

**WELL SAMPLING
MONITORING REPORT
HADNOT POINT FUEL FARM**

**MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

ISSUED: JULY 19, 2001

VOLUME I

Contract No. N62470-95-D-6009

Delivery Order No. 0118

CATLIN Project No. 200-216



Prepared By:

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TABLE OF CONTENTS

	<u>PAGE</u>
1.0 INTRODUCTION AND AUTHORIZATION	1
2.0 PURPOSE AND SCOPE OF WORK	1
3.0 ADDITIONAL ASSESSMENT ACTIVITIES	1
3.1 Well Gauging Activities	2
3.2 Well Sampling Activities	2
3.3 Free Product Plume	3
3.4 Results of Ground Water Sampling	4
4.0 SUMMARY AND CONCLUSIONS	5
4.1 Free Product Contamination	5
4.2 Ground Water Contamination	5
5.0 RECOMMENDATIONS	6
6.0 REFERENCES	7

TABLES

TABLE 1	Monitoring Wells of Concern
TABLE 2	Sampling Field Data Worksheets
TABLE 3	Summary of Ground Water Laboratory Results - November 2000 - Purgeable Aromatics - EPA Method 602
TABLE 4	Summary of Ground Water Laboratory Results - November 2000 - Polynuclear Aromatic Hydrocarbons - EPA Method 610

FIGURES

FIGURE 1	Free Product Spatial Extent As Of November 2000
FIGURE 2	Free Product Spatial Extent (1997 – March 2000)
FIGURE 3	Benzene Concentrations (Water) Type II Wells (As of November 2000)
FIGURE 4	Benzene Concentrations (Water) Type II Wells (As of January – March 2000)
FIGURE 5	Benzene Concentrations (Water) Isopleths – Type II Wells, Hydropunches®, and DPTs (As of June – August 1997)
FIGURE 6	Benzene Concentrations (Water) – Isopleth Map (As of October – December 1995)
FIGURE 7	Benzene Concentrations (Water) Type III Wells (50' Deep) (As of November 2000)
FIGURE 8	Benzene Concentrations (Water) Type III Wells (Greater Than 50' Deep) (As of November 2000)
FIGURE 9	Total EPA Method 610 Concentrations (Water) Type II Wells (As of November 2000)

**FIGURE 10 Total EPA Method 610 Concentrations (Water) Type III Wells (50'
Deep) (As of November 2000)**

**FIGURE 11 Total EPA Method 610 Concentrations (Water) Type III Wells
(Greater Than 50' Deep) (As of November 2000)**

APPENDIX

APPENDIX A Laboratory Reports and Chain-of-Custody Documents

**WELL SAMPLING
MONITORING REPORT
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JULY 19, 2001

1.0 INTRODUCTION AND AUTHORIZATION

CATLIN Engineers and Scientists was authorized to perform ground water well sampling activities and to prepare this report by the Commander of the Atlantic Division (LANTDIV) Naval Facilities Engineering Command (NAVFACENGCOM) in accordance with Order for Supplies or Services Contract No. N62470-95-D-6009, Delivery Order No. 0118.

2.0 PURPOSE AND SCOPE OF WORK

The purpose of the additional investigation at the Hadnot Point Fuel Farm (HPFF) site was to:

- Provide an update on the free product plume configuration; and
- Provide ground water sampling analysis data to update the contaminant plume condition.

The former Hadnot Point Fuel Farm is located aboard the Marine Corps Base (MCB), Camp Lejeune, North Carolina. Any reference to the Hadnot Point Fuel Farm in this document should be construed as the former Hadnot Point Fuel Farm exclusive of the new temporary Fuel Farm.

The scope of work for this investigation involved the gauging of fluid levels in the existing Type II and Type III monitoring wells, and sampling and analysis of ground water from the existing Type II and Type III monitoring wells.

3.0 ADDITIONAL ASSESSMENT ACTIVITIES

In a continued effort to monitor the petroleum contamination of the ground water at HPFF, the following additional assessment activities were performed:

- The existing Type II and Type III monitoring wells were gauged for free product and depth to ground water, and
- Ground water samples were obtained for laboratory analysis per EPA Methods 602 and 610 from existing Type II and Type III monitoring wells.

The following summarizes the additional assessment activities performed at the site.

3.1 *Well Gauging Activities* *(Refer to Tables 1 and 2)*

In accordance with Delivery Order No. 0118, dated December 4, 2000, the existing Type II and Type III wells at the Hadnot Point Fuel Farm site were gauged for free product and depth to ground water. The intent of the gauging activities was to determine the spatial extent of free product at the site.

Well gauging was performed on November 13 through 21, 2000 and included the gauging of a total of 106 existing monitoring wells. Accumulations of free product (>0.01 feet) were identified in seven wells (HPFF-15, 0.58'; HPFF-28, 0.06'; MW-1, 0.02'; MW-2, 0.96'; MW-12, 0.20'; MW-15, 0.65'; and 78GW32-3, 0.06'). Free product data, and observations made during the gauging event can be found on Table 1 – Monitoring Wells of Concern. Monitoring well gauging data is included in the Monitoring Well and Sampling Field Data Worksheets – Table 2. Depth to ground water in the Type II wells ranged from 3.25 feet below top of well casing (TOC) in monitoring well GT-3 to 11.83 feet below TOC in monitoring well MW-10R. In the Type III wells, 50 feet deep, ground water ranged from 7.46 feet below TOC in 1115-19 to 14.85 feet below TOC in HPFF-8. In the Type III wells, greater than 50 feet deep, ground water ranged from 7.84 feet below TOC to 13.82 feet below TOC in wells 78GW32-2 and 78GW17-2 respectively. Please note, as the gauging data was obtained over an extended time period, an evaluation of ground water flow direction was not performed.

3.2 *Well Sampling Activities* *(Refer to Tables 1 through 4 and Appendix A)*

A total of 110 ground water samples were obtained from 100 existing monitoring wells (10 duplicates). Each well was gauged to determine the depth to ground water below the TOC and to calculate the volume of water in the well. Based on this data (see Table 2 for Monitoring Well and Sampling Field Data Worksheets), each well was purged a minimum of three well volumes using a new pre-cleaned, disposable bailer, a Geopump, or a Whale Pump. A ground water sample was collected using a bailer, or disposable pump tubing, poured into appropriate laboratory glassware, labeled and placed on ice in an insulated cooler. The ground water samples were transported to Paradigm Analytical Laboratories of Wilmington, North Carolina under proper chain-of-custody protocol (chain-of-custody forms are included with the Laboratory Reports in Appendix A).

At the laboratory, each ground water sample was analyzed for Purgeable Aromatics by EPA Method 602 (see Table 3 for laboratory results), and Polynuclear Aromatic Hydrocarbons by EPA Method 610 (see Table 4 for laboratory results). A total of 10 duplicate ground water samples were obtained for laboratory analysis. Duplicate samples were obtained from monitoring wells 1115-5, 1115-6, 1115-8, 1115-14, HPFF-9, HPFF-10, HPFF-12, HPFF-42, 78GW-17-2 and 78GW-31-2. Duplicate samples were analyzed per EPA Methods 602 and 610.

3.3 Free Product Plume (Refer to Figures 1 and 2)

The estimated areal extent of free product at the Hadnot Point Fuel Farm project site is illustrated on Figure 1. As shown on the Figure, free product (light non-aqueous phase liquid) was identified in seven wells. Based on a review of previous reports (see Figure 2 – Free Product Spatial Extent (1997 – March 2000)), it appears there is a continued reduction in the areal extent and measured thickness of the free product plume.

Monitoring well MW-2 was being utilized by the remediation contractor, the IT Group, when the CATLIN technicians were on-site and was not accessible. However, it is reported that 0.96 feet of free product was measured in this well on November 7, 2000. This data was utilized in this report to construct the free product spatial extent map (Figure 1).

Of note is the product identified in monitoring well 78GW32-3 which is reportedly a deep well, screened from 140 feet to 153 feet below land surface (BLS). It is suspected that either the well has been damaged, the well seal has been compromised and free product allowed to enter the well, or the pumping of potable water wells in the vicinity have drawn free product downward to a level which allowed the free product to enter the well. It is understood that product has previously been identified in this well by the remediation contractor, the IT Group, and has been subjected to aggressive fluid/vapor recovery efforts.

It should also be noted here that the measurement of free product in a well does not necessarily indicate the actual thickness of free product in the subsurface. There are a number of variables, which may affect the actual thickness of free product observed in a well. Among these factors is the capillary fringe. The height of the capillary fringe depends primarily on the size of the pore spaces in the soil medium. Hence, the smaller the grain size, the higher the capillary fringe. Inside a monitoring well there is essentially no capillary rise, and this missing capillary fringe allows an exaggerated thickness of free product to accumulate in the well. The top

of the free product will consequently rise inside the well to the same elevation as the top of the mobile free product in the soil formation.

Another factor which can exaggerate the actual thickness of free product observed in a monitoring well is a recent pumping, or aggressive fluid/vapor recovery event, which can draw product to a well.

3.4 Results of Ground Water Sampling (Refer to Tables 3 and 4 and Figures 3 through 11)

The results of laboratory analysis of ground water samples indicates the continued presence of petroleum related constituents in the ground water at the Hadnot Point Fuel Farm site. Tables 3 and 4 summarize the laboratory data from EPA Methods 602 and 610, respectively.

Figure 3 illustrates the concentrations of benzene detected in the samples obtained from the Type II (shallow) monitoring wells, and gives an estimated areal extent of the benzene plume. As can be seen, the plume is contained within the monitoring well network with the exception of the most northern boundary of the plume near monitoring well 1115-9. A maximum concentration of benzene (23,000 ug/L) was detected in the sample from monitoring well HPFF-29.

The historical benzene plumes are shown in Figures 4, 5 and 6. Figure 4 shows the benzene concentrations in the Type II wells based on ground water samples obtained in January, February, and March of 2000. This map is reprinted from the Leaking Underground Storage Tank Additional Site Assessment, Hadnot Point Fuel Farm/Building 1101 report, dated December 21, 2000, prepared by CATLIN.

Figure 5 shows the shallow benzene concentrations from ground water samples obtained in June, July, and August of 1997. This map is reprinted from CATLIN's report Leaking Underground Storage Tank Corrective Action Plan at the Hadnot Point Fuel Farm/Building 1115, dated April 30, 1998.

Figure 6 shows the benzene concentrations (water) – isopleth map based on ground water samples obtained in October, November, and December of 1995. This map is reprinted from Leaking Underground Storage Tank Comprehensive Site Assessment, Hadnot Point Fuel Farm, prepared by CATLIN, dated June 20, 1997. As can be seen by comparing these Figures, the benzene plume has remained essentially static from 1995 to the present.

Figure 7 illustrates the concentration of benzene from samples obtained from Type III (50' deep) monitoring wells. The maximum benzene

contamination was detected in the ground water sample from monitoring well 1115-20 at 23,000 ug/L. The benzene plume is not delineated in the Type III wells, 50 feet deep.

Benzene concentrations detected in samples from Type III monitoring wells greater than 50 feet deep are shown on Figure 8. As can be seen, the plume of dissolved benzene contamination is not totally delineated.

The total EPA Method 610 concentrations are shown on Figures 9, 10, and 11. The areal extent of the "610 plume" within the shallow aquifer is illustrated on Figure 9. As can be seen, the "610 plume" essentially mimics the benzene plume as shown on Figure 2.

Figures 10 and 11 show the total EPA Method 610 concentrations in the Type III wells – 50 feet deep and the Type III wells – greater than 50 feet deep, respectively.

4.0 SUMMARY AND CONCLUSIONS

4.1 *Free Product Contamination*

Free Product contamination has been identified and is still delineated within the Type II monitoring well network at the Hadnot Point Fuel Farm site. Based on a comparison with previous reports it appears that there is an overall reduction in areal extent and measured thicknesses.

One new area of free product was identified as part of this investigation (monitoring well 78GW32-3 with 0.06 feet of product).

4.2 *Ground Water Contamination*

Ground water contaminants consistent with the release of petroleum products have been identified in ground water samples taken at the HPFF project site.

In the upper portion of the aquifer (shallow Type II wells) the dissolved contaminant plume, as defined by benzene concentrations, is essentially delineated with the exception of the northwest corner of the plume. The plume of dissolved contamination has not shown any appreciable migration and has remained essentially static since the last sampling event in January – March, 2000.

5.0 RECOMMENDATIONS

The following recommendations are made based on observations made during this most recent sampling event and to better define the areal extent of dissolved phase contamination.

