc	119			P
7439-98-7	Molybdenu	0.80	U		P
7440-31-5	Tin	1.8	B		P
7440-61-1	Uranium	9.0	U		P
7440-24-6	Strontium	262			P
7439-93-2	Lithium	1.0	U		P
7439-97-6	Mercury	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

159

BP17021RM

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2445-011.012

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2445
Matrix (soil/water): WATER Lab Sample ID: 9709078-02
Level (low/med): LOW__ Date Received: 09/04/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	272			P
7440-36-0	Antimony_	1.8	U		P
7440-38-2	Arsenic__	3.0	B		P
7440-39-3	Barium__	1000			P
7440-41-7	Beryllium	2.3			P
7440-43-9	Cadmium__	0.58	B		P
7440-70-2	Calcium__	62500			P
7440-47-3	Chromium_	31.5			P
7440-48-4	Cobalt__	66.0			P
7440-50-8	Copper__	35.7			P
7439-89-6	Iron_____	8940		N	P
7439-92-1	Lead_____	13.8	B		P
7439-95-4	Magnesium	11000			P
7439-96-5	Manganese	3090			P
7440-02-0	Nickel__	57.9			P
7440-09-7	Potassium	4520	B	N	P
7782-49-2	Selenium_	2.3	B		P
7440-22-4	Silver__	0.79	B		P
7440-23-5	Sodium__	1630000			P
7440-28-0	Thallium_	3.3	B		P
7440-62-2	Vanadium_	0.40	U		P
7440-66-6	Zinc_____	74.8			P
7439-98-7	Molybdenu	0.80	U		P
7440-31-5	Tin_____	1.7	B		P
7440-61-1_	Uranium__	9.0	U		P
7440-24-6_	Strontium	326			P
7439-93-2_	Lithium__	1.0	U		P
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

160

BP17022RM

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2447-004.007

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2447
Matrix (soil/water): WATER Lab Sample ID: 9709213-01
Level (low/med): LOW__ Date Received: 09/10/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	583			P_
7440-36-0	Antimony_	4.2	B		P_
7440-38-2	Arsenic__	3.6	B		P_
7440-39-3	Barium__	473			P_
7440-41-7	Beryllium	2.9			P_
7440-43-9	Cadmium_	0.87	B		P_
7440-70-2	Calcium__	36400			P_
7440-47-3	Chromium_	67.4			P_
7440-48-4	Cobalt___	39.6	B		P_
7440-50-8	Copper___	32.8			P_
7439-89-6	Iron____	22100			P_
7439-92-1	Lead____	151			P_
7439-95-4	Magnesium	6730			P_
7439-96-5	Manganese	638			P_
7440-02-0	Nickel___	78.1			P_
7440-09-7	Potassium	3040	B		P_
7782-49-2	Selenium_	5.8	B		P_
7440-22-4	Silver___	0.93	B		P_
7440-23-5	Sodium___	1240000			P_
7440-28-0	Thallium_	4.5	B		P_
7440-62-2	Vanadium_	0.40	U		P_
7440-66-6	Zinc____	37.9			P_
7439-98-7	Molybdenu	2.4	B		P_
7440-31-5	Tin____	2.3	B		P_
7440-61-1_	Uranium__	9.0	U		P_
7440-24-6_	Strontium	237			P_
7439-93-2_	Lithium__	1.0	U		P_
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP17012RM

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2442-010.015

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2442
Matrix (soil/water): WATER Lab Sample ID: 9708584-03
Level (low/med): LOW__ Date Received: 08/27/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	519			P
7440-36-0	Antimony	1.8	U		P
7440-38-2	Arsenic	3.5	B		P
7440-39-3	Barium	322			P
7440-41-7	Beryllium	3.2			P
7440-43-9	Cadmium	0.71	B		P
7440-70-2	Calcium	34400			P
7440-47-3	Chromium	149			P
7440-48-4	Cobalt	124			P
7440-50-8	Copper	228			P
7439-89-6	Iron	21000			P
7439-92-1	Lead	5.2	B		P
7439-95-4	Magnesium	6610			P
7439-96-5	Manganese	495			P
7440-02-0	Nickel	63.3			P
7440-09-7	Potassium	2140	B		P
7782-49-2	Selenium	3.7	B		P
7440-22-4	Silver	1.2	B		P
7440-23-5	Sodium	1360000			P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	0.53	B		P
7440-66-6	Zinc	1680			P
7440-31-5	Tin	1.5	B		P
7440-61-1	Uranium	9.0	U		P
7440-24-6	Strontium	218			P
7439-93-2	Lithium	4.2	B		P
7439-97-6	Mercury	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

BP17013RM
RB

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
97A2442-011.016

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2442
Matrix (soil/water): WATER Lab Sample ID: 9708584-04
Level (low/med): LOW__ Date Received: 08/27/97
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	39.2	B		P_
7440-36-0	Antimony_	1.8	U		P_
7440-38-2	Arsenic__	2.5	U		P_
7440-39-3	Barium___	139			P_
7440-41-7	Beryllium	0.20	U		P_
7440-43-9	Cadmium__	0.50	B		P_
7440-70-2	Calcium__	126	B		P_
7440-47-3	Chromium_	0.50	U		P_
7440-48-4	Cobalt___	1.1	B		P_
7440-50-8	Copper___	7.3	B		P_
7439-89-6	Iron____	40.6	B		P_
7439-92-1	Lead____	3.3	B		P_
7439-95-4	Magnesium	18.9	B		P_
7439-96-5	Manganese	1.1	U		P_
7440-02-0	Nickel___	2.8	U		P_
7440-09-7	Potassium	18.7	U		P_
7782-49-2	Selenium_	2.3	U		P_
7440-22-4	Silver___	1.2	B		P_
7440-23-5	Sodium___	1350	B		P_
7440-28-0	Thallium_	2.4	U		P_
7440-62-2	Vanadium_	1.8	B		P_
7440-66-6	Zinc____	60.6			P_
7440-31-5	Tin____	1.7	B		P_
7440-61-1	Uranium__	9.9	B		P_
7440-24-6_	Strontium	2.2	B		P_
7439-93-2_	Lithium__	1.0	U		P_
7439-97-6_	Mercury__	1.0	U		AV

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

163

APPENDIX D

SURFACE SOIL RADIOLOGICAL RESULTS

Rocky Flats

Sample QC Results Summary
11/26/97

Batch # : 111089
RIN 97A2446
Line Item Code: RC01B003
Matrix: Soil

KHCO ID #	EPI ID #	Analysis	Result pCi/g	2sigma Error pCi/g	MDA pCi/g	RDL pCi/g	Tracer Yield %
003-005	9711022-01	Americium-241	2.75E-02	2.21E-02	3.70E-02	0.30	66.23
		Plutonium-239/240	3.92E-02	2.53E-02	2.80E-02	0.30	78.02
		Uranium-233/234	7.50E-01	1.14E-01	4.45E-02	1.00	73.82
		Uranium-235	2.41E-02	2.63E-02	4.45E-02	1.00	73.82
		Uranium-238	7.99E-01	1.17E-01	3.71E-02	1.00	73.82
004-006	9711022-02	Americium-241	2.95E-02	2.80E-02	4.69E-02	0.30	68.41
		Plutonium 239/240	3.56E-02	2.66E-02	3.87E-02	0.30	77.54
		Uranium-233/234	8.07E-01	1.08E-01	3.47E-02	1.00	75.17
		Uranium-235	4.28E-02	2.70E-02	3.14E-02	1.00	75.17
		Uranium-238	1.02E+00	1.21E-01	2.23E-02	1.00	75.17
005-007	9711022-03	Americium-241	1.21E-04	2.79E-02	5.87E-02	0.30	62.42
		Plutonium-239/240	2.02E-02	2.62E-02	4.77E-02	0.30	72.22
		Uranium-233/234	7.96E-01	1.05E-01	3.01E-02	1.00	85.01
		Uranium-235	4.46E-02	2.68E-02	3.01E-02	1.00	85.01
		Uranium-238	1.12E+00	1.24E-01	2.14E-02	1.00	85.01
006-008	9711022-04	Americium-241	2.00E-02	1.81E-02	2.85E-02	0.30	84.74
		Plutonium-239/240	2.31E+00	2.03E-01	1.27E-02	0.30	73.25
		Uranium-233/234	7.57E-01	1.15E-01	7.46E-02	1.00	65.15
		Uranium-235	2.48E-02	3.33E-02	6.30E-02	1.00	65.15
		Uranium-238	7.95E-01	1.15E-01	5.71E-02	1.00	65.15
QC466097	Preparation Blank	Americium-241	3.72E-03	1.52E-02	3.14E-02	0.30	98.2
		Plutonium-239/240	-8.12E-03	1.10E-02	3.68E-02	0.30	82.41
		Uranium-233/234	1.48E-02	1.86E-02	3.34E-02	1.00	86.11
		Uranium-235	1.32E-02	1.62E-02	2.45E-02	1.00	86.11
		Uranium-238	6.55E-03	1.45E-02	3.09E-02	1.00	86.11

165

Rocky Flats

Sample QC Results Summary
11/26/97

QC466098	Duplicate	Americium-241	5.46E-02	2.62E-02	2.94E-02	0.30	78.92
		Plutonium-239/240	4.80E-02	2.88E-02	3.47E-02	0.30	71.71
		Uranium-233/234	9.06E-01	1.16E-01	3.86E-02	1.00	75.37
		Uranium-235	3.63E-02	2.56E-02	3.22E-02	1.00	75.37
		Uranium-238	8.66E-01	1.13E-01	2.82E-02	1.00	75.37
QC466099	MS	Americium-241	3.56E+00	2.15E-01	4.42E-02	0.30	105.71
		Plutonium-239/240	7.33E+00	3.82E-01	4.01E-02	0.30	80.44
		Uranium-233/234	8.44E+00	4.76E-01	7.03E-02	1.00	83.90
		Uranium-235	4.40E-01	1.10E-01	5.14E-02	1.00	83.90
		Uranium-238	8.33E+00	4.72E-01	5.14E-02	1.00	83.90
QC466100	LCS	Americium-241	2.18E+00	1.32E-01	2.54E-02	0.30	99.57
		Plutonium-239/240	4.63E+00	2.41E-01	3.48E-02	0.30	74.12
		Uranium-233/234	4.10E+00	2.22E-01	2.93E-02	1.00	90.92
		Uranium-235	1.98E-01	4.93E-02	2.32E-02	1.00	90.92
		Uranium-238	4.20E+00	2.25E-01	1.88E-02	1.00	90.92

LCS standard value:		LCS % recovery:
Americium-241	2.25	96.9
Plutonium 239/240	4.305	107.5
Uranium 233/234	3.91	107.4

Equivalency: F shall be <E *1.5, or F/E<1.5

Americium-241	F/E = 1.05
Plutonium-239/240	F/E = 1.52
Uranium-233/234	F/E = 0.719
Uranium-235	F/E = 0.266
Uranium-238	F/E = 0.351

166

Rocky Flats

Sample QC Results Summary
11/26/97

Batch # : 111089
RIN 97A2446
Line Item Code: RC018003
Matrix: Soil

KHCO ID #	EPI ID #	Analysis	Result pCi/g	2sigma Error pCi/g	MDA pCi/g	RDL pCi/g	Tracer Yield %
003-005	9711022 01	Americium-241	2.75E-02	2.21E-02	3.70E 02	0.30	66.23
		Plutonium-239/240	3.92E-02	2.53E-02	2.80E-02	0.30	78.02
		Uranium-233/234	7.50E-01	1.14E-01	4.45E-02	1.00	73.82
		Uranium-235	2.41E-02	2.63E-02	4.45E-02	1.00	73.82
		Uranium-238	7.99E-01	1.17E-01	3.71E-02	1.00	73.82
004-006	9711022-02	Americium-241	2.95E-02	2.80E-02	4.69E-02	0.30	68.41
		Plutonium 239/240	3.56E-02	2.66E-02	3.87E-02	0.30	77.54
		Uranium-233/234	8.07E-01	1.08E-01	3.47E-02	1.00	75.17
		Uranium-235	4.28E-02	2.70E-02	3.14E 02	1.00	75.17
		Uranium-238	1.02E+00	1.21E-01	2.23E-02	1.00	75.17
005-007	9711022-03	Americium-241	1.21E-04	2.79E-02	5.87E-02	0.30	62.42
		Plutonium-239/240	2.02E-02	2.62E-02	4.77E-02	0.30	72.22
		Uranium-233/234	7.96E-01	1.05E-01	3.01E 02	1.00	85.01
		Uranium-235	4.46E-02	2.68E-02	3.01E 02	1.00	85.01
		Uranium-238	1.12E+00	1.24E-01	2.14E-02	1.00	85.01
006-008	9711022-04	Americium-241	2.00E-02	1.81E-02	2.85E 02	0.30	84.74
		Plutonium-239/240	2.31E+00	2.03E-01	1.27E 02	0.30	73.25
		Uranium-233/234	7.57E-01	1.15E-01	7.46E-02	1.00	65.15
		Uranium-235	2.48E-02	3.33E-02	6.30E-02	1.00	65.15
		Uranium-238	7.95E-01	1.15E-01	5.71E-02	1.00	65.15
QC466097	Preparation Blank	Americium-241	3.72E-03	1.52E-02	3.14E-02	0.30	98.2
		Plutonium-239/240	-8.12E-03	1.10E-02	3.68E 02	0.30	82.41
		Uranium-233/234	1.48E-02	1.86E-02	3.34E-02	1.00	86.11
		Uranium-235	1.32E-02	1.62E-02	2.45E 02	1.00	86.11
		Uranium-238	6.55E-03	1.45E-02	3.09E-02	1.00	86.11

Rocky Flats

Sample QC Results Summary
11/26/97

QC466098	Duplicate	Americium-241	5.46E-02	2.62E-02	2.94E-02	0.30	78.92
		Plutonium-239/240	4.80E-02	2.88E-02	3.47E-02	0.30	71.71
		Uranium-233/234	9.06E-01	1.16E-01	3.86E-02	1.00	75.37
		Uranium-235	3.63E-02	2.56E-02	3.22E-02	1.00	75.37
		Uranium-238	8.66E-01	1.13E-01	2.82E-02	1.00	75.37
QC466099	MS	Americium-241	3.56E+00	2.15E-01	4.42E-02	0.30	105.71
		Plutonium-239/240	7.33E+00	3.82E-01	4.01E-02	0.30	80.44
		Uranium-233/234	8.44E+00	4.76E-01	7.03E-02	1.00	83.90
		Uranium-235	4.40E-01	1.10E-01	5.14E-02	1.00	83.90
		Uranium-238	8.33E+00	4.72E-01	5.14E-02	1.00	83.90
QC466100	LCS	Americium-241	2.18E+00	1.32E-01	2.54E-02	0.30	99.57
		Plutonium-239/240	4.63E+00	2.41E-01	3.48E-02	0.30	74.12
		Uranium-233/234	4.10E+00	2.22E-01	2.93E-02	1.00	90.92
		Uranium-235	1.98E-01	4.93E-02	2.32E-02	1.00	90.92
		Uranium-238	4.20E+00	2.25E-01	1.88E-02	1.00	90.92

LCS standard value:		LCS % recovery:
Americium-241	2.25	96.9
Plutonium 239/240	4.305	107.5
Uranium 233/234	3.91	107.4

Equivalency: F shall be <E *1.5. or F/E<1.5

Americium-241	F/E = 1.05
Plutonium-239/240	F/E = 1.52
Uranium-233/234	F/E = 0.719
Uranium-235	F/E = 0.266
Uranium-238	F/E = 0.351

168

FIDLER SURVEY

Technician P. Singler

Date/Time 08-20-97 1415

Bicron Analist sn: A529-P

G-5 Probe sn: B715T

Calibration Due Date 7-31-98

Scaler Background (CPM) 2547

Meter Background (CPM) N/A

Survey Type: Gamma and X-ray

DIRECT SURVEY			
Item Survyed	Location Surveyed	Gross Count Rate (CPM)	Net Count Rate (CPM)
Proposed PUAD	1	2750	203
drilling Location	2	2112	0
(see back)	3	2192	0
	4	2188	0
	5	2701	154
	6	2828	281
	7	2523	0
	8	3008	461
	9	2612	65
	10	2804	257
	11	2728	181
	12	2629	82
	13	2827	280
	14	2807	260
	15	2588	41
	16	2463	0
	17	2442	0

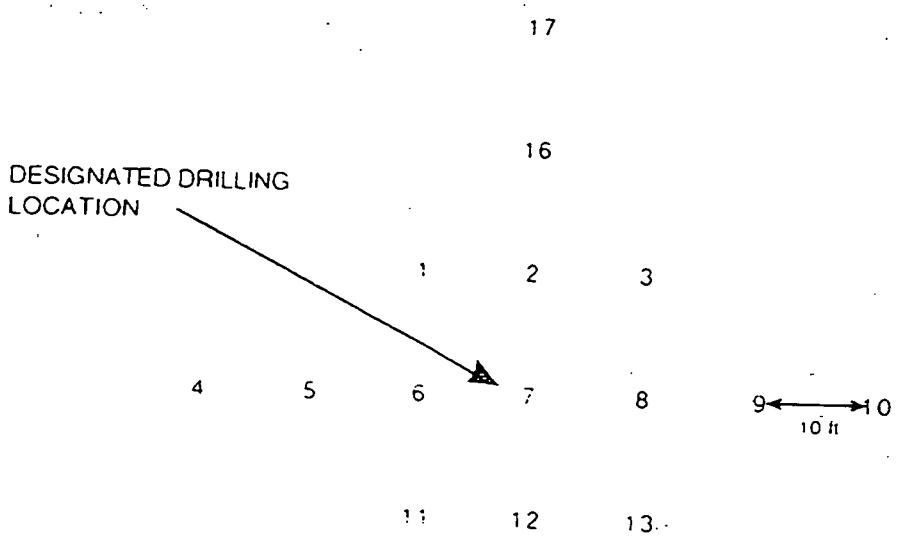
P. Singler 8-20-97

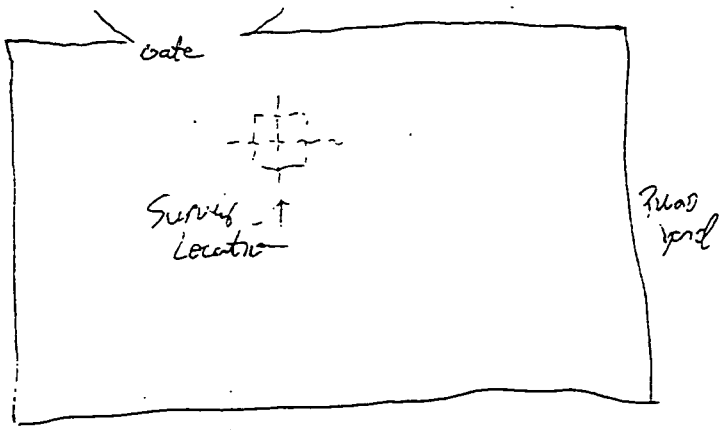
Note: Final designator on Borehole BH17997

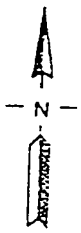
[signature] 9/3/97

169

MINIMUM MEASUREMENT POINTS FOR A PREWORK RADIATION SURVEY
(# = Measurement Point)







N ↑

170

FIDLER SURVEY

Technician P. Snyder

Date/Time 08-20-97 1415

Bicron Analist sn: 4529-P

G-5 Probe sn: B715T

Calibration Due Date 7-31-98

Scaler Background (CPM) 2547

Meter Background (CPM) N/A

Survey Type: Gamma and X-ray

DIRECT SURVEY			
Item Survyed	Location Surveyed	Gross Count Rate (CPM)	Net Count Rate (CPM)
Proposed PUAD	1	2750	203
drilling Location	2	2112	0
(see back)	3	2192	0
	4	2188	0
	5	2701	154
	6	2828	281
	7	2523	0
	8	3008	461
	9	2612	65
	10	2804	257
	11	2728	181
	12	2629	82
	13	2827	280
	14	2807	260
	15	2588	41
	16	2463	0
	17	2442	0

P. Snyder 8-20-97

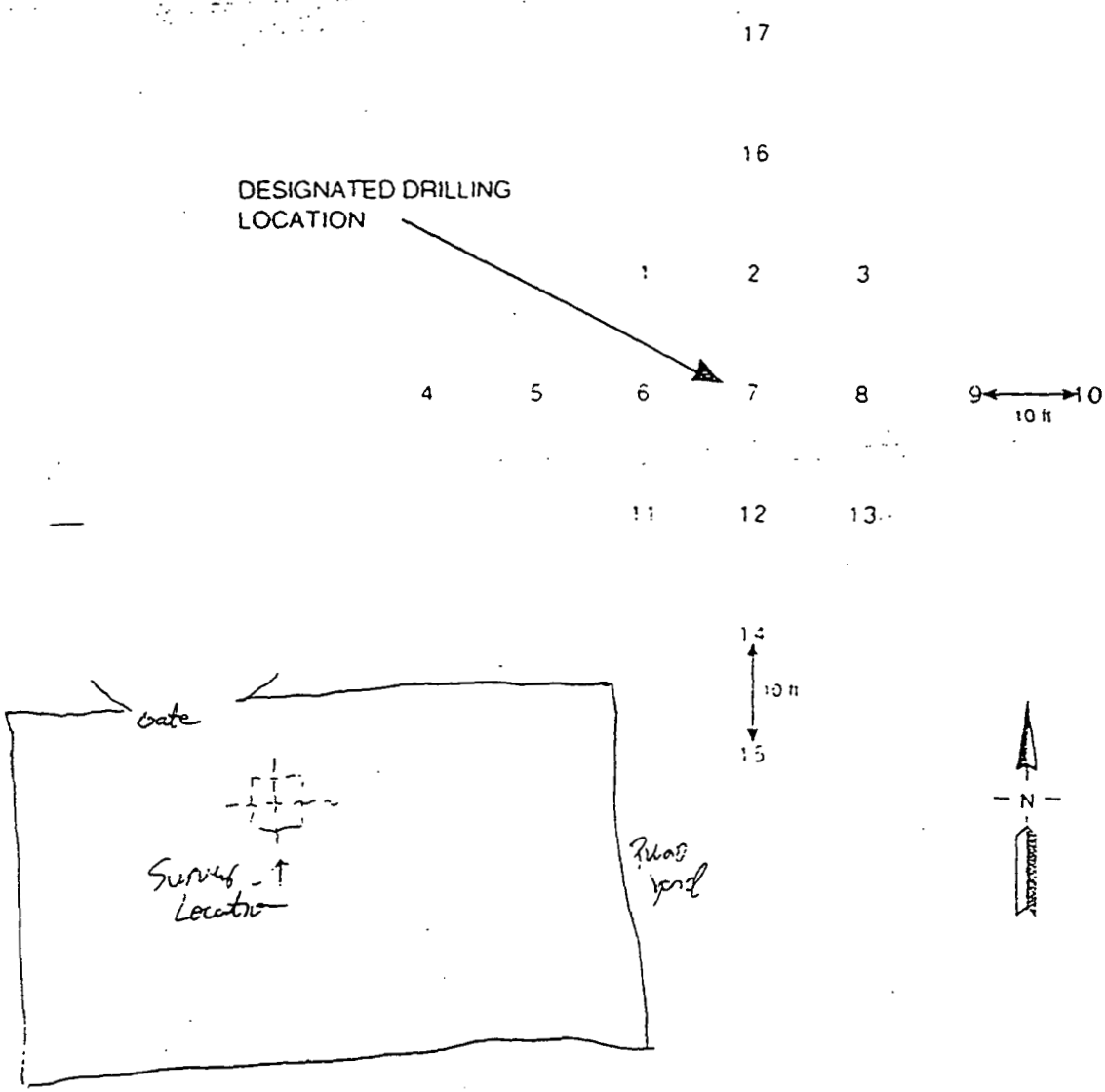
Note: Final designator on Borehole BH 17997

[signature] 9/3/97

171

EG&G ROCKY FLATS PLANT	Manual:	5-21000-OPS
EMD MANUAL OPERATION SOP	Procedure No.:	FO.16, Rev. 2
	Page:	10 of 16
	Effective Date:	March 1, 1992
Category 2	Organization:	Environmental Management

MINIMUM MEASUREMENT POINTS FOR A PREWORK RADIATION SURVEY (# = Measurement Point)



N ↑

172

APPENDIX E

DATA USABILITY

Appendix E

Data Usability

This section provides the results of the data quality assessment that was conducted in accordance with the Evaluation of Data for Usability in Final Reports (RMRS Procedure, RF/RMRS-98-200 [RMRS, 1998]). This assessment ensures that data used in making management decisions for remedial actions is of adequate quality to support the decisions.

As described in the SAP (RMRS, 1997), field decisions were based on "Form-1s" faxed directly from the laboratory to support timely field decisions. Data usability was performed after the data were used for their intended purpose. Analytical laboratories supporting the project have all passed regular laboratory audits by the Kaiser-Hill Analytical Projects Office.

The following data sets were quantitatively evaluated as part of this data quality assessment (e.g., full PARCC parameter evaluation):

- volatile organic compound samples for source delineation and waste characterization;
- TCLP-metals for waste characterization; and
- surface soil samples for radionuclide analysis.

As discussed herein, Data Quality Objectives for the project were achieved. A summary of project DQOs and results for this investigation is presented in Table E-1.

VERIFICATION OF RESULTS

Verification ensures that data produced and used by the project are documented and traceable per quality requirements. Generally, verification consists of reviewing the data to determine whether:

- Chain-of-Custody was intact from initial sampling though transport and final analysis;
- Preservation and hold-times were within tolerance;
- Selected samples underwent analysis at certified labs; and
- Format and content of the data is clearly presented relative to goals of the project.

In addition to the criteria noted above, verification of the data also included additional checks sometimes acknowledged as within the "validation" category, depending on the type of analysis:

- Surrogate recovery;
- MS/MSD recovery;

Table E-1 Sample Types & Data Quality Objectives

Sample Type	Data Quality Objective	Assurance Method	Results
VOCs in Subsurface Soils.	Locate concentrations of VOCs in soil ≥ Tier I Subsurface Soil Action Levels listed in Table 2-2.	15 to 30 soil borings drilled to 20 feet or one to two feet into groundwater. A minimum of three soil samples per boring analyzed for VOCs. Two QC samples (one duplicate and one rinsate collected per 20 investigative samples. Analysis by USEPA VOA by SW846/8240.	Twenty soil borings completed with 38 investigative, two duplicate, ten trip blank, and two rinse blank VOC samples. No VOC concentrations equal to or above the RFCA Tier I Soil Action Levels. VOC results evaluated for waste characterization and the soil/drill cuttings are non-hazardous.
Radionuclides in Surface Soil	Document concentrations of radionuclides in surface soil.	Collect three surface soil samples based on three highest FIDLER survey results and analyze by alpha spectroscopy.	Three investigative and one duplicate soil sample collected. No radionuclide concentrations greater than background and less than RFCA Tier II Soil Action Levels.
VOCs in Groundwater.	Characterize groundwater for the presence of VOCs. Assist with delineation of residual VOC source area.	15 to 30 soil borings drilled to a sufficient depth to collect groundwater samples with a minimum of 30 percent of the soil borings with a groundwater samples collected and analyzed for VOCs. One QC sample (one duplicate and one rinsate) collected per 20 investigative groundwater samples. Analysis by VOC screening.	Six investigative, one duplicate, two trip blanks, and one rinse blank samples from six boreholes for VOC analysis (30 percent of the total number of boreholes) were collected. VOC results evaluated for residual VOC source area. One additional soil boring completed.
Metals in Subsurface Soils.	Characterize investigative derived materials (IDM) – soil cuttings from hollow-stem auger drilling for RCRA waste disposition.	Collect one composite sample per borehole from 15 to 30 soil borings and analyze for TCLP-metals. Results of VOC soil samples as described above, will also be utilized for this objective.	Twenty real and one duplicate composite samples collected for TCLP-metals analysis. Soil/drill cuttings characterized as non-hazardous.

- Calibrations;
- Blanks;
- Sample preparations; and
- Other quality control.

In order to provide an integrated evaluation of the data quality, results of the verification are collectively discussed with validation.

VALIDATION

Validation consists of a technical review of the data, or portion of the data, so that any limitations of the data relative to project goals are identified, and the associated data are qualified accordingly. Data were validated relative to the precision, accuracy, representativeness, completeness, and comparability (PARCC) parameters described in the next section. Validation is also currently performed on a site-wide basis at 25% frequency by K-H Analytical Services Division. Satisfactory validation at this frequency indicates that the subcontracted labs are operating competently relative to industry-wide standards, and more specifically, that sample custody and analytical procedures are implemented under defined quality controls. Site-wide data validation coupled with annual lab audits provides the inference that all analytical and radiochemical results not specifically validated, are represented by the percentage that is validated.

Validation by an independent third party was performed on 29 percent of the VOC data, 100 percent of the VOC groundwater data, and 33 percent of the TCLP-metals data, which meet the requirement of 25 percent validation by an independent third party. The remaining VOC data were verified by an independent third party. Original verification and validation (V&V) packages for the project are managed and filed by the K-H Analytical Services Division, Building 881.

Verification and validation of the project data included use of the following protocols and guidance:

- RMRS Procedure RF/RMRS-98-200, Evaluation of Data for Usability in Final Reports;
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, 1994, EPA 540/R-94/013;
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, 1994, EPA 540/R-94/012;
- Guidance for Data Quality Assessment, Practical Methods for Data Analysis, 1996, EPA QA/G-9;
- *Kaiser-Hill Team Quality Assurance Program*, 1997, Rev. 5; and
- RMRS *Quality Assurance Program Description (QAPD)*, RMRS-QAPD-001, Rev. 2, (RMRS, 1998).

176

PARCC PARAMETERS

Precision

Precision is a measure of the reproducibility of results. Precision is evaluated by comparing results from field duplicate and/or replicate (duplicate/replicate) samples with results from associated real samples. Precision will be evaluated quantitatively by using two functions, relative percent difference (RPD), and duplicate error ratio (DER), where the latter function is used to account for the stochastic nature of error of radioactivity. The DER is a test for bias between a field duplicate or replicate and the associated real sample for radionuclides.

Equations E1 and E2 present the RPD and DER equations

$$RPD = \frac{|C_1 - C_2|}{|(C_1+C_2)/2|} * 100 \qquad \text{(Eq. E1)}$$

where:

C_1=first sample
C_2=duplicate sample

$$DER = \frac{|C_1 - C_2|}{\sqrt{(TPU^2_{C1} + TPU^2_{C2})}} \qquad \text{(Eq E2)}$$

where:

TPU = total propagated uncertainty

Duplicate Sample Collection Methodology

Field duplicate samples collected in support of the investigation were collected as unique samples. The duplicate alpha spectroscopy sample was collected adjacent to the real surface soil sample collected at a FIDLER measurement location. VOC quality assurance (QA) samples are identified as duplicates because the real and QA samples were collected from adjacent depth intervals (i.e. not split).

The purpose of the field duplicates are to evaluate the precision of the field sampling process. Duplicate samples exceeding the DER critical value of 1.96 are interpreted as different at the 5% level of significance, are qualified as "J", and the conclusion is reached that the sample and duplicate differ. Duplicate samples exceeding the RPD critical value of 40%, require; indicating how precision does not comply with DQO specification, an explanation and justification of deficiencies, and a determination if additional sampling is required. At least 85% of all quality control samples are required to comply with the established precision or RPD goals. The following sections describe the results of duplicate sample results for each laboratory analytical program.

Volatile Organic Compound Analysis (EPA 8260A)

Two duplicate subsurface soil samples were collected and provided to the laboratory for analysis of volatile organic compounds. Table E-2 provides the number of samples collected under this program and the results of the RPD for the duplicate assessment. Overall precision compliance for the VOC investigation was 100%.

Table E-2 Duplicate Subsurface Soil Sample Assessments – Volatile Organic Compound Analysis

Analyte	Total Real Samples Collected	Total Duplicates Collected	Number of Duplicates within RPD	Overall Precision Compliance
PCE	38	2	2	100%
TCE	38	2	2	100%
1,1,1-TCA	38	2	2	100%

Volatile Organic Compound Analysis (VOA Screening)

One duplicate groundwater sample was collected and provided to the laboratory for analysis of volatile organic compounds. Table E-3 provides the results of the RPD for the duplicate groundwater assessment. Overall precision compliance for the groundwater sample was 73%. Although the precision compliance for groundwater is less than project completeness goals, precision of the VOC results are acceptable. The apparent imprecision noted is limited to a detection in the real sample and non-detect in the associated duplicate sample.

Table E-3 Duplicate Groundwater Sample Assessment – Volatile Organic Compound Analysis

Analyte	Total Real Samples Collected	Total Duplicates Collected	Number of Duplicates within RPD	RPD
PCE	6	1	1	0
TCE	6	1	1	0
1,1,1-TCA	6	1	0	81%

Radionuclide Analysis (Alpha Spectroscopy)

One duplicate surface soil sample was collected from location SS17097 and provided to the laboratory for alpha spectroscopy analysis. The frequency for duplicate sample collection for alpha spectroscopy analysis was met for this program. As shown in Table E-4 all isotopes met the project's precision compliance goal of 1.96.

Table E-4 Radionuclide Surface Soil Precision Assessment – Alpha Spectroscopy Results

Analyte	Duplicate Sample Result (97A2446-004.006)	2-Sigma Error	Associated Real Sample Result (97A2446-003.005)	2-Sigma Error	DER	Overall Precision Compliance
$^{239/240}$Pu	0.0356	0.0266	0.0392	0.0253	0.1	100%
^{241}Am	0.0295	0.0280	0.0275	0.0221	0.1	100%
$^{233/234}$U	0.8070	0.1080	0.7500	0.1140	0.4	100%
^{235}U	0.0430	0.0270	0.0240	0.0263	0.5	100%
^{238}U	1.0200	0.1210	0.7990	0.1170	1.3	100%

Accuracy

Accuracy is a measure of how closely an analytical result corresponds to the "true" concentration in a sample. Accuracy is evaluated by comparing the required analytical method and detection limit with actual method used. Evaluation of the VOC soil samples were required as summarized in Table E-5. The required detection limit of 740 ug/kg was maintained for all target analytes. Detection limits for VOC screening of groundwater samples were accurate for the intended purpose of the investigation. Detection limits for TCLP-metals are accurate, with no deficiencies noted during data validation and verification.

Table E-5 Comparison of Detection Limits – Volatile Organic Compound Analysis

Analyte	Required Analytical Method	Required Detection Limit (ug/kg)	Actual Analytical Method	Actual Detection Limit (ug/kg)
Methylene Chloride	8240	740	8260A	630
Tetracholorethene	8240	740	8260A	630
Trichloroethene	8240	740	8260A	630
1,1,1-Trichloroethane	8240	740	8260A	630

The accuracy of laboratory alpha spectroscopy data was evaluated with respect to detection limits. Table E-6 provides a comparison between required detection limits and actual detection limits. As can be seen in Table E-6 the actual detection limit meets the required detection limit for all radionuclides. Therefore, accuracy from alpha spectroscopy detection limits were adequate for all sample analyses for decision making purposes.

Table E-6 Comparison of Detection Limits – Alpha Spectroscopy

Analyte	Required Analytical Method	Required Detection Limit (pCi/g)	Actual Detection Limit (pCi/g)
$^{239/240}$Pu	RC01B003	0.3	0.3
^{241}Am	RC01B003	0.3	0.3
$^{233/234}$U	RC01B003	1.0	1.0
^{235}U	RC01B003	1.0	1.0
^{238}U	RC01B003	1.0	1.0

Two types of QC samples were generated in support of the VOC subsurface soil investigation; rinse blanks and trip blanks. Table E-7 provides a summary of QC sample and associated real samples showing where methylene chloride is considered a true detect.

Table E-7—Quality Control Sample Summary

QC Sample ID	QC Sample Type	Assoc. Real Sample(s)	Analyte(s) Detected in QC Sample	Detect in Real Samples Associated Method Blank (yes/no)	Comments
BH17006 RM	trip blank	BH17000RM BH17001RM BH17003RM BH17004RM	Methylene chloride	yes	Methylene chloride detections in real samples >10 times the detection in the QC sample. Result will be considered true detects (EPA, 1989).

Acetone and methylene chloride were detected in numerous real samples as shown in Table 2-3 as well as in trip blanks and rinse blanks as summarized in Table E-8. Acetone is considered a laboratory contaminant as well as methylene chloride with the exception of the detections from borings 17097 and 17197 where the concentrations exceeded ten times the detection in the associated trip blank and was not detected in the associated method blank.

Table E-8—Quality Control Sample Results

Borehole No.	QC Sample ID	QC Sample Type	Acetone (ug/L)	Methylene Chloride (ug/L)
17097 and 17197	BH17006RM	trip blank	7.3 J	4.1 J
17297 and 17397	BH17011RM	trip blank	<100	4.8 JB
17497 and 17597	BH17017RM	trip blank	5.5 J	<5.0
17697	BH17002RM	rinse blank	< 100	<5.0
17797	BH17021RM	trip blank	5.8 J	2.2 J
17897	BH17022RM	trip blank	<100	7.5 B
17997, 18097, and 18197	GW17004RM	trip blank	<100	2.7 JB
17997	GW17005RM	rinse blank	<100	3.6 JB
18297, 18397, and 18497	BH17030RM	trip blank	<100	7.9 B
18497	BH17035RM	rinse blank	<100	3.4 JB
18597 and 18697	BH17036RM	trip blank	3.0 J	8.3 J
18797 and 18897	BH17039RM	trip blank	<100	2.3
18897	GW17008RM	trip blank	<100	5.2 B
18997	BH17048RM	trip blank	<100	16.0 B

Representativeness

The discussion of representativeness is limited to an evaluation of whether analytical results for field samples are truly representative of environmental concentrations or whether they may have been influenced by the introduction of contamination during collection and handling. This is assessed by evaluating results of various blanks, specifically rinsates and trip blanks (Table E-8).

Possible introduction of contamination from sampling equipment is evaluated by examination of the analytical results for equipment rinsates. Equipment rinsates are used to assess the proficiency of the decontamination process and possible cross-contamination between real samples. They are samples of distilled water that have been poured over or through decontaminated sampling equipment and subsequently handled in the same manner as real samples. Although rinsates are used specifically as indicators of cross-contamination during decontamination of equipment, they are carried through the entire sampling, shipping, and laboratory process and are, consequently, also good indicators of possible introduced contamination during any of these steps.

Trip blanks are used as general indicators of potential cross-contamination by VOCs, and are often used to assess migration of VOCs from the air or shipping containers through the same containers septum or lid into the sample. EPA considers acetone and methylene chloride to be common laboratory contaminants. These compounds were detected in various blanks (Table E-8). In accordance with EPA guidance (EPA, 1989) methylene chloride was observed in real samples from two boreholes with concentrations greater than ten times the concentration that appeared in the method blank or associated trip blank. However, most detections of acetone and methylene chloride are associated with a detection with their respective method blank, trip blank, or rinse blank and are considered to be laboratory contaminants.

Completeness

Investigative samples were collected in accordance with the SAP (RMRS, 1997) as summarized in Table 2-2 and below in Table E-9. Due to shallow groundwater conditions an average of 1.9 VOC soil samples per borehole were collected instead of the proposed three per borehole for a completeness of 63%. All other samples were collected as specified in the SAP for a completeness of 100%. The subsurface VOC data is adequate to characterize subsurface soil conditions in the investigation area. No additional subsurface soil samples are required.

Table E-9 Planned vs. Actual Sample Comparison

Analysis	Sample Media (Type)	Planned No. of Samples (per SAP)	Actual Number of Samples Collected	Deviation	Justification
VOA by 8240	Subsurface Soil (BH)	60-120	38	-22	Shallow depth to groundwater encountered, limited number of samples collected per SAP.
VOA Screening	Groundwater (GW)	5-10	6	0	
TCLP-Metals	Drill Cuttings (BP)	15-30	20	0	
Alpha Spec	Surface Soil (SS)	3	3	0	

Comparability

Analytical methods and sampling techniques remained consistent for each analyte group over the sampling period. Laboratory analyses were performed in accordance with standard SW-846/8260A and VOC screening, CLP Metals, and alpha spectroscopy protocols and results are comparable to data produced by similar methods at other laboratories.

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID: BH17012RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot: 4
Lab ID: 9708320-1	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v08320	

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U		
74-87-3	CHLOROMETHANE	630	ug/kg	630	U		
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U		
74-83-9	BROMOMETHANE	630	ug/kg	630	U		
75-00-3	CHLOROETHANE	630	ug/kg	630	U		
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U		
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U		
67-64-1	ACETONE	13000	ug/kg	13000	U		UJ,140
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U		
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U		UJ,140
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U		
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
78-93-3	2-BUTANONE	13000	ug/kg	13000	U		
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U		
67-66-3	CHLOROFORM	630	ug/kg	630	U		
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U		
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U		UJ,140,147
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U		
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U		
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U		
71-43-2	BENZENE	630	ug/kg	630	U		
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U		
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U		
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U		
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U		UJ,140
108-88-3	TOLUENE	630	ug/kg	630	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U		
591-78-6	2-HEXANONE	6300	ug/kg	6300	U		UJ,140
127-18-4	TETRACHLOROETHENE	750	ug/kg	630			

183

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439
Reported on: Wednesday, September 10, 19

Field ID: BH17012RM
Lab ID: 9708320-1

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	uJ, 140
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

184

DA-SS01

Data Quality Assessment Report

Rocky Flats Environmental Technology Site

RIN Number	Analytical Method/PSA Line Item	Review Level
97A2439	SW-846 Method 8260, Volatiles SS01B004/SS01B005	Validation
Analytical Laboratory	**Assessment Performed By**	**Number of Samples/ Matrix**
Paragon Analytics, Inc.	QuantaLex, Inc.	2/Water and 6/Soil

Sample Numbers: BH17012RM, BH17013RM, BH17014RM, BH17000RM, BH17016RM, BH17005RM, BH17017RM, and BH17015RM

Quality Control Item	Reviewed	Non-Compliance Identified
General (Cover Page, Table of Contents, DRC Checklist, Narrative)	Y	N
Chain of Custody	Y	N
Holding Times	Y	N
Sample Preservation	Y	Comment 1
Surrogate Recovery	Y	N
Matrix Spike/Matrix Spike Duplicate	Y	N
Instrument Performance Check	Y	N
Internal Standards	Y	N
Sample Results	Y	N
Tentatively Identified Compounds	Y	N
Calibration	Y	Action Items 1 and 2
Quality Control Check Samples	Y	N
Blanks	Y	Action Item 3
Other QC	Y	N

Y Item was reviewed or non-compliance was identified
N Item was not reviewed or non-compliance was not identified
N/A Item is not applicable to the Line Item

185

Action Items:

1. The following sample results were qualified as estimated (UJ/J) due to the percent relative standard deviations (%RSDs) which exceeded 30% in the initial calibration:

   - Acetone, methylene chloride, 2,2-dichloropropane, 4-methyl-2-pentanone, 2-hexanone, and naphthalene in all samples **[140]**

2. The following sample results were qualified as estimated (UJ/J) due to the percent differences (%Ds) which exceeded 25 % in the continuing calibrations:

   - 2,2-Dichloropropane in all samples
   - 2-Hexanone in samples BH17000RM and BH17017RM **[141]**

3. The following sample results were reported as estimated and undetected (UJ) due to blank contamination:

   - Methylene chloride in sample BH17005RM **[149]**

Comments:

1. The chain of custody records did not indicate the temperature of the samples upon receipt. No action is necessary since the affect of temperature on the samples is unknown. **[231]**

Verification/Validation Signature _____ Date: 11/17/97

Reviewer Signature _____ Date: 11/17/97
(*Validation Only*)

186

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID:	BH17013RM
Lab ID:	9708320-2

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U		
74-87-3	CHLOROMETHANE	630	ug/kg	630	U		
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U		
74-83-9	BROMOMETHANE	630	ug/kg	630	U		
75-00-3	CHLOROETHANE	630	ug/kg	630	U		
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U		
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U		
67-64-1	ACETONE	13000	ug/kg	13000	U		uJ,140
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U		
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U		uJ,140
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U		
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
78-93-3	2-BUTANONE	13000	ug/kg	13000	U		
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U		
67-66-3	CHLOROFORM	630	ug/kg	630	U		
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U		
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U		uJ,140,141
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U		
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U		
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U		
71-43-2	BENZENE	630	ug/kg	630	U		
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U		
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U		
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U		
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U		uJ,140
108-88-3	TOLUENE	630	ug/kg	630	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U		
591-78-6	2-HEXANONE	6300	ug/kg	6300	U		uJ,140
127-18-4	TETRACHLOROETHENE	830	ug/kg	630			

187

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID:	BH17013RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot:	4
Lab ID:	9708320-2	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	UJ, 140
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

188

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID: BH17014RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot: 4
Lab ID: 9708320-3	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v08320	

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U		
74-87-3	CHLOROMETHANE	630	ug/kg	630	U		
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U		
74-83-9	BROMOMETHANE	630	ug/kg	630	U		
75-00-3	CHLOROETHANE	630	ug/kg	630	U		
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U		
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U		
67-64-1	ACETONE	13000	ug/kg	13000	U		uJ,140
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U		
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U		uJ,140
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U		
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
78-93-3	2-BUTANONE	13000	ug/kg	13000	U		
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U		
67-66-3	CHLOROFORM	630	ug/kg	630	U		
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U		
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U		uJ,140,141
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U		
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U		
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U		
71-43-2	BENZENE	630	ug/kg	630	U		
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U		
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U		
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U		
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U		uJ,140
108-88-3	TOLUENE	630	ug/kg	630	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U		
591-78-6	2-HEXANONE	6300	ug/kg	6300	U		uJ,140
127-18-4	TETRACHLOROETHENE	5700	ug/kg	630			

189

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439
Reported on: Wednesday, September 10, 19

Field ID: BH17014RM	**Sample Matrix:** Solid	**Date Collected:** 20-Aug-97	**Sample Aliquot:** 4
Lab ID: 9708320-3	**% Moisture:** N/A	**Date Extracted:** 01-Sep-97	**Final Volume:** 10
	Cleanup Method: NONE	**Date Analyzed:** 01-Sep-97	**Dilution:** 50
	Report Basis: AS RECEIVED	**Prep Batch:** v08320	

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	uJ, 140
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

190

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID: BH17016RM	**Sample Matrix:** Solid	**Date Collected:** 20-Aug-97	**Sample Aliquot:** 4
Lab ID: 9708320-5	**% Moisture:** N/A	**Date Extracted:** 01-Sep-97	**Final Volume:** 10
	Cleanup Method: NONE	**Date Analyzed:** 01-Sep-97	**Dilution:** 50
	Report Basis: AS RECEIVED	**Prep Batch:** v08320	

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U		
74-87-3	CHLOROMETHANE	630	ug/kg	630	U		
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U		
74-83-9	BROMOMETHANE	630	ug/kg	630	U		
75-00-3	CHLOROETHANE	630	ug/kg	630	U		
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U		
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U		
67-64-1	ACETONE	13000	ug/kg	13000	U		UJ, 140
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U		
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U		UJ, 140
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U		
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
78-93-3	2-BUTANONE	13000	ug/kg	13000	U		
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U		
67-66-3	CHLOROFORM	630	ug/kg	630	U		
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U		
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U		UJ, 140, 141
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U		
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U		
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U		
71-43-2	BENZENE	630	ug/kg	630	U		
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U		
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U		
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U		
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U		UJ, 140
108-88-3	TOLUENE	630	ug/kg	630	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U		
591-78-6	2-HEXANONE	6300	ug/kg	6300	U		UJ, 140
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U		

192

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID: BH17016RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot: 4
Lab ID: 9708320-5	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v08320	

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

LJ, 140

193

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID: BH17005RM
Lab ID: 9708320-6

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U		
74-87-3	CHLOROMETHANE	630	ug/kg	630	U		
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U		
74-83-9	BROMOMETHANE	630	ug/kg	630	U		
75-00-3	CHLOROETHANE	630	ug/kg	630	U		
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U		
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U		
67-64-1	ACETONE	13000	ug/kg	13000	U		WJ, 140
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U		
75-09-2	METHYLENE CHLORIDE	330	ug/kg	630	J,B		~~J~~ 630 WJ, 14. ~~140~~ 149
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U		
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
78-93-3	2-BUTANONE	13000	ug/kg	13000	U		
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U		
67-66-3	CHLOROFORM	630	ug/kg	630	U		
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U		
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U		WJ, 140, 141
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U		
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U		
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U		
71-43-2	BENZENE	630	ug/kg	630	U		
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U		
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U		
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U		
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U		WJ, 140
108-88-3	TOLUENE	630	ug/kg	630	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U		
591-78-6	2-HEXANONE	6300	ug/kg	6300	U		WJ, 140
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U		

194

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID:	BH17005RM
Lab ID:	9708320-6

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	WJ, '40
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID: BH17015RM
Lab ID: 9708320-8

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U		
74-87-3	CHLOROMETHANE	630	ug/kg	630	U		
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U		
74-83-9	BROMOMETHANE	630	ug/kg	630	U		
75-00-3	CHLOROETHANE	630	ug/kg	630	U		
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U		
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U		
67-64-1	ACETONE	13000	ug/kg	13000	U		UJ, 140
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U		
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U		UJ, 140
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U		
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
78-93-3	2-BUTANONE	13000	ug/kg	13000	U		
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U		
67-66-3	CHLOROFORM	630	ug/kg	630	U		
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U		
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U		UJ, 140, 141
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U		
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U		
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U		
71-43-2	BENZENE	630	ug/kg	630	U		
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U		
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U		
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U		
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U		UJ, 140
108-88-3	TOLUENE	630	ug/kg	630	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U		
591-78-6	2-HEXANONE	6300	ug/kg	6300	U		UJ, 140
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U		

196

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID: BH17015RM
Lab ID: 9708320-8

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	45, 140
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

197

000072

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID: BH17000RM
Lab ID: 9708320-4

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	250	ug/L	250	U		
74-87-3	CHLOROMETHANE	250	ug/L	250	U		
75-01-4	VINYL CHLORIDE	500	ug/L	500	U		
74-83-9	BROMOMETHANE	250	ug/L	250	U		
75-00-3	CHLOROETHANE	250	ug/L	250	U		
75-69-4	TRICHLOROFLUOROMETHANE	250	ug/L	250	U		
75-35-4	1,1-DICHLOROETHENE	250	ug/L	250	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	250	ug/L	250	U		
67-64-1	ACETONE	5000	ug/L	5000	U		UJ, 140
75-15-0	CARBON DISULFIDE	250	ug/L	250	U		
75-09-2	METHYLENE CHLORIDE	130	ug/L	250	J,B		~~250UJ~~ J, 140
156-60-5	TRANS-1,2-DICHLOROETHENE	250	ug/L	250	U		
75-34-3	1,1-DICHLOROETHANE	250	ug/L	250	U		
156-59-2	CIS-1,2-DICHLOROETHENE	220	ug/L	250	J		
78-93-3	2-BUTANONE	5000	ug/L	5000	U		
74-97-5	BROMOCHLOROMETHANE	250	ug/L	250	U		
67-66-3	CHLOROFORM	250	ug/L	250	U		
71-55-6	1,1,1-TRICHLOROETHANE	250	ug/L	250	U		
594-20-7	2,2-DICHLOROPROPANE	250	ug/L	250	U		UJ, 140, 141
56-23-5	CARBON TETRACHLORIDE	250	ug/L	250	U		
563-58-6	1,1-DICHLOROPROPENE	250	ug/L	250	U		
107-06-2	1,2-DICHLOROETHANE	250	ug/L	250	U		
71-43-2	BENZENE	250	ug/L	250	U		
79-01-6	TRICHLOROETHENE	250	ug/L	250	U		
78-87-5	1,2-DICHLOROPROPANE	250	ug/L	250	U		
74-95-3	DIBROMOMETHANE	250	ug/L	250	U		
75-27-4	BROMODICHLOROMETHANE	250	ug/L	250	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	250	ug/L	250	U		
108-10-1	4-METHYL-2-PENTANONE	2500	ug/L	2500	U		UJ, 140
108-88-3	TOLUENE	250	ug/L	250	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	250	ug/L	250	U		
79-00-5	1,1,2-TRICHLOROETHANE	250	ug/L	250	U		
591-78-6	2-HEXANONE	2500	ug/L	2500	U		UJ, 140, 141
127-18-4	TETRACHLOROETHENE	1700	ug/L	250			

198

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID: BH17000RM	Sample Matrix: liquid	Date Collected: 20-Aug-97	Sample Aliquot: 5
Lab ID: 9708320-4	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v08324	

142-28-9	1,3-DICHLOROPROPANE	250	ug/L	250	U	
124-48-1	DIBROMOCHLOROMETHANE	250	ug/L	250	U	
106-93-4	1,2-DIBROMOETHANE	250	ug/L	250	U	
108-90-7	CHLOROBENZENE	250	ug/L	250	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	250	ug/L	250	U	
100-41-4	ETHYLBENZENE	250	ug/L	250	U	
1330-20-7	TOTAL XYLENES	250	ug/L	250	U	
100-42-5	STYRENE	250	ug/L	250	U	
75-25-2	BROMOFORM	250	ug/L	250	U	
98-82-8	ISOPROPYLBENZENE	250	ug/L	250	U	
96-18-4	1,2,3-TRICHLOROPROPANE	250	ug/L	250	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	250	ug/L	250	U	
108-86-1	BROMOBENZENE	250	ug/L	250	U	
103-65-1	N-PROPYLBENZENE	250	ug/L	250	U	
95-49-8	2-CHLOROTOLUENE	250	ug/L	250	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	250	ug/L	250	U	
106-43-4	4-CHLOROTOLUENE	250	ug/L	250	U	
98-06-6	TERT-BUTYLBENZENE	250	ug/L	250	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	250	ug/L	250	U	
135-98-8	SEC-BUTYLBENZENE	250	ug/L	250	U	
541-73-1	1,3-DICHLOROBENZENE	250	ug/L	250	U	
99-87-6	P-ISOPROPYLTOLUENE	250	ug/L	250	U	
106-46-7	1,4-DICHLOROBENZENE	250	ug/L	250	U	
104-51-8	N-BUTYLBENZENE	250	ug/L	250	U	
95-50-1	1,2-DICHLOROBENZENE	250	ug/L	250	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	250	ug/L	250	U	
120-82-1	1,2,4-TRICHLOROBENZENE	250	ug/L	250	U	
87-68-3	HEXACHLOROBUTADIENE	250	ug/L	250	U	
91-20-3	NAPHTHALENE	250	ug/L	250	U	US, 140
87-61-6	1,2,3-TRICHLOROBENZENE	250	ug/L	250	U	

199

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439
Reported on: Wednesday, September 10, 19

Field ID: BH17017RM
Lab ID: 9708320-7

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U		
74-87-3	CHLOROMETHANE	5	ug/L	5	U		
75-01-4	VINYL CHLORIDE	10	ug/L	10	U		
74-83-9	BROMOMETHANE	5	ug/L	5	U		
75-00-3	CHLOROETHANE	5	ug/L	5	U		
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U		
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U		
67-64-1	ACETONE	5.5	ug/L	100	J		~~UJ~~ J, 140
75-15-0	CARBON DISULFIDE	5	ug/L	5	U		
75-09-2	METHYLENE CHLORIDE	5	ug/L	5	U		UJ, 140
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U		
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U		
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U		
78-93-3	2-BUTANONE	100	ug/L	100	U		
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U		
67-66-3	CHLOROFORM	5	ug/L	5	U		
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U		
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U		UJ, 140, 141
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U		
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U		
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U		
71-43-2	BENZENE	5	ug/L	5	U		
79-01-6	TRICHLOROETHENE	5	ug/L	5	U		
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U		
74-95-3	DIBROMOMETHANE	5	ug/L	5	U		
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U		UJ, 140
108-88-3	TOLUENE	5	ug/L	5	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U		
591-78-6	2-HEXANONE	50	ug/L	50	U		UJ, 140, 141
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U		

200

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 10, 19

Field ID: BH17017RM	Sample Matrix: liquid	Date Collected: 20-Aug-97	Sample Aliquot: 5
Lab ID: 9708320-7	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v08324	

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	WJ, 140
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

201

GC/MS WORKSHEETS
HOLDING TIMES / CHAIN-OF-CUSTODY

METHOD # 8260

QuantaLex Rev 1.0

Include all samples, dilutions, & reanalyses

Client & Batch: 97A2439

Validator/Date: Harry Heidler II
Reviewer/Date: Bob Thiele

QLI #	SAMPLE NUMBER (PER COC)	(IF APPLICABLE) COC # EQUALS FORM 1 Y/N	SAMPLE PRE-SERVED Y/N	TEMP. 4°C (±2°C) Y/N	CONC. LEVEL/ MATRIX	DATE COLLECTED	EXTRACTABLES DATE EXTRACTED	DATE ANALYZED	EXTRACTABLES EXT. DATE - COLL. DATE	ANAL. DATE - EXT. DATE	ANAL DATE - COLL. DATE	ACTION TAKEN J ◎	J ALL	J (+) R (U)	COMME ANY PROB ESP. WITH SH. RECEIPT & S CONDITI
1	BH17012RM	y	NA		L/S	8/20/97		9/1/97			12				None
2	13														
3	14														
4	00		y		L/W			9/2/97			13				
5	16		NA		L/S			9/1/97			12				
6	05														
7	17		y		L/W			9/2/97			13				
8	15		NA		L/S			9/1/97			12				
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															

If a particular category is "Not Applicable," please denote with N/A.

No sample cooler ~~temp~~. Assume OK

202

gcms691w/D

GC/MS WORKSHEETS
TUNING & PERFORMANCE
(FORM 5 INFORMATION)

Include all tunes

TUNING COMPOUND	DATE & TIME TUNED	INSTRUMENT ID	ABUND. CRIT. MET Y/N	SAMPLES WITHIN TIME FRAME Y/N	FORM 5 #s EQUAL RAW DATA Y/N	CALC. OK*	HEADER INFO OK Y/N	ACTION TAKEN Y/N	COMMENTS
TUNE 1:	DATE: 9/1/97 TIME: 1003	HP-VM 1	y	y	y	✓	y	n	None
Associated samples: I-Cal									
TUNE 2:	DATE: 9/1/97 TIME: 1245	HP-VM 1	y	y	y	✓	y	n	
Associated samples: 12, 13, 14, 16, 05, 15									
TUNE 3:	DATE: 9/2/97 TIME: 0705	HP-VM1	y	y	y	✓	y	n	
Associated samples: 00, 17									
TUNE 4:	DATE: TIME:								
Associated samples:									
TUNE 5:	DATE: TIME:								
Associated samples:									
TUNE 6:	DATE: TIME:								
Associated samples:									

*Validator only - Check mark box to indicate appropriate calculations were checked (See Appendix E of guidelines.) If a particular category is "Not Applicable," please denote with N/A.

203

GC/MS WORKSHEETS
INITIAL CALIBRATION
(FORM 6 INFORMATION)

QuantaLex Rev 1.0

Include samples, reanalyses, dilutions, matrix spikes, and blanks

INITIAL CALIBRATION	DATE CALIBRATED	INSTRUMENT ID	RRF < 0.05 Y/N	%RSD > (30) Y/N	CALCULATION CHECKS* 1 RRF / CONC. LEVEL	CALCULATION CHECKS* AT LEAST 1 AVG. RRF & %RSD	COMPOUNDS FAILING CRITERIA (NOTE IF COMPOUNDS ARE SPCC OR CCC)
I-CAL 1:	9/1/97	HP-VM 1	1)	2) N	✓	✓	2) Ace – 40.66 MeCl – 43.57 Methyl-t-butyl-eth – 41.44 – NA 2,2-Dichloropropane – 49.72 2-cloro ethyl vinyl – 80.52 – NA 4-methyl – 2-pentanone – 34.07 2-Hexanone – 33.01 Naphthalene – 41.18 UJ/J – all 140
Associated samples: All							
I-CAL 2:			3)	4)			
Associated samples:							
I-CAL 3:			5)	6)			
Associated samples:							
I-CAL 4:			7)	8)			
Associated samples:							
I-CAL 5:			9)	10)			
Associated samples:							
I-CAL 6:			11)	12)			
Associated samples:							

*Validator only - Check mark box to indicate appropriate calculations were checked.

204

gcms691w/

GC/MS WORKSHEETS
CONTINUING CALIBRATION
(FORM 7 INFORMATION)

QuantaLex Rev 1.0 (1/

Include samples, reanalyses, dilutions, matrix spikes, and blanks

CONTINUING CALIBRATION	DATE & TIME CALIBRATED	ASSOC. I-CAL DATE	RRF < 0.05 Y/N	%D > (25) Y/N	CALCULATION CHECKS* AT LEAST 1 DAILY RRF	CALCULATION CHECKS* AT LEAST 1 %D	COMPOUNDS FAILING CRITERIA (NOTE IF COMPOUNDS ARE SPCC OR CCC)
C-CAL 1:	9/1/97 125-9	9/1/97	1) Y	2) N	✓	✓	2) Vinyl Acetate - 32.5 - N/A 2,2-Dichloropropane - 35.6 2-Chloroethyl vinyl ether - 45.5 - N/A
Associated samples: 12,13,14,16,05,15							
C-CAL 2:	9/2/97 0719	9/1/97	3) Y	4)			4) Vinyl Ace - 48.6 - N/A 2,2-Dichloprop - 27 2-Chloroethyl vinyl - 22.0 - N/A 2-Hexanone - 25.2 UJ/J - all (4/1)
Associated samples: 00,17							
C-CAL 3:			5)	6)			
Associated samples:							
C-CAL 4:			7)	8)			
Associated samples:							
C-CAL 5:			9)	10)			
Associated samples:							
C-CAL 6:			11)	12)			
Associated samples:							

*Validator only - Check mark box to indicate appropriate calculations were checked.