- Free product identified in monitoring well 78GW32-3 is puzzling since this well is reportedly a deep well screened from 148 feet to 153 feet below land surface. It is suspected that this well is either damaged, the well cap has been compromised allowing free product into the well, or the pumping of potable water wells in the vicinity have drawn free product into the well. It is recommended that this well be investigated to verify depth/well construction, and further recommendations be made based on the new information.
- The most northern portion of the shallow benzene plume, as previously discussed, is no longer contained within the monitoring well network at the site. It is recommended that an additional shallow monitoring well be installed north of monitoring well 1115-9 in order to define the benzene plume boundary. Monitoring well 78GW20 which has reportedly been destroyed and is north of 1115-9 should be replaced and should provide the needed plume boundary.
- The plume of dissolved contamination in the Type III monitoring wells, 50 feet deep is not fully delineated. The same holds true for the plume in the Type III monitoring wells greater than 50 feet deep. It is recommended that additional Type III wells be installed in order to define the areal extent of the dissolved contamination.
- Well MW-5 has historically been "clean"; however, it is in the central portion of the plume. It is suspected that the integrity of this well has been compromised allowing surface water into the well causing inaccurate sampling results. It is recommended that this well be properly abandoned and be replaced with a new well.
- Monitoring well MW-22 has reportedly been destroyed. It is recommended that this well be replaced with a new Type II monitoring well.
- Monitoring well MW-? (based on a review of previous reports, it has been identified as MW-23 and has been renamed as such in this report) was not found during the most recent sampling event. This well should not have been destroyed and should be located, possibly with a metal detector, as part of the next sampling event.
- Based on a review of previous reports, the monitoring well identified as MW-A is most likely MW-7 installed by O'Brian and Gere. As part of the

next sampling event, it is recommended that this well be investigated to determine if evidence exists to confirm its designation.

- Well HPFF-18 is reportedly filled with dirt and needs to be properly abandoned. A replacement well is not considered necessary.
- Monitoring wells MW-7, MW-8, MW-13, and MW-14 have reportedly been destroyed or have not been found as part of recent gauging events. It is recommended that an effort be made to find these wells, possibly utilizing GPS coordinates and/or a metal detector, as part of the next sampling event. However, replacement wells are not considered necessary.
- Monitoring wells GT-10 and 78GW22-1 have been investigated by IT Corp., and are destroyed.

6.0 REFERENCES

Hughes, John P., Sullivan, Clay R. & Zinner, Ronald E.; "Two Techniques for Determining the True Hydrocarbon Thickness in an Unconfined Sandy Aquifer."

Richard Catlin & Associates, Inc.; June 20, 1997, Leaking Underground Storage Tank Comprehensive Site Assessment, Hadnot Point Fuel Farm, Marine Corps Base, Camp Lejeune, North Carolina.

CATLIN Engineers and Scientists; April 30, 1998, Leaking Underground Storage Tank Corrective Action Plan at the Hadnot Point Fuel Farm/Building 1151, Marine Corps Base, Camp Lejeune, North Carolina.

CATLIN Engineers and Scientists; December 21, 2000, Leaking Underground Storage Tank Additional Site Assessment, Hadnot Point Fuel Farm/Building 1101, Marine Corps Base, Camp Lejeune, North Carolina.

TABLES

TABLE 1
MONITORING WELLS OF CONCERN

HADNOT POINT FUEL FARM
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE I.D.	Date	DTW	Product Thickness	Observations/Comments
1115-16	ND	NM	NM	NOT MEASURED
1115-18	11/13/00	NM	NMT	VERY RAPID BUBBLES
HPFF-15	11/16/00	6.68	0.58	FREE PRODUCT
HPFF-18	11/16/00	NM	NMT	FILLED WITH SAND
HPFF-28	11/16/00	5.79	0.06	FREE PRODUCT
HPFF-38	11/15/00	7.4	NMT	BUBBLING
MW-1	11/16/00	8.74	0.02	FREE PRODUCT
MW- 2	11/7/00	NM	0.96	FREE PRODUCT PER IT CORP.
MW-11	11/16/00	7.3	NMT	BUBBLING
MW-12	11/14/00	NM	0.2	FREE PRODUCT
MW-15	11/15/00	NM	0.65	FREE PRODUCT
MW-21	ND	NM	NM	NOT MEASURED
MW-23	ND	NM	NM	NOT FOUND
GT-3	11/14/00	3.25	NMT	BUBBLING
GT-5	11/14/00	6.04	NMT	BUBBLING
GT-7	11/15/00	7.45	NMT	RAPID BUBBLING
78GW32-3	11/14/00	8.86	0.06	FREE PRODUCT, DEEP WELL
MW-7	ND	NM	NM	NOT FOUND
MW-8	ND	NM	NM	NOT FOUND
MW-13	ND	NM	NM	NOT FOUND
MW-14	ND	NM	NM	NOT FOUND
MW-16R	ND	NM	NM	NOT MEASURED
MW-22	ND	NM	NM	REPORTED DESTROYED
GT-10	ND	NM	NM	CONFIRMED DESTROYED BY IT
78GW22-1	ND	NM	NM	CONFIRMED DESTROYED BY IT
78GW20	ND	NM	NM	REPORTED DESTROYED

NM - NOT MEASURED

NMT - NO MEASURED THICKNESS

ND - NO DATE

IT - IT CORPORATION

TABLE 2

Page 1 of 4

SAMPLING FIELD DATA WORKSHEETS

**HADNOT POINT FUEL FARM
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA**

Sampled by: BJA/JAC/CDJ/JCW

<i>Well No.</i>	<i>Date</i>	<i>Diameter</i>	<i>Well Depth (feet)</i>	<i>DTW (feet)</i>	<i>Feet of Water in Well</i>	<i>Gal/Foot</i>	<i>One Volume (gals.)</i>	<i>Three Volumes (gals.)</i>	<i>Volume Taken (gals.)</i>
1101-01	11/14/00	2.0"	13	7.2	5.8	0.163	0.9454	2.8362	3
1101-02	11/14/00	2.0"	13	7.69	5.31	0.163	0.86553	2.59659	2.7
1101-03	11/14/00	2.0"	13	7.38	5.62	0.163	0.91606	2.74818	2.8
1115-1	11/13/00	2.0"	15	7.91	7.09	0.163	1.15567	3.46701	3.5
1115-2	11/13/00	2.0"	14	8.02	5.98	0.163	0.97474	2.92422	3.0
1115-3	11/16/00	2.0"	20	6.70	13.3	0.163	2.1679	6.5037	6.6
1115-4	11/13/00	2.0"	15	5.89	9.11	0.163	1.48493	4.45479	4.5
1115-5	11/20/00	2.0"	15	4.68	10.32	0.163	1.68216	5.04648	5.2
1115-6	11/13/00	2.0"	15	9.06	5.94	0.163	0.96822	2.90466	3.0
1115-7	11/15/00	2.0"	15	6.15	8.85	0.163	1.444255	4.32765	4.4
1115-8	11/13/00	2.0"	15	9.01	5.99	0.163	0.97637	2.92911	3.0
1115-9	11/14/00	2.0"	15	9.95	5.05	0.163	0.82315	2.46945	2.5
1115-10	11/15/00	2.0"	14	3.63	10.37	0.163	1.69031	5.07093	5.2
1115-11	11/15/00	2.0"	15	8.71	6.29	0.163	1.02527	3.07581	3.2
1115-12	11/15/00	2.0"	15	5.69	9.31	0.163	1.51753	4.55259	9.7
1115-13	11/20/00	2.0"	51	9.45	41.55	0.163	6.77265	20.31795	20.7
1115-14	11/20/00	2.0"	51	11.43	39.57	0.163	6.44991	19.34973	6.8(1)
1115-15	11/20/00	2.0"	51	8.98	42.02	0.163	6.84926	20.54778	21.0
1115-16	-	6.0"	40	NM	NOT MEASURED				
1115-17	11/13/00	2.0"	50	9.16	40.84	0.163	6.65692	19.97076	20.4
1115-18	11/13/00	2.0"	50	NM	VERY RAPID BUBBLING AND OVERFLOWING				
1115-19	11/15/00	2.0"	50	7.46	42.54	0.163	6.93402	20.80206	21.5
1115-20	11/16/00	2.0"	50	7.48	42.52	0.163	6.93076	20.79228	21
1115-21	11/13/00	2.0"	51	8.68	42.32	0.163	6.89816	20.69448	21.5
1115-22	11/13/00	2.0"	80	10.84	69.16	0.163	11.27308	33.81924	34.5
1115-23	11/13/00	2.0"	80	9.97	70.03	0.163	11.41489	34.24467	35.5
1115-24	11/13/00	2.0"	80	9.96	70.04	0.163	11.41652	34.24956	35
1115-25	11/21/00	2.0"	80	9.44	70.56	0.163	11.50128	34.50384	35.2
GT-1	11/14/00	2.0"	20	4.60	15.4	0.163	2.5102	7.5306	7.7
GT-2	11/14/00	2.0"	20	5.79	14.21	0.163	2.31623	6.94869	7
GT-3	11/14/00	2.0"	20	3.25	16.75	0.163	2.73025	8.19075	8.4
GT-4	11/15/00	2.0"	20	5.25	14.75	0.163	2.40425	7.21275	7.4
GT-5	11/14/00	2.0"	20	6.04	13.96	0.163	2.27548	6.82644	7

TABLE 2

Page 2 of 4

SAMPLING FIELD DATA WORKSHEETS

HADNOT POINT FUEL FARM
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

Sampled by: BJA/JAC/CDJ/JCW

Well No.	Date	Diameter	Well Depth (feet)	DTW (feet)	Feet of Water in Well	Gal/Foot	One Volume (gals.)	Three Volumes (gals.)	Volume Taken (gals.)
GT-6	11/14/00	2.0"	20	5.42	14.58	0.163	2.37654	7.12962	7.3
GT-7	11/15/00	2.0"	19	7.45	11.55	0.163	1.88265	5.64795	5.8
GT-8	11/13/00	2.0"	20	6.70	13.3	0.163	2.1679	6.5037	6.7
GT-9	11/13/00	2.0"	20	5.73	14.27	0.163	2.32601	6.97803	7.1
GT-10		2.0"	20	NM	DESTROYED				
MW-A	11/15/00	2.0"	14	6.89	5.76	0.163	0.93888	2.81664	3.6
MW-1	11/16/00	2.0"	17	8.74	NOT SAMPLED 0.02' PRODUCT IN WELL				
MW-2	11/7/00	2.0"	17	NM	NOT SAMPLED 0.96' PRODUCT IN WELL PER IT CORP.				
MW-3	11/13/00	2.0"	15	7.38	7.62	0.163	1.24206	3.72618	3.8
MW-4	11/13/00	2.0"	15	8.75	6.25	0.163	1.01875	3.05625	3.1
MW-5	11/16/00	2.0"	15	5.95	9.05	0.163	1.47515	4.42545	4.5
MW-6	11/16/00	2.0"	15	8.31	6.69	0.163	1.09047	3.27141	3.3
MW-7		2.0"	15	NM	NOT FOUND				
MW-8		2.0"	15	NM	NOT FOUND				
MW-9	11/13/00	2.0"	15	9	6	0.163	0.978	2.934	3
MW-10R	11/16/00	2.0"	15	11.83	3.17	0.163	0.51671	1.55013	1.5
MW-11	11/16/00	2.0"	25	7.3	17.7	0.163	2.8851	8.6553	9
MW-12	11/14/00	2.0"	25	NM	NOT SAMPLED 0.20' PRODUCT IN WELL				
MW-13		2.0"	25	NM	NOT FOUND				
MW-14		2.0"	25	NM	NOT FOUND				
MW-15	11/15/00	2.0"	25	NM	NOT SAMPLED 0.65' PRODUCT IN WELL				
MW-16R		2.0"	25	NM	NOT MEASURED				
MW-17	11/15/00	4.0"	25	10.62	14.38	0.653	9.39014	28.17042	7.2(2)
MW-18	11/16/00	4.0"	25	10.68	14.32	0.653	9.35096	28.05288	28
MW-19	11/15/00	4.0"	25	11.2	13.8	0.653	9.0114	27.0342	7(2)
MW-20	11/21/00	4.0"	24	8.05	15.95	0.653	10.41535	31.24605	31.9
MW-21		2.0"	19	NM	NOT MEASURED				
MW-22		2.0"	15	NM	REPORTED DESTROYED				
MW-23		2.0"	15	NM	NOT FOUND				
HPFF-1	11/15/00	2.0"	15	5.17	9.83	0.163	1.60229	4.80687	5
HPFF-2	11/16/00	2.0"	15	6.05	8.95	0.163	1.45885	4.37655	4
HPFF-3	11/15/00	2.0"	14	9.25	4.75	0.163	0.77425	2.32275	2.3
HPFF-4	11/13/00	2.0"	15	9.2	5.8	0.163	0.9454	2.8362	3