205

gcms691w/DL1

GC/MS WORKSHEETS
BLANKS
(BLANK FORM 1 & 4 INFORMATION)

QuantaLex Rev 1.0

Include method, trip, and field blanks

BLANK NUMBER	EXTRACTABLES DATE EXTRACTED	DATE ANALYZED	CORRECT MATRIX & LEVEL Y/N	BLANK / 20 SAMPLES Y/N	BLANK CONTAMINANTS 1) < 5X FOR COMMON? 2) < MDL FOR OTHERS?		BLANK CONTAMINANTS ENTER BLANK CONTAMINANTS FOLLOWED BY CONCENTRATION	COMMENTS
BLK #: VA970901-1MB		9/1/97	Y	Y	1)	2)	1) MeCl-~~8~~ 16 05-330	121
Associated samples: 12,13,14,16,05,15								
BLK #: VA970902-1MB		9/2/97	Y	Y	1)	2)	1) MeCl-2.2J ~~[illegible]~~	
Associated samples: 00,17								
BLK #:					1)	2)		
Associated samples:								
BLK #:					1)	2)		
Associated samples:								
BLK #:					1)	2)		
Associated samples:								
BLK #:					1)	2)		
Associated samples:								

If a particular category is "Not Applicable," please denote with N/A.

206

gcms691w/D

GC/MS WORKSHEETS
SURROGATES/INTERNAL STANDARDS
(FORM 2 & 8 INFORMATION)

QuantaLex Rev 1.0 (1

Include samples, dilutions, reanalyses, matrix spikes, & blanks

QLI #	SAMPLE NUMBER (INCLUDE SAMPLE NUMBER IF LIMITS NOT MET)	SURROGATE RECOVERY LIMITS MET Y/N	IF NO, REEXT. AND/OR REANAL. Y/N	REEXT. OR REANAL. LIMITS MET Y/N	INTERNAL STD. AREA LIMITS MET Y/N	INTERNAL STD. R.T. LIMITS MET Y/N	SURR. & IS CALCULATIONS & TRANSCRIPTIONS OK * Y/N	SURROGATES OUTSIDE QC LIMITS **	INTERNAL STANDARDS OUTSIDE QC LIMITS **	ACTIONS/COMMENTS
	All	y			y	y	y	None	None	

* Validator only - Check mark box to indicate appropriate calculations were checked. (See Appendix E.) If a particular category is "Not Applicable," please denote with N/A.

** Indicate whether surrogate recovery (or internal standard area) was above ↑, or below ↓ QC limits. Use ↓↓ for extremely low surrogate recoveries (<10%) or internal standard areas (<2x the lower limit)

207

gcms691w/DL

GC/MS WORKSHEETS
SPIKES/LCSs
(FORM 3 INFORMATION)

QuantaLex Rev 1.0 (1

Include matrix spikes and laboratory fortified blanks

TYPE OF SPIKE (CIRCLE ONE) & ID NUMBER	DATE & TIME ANALYZED	FREQ-UENCY CRITERIA MET Y/N	SPIKED AT CORRECT LEVEL Y/N	CALC. & TRANS. OK Y/N	LIST SPIKING COMPOUNDS OUTSIDE PERCENT RECOVERY CRITERIA (FOLLOWED BY PERCENT RECOVERY)	LIST MS/MSD SPIKING COMPOUNDS OUTSIDE RPD CRITERIA (FOLLOWED BY RPD)	ACTIONS / COMMENTS
LCS / MS / MSD #	9/1/97 1340	Y	Y	Y	None	None	
Associated samples: 12, 13, 14, 16, 05, 15							
LCS / MS / MSD #	9/1/97 ~~1101~~	Y	Y	Y	None	None	
Associated samples: 1605							
LCS / MS / MSD #	9/2/97 0739	Y	Y	Y	None	None	
Associated samples: 00, 17							
LCS / MS / MSD #							
Associated samples:							
LCS / MS / MSD #							
Associated samples:							
LCS / MS / MSD #							
Associated samples:							

See Appendix E for appropriate number of calculations. If a particular category is "Not Applicable," please denote with N/A.

208

GC/MS WORKSHEETS
COMPOUND IDENTIFICATION/QUANTITATION
(FORM 1)

QuantaLex Rev 1.0 (1/

Include all samples, dilutions, reanalyses, blanks

QLI #	SAMPLE NUMBER (INCLUDE IF PROBLEMS EXIST)	ID CRITERIA RRT (0.06) MET Y/N	ID CRITERIA MASS SPECTRAL MET Y/N	COMPOUNDS FAILING ID CRITERIA	SPECTRA PRESENT (TCL & TIC) Y/N	CALCULATION CHECKS** CRQLS CORRECT Y/N	CALCULATION CHECKS** CHECK 1-3 HIT(S) / SAMPLE	TRANS-CRIPTION ERRORS Y/N	ACTIONS/COMMENTS
	All	Y	Y	None	Y	Y	✓	N	None

If a particular category is "Not Applicable," please denote with N/A. *Specify missing spectra on Data Completeness Worksheet (Page 9).

**Validator only - Check mark box to indicate appropriate calculations were checked. See Appendix E of guidelines.

209

gcms691w/DLI

GC/MS WORKSHEETS
SYSTEM PERFORMANCE & DATA COMPLETENESS

QuantaLex Rev 1.0 (1/

Include only samples for which problems exist

SYSTEM PERFORMANCE			DATA COMPLETENESS		
QLI #	SAMPLE NUMBER	IDENTIFY FACTORS THAT INDICATE SYSTEM PERFORMANCE PROBLEMS (e.g., BASELINE SHIFTS, LARGE AIR PEAKS, I.S. AREA CHANGES, etc.)	RUN LOGS PRESENT Y/N	EXTRACTION LOGS PRESENT Y/N	OTHER MISSING DATA (INCLUDE MASS SPECTRA)
		None	Y	Y	None

210

DA-SS01

Data Quality Assessment Report

Rocky Flats Environmental Technology Site

RIN Number	Analytical Method/PSA Line Item	Review Level
97A2442	SW-846 Method 8260, Volatiles SS01B005 / SS01B010	Validation
Analytical Laboratory	**Assessment Performed By**	**Number of Samples/ Matrix.**
Paragon Analytics, Inc.	QuantaLex, Inc.	6/Water; 3/Soil

Sample Numbers: BH17028RM, BH17029RM, BH17030RM, GW17002RM, GW17003RM, GW17004RM, GW17005RM, GW17006RM, GW17007RM

Quality Control Item	Reviewed	Non-Compliance Identified
General (Cover Page, Table of Contents, DRC Checklist, Narrative)	Y	N
Chain of Custody	Y	N
Holding Times	Y	Comment 1
Sample Preservation	Y	N
Surrogate Recovery	Y	N
Matrix Spike/Matrix Spike Duplicate	Y	Comment 2
Instrument Performance Check	Y	N
Internal Standards	Y	N
Sample Results	Y	N
Tentatively Identified Compounds	Y	N
Calibration	Y	Action Items 1 and 2
Quality Control Check Samples	Y	N
Blanks	Y	Action Item 3; Comment 3
Other QC	Y	N

Y Item was reviewed or non-compliance was identified
N Item was not reviewed or non-compliance was not identified
N/A Item is not applicable to the Line Item

211

Action Items:

1. The following sample results were qualified as estimated (J) due to the percent relative standard deviations (%RSDs) which exceeded 30% in the initial calibration:

   - Acetone in all samples
   - Methylene chloride in all samples
   - 2,2-Dichloropropane in all samples
   - 4-Methyl-2-pentanone in all samples
   - 2-Hexanone in all samples
   - Naphthalene in all samples **[140]**

2. The following sample results were qualified as estimated (J) due to the percent differences (%D) which exceeded 25 % in the continuing calibrations:

   - 2,2-Dichloropropane in all samples
   - 2-Hexanone in samples BH17028RM, BH17029RM, GW17002RM, GW17003RM, GW17004RM, GW17005RM, GW17006RM, GW17007RM **[141]**

3. The following sample results were reported as undetected due to blank contamination, according to the Functional Guidelines criteria (5x rule):

   - Methylene chloride in samples BH17028RM, BH17029RM, BH17030RM, GW17002RM, GW17003RM, GW17004RM, and GW17005RM **[149]**

Comments:

1. The chain of custody records did not indicate the temperature of the samples upon receipt. No action is necessary since the affect of temperature on the samples is unknown. **[231]**

2. The percent recovery of trichloroethene (83%) was below the QC limits of 85% to 121%, in the matrix spike duplicate (MSD) analysis of sample GW17002RM. MS/MSD analyses was not performed for the soil matrices. The VA970902 LCS/LCSD analyses performed on 09/02/97 were utilized for both the soil and a water matrices with different QC criteria. No action is taken because sample results are not qualified based solely on MS/MSD recoveries. **[114]**

3. The method blank VA970902-1MB was utilized for both soil and water matrices. No action is taken. **[168]**

Verification/Validation Signature _____ Date: 11/17/97

Reviewer Signature _____ Date: 11/17/97
(*Validation Only*)

212

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	BH17030RM
Lab ID:	9708324-8

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U		
74-87-3	CHLOROMETHANE	630	ug/kg	630	U		
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U		
74-83-9	BROMOMETHANE	630	ug/kg	630	U		
75-00-3	CHLOROETHANE	630	ug/kg	630	U		
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U		
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U		
67-64-1	ACETONE	13000	ug/kg	13000	U		UJ-140
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U		
75-09-2	METHYLENE CHLORIDE	2600	ug/kg	630	B		26004-149; J 140
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U		
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
78-93-3	2-BUTANONE	13000	ug/kg	13000	U		
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U		
67-66-3	CHLOROFORM	630	ug/kg	630	U		
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U		
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U		UJ-140,141
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U		
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U		
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U		
71-43-2	BENZENE	630	ug/kg	630	U		
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U		
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U		
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U		
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U		UJ-140
108-88-3	TOLUENE	630	ug/kg	630	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U		
591-78-6	2-HEXANONE	6300	ug/kg	6300	U		UJ-140, ~~141~~ AB
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U		

AB

213

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 10, 19

Field ID:	BH17030RM	Sample Matrix: Solid	Date Collected: 25-Aug-97	Sample Aliquot:	4
Lab ID:	9708324-8	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	U-140
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

AB
11-10-97

214

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	BH17030RM
Lab ID:	9708324-8

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: DRY WEIGHT

Date Collected: 25-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

AB
11-10-97

215

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID: BH17028RM
Lab ID: 9708324-5

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324s

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U		
74-87-3	CHLOROMETHANE	630	ug/kg	630	U		
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U		
74-83-9	BROMOMETHANE	630	ug/kg	630	U		
75-00-3	CHLOROETHANE	630	ug/kg	630	U		
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U		
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U		
67-64-1	ACETONE	13000	ug/kg	13000	U		UJ -140
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U		
75-09-2	METHYLENE CHLORIDE	440	ug/kg	630	J,B		630U - 149 J14C
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U		
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
78-93-3	2-BUTANONE	13000	ug/kg	13000	U		
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U		
67-66-3	CHLOROFORM	630	ug/kg	630	U		
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U		
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U		UJ -140,141
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U		
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U		
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U		
71-43-2	BENZENE	630	ug/kg	630	U		
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U		
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U		
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U		
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U		UJ-140
108-88-3	TOLUENE	630	ug/kg	630	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U		
591-78-6	2-HEXANONE	6300	ug/kg	6300	U		UJ-140,141
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U		

216

AR

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	BH17028RM
Lab ID:	9708324-5

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324s

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	UJ-140
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

AB
11-10-97

217

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	BH17028RM
Lab ID:	9708324-5

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: DRY WEIGHT

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324s

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

AB
11-10-97

218

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID: BH17029RM
Lab ID: 9708324-6

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324s

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U		
74-87-3	CHLOROMETHANE	630	ug/kg	630	U		
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U		
74-83-9	BROMOMETHANE	630	ug/kg	630	U		
75-00-3	CHLOROETHANE	630	ug/kg	630	U		
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U		
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U		
67-64-1	ACETONE	13000	ug/kg	13000	U		UJ-140
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U		
75-09-2	METHYLENE CHLORIDE	420	ug/kg	630	J,B		630U -149, J142
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U		
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U		
78-93-3	2-BUTANONE	13000	ug/kg	13000	U		
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U		
67-66-3	CHLOROFORM	630	ug/kg	630	U		
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U		
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U		UJ-140,141
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U		
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U		
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U		
71-43-2	BENZENE	630	ug/kg	630	U		
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U		
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U		
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U		
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U		UJ-140
108-88-3	TOLUENE	630	ug/kg	630	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U		
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U		
591-78-6	2-HEXANONE	6300	ug/kg	6300	U		UJ-140,141
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U		

219

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 10, 19

Field ID:	BH17029RM	Sample Matrix:	Solid	Date Collected:	25-Aug-97	Sample Aliquot:	4
Lab ID:	9708324-6	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	10
		Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	50
		Report Basis:	AS RECEIVED	Prep Batch:	v08324s		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	UJ-140
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

AB
11-10-97

220

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	BH17029RM
Lab ID:	9708324-6

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: DRY WEIGHT

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324s

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

AB
11-10-97

121

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID: GW17002RM	Sample Matrix: liquid	Date Collected: 25-Aug-97	Sample Aliquot: 5
Lab ID: 9708324-1	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v08324	

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U		
74-87-3	CHLOROMETHANE	5	ug/L	5	U		
75-01-4	VINYL CHLORIDE	10	ug/L	10	U		
74-83-9	BROMOMETHANE	5	ug/L	5	U		
75-00-3	CHLOROETHANE	5	ug/L	5	U		
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U		
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	40	ug/L	5			
67-64-1	ACETONE	100	ug/L	100	U		UJ-140
75-15-0	CARBON DISULFIDE	5	ug/L	5	U		
75-09-2	METHYLENE CHLORIDE	7.9	ug/L	5	B		7.9u 149, J 140
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U		
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U		
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U		
78-93-3	2-BUTANONE	100	ug/L	100	U		
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U		
67-66-3	CHLOROFORM	5	ug/L	5	U		
71-55-6	1,1,1-TRICHLOROETHANE	2.1	ug/L	5	J		
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U		UJ-140,141
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U		
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U		
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U		
71-43-2	BENZENE	5	ug/L	5	U		
79-01-6	TRICHLOROETHENE	5	ug/L	5	U		
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U		
74-95-3	DIBROMOMETHANE	5	ug/L	5	U		
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U		UJ-140
108-88-3	TOLUENE	5	ug/L	5	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U		
591-78-6	2-HEXANONE	50	ug/L	50	U		UJ-140,141
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U		

222

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 10, 19

Field ID:	GW17002RM	Sample Matrix: liquid	Date Collected: 25-Aug-97	Sample Aliquot:	5
Lab ID:	9708324-1	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v08324		

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	UJ-140
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

AB
11-10-97

223

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	GW17002RM
Lab ID:	9708324-1

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

AB
11-10-97

224

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	GW17003RM	Sample Matrix: liquid	Date Collected: 25-Aug-97	Sample Aliquot:	5
Lab ID:	9708324-2	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v08324		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U		
74-87-3	CHLOROMETHANE	5	ug/L	5	U		
75-01-4	VINYL CHLORIDE	10	ug/L	10	U		
74-83-9	BROMOMETHANE	5	ug/L	5	U		
75-00-3	CHLOROETHANE	5	ug/L	5	U		
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U		
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	36	ug/L	5			
67-64-1	ACETONE	100	ug/L	100	U		UJ-140
75-15-0	CARBON DISULFIDE	5	ug/L	5	U		
75-09-2	METHYLENE CHLORIDE	3	ug/L	5	J,B		5U -149; J140
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U		
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U		
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U		
78-93-3	2-BUTANONE	100	ug/L	100	U		
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U		
67-66-3	CHLOROFORM	5	ug/L	5	U		
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U		
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U		UJ-140,141
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U		
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U		
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U		
71-43-2	BENZENE	5	ug/L	5	U		
79-01-6	TRICHLOROETHENE	5	ug/L	5	U		
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U		
74-95-3	DIBROMOMETHANE	5	ug/L	5	U		
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U		UJ-140
108-88-3	TOLUENE	5	ug/L	5	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U		
591-78-6	2-HEXANONE	50	ug/L	50	U		UJ-140,141
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U		

225

AR

000071

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	GW17003RM
Lab ID:	9708324-2

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	UJ-140
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

AB
11-10-97

226

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	GW17003RM	Sample Matrix: liquid	Date Collected: 25-Aug-97	Sample Aliquot:	5
Lab ID:	9708324-2	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v08324		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

AB
11-10-97

227

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID: GW17004RM
Lab ID: 9708324-3

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U		
74-87-3	CHLOROMETHANE	5	ug/L	5	U		
75-01-4	VINYL CHLORIDE	10	ug/L	10	U		
74-83-9	BROMOMETHANE	5	ug/L	5	U		
75-00-3	CHLOROETHANE	5	ug/L	5	U		
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U		
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U		
67-64-1	ACETONE	100	ug/L	100	U		UJ-140
75-15-0	CARBON DISULFIDE	5	ug/L	5	U		
75-09-2	METHYLENE CHLORIDE	2.7	ug/L	5	J,B		5U -149, 140
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U		
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U		
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U		
78-93-3	2-BUTANONE	100	ug/L	100	U		
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U		
67-66-3	CHLOROFORM	5	ug/L	5	U		
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U		
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U		UJ-140,141
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U		
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U		
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U		
71-43-2	BENZENE	5	ug/L	5	U		
79-01-6	TRICHLOROETHENE	5	ug/L	5	U		
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U		
74-95-3	DIBROMOMETHANE	5	ug/L	5	U		
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U		UJ-140
108-88-3	TOLUENE	5	ug/L	5	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U		
591-78-6	2-HEXANONE	50	ug/L	50	U		UJ-140,141
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U		

228

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID: GW17004RM	Sample Matrix: liquid	Date Collected: 25-Aug-97	Sample Aliquot: 5
Lab ID: 9708324-3	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v08324	

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	UJ-140
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

AB
11-10-97

229

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	GW17004RM
Lab ID:	9708324-3

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

AB
11-10-97

230

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID: GW17005RM
Lab ID: 9708324-4

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U		
74-87-3	CHLOROMETHANE	5	ug/L	5	U		
75-01-4	VINYL CHLORIDE	10	ug/L	10	U		
74-83-9	BROMOMETHANE	5	ug/L	5	U		
75-00-3	CHLOROETHANE	5	ug/L	5	U		
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U		
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U		
67-64-1	ACETONE	100	ug/L	100	U		UJ-140
75-15-0	CARBON DISULFIDE	5	ug/L	5	U		
75-09-2	METHYLENE CHLORIDE	3.6	ug/L	5	J,B		5U -149g JWC
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U		
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U		
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U		
78-93-3	2-BUTANONE	100	ug/L	100	U		
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U		
67-66-3	CHLOROFORM	5	ug/L	5	U		
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U		
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U		UJ-140,141
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U		
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U		
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U		
71-43-2	BENZENE	5	ug/L	5	U		
79-01-6	TRICHLOROETHENE	5	ug/L	5	U		
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U		
74-95-3	DIBROMOMETHANE	5	ug/L	5	U		
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U		UJ-140
108-88-3	TOLUENE	5	ug/L	5	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U		
591-78-6	2-HEXANONE	50	ug/L	50	U		UJ-140,141
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U		

AR

231

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	GW17005RM
Lab ID:	9708324-4

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	UJ-140
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

AB
11-10-97

232

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	GW17005RM
Lab ID:	9708324-4

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

AB
11-10-97

233

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	GW17006RM
Lab ID:	9708324-7

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U		
74-87-3	CHLOROMETHANE	5	ug/L	5	U		
75-01-4	VINYL CHLORIDE	10	ug/L	10	U		
74-83-9	BROMOMETHANE	5	ug/L	5	U		
75-00-3	CHLOROETHANE	5	ug/L	5	U		
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U		
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U		
67-64-1	ACETONE	100	ug/L	100	U		UJ-140
75-15-0	CARBON DISULFIDE	5	ug/L	5	U		
75-09-2	METHYLENE CHLORIDE	5	ug/L	5	U		UJ-140
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U		
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U		
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U		
78-93-3	2-BUTANONE	100	ug/L	100	U		
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U		
67-66-3	CHLOROFORM	5	ug/L	5	U		
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U		
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U		UJ-140,141
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U		
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U		
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U		
71-43-2	BENZENE	5	ug/L	5	U		
79-01-6	TRICHLOROETHENE	5	ug/L	5	U		
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U		
74-95-3	DIBROMOMETHANE	5	ug/L	5	U		
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U		UJ-140
108-88-3	TOLUENE	5	ug/L	5	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U		
591-78-6	2-HEXANONE	50	ug/L	50	U		UJ-140,141
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U		

234

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Fed ID	GW17006RM
Lab ID	9708324-7

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	UJ-140
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

AB
11-10-97

235

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	GW17006RM
Lab ID:	9708324-7

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

AB
11-10-97

236

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	GW17007RM
Lab ID:	9708324-9

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote	
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U		
74-87-3	CHLOROMETHANE	5	ug/L	5	U		
75-01-4	VINYL CHLORIDE	10	ug/L	10	U		
74-83-9	BROMOMETHANE	5	ug/L	5	U		
75-00-3	CHLOROETHANE	5	ug/L	5	U		
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U		
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U		
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U		
67-64-1	ACETONE	100	ug/L	100	U		UJ-140
75-15-0	CARBON DISULFIDE	5	ug/L	5	U		
75-09-2	METHYLENE CHLORIDE	5	ug/L	5	U		UJ-140
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U		
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U		
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U		
78-93-3	2-BUTANONE	100	ug/L	100	U		
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U		
67-66-3	CHLOROFORM	5	ug/L	5	U		
71-55-6	1,1,1-TRICHLOROETHANE	6.3	ug/L	5			
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U		UJ-140,141
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U		
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U		
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U		
71-43-2	BENZENE	5	ug/L	5	U		
79-01-6	TRICHLOROETHENE	5	ug/L	5	U		
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U		
74-95-3	DIBROMOMETHANE	5	ug/L	5	U		
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U		
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U		UJ-140
108-88-3	TOLUENE	5	ug/L	5	U		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U		
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U		
591-78-6	2-HEXANONE	50	ug/L	50	U		UJ-140,141
127-18-4	TETRACHLOROETHENE	15	ug/L	5			

237

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 10, 19

Field ID:	GW17007RM
Lab ID:	9708324-9

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	UJ-140
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

AB
11-10-97

238

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 10, 19

Field ID:	GW17007RM
Lab ID:	9708324-9

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
7.10	trimethylsilanol	270	ug/l	J

AB
11-10-97

239

GC/MS WORKSHEETS
HOLDING TIMES / CHAIN-OF-CUSTODY

METHOD # 8260-VOA

QuantaLex Rev 1.0 (1/

Validator/Date: Amy Ballow 11-10
Reviewer/Date: [illegible] 11/12

Include all samples, dilutions, & reanalyses

Client & Batch: Rocky Flats 97083248

QLI #	SAMPLE NUMBER (PER COC)	(IF APPLICABLE) COC # EQUALS FORM I Y/N	SAMPLE PRE-SERVED Y/N	TEMP. 4°C (±2°C) Y/N	CONC. LEVEL/ MATRIX	DATE COLLECTED	EXTRACTABLES DATE EXTRACTED	DATE ANALYZED	EXTRACTABLES EXT. DATE - COLL. DATE	EXTRACTABLES ANAL. DATE - EXT. DATE	ANAL DATE - COLL. DATE	ACTION TAKEN J ⊗	ACTION TAKEN J ALL	ACTION TAKEN J(+) R (U)	COMMENTS ANY PROBLEM ESP. WITH SHIPPI RECEIPT & SAM CONDITION)
1	BH17030RM	Y	N	Not listed	Med/S	08-25-97	~~09-[illegible]~~	09-01-97	—	—	7		None		Okay -
2	↓ 28 ↓	Y	N	↓	Med/S	08-25-97		09-02-97			8				
3	BH17029RM	Y	N	↓	Med/S	08-25-97		09-02-97			8				
4	GW17002RM	Y	Y	Not listed	L/W	08-25-97		09-02-97			8				
5	003	↓	↓	↓	↓	↓		↓			↓				Comment No Temp.
6	004														
7	005														
8	↓ 006 ↓	↓	↓	↓	↓	↓		↓			↓				
9	GW17007 RM	Y	Y	Not listed	L/W	08-25-97		09-02-97			8				
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															

If a particular category is "Not Applicable," please denote with N/A.

240

gcms691w/DL1

GC/MS WORKSHEETS
TUNING & PERFORMANCE
(FORM 5 INFORMATION)

QuantaLex Rev 1.0 (1

Include all tunes

TUNING COMPOUND	DATE & TIME TUNED	INSTRUMENT ID	ABUND. CRIT. MET Y/N	SAMPLES WITHIN TIME FRAME Y/N	FORM 5 #s EQUAL RAW DATA Y/N	CALC. OK*	HEADER INFO OK Y/N	ACTION TAKEN Y/N	COMMENTS
TUNE 1:	DATE: 09-01-97 TIME: 1003	HP-VM-1	Y	Y	Y ✓	✓	✓	None	Okay
Associated samples: I-CAL									
TUNE 2:	DATE: 09-01-97 TIME: 1245	HP-VM-1	Y	Y	Y ✓	✓	✓	None	
Associated samples: LCS LCSD MB BH17030RM									
TUNE 3:	DATE: 09-02-97 TIME: 0705	HP-VM-1	Y	Y	✓	✓	✓	None	
Associated samples: LCS LCSD MB BH17028RM 29RM GW17003RM 04 05 07 GW17002RM/MS/MSD									
TUNE 4:	DATE: TIME:								
Associated samples:									
TUNE 5:	DATE: TIME:								
Associated samples:									
TUNE 6:	DATE: TIME:								
Associated samples:									

*Validator only - Check mark box to indicate appropriate calculations were checked (See Appendix E of guidelines.) If a particular category is "Not Applicable," please denote with N/A.

gcms691w/DL

241

GC/MS WORKSHEETS
INITIAL CALIBRATION
(FORM 6 INFORMATION)

Include samples, reanalyses, dilutions, matrix spikes, and blanks

INITIAL CALIBRATION	DATE CALIBRATED	INSTRUMENT ID	RRF < 0.05 Y/N	%RSD > (30) Y/N	CALCULATION CHECKS* 1 RRF/ CONC. LEVEL	CALCULATION CHECKS* AT LEAST 1 AVG. RRF & %RSD	COMPOUNDS FAILING CRITERIA (NOTE IF COMPOUNDS ARE SPCC OR CCC)
I-CAL 1:	09-01-97	HP-VM-1	1) N	2) N	✓	✓	2) Acetone = 40.66 MeCl2 = 43.57 × Methyl-t-B = 41.44 2,2-Dichloropop = 49.72 × 2-Chloroethylv. = 80.52 4-Methy-2-Penten = 34.07 2-Hexanone = 33.01 Naphthalene = 41.18
Associated samples:	All						
I-CAL 2:	~~09-01-97~~		3)	4)			
Associated samples:							
I-CAL 3:			5)	6)			
Associated samples:							
I-CAL 4:			7)	8)			
Associated samples:							
I-CAL 5:			9)	10)			
Associated samples:							
I-CAL 6:			11)	12)			
Associated samples:							

(140)
UJ/J

- Method 8260 = >15% RSD = linear curve but Narrative explains due to limited software all Quants by Ave. RRF-I-CAL

*Validator only - Check mark box to indicate appropriate calculations were checked.

gcms691w/DI

242

GC/MS WORKSHEETS
CONTINUING CALIBRATION
(FORM 7 INFORMATION)

QuantaLex Rev 1.0 (

Include samples, reanalyses, dilutions, matrix spikes, and blanks

CONTINUING CALIBRATION	DATE & TIME CALIBRATED	ASSOC. I-CAL DATE	RRF < 0.05 Y/N	%D > (25) Y/N	CALCULATION CHECKS* AT LEAST 1 DAILY RRF	CALCULATION CHECKS* AT LEAST 1 %D	COMPOUNDS FAILING CRITERIA (NOTE IF COMPOUNDS ARE SPCC OR CCC)
C-CAL 1:	09-01-97 1259 pm	09-01-97	1) N ✓	2) N	✓	✓	2) Vinyl Acetate = 32.5 % 2,2-Dichloropropane = 35.6 % *2-Chloroethyl vinyl ether = 45.5 UJ/J
Associated samples: LCS LCS MB BH17030RM							
C-CAL 2:	09-02-97 0719 am	09-01-97	3) N ✓	4) N			4) Vinyl Acetate = 48.6 2,2-Dichloropropane = 27.0 *2-Chloroethyl vinyl ether = 40.1 2-Hexanone = 25.2 UJ/J
Associated samples: LCS LCSD MB BH17028RM L 29 ↓ GW17003RM ↓ GW17002RM/MS/MSD							
C-CAL 3:			5)	6)			
Associated samples:							
C-CAL 4:			7)	8)			
Associated samples:							
C-CAL 5:			9)	10)			
Associated samples:							
C-CAL 6:			11)	12)			
Associated samples:							

*Validator only - Check mark box to indicate appropriate calculations were checked.

243

gcms691w/D

GC/MS WORKSHEETS
BLANKS
(BLANK FORM 1 & 4 INFORMATION)

Include method, trip, and field blanks

BLANK NUMBER	EXTRACTABLES DATE EXTRACTED	DATE ANALYZED	CORRECT MATRIX & LEVEL Y/N	BLANK / 20 SAMPLES Y/N	BLANK CONTAMINANTS 1) < 5X FOR COMMON? 2) < MDL FOR OTHERS?		BLANK CONTAMINANTS ENTER BLANK CONTAMINANTS FOLLOWED BY CONCENTRATION	COMMENTS
BLK #: VA970901-1MB	/	09-01-97	ALL 9-1-97	✓	1) /	2)	$MeCl_2$ = 15.56 µg/Kg	Qualified $MeCl_2$ if present "U"
Associated samples: BH17030RM								
BLK #: VA970902-1MB	/	09-02-97	All 9-2-97	✓	1) ✓	2)	$MeCl_2$ = 2.2 µg/L	Note: Shared b on 09-02-97 for both soil water matri Comment.
Associated samples: all but BH17030RM								
BLK #:					1)	2)		
Associated samples:								
BLK #:					1)	2)		
Associated samples:								
BLK #:					1)	2)		
Associated samples:								
BLK #:					1)	2)		
Associated samples:								

If a particular category is "Not Applicable," please denote with N/A.

244

GC/MS WORKSHEETS
SURROGATES/INTERNAL STANDARDS
(FORM 2 & 8 INFORMATION)

QuantaLex Rev 1.0 (1

Include samples, dilutions, reanalyses, matrix spikes, & blanks

QLI #	SAMPLE NUMBER (INCLUDE SAMPLE NUMBER IF LIMITS NOT MET)	SURROGATE RECOVERY LIMITS MET Y/N	IF NO, REEXT AND/OR REANAL. Y/N	REEXT. OR REANAL. LIMITS MET Y/N	INTERNAL STD. AREA LIMITS MET Y/N	INTERNAL STD. R.T. LIMITS MET Y/N	SURR. & IS CALCULATIONS & TRANSCRIPTIONS OK * Y/N	SURROGATES OUTSIDE QC LIMITS **	INTERNAL STANDARDS OUTSIDE QC LIMITS **	ACTIONS/COMMENTS
1	BH17030 RM	Y	NA	NA	Y	Y	✓	None	None	Okay
2	28						✓			
3	BH17029 RM						✓			
4	GW17002 RM						✓			
5	003						✓			
6	004						✓			
7	005						✓			
8	006						✓			
9	GW17007 RM						✓			
	VA970901-1MB	Y	NA	NA	Y	Y				
	LCS									
	LCSD	Y	NA	NA						
	VA970902-1MB									
	-LCS									
	-LCSD	Y	NA	NA	Y	Y				

* Validator only - Check mark box to indicate appropriate calculations were checked. (See Appendix E.) If a particular category is "Not Applicable," please denote with N/A.