TABLE 2

Page 3 of 4

SAMPLING FIELD DATA WORKSHEETS

HADNOT POINT FUEL FARM
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

Sampled by: BJA/JAC/CDJ/JCW

Well No.	Date	Diameter	Well Depth (feet)	DTW (feet)	Feet of Water in Well	Gal/Foot	One Volume (gals.)	Three Volumes (gals.)	Volume Taken (gals.)
HPFF-5	11/14/00	2.0"	15	6.32	8.68	0.163	1.41484	4.24452	4.3
HPFF-6	11/21/00	2.0"	48	10.09	37.91	0.163	6.17933	18.53799	19
HPFF-7	11/15/00	2.0"	49	8.86	40.14	0.163	6.54282	19.62846	20
HPFF-8	11/15/00	2.0"	47.5	14.85	32.65	0.163	5.32195	15.96585	17.3
HPFF-9	11/14/00	2.0"	50	7.84	42.16	0.163	6.87208	20.61624	21
HPFF-10	11/21/00	2.0"	80	13.4	66.6	0.163	10.8558	32.5674	33
HPFF-11	11/16/00	2.0"	110	13.08	96.92	0.163	15.79796	47.39388	48.5
HPFF-12	11/15/00	2.0"	110	9.87	100.13	0.163	16.32119	48.96357	50.1
HPFF-13	11/13/00	2.0"	110	9.95	100.05	0.163	16.30815	48.92445	49.5
HPFF-14	11/15/00	2.0"	15	7.07	7.93	0.163	1.29259	3.87777	4
HPFF-15	11/16/00	2.0"	15	6.68	NOT SAMPLED 0.58' PRODUCT IN WELL				
HPFF-16	11/15/00	2.0"	15	7.13	7.87	0.163	1.28281	3.84843	4
HPFF-17	11/16/00	2.0"	15	7.3	7.7	0.163	1.2551	3.7653	4
HPFF-18	11/16/00	2.0"	15	NM	FILLED WITH SAND				
HPFF-19	11/14/00	2.0"	15	4.86	10.14	0.163	1.65282	4.95846	5
HPFF-20	11/15/00	2.0"	15	7.4	7.6	0.163	1.2388	3.7164	3.8
HPFF-21	11/15/00	2.0"	14.5	5.36	9.14	0.163	1.48982	4.46946	4.6
HPFF-22	11/15/00	2.0"	15	?	10	0.163	1.63	4.89	? (3)
HPFF-23	11/16/00	2.0"	12.5	6.01	6.49	0.163	1.05787	3.17361	2(4)
HPFF-24	11/16/00	2.0"	15.3	11.1	4.2	0.163	0.6846	2.0538	2
HPFF-25	11/16/00	2.0"	15.3	11.21	4.09	0.163	0.66667	2.00001	2
HPFF-26	11/16/00	2.0"	15.3	11.92	3.38	0.163	0.55094	1.65282	1.7
HPFF-27	11/14/00	2.0"	14	10	4	0.163	0.652	1.956	2
HPFF-28	11/16/00	2.0"	14	5.79	NOT SAMPLED 0.06' PRODUCT IN WELL				
HPFF-29	11/16/00	2.0"	14	5.87	8.13	0.163	1.32519	3.97557	4
HPFF-30	11/15/00	2.0"	12	4.65	7.35	0.163	1.19805	3.59415	3.7
HPFF-31	11/15/00	2.0"	14	8.01	5.99	0.163	0.97637	2.92911	4.5
HPFF-32	11/13/00	2.0"	14	9.54	4.46	0.163	0.72698	2.18094	2.2
HPFF-33	11/13/00	2.0"	14	9.93	4.07	0.163	0.66341	1.99023	2
HPFF-34	11/13/00	2.0"	14	7.5	6.5	0.163	1.0595	3.1785	3.3
HPFF-35	11/13/00	2.0"	15	7.2	7.8	0.163	1.2714	3.8142	4
HPFF-36	11/13/00	2.0"	13.9	7.51	6.39	0.163	1.04157	3.12471	3.2
HPFF-37	11/13/00	2.0"	13.83	7.07	6.76	0.163	1.10188	3.30564	3.4

TABLE 2

Page 4 of 4

SAMPLING FIELD DATA WORKSHEETS

HADNOT POINT FUEL FARM
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

Sampled by: BJA/JAC/CDJ/JCW

Well No.	Date	Diameter	Well Depth (feet)	DTW (feet)	Feet of Water in Well	Gal/Foot	One Volume (gals.)	Three Volumes (gals.)	Volume Taken (gals.)
HPFF-38	11/15/00	2.0"	14	7.4	6.6	0.163	1.0758	3.2274	3.8
HPFF-39	11/13/00	2.0"	15	4.96	10.04	0.163	1.63652	4.90956	5
HPFF-40	11/15/00	2.0"	15	5.65	9.35	0.163	1.52405	4.57215	4.5
HPFF-41	11/16/00	2.0"	15	7.85	7.15	0.163	1.16545	3.49635	3.4
HPFF-42	11/15/00	2.0"	15	5.97	9.03	0.163	1.47189	4.41567	4.4
78GW12	11/13/00	2.0"	25	11.07	13.93	0.163	2.27059	6.81177	7
78GW13	11/16/00	2.0"	25	11.09	13.91	0.163	2.26733	6.80199	7
78GW14	11/13/00	2.0"	25	7.67	17.33	0.163	2.82479	8.47437	3.7(5)
78GW15	11/13/00	2.0"	25	7.4	17.6	0.163	2.8688	8.6064	8.8
78GW16	11/13/00	2.0"	25	11.47	13.53	0.163	2.20539	6.61617	6.8
78GW17-1	11/16/00	2.0"	25	10.3	14.7	0.163	2.3961	7.1883	7.4
78GW17-2	11/15/00	2.0"	73	13.82	59.18	0.163	9.64634	28.93902	26(6)
78GW19	11/13/00	2.0"	25	11.1	13.9	0.163	2.2657	6.7971	7
78GW20		2.0"	25	NM	REPORTED DESTROYED				
78GW21	11/15/00	2.0"	25	9.75	15.25	0.163	2.48575	7.45725	7.6
78GW22-1		2.0"	25	NM	REPORTED DESTROYED				
78GW22-2	11/13/00	2.0"	17 (7)	8.23	8.77	0.163	1.42951	4.28853	4.4
78GW31-2	11/16/00	4.0"	78	9.73	68.27	0.653	44.58031	133.74093	136
78GW31-3	11/16/00	4.0"	153	9.59	143.41	0.653	93.64673	280.94019	286
78GW32-2	11/14/00	4.0"	77	8.24	68.76	0.653	44.90028	134.70084	137
78GW32-3	11/14/00	4.0"	153	8.86	NOT SAMPLED 0.06' PRODUCT IN WELL				

NM = Not Measured

- 1 = Well depth was recorded as 25 feet deep in the field.
- 2 = Purge volume was calculated using incorrect well diameter (2" vs. 4")
- 3 = No depth to water recorded
- 4 = Well depth was recorded as 10 feet deep in the field
- 5 = Well depth was recorded as 15 feet deep in the field
- 6 = Well depth was recorded as 66.5 feet deep in the field
- 7 = Well depth unsure, depth taken from previous sampling event, and not from previous report review

TABLE 3 (Page 1 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000

PURGEABLE AROMATICS - EPA METHOD 602

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD *	1101-1	1101-2	1101-3	1115-1	1115-2	1115-3	1115-4	1115-5	1115-5 DUP	1115-6
DATE SAMPLED		11/14/00	11/13/00	11/13/00	11/13/00	11/13/00	11/13/00	11/13/00	11/20/00	11/20/00	11/13/00
ANALYTE											
Benzene	1	BQL	BQL	BQL	BQL	BQL	11	BQL	1900	1800	81
Diisopropyl ether (DIPE)	70	BQL	BQL	BQL	BQL	BQL	3	BQL	250	130	5
Ethylbenzene	29	BQL	BQL	BQL	BQL	BQL	BQL	BQL	2400	2300	BQL
Methyl-tert-butyl-ether	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1,000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	7100	6300	BQL
m/p-Xylene	530	BQL	BQL	BQL	BQL	BQL	BQL	BQL	4800	4500	BQL
o-Xylene	TOTAL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	2600	2500	BQL
TOTALS		BQL	BQL	BQL	BQL	BQL	14	BQL	19,050	17,530	86

TABLE 3 (Page 2 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000

PURGEABLE AROMATICS - EPA METHOD 602

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD *	1115-6 DUP	1115-7	1115-8	1115-8 DUP	1115-9	1115-10	1115-11	1115-12	1115-13 (III)	1115-14 (III)
DATE SAMPLED		11/13/00	11/15/00	11/13/00	11/13/00	11/14/00	11/15/00	11/15/00	11/15/00	11/20/00	11/20/00
ANALYTE											
Benzene	1	67	3000	BQL	BQL	800	200	140	2000	10000	300
Diisopropyl ether (DIPE)	70	4	310	BQL	BQL	21	15	14	25	660	270
Ethylbenzene	29	BQL	1100	BQL	BQL	11	35	3	240	810	36
Methyl-tert-butyl-ether	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1,000	BQL	7700	BQL	BQL	23	2	6	1400	89	99
m/p-Xylene	530	BQL	2400	BQL	BQL	9	BQL	11	430	410	40
o-Xylene	TOTAL	BQL	1300	BQL	BQL	2	BQL	4	350	86	71
TOTALS		71	15,810	BQL	BQL	866	252	178	4,445	12,055	816

TABLE 3 (Page 3 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000

PURGEABLE AROMATICS - EPA METHOD 602

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD *	1115-14 DUP (III)	1115-15 (III)	1115-17 (III)	1115-18 (III)	1115-19 (III)	1115-20 (III)	1115-21 (III)	1115-22 (III>50)	1115-23 (III>50)	1115-24 (III>50)
DATE SAMPLED		11/20/00	11/20/00	11/13/00	11/13/00	11/16/00	11/16/00	11/13/00	11/13/00	11/13/00	11/13/00
ANALYTE											
Benzene	1	310	6100	9400	280	2200	23000	1600	1100	6	3100
Diisopropyl ether (DIPE)	70	270	1100	1000	240	860	11000	690	20	64	1100
Ethylbenzene	29	37	450	1000	13	120	2200	1	7	6	7
Methyl-tert-butyl-ether	200	BQL	BQL	BQL	BQL	2	16	BQL	BQL	BQL	BQL
Toluene	1,000	96	14	66	1	33	31000	1	5	BQL	BQL
m/p-Xylene	530	42	83	690	5	39	5600	BQL	BQL	BQL	BQL
o-Xylene	TOTAL	74	8	200	3	74	2600	BQL	BQL	BQL	BQL
TOTALS		829	7,755	12,356	542	3,328	75,416	2,292	1,132	76	4,207

TABLE 3 (Page 4 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000

PURGEABLE AROMATICS - EPA METHOD 602

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD *	1115-25 (III>50)	GT-1	GT-2	GT-3	GT-4	GT-5	GT-6	GT-7	GT-8	GT-9
DATE SAMPLED		11/20/00	11/14/00	11/14/00	11/14/00	11/15/00	11/14/00	11/14/00	11/15/00	11/13/00	11/13/00
ANALYTE											
Benzene	1	770	120	21000	1800	120	7	4000	1000	4	3
Diisopropyl ether (DIPE)	70	23	5	10	350	15	2	6	78	BQL	13
Ethylbenzene	29	1	44	9800	880	98	27	3000	11	BQL	BQL
Methyl-tert-butyl-ether	200	BQL	BQL	BQL	BQL	BQL	BQL	9	BQL	BQL	BQL
Toluene	1,000	8	35	51000	3900	140	4	9500	21	BQL	BQL
m/p-Xylene	530	BQL	48	25000	1900	430	190	6200	9	BQL	BQL
o-Xylene	TOTAL	BQL	23	12000	1900	120	13	3700	3	BQL	BQL
TOTALS		802	275	118,810	10,730	923	243	26,415	1,122	4	16

TABLE 3 (Page 5 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000

PURGEABLE AROMATICS - EPA METHOD 602

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD ★	MW-A	MW-3	MW-4	MW-5	MW-6	MW-9	MW-10R	MW-11	MW-17	MW-18
DATE SAMPLED		11/13/00	11/13/00	11/13/00	11/16/00	11/16/00	11/13/00	11/16/00	11/16/00	11/15/00	11/16/00
ANALYTE											
Benzene	1	2900	BQL	BQL	BQL	28	BQL	3800	550	15000	15000
Diisopropyl ether (DIPE)	70	38	BQL	BQL	BQL	BQL	BQL	220	73	BQL	1800
Ethylbenzene	29	1600	BQL	BQL	BQL	17	BQL	1200	450	560	2200
Methyl-tert-butyl-ether	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	4	65	BQL
Toluene	1,000	7200	BQL	BQL	BQL	7	BQL	8000	2200	13000	34000
m/p-Xylene	530	6100	BQL	BQL	BQL	28	BQL	4800	1200	2600	9300
o-Xylene	TOTAL	2900	BQL	BQL	BQL	5	BQL	1700	840	1100	4900
TOTALS		20,738	BQL	BQL	BQL	85	BQL	19,720	5,317	32,325	67,200

TABLE 3 (Page 6 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000

PURGEABLE AROMATICS - EPA METHOD 602

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD *	MW-19	MW-20	HPFF-1	HPFF-2	HPFF-3	HPFF-4	HPFF-5	HPFF-6 (III)	HPFF-7 (III)	HPFF-8 (III)
DATE SAMPLED		11/15/00	11/20/00	11/15/00	11/16/00	11/15/00	11/13/00	11/14/00	11/20/00	11/15/00	11/15/00
ANALYTE											
Benzene	1	BQL	BQL	BQL	BQL	BQL	BQL	140	BQL	6	8500
Diisopropyl ether (DIPE)	70	BQL	BQL	BQL	BQL	BQL	BQL	14	BQL	BQL	2200
Ethylbenzene	29	BQL	BQL	BQL	BQL	BQL	BQL	6	BQL	33	600
Methyl-tert-butyl-ether	200	BQL	BQL	BQL	BQL	BQL	BQL	12	BQL	BQL	BQL
Toluene	1,000	BQL	BQL	BQL	BQL	BQL	BQL	3	BQL	1	1200
m/p-Xylene	530	BQL	BQL	BQL	BQL	BQL	BQL	2	BQL	3	1000
o-Xylene	TOTAL	BQL	BQL	BQL	BQL	BQL	BQL	1	BQL	BQL	520
TOTALS		BQL	BQL	BQL	BQL	BQL	BQL	178	BQL	43	14,020

TABLE 3 (Page 7 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000

PURGEABLE AROMATICS - EPA METHOD 602

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD *	HPFF-9 (III)	HPFF-9 DUP (III)	HPFF-10 (III>50)	HPFF-10 DUP (III>50)	HPFF-11 (III>50)	HPFF-12 (III>50)	HPFF-12 DUP (III>50)	HPFF-13 (III>50)	HPFF-14	HPFF-16
DATE SAMPLED		11/14/00	11/14/00	11/20/00	11/20/00	11/16/00	11/15/00	11/15/00	11/13/00	11/15/00	11/15/00
ANALYTE											
Benzene	1	17000	17000	2000	2000	59	1600	1700	180	1400	580
Diisopropyl ether (DIPE)	70	1900	2000	12	12	1	44	44	10	29	12
Ethylbenzene	29	1300	1300	34	34	1	19	5	BQL	960	44
Methyl-tert-butyl-ether	200	13	12	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1,000	2400	2300	38	46	BQL	110	57	BQL	5000	21
m/p-Xylene	530	820	800	8	11	BQL	53	9	BQL	3200	16
o-Xylene	TOTAL	380	370	BQL	BQL	BQL	28	3	BQL	1700	9
TOTALS		23,813	23,782	2,092	2,103	61	1,854	1,818	190	12,289	682

TABLE 3 (Page 8 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000

PURGEABLE AROMATICS - EPA METHOD 602

**HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

	NC GROUND WATER STANDARD *	HPFF-17	HPFF-19	HPFF-20	HPFF-21	HPFF-22	HPFF-23	HPFF-24	HPFF-25	HPFF-26	HPFF-27
DATE SAMPLED		11/16/00	11/14/00	11/15/00	11/16/00	11/15/00	11/16/00	11/16/00	11/16/00	11/16/00	11/14/00
ANALYTE											
Benzene	1	540	20000	5800	6	11000	5200	1700	13000	BQL	45
Diisopropyl ether (DIPE)	70	48	4700	1000	BQL	220	1100	440	4800	BQL	BQL
Ethylbenzene	29	99	3100	820	1	790	1100	110	3400	BQL	BQL
Methyl-tert-butyl-ether	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1,000	360	30000	18000	17	11000	17000	2200	36000	BQL	1
m/p-Xylene	530	230	8900	3400	7	3500	6400	1500	12000	BQL	BQL
o-Xylene	TOTAL	120	4400	2000	3	1800	2800	1600	4700	BQL	BQL
TOTALS		1,397	71,110	31,020	34	28,310	33,600	7,550	73,900	BQL	46

TABLE 3 (Page 9 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000

PURGEABLE AROMATICS - EPA METHOD 602

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD *	HPFF-29	HPFF-30	HPFF-31	HPFF-32	HPFF-33	HPFF-34	HPFF-35	HPFF-36	HPFF-37	HPFF-38
DATE SAMPLED		11/16/00	11/15/00	11/13/00	11/13/00	11/13/00	11/13/00	11/13/00	11/13/00	11/13/00	11/15/00
ANALYTE											
Benzene	1	23000	150	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Diisopropyl ether (DIPE)	70	6800	12	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29	6700	4	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Methyl-tert-butyl-ether	200	1600	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1,000	47000	13	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
m/p-Xylene	530	20000	25	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
o-Xylene	TOTAL	8300	22	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		113,400	226	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL

TABLE 3 (Page 10 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000

PURGEABLE AROMATICS - EPA METHOD 602

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD *	HPFF-39	HPFF-40	HPFF-41	HPFF-42	HPFF-42 DUP	78GW- 12	78GW- 13	78GW- 14	78GW- 15	78GW- 16
DATE SAMPLED		11/13/00	11/15/00	11/16/00	11/15/00	11/15/00	11/13/00	11/16/00	11/13/00	11/13/00	11/13/00
ANALYTE											
Benzene	1	BQL	BQL	86	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Diisopropyl ether (DIPE)	70	BQL	BQL	15	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29	BQL	BQL	1	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Methyl-tert-butyl-ether	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1,000	BQL	BQL	11	BQL	BQL	BQL	BQL	BQL	BQL	BQL
m/p-Xylene	530	BQL	BQL	8	BQL	BQL	BQL	BQL	BQL	BQL	BQL
o-Xylene	TOTAL	BQL	BQL	8	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		BQL	BQL	129	BQL	BQL	BQL	BQL	BQL	BQL	BQL

TABLE 3 (Page 11 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000

PURGEABLE AROMATICS - EPA METHOD 602

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD *	78GW- 17-1	78GW- 17-2 (III>50)	78GW- 17-2 DUP	78GW- 19	78GW- 21	78GW- 22-2	78GW- 31-2 (III>50)	78GW- 31-2 DUP (III>50)	78GW- 31-3 (III>50)	78GW- 32-2 (III>50)
DATE SAMPLED		11/16/00	11/15/00	11/15/00	11/13/00	11/15/00	11/13/00	11/16/00	11/16/00	11/16/00	11/14/00
ANALYTE											
Benzene	1	BQL	1	1	25	BQL	28	BQL	BQL	BQL	23
Diisopropyl ether (DIPE)	70	BQL	BQL	BQL	1	BQL	3	BQL	BQL	BQL	220
Ethylbenzene	29	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Methyl-tert-butyl-ether	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1,000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
m/p-Xylene	530	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
o-Xylene	TOTAL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		BQL	1	1	26	BQL	31	BQL	BQL	BQL	243

* = All results in ug/L (ppb)

BQL = Below Quantitation Limits

Shaded areas indicate concentrations in excess of NCAC T15A:02L Standards.

(III) = Type III Well, 50 feet deep

(III>50) = Type III Well, greater than 50 feet deep

TABLE 4 (Page 1 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000
POLYNUCLEAR AROMATIC HYDROCARBONS - EPA METHOD 610

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD*	1101-1	1101-2	1101-3	1115-1	1115-2	1115-3	1115-4	1115-5	1115-5 DUP	1115-6
DATE SAMPLED		11/14/00	11/13/00	11/13/00	11/13/00	11/13/00	11/16/00	11/13/00	11/20/00	11/20/00	11/13/00
ANALYTE											
Acenaphthene	80	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	NE	BQL	BQL	BQL	BQL	BQL	BQL	BQL	720	700	BQL
2-Methylnaphthalene	28	BQL	BQL	BQL	BQL	BQL	BQL	BQL	1,400	500	BQL
Naphthalene	21	BQL	BQL	BQL	BQL	BQL	BQL	BQL	1,800	2,000	BQL
Anthracene	2100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]anthracene	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	0.0047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[b]fluoranthene	0.047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[k]fluoranthene	0.47	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenanthrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	12	BQL
All other compounds**	Varies	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		BQL	BQL	BQL	BQL	BQL	BQL	BQL	3,920	2,682	BQL

TABLE 4 (Page 2 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000
POLYNUCLEAR AROMATIC HYDROCARBONS - EPA METHOD 610

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD*	1115-6 DUP	1115-7	1115-8	1115-8 DUP	1115-9	1115-10	1115-11	1115-12	1115-13 (III)	1115-14 (III)
DATE SAMPLED		11/13/00	11/15/00	11/13/00	11/13/00	11/14/00	11/15/00	11/15/00	11/15/00	11/20/00	11/20/00
ANALYTE											
Acenaphthene	80	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	21	BQL
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	NE	BQL	43	BQL	BQL	BQL	BQL	BQL	11	57	BQL
2-Methylnaphthalene	28	BQL	70	BQL	BQL	BQL	25	BQL	17	80	BQL
Naphthalene	21	BQL	170	BQL	BQL	BQL	17	BQL	44	980	26
Anthracene	2100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]anthracene	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	0.0047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[b]fluoranthene	0.047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[k]fluoranthene	0.47	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenanthrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
All other compounds**	Varies	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		BQL	283	BQL	BQL	BQL	42	BQL	72	1,138	26

TABLE 4 (Page 3 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000
POLYNUCLEAR AROMATIC HYDROCARBONS - EPA METHOD 610

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD*	1115-14 DUP (III)	1115-15 (III)	1115-17 (III)	1115-18 (III)	1115-19 (III)	1115-20 (III)	1115-21 (III)	1115-22 (III>50)	1115-23 (III>50)	1115-24 (III>50)
DATE SAMPLED		11/20/00	11/20/00	11/13/00	11/13/00	11/16/00	11/16/00	11/13/00	11/13/00	11/13/00	11/13/00
ANALYTE											
Acenaphthene	80	BQL	BQL	34	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	280	BQL	BQL	18	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	NE	BQL	12	36	BQL	BQL	15	BQL	BQL	BQL	BQL
2-Methylnaphthalene	28	BQL	14	47	BQL	BQL	19	BQL	BQL	BQL	BQL
Naphthalene	21	25	140	470	BQL	22	240	12	BQL	BQL	BQL
Anthracene	2100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]anthracene	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	0.0047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[b]fluoranthene	0.047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[k]fluoranthene	0.47	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenanthrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
All other compounds**	Varies	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		25	166	605	BQL	22	274	12	BQL	BQL	BQL

TABLE 4 (Page 4 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000
POLYNUCLEAR AROMATIC HYDROCARBONS - EPA METHOD 610

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD*	1115-25 (III>50)	GT-1	GT-2	GT-3	GT-4	GT-5	GT-6	GT-7	GT-8	GT-9
DATE SAMPLED		11/20/00	11/14/00	11/14/00	11/14/00	11/15/00	11/14/00	11/14/00	11/15/00	11/13/00	11/13/00
ANALYTE											
Acenaphthene	80	BQL	BQL	BQL	25	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	280	BQL	BQL	BQL	20	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	NE	BQL	BQL	170	100	BQL	BQL	20	BQL	BQL	BQL
2-Methylnaphthalene	28	BQL	BQL	320	210	BQL	BQL	29	BQL	BQL	BQL
Naphthalene	21	BQL	BQL	740	220	17	32	130	BQL	BQL	BQL
Anthracene	2100	BQL	BQL	BQL	22	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]anthracene	0.05	BQL	BQL	BQL	32	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	0.0047	BQL	BQL	BQL	21	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[b]fluoranthene	0.047	BQL	BQL	BQL	26	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[k]fluoranthene	0.47	BQL	BQL	BQL	17	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	5	BQL	BQL	BQL	25	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	280	BQL	BQL	23	92	BQL	BQL	BQL	BQL	BQL	BQL
Phenanthrene	210	BQL	BQL	19	89	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	210	BQL	BQL	22	100	BQL	BQL	BQL	BQL	BQL	BQL
All other compounds**	Varies	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		BQL	BQL	1,294	999	17	32	179	BQL	BQL	BQL

TABLE 4 (Page 5 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000
POLYNUCLEAR AROMATIC HYDROCARBONS - EPA METHOD 610