** Indicate whether surrogate recovery (or internal standard area) was above ↑, or below ↓ QC limits. Use ↓↓ for extremely low surrogate recoveries (<10%) or internal standard areas (<2x the lower limit)

245

gcms691w/DL

Include matrix spikes and laboratory fortified blanks

TYPE OF SPIKE (CIRCLE ONE) & ID NUMBER	DATE & TIME ANALYZED	FREQ-UENCY CRITERIA MET Y/N	SPIKED AT CORRECT LEVEL Y/N	CALC. & TRANS. OK Y/N	LIST SPIKING COMPOUNDS OUTSIDE PERCENT RECOVERY CRITERIA (FOLLOWED BY PERCENT RECOVERY)	LIST MS/MSD SPIKING COMPOUNDS OUTSIDE RPD CRITERIA (FOLLOWED BY RPD)	ACTIONS / COMMENTS
LCS / MS / MSD # LCSD VA970901	09-01-97 0148 ~~1356~~ /0201	✓	✓	✓	None None	None	Okay
Associated samples: BH17030RM							
LCS / MS / MSD # LCSD VA970902	09-02-97 0800 /0820	✓	✓	✓	None None	None	Okay
Associated samples: All but BH17030RM							
LCS / MS / MSD # GW17002RM	09-02-97 0333/0354	✓	✓	✓	None - MS Trichloroethene • 83% (85-121)	None	Comment o 1 out
Associated samples: All but BH17030RM							
LCS / MS / MSD #							No MS/MSD for soil
Associated samples:							
LCS / MS / MSD #							
Associated samples:							
LCS / MS / MSD #							
Associated samples:							

See Appendix E for appropriate number of calculations. If a particular category is "Not Applicable," please denote with N/A.

GC/MS WORKSHEETS
COMPOUND IDENTIFICATION/QUANTITATION
(FORM 1)

QuantaLex Rev 1.0 (

Include all samples, dilutions, reanalyses, blanks

QLI #	SAMPLE NUMBER (INCLUDE IF PROBLEMS EXIST)	ID CRITERIA RRT (0.06) MET Y/N	ID CRITERIA MASS SPECTRA L MET Y/N	COMPOUNDS FAILING ID CRITERIA	SPECTRA PRESENT (TCL & TIC) Y/N	CALCULATION CHECKS** CRQLS CORRECT Y/N	CALCULATION CHECKS** CHECK 1-3 HIT(S) / SAMPLE	TRANS-CRIPTION ERRORS Y/N	ACTIONS/COMMENTS
1	BH17030 RM	✓	✓	*125	✓	✓	✓	✓	10ml/4g ~ 50 = 125x
2	↓ 28 ↓	✓	✓	*125	✓	✓	✓	✓	
3	BH17029 RM	✓	✓	*125	✓	✓	✓	✓	
4	GW17002RM	✓	✓		✓	✓	✓	✓	
5	003	✓	✓		✓	✓	✓	✓	
6	004	✓	✓		✓	✓	✓	✓	
7	005	✓	✓		✓	✓	✓	✓	
8	↓ 006 ↓	No	hits		N/A TIC ✓	✓	N/A	✓	Okay
9	GW17007RM				✓	✓	✓	✓	
	VA970901-1MB	✓	✓		✓	✓	✓	✓	
	VA970902-1MB	✓	✓		✓	✓	✓	✓	

If a particular category is "Not Applicable," please denote with N/A. *Specify missing spectra on Data Completeness Worksheet (Page 9).

**Validator only - Check mark box to indicate appropriate calculations were checked. See Appendix E of guidelines.

247

gcms691w/DL1

Include only samples for which problems exist

SYSTEM PERFORMANCE			DATA COMPLETENESS		
QLI #	SAMPLE NUMBER	IDENTIFY FACTORS THAT INDICATE SYSTEM PERFORMANCE PROBLEMS (e.g., BASELINE SHIFTS, LARGE AIR PEAKS, I.S. AREA CHANGES, etc.)	RUN LOGS PRESENT Y/N	EXTRACTION LOGS PRESENT Y/N	OTHER MISSING DATA (INCLUDE MASS SPECTRA)
		None	✓	✓	None

248

SS05
Data Quality Assessment Report
Rocky Flats Environmental Technology Site

RIN Number	Analytical Method/PSA Line Item	Review Level
97A2439	CLP Metals SS08B007	Validation
Analytical Laboratory	**Assessment Performed by**	**Number of Samples/ Matrix**
General Engineering Lab.	QuantaLex, Inc.	2/TCLP Solid

Sample Numbers: BP17005RM and BP17006RM

Quality Control Item	Reviewed	Non-Compliance Identified
General (Cover Page, Table of Contents, DRC Checklist, General SDP Requirements Narrative)	Y	N
Chain of Custody, Preservation, and Holdings	Y	N
Sample Results	Y	N
Calibration Verification, CRDL Standard	Y	Action Item 1
Verification and Preparation Blanks	Y	Action Item 2, 3
Interference Check Sample	Y	N
Matrix Spike	N	Comment 1
Duplicates	Y	N
Laboratory Control Sample	Y	N
Standard Additions	Y	N
ICP Serial Dilution	N	Comment 2
Instrument Detection Limits	Y	N
Other: Interelement Correction Factors, Linear Range Studies, Preparation Logs, Instrument Run Log	Y	N
Preparation and Instrument RAW Data	Y	N
Standards	Y	N
EDD	N	N/A

Y Item was reviewed or non-compliance was identified
N Item was not reviewed or non-compliance was not identified
N/A Item is not applicable to the Line Item

249

Action Items:

1. The following sample results were qualified as estimated (J) due to the CRDL percent recovery criteria were not met:

   - Chromium in all samples
   - Iron in all samples
   - Magnesium in all samples
   - Nickel in all samples
   - Potassium in all samples
   - Thallium in all samples
   - Zinc in all samples **[105]**

2. The following sample results were qualified as estimated and undetected (UJ) due to elevated blank levels:

   - Arsenic in all samples
   - Cadmium in all samples
   - Copper in sample BP17006RM
   - Lead in sample BP17005RM
   - Nickel in sample BP17006RM
   - Selenium in sample BP17006RM
   - Silver in sample BP17006RM
   - Thallium in sample BP17005RM
   - Vanadium in all samples
   - Tin in all samples **[107]**

3. The following sample results were qualified as rejected R due to elevated blank leves above the CRDL:

   - Sodium in all samples **[159]**

Comments:

1. The case narrative states the matrix spike (MS) and matrix spike duplicate (MSD) were performed on SDG 97A2437. The MS/MSD percent recovery and relative percent difference for this SDG were within criteria.

2. The case narrative states the ICP serial dilution were performed on SDG 97A2437. The ICP serial dilution percent recovery for this SDG were within criteria

Verification/Validation Signature _____ Date: 12/22/97

Reviewer Signature _____ Date: 12/22/97
(*Validation Only*)

250

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2439-008.016

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2439

Matrix (soil/water): WATER Lab Sample ID: 9708586-02

Level (low/med): LOW__ Date Received: ~~08/28/97~~ 08/27/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	546	_		P_	
7440-36-0	Antimony_	1.8	U		P_	
7440-38-2	Arsenic__	5.4	B		P_	uJ,107
7440-39-3	Barium___	441	_		P_	
7440-41-7	Beryllium	2.5	_		P_	
7440-43-9	Cadmium__	0.60	B		P_	uJ,107
7440-70-2	Calcium__	56500	_		P_	
7440-47-3	Chromium_	20.3	_		P_	J,105
7440-48-4	Cobalt___	31.7	B		P_	
7440-50-8	Copper___	11.5	B		P_	uJ,107
7439-89-6	Iron_____	3650	_		P_	J,105
7439-92-1	Lead_____	49.0	B		P_	
7439-95-4	Magnesium	11600	_		P_	J,105
7439-96-5	Manganese	224	_		P_	
7440-02-0	Nickel___	14.9	B		P_	~~J~~,105 uJ,107
7440-09-7	Potassium	1850	B		P_	J,105
7782-49-2	Selenium_	3.0	B		P_	uJ,107
7440-22-4	Silver___	1.5	B		P_	uJ,107
7440-23-5	Sodium___	1380000	_		P_	~~BJ,107~~ 159
7440-28-0	Thallium_	2.4	U		P_	uJ,105
7440-62-2	Vanadium_	3.4	B		P_	uJ,107
7440-66-6	Zinc_____	60.3	_		P_	J,105
7440-31-5	Tin_____	4.2	B		P_	uJ,105
7440-61-1	Uranium__	9.0	U		P_	
7440-24-6_	Strontium	317	_		P_	
7439-93-2_	Lithium__	3.2	B		P_	
7439-97-6_	Mercury__	1.0	U		AV	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

251

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2439-004.007

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2439

Matrix (soil/water): WATER Lab Sample ID: 9708586-01

Level (low/med): LOW__ Date Received: ~~08/28/97~~ 08/27/97 Pat 10/61

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	785	_		P_	
7440-36-0	Antimony_	1.8	U		P_	
7440-38-2	Arsenic__	4.2	B		P_	uJ,107
7440-39-3	Barium___	452	_		P_	
7440-41-7	Beryllium	2.5	_		P_	
7440-43-9	Cadmium__	0.41	B		P_	uJ,107
7440-70-2	Calcium__	44000	_		P_	
7440-47-3	Chromium_	38.4	_		P_	J,105
7440-48-4	Cobalt___	40.1	B		P_	
7440-50-8	Copper___	26.3	_		P_	
7439-89-6	Iron_____	13500	_		P_	J,105
7439-92-1	Lead_____	4.3	B		P_	uJ,107
7439-95-4	Magnesium	8720	_		P_	J,105
7439-96-5	Manganese	430	_		P_	
7440-02-0	Nickel___	43.8	_		P_	J,105
7440-09-7	Potassium	2890	B		P_	J,105
7782-49-2	Selenium_	2.3	U		P_	
7440-22-4	Silver___	0.60	U		P_	R
7440-23-5	Sodium___	1320000	_		P_	~~uJ,107~~ 159
7440-28-0	Thallium_	3.1	B		P_	~~J,105~~ uJ,107
7440-62-2	Vanadium_	0.69	B		P_	uJ,107
7440-66-6	Zinc_____	66.9	_		P_	J,105
7440-31-5	Tin_____	1.6	B		P_	uJ,105
7440-61-1	Uranium__	9.0	U		P_	
7440-24-6_	Strontium	251	_		P_	
7439-93-2_	Lithium__	3.8	B		P_	
7439-97-6_	Mercury__	1.0	U		AV	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

252

Action Items:

1. The following sample results were qualified as estimated (J) and undetected (UJ) due to the CRDL percent recovery criteria were not met:

   - Chromium in all samples
   - Iron in all samples
   - Magnesium in all samples
   - Nickel in all samples
   - Potassium in all samples
   - Thallium in all samples
   - Zinc in all samples **[105]**

2. The following sample results were qualified as estimated (J) and undetected (UJ) due to elevated blank levels:

   - Arsenic in all samples
   - Cadmium in all samples
   - Copper in sample BP17006RM
   - Lead in sample BP17005RM
   - Nickel in sample BP17006RM
   - Selenium in sample BP17006RM
   - Silver in sample BP17006RM
   - Sodium in all samples
   - Thallium in sample BP17005RM
   - Vanadium in all samples
   - Tin in all samples **[107]**

3. The following sample res

Comments: [R 159]

1. The case narrative states the matrix spike (MS) and matrix spike duplicate (MSD) were performed on SDG 97A2437. The MS/MSD percent recovery and relative percent difference for this SDG were within criteria.

2. The case narrative states the ICP serial dilution were performed on SDG 97A2437. The ICP serial dilution percent recovery for this SDG were within criteria

Verification/Validation Signature _____ Date:_____

Reviewer Signature: _____ Date:_____
(*Validation Only*)

253

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1993

I METAL ANALYSIS PARAMETERS WORKSHEET -- HOLDING TIMES

MATRIX: Solid BATCH: 97A2439 QU#: _____

SAMPLE ID	PRE-SERVED Y/N	DATE COLLECTED	ICP ANALYSIS DATE	As AA ANALYSIS DATE	Pb AA ANALYSIS DATE	Se AA ANALYSIS DATE	Tl AA ANALYSIS DATE	Hg CVAA ANALYSIS DATE	CN ANALYSIS DATE	Cs ANALYSIS DATE	ACTION	REASON
01	y	8/20/97	9/16/97					9/3/97			None	w/in criteria
02	y	↓	↓					↓			↓	↓

COMMENTS

Actions:
1. If holding times are exceeded, all sample results are estimated (J).
2. If holding times are grossly exceeded (>= 2*holding time), detected results are estimated (J), and non-detected results are rejected (R).
3. If metals pH > 2, all sample results are estimated (J).
4. For cyanide samples:
   a. If the pH is greater than or equal to 12, no action is taken.
   b. If the pH is greater than or equal to 8 and less than 12, sample results are estimated (J).
   c. If the pH is less than 8, detected results are estimated (J), and non-detected results are rejected (R).

Reasons:
1. Holding times were exceeded.
2. Holding times were grossly exceeded.
99. See hard copy for further explanation.

Validated By: Harry Hendler

Reviewed By: [signature]

ANALYTE	HOLDING TIME	PRESERVATIVE
		AQUEOUS
Metals	180 days	pH <2 w/HN03
Mercury	28 days	pH <2 w/HN03
Cyanide	14 days	pH >12 w/NaOH

Holding Time = Analysis Date - Collection Date

met1/work11t

254

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

II A METAL ANALYSIS PARAMETERS WORKSHEET -- ICP CALIBRATIONS

BATCH: 97A2439

List all ICP analytes that did not meet the percent recovery criteria for initial calibration verification (ICV), continuing calibration verification (CCV) and/or CRDL check sample (CRI) standards.
NOTE: CRI criteria is not evaluated for Al, Ba, Ca, Fe, K, Mg, & Na
Detects are estimated up to 3*CRDL.

ICV CCV	CRDL CHECK SAMPLE	ANALYTE	TRUE	FOUND	% R	ACTION	SAMPLES AFFECTED	REASON
						None	within criteria	
	CRDL	Cr	5.0	3.58	71.6	J		105
		Fe	50.0	37.12	74.2			
		Mg	10	17.82	178.2			
		Ni	5.0	3.61	72.2			
		K	100	53.8	53.8			
		Tl	10	7.15	71.5	J UJ	01 02	
		Zn	5	10.01	200.2	J		

COMMENTS

Actions:

ICV/CCV Actions:

	PERCENT RECOVERY				
	<75%	75-89%	90-110%	111-125%	>125%
Detected results	R	J	V	J	R
Non-detected Results	R	UJ	V	V	V

CRI Actions:

	PERCENT RECOVERY			
	<40%	40-79%	80-120%	>120%
Detected results	J	J	V	J
Non-detects	R	UJ	V	V

Reasons:
4. Calibration verification criteria were not met.
CRDL check sample recovery criteria were not met.
Incorrect calibration of instrument.

Note: When validating a soil matrix, use raw data to determine whether results exceed 3*CRDL.

# of calculations checked _____
# of calculations checked (technical review) _____

met2a/work11t

255

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

II B METAL ANALYSIS PARAMETERS WORKSHEET -- AA CALIBRATIONS

BATCH: _____

List all AA analytes that did not meet the percent recovery criteria for the ICV and/or CCV standards.

ICV CCV	ANALYTE	TRUE	FOUND	% R	ACTION	SAMPLES AFFECTED	REASON

1. Were the correct number of standards and blanks used to calibrate the instrument? Yes No

2. Is the initial calibration correlation coefficient > 0.995? Yes No

If no, list affected analytes and samples.

COMMENTS

Actions:

	PERCENT RECOVERY				
	<75%	75-89%	90-110%	111-125%	>125%
Detected results	R	J	V	J	R
Non-detected Results	R	UJ	V	V	V

1. If three standards and a blank were not used for initial calibration, or the instrument was not calibrated daily and each time the instrument was set up, qualify the data as rejected (R).
2. If the initial calibration correlation coefficient was less than 0.995, qualify sample results as estimated (J).

Reasons:

3. Initial calibration correlation coefficient <0.995.
4. Calibration verification criteria were not met.
6. Incorrect calibration of instrument.

# of calculations checked_____

# of calculations checked (technical review)_____

met2b/work11t

256

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

II C METAL ANALYSIS PARAMETERS WORKSHEET -- Hg CALIBRATIONS

BATCH: Q7A2439

List all mercury results that did not meet the percent recovery criteria for the ICV and/or CCV standards.

ICV CCV	TRUE	FOUND	% R	ACTION	SAMPLES AFFECTED	REASON
				None	w/in criteria	

1. Were the correct number of standards and blanks used to calibrate the instrument? (Yes) No
2. Is the initial calibration correlation coefficient > 0.995? (Yes) No 0.999

If no, list affected samples:

COMMENTS

Actions:

	PERCENT RECOVERY				
	<65%	65–79%	80–120%	121–135%	>135%
Detected results	R	J	V	J	R
Non–detected results	R	UJ	V	V	V

1. If four standards and a blank were not used for initial calibration, or the instrument was not calibrated daily and each time the instrument was set up, qualify the data as rejected (R).
2. If the initial calibration correlation coefficient was less than 0.995, qualify sample results as estimated (J).

Reasons:

Initial calibration correlation coefficient <0.995.
Calibration verification criteria were not met.

# of calculations checked_____
# of calculations checked (technical review)_____

met2c/work11t

257

QUANTALEX, INC.

VERSION 1.1
NOVEMBER

II D METAL ANALYSIS PARAMETERS WORKSHEET -- CN CALIBRATIONS

BATCH: _____

List all cyanide results that did not meet the percent recovery criteria for the ICV and/or CCV standards.

ICV CCV	TRUE	FOUND	%R	ACTION	SAMPLES AFFECTED	REASON

1. Were the correct number of standards and blanks used to calibrate the instrument? Yes No

2. Is the initial calibration correlation coefficient > 0.995? Yes No

If no, list affected samples:

3. Was a mid-range standard (or ICV) distilled? Yes No

If no, list affected samples:

COMMENTS

Actions:

	PERCENT RECOVERY				
	<70%	70-84%	85-115%	116-130%	>130%
Detected results	R	J	V	J	R
Non-detected results	R	UJ	V	V	V

1. If three standards and a blank were not used for initial calibration, or the instrument was not calibrated daily and each time the instrument was set up, qualify the data as rejected (R).
2. If the initial calibration correlation coefficient was less than 0.995, qualify samples results as estimated (J).
3. If a mid-range standard (or ICV) was not distilled, qualify sample results as estimated (J).

Reasons:

3. Initial calibration correlation coefficient <0.995.
4. Calibration verification criteria were not met.
6. Incorrect calibration of instrument.
6. Incorrect calibration of instrument.

258

# of calculations checked _____

# of calculations checked (technical review)_____

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

III METAL ANALYSIS PARAMETERS WORKSHEET -- BLANKS

MATRIX: Solid BATCH: 97A2439

List the largest positive AND negative blank result >=|IDL| below. Use one worksheet for soil matrix and another for water matrix.

ICB CCB MB	IDL	ANALYTE	BLANK CONC.	5 * Bl. Conc.	ACTION LEVEL	SAMPLES AFFECTED	REASON
MB	2.5	As	4.580	22.9	UJ	all	107
MB	0.3	Cd	0.51	2.55	UJ	all	107
MB		Cu	2.935		UJ	02	107
MB	1.2	Pb	1.256		UJ	01	
MB		Ni			UJ	02	
ICB		Se	3.0		UJ	02	
CCB5		Ag	1.8		UJ	02	
MB		Na	1596000		UJ	all	
CCB5		Tl	2.7		UJ	01	
CCB4		V	0.8		UJ	all	
CCB4		Sb	2.5		UJ	all	

COMMENTS

Actions:

Use the MB or ICB/CCBs with the highest concentration, positive and negative, from the associated run.

1. If |Blank| < IDL, no action is taken.
2. If Blank >= IDL, then all sample results >= IDL and < 5*Blank are estimated (UJ).
3. If Blank =< -IDL, all sample results >= IDL and < 5*|Blank| are estimated (J).
4. If Blank =< -IDL and raw data sample result is =< IDL:
   a. If |Blank-Sample| >= 2*IDL, then non-detected results are rejected (R).
   b. If |Blank-Sample| >= IDL and < 2*IDL, then non-detected results are estimated (UJ).
   c. If |Blank-Sample| < IDL, then no action is taken.

Reasons:

7. Analyte values >= IDL were found in the blanks.
8. Negative bias was indicated in the blanks.

met3/work11t

269 4+5

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

IV A METAL ANALYSIS PARAMETERS WORKSHEET – ICP INTERFERENCE CHECK SAMPLE

BATCH: 97A2439

NOTE: The sample results can be accepted without qualification if the sample concentrations of Al, Ca, Fe, and Mg are less than 50% of the concentration found in the ICSA solution.

Were Interference Check Samples run at the beginning and end of each sample analysis run, or a minimum of twice per 8–hour shift (whichever is more frequent)? Yes No

Examine the sample results and list any Al, Ca, Fe, or Mg results that are greater than 50% of ICSA values.

SAMPLE ID	ANALYTE	SAMPLE RESULT	ICS VALUE	COMMENTS
			None	

List any analytes in the ICS AB solution that did not meet the criteria of 80–120% R.

ANALYTE	% R	ACTION	SAMPLES AFFECTED	REASON
		None within criteria		
COMMENTS				

Actions:

	PERCENT RECOVERY			
	<50%	50–79%	80–120%	>120%
Detected results	R	J	V	J
Non–detected results	R	UJ	V	V

Reasons:
9. Possible interference as indicated in the Interference Check Sample.
99. See hardcopy for further explanation.

# of calculations checked _____
# of calculations checked (technical review)_____

met4a/work11t

260

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

IV B METAL ANALYSIS PARAMETERS WORKSHEET – ICP INTERFERENCE CHECK SAMPLE

BATCH: _____

Report the concentration of any analytes detected in the ICSA solution >= 2 * |IDL| that should not be present.

ANALYTE	ICSA RESULT	SAMPLE RESULT(S)	ACTION	SAMPLE(S) AFFECTED	REASON

Actions:

If the ICSA value >= 2* the positive IDL:
1. For non–detected results, no action is taken.
2. Estimate (J) all detected results <= 5*ICSA.

If the ICSA value <= –2* IDL:
1. Estimate (J) detected results <= 5*|ICSA|.
2. Estimate (UJ) non–detected results.

Reasons:
9. Possible interference as indicated in the ICP Interference Check Sample.
9. See hardcopy for further explanation.

met4b/work11t

261

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

V A METAL ANALYSIS PARAMETERS WORKSHEET -- PRE-DIGESTION MATRIX SPIKE

MATRIX: _____ BATCH: _____

List all parameters that do not meet the percent recovery criteria. Note: The pre-digestion spike recovery criteria are not evaluated for Ca, Mg, K, Na, Al, and Fe for soil samples, and Ca, Mg, K, and Na for water samples.
If the sample result exceeds the spike added by a factor of 4 or more, no action is taken.

SAMPLE ID	ANALYTE	SPIKED SAMPLE RESULT	SAMPLE RESULT	SPIKE ADDED	% R	ACTION	SAMPLES AFFECTED	REASON
NA								
Just case narrative states MS/MSD analyzed for another batch of sample and was w/ in criteria								
11	Hg					None	w/in criteria	

1. Was a pre-digestion matrix spike prepared at the required frequency of once every 20 samples, or every SDG (whichever is more frequent)? Yes No
2. Was a post-digestion matrix spike analyzed for all ICP elements, except Silver, that did not meet the pre-digestion matrix spike recovery criteria? Yes No

COMMENTS

1. If any analyte does not meet the % R criteria, qualify all associated samples using the following criteria:
Actions:

	Percent Recovery			
	<30%	30-74%	75-125%	>125%
Detected results	J	J	V	J
Non-detected results	R	UJ	V	V

Reasons:
12. Pre-digestion matrix spike recovery were not met (+/- 25 percent).
13. Pre-digestion matrix spike recovery criteria were not met (<30 percent).

262 # of calculations checked _____
# of calculations checked (technical review)_____

met5a/work11t

QUANTALEX, INC. VERSION 1.1
NOVEMBER 1992

VB METAL ANALYSIS PARAMETERS WORKSHEET -- ANALYTICAL SPIKE ANALYSIS

BATCH: ______

1. Spike Recovery: One point analytical spikes were performed for all samples? Yes No
List all samples that did not meet the 85-115 % recovery criteria.

ANALYTE	SAMPLE ID	SAMPLE RESULT	SPIKED SAMPLE RESULT	TRUE SPIKE VALUE	%R	ACTION	COMMENT	REASON
N/A								

COMMENTS

If the sample result is <50% of the spike result, or the sample result is >50% of the spike result* and the percent recovery is <40% or between 85-115%, the following apply.

Actions:	PERCENT RECOVERY <10%	10-84%	85-115%	>115%
Detected results	J	J	V	J
Non-detected results	R	UJ	V	V

*Spike result = |spiked sample result - sample result|

Reasons:

Post-digestion matrix spike recovery criteria were not met.

# of calculations checked ______

# of calculations checked (technical review) ______

263

QUANTALEX, INC.

VERSION 1.1
NOVEMBER

VI METAL ANALYSIS PARAMETERS WORKSHEET -- LABORATORY DUPLICATES

MATRIX: Solid BATCH: 94A2439

List all parameters that do not meet % difference or CRDL criteria.

SAMPLE ID	ANALYTE	SAMPLE VALUE	DUP. VALUE	RPD	DIFFERENCE	ACTION	SAMPLES AFFECTED	REASON
						None	w/in criteria	

COMMENTS

Actions:

1. AQUEOUS

If sample value > 5*CRDL, estimate (J) all sample results if the RPD is > 20%.

If sample value < 5*CRDL, and the difference between the duplicate and the original is > CRDL, estimate (J) all sample results.

2. SOLID

If sample value > 5*CRDL, estimate (J) all sample results if the RPD is > 35%.

If sample value < 5*CRDL, and the difference between the duplicate and the original is > 2*CRDL, estimate (J) all sample results.

*Difference = |Sample result – Duplicate sample result|

Reasons:

11. Duplicate sample precision criteria were not met.

# of calculations checked _____

# of calculations checked (technical review) _____

met6/work11t

264

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

VII METAL ANALYSIS PARAMETERS WORKSHEET---LAB CONTROL SAMPLES

MATRIX: Solid BATCH: 97A2459

List all parameters that do not meet the percent recovery criteria.

LCS ID	ANALYTE	TRUE VALUE	FOUND VALUE	% R	ACTION	SAMPLES AFFECTED	REASON
					None	w/in criteria	
COMMENTS							

Exception: antimony, silver, cyanide, and aqueous mercury have no control limits.

Actions:

	PERCENT RECOVERY			
1. AQUEOUS LCS	<50%	50–79%	80–120%	>120%
Detected results	J	J	V	J
Non–detected results	R	UJ	V	V

2. SOLID LCS

	BELOW CONTROL LIMITS	WITHIN CONTROL LIMITS	ABOVE CONTROL LIMITS
Detected results	J	V	J
Non–detected results	UJ	V	V

Reasons:

10. Lab Control Sample recovery criteria were not met.

# of calculations checked _____

# of calculations checked (technical review) _____

met7/work11t

265

QUANTALEX, INC.

VERSION 1.1
NOVEMBER

VIII METAL ANALYSIS PARAMETERS WORKSHEET -- FURNACE AA ANALYSIS

BATCH: _____

If the sample result is > 50% of the spike result and the percent recovery was between 40--84% or >115%, then MSA must be performed.

List all samples for which an MSA analysis was required but not performed, or MSA results were outside control limits.

ANALYTE	SAMPLE ID	CORR. COEFF.	ACTION	COMMENT	REASON

Actions:

1. Estimate (J) if an MSA was required and not performed.
2. If the correlation coefficient was < 0.995, the MSA should be performed a second time. Estimate (J) results greater than IDL, and estimate (UJ) non-detects if a reanalysis was not performed, or the reanalysis correlation coefficient was < 0.995.

List all samples > CRDL whose duplicate injections did not agree within 20% RSD or CV, or samples in which duplicate injections were not performed

ANALYTE	SAMPLE ID	SAMPLE RESULT	DUPLICATE RESULT	%RSD or CV	IDL	ACTION	COMMENT	REASON

*Spike result = |spiked sample result – sample result|

Actions:

1. Estimate (J) detected results greater than the CRDL if duplicate injections are outside 20% RSD.
2. Estimate (J) all sample results if duplicate injections were not performed.

Reasons:

15. MSA was required but not performed.
16. MSA calibration correlation coefficient < 0.995.
20. AA duplicate injection precision criteria were not met.

# of calculations checked _____

# of calculations checked (technical review) _____

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

IX METAL ANALYSIS PARAMETERS WORKSHEET -- ICP SERIAL DILUTION ANALYSIS

MATRIX: Solid BATCH: 97A2439

Serial dilution criteria only applies if the original sample result is at least 50*IDL and %D >10%.

ANALYTE	IDL	50*IDL	SAMPLE RESULT	SERIAL DILUTION RESULT	% D	ACTION	SAMPLES AFFECTED	REASON
NA								
Best case narrative states serial dilution analyzed for								
another batch of sample and was w/in criteria.								

INDUCTIVELY COUPLED PLASMA SERIAL DILUTION ANALYSIS:

Serial dilutions were performed for each matrix and results of the diluted sample analysis agreed within ten percent of the original undiluted analysis. Yes No

Serial dilutions were not performed for the following:

COMMENTS

Actions:
Estimate (J) detected results if %D is > 10%.

Reasons:
17. Serial dilution criteria were not met.

# of calculations checked _____
# of calculations checked (technical review) _____

met9/work11t

267

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

X METAL ANALYSIS PARAMETERS WORKSHEET -- SAMPLE RESULT VERIFICATION

MATRIX: Solid BATCH: 97A2439

1. Describe any raw data anomalies (i.e. baseline shifts, negative absorbances, legibility, etc.)

None

2. Describe any transcription or calculation errors.

None

3. Do any results fall outside the linear range of the ICP instruments, as reported on EPA Form XII, that were not reanalyzed? Yes (No)

If yes, list all affected analytes and samples:

4. Were linear ranges obtained within 3 months of, and preceding, the sample analyses? (Yes) No

If no, request data resubmittal.

5. Do any results fall outside the calibrated range of the instrument for AA or Cyanide and were not reanalyzed? Yes (No)

If yes, list all affected analytes and samples:

6. Were interelement corrections obtained within 12 months of, and preceding, the sample analyses? (Yes) No

If no, request data resubmittal.

COMMENTS

met10/work11t

268

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

XI METAL ANALYSIS PARAMETERS WORKSHEET -- DETECTION LIMIT RESULTS

BATCH: 97A2439

YES OR NO	
	1. Instrument Detection Limits
Y	Instrument Detection limits were present and found to be less than CRDL
Y	IDLs were included in the data package on Form X.
Y	IDLs were obtained within 3 months of, and preceding, the sample analysis. If no, request data resubmittal.
	List the analytes for which the IDL criteria were not met:
	2. Reporting Requirements
Y	Were sample results on Form I reported down to the IDL not the CRDL for all analytes?
NA	Were sample results that were analyzed by ICP for Se, Tl, As, or Pb at least 5*IDL if IDL was > CRDL?
Y	Were sample weights, volumes, percent solids, and dilutions taken into account when reporting results on Form I?
	If No on any of the above, the reported results may be inaccurate. Make necessary changes on the data summary tables and request that the laboratory resubmit corrected Form I's.
	COMMENTS

Reasons:
25. Primary standard had exceeded expiration date.
26. No raw data.
52. Transcription error.
53. Calculation error.
55. Result exceeds linear range; serial dilution value reported.
56. IDL changed due to significant figure discrepancy.
57. Percent solids < 30 percent.
58. Percent solids < 10 percent.
99. See hardcopy for further explanation.

For Soil Samples Only:
# of calculations converting ug/L to mg/Kg _____
# of calculations converting ug/L to mg/Kg (technical review) _____

met11/work11t

269

SS05

Data Quality Assessment Report

Rocky Flats Environmental Technology Site

RIN Number	Analytical Method/PSA Line Item	Review Level
97A2442	CLP Metals SS08B007	Validation
Analytical Laboratory	**Assessment Performed by**	**Number of Samples/ Matrix**
General Engineering Lab.	QuantaLex, Inc.	4/Solid 1/Water

Sample Numbers: BP17010RM, BP17011RM, BP17012RM, BP17013RM, and BP17014RM

Quality Control Item	Reviewed	Non-Compliance Identified
General (Cover Page, Table of Contents, DRC Checklist, General SDP Requirements Narrative)	Y	N
Chain of Custody, Preservation, and Holdings	Y	N
Sample Results	Y	N
Calibration Verification, CRDL Standard	Y	Action Item 1
Verification and Preparation Blanks	Y	Action Item 2, 3
Interference Check Sample	Y	N
Matrix Spike	N	Comment 1
Duplicates	Y	N
Laboratory Control Sample	Y	N
Standard Additions	Y	N
ICP Serial Dilution	N	Comment 2
Instrument Detection Limits	Y	N
Other: Interelement Correction Factors, Linear Range Studies, Preparation Logs, Instrument Run Log	Y	N
Preparation and Instrument RAW Data	Y	N
Standards	Y	N
EDD	N	N/A

Y Item was reviewed or non-compliance was identified

N Item was not reviewed or non-compliance was not identified

N/A Item is not applicable to the Line Item

Action Items:

1. The following sample results were qualified as estimated and undetected (UJ) due to the CRDL percent recovery criteria were not met:

   - Chromium in all samples
   - Iron in all samples
   - Nickel in all samples
   - Thallium in all samples
   - Zinc in all samples **[105]**

2. The following sample results were qualified as estimated and undetected (UJ) due to elevated blank levels:

   - Aluminum, Calcium, Cobalt, Iron, Magnesium, Sodium, Strontium, and Uranium in sample BP17013RM
   - Arsenic in samples BP17010RM, BP17012RM, and BP17014RM
   - Cadmium and Silver in all samples
   - Selenium in samples BP17010RM, BP17011RM, and BP17012RM
   - Thallium in samples BP17010RM and BP17014RM
   - Vanadium in samples BP17010RM, BP17011RM, BP17012RM, BP17013RM
   - Tin in samples BP17011RM, BP17012RM, BP17013RM, and BP17014RM
   - Lead in samples BP17011RM, BP17012RM, and BP17013RM
   - Sodium in samples BP17010RM, BP17011RM, BP17012RM, and BP17014RM **[107]**

3. The following sample results were qualified as estimated (J) due to negative blank results:

   - Chromium and Copper in sample BP17013RM **[108]**
   - Thallium in sample BP17011RM **[108]**

Comments:

1. The case narrative states the matrix spike (MS) and matrix spike duplicate (MSD) were performed on SDG 97A2437. The MS/MSD percent recovery and relative percent difference for this SDG were within criteria.

2. The case narrative states the ICP serial dilution were performed on SDG 97A2437. The ICP serial dilution percent recovery for this SDG were within criteria

Verification/Validation Signature _____ Date: 12/22/97

Reviewer Signature _____ Date: 12/22/97
(*Validation Only*)

271

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2442-005.009

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC00497_

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2442

Matrix (soil/water): WATER Lab Sample ID: 9708584-01

Level (low/med): LOW__ Date Received: 08/27/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	426	_		P_	
7440-36-0	Antimony_	1.8	U		P_	
7440-38-2	Arsenic__	3.5	B		P_	WJ,107
7440-39-3	Barium___	624	_		P_	
7440-41-7	Beryllium	2.6	_		P_	
7440-43-9	Cadmium__	0.65	B		P_	WJ,107
7440-70-2	Calcium__	34200	_		P_	
7440-47-3	Chromium_	72.4	_		P_	J,105
7440-48-4	Cobalt___	92.4	_		P_	
7440-50-8	Copper___	22.3	B		P_	
7439-89-6	Iron_____	5910	_		P_	J,105
7439-92-1	Lead_____	8.4	B		P_	
7439-95-4	Magnesium	6790	_		P_	
7439-96-5	Manganese	3610	_		P_	
7440-02-0	Nickel___	48.7	_		P_	J,105
7440-09-7	Potassium	2780	B		P_	J,105
7782-49-2	Selenium_	4.3	B		P_	WJ,107
7440-22-4	Silver___	0.97	B		P_	WJ,107
7440-23-5	Sodium___	1360000	_		P_	WJ,107
7440-28-0	Thallium_	4.4	B		P_	~~J~~,105 WJ,107
7440-62-2	Vanadium_	0.41	B		P_	WJ,107
7440-66-6	Zinc_____	50.7	_		P_	J,105
7440-31-5	Tin_____	1.3	U		P_	
7440-61-1	Uranium__	9.0	U		P_	
7440-24-6_	Strontium	195	B		P_	
7439-93-2_	Lithium__	5.6	B		P_	
7439-97-6_	Mercury__	1.0	U		AV	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

272

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2442-009.014

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2442

Matrix (soil/water): WATER Lab Sample ID: 9708584-02

Level (low/med): LOW__ Date Received: 08/27/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	550	_		P_	
7440-36-0	Antimony_	1.8	U		P_	
7440-38-2	Arsenic__	2.5	U		P_	
7440-39-3	Barium___	309	_		P_	
7440-41-7	Beryllium	3.5	_		P_	
7440-43-9	Cadmium__	0.50	B		P_	uJ,107
7440-70-2	Calcium__	36900	_		P_	
7440-47-3	Chromium_	131	_		P_	J,105
7440-48-4	Cobalt___	146	_		P_	
7440-50-8	Copper___	234	_		P_	
7439-89-6	Iron____	20900	_		P_	J,105
7439-92-1	Lead____	4.9	B		P_	uJ,107
7439-95-4	Magnesium	8010	_		P_	
7439-96-5	Manganese	481	_		P_	
7440-02-0	Nickel___	60.6	_		P_	J,105
7440-09-7	Potassium	2190	B		P_	J,105
7782-49-2	Selenium_	3.3	B		P_	uJ,107
7440-22-4	Silver___	1.7	B		P_	uJ,107
7440-23-5	Sodium___	1390000	_		P_	uJ,107
7440-28-0	Thallium_	2.4	U		P_	uJ,105,108
7440-62-2	Vanadium_	0.70	B		P_	uJ,107
7440-66-6	Zinc____	1400	_		P_	J,105
7440-31-5	Tin_____	3.2	B		P_	uJ,107
7440-61-1	Uranium__	9.0	U		P_	
7440-24-6_	Strontium	231	_		P_	
7439-93-2_	Lithium__	5.1	B		P_	
7439-97-6_	Mercury__	1.0	U		AV	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

273

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2442-010.015

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHCO00497_

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2442

Matrix (soil/water): WATER Lab Sample ID: 9708584-03

Level (low/med): LOW__ Date Received: 08/27/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	519			P_	
7440-36-0	Antimony_	1.8	U		P_	
7440-38-2	Arsenic__	3.5	B		P_	uJ,107
7440-39-3	Barium__	322			P_	
7440-41-7	Beryllium	3.2			P_	
7440-43-9	Cadmium__	0.71	B		P_	uJ,107
7440-70-2	Calcium__	34400			P_	
7440-47-3	Chromium_	149			P_	J,105
7440-48-4	Cobalt___	124			P_	
7440-50-8	Copper___	228			P_	
7439-89-6	Iron____	21000			P_	J,105
7439-92-1	Lead____	5.2	B		P_	uJ,107
7439-95-4	Magnesium	6610			P_	
7439-96-5	Manganese	495			P_	
7440-02-0	Nickel___	63.3			P_	J,105
7440-09-7	Potassium	2140	B		P_	J,105
7782-49-2	Selenium_	3.7	B		P_	uJ,107
7440-22-4	Silver___	1.2	B		P_	uJ,107
7440-23-5	Sodium___	1360000			P_	uJ,107
7440-28-0	Thallium_	2.4	U		P_	uJ,105
7440-62-2	Vanadium_	0.53	B		P_	uJ,107
7440-66-6	Zinc____	1680			P_	J,105
7440-31-5	Tin____	1.5	B		P_	uJ,107
7440-61-1	Uranium__	9.0	U		P_	
7440-24-6_	Strontium	218			P_	
7439-93-2_	Lithium__	4.2	B		P_	
7439-97-6_	Mercury__	1.0	U		AV	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

274

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2442-011.016

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHCO00497_

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2442

Matrix (soil/water): WATER Lab Sample ID: 9708584-04

Level (low/med): LOW__ Date Received: 08/27/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	39.2	B		P_	WJ, 107
7440-36-0	Antimony_	1.8	U		P_	
7440-38-2	Arsenic__	2.5	U		P_	
7440-39-3	Barium___	139			P_	
7440-41-7	Beryllium	0.20	U		P_	
7440-43-9	Cadmium__	0.50	B		P_	WJ, 107
7440-70-2	Calcium__	126	B		P_	WJ, 107
7440-47-3	Chromium_	0.50	U		P_	WJ, 105, 108
7440-48-4	Cobalt___	1.1	B		P_	WJ, 107
7440-50-8	Copper___	7.3	B		P_	WJ, 105
7439-89-6	Iron____	40.6	B		P_	~~J~~, 105 WJ, 107
7439-92-1	Lead____	3.3	B		P_	WJ, 107
7439-95-4	Magnesium	18.9	B		P_	WJ, 107
7439-96-5	Manganese	1.1	U		P_	
7440-02-0	Nickel___	2.8	U		P_	WJ, 105
7440-09-7	Potassium	18.7	U		P_	WJ, 105
7782-49-2	Selenium_	2.3	U		P_	
7440-22-4	Silver___	1.2	B		P_	WJ, 107
7440-23-5	Sodium___	1350	B		P_	WJ, 107
7440-28-0	Thallium_	2.4	U		P_	WJ, 105
7440-62-2	Vanadium_	1.8	B		P_	WJ, 107
7440-66-6	Zinc____	60.6			P_	J, 105
7440-31-5	Tin____	1.7	B		P_	WJ, 107
7440-61-1	Uranium__	9.9	B		P_	WJ, 107
7440-24-6_	Strontium	2.2	B		P_	WJ, 107
7439-93-2_	Lithium__	1.0	U		P_	
7439-97-6_	Mercury__	1.0	U		AV	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

275

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

97A2442-013.018

Lab Name: GENERAL_ENGINEERING_LABS_ Contract: KHC000497_

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 97A2442

Matrix (soil/water): WATER Lab Sample ID: 9708584-05

Level (low/med): LOW__ Date Received: 08/27/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	418	_		P_	
7440-36-0	Antimony_	1.8	U		P_	
7440-38-2	Arsenic__	4.5	B		P_	uJ,107
7440-39-3	Barium___	396	_		P_	
7440-41-7	Beryllium	4.2	_		P_	
7440-43-9	Cadmium__	0.68	B		P_	uJ,107
7440-70-2	Calcium__	34600	_		P_	
7440-47-3	Chromium_	28.2	_		P_	J,105
7440-48-4	Cobalt___	166	_		P_	
7440-50-8	Copper___	38.6	_		P_	
7439-89-6	Iron____	11300	_		P_	J,105
7439-92-1	Lead____	8.8	B		P_	
7439-95-4	Magnesium	7180	_		P_	
7439-96-5	Manganese	2920	_		P_	
7440-02-0	Nickel___	96.1	_		P_	J,105
7440-09-7	Potassium	2600	B		P_	J,105
7782-49-2	Selenium_	2.3	U		P_	
7440-22-4	Silver___	0.67	B		P_	uJ,107
7440-23-5	Sodium___	1320000	_		P_	uJ,107
7440-28-0	Thallium_	7.9	B		P_	J,105 uJ,107
7440-62-2	Vanadium_	0.40	U		P_	
7440-66-6	Zinc____	49.6	_		P_	J,105
7440-31-5	Tin____	1.4	B		P_	uJ,107
7440-61-1	Uranium__	9.0	U		P_	
7440-24-6_	Strontium	224	_		P_	
7439-93-2_	Lithium__	5.7	B		P_	
7439-97-6_	Mercury__	1.0	U		AV	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

276

QUANTALEX, INC.

VERSION 1.1
NOVEMBER [illegible]

I METAL ANALYSIS PARAMETERS WORKSHEET -- HOLDING TIMES
MATRIX: Solid / water BATCH: 97A7442 QU#: _____

SAMPLE ID	PRE-SERVED Y/N	DATE COLLECTED	ICP ANALYSIS DATE	As AA ANALYSIS DATE	Pb AA ANALYSIS DATE	Se AA ANALYSIS DATE	Tl AA ANALYSIS DATE	Hg CVAA ANALYSIS DATE	CN ANALYSIS DATE	Cs ANALYSIS DATE	ACTION	REASON
01	y	8/25/97	9/16/97					9/3/97			None	w/in criteria
02	↓	↓	↓					↓				
03												
04												
05	↓	↓	↓					↓				

COMMENTS

Actions:
1. If holding times are exceeded, all sample results are estimated (J).
2. If holding times are grossly exceeded (>= 2*holding time), detected results are estimated (J), and non-detected results are rejected (R).
3. If metals pH > 2, all sample results are estimated (J).
4. For cyanide samples:
   a. If the pH is greater than or equal to 12, no action is taken.
   b. If the pH is greater than or equal to 8 and less than 12, sample results are estimated (J).
   c. If the pH is less than 8, detected results are estimated (J), and non-detected results are rejected (R).

Reasons:
1. Holding times were exceeded.
2. Holding times were grossly exceeded.
99. See hard copy for further explanation.

Validated By: Harry Hendler

Reviewed By: [signature]

ANALYTE	HOLDING TIME	PRESERVATIVE AQUEOUS
Metals	180 days	pH <2 w/HN03
Mercury	28 days	pH <2 w/HN03
Cyanide	14 days	pH >12 w/NaOH

Holding Time = Analysis Date – Collection Date

met1/work11t

277

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

II A METAL ANALYSIS PARAMETERS WORKSHEET -- ICP CALIBRATIONS

BATCH: 97A2422

List all ICP analytes that did not meet the percent recovery criteria for initial calibration verification (ICV), continuing calibration verification (CCV) and/or CRDL check sample (CRI) standards.
NOTE: CRI criteria is not evaluated for Al, Ba, Ca, Fe, K, Mg, & Na
Detects are estimated up to 3*CRDL.

ICV CCV	CRDL CHECK SAMPLE	ANALYTE	TRUE	FOUND	% R	ACTION	SAMPLES AFFECTED	REASON
						None	w/in criteria	
	CRDL	Cr	5.0	3.58	71.6	J/UJ	01-03,05 04	4,05
CRI	CRDL	Fe	50	37.12	74.2		04	
		Ni	5.0	3.61	72.2	UJ	04	
		K	100	53.8	53.8	UJ	04	
		Tl	10	7.15	71.5	J/UJ	01,05 02,03,04	
		Zn	5	10.01	200.2	J		

COMMENTS

Actions:

ICV/CCV Actions:

	PERCENT RECOVERY				
	<75%	75-89%	90-110%	111-125%	>125%
Detected results	R	J	V	J	R
Non-detected Results	R	UJ	V	V	V

CRI Actions:

	PERCENT RECOVERY			
	<40%	40-79%	80-120%	>120%
Detected results	J	J	V	J
Non-detects	R	UJ	V	V

Reasons:
4. Calibration verification criteria were not met.
5. CRDL check sample recovery criteria were not met.
6. Incorrect calibration of instrument.

Note: When validating a soil matrix, use raw data to determine whether results exceed 3*CRDL.

# of calculations checked _____
# of calculations checked (technical review) _____

met2a/work11t

278

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

II B METAL ANALYSIS PARAMETERS WORKSHEET -- AA CALIBRATIONS

BATCH: _____

List all AA analytes that did not meet the percent recovery criteria for the ICV and/or CCV standards.

ICV CCV	ANALYTE	TRUE	FOUND	% R	ACTION	SAMPLES AFFECTED	REASON

1. Were the correct number of standards and blanks used to calibrate the instrument? Yes No

2. Is the initial calibration correlation coefficient > 0.995? Yes No

If no, list affected analytes and samples.

COMMENTS

Actions:

	PERCENT RECOVERY				
	<75%	75-89%	90-110%	111-125%	>125%
Detected results	R	J	V	J	R
Non-detected Results	R	UJ	V	V	V

1. If three standards and a blank were not used for initial calibration, or the instrument was not calibrated daily and each time the instrument was set up, qualify the data as rejected (R).
2. If the initial calibration correlation coefficient was less than 0.995, qualify sample results as estimated (J).

Reasons:

3. Initial calibration correlation coefficient <0.995.
4. Calibration verification criteria were not met.
6. Incorrect calibration of instrument.

# of calculations checked_____

# of calculations checked (technical review)_____

met2b/work11t

279

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

II C METAL ANALYSIS PARAMETERS WORKSHEET -- Hg CALIBRATIONS

BATCH: 97A2442

List all mercury results that did not meet the percent recovery criteria for the ICV and/or CCV standards.

ICV CCV	TRUE	FOUND	% R	ACTION	SAMPLES AFFECTED	REASON
				None	within criteria	

1. Were the correct number of standards and blanks used to calibrate the instrument? (Yes) No

2. Is the initial calibration correlation coefficient > 0.995? (Yes) No 0.999

If no, list affected samples:

COMMENTS

Actions:

	PERCENT RECOVERY				
	<65%	65–79%	80–120%	121–135%	>135%
Detected results	R	J	V	J	R
Non–detected results	R	UJ	V	V	V

1. If four standards and a blank were not used for initial calibration, or the instrument was not calibrated daily and each time the instrument was set up, qualify the data as rejected (R).
2. If the initial calibration correlation coefficient was less than 0.995, qualify sample results as estimated (J).

Reasons:

3. Initial calibration correlation coefficient <0.995.
4. Calibration verification criteria were not met.

# of calculations checked_____

# of calculations checked (technical review)_____

met2c/work11t

180

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

II D METAL ANALYSIS PARAMETERS WORKSHEET -- CN CALIBRATIONS

BATCH: _____

List all cyanide results that did not meet the percent recovery criteria for the ICV and/or CCV standards.

ICV CCV	TRUE	FOUND	%R	ACTION	SAMPLES AFFECTED	REASON
NA						

1. Were the correct number of standards and blanks used to calibrate the instrument? Yes No

2. Is the initial calibration correlation coefficient > 0.995? Yes No

If no, list affected samples:

3. Was a mid-range standard (or ICV) distilled? Yes No

If no, list affected samples:

COMMENTS

Actions:

	PERCENT RECOVERY				
	<70%	70-84%	85-115%	116-130%	>130%
Detected results	R	J	V	J	R
Non-detected results	R	UJ	V	V	V

1. If three standards and a blank were not used for initial calibration, or the instrument was not calibrated daily and each time the instrument was set up, qualify the data as rejected (R).
2. If the initial calibration correlation coefficient was less than 0.995, qualify samples results as estimated (J).
3. If a mid-range standard (or ICV) was not distilled, qualify sample results as estimated (J).

Reasons:

3. Initial calibration correlation coefficient <0.995.
4. Calibration verification criteria were not met.
6. Incorrect calibration of instrument.
6. Incorrect calibration of instrument.

# of calculations checked _____

# of calculations checked (technical review)_____

28

met2d/work11t

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

III METAL ANALYSIS PARAMETERS WORKSHEET -- BLANKS

MATRIX: Solid / Water BATCH: 97A2442

List the largest positive AND negative blank result >=|IDL| below. Use one worksheet for soil matrix and another for water matrix.

ICB CCB MB	IDL	ANALYTE	BLANK CONC.	5 * Bl. Conc.	ACTION LEVEL	SAMPLES AFFECTED	REASON
ICB		Al	7.1				
MB			33.205		UJ	04	107
CCB3			~~14.5~~ 25.6				
4			14.5				
CCB3	2.5	As	3.0	15	UJ	01,02,03	107
MB			3.581				
CCB4			3.4				
ICB		Ba	0.4				
CCB3			0.4				
MB			0.82				
CCB4			0.4				
ICB	0.3	Cd	0.6	3	UJ	all	107
CCB3			0.4				
4			0.5				
ICB	2.8	Ca	3.1				
MB			87.534	437.67	UJ	04	107
CCB4			6.7				
ICB	0.5	Cr	-1.6		UJ	04	108
CCB3			-0.9				
4			-1.3				
ICB		Co	0.8	1.6	UJ	04	107
CCB3			1.0				
MB			1.648				
CCB4			1.0				

COMMENTS

Actions:

Use the MB or ICB/CCBs with the highest concentration, positive and negative, from the associated run.

1. If |Blank| < IDL, no action is taken.
2. If Blank >= IDL, then all sample results >= IDL and < 5*Blank are estimated (UJ).
3. If Blank =< -IDL, all sample results >= IDL and < 5*|Blank| are estimated (J).
4. If Blank =< -IDL and raw data sample result is =< IDL:
   a. If |Blank-Sample| >= 2*IDL, then non-detected results are rejected (R).
   b. If |Blank-Sample| >= IDL and < 2*IDL, then non-detected results are estimated (UJ).
   c. If |Blank-Sample| < IDL, then no action is taken.

Reasons:

7. Analyte values >= IDL were found in the blanks.
8. Negative bias was indicated in the blanks.

Na
1 - 05
2 - 05,09,10,11,13
3 - 05,09,10,11,13

282

met3/work11t

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

III METAL ANALYSIS PARAMETERS WORKSHEET -- BLANKS

MATRIX: Solid/Water BATCH: 97A2442

List the largest positive AND negative blank result >= |IDL| below. Use one worksheet for soil matrix and another for water matrix.

ICB CCB MB	IDL	ANALYTE	BLANK CONC.	5 * Bl. Conc.	ACTION LEVEL	SAMPLES AFFECTED	REASON
CCB3	0.6	Cu	-1.8				
MB			0.77				
CCB4			-2.0	10	UJ	04	108
ICB	3.0	Fe	-11.3	56.5	UJ	04	107
CCB3			-7.8				
CCB4			-8.7				
ICB		Mg	4.6	23	UJ	04	107
CCB3			7.1				
MB			25.893				
CCB4			8.1				
ICB	18.7	K	-21.2				
CCB3			34.3				
MB			-44.483				
CCB4			-63.7				
ICB	2.3	Se	3.0	15	UJ	01-03	107
CCB3	0.6	Ag	1.7	8.5	UJ	all	
MB			1.403				
CCB4			1.5				
CCB4		Na	331.3	1655	UJ	04	107
MB	2.4	Tl	-2.845	14.225	UJ	01,05 02,	107 108
ICB		V	0.8				
CCB3			0.8				
MB			1.44	7.2	UJ	01-04	107
CCB4			0.8				
MB		Zn	4.398	21.99			
MB		Sb	4.192	20.96	UJ	02,03,04,05	107
COMMENTS							
MB		U	11.255		UJ	04	107
MB		Pb	1.256	6.28	UJ	02,03,04	107
MB		Na	1596000	7980000	UJ	01-03,05	107
Actions: MB		Strontium	2.663	13.3150	UJ	04	107

Use the MB or ICB/CCBs with the highest concentration, positive and negative, from the associated run.

1. If |Blank| < IDL, no action is taken.
2. If Blank >= IDL, then all sample results >= IDL and < 5*Blank are estimated (UJ).
3. If Blank =< -IDL, all sample results >= IDL and < 5*|Blank| are estimated (J).
4. If Blank =< -IDL and raw data sample result is =< IDL:
   a. If |Blank-Sample| >= 2*IDL, then non-detected results are rejected (R).
   b. If |Blank-Sample| >= IDL and < 2*IDL, then non-detected results are estimated (UJ).
   c. If |Blank-Sample| < IDL, then no action is taken.

Reasons:

7. Analyte values >= IDL were found in the blanks.
8. Negative bias was indicated in the blanks.

met3/work11t

283

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

IV A METAL ANALYSIS PARAMETERS WORKSHEET – ICP INTERFERENCE CHECK SAMPLE
BATCH: 9717442

NOTE: The sample results can be accepted without qualification if the sample concentrations of Al, Ca, Fe, and Mg are less than 50% of the concentration found in the ICSA solution.

Were Interference Check Samples run at the beginning and end of each sample analysis run, or a minimum of twice per 8–hour shift (whichever is more frequent)? Yes No

Examine the sample results and list any Al, Ca, Fe, or Mg results that are greater than 50% of ICSA values.

SAMPLE ID	ANALYTE	SAMPLE RESULT	ICS VALUE	COMMENTS
			None	

List any analytes in the ICS AB solution that did not meet the criteria of 80–120% R.

ANALYTE	% R	ACTION	SAMPLES AFFECTED	REASON
		None	w/in criteria	

COMMENTS

Actions:

	PERCENT RECOVERY			
	<50%	50–79%	80–120%	>120%
Detected results	R	J	V	J
Non–detected results	R	UJ	V	V

Reasons:
9. Possible interference as indicated in the Interference Check Sample.
99. See hardcopy for further explanation.

# of calculations checked _____
# of calculations checked (technical review)_____

met4a/work11t

284

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

IV B METAL ANALYSIS PARAMETERS WORKSHEET – ICP INTERFERENCE CHECK SAMPLE

BATCH: _____

Report the concentration of any analytes detected in the ICSA solution >= 2 * |IDL| that should not be present.

ANALYTE	ICSA RESULT	SAMPLE RESULT(S)	ACTION	SAMPLE(S) AFFECTED	REASON
NA					

Actions:

If the ICSA value >= 2* the positive IDL:
1. For non–detected results, no action is taken.
2. Estimate (J) all detected results <= 5*ICSA.

If the ICSA value <= –2* IDL:
1. Estimate (J) detected results <= 5*|ICSA|.
2. Estimate (UJ) non–detected results.

Reasons:
9. Possible interference as indicated in the ICP Interference Check Sample.
99. See hardcopy for further explanation.

met4b/work11t

285

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

V A METAL ANALYSIS PARAMETERS WORKSHEET -- PRE-DIGESTION MATRIX SPIKE
MATRIX: _____ BATCH: _____

List all parameters that do not meet the percent recovery criteria. Note: The pre-digestion spike recovery criteria are not evaluated for Ca, Mg, K, Na, Al, and Fe for soil samples, and Ca, Mg, K, and Na for water samples.
If the sample result exceeds the spike added by a factor of 4 or more, no action is taken.

SAMPLE ID	ANALYTE	SPIKED SAMPLE RESULT	SAMPLE RESULT	SPIKE ADDED	% R	ACTION	SAMPLES AFFECTED	REASON
NA								
Best case narrative ~~statis~~ MS/MSD analyzed for another batch of sample and ~~w/ w/o~~ was w/in criteria								

1. Was a pre-digestion matrix spike prepared at the required frequency of once every 20 samples, or every SDG (whichever is more frequent)? Yes No
2. Was a post-digestion matrix spike analyzed for all ICP elements, except Silver, that did not meet the pre-digestion matrix spike recovery criteria? Yes No

COMMENTS

1. If any analyte does not meet the % R criteria, qualify all associated samples using the following criteria:
Actions:

	Percent Recovery			
	<30%	30-74%	75-125%	>125%
Detected results	J	J	V	J
Non-detected results	R	UJ	V	V

Reasons:
12. Pre-digestion matrix spike recovery were not met (+/- 25 percent).
13. Pre-digestion matrix spike recovery criteria were not met (<30 percent).

286

# of calculations checked _____
# of calculations checked (technical review)

met5a/work11t

QUANTALEX, INC. VERSION 1.1
NOVEMBER 1992

VB METAL ANALYSIS PARAMETERS WORKSHEET -- ANALYTICAL SPIKE ANALYSIS

BATCH: ______

1. Spike Recovery: One point analytical spikes were performed for all samples? Yes No
List all samples that did not meet the 85-115 % recovery criteria.

ANALYTE	SAMPLE ID	SAMPLE RESULT	SPIKED SAMPLE RESULT	TRUE SPIKE VALUE	%R	ACTION	COMMENT	REASON
NA								

COMMENTS

If the sample result is <50% of the spike result, or the sample result is >50% of the spike result*
and the percent recovery is <40% or between 85-115%, the following apply.

	PERCENT RECOVERY			
Actions:	<10%	10-84%	85-115%	>115%
Detected results	J	J	V	J
Non-detected results	R	UJ	V	V

*Spike result = |spiked sample result - sample result|

Reasons:

14. Post-digestion matrix spike recovery criteria were not met

\# of calculations checked ______
\# of calculations checked (technical review) ______

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

VI METAL ANALYSIS PARAMETERS WORKSHEET -- LABORATORY DUPLICATES

MATRIX: Solid / Water

BATCH: 97A244 2

List all parameters that do not meet % difference or CRDL criteria.

SAMPLE ID	ANALYTE	SAMPLE VALUE	DUP. VALUE	RPD	DIFFERENCE	ACTION	SAMPLES AFFECTED	REASON
						None	w/in criteria	

COMMENTS

Actions:

1. AQUEOUS

If sample value > 5*CRDL, estimate (J) all sample results if the RPD is > 20%.

If sample value < 5*CRDL, and the difference between the duplicate and the original is > CRDL, estimate (J) all sample results.

2. SOLID

If sample value > 5*CRDL, estimate (J) all sample results if the RPD is > 35%.

If sample value < 5*CRDL, and the difference between the duplicate and the original is > 2*CRDL, estimate (J) all sample results.

*Difference = |Sample result – Duplicate sample result|

Reasons:

11. Duplicate sample precision criteria were not met.

# of calculations checked ________

# of calculations checked (technical review) ________

met6/work11t

288

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

VII METAL ANALYSIS PARAMETERS WORKSHEET--LAB CONTROL SAMPLES

MATRIX: Solid / Water BATCH: 97A2412

List all parameters that do not meet the percent recovery criteria.

LCS ID	ANALYTE	TRUE VALUE	FOUND VALUE	% R	ACTION	SAMPLES AFFECTED	REASON
					None	w/in criteria	
COMMENTS							

Exception: antimony, silver, cyanide, and aqueous mercury have no control limits.

Actions:

	PERCENT RECOVERY			
1. AQUEOUS LCS	<50%	50–79%	80–120%	>120%
Detected results	J	J	V	J
Non-detected results	R	UJ	V	V

2. SOLID LCS

	BELOW CONTROL LIMITS	WITHIN CONTROL LIMITS	ABOVE CONTROL LIMITS
Detected results	J	V	J
Non-detected results	UJ	V	V

Reasons:

10. Lab Control Sample recovery criteria were not met.

# of calculations checked _____

# of calculations checked (technical review) _____

met7/work11t

289

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

METAL ANALYSIS PARAMETERS WORKSHEET -- FURNACE AA ANALYSIS

BATCH: _____

If the sample result is > 50% of the spike result and the percent recovery was between 40–84% or >115%, then MSA must be performed.
List all samples for which an MSA analysis was required but not performed, or MSA results were outside control limits.