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD*	MW-A	MW-3	MW-4	MW-5	MW-6	MW-9	MW-10R	MW-11	MW-17	MW-18
DATE SAMPLED		11/15/00	11/13/00	11/13/00	11/16/00	11/16/00	11/13/00	11/16/00	11/16/00	11/15/00	11/16/00
ANALYTE											
Acenaphthene	80	13	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	280	17	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	NE	430	BQL	BQL	BQL	41	BQL	250	BQL	28	310
2-Methylnaphthalene	28	650	BQL	BQL	BQL	78	BQL	370	BQL	50	560
Naphthalene	21	1,100	BQL	BQL	BQL	BQL	BQL	460	BQL	270	1,400
Anthracene	2100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]anthracene	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	0.0047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[b]fluoranthene	0.047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[k]fluoranthene	0.47	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	280	BQL	BQL	BQL	BQL	BQL	BQL	12	BQL	BQL	BQL
Phenanthrene	210	23	BQL	BQL	BQL	BQL	BQL	21	BQL	BQL	10
Pyrene	210	BQL	BQL	BQL	BQL	BQL	BQL	12	BQL	BQL	BQL
All other compounds**	Varies	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		2,233	BQL	BQL	BQL	119	BQL	1,125	BQL	348	2,280

TABLE 4 (Page 6 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000
POLYNUCLEAR AROMATIC HYDROCARBONS - EPA METHOD 610

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD*	MW-19	MW-20	HPFF-1	HPFF-2	HPFF-3	HPFF-4	HPFF-5	HPFF-6 (III)	HPFF-7 (III)	HPFF-8 (III)
DATE SAMPLED		11/15/00	11/20/00	11/15/00	11/16/00	11/15/00	11/13/00	11/14/00	11/20/00	11/15/00	11/15/00
ANALYTE											
Acenaphthene	80	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	NE	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	16
2-Methylnaphthalene	28	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	25
Naphthalene	21	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	170
Anthracene	2100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]anthracene	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	0.0047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[b]fluoranthene	0.047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[k]fluoranthene	0.47	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenanthrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
All other compounds**	Varies	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	211

TABLE 4 (Page 7 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000
POLYNUCLEAR AROMATIC HYDROCARBONS - EPA METHOD 610

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD*	HPFF-9 (III)	HPFF-9 DUP (III)	HPFF-10 (III>50)	HPFF-10 DUP (III>50)	HPFF-11 (III>50)	HPFF-12 (III>50)	HPFF-12 DUP (III>50)	HPFF-13 (III>50)	HPFF-14	HPFF-16
DATE SAMPLED		11/14/00	11/14/00	11/20/00	11/20/00	11/16/00	11/15/00	11/15/00	11/13/00	11/15/00	11/15/00
ANALYTE											
Acenaphthene	80	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	NE	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	57	BQL
2-Methylnaphthalene	28	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	75	BQL
Naphthalene	21	82	93	BQL	BQL	BQL	BQL	BQL	BQL	190	32
Anthracene	2100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]anthracene	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	0.0047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[b]fluoranthene	0.047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[k]fluoranthene	0.47	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenanthrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
All other compounds**	Varies	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		82	93	BQL	BQL	BQL	BQL	BQL	BQL	322	BQL

TABLE 4 (Page 8 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000
POLYNUCLEAR AROMATIC HYDROCARBONS - EPA METHOD 610

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD*	HPFF-17	HPFF-19	HPFF-20	HPFF-21	HPFF-22	HPFF-23	HPFF-24	HPFF-25	HPFF-26	HPFF-27
DATE SAMPLED		11/16/00	11/14/00	11/15/00	11/16/00	11/15/00	11/16/00	11/16/00	11/16/00	11/16/00	11/14/00
ANALYTE											
Acenaphthene	80	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	NE	BQL	88	38	BQL	37	36	26	440	BQL	BQL
2-Methylnaphthalene	28	BQL	150	63	BQL	55	33	57	750	BQL	BQL
Naphthalene	21	BQL	360	190	BQL	250	210	120	1,000	BQL	BQL
Anthracene	2100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]anthracene	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	0.0047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[b]fluoranthene	0.047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[k]fluoranthene	0.47	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenanthrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
All other compounds**	Varies	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		BQL	598	291	BQL	342	299	203	2,190	BQL	BQL

TABLE 4 (Page 9 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000
POLYNUCLEAR AROMATIC HYDROCARBONS - EPA METHOD 610

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD*	HPFF-29	HPFF-30	HPFF-31	HPFF-32	HPFF-33	HPFF-34	HPFF-35	HPFF-36	HPFF-37	HPFF-38
DATE SAMPLED		11/16/00	11/15/00	11/15/00	11/13/00	11/13/00	11/13/00	11/13/00	11/13/00	11/13/00	11/15/00
ANALYTE											
Acenaphthene	80	56	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthylene	210	20	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	280	65	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	NE	2,300	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylnaphthalene	28	4,000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Naphthalene	21	5,800	BQL	BQL	BQL	BQL	11	BQL	BQL	BQL	BQL
Anthracene	2100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]anthracene	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	0.0047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[b]fluoranthene	0.047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[k]fluoranthene	0.47	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	280	20	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenanthrene	210	73	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	210	16	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
All other compounds**	Varies	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		12,350	BQL	BQL	BQL	BQL	11	BQL	BQL	BQL	BQL

TABLE 4 (Page 10 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000
POLYNUCLEAR AROMATIC HYDROCARBONS - EPA METHOD 610

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD*	HPFF-39	HPFF-40	HPFF-41	HPFF-42	HPFF-42 DUP	78GW- 12	78GW- 13	78GW- 14	78GW- 15	78GW- 16
DATE SAMPLED		11/13/00	11/15/00	11/16/00	11/15/00	11/15/00	11/13/00	11/16/00	11/13/00	11/13/00	11/13/00
ANALYTE											
Acenaphthene	80	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	NE	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylnaphthalene	28	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Naphthalene	21	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Anthracene	2100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]anthracene	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	0.0047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[b]fluoranthene	0.047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[k]fluoranthene	0.47	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenanthrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
All other compounds**	Varies	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL

TABLE 4 (Page 11 of 11)

SUMMARY OF GROUND WATER LABORATORY RESULTS *
NOVEMBER 2000
POLYNUCLEAR AROMATIC HYDROCARBONS - EPA METHOD 610

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

	NC GROUND WATER STANDARD*	78GW- 17-1	78GW- 17-2 (III>50)	78GW- 17-2 DUP (III>50)	78GW- 19	78GW- 21	78GW- 22-2	78GW- 31-2 (III>50)	78GW- 31-2 DUP (III>50)	78GW- 31-3 (III>50)	78GW- 32-2 (III>50)
DATE SAMPLED		11/16/00	11/15/00	11/15/00	11/13/00	11/15/00	11/13/00	11/16/00	11/16/00	11/16/00	11/14/00
ANALYTE											
Acenaphthene	80	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	NE	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylnaphthalene	28	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Naphthalene	21	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Anthracene	2100	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]anthracene	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	0.0047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[b]fluoranthene	0.047	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[k]fluoranthene	0.47	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenanthrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
All other compounds**	Varies	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
TOTALS		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL

* = All results in µg/l (ppb)