ANALYTE	SAMPLE ID	CORR. COEFF.	ACTION	COMMENT	REASON

Actions:
1. Estimate (J) if an MSA was required and not performed.
2. If the correlation coefficient was < 0.995, the MSA should be performed a second time. Estimate (J) results greater than IDL, and estimate (UJ) non–detects if a reanalysis was not performed, or the reanalysis correlation coefficient was < 0.995.

List all samples > CRDL whose duplicate injections did not agree within 20% RSD or CV, or samples in which duplicate injections were not performed

ANALYTE	SAMPLE ID	SAMPLE RESULT	DUPLICATE RESULT	%RSD or CV	IDL	ACTION	COMMENT	REASON

*Spike result = |spiked sample result – sample result|

Actions:
1. Estimate (J) detected results greater than the CRDL if duplicate injections are outside 20% RSD.
2. Estimate (J) all sample results if duplicate injections were not performed.

Reasons:
15. MSA was required but not performed.
16. MSA calibration correlation coefficient < 0.995.
20. AA duplicate injection precision criteria were not met.

290

# of calculations checked _____
# of calculations checked (technical review) _____

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

IX METAL ANALYSIS PARAMETERS WORKSHEET -- ICP SERIAL DILUTION ANALYSIS

MATRIX: _____ BATCH: _____

Serial dilution criteria only applies if the original sample result is at least 50*IDL and %D >10%.

ANALYTE	IDL	50*IDL	SAMPLE RESULT	SERIAL DILUTION RESULT	% D	ACTION	SAMPLES AFFECTED	REASON
NA								
But case narrative states serial dilution analyzed for another batch of sample and was w/in criteria.								

INDUCTIVELY COUPLED PLASMA SERIAL DILUTION ANALYSIS:

Serial dilutions were performed for each matrix and results of the diluted sample analysis agreed within ten percent of the original undiluted analysis. Yes No

Serial dilutions were not performed for the following:

COMMENTS

Actions:
Estimate (J) detected results if %D is > 10%.

Reasons:
17. Serial dilution criteria were not met.

# of calculations checked _____
# of calculations checked (technical review) _____

met9/work11t

291

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 1992

X METAL ANALYSIS PARAMETERS WORKSHEET -- SAMPLE RESULT VERIFICATION

MATRIX: Solid / Water BATCH: 97A2242

1. Describe any raw data anomalies (i.e. baseline shifts, negative absorbances, legibility, etc.)

None

2. Describe any transcription or calculation errors.

None

3. Do any results fall outside the linear range of the ICP instruments, as reported on EPA Form XII, that were not reanalyzed? Yes (No)

If yes, list all affected analytes and samples:

4. Were linear ranges obtained within 3 months of, and preceding, the sample analyses? (Yes) No

If no, request data resubmittal.

5. Do any results fall outside the calibrated range of the instrument for AA or Cyanide and were not reanalyzed? Yes No

If yes, list all affected analytes and samples: N/A

6. Were interelement corrections obtained within 12 months of, and preceding, the sample analyses? (Yes) No

If no, request data resubmittal.

COMMENTS

292

met10/work11t

QUANTALEX, INC.

VERSION 1.1
NOVEMBER 199

XI METAL ANALYSIS PARAMETERS WORKSHEET -- DETECTION LIMIT RESULTS

BATCH: _____

YES OR NO	
	1. Instrument Detection Limits
Y	Instrument Detection limits were present and found to be less than CRDL.
Y	IDLs were included in the data package on Form X.
Y	IDLs were obtained within 3 months of, and preceding, the sample analysis. If no, request data resubmittal.
	List the analytes for which the IDL criteria were not met:
	2. Reporting Requirements
Y	Were sample results on Form I reported down to the IDL not the CRDL for all analytes?
N/A	Were sample results that were analyzed by ICP for Se, Tl, As, or Pb at least 5*IDL if IDL was > CRDL?
Y	Were sample weights, volumes, percent solids, and dilutions taken into account when reporting results on Form I?
	If No on any of the above, the reported results may be inaccurate. Make necessary
	changes on the data summary tables and request that the laboratory resubmit corrected Form I's.
	COMMENTS

Reasons:
25. Primary standard had exceeded expiration date.
26. No raw data.
52. Transcription error.
53. Calculation error.
55. Result exceeds linear range; serial dilution value reported.
56. IDL changed due to significant figure discrepancy.
57. Percent solids < 30 percent.
58. Percent solids < 10 percent.
99. See hardcopy for further explanation.

For Soil Samples Only:
# of calculations converting ug/L to mg/Kg _____
# of calculations converting ug/L to mg/Kg (technical review) _____

met11/work11t

293

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439
Reported on: Tuesday, September 02, 1997

BH17012RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot:	4
9708320-1	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v08320		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

294

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[redacted]	BH17012RM
[redacted]	9708320-1

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	750	ug/kg	630		

290

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
Client/Project ID: RIN #97A2438

Reported on: Friday, August 29, 1997

Field ID:	BH17011RM
Lab ID:	9708299-6

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: DRY WEIGHT

Date Collected: 19-Aug-97
Date Extracted: 28-Aug-97
Date Analyzed: 28-Aug-97
Prep Batch: v08299

Sample Aliquot: 4
Final Volume: 10
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
9.00	Siloxane	31	ug/l	J
10.76	Siloxane	66	ug/l	J
12.26	Siloxane	22	ug/l	J

296

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
Client/Project ID: RIN #97A2435

Reported on: Friday, August 29, 1997

Field ID: BH17011RM	Sample Matrix: liquid	Date Collected: 19-Aug-97	Sample Aliquot:	5
Lab ID: 9708299-5	% Moisture: N/A	Date Extracted: 28-Aug-97	Final Volume:	5
	Cleanup Method: NONE	Date Analyzed: 28-Aug-97	Dilution:	1
	Report Basis: AS RECEIVED	Prep Batch: V08299		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	55	ug/l	50	110	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	57.3	ug/l	50	115	85 - 115
2037-26-5	TOLUENE-D8	80.4	ug/l	80	101	88 - 110

U = Less than the Reporting Limit

297

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2438

Reported on: Friday, August 29, 1997

Field ID: BH17011RM	Sample Matrix: liquid	Date Collected: 18-Aug-97	Sample Aliquot: 5
Lab ID: 9708299-5	% Moisture: N/A	Date Extracted: 28-Aug-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 28-Aug-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v08299	

142-28-9	1,3-DICHLOROPROPANE	5	ug/l	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/l	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/l	5	U	
108-90-7	CHLOROBENZENE	5	ug/l	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/l	5	U	
100-41-4	ETHYLBENZENE	5	ug/l	5	U	
1330-20-7	TOTAL XYLENES	5	ug/l	5	U	
100-42-5	STYRENE	5	ug/l	5	U	
75-25-2	BROMOFORM	5	ug/l	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/l	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/l	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/l	5	U	
106-98-1	BROMOBENZENE	5	ug/l	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/l	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/l	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/l	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/l	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/l	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/l	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/l	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/l	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/l	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/l	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/l	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/l	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/l	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/l	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/l	5	U	
91-20-3	NAPHTHALENE	3.1	ug/l	5	J	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/l	5	U	

298

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: RIN #97A2438
Reported on: Friday, August 29, 1997

Field ID: SBH17011RM
Lab ID: 9708299-5

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 18-Aug-97
Date Extracted: 28-Aug-97
Date Analyzed: 28-Aug-97
Prep Batch: v08299

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/l	5	U	
74-87-0	CHLOROMETHANE	5	ug/l	5	U	
75-01-4	VINYL CHLORIDE	5	ug/l	5	U	
74-83-9	BROMOMETHANE	5	ug/l	5	U	
75-00-3	CHLOROETHANE	5	ug/l	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/l	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/l	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/l	5	U	
67-64-1	ACETONE	100	ug/l	100	U	
75-15-0	CARBON DISULFIDE	5	ug/l	5	U	
75-09-2	METHYLENE CHLORIDE	4.8	ug/l	5	J,B	
159-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/l	5	U	
75-34-5	1,1-DICHLOROETHANE	5	ug/l	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/l	5	U	
78-93-3	2-BUTANONE	100	ug/l	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/l	5	U	
67-66-3	CHLOROFORM	5	ug/l	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/l	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/l	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/l	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/l	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/l	5	U	
71-43-2	BENZENE	5	ug/l	5	U	
79-01-6	TRICHLOROETHENE	5	ug/l	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/l	5	U	
74-95-3	DIBROMOMETHANE	5	ug/l	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/l	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/l	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/l	50	U	
108-88-3	TOLUENE	5	ug/l	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/l	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/l	5	U	
591-78-6	2-HEXANONE	50	ug/l	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/l	5	U	

299

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
Client/Project ID: RIN #97A2435

Reported on: Friday, August 29, 1997

[redacted]	Sample Matrix: Solid	Date Collected: 18-Aug-97	Sample Aliquot: 4
[redacted]	% Moisture: N/A	Date Extracted: 28-Aug-97	Final Volume: 10
[redacted]	Cleanup Method: NONE	Date Analyzed: 28-Aug-97	Dilution: 50
	Report Basis: DRY WEIGHT	Prep Batch: v08298	

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

300

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN 897A2438
Reported on: Friday, August 29, 1997

[redacted]	Sample Matrix: Solid	Date Collected: 19-Aug-97	Sample Aliquot:	4
[redacted]	% Moisture: N/A	Date Extracted: 28-Aug-97	Final Volume:	10
[redacted]	Cleanup Method: NONE	Date Analyzed: 28-Aug-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v08299		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	50.9	ug/kg	50	102	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	48.1	ug/kg	50	96	76 - 127
2037-26-5	TOLUENE-D8	51.5	ug/kg	50	103	83 - 113

U = Less than the Reporting Limit

301

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2438 Reported on: Friday, August 29, 1997

Field ID: SH17010RM	Sample Matrix: Solid	Date Collected: 19-Aug-97	Sample Aliquot: 4
Lab ID: 9708299-4	% Moisture: N/A	Date Extracted: 28-Aug-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 28-Aug-97	Dilution: 60
	Report Basis: AS RECEIVED	Prep Batch: v08299	

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-5	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

302

Volatile Organics by GC/MS

Method SW8260.

Lab Name: Paragon Analytics, Inc.
Work Order Number: 8706299
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2438
Reported on: Friday, August 29, 1997

Field ID: BH17010RM
Lab ID: 8706299-4

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 19-Aug-97
Date Extracted: 29-Aug-97
Date Analyzed: 28-Aug-97
Prep Batch: v08299

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-8	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
75-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	1500	ug/kg	630	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

303

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: RIN #97A2438

Reported on: Friday, August 29, 1997

Field ID: [illegible]	Sample Matrix: Solid	Date Collected: 19-Aug-97	Sample Aliquot: 4
Lab ID: 9708299-3	% Moisture: N/A	Date Extracted: 28-Aug-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 28-Aug-97	Dilution: 50
	Report Basis: DRY WEIGHT	Prep Batch: v08299	

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

304

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: RIN 997A2438
Reported on: Friday, August 29, 1997

Field ID: SH17000RM	Sample Matrix: Solid	Date Collected: 19-Aug-97	Sample Aliquot:	4
Lab ID: 9708299-3	% Moisture: N/A	Date Extracted: 28-Aug-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 28-Aug-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v08288		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	52.9	ug/kg	50	106	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	49.5	ug/kg	50	99	78 - 127
2037-26-5	TOLUENE-D8	47.9	ug/kg	50	96	83 - 115

U = Less than the Reporting Limit

305

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co.; L.L.C.
ClientProject ID: RIN #97A2436
Reported on: Friday, August 29, 1997

Field ID: SH17008RM	Sample Matrix: Solid	Date Collected: 19-Aug-97	Sample Aliquot: 4
Lab ID: 9708299-3	% Moisture: N/A	Date Extracted: 28-Aug-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 28-Aug-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v08299	

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,3-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

306

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
Client/Project ID: RIN #97A2438

Reported on: Friday, August 29, 1997

Field ID:	BH17009RM
Lab ID:	9708299-3

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 19-Aug-97
Date Extracted: 28-Aug-97
Date Analyzed: 28-Aug-97
Prep Batch: v08298

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	1300	ug/kg	630	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

307

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
Client/Project ID: RIN #97A2438

Reported on: Friday, August 29, 1997

Client ID:	SH17008RM
Lab ID:	9708299-2

Sample Matrix:	Solid	Date Collected:	19-Aug-97	Sample Aliquot:	4
% Moisture:	N/A	Date Extracted:	28-Aug-97	Final Volume:	10
Cleanup Method:	NONE	Date Analyzed:	28-Aug-97	Dilution:	50
Report Basis:	DRY WEIGHT	Prep Batch:	v08299		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

308

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708269
Client Name: Kaiser-Hill Co., L.L.C.
Client/Project ID: RIN #97A2438

Reported on: Friday, August 29, 1997

[redacted]	Sample Matrix: Solid	Date Collected: 19-Aug-97	Sample Aliquot:	4
[redacted]	% Moisture: NA	Date Extracted: 28-Aug-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 28-Aug-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Method: v08259		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.8	ug/kg	50	100	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	51.9	ug/kg	50	104	76 - 127
2037-26-5	TOLUENE-D8	52.5	ug/kg	50	105	83 - 115

U = Less than the Reporting Limit

309

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2438

Reported on: Friday, August 29, 1997

[illegible]	[illegible]H17008RM
[illegible]	9708299-2

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 19-Aug-97
Date Extracted: 28-Aug-97
Date Analyzed: 28-Aug-97
Prep Batch: v08299

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

310

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN 697A2435
Reported on: Friday, August 29, 1997

[illegible]	Sample Matrix: Solid	Date Collected: 19-Aug-97	Sample Aliquot: 4
[illegible]	% Moisture: N/A	Date Extracted: 26-Aug-97	Final Volume: 10
[illegible] 9708299-2	Cleanup Method: NONE	Date Analyzed: 26-Aug-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: V06299	

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	1400	ug/kg	630	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

311

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #87A2438

Reported on: Friday, August 29, 1997

Field ID: BH17007RM	Sample Matrix: Solid	Date Collected: 19-Aug-97	Sample Aliquot: 4
Lab ID: 9708299-1	% Moisture: N/A	Date Extracted: 26-Aug-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 26-Aug-97	Dilution: 50
	Report Basis: DRY WEIGHT	Prep Batch: v08299	

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

312

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2438

Reported on: Friday, August 29, 1997

Field ID: BH17007RM	Sample Matrix: Solid	Date Collected: 19-Aug-97		Sample Aliquot:	4
Lab ID: 9708299-1	% Moisture: N/A	Date Extracted: 29-Aug-97		Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 28-Aug-97		Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v08299			

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.5	ug/kg	50	99	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	51.2	ug/kg	50	102	76 - 127
2037-26-5	TOLUENE-D8	51.7	ug/kg	50	103	63 - 115

U = Less than the Reporting Limit

313

Volatile Organics by GC/MS

Method SW8260

Lab Name: Pentagon Analytical, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: RIN #97A2435

Reported on: Friday, August 29, 1997

Field ID: SH17007RM
Lab ID: 9708299-1

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 19-Aug-97
Date Extracted: 28-Aug-97
Date Analyzed: 28-Aug-97
Prep Batch: V08299

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

314

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708299
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2438

Reported on: Friday, August 29, 1997

Field ID:	BH17007RM
Lab ID:	9708299-1

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 19-Aug-97
Date Extracted: 28-Aug-97
Date Analyzed: 28-Aug-97
Prep Batch: v08299

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	1600	ug/kg	630	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

315

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708223
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2437

Reported on: Tuesday, September 18, 1997

Client ID:	BH17006RM	Sample Matrix: Liquid	Date Collected: 18-Aug-97	Sample Aliquot:	5
Lab ID:	9708223-5	% Moisture: N/A	Date Extracted: 25-Aug-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 25-Aug-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v08223		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

316

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708223
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2437

Reported on: Tuesday, September 18, 1997

[redacted]	BH17006RM	Sample Matrix: Liquid	Date Collected: 18-Aug-97	Sample Aliquot:	5
[redacted]	9708223-5	% Moisture: N/A	Date Extracted: 25-Aug-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 25-Aug-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v08223		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.7	ug/L	50	99	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	49.6	ug/L	50	99	76 - 127
2037-26-5	TOLUENE-D8	50.7	ug/L	50	101	83 - 115

U = Less than the Reporting Limit

37

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708223
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2437
Reported on: Tuesday, September 18, 1997

BH17008RM	Sample Matrix: Liquid	Date Collected: 18-Aug-97	Sample Aliquot:	5
9708223-5	% Moisture: N/A	Date Extracted: 25-Aug-97	Final Volume:	5
	Cleanup Method: NONE	Date Analyzed: 25-Aug-97	Dilution:	1
	Report Basis: AS RECEIVED	Prep Batch: v08223		

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	2.2	ug/L	5	J	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

318

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708223
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2457
Reported on: Tuesday, September 16, 1997

[redacted] BH17006RM
[redacted] 9708223-5

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 18-Aug-97
Date Extracted: 25-Aug-97
Date Analyzed: 25-Aug-97
Prep Batch: v08223

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	7.3	ug/L	100	J	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	4.1	ug/L	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

39

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[redacted]	BH17005RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot:	4
[redacted]	9708320-6	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	46.4	ug/kg	50	93	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	48	ug/kg	50	96	76 - 127
2037-26-5	TOLUENE-D8	54.7	ug/kg	50	109	83 - 115

U = Less than the Reporting Limit

320

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439
Reported on: Tuesday, September 02, 1997

[redacted]	8H17005RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot:	4
[redacted]	9708320-6	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439
Reported on: Tuesday, September 02, 1997

[redacted]	8H17006RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot:	4
[redacted]	9708320-6	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	330	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

VOLATILE ORGANICS
Method 8260

Lab Name: Paragon Analytics, Inc.
Client Name: Kaiser-Hill Co., L.L.C.
Lab Sample ID: 9708223-4

Sample ID: BH17004RM

Analyte	Conc. (ug/kg)	Reporting Limit (ug/kg)
2-Hexanone	ND	2500
Tetrachloroethene	ND	625
1,3-Dichloropropane	ND	625
Dibromochloromethane	ND	625
1,2-Dibromoethane	ND	625
Chlorobenzene	ND	625
1,1,1,2-Tetrachloroethane	ND	625
Ethylbenzene	ND	625
m,p-Xylene	ND	625
o-Xylene	ND	625
Styrene	ND	625
Bromoform	ND	625
Isopropylbenzene	ND	625
1,2,3-Trichloropropane	ND	625
1,1,2,2-Tetrachloroethane	ND	625
Bromobenzene	ND	625
n-Propylbenzene	ND	625
2-Chlorotoluene	ND	625
1,3,5-Trimethylbenzene	ND	625
4-Chlorotoluene	ND	625
tert-Butylbenzene	ND	625
1,2,4-Trimethylbenzene	ND	625
sec-Butylbenzene	ND	625
1,3-Dichlorobenzene	ND	625
p-Isopropyltoluene	ND	625
1,4-Dichlorobenzene	ND	625
n-Butylbenzene	ND	625
1,2-Dichlorobenzene	ND	625
1,2-Dibromo-3-chloropropane	ND	1250
1,2,4-Trichlorobenzene	ND	625
Hexachlorobutadiene	ND	625
Naphthalene	ND	625
1,2,3-Trichlorobenzene	ND	625

SURROGATE RECOVERIES

Analyte	% Recovery	% Rec Limits
Dibromofluoromethane	89	76-127
Toluene-d8	104	83-115
Bromofluorobenzene	96	74-134

ND = Not Detected

323

VOLATILE ORGANICS
Method 8260

Sample ID: BH17004RM

Lab Name: Paragon Analytics, Inc.
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: Rocky Flats R.T.S. RIN 97A2437
Lab Sample ID: 9708223-4
Sample Matrix: Soil
Sample Weight: 0.04 g

Date Collected: 08-18-97
Date Analyzed: 08-25-97
Dilution Factor 125
Percent Moisture: 0

Analyte	Conc. (ug/kg)	Reporting Limit (ug/kg)
Dichlorodifluoromethane	ND	1250
Chloromethane	ND	1250
Vinyl chloride	ND	1250
Bromomethane	ND	1250
Chloroethane	ND	1250
Trichlorofluoromethane	ND	625
1,1-Dichloroethene	ND	625
Trichlorotrifluoroethane	ND	625
Acetone	ND	2500
Iodomethane	ND	625
Carbon Disulfide	ND	625
Methylene chloride	689	625
trans-1,2-Dichloroethene	ND	625
1,1-Dichloroethane	ND	625
Methyl-t-butyl-ether	ND	625
Vinyl acetate	ND	625
cis-1,2-Dichloroethene	ND	625
2-Butanone	ND	2500
Bromochloromethane	ND	625
Chloroform	ND	625
1,1,1-Trichloroethane	ND	625
2,2-Dichloropropane	ND	625
Carbon tetrachloride	ND	625
1,1-Dichloropropene	ND	625
1,2-Dichloroethane	ND	625
Benzene	ND	625
Trichloroethene	ND	625
1,2-Dichloropropane	ND	625
Dibromomethane	ND	625
Bromodichloromethane	ND	625
2-Chloroethyl vinyl ether	ND	1250
cis-1,3-Dichloropropene	ND	625
4-Methyl-2-Pentanone	ND	2500
Toluene	ND	625
trans-1,3-Dichloropropene	ND	625
1,1,2-Trichloroethane	ND	625

324

VOLATILE ORGANICS
Method 8260

Lab Name: Paragon Analytics, Inc.
Client Name: Kaiser-Hill Co., L.L.C.
Lab Sample ID: 9708223-3

Sample ID
SH17003RM

Analyte	Conc. (ug/kg)	Reporting Limit (ug/kg)
2-Hexanone	ND	2500
Tetrachloroethene	ND	625
1,3-Dichloropropane	ND	625
Dibromochloromethane	ND	625
1,2-Dibromoethane	ND	625
Chlorobenzene	ND	625
1,1,1,2-Tetrachloroethane	ND	625
Ethylbenzene	ND	625
m,p-Xylene	ND	625
o-Xylene	ND	625
Styrene	ND	625
Bromoform	ND	625
Isopropylbenzene	ND	625
1,2,3-Trichloropropane	ND	625
1,1,2,2-Tetrachloroethane	ND	625
Bromobenzene	ND	625
n-Propylbenzene	ND	625
2-Chlorotoluene	ND	625
1,3,5-Trimethylbenzene	ND	625
4-Chlorotoluene	ND	625
tert-Butylbenzene	ND	625
1,2,4-Trimethylbenzene	ND	625
sec-Butylbenzene	ND	625
1,3-Dichlorobenzene	ND	625
p-Isopropyltoluene	ND	625
1,4-Dichlorobenzene	ND	625
n-Butylbenzene	ND	625
1,2-Dichlorobenzene	ND	625
1,2-Dibromo-3-chloropropane	ND	1250
1,2,4-Trichlorobenzene	ND	625
Hexachlorobutadiene	ND	625
Naphthalene	ND	625
1,2,3-Trichlorobenzene	ND	625

SURROGATE RECOVERIES

Analyte	% Recovery	% Rec Limits
Dibromofluoromethane	94	76-127
Toluene-d8	103	83-115
Bromofluorobenzene	100	74-134

ND = Not Detected

325

VOLATILE ORGANICS
Method 8260

Lab Name: Paragon Analytics, Inc.
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: Rocky Flats E.T.S. RIN 97A2437
Lab Sample ID: 9708223-3
Sample Matrix: Soil
Sample Weight: 0.04 g

Sample ID: BH17003RM

Date Collected: 08-18-97
Date Analyzed: 08-25-97
Dilution Factor: 125
Percent Moisture: 0

Analyte	Conc. (ug/kg)	Reporting Limit (ug/kg)
Dichlorodifluoromethane	ND	1250
Chloromethane	ND	1250
Vinyl chloride	ND	1250
Bromomethane	ND	1250
Chloroethane	ND	1250
Trichlorofluoromethane	ND	625
1,1-Dichloroethene	ND	625
Trichlorotrifluoroethane	ND	625
Acetone	ND	2500
Iodomethane	ND	625
Carbon Disulfide	ND	625
Methylene chloride	685	625
trans-1,2-Dichloroethene	ND	625
1,1-Dichloroethane	ND	625
Methyl-t-butyl-ether	ND	625
Vinyl acetate	ND	625
cis-1,2-Dichloroethene	ND	625
2-Butanone	ND	2500
Bromochloromethane	ND	625
Chloroform	ND	625
1,1,1-Trichloroethane	ND	625
2,2-Dichloropropane	ND	625
Carbon tetrachloride	ND	625
1,1-Dichloropropene	ND	625
1,2-Dichloroethane	ND	625
Benzene	ND	625
Trichloroethene	ND	625
1,2-Dichloropropane	ND	625
Dibromomethane	ND	625
Bromodichloromethane	ND	625
2-Chloroethyl vinyl ether	ND	1250
cis-1,3-Dichloropropene	ND	625
4-Methyl-2-Pentanone	ND	2500
Toluene	ND	625
trans-1,3-Dichloropropene	ND	625
1,1,2-Trichloroethane	ND	625

326

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440
Reported on: Wednesday, September 03, 19

[redacted] BH17002RM
[redacted] 9708321-3

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 21-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	47.9	ug/l	50	96	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	46.5	ug/l	50	93	85 - 115
2037-26-5	TOLUENE-D8	52	ug/l	50	104	88 - 110

U = Less than the Reporting Limit

327

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440
Reported on: Wednesday, September 03, 19

[redacted]	SH17002RM
[redacted]	9708321-3

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 21-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440
Reported on: Wednesday, September 03, 19

[redacted] BH17002RM
[redacted] 9708321-3

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 21-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	5	ug/L	5	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

329

VOLATILE ORGANICS
Method 8260

Lab Name: Paragon Analytics, Inc.
Client Name: Kaiser-Hill Co., L.L.C.
Lab Sample ID: 9708223-2

Sample ID
BH17001RM

Analyte	Conc. (ug/kg)	Reporting Limit (ug/kg)
2-Hexanone	ND	2500
Tetrachloroethene	ND	625
1,3-Dichloropropane	ND	625
Dibromochloromethane	ND	625
1,2-Dibromoethane	ND	625
Chlorobenzene	ND	625
1,1,1,2-Tetrachloroethane	ND	625
Ethylbenzene	ND	625
m,p-Xylene	ND	625
o-Xylene	ND	625
Styrene	ND	625
Bromoform	ND	625
Isopropylbenzene	ND	625
1,2,3-Trichloropropane	ND	625
1,1,2,2-Tetrachloroethane	ND	625
Bromobenzene	ND	625
n-Propylbenzene	ND	625
2-Chlorotoluene	ND	625
1,3,5-Trimethylbenzene	ND	625
4-Chlorotoluene	ND	625
tert-Butylbenzene	ND	625
1,2,4-Trimethylbenzene	ND	625
sec-Butylbenzene	ND	625
1,3-Dichlorobenzene	ND	625
p-Isopropyltoluene	ND	625
1,4-Dichlorobenzene	ND	625
n-Butylbenzene	ND	625
1,2-Dichlorobenzene	ND	625
1,2-Dibromo-3-chloropropane	ND	1250
1,2,4-Trichlorobenzene	ND	625
Hexachlorobutadiene	ND	625
Naphthalene	ND	625
1,2,3-Trichlorobenzene	ND	625

SURROGATE RECOVERIES

Analyte	% Recovery	% Rec Limits
Dibromofluoromethane	93	76-127
Toluene-d8	105	83-115
Bromofluorobenzene	99	74-134

ND = Not Detected

330

VOLATILE ORGANICS
Method 8260

Sample ID
BH17001RM

Lab Name: Paragon Analytics, Inc.
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: Rocky Flats E.T.S. RIN 97A2437
Lab Sample ID: 9708223-2
Sample Matrix: Soil
Sample Weight: 0.04 g

Date Collected: #REF!
Date Analyzed: 08-25-97
Dilution Factor 125
Percent Moisture: 0

Analyte	Conc. (ug/kg)	Reporting Limit (ug/kg)
Dichlorodifluoromethane	ND	1250
Chloromethane	ND	1250
Vinyl chloride	ND	1250
Bromomethane	ND	1250
Chloroethane	ND	1250
Trichlorofluoromethane	ND	625
1,1-Dichloroethene	ND	625
Trichlorotrifluoroethane	ND	625
Acetone	ND	2500
Iodomethane	ND	625
Carbon Disulfide	ND	625
Methylene chloride	664	625
trans-1,2-Dichloroethene	ND	625
1,1-Dichloroethane	ND	625
Methyl-t-butyl-ether	ND	625
Vinyl acetate	ND	625
cis-1,2-Dichloroethene	ND	625
2-Butanone	ND	2500
Bromochloromethane	ND	625
Chloroform	ND	625
1,1,1-Trichloroethane	ND	625
2,2-Dichloropropane	ND	625
Carbon tetrachloride	ND	625
1,1-Dichloropropene	ND	625
1,2-Dichloroethane	ND	625
Benzene	ND	625
Trichloroethene	ND	625
1,2-Dichloropropane	ND	625
Dibromomethane	ND	625
Bromodichloromethane	ND	625
2-Chloroethyl vinyl ether	ND	1250
cis-1,3-Dichloropropene	ND	625
4-Methyl-2-Pentanone	ND	2500
Toluene	ND	625
trans-1,3-Dichloropropene	ND	625
1,1,2-Trichloroethane	ND	625

331

VOLATILE ORGANICS
Method 8260

Lab Name: Paragon Analytics, Inc.
Client Name: Kaiser-Hill Co., L.L.C.
Lab Sample ID: 9708223-1

Sample ID
BH17000RM

Analyte	Conc. (ug/kg)	Reporting Limit (ug/kg)
2-Hexanone	ND	2500
Tetrachloroethene	ND	625
1,3-Dichloropropane	ND	625
Dibromochloromethane	ND	625
1,2-Dibromoethane	ND	625
Chlorobenzene	ND	625
1,1,1,2-Tetrachloroethane	ND	625
Ethylbenzene	ND	625
m,p-Xylene	ND	625
o-Xylene	ND	625
Styrene	ND	625
Bromoform	ND	625
Isopropylbenzene	ND	625
1,2,3-Trichloropropane	ND	625
1,1,2,2-Tetrachloroethane	ND	625
Bromobenzene	ND	625
n-Propylbenzene	ND	625
2-Chlorotoluene	ND	625
1,3,5-Trimethylbenzene	ND	625
4-Chlorotoluene	ND	625
tert-Butylbenzene	ND	625
1,2,4-Trimethylbenzene	ND	625
sec-Butylbenzene	ND	625
1,3-Dichlorobenzene	ND	625
p-Isopropyltoluene	ND	625
1,4-Dichlorobenzene	ND	625
n-Butylbenzene	ND	625
1,2-Dichlorobenzene	ND	625
1,2-Dibromo-3-chloropropane	ND	1250
1,2,4-Trichlorobenzene	ND	625
Hexachlorobutadiene	ND	625
Naphthalene	ND	625
1,2,3-Trichlorobenzene	ND	625