Shaded areas indicate concentrations in excess of NCACT15A:02L Standards

BQL = Below Quantitation Limit

III) = Type III well, 50 feet deep

** = All compounds listed in Laboratory Reports in Appendix A (III > 50) = Type III well, greater than 50'

FIGURES



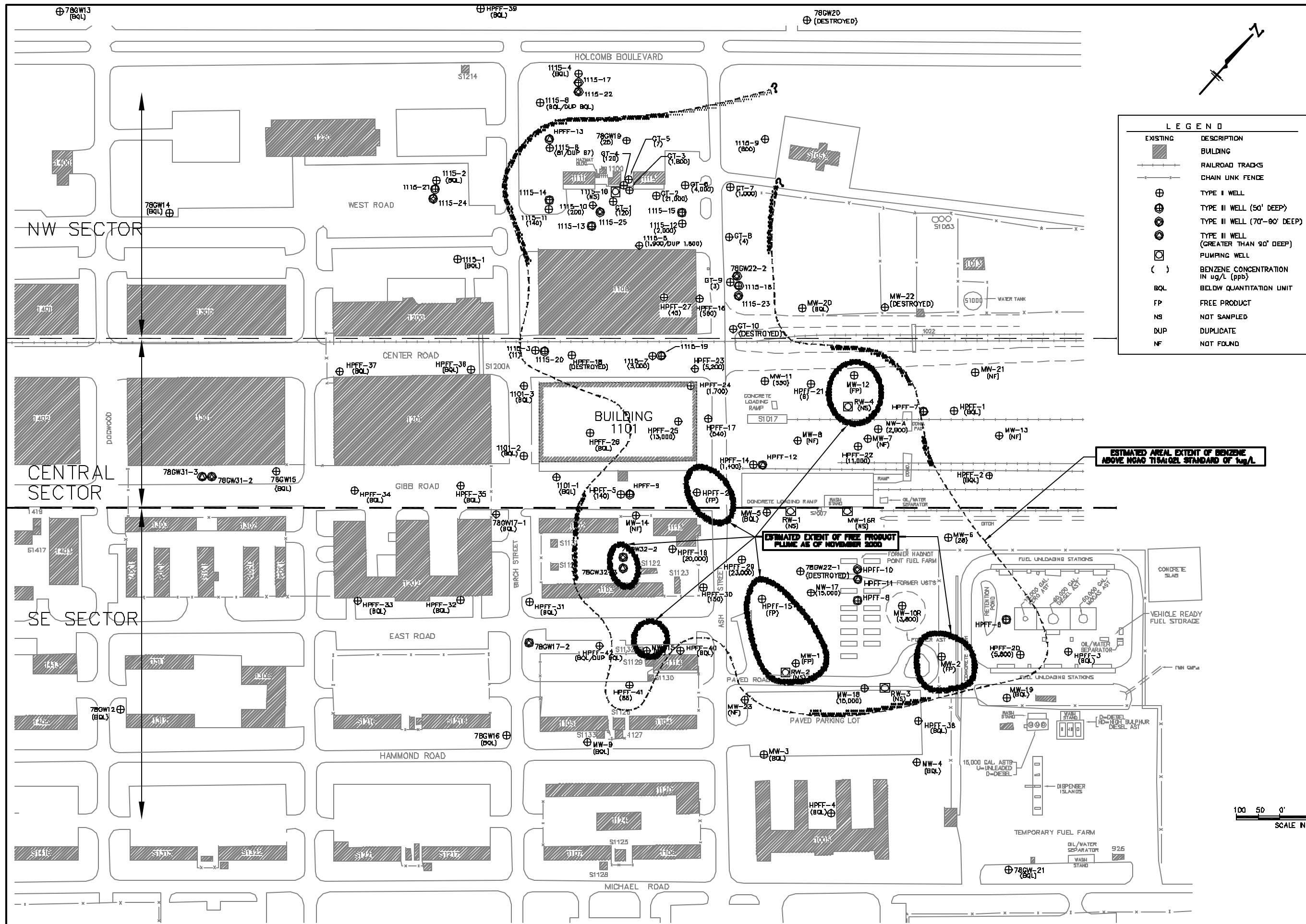
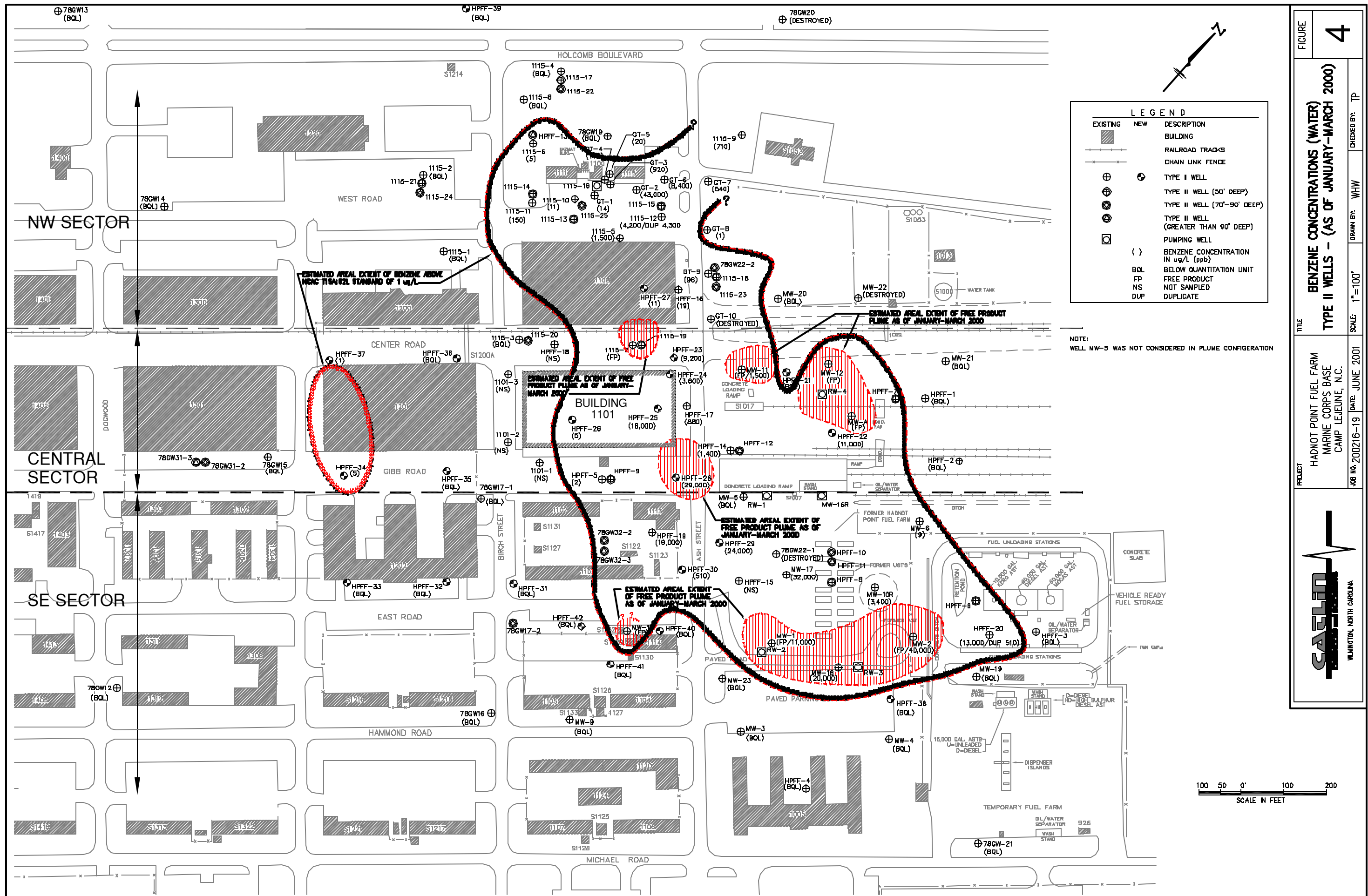
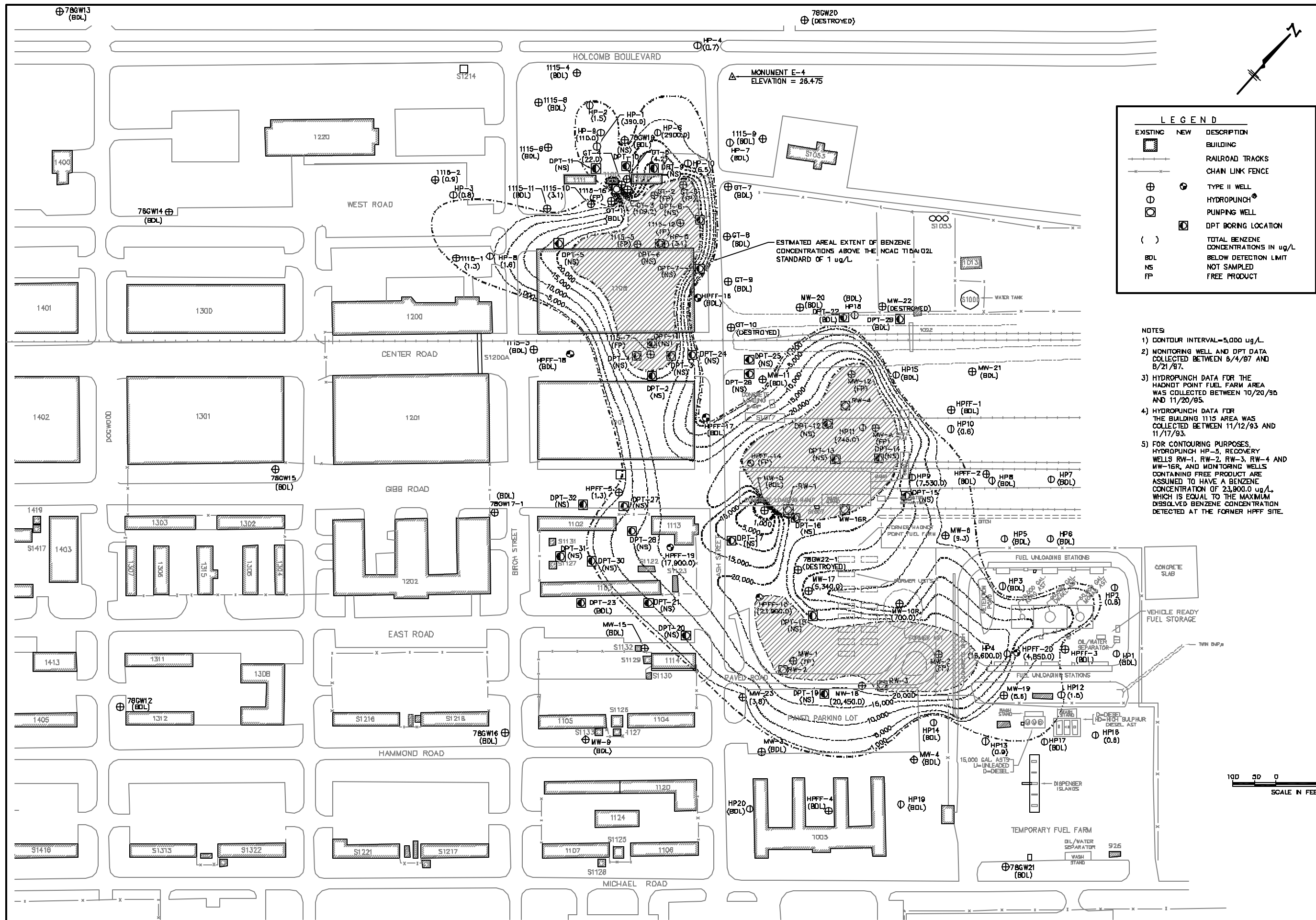


FIGURE	3		
	BENZENE CONCENTRATIONS (WATER) TYPE II WELLS - (AS OF NOVEMBER 2000)		
TITLE	HADNOT POINT FUEL FARM MARINE CORPS BASE CAMP LEJEUNE, N.C.		
	DATE: JUNE 2001	SCALE: 1" = 100'	DRAWN BY: WHW CHECKED BY: MEM
PROJECT	CAMP LEJEUNE WILMINGTON, NORTH CAROLINA		





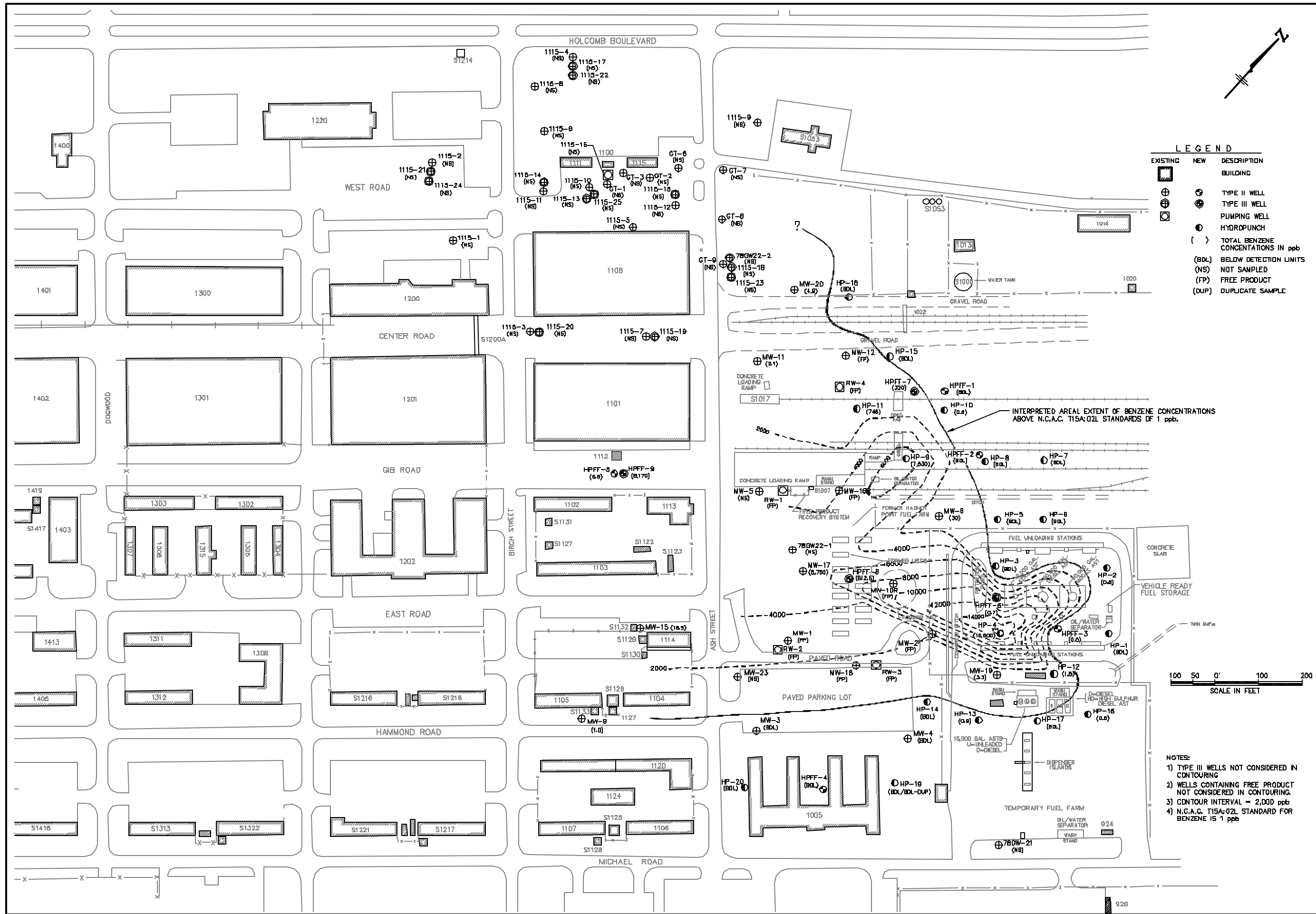


FIGURE
6

**BENZENE CONCENTRATIONS
(WATER)-ISOPLETH MAP
(AS OF OCTOBER-DECEMBER 1995)**

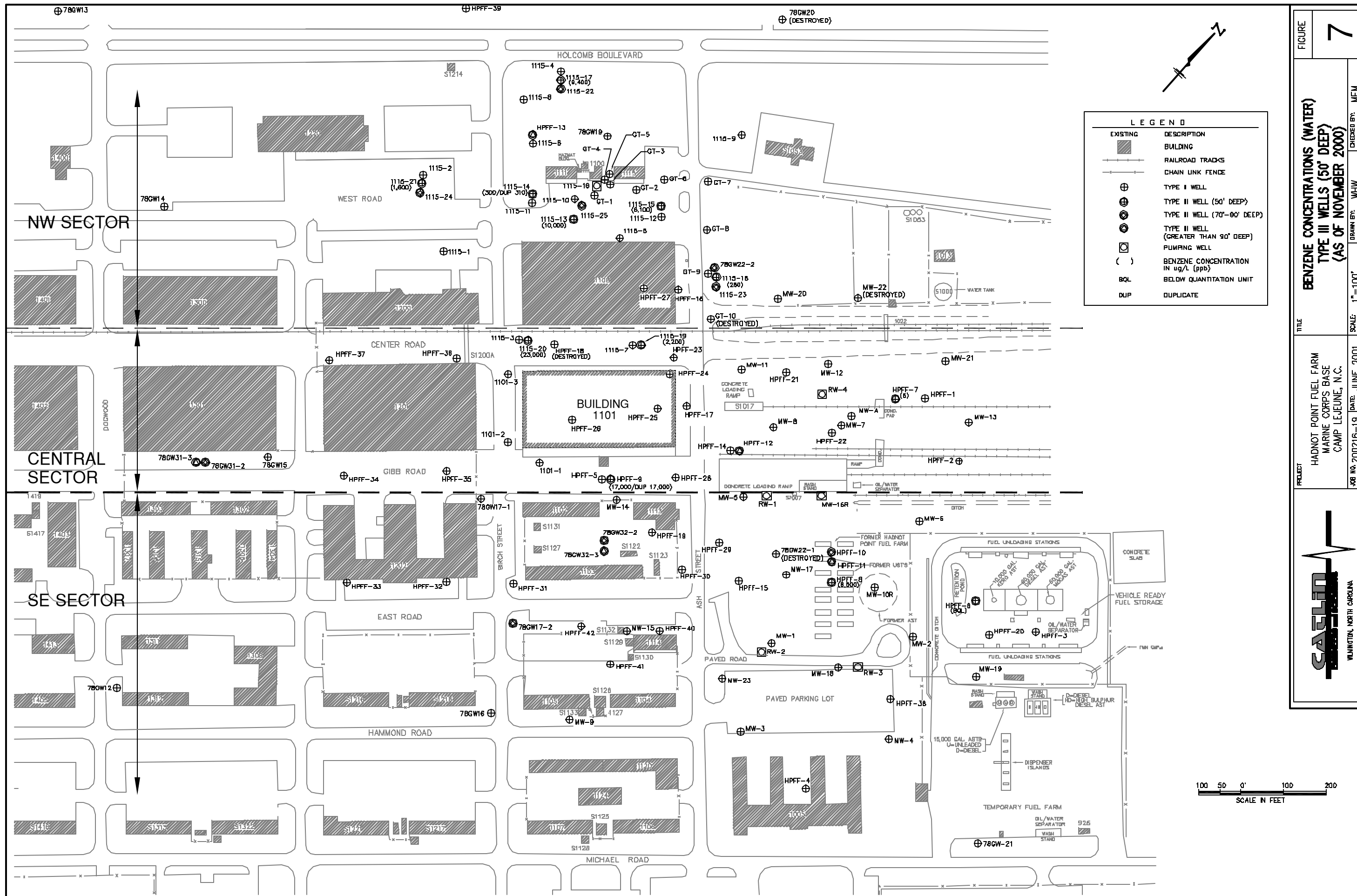
DATE: JUNE 2001
SCALE: 1" = 100'
DRAWN BY: DME
CHECKED BY: SVH