SURROGATE RECOVERIES

Analyte	% Recovery	% Rec Limits
Dibromofluoromethane	91	76-127
Toluene-d8	103	83-115
Bromofluorobenzene	98	74-134

ND = Not Detected

332

VOLATILE ORGANICS
Method 8260

Lab Name: Paragon Analytics, Inc.
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: Rocky Flats E.T.S. RIN 97A2457
Lab Sample ID: 9708223-1
Sample Matrix: Soil
Sample Weight: 0.04 g

Sample ID: BH17000RM

Date Collected: 08-18-97
Date Analyzed: 08-25-97
Dilution Factor 125
Percent Moisture: 0

Analyte	Conc. (ug/kg)	Reporting Limit (ug/kg)
Dichlorodifluoromethane	ND	1250
Chloromethane	ND	1250
Vinyl chloride	ND	1250
Bromomethane	ND	1250
Chloroethane	ND	1250
Trichlorofluoromethane	ND	625
1,1-Dichloroethene	ND	625
Trichlorotrifluoroethene	ND	625
Acetone	ND	2500
Iodomethane	ND	625
Carbon Disulfide	ND	625
Methylene chloride	620 J	625
trans-1,2-Dichloroethene	ND	625
1,1-Dichloroethane	ND	625
Methyl-t-butyl-ether	ND	625
Vinyl acetate	ND	625
cis-1,2-Dichloroethene	ND	625
2-Butanone	ND	2500
Bromochloromethane	ND	625
Chloroform	ND	625
1,1,1-Trichloroethane	ND	625
2,2-Dichloropropane	ND	625
Carbon tetrachloride	ND	625
1,1-Dichloropropene	ND	625
1,2-Dichloroethane	ND	625
Benzene	ND	625
Trichloroethene	ND	625
1,2-Dichloropropane	ND	625
Dibromomethane	ND	625
Bromodichloromethane	ND	625
2-Chloroethyl vinyl ether	ND	1250
cis-1,3-Dichloropropene	ND	625
4-Methyl-2-Pentanone	ND	2500
Toluene	ND	625
trans-1,3-Dichloropropene	ND	625
1,1,2-Trichloroethane	ND	625

333

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[redacted]	BH17014RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot:	4
[redacted]	9708320-3	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.1	ug/kg	50	96	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	45.4	ug/kg	50	91	76 - 127
2037-26-5	TOLUENE-D8	51.8	ug/kg	50	104	83 - 115

U = Less than the Reporting Limit

334

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[redacted] BH17015RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot:	4
[redacted] 9708320-8	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v08320		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

335

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[redacted]	BH17015RM
[redacted]	9708320-8

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

336

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[redacted]	BH17015RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot:	4
[redacted]	9708320-8	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49	ug/kg	50	98	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	45.8	ug/kg	50	92	76 - 127
2037-26-5	TOLUENE-D8	50.4	ug/kg	50	101	83 - 115

U = Less than the Reporting Limit

331

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[redacted] BH17016RM
[redacted] 9708320-5

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

338

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[redacted]	BH17016RM
[redacted]	9708320-5

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Tuesday, September 02, 1997

[redacted]	BH17016RM	Sample Matrix: Solid	Date Collected: 20-Aug-97	Sample Aliquot:	4
[redacted]	9708320-5	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	51.9	ug/kg	50	104	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	45.5	ug/kg	50	91	76 - 127
2037-26-5	TOLUENE-D8	52.5	ug/kg	50	105	83 - 118

U = Less than the Reporting Limit

340

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 03, 19

[redacted] 9H17017RM
[redacted] 9708320-7

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	5.5	ug/L	100	J	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	5	ug/L	5	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

341

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 03, 19

[redacted]	BH17017RM	Sample Matrix:	liquid	Date Collected:	20-Aug-97	Sample Aliquot:	5
[redacted]	9708320-7	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
		Report Basis:	AS RECEIVED	Prep Batch:	v08324		

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

342

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2439

Reported on: Wednesday, September 03, 19

[redacted]	BH17917RM	Sample Matrix: liquid	Date Collected: 20-Aug-97	Sample Aliquot:	5
[redacted]	9708320-7	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v08324		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	47.9	ug/l	50	96	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	48.5	ug/l	50	97	85 - 115
2037-26-5	TOLUENE-D8	51.2	ug/l	50	102	88 - 110

U = Less than the Reporting Limit

343

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Tuesday, September 02, 1997

Client ID: BH17018RM	Sample Matrix: Solid	Date Collected: 21-Aug-97	Sample Aliquot: 4
Lab ID: 9708321-1	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v08320	

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	530	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

344

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Tuesday, September 02, 1997

[redacted]	BH17016RM	Sample Matrix: Solid	Date Collected: 21-Aug-97	Sample Aliquot:	4
[redacted]	9708321-1	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Tuesday, September 02, 1997

[redacted]	BH17018RM	Sample Matrix: Solid	Date Collected: 21-Aug-97	Sample Aliquot:	4
[redacted]	9708321-1	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.4	ug/kg	50	99	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	44.1	ug/kg	50	88	76 - 127
2037-26-5	TOLUENE-D8	52.7	ug/kg	50	105	83 - 115

U = Less than the Reporting Limit

346

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Tuesday, September 02, 1997

[illegible]	BH17018RM
[illegible]	9708321-1

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: DRY WEIGHT

Date Collected: 21-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

347

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Tuesday, September 02, 1997

[illegible]	BH17019RM	Sample Matrix: Solid	Date Collected: 21-Aug-97	Sample Aliquot:	4
[illegible]	9708321-2	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v06320		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	610	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

348

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Tuesday, September 02, 1997

Client ID:	BH17019RM
Lab ID:	9708321-2

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 21-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Tuesday, September 02, 1997

[redacted] BH17019RM	Sample Matrix: Solid	Date Collected: 21-Aug-97	Sample Aliquot:	4
[redacted] 9708321-2	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v08320		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.6	ug/kg	50	97	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	43.9	ug/kg	50	88	76 - 127
2037-26-5	TOLUENE-D8	51.1	ug/kg	50	102	83 - 115

U = Less than the Reporting Limit

350

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Tuesday, September 02, 1997

[redacted] BH17018RM	Sample Matrix: Solid	Date Collected: 21-Aug-97	Sample Aliquot: 4
[redacted] 9708321-2	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution: 50
	Report Basis: DRY WEIGHT	Prep Batch: v08320	

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

351

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440
Reported on: Tuesday, September 02, 1997

[redacted]BH17020RM
[redacted]9708321-4

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 21-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	2100	ug/kg	630	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

352

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Tuesday, September 02, 1997

Client ID: BH17020RM	Sample Matrix: Solid	Date Collected: 21-Aug-97	Sample Aliquot: 4
Lab ID: 9708321-4	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v08320	

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440
Reported on: Tuesday, September 02, 1997

Client ID:	SH17020RM
Lab ID:	9708321-4

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 21-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49	ug/kg	50	98	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	45.8	ug/kg	50	92	76 - 127
2037-26-5	TOLUENE-D8	54	ug/kg	50	108	83 - 115

U = Less than the Reporting Limit

354

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708321
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Tuesday, September 02, 1997

Client ID:	BH17020RM	Sample Matrix: Solid	Date Collected: 21-Aug-97	Sample Aliquot:	4
Lab ID:	9708321-4	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: DRY WEIGHT	Prep Batch: v08320		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

355

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440

Reported on: Wednesday, September 03, 19

[redacted] BH17021RM
[redacted] 9708321-5

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 21-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	5.8	ug/L	100	J	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	2.2	ug/L	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

356

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN 997A2440
Reported on: Wednesday, September 03, 19

[redacted]BH17021RM
[redacted]9708321-5

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 21-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

357

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2440
Reported on: Wednesday, September 03, 19

[redacted]	SH17021RM
[redacted]	9708321-5

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 21-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.6	ug/l	50	99	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	47.7	ug/l	50	95	85 - 115
2037-26-5	TOLUENE-D8	51.7	ug/l	50	103	88 - 110

U = Less than the Reporting Limit

358

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 03, 19

[redacted] BH17022RM	Sample Matrix: liquid	Date Collected: 22-Aug-97	Sample Aliquot: 5
[redacted] 9708323-1	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v08324	

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	7.5	ug/L	5	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLORDETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

359

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 03, 19

[redacted] BH17022RM
[redacted] 9708323-1

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 22-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

360

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 03, 19

[redacted]	BH17022RM	Sample Matrix: liquid	Date Collected: 22-Aug-97	Sample Aliquot:	5
[redacted]	9708323-1	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v08324		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	47.8	ug/l	50	96	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	49.1	ug/l	50	98	85 - 115
2037-26-5	TOLUENE-D8	53.6	ug/l	50	107	88 - 110

U = Less than the Reporting Limit

3-01

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 03, 19

[redacted] BH17024RM	Sample Matrix: Solid	Date Collected: 22-Aug-97	Sample Aliquot:	4
[redacted] 9708323-3	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v08320		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

362

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 03, 19

[redacted]	BH17024RM
[redacted]	9708323-3

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 22-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	50.4	ug/kg	50	101	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	45.9	ug/kg	50	92	76 - 127
2037-26-5	TOLUENE-D8	52.3	ug/kg	50	105	83 - 115

U = Less than the Reporting Limit

363

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 03, 19

Client ID: BH17025RM
Lab ID: 9708323-5

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 22-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

364

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 03, 19

BH17025RM	Sample Matrix: Solid	Date Collected: 22-Aug-97	Sample Aliquot:	4
9708323-5	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v08320		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441
Reported on: Wednesday, September 03, 19

[redacted]	BH17026RM	Sample Matrix: Solid	Date Collected: 22-Aug-97	Sample Aliquot:	4
[redacted]	9708323-5	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.3	ug/kg	50	99	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	47.2	ug/kg	50	94	76 - 127
2037-26-5	TOLUENE-D8	52.3	ug/kg	50	105	83 - 115

U = Less than the Reporting Limit

366

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441
Reported on: Wednesday, September 03, 19

BH17026RM
9708323-6

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 22-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

367

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 03, 19

[redacted] BH1702SRM	Sample Matrix: Solid	Date Collected: 22-Aug-97	Sample Aliquot:	4
[redacted] 9708323-6	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v08320		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

368

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441 Reported on: Wednesday, September 03, 19

[redacted]	SH17028RM	Sample Matrix: Solid	Date Collected: 22-Aug-97	Sample Aliquot:	4
[redacted]	9708323-6	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	46.8	ug/kg	50	94	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	45.8	ug/kg	50	92	78 - 127
2037-26-5	TOLUENE-D8	53.4	ug/kg	50	107	83 - 115

U = Less than the Reporting Limit

369

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 03, 19

[redacted]	BH17027RM
[redacted]	9708323-7

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 22-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	630	ug/kg	630	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

370

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441 Reported on: Wednesday, September 03, 19

BH17027RM	Sample Matrix: Solid	Date Collected: 22-Aug-97	Sample Aliquot: 4
9708323-7	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v08320	

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

371

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441 Reported on: Wednesday, September 03, 19

[redacted]	BH17027RM
[redacted]	9708323-7

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 22-Aug-97
Date Extracted: 01-Sep-97
Date Analyzed: 01-Sep-97
Prep Batch: v08320

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.4	ug/kg	50	97	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	44.3	ug/kg	50	89	76 - 127
2037-26-5	TOLUENE-D8	53.4	ug/kg	50	107	83 - 115

U = Less than the Reporting Limit

372

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 03, 19

[redacted]: BH17028RM
[redacted]: 9708324-5

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v083248

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	440	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

373

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 03, 19

[illegible]	BH17026RM
[illegible]	9708324-5

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324s

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

374

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 03, 19

[redacted]	Sample Matrix: Solid	Date Collected: 25-Aug-97	Sample Aliquot:	4
[redacted]	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	10
[redacted]	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v083246		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.5	ug/kg	50	98	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	49	ug/kg	50	98	76 - 127
2037-26-5	TOLUENE-D8	52.8	ug/kg	50	106	83 - 115

U = Less than the Reporting Limit

375

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

Client ID:	BH17029RM
Lab ID:	9708324-5

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v083246

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	420	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

376

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[redacted] BH17029RM	Sample Matrix: Solid	Date Collected: 25-Aug-97	Sample Aliquot: 4
[redacted] 9708324-6	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v083248	

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

377

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[redacted]	BH17029RM
[redacted]	9708324-8

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v083324s

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.8	ug/kg	50	98	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	47.3	ug/kg	50	95	76 - 127
2037-26-5	TOLUENE-D8	54.2	ug/kg	50	108	83 - 115

U = Less than the Reporting Limit

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[redacted] BH17030RM	Sample Matrix: Solid	Date Collected: 25-Aug-97	Sample Aliquot: 4
[redacted] 9708324-8	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v08320	

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	2800	ug/kg	630	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

329

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 03, 19

[redacted]	Sample Matrix: Solid	Date Collected: 25-Aug-97		Sample Aliquot:	4
[redacted]	% Moisture: N/A	Date Extracted: 01-Sep-97		Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 01-Sep-97		Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v08320			

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

380

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442
Reported on: Wednesday, September 03, 19

[redacted]	BH17030RM	Sample Matrix: Solid	Date Collected: 25-Aug-97	Sample Aliquot:	4
[redacted]	9708324-8	% Moisture: N/A	Date Extracted: 01-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 01-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v08320		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	50.6	ug/kg	50	101	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	45.5	ug/kg	50	91	76 - 127
2037-26-5	TOLUENE-D8	52.4	ug/kg	50	105	83 - 115

U = Less than the Reporting Limit

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

[redacted]	BH17031RM
[redacted]	9709002-1

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 27-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	7.9	ug/L	5	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

[redacted]	BH17031RM	Sample Matrix:	liquid	Date Collected:	27-Aug-97	Sample Aliquot:	5
[redacted]	9709002-1	% Moisture:	N/A	Date Extracted:	02-Sep-97	Final Volume:	5
		Cleanup Method:	NONE	Date Analyzed:	02-Sep-97	Dilution:	1
		Report Basis:	AS RECEIVED	Prep Batch:	v08324		

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

[redacted]	BH17031RM
[redacted]	9709002-1

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 27-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.4	ug/l	50	97	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	47.4	ug/l	50	95	85 - 115
2037-26-5	TOLUENE-D8	53.9	ug/l	50	108	88 - 110

U = Less than the Reporting Limit

384

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

[redacted]	SH17031RM	Sample Matrix: liquid	Date Collected: 27-Aug-97	Sample Aliquot:	8
[redacted]	9709002-1	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v08324		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

385

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytica, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

BH17032RM	Sample Matrix: Solid	Date Collected: 27-Aug-97	Sample Aliquot:	4
9709002-2	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v09017		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	400	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

386

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytica, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

[redacted]	BH17032RM	Sample Matrix:	Solid	Date Collected:	27-Aug-97	Sample Aliquot:	4
[redacted]	9709002-2	% Moisture:	N/A	Date Extracted:	03-Sep-97	Final Volume:	10
		Cleanup Method:	NONE	Date Analyzed:	03-Sep-97	Dilution:	50
		Report Basis:	AS RECEIVED	Prep Batch:	v09017		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

387

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

[redacted]	BH17032RM	Sample Matrix: Solid	Date Collected: 27-Aug-97	Sample Aliquot:	4
[redacted]	9709002-2	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v09017		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	46.2	ug/kg	50	92	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	48.2	ug/kg	50	96	76 - 127
2037-26-5	TOLUENE-D8	49.8	ug/kg	50	100	83 - 115

U = Less than the Reporting Limit

388

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

Client ID:	BH17033RM	Sample Matrix: Solid	Date Collected: 27-Aug-97	Sample Aliquot:	4
Lab ID:	9709002-3	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v09017		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	400	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

Client ID:	BH17033RM
Lab ID:	9709002-3

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 27-Aug-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

390

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

Client ID:	BH17032RM	Sample Matrix: Solid	Date Collected: 27-Aug-97	Sample Aliquot:	4
Lab ID:	9709002-2	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: DRY WEIGHT	Prep Batch: v09017		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

391

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A244S

Reported on: Monday, September 08, 1997

[redacted]	Sample Matrix: Solid	Date Collected: 27-Aug-97		Sample Aliquot:	4
[redacted]	% Moisture: N/A	Date Extracted: 03-Sep-97		Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 03-Sep-97		Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v09017			

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.1	ug/kg	50	96	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	47.4	ug/kg	50	95	76 - 127
2037-26-5	TOLUENE-D8	53	ug/kg	50	106	83 - 115

U = Less than the Reporting Limit

392

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

[redacted]	BH17033RM	Sample Matrix:	Solid	Date Collected: 27-Aug-97	Sample Aliquot: 4
[redacted]	9709002-3	% Moisture:	N/A	Date Extracted: 03-Sep-97	Final Volume: 10
		Cleanup Method:	NONE	Date Analyzed: 03-Sep-97	Dilution: 50
		Report Basis:	DRY WEIGHT	Prep Batch: v09017	

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

393

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443
Reported on: Monday, September 08, 1997

Sample ID: SH17034RM
Lab ID: 9709002-4

Sample Matrix: Soid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 27-Aug-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	410	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

394

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443
Reported on: Monday, September 08, 1997

[redacted]	BH17034RM	Sample Matrix:	Solid	Date Collected:	27-Aug-97	Sample Aliquot:	4
[redacted]	9709002-4	% Moisture:	N/A	Date Extracted:	03-Sep-97	Final Volume:	10
		Cleanup Method:	NONE	Date Analyzed:	03-Sep-97	Dilution:	50
		Report Basis:	AS RECEIVED	Prep Batch:	v09017		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97AZ443
Reported on: Monday, September 08, 1997

[redacted]	BH17034RM	Sample Matrix: Solid	Date Collected: 27-Aug-97	Sample Aliquot:	4
[redacted]	9709002-4	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v09017		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	47.9	ug/kg	50	96	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	46.3	ug/kg	50	93	78 - 127
2037-26-5	TOLUENE-D8	55.1	ug/kg	50	110	83 - 115

U = Less than the Reporting Limit

396

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

[redacted]	SH17034RM	Sample Matrix: Solid	Date Collected: 27-Aug-97	Sample Aliquot:	4
[redacted]	9709002-4	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: DRY WEIGHT	Prep Batch: v09017		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

397

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443
Reported on: Monday, September 08, 1997

[redacted]	BH17033RM
[redacted]	9709002-5

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 27-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	3.4	ug/L	5	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

398

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

Client ID: BH17035RM	Sample Matrix: liquid	Date Collected: 27-Aug-97	Sample Aliquot: 5
Lab ID: 9709002-5	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v08324	

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

399

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

[redacted]	BH17036RM
[redacted]	9709002-5

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 27-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.3	ug/l	50	97	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	48.3	ug/l	50	97	85 - 115
2037-26-5	TOLUENE-D8	52.6	ug/l	50	105	88 - 110

U = Less than the Reporting Limit

400

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2443

Reported on: Monday, September 08, 1997

[redacted]	BH17035RM
[redacted]	9709002-5

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 27-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

40

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2444

Reported on: Monday, September 08, 1997

[illegible]	BH17038RM
[illegible]	9709003-1

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 28-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/L	5	U	
67-64-1	ACETONE	3	ug/L	100	J	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	8.3	ug/L	5	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

402

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2444
Reported on: Monday, September 08, 1997

[redacted] BH17038RM	Sample Matrix: liquid	Date Collected: 28-Aug-97	Sample Aliquot: 5
[redacted] 9709003-1	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v08324	

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2444

Reported on: Monday, September 08, 1997

[redacted]	BH17036RM	Sample Matrix: liquid	Date Collected: 28-Aug-97	Sample Aliquot:	5
[redacted]	9709003-1	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v08324		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	50.5	ug/l	50	101	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	48	ug/l	50	96	85 - 115
2037-26-5	TOLUENE-D8	52.9	ug/l	50	106	88 - 110

U = Less than the Reporting Limit

4/04

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2444

Reported on: Monday, September 08, 1997

[redacted]	BH17036RM	Sample Matrix: liquid	Date Collected: 28-Aug-97	Sample Aliquot:	5
[redacted]	9709003-1	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v08324		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

405

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2444

Reported on: Monday, September 08, 1997

[illegible]	BH17037RM	Sample Matrix: Solid	Date Collected: 28-Aug-97	Sample Aliquot:	4
[illegible]	9709003-2	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v09017		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	370	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

406

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2444

Reported on: Monday, September 08, 1997

[redacted] BH17037RM	Sample Matrix: Solid	Date Collected: 28-Aug-97	Sample Aliquot: 4
[redacted] 9709003-2	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v09017	

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
[illegible]	[illegible]	888	ug/kg	888	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2444
Reported on: Monday, September 08, 1997

[redacted]	BH17037RM
[redacted]	9709003-2

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 28-Aug-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	50.5	ug/kg	50	101	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	47.5	ug/kg	50	95	76 - 127
2037-26-5	TOLUENE-D8	51.2	ug/kg	50	102	83 - 115

U = Less than the Reporting Limit

408

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytica, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN 697A2444

Reported on: Monday, September 08, 1997

[redacted]	BH17037RM	Sample Matrix: Solid	Date Collected: 28-Aug-97	Sample Aliquot:	4
[redacted]	9709003-2	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: DRY WEIGHT	Prep Batch: v09017		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

409

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2444

Reported on: Monday, September 08, 1997

Sample ID: BH17038RM
Lab ID: 9709003-3

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 28-Aug-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	400	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

410

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2444

Reported on: Monday, September 08, 1997

[illegible]	BH17038RM
[illegible]	9709003-3

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 28-Aug-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

411

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2444

Reported on: Monday, September 08, 1997

[redacted]	BH17034RM
[redacted]	9709003-3

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 28-Aug-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 60

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	45.5	ug/kg	50	91	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	47.7	ug/kg	50	95	76 - 127
2037-26-5	TOLUENE-D8	51.6	ug/kg	50	103	83 - 115

U = Less than the Reporting Limit

412

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709003
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2444

Reported on: Monday, September 08, 1997

[redacted]	BH17036RM	Sample Matrix: Solid	Date Collected: 28-Aug-97	Sample Aliquot:	4
[redacted]	9709003-3	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: DRY WEIGHT	Prep Batch: v09017		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

413

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

BH17039RM
9709017-1

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/l	5	U	
74-87-3	CHLOROMETHANE	5	ug/l	5	U	
75-01-4	VINYL CHLORIDE	10	ug/l	10	U	
74-83-9	BROMOMETHANE	5	ug/l	5	U	
75-00-3	CHLOROETHANE	5	ug/l	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/l	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/l	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/l	5	U	
67-64-1	ACETONE	100	ug/l	100	U	
75-15-0	CARBON DISULFIDE	5	ug/l	5	U	
75-09-2	METHYLENE CHLORIDE	2.3	ug/l	5	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/l	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/l	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/l	5	U	
78-93-3	2-BUTANONE	100	ug/l	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/l	5	U	
67-66-3	CHLOROFORM	5	ug/l	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/l	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/l	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/l	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/l	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/l	5	U	
71-43-2	BENZENE	5	ug/l	5	U	
79-01-6	TRICHLOROETHENE	5	ug/l	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/l	5	U	
74-95-3	DIBROMOMETHANE	5	ug/l	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/l	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/l	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/l	50	U	
108-88-3	TOLUENE	5	ug/l	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/l	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/l	5	U	
591-78-6	2-HEXANONE	50	ug/l	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/l	5	U	

414

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[illegible]8H17039RM	Sample Matrix: liquid	Date Collected: 02-Sep-97	Sample Aliquot: 5
[illegible]9709017-1	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v09017	

142-28-9	1,3-DICHLOROPROPANE	5	ug/l	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/l	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/l	5	U	
108-90-7	CHLOROBENZENE	5	ug/l	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/l	5	U	
100-41-4	ETHYLBENZENE	5	ug/l	5	U	
1330-20-7	TOTAL XYLENES	5	ug/l	5	U	
100-42-5	STYRENE	5	ug/l	5	U	
75-25-2	BROMOFORM	5	ug/l	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/l	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/l	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/l	5	U	
108-86-1	BROMOBENZENE	5	ug/l	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/l	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/l	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/l	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/l	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/l	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/l	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/l	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/l	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/l	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/l	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/l	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/l	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/l	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/l	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/l	5	U	
91-20-3	NAPHTHALENE	5	ug/l	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/l	5	U	

415

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	BH17039RM	Sample Matrix: liquid	Date Collected: 02-Sep-97	Sample Aliquot:	5
[redacted]	9709017-1	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v09017		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.6	ug/l	50	99	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	48	ug/l	50	96	85 - 115
2037-26-5	TOLUENE-D8	53.5	ug/l	50	107	88 - 110

U = Less than the Reporting Limit

416

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	BH17039RM
[redacted]	9709017-1

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: DRY WEIGHT

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

417

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446

Reported on: Monday, September 08, 1997

Client ID:	BH17040RM
Lab ID:	9709017-4

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	8.7	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

418

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

BH17040RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
9709017-4	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v09017		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

419

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446

Reported on: Monday, September 08, 1997

[redacted]	BH17040RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted]	9709017-4	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v09017		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	46.2	ug/kg	50	92	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	47.6	ug/kg	50	95	76 - 127
2037-26-5	TOLUENE-D8	53.2	ug/kg	50	106	83 - 115

U = Less than the Reporting Limit

420

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[illegible]	BH17040RM
[illegible]	9709017-4

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: DRY WEIGHT

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

421

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted] BH17041RM
[redacted] 9709017-2

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	9.2	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

422

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	BH17041RM
[redacted]	9709017-2

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

423

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted] BH17041RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted] 9709017-2	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v09017		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.2	ug/kg	50	96	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	49.5	ug/kg	50	99	78 - 127
2037-26-5	TOLUENE-D8	50.8	ug/kg	50	102	83 - 115

U = Less than the Reporting Limit

4/24

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	BH17041RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted]	9709017-2	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: DRY WEIGHT	Prep Batch: v09017		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

425

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted] 8H17042RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot: 4
[redacted] 9709017-3	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v09017	

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	6.6	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

426

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445
Reported on: Monday, September 08, 1997

[redacted] BH17042RM
[redacted] 9709017-3

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	EH17042RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted]	9709017-3	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v09017		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.6	ug/kg	50	97	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	46.2	ug/kg	50	92	76 - 127
2037-26-5	TOLUENE-D8	51.9	ug/kg	50	104	83 - 116

U = Less than the Reporting Limit

428

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

Client ID:	BH17042RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
Lab ID:	9709017-3	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: DRY WEIGHT	Prep Batch: v09017		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

429

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	BH17043RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted]	9709017-5	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v09017		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	9.1	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

430

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted] BH17043RM
[redacted] 9709017-5

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
Client/Project ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	BH17043RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted]	9709017-5	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v09017		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	50.6	ug/kg	50	101	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	46.8	ug/kg	50	94	76 - 127
2037-26-5	TOLUENE-D8	55.2	ug/kg	50	110	83 - 116

U = Less than the Reporting Limit

432

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446

Reported on: Monday, September 08, 1997

[redacted]	BH17043RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted]	9709017-5	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: DRY WEIGHT	Prep Batch: v09017		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

433

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[illegible]	BH17044RM
[illegible]	9709017-6

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	9.3	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

434

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	BH17044RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted]	9709017-6	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v09017		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

435

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	SH17044RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted]	9709017-6	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v09017		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	47.9	ug/kg	50	96	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	48.4	ug/kg	50	97	78 - 127
2037-26-5	TOLUENE-D8	54.3	ug/kg	50	109	83 - 115

U = Less than the Reporting Limit

436

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	SH17044RM
[redacted]	9709017-6

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: DRY WEIGHT

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

437

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	BH17043RM
[redacted]	9709017-7

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	9	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

438

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	BH17046RM
[redacted]	9709017-7

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	BH17046RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted]	9709017-7	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v09017		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.1	ug/kg	50	96	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	48.1	ug/kg	50	96	76 - 127
2037-26-5	TOLUENE-D8	53.6	ug/kg	50	107	83 - 115

U = Less than the Reporting Limit

440

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	BH17045RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted]	9709017-7	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: DRY WEIGHT	Prep Batch: v09017		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

441

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

Client ID:	BH17046RM
Lab ID:	9709017-6

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	5.8	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

442

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

Client ID:	BH17046RM
Lab ID:	9709017-8

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v08017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

443

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted] BH17046RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted] 9709017-8	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v09017		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	50.7	ug/kg	50	101	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	43.6	ug/kg	50	87	76 - 127
2037-26-5	TOLUENE-D8	52	ug/kg	50	104	83 - 116

U = Less than the Reporting Limit

444

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted]	BH17046RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted]	9709017-8	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: DRY WEIGHT	Prep Batch: v09017		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

445

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446

Reported on: Monday, September 08, 1997

[redacted]	BH17047RM
[redacted]	9709017-9

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 02-Sep-97
Date Extracted: 03-Sep-97
Date Analyzed: 03-Sep-97
Prep Batch: v09017

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	5.6	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

446

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

[redacted] BH17047RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot: 4
[redacted] 9709017-9	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume: 10
	Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution: 50
	Report Basis: AS RECEIVED	Prep Batch: v09017	

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2445

Reported on: Monday, September 08, 1997

Field ID:	BH17047RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
Lab ID:	9709017-9	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: AS RECEIVED	Prep Batch: v09017		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	49.2	ug/kg	50	98	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	48.8	ug/kg	50	98	76 - 127
2037-26-5	TOLUENE-D8	52.9	ug/kg	50	106	83 - 115

U = Less than the Reporting Limit

448

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709017
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2446

Reported on: Monday, September 08, 1997

[redacted]	BH17047RM	Sample Matrix: Solid	Date Collected: 02-Sep-97	Sample Aliquot:	4
[redacted]	9709017-9	% Moisture: N/A	Date Extracted: 03-Sep-97	Final Volume:	10
		Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	50
		Report Basis: DRY WEIGHT	Prep Batch: v09017		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

449

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709112
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: RIN 97A2447

Reported on: Wednesday, September 24, 19

[redacted]	SH1704RM
	9709112-1

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 04-Sep-97
Date Extracted: 17-Sep-97
Date Analyzed: 17-Sep-97
Prep Batch: v09112

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/l	5	U	
74-87-3	CHLOROMETHANE	5	ug/l	5	U	
75-01-4	VINYL CHLORIDE	10	ug/l	10	U	
74-83-9	BROMOMETHANE	5	ug/l	5	U	
75-00-3	CHLOROETHANE	5	ug/l	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/l	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/l	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/l	5	U	
67-64-1	ACETONE	100	ug/l	100	U	
75-15-0	CARBON DISULFIDE	5	ug/l	5	U	
75-09-2	METHYLENE CHLORIDE	16	ug/l	5	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/l	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/l	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/l	5	U	
78-93-3	2-BUTANONE	100	ug/l	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/l	5	U	
67-66-3	CHLOROFORM	5	ug/l	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/l	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/l	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/l	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/l	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/l	5	U	
71-43-2	BENZENE	5	ug/l	5	U	
79-01-6	TRICHLOROETHENE	5	ug/l	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/l	5	U	
74-95-3	DIBROMOMETHANE	5	ug/l	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/l	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/l	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/l	50	U	
108-88-3	TOLUENE	5	ug/l	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/l	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/l	5	U	
591-78-6	2-HEXANONE	50	ug/l	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/l	5	U	

000024

450

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709112
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: RIN #97A3447

Reported on: Wednesday, September 24, 19

[redacted] SH17048RM	Sample Matrix: Liquid	Date Collected: 04-Sep-97	Sample Aliquot:	5
[redacted] 9709112-1	% Moisture: N/A	Date Extracted: 17-Sep-97	Final Volume:	5
	Cleanup Method: NONE	Date Analyzed: 17-Sep-97	Dilution:	1
	Report Basis: AS RECEIVED	Prep Batch: v09112		

142-28-8	1,3-DICHLOROPROPANE	5	ug/l	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/l	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/l	5	U	
108-90-7	CHLOROBENZENE	5	ug/l	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/l	5	U	
100-41-4	ETHYLBENZENE	5	ug/l	5	U	
1330-20-7	TOTAL XYLENES	5	ug/l	5	U	
100-42-5	STYRENE	5	ug/l	5	U	
75-25-2	BROMOFORM	5	ug/l	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/l	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/l	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/l	5	U	
108-86-1	BROMOBENZENE	5	ug/l	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/l	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/l	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/l	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/l	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/l	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/l	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/l	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/l	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/l	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/l	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/l	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/l	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/l	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/l	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/l	5	U	
91-20-3	NAPHTHALENE	5	ug/l	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/l	5	U	

00

451

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709112
Client Name: Kaiser-Hill Co., L.L.C.
Client/Project ID: KEN 997A2447

Reported on: Wednesday, September 24, 19

[redacted]	Sample Matrix: Liquid	Date Collected: 04-Sep-97		Sample Aliquot:	5
[redacted]	% Moisture: N/A	Date Extracted: 17-Sep-97		Final Volume:	5
[redacted]	Cleanup Method: NONE	Date Analyzed: 17-Sep-97		Dilution:	1
	Report Basis: AS RECEIVED	Prep Batch: v09112			

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	54	ug/l	50	108	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	51.7	ug/l	50	103	85 - 115
2037-26-5	TOLUENE-D8	51.2	ug/l	50	102	88 - 110

U = Less than the Reporting Limit

000026

452

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709112
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2447
Reported on: Thursday, September 18, 1997

[redacted]	BH17049R4
	9709112-2

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 04-Sep-97
Date Extracted: 17-Sep-97
Date Analyzed: 17-Sep-97
Prep Batch: v09112

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
75-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	430	ug/kg	630	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	360	ug/kg	630	J	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

453

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709112
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2447
Reported on: Thursday, September 18, 1997

[redacted]	BH17049RM	Sample Matrix:	Solid	Date Collected:	04-Sep-97	Sample Aliquot:	4
	9709112-2	% Moisture:	N/A	Date Extracted:	17-Sep-97	Final Volume:	10
		Cleanup Method:	NONE	Date Analyzed:	17-Sep-97	Dilution:	50
		Report Basis:	AS RECEIVED	Prep Batch:	v09112		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

454

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709112
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2447

Reported on: Thursday, September 18, 1997

BH17049RM	Sample Matrix: Solid	Date Collected: 04-Sep-97	Sample Aliquot:	4
9709112-2	% Moisture: N/A	Date Extracted: 17-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 17-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v09112		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	52.7	ug/kg	50	105	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	50.4	ug/kg	50	101	78 - 127
2037-26-5	TOLUENE-D8	52.4	ug/kg	50	105	83 - 115

U = Less than the Reporting Limit

455

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709112
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2447

Reported on: Thursday, September 18, 1997

BH17050RM
9709112-3

Sample Matrix: Solid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 04-Sep-97
Date Extracted: 17-Sep-97
Date Analyzed: 17-Sep-97
Prep Batch: v09112

Sample Aliquot: 4
Final Volume: 10
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	630	ug/kg	630	U	
74-87-3	CHLOROMETHANE	630	ug/kg	630	U	
75-01-4	VINYL CHLORIDE	1300	ug/kg	1300	U	
74-83-9	BROMOMETHANE	630	ug/kg	630	U	
75-00-3	CHLOROETHANE	630	ug/kg	630	U	
75-69-4	TRICHLOROFLUOROMETHANE	630	ug/kg	630	U	
75-35-4	1,1-DICHLOROETHENE	630	ug/kg	630	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	630	ug/kg	630	U	
67-64-1	ACETONE	13000	ug/kg	13000	U	
75-15-0	CARBON DISULFIDE	630	ug/kg	630	U	
75-09-2	METHYLENE CHLORIDE	3000	ug/kg	630	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
75-34-3	1,1-DICHLOROETHANE	630	ug/kg	630	U	
156-59-2	CIS-1,2-DICHLOROETHENE	630	ug/kg	630	U	
78-93-3	2-BUTANONE	13000	ug/kg	13000	U	
74-97-5	BROMOCHLOROMETHANE	630	ug/kg	630	U	
67-66-3	CHLOROFORM	630	ug/kg	630	U	
71-55-6	1,1,1-TRICHLOROETHANE	630	ug/kg	630	U	
594-20-7	2,2-DICHLOROPROPANE	630	ug/kg	630	U	
56-23-5	CARBON TETRACHLORIDE	630	ug/kg	630	U	
563-58-6	1,1-DICHLOROPROPENE	630	ug/kg	630	U	
107-06-2	1,2-DICHLOROETHANE	630	ug/kg	630	U	
71-43-2	BENZENE	630	ug/kg	630	U	
79-01-6	TRICHLOROETHENE	630	ug/kg	630	U	
78-87-5	1,2-DICHLOROPROPANE	630	ug/kg	630	U	
74-95-3	DIBROMOMETHANE	630	ug/kg	630	U	
75-27-4	BROMODICHLOROMETHANE	630	ug/kg	630	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
108-10-1	4-METHYL-2-PENTANONE	6300	ug/kg	6300	U	
108-88-3	TOLUENE	630	ug/kg	630	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	630	ug/kg	630	U	
79-00-5	1,1,2-TRICHLOROETHANE	630	ug/kg	630	U	
591-78-6	2-HEXANONE	6300	ug/kg	6300	U	
127-18-4	TETRACHLOROETHENE	630	ug/kg	630	U	

456

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709112
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2447

Reported on: Thursday, September 18, 1997

BH17050RM	Sample Matrix: Solid	Date Collected: 04-Sep-97	Sample Aliquot:	4
9709112-3	% Moisture: N/A	Date Extracted: 17-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 17-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v09112		

142-28-9	1,3-DICHLOROPROPANE	630	ug/kg	630	U	
124-48-1	DIBROMOCHLOROMETHANE	630	ug/kg	630	U	
106-93-4	1,2-DIBROMOETHANE	630	ug/kg	630	U	
108-90-7	CHLOROBENZENE	630	ug/kg	630	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	630	ug/kg	630	U	
100-41-4	ETHYLBENZENE	630	ug/kg	630	U	
1330-20-7	TOTAL XYLENES	630	ug/kg	630	U	
100-42-5	STYRENE	630	ug/kg	630	U	
75-25-2	BROMOFORM	630	ug/kg	630	U	
98-82-8	ISOPROPYLBENZENE	630	ug/kg	630	U	
96-18-4	1,2,3-TRICHLOROPROPANE	630	ug/kg	630	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	630	ug/kg	630	U	
108-86-1	BROMOBENZENE	630	ug/kg	630	U	
103-65-1	N-PROPYLBENZENE	630	ug/kg	630	U	
95-49-8	2-CHLOROTOLUENE	630	ug/kg	630	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	630	ug/kg	630	U	
106-43-4	4-CHLOROTOLUENE	630	ug/kg	630	U	
98-06-6	TERT-BUTYLBENZENE	630	ug/kg	630	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	630	ug/kg	630	U	
135-98-8	SEC-BUTYLBENZENE	630	ug/kg	630	U	
541-73-1	1,3-DICHLOROBENZENE	630	ug/kg	630	U	
99-87-6	P-ISOPROPYLTOLUENE	630	ug/kg	630	U	
106-46-7	1,4-DICHLOROBENZENE	630	ug/kg	630	U	
104-51-8	N-BUTYLBENZENE	630	ug/kg	630	U	
95-50-1	1,2-DICHLOROBENZENE	630	ug/kg	630	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	630	ug/kg	630	U	
120-82-1	1,2,4-TRICHLOROBENZENE	630	ug/kg	630	U	
87-68-3	HEXACHLOROBUTADIENE	630	ug/kg	630	U	
91-20-3	NAPHTHALENE	630	ug/kg	630	U	
87-61-6	1,2,3-TRICHLOROBENZENE	630	ug/kg	630	U	

457

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709112
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2447

Reported on: Thursday, September 18, 1997

BH17050RM	Sample Matrix: Solid	Date Collected: 04-Sep-97	Sample Aliquot:	4
9709112-3	% Moisture: N/A	Date Extracted: 17-Sep-97	Final Volume:	10
	Cleanup Method: NONE	Date Analyzed: 17-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v09112		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	52.8	ug/kg	50	106	74 - 134
1868-53-7	DIBROMOFLUOROMETHANE	51.8	ug/kg	50	104	76 - 127
2037-26-5	TOLUENE-D8	53.1	ug/kg	50	106	83 - 116

U = Less than the Reporting Limit

458

Volatile Organics by GC/MS

Method SW8260

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709002
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN# 97A2443

Reported on: Monday, September 08, 1997

LABQC	
VA970903-1aMB	

Sample Matrix:	Solid	Date Collected:	03-Sep-97	Sample Aliquot:	5
% Moisture:	N/A	Date Extracted:	03-Sep-97	Final Volume:	5
Cleanup Method:	NONE	Date Analyzed:	03-Sep-97	Dilution:	1
Report Basis:	NA	Prep Batch:	v09017		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/kg	5	U	
74-87-3	CHLOROMETHANE	5	ug/kg	5	U	
75-01-4	VINYL CHLORIDE	10	ug/kg	10	U	
74-83-9	BROMOMETHANE	5	ug/kg	5	U	
75-00-3	CHLOROETHANE	5	ug/kg	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/kg	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/kg	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	5	ug/kg	5	U	
67-64-1	ACETONE	4.8	ug/kg	100	J	
75-15-0	CARBON DISULFIDE	5	ug/kg	5	U	
75-09-2	METHYLENE CHLORIDE	3.4	ug/kg	5	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/kg	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/kg	5	U	
78-93-3	2-BUTANONE	100	ug/kg	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/kg	5	U	
67-66-3	CHLOROFORM	5	ug/kg	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/kg	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/kg	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/kg	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/kg	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/kg	5	U	
71-43-2	BENZENE	5	ug/kg	5	U	
79-01-6	TRICHLOROETHENE	5	ug/kg	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/kg	5	U	
74-95-3	DIBROMOMETHANE	5	ug/kg	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/kg	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/kg	50	U	
108-88-3	TOLUENE	5	ug/kg	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/kg	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/kg	5	U	
591-78-6	2-HEXANONE	50	ug/kg	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/kg	5	U	
142-28-9	1,3-DICHLOROPROPANE	5	ug/kg	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/kg	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/kg	5	U	

459

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
Client/Project ID: RIN 97A2439
Reported on: Wednesday, September 24, 19

[redacted]	GW17000R4
[redacted]	9708320-4

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	250	ug/L	250	U	
74-87-3	CHLOROMETHANE	250	ug/L	250	U	
75-01-4	VINYL CHLORIDE	500	ug/L	500	U	
74-83-9	BROMOMETHANE	250	ug/L	250	U	
75-00-3	CHLOROETHANE	250	ug/L	250	U	
75-69-4	TRICHLOROFLUOROMETHANE	250	ug/L	250	U	
75-35-4	1,1-DICHLOROETHENE	250	ug/L	250	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	250	ug/L	250	U	
67-64-1	ACETONE	5000	ug/L	5000	U	
75-15-0	CARBON DISULFIDE	250	ug/L	250	U	
75-09-2	METHYLENE CHLORIDE	130	ug/L	250	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	250	ug/L	250	U	
75-34-3	1,1-DICHLOROETHANE	250	ug/L	250	U	
156-59-2	CIS-1,2-DICHLOROETHENE	220	ug/L	250	J	
78-93-3	2-BUTANONE	5000	ug/L	5000	U	
74-97-5	BROMOCHLOROMETHANE	250	ug/L	250	U	
67-66-3	CHLOROFORM	250	ug/L	250	U	
71-55-6	1,1,1-TRICHLOROETHANE	250	ug/L	250	U	
594-20-7	2,2-DICHLOROPROPANE	250	ug/L	250	U	
56-23-5	CARBON TETRACHLORIDE	250	ug/L	250	U	
563-58-6	1,1-DICHLOROPROPENE	250	ug/L	250	U	
107-06-2	1,2-DICHLOROETHANE	250	ug/L	250	U	
71-43-2	BENZENE	250	ug/L	250	U	
79-01-6	TRICHLOROETHENE	250	ug/L	250	U	
78-87-5	1,2-DICHLOROPROPANE	250	ug/L	250	U	
74-95-3	DIBROMOMETHANE	250	ug/L	250	U	
75-27-4	BROMODICHLOROMETHANE	250	ug/L	250	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	250	ug/L	250	U	
108-10-1	4-METHYL-2-PENTANONE	2500	ug/L	2500	U	
108-88-3	TOLUENE	250	ug/L	250	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	250	ug/L	250	U	
79-00-5	1,1,2-TRICHLOROETHANE	250	ug/L	250	U	
591-78-6	2-HEXANONE	2500	ug/L	2500	U	
127-18-4	TETRACHLOROETHENE	1700	ug/L	250		

460

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9706320
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: RIN 97A2439

Reported on: Wednesday, September 24, 19

[redacted] GW17000NM
[redacted] 9706320-4

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v06324

Sample Aliquot: 5
Final Volume: 5
Dilution: 50

142-28-9	1,3-DICHLOROPROPANE	250	ug/L	250	U	
124-48-1	DIBROMOCHLOROMETHANE	250	ug/L	250	U	
106-93-4	1,2-DIBROMOETHANE	250	ug/L	250	U	
108-90-7	CHLOROBENZENE	250	ug/L	250	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	250	ug/L	250	U	
100-41-4	ETHYLBENZENE	250	ug/L	250	U	
1330-20-7	TOTAL XYLENES	250	ug/L	250	U	
100-42-5	STYRENE	250	ug/L	250	U	
75-25-2	BROMOFORM	250	ug/L	250	U	
98-82-8	ISOPROPYLBENZENE	250	ug/L	250	U	
96-18-4	1,2,3-TRICHLOROPROPANE	250	ug/L	250	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	250	ug/L	250	U	
103-89-1	BROMOBENZENE	250	ug/L	250	U	
103-65-1	N-PROPYLBENZENE	250	ug/L	250	U	
95-49-8	2-CHLOROTOLUENE	250	ug/L	250	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	250	ug/L	250	U	
106-43-4	4-CHLOROTOLUENE	250	ug/L	250	U	
98-06-6	TERT-BUTYLBENZENE	250	ug/L	250	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	250	ug/L	250	U	
135-98-8	SEC-BUTYLBENZENE	250	ug/L	250	U	
541-73-1	1,3-DICHLOROBENZENE	250	ug/L	250	U	
99-87-6	P-ISOPROPYLTOLUENE	250	ug/L	250	U	
106-46-7	1,4-DICHLOROBENZENE	250	ug/L	250	U	
104-51-8	N-BUTYLBENZENE	250	ug/L	250	U	
95-50-1	1,2-DICHLOROBENZENE	250	ug/L	250	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	250	ug/L	250	U	
120-82-1	1,2,4-TRICHLOROBENZENE	250	ug/L	250	U	
87-68-3	HEXACHLOROBUTADIENE	250	ug/L	250	U	
91-20-3	NAPHTHALENE	250	ug/L	250	U	
87-61-6	1,2,3-TRICHLOROBENZENE	250	ug/L	250	U	

461

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN 697A2439

Reported on: Wednesday, September 24, 19

[redacted] GW17000RM
[redacted] 9708320-4

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 20-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v03324

Sample Aliquot: 5
Final Volume: 5
Dilution: 50

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.2	ug/l	50	96	65 - 115
1868-53-7	DIBROMOFLUOROMETHANE	50.7	ug/l	50	101	85 - 115
2037-26-5	TOLUENE-D8	52.8	ug/l	50	106	88 - 110

U = Less than the Reporting Limit

462

Volatile Organics by GC/MS

Method SW8260

Tentatively Identified Compounds

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708320
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: RFI 697A2439

Reported on: Wednesday, September 24, 19

[redacted]	Sample Matrix: liquid	Date Collected: 20-Aug-97	Sample Aliquot:	6
[redacted]	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
[redacted]	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	50
	Report Basis: AS RECEIVED	Prep Batch: v08324		

Retention Time	TIC Analyte	Result	Units	TIC Qualifier
	NONE DETECTED			

463

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
Client Project ID: RIN 697A9441
Reported on: Wednesday, September 24, 19

[redacted] GW17001RM
[redacted] 9708323-4

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 22-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v06324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	3.5	ug/L	5	J	
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	7.4	ug/L	5	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

464

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9706323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441

Reported on: Wednesday, September 24, 19

GW17001RM	Sample Matrix: liquid	Date Collected: 22-Aug-97	Sample Aliquot:	5
9706323-4	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
	Cleanup Method: NONE	Date Analyzed: 03-Sep-97	Dilution:	1
	Report Basis: AS RECEIVED	Prep Batch: v08324		

142-28-8	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

465

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708323
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2441
Reported on: Wednesday, September 24, 19

[redacted]	GW17001WM
[redacted]	9708323-4

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 22-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	48.1	ug/l	50	96	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	49.2	ug/l	50	98	85 - 115
2037-26-5	TOLUENE-D8	51.2	ug/l	50	102	85 - 110

U = Less than the Reporting Limit

466

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

GW17002RM
9708324-1

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	40	ug/L	5		
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	7.9	ug/L	5	B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	2.1	ug/L	5	J	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

467

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

GW17002RM	Sample Matrix: liquid	Date Collected: 25-Aug-97	Sample Aliquot:	5
9708324-1	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
	Report Basis: AS RECEIVED	Prep Batch: v08324		

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

468

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[redacted]	GW17002RM	Sample Matrix: liquid	Date Collected: 25-Aug-97	Sample Aliquot:	5
[redacted]	9708324-1	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume:	5
		Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution:	1
		Report Basis: AS RECEIVED	Prep Batch: v08324		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	47	ug/l	50	94	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	49.1	ug/l	50	98	85 - 115
2037-26-5	TOLUENE-D8	52.1	ug/l	50	104	88 - 110

U = Less than the Reporting Limit

469

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442

Reported on: Wednesday, September 03, 19

[illegible]	GW17003RM
[illegible]	9708324-2

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 25-Aug-97
Date Extracted: 02-Sep-97
Date Analyzed: 02-Sep-97
Prep Batch: v08324

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	5	ug/L	5	U	
74-87-3	CHLOROMETHANE	5	ug/L	5	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	5	ug/L	5	U	
75-00-3	CHLOROETHANE	5	ug/L	5	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	36	ug/L	5		
67-64-1	ACETONE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	3	ug/L	5	J,B	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
156-59-2	CIS-1,2-DICHLOROETHENE	5	ug/L	5	U	
78-93-3	2-BUTANONE	100	ug/L	100	U	
74-97-5	BROMOCHLOROMETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
594-20-7	2,2-DICHLOROPROPANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
563-58-6	1,1-DICHLOROPROPENE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
74-95-3	DIBROMOMETHANE	5	ug/L	5	U	
75-27-4	BROMODICHLOROMETHANE	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-10-1	4-METHYL-2-PENTANONE	50	ug/L	50	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
591-78-6	2-HEXANONE	50	ug/L	50	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	

470

Volatile Organics by GC/MS

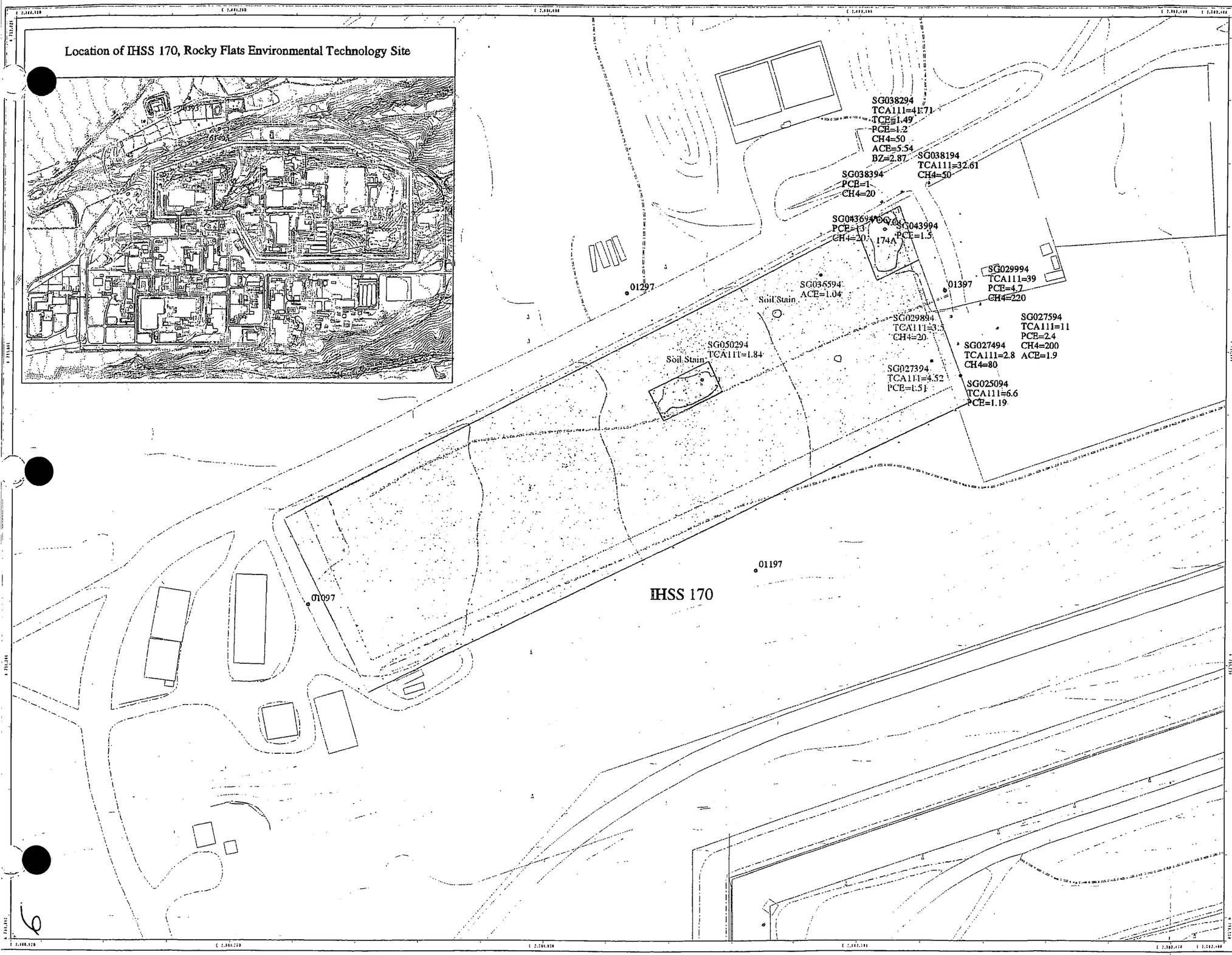
Method SW8260

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9708324
Client Name: Kaiser-Hill Co., L.L.C.
ClientProject ID: RIN #97A2442 Reported on: Wednesday, September 03, 19

GW17003RM	Sample Matrix: liquid	Date Collected: 25-Aug-97	Sample Aliquot: 5
9708324-2	% Moisture: N/A	Date Extracted: 02-Sep-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 02-Sep-97	Dilution: 1
	Report Basis: AS RECEIVED	Prep Batch: v08324	

142-28-9	1,3-DICHLOROPROPANE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
106-93-4	1,2-DIBROMOETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
1330-20-7	TOTAL XYLENES	5	ug/L	5	U	
100-42-5	STYRENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
98-82-8	ISOPROPYLBENZENE	5	ug/L	5	U	
96-18-4	1,2,3-TRICHLOROPROPANE	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
108-86-1	BROMOBENZENE	5	ug/L	5	U	
103-65-1	N-PROPYLBENZENE	5	ug/L	5	U	
95-49-8	2-CHLOROTOLUENE	5	ug/L	5	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	5	ug/L	5	U	
106-43-4	4-CHLOROTOLUENE	5	ug/L	5	U	
98-06-6	TERT-BUTYLBENZENE	5	ug/L	5	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	5	ug/L	5	U	
135-98-8	SEC-BUTYLBENZENE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
99-87-6	P-ISOPROPYLTOLUENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
104-51-8	N-BUTYLBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	5	ug/L	5	U	
120-82-1	1,2,4-TRICHLOROBENZENE	5	ug/L	5	U	
87-68-3	HEXACHLOROBUTADIENE	5	ug/L	5	U	
91-20-3	NAPHTHALENE	5	ug/L	5	U	
87-61-6	1,2,3-TRICHLOROBENZENE	5	ug/L	5	U	

471/471



IHSS's 170, 174A & 174B Property Utilization & Storage Yard Location Map Figure 1-1

EXPLANATION

- OU10 IHSS
- Oil Stain Location
- New RFCA Groundwater Monitoring Wells under FY97 WARP
- Groundwater well location
- Power Poles
- Soil-Gas Sampling Location
- Soil-Gas Sampling Location with concentrations of volatile organic compounds equal to or above the detection limit of 1.0 microgram per liter (*See note)
- Surface Soil Sample with Volatile Organic Compounds detected

Standard Map Features

- Buildings or other structures
- Streams, ditches, or other drainage features
- Fences and other barriers
- Paved roads
- Dirt roads
- Contours (5 foot)

DATA SOURCE:
Buildings, fences, hydrography, roads and other structures from 1994 aerial fly-over data captured by EG&G RSL, Las Vegas.
Digitized from the othophotographs. 1/95

NOTE:
Concentrations are in ug/L

ACE = Acetone
BZ = Benzene
CH4 = Methane
PCE = Tetrachloroethene
TCA111 = 1,1,1-Trichloroethane
TCE = Trichloroethene

Scale = 1 : 1400
1 inch represents approximately 117 feet

25 0 50 100ft

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by:

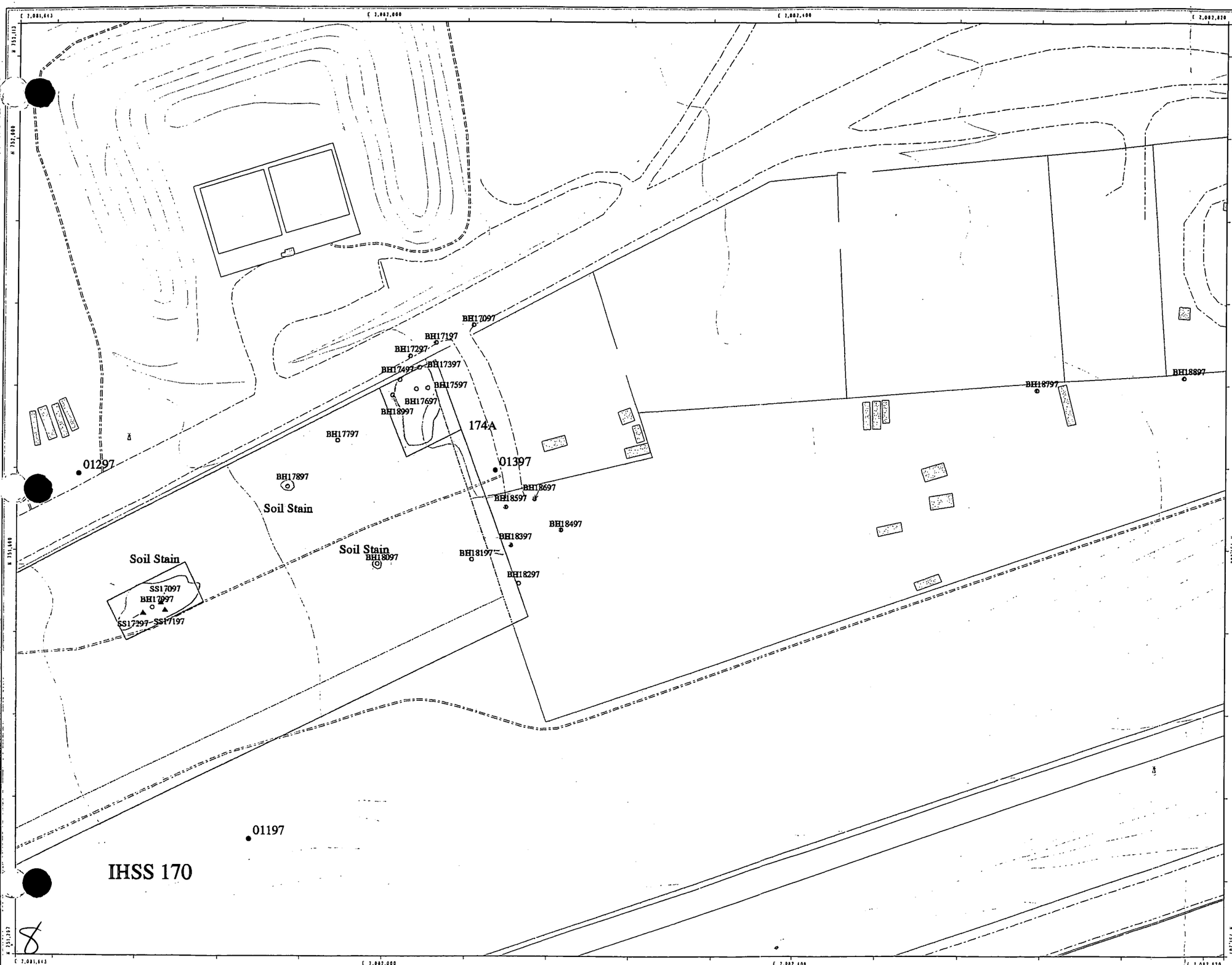
Rocky Mountain Remediation Services, L.L.C.
Geographic Information Systems Group
Rocky Flats Environmental Technology Site
P.O. Box 464
Golden, CO 80402-0464

MAP ID: 97-0192

September 17, 1997

/gis2/projects/fy97/97-0192/fig1-1.aml

6



IHSS's 170, 174A & 174B Property Utilization & Storage Yard Boring Location Map Figure 2-1

EXPLANATION

- OU10 IHSS
- Oil Stain Location
- Power Poles
- Borehole Locations
- Surface Soil Sampling Locations
- Monitoring Wells

Standard Map Features

- Buildings or other structures
- Streams, ditches, or other drainage features
- Fences and other barriers
- Paved roads
- Dirt roads
- Contours (5 foot)

DATA SOURCE:
Buildings, fences, hydrography, roads and other structures from 1994 aerial fly-over data captured by EG&G RSL, Las Vegas.
Digitized from the othophotographs. 1/95

N

Scale = 1 : 1080
1 inch represents 90 feet

25 0 50 100ft

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by:

RMRS Rocky Mountain Remediation Services, L.L.C.
Geographic Information Systems Group
Rocky Flats Environmental Technology Site
P.O. Box 464
Golden, CO 80402-0464

MAP ID: 97-0192

September 25, 1997

8