PROJECT
HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, N.C.

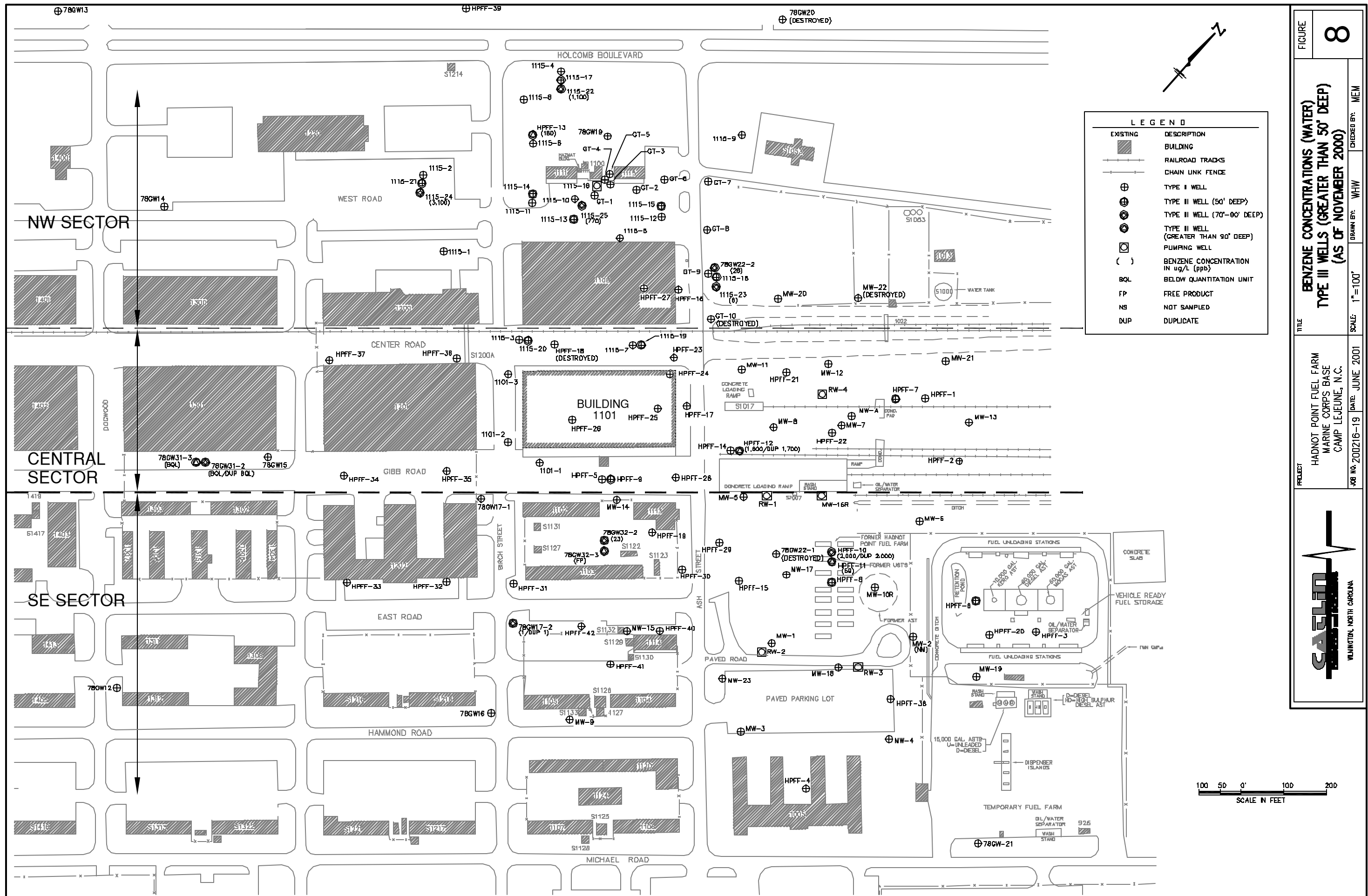
CALUP
WINSTON, NORTH CAROLINA

DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____
APPROVED BY: _____
DATE: _____

NO. _____
DESCRIPTION _____
REVISIONS _____



 WILMINGTON, NORTH CAROLINA	PROJECT	HADNOT POINT FUEL FARM MARINE CORPS BASE CAMP LEJEUNE, N.C.		TITLE	BENZENE CONCENTRATIONS (WATER) TYPE III WELLS (50' DEEP) (AS OF NOVEMBER 2000)		FIGURE	7
	DATE	JUNE 2001	SCALE	1" = 100'	DRAWN BY	WHW	CHECKED BY	MEM



FIGURE

8

BENZENE CONCENTRATIONS (WATER)

TYPE III WELLS (GREATER THAN 50' DEEP)

(AS OF NOVEMBER 2000)

PROJECT

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, N.C.

DATE

JUNE 2001

SCALE

1" = 100'

DRAWN BY

WHW

CHECKED BY

MEM

WILMINGTON, NORTH CAROLINA

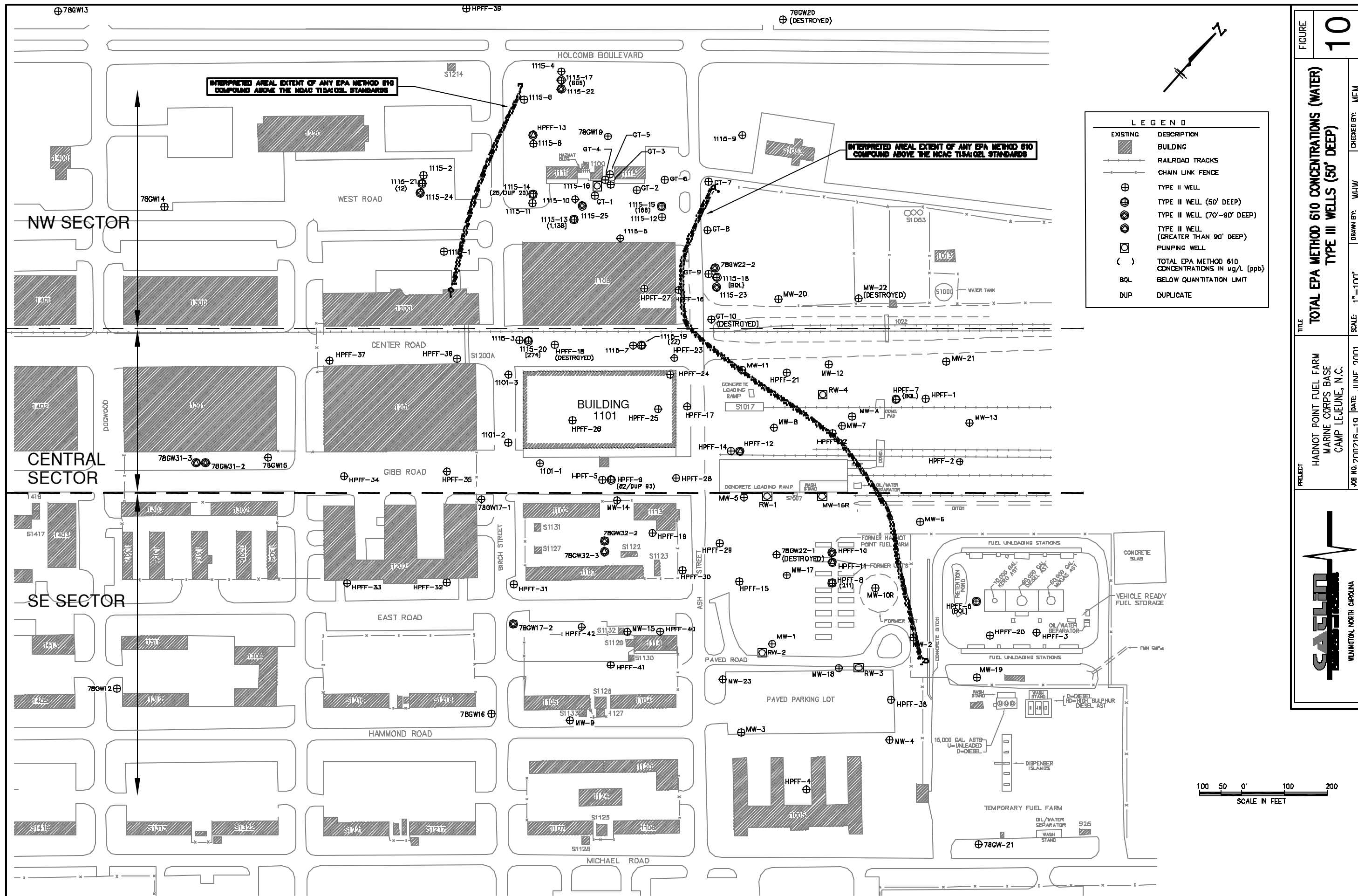
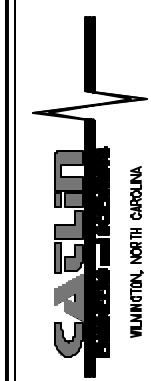


FIGURE
10

TITLE
**TOTAL EPA METHOD 610 CONCENTRATIONS (WATER)
TYPE II WELLS (50' DEEP)**

PROJECT
HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, N.C.



MEM

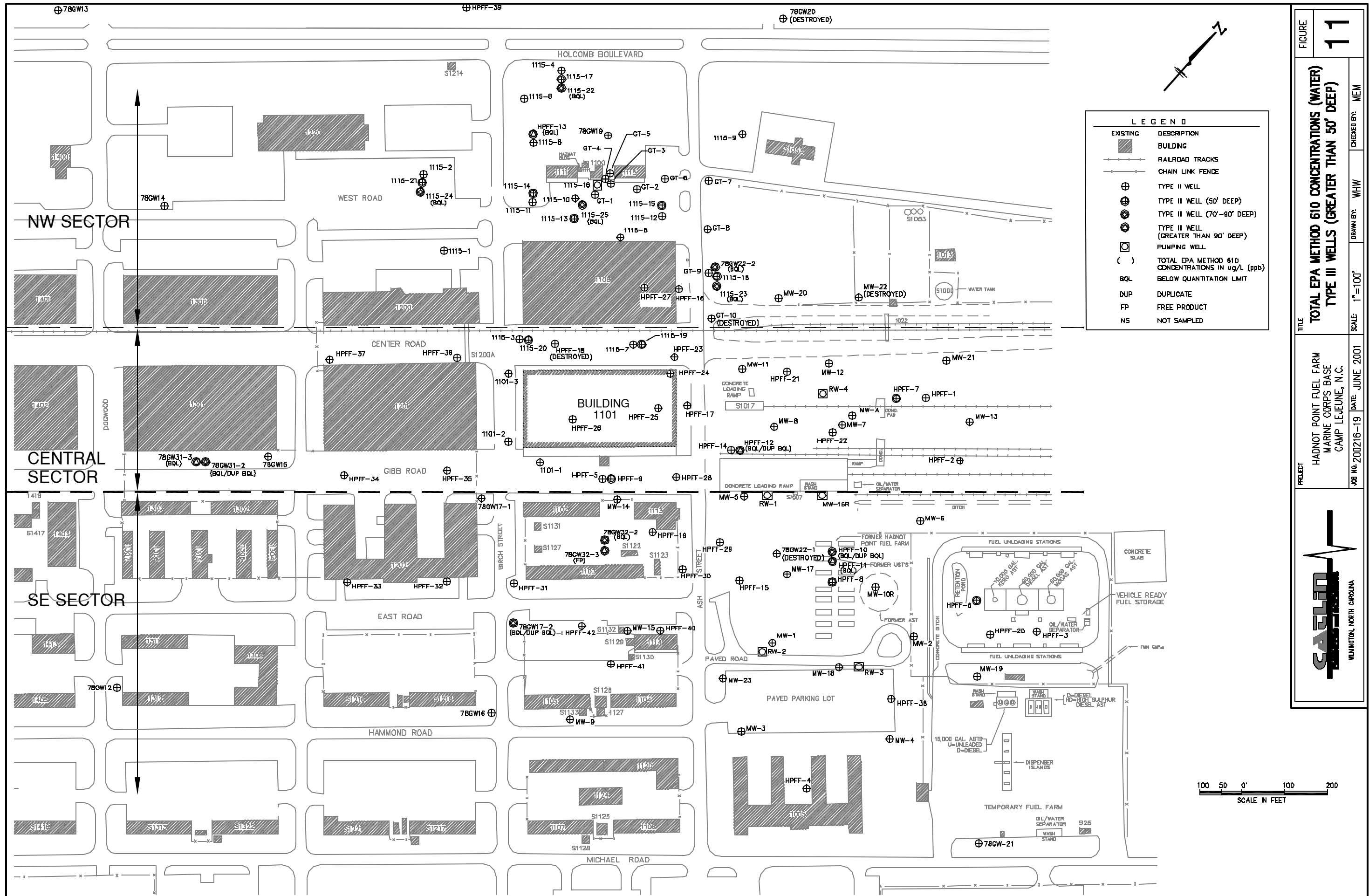
WHW

DRAWN BY:

SCALE: 1" = 100'

DATE: JUNE 2001

FIG NO. 200216-19



FIGURE

11

TITLE

TOTAL EPA METHOD 610 CONCENTRATIONS (WATER)
TYPE III WELLS (GREATER THAN 50' DEEP)

PROJECT

HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, N.C.

DATE

JUNE 2001

SCALE

1" = 100'

DRAWN BY

WHW

CHECKED BY

MEM

PROJECT

CASLID

LOCATION

WILMINGTON, NORTH CAROLINA

APPENDIX

APPENDIX A

**LABORATORY REPORTS
AND
CHAIN-OF-CUSTODY DOCUMENTS**

REC'D
AUC

12-12-00

PARADIGM ANALYTICAL LABORATORIES, INC.

2627 Northchase Parkway S.E.
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

Mr. Mike E. Mason
Richard Catlin & Associates
P.O. Box 10279
Wilmington, NC 28404-0279

December 6, 2000

Report Number: G128-664

Client Project ID: HPFF

Dear Mr. Mason,

Enclosed are the results of the analytical services performed under the referenced project. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call for assistance. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,

Paradigm Analytical Laboratories, Inc.



Laboratory Director
Mark Randall

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: HPFF-10
Client Project ID: HPFF
Lab Sample ID: 10185
Lab Project ID: G128-664

Analyzed By: EKR
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/00	100	100	2000
Diisopropyl ether (DIPE)	11/27/00	100	100	BQL
Ethylbenzene	11/27/00	100	100	BQL
Methyl-tert-butyl ether (MTBE)	11/27/00	100	200	BQL
Toluene	11/27/00	100	100	BQL
m/p-Xylene	11/27/00	100	200	BQL
o-Xylene	11/27/00	100	200	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	38	95

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-10
Client Project ID: HPFF
Lab Sample ID: 10185
Lab Project ID: G128-664

Analyzed By: RNP
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/22/00	1	1	12
Ethylbenzene	11/22/00	1	1	34
Methyl-tert-butyl ether (MTBE)	11/22/00	1	2	BQL
Toluene	11/22/00	1	1	38
m/p-Xylene	11/22/00	1	2	8
o-Xylene	11/22/00	1	2	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: HPFF-10 DUP
Client Project ID: HPFF
Lab Sample ID: 10186
Lab Project ID: G128-664

Analyzed By: EKR
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/00	100	100	2000
Diisopropyl ether (DIPE)	11/27/00	100	100	BQL
Ethylbenzene	11/27/00	100	100	BQL
Methyl-tert-butyl ether (MTBE)	11/27/00	100	200	BQL
Toluene	11/27/00	100	100	BQL
m/p-Xylene	11/27/00	100	200	BQL
o-Xylene	11/27/00	100	200	BQL

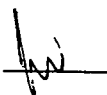
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	38	95

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-10 DUP
Client Project ID: HPFF
Lab Sample ID: 10186
Lab Project ID: G128-664

Analyzed By: RNP
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

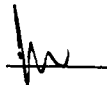
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/22/00	1	1	12
Ethylbenzene	11/22/00	1	1	34
Methyl-tert-butyl ether (MTBE)	11/22/00	1	2	BQL
Toluene	11/22/00	1	1	46
m/p-Xylene	11/22/00	1	2	11
o-Xylene	11/22/00	1	2	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-14
 Client Project ID: HPFF
 Lab Sample ID: 10187
 Lab Project ID: G128-664

Analyzed By: EKR
 Date Collected: 11/20/00
 Date Received: 11/21/00
 Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/00	20	20	300
Diisopropyl ether (DIPE)	11/27/00	20	20	270
Ethylbenzene	11/27/00	20	20	36
Methyl-tert-butyl ether (MTBE)	11/27/00	20	40	BQL
Toluene	11/27/00	20	20	99
m/p-Xylene	11/27/00	20	40	40
o-Xylene	11/27/00	20	40	71

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	97

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: 1115-14
Client Project ID: HPFF
Lab Sample ID: 10187
Lab Project ID: G128-664

Analyzed By: RNP
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

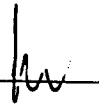
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/22/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-14 DUP

Client Project ID: HPFF

Lab Sample ID: 10188

Lab Project ID: G128-664

Analyzed By: EKR

Date Collected: 11/20/00

Date Received: 11/21/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/00	20	20	310
Diisopropyl ether (DIPE)	11/27/00	20	20	270
Ethylbenzene	11/27/00	20	20	37
Methyl-tert-butyl ether (MTBE)	11/27/00	20	40	BQL
Toluene	11/27/00	20	20	96
m/p-Xylene	11/27/00	20	40	42
o-Xylene	11/27/00	20	40	74

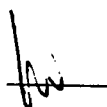
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	38	96

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: 1115-14 DUP
Client Project ID: HPFF
Lab Sample ID: 10188
Lab Project ID: G128-664

Analyzed By: RNP
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

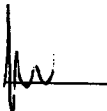
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/22/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-5
Client Project ID: HPFF
Lab Sample ID: 10189
Lab Project ID: G128-664

Analyzed By: EKR
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/00	250	250	1900
Diisopropyl ether (DIPE)	11/27/00	250	250	250
Ethylbenzene	11/27/00	250	250	2400
Methyl-tert-butyl ether (MTBE)	11/27/00	250	500	BQL
Toluene	11/27/00	250	250	7100
m/p-Xylene	11/27/00	250	500	4800
o-Xylene	11/27/00	250	500	2600

Surrogate Spike Recoveries

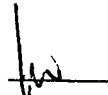
	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	38	96

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: 1115-5

Client Project ID: HPFF

Lab Sample ID: 10189

Lab Project ID: G128-664

Analyzed By: RNP

Date Collected: 11/20/00

Date Received: 11/21/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

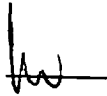
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/22/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-5 DUP

Client Project ID: HPFF

Lab Sample ID: 10190

Lab Project ID: G128-664

Analyzed By: EKR

Date Collected: 11/20/00

Date Received: 11/21/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/00	250	250	1800
Diisopropyl ether (DIPE)	11/27/00	250	250	BQL
Ethylbenzene	11/27/00	250	250	2300
Methyl-tert-butyl ether (MTBE)	11/27/00	250	500	BQL
Toluene	11/27/00	250	250	6300
m/p-Xylene	11/27/00	250	500	4500
o-Xylene	11/27/00	250	500	2500

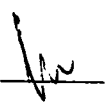
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	38	96

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: 1115-5 DUP
Client Project ID: HPFF
Lab Sample ID: 10190
Lab Project ID: G128-664

Analyzed By: RNP
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

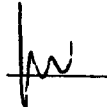
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/22/00	1	1	130
Methyl-tert-butyl ether (MTBE)	11/22/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-25
 Client Project ID: HPFF
 Lab Sample ID: 10191
 Lab Project ID: G128-664

Analyzed By: EKR
 Date Collected: 11/20/00
 Date Received: 11/21/00
 Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/00	40	40	770
Diisopropyl ether (DIPE)	11/27/00	40	40	BQL
Ethylbenzene	11/27/00	40	40	BQL
Methyl-tert-butyl ether (MTBE)	11/27/00	40	80	BQL
Toluene	11/27/00	40	40	BQL
m/p-Xylene	11/27/00	40	80	BQL
o-Xylene	11/27/00	40	80	BQL

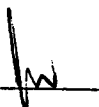
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	38	95

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: 1115-25
Client Project ID: HPFF
Lab Sample ID: 10191
Lab Project ID: G128-664

Analyzed By: RNP
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

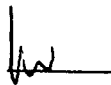
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/22/00	1	1	23
Ethylbenzene	11/22/00	1	1	1
Methyl-tert-butyl ether (MTBE)	11/22/00	1	1	BQL
Toluene	11/22/00	1	1	8
m/p-Xylene	11/22/00	1	2	BQL
o-Xylene	11/22/00	1	2	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 1115-13
Client Project ID: HPFF
Lab Sample ID: 10192
Lab Project ID: G128-664

Analyzed By: EKR
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/28/00	400	400	10000
Diisopropyl ether (DIPE)	11/28/00	400	400	660
Ethylbenzene	11/28/00	400	400	810
Methyl-tert-butyl ether (MTBE)	11/28/00	400	800	BQL
Toluene	11/28/00	400	400	BQL
m/p-Xylene	11/28/00	400	800	BQL
o-Xylene	11/28/00	400	800	BQL

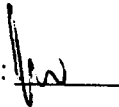
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: 1115-13
Client Project ID: HPFF
Lab Sample ID: 10192
Lab Project ID: G128-664

Analyzed By: RNP
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

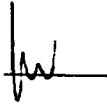
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/22/00	1	1	BQL
Toluene	11/22/00	1	1	89
m/p-Xylene	11/22/00	1	2	410
o-Xylene	11/22/00	1	2	86

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GC 602

Client Sample ID: 1115-15
Client Project ID: HPFF
Lab Sample ID: 10193
Lab Project ID: G128-664

Analyzed By: EKR
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/28/00	400	400	6100
Diisopropyl ether (DIPE)	11/28/00	400	400	1100
Ethylbenzene	11/28/00	400	400	450
Methyl-tert-butyl ether (MTBE)	11/28/00	400	800	BQL
Toluene	11/28/00	400	400	BQL
m/p-Xylene	11/28/00	400	800	BQL
o-Xylene	11/28/00	400	800	BQL

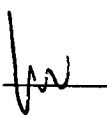
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	103

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: 1115-15
Client Project ID: HPFF
Lab Sample ID: 10193
Lab Project ID: G128-664

Analyzed By: RNP
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

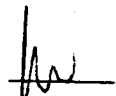
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/22/00	1	1	BQL
Toluene	11/22/00	1	1	14
m/p-Xylene	11/22/00	1	2	83
o-Xylene	11/22/00	1	2	8

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: MW-20
Client Project ID: HPFF
Lab Sample ID: 10194
Lab Project ID: G128-664

Analyzed By: EKR
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/28/00	1	1	BQL
Diisopropyl ether (DIPE)	11/28/00	1	1	BQL
Ethylbenzene	11/28/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/28/00	1	2	BQL
Toluene	11/28/00	1	1	BQL
m/p-Xylene	11/28/00	1	2	BQL
o-Xylene	11/28/00	1	2	BQL

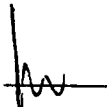
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	99

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GC 602

Client Sample ID: HPFF-6
Client Project ID: HPFF
Lab Sample ID: 10195
Lab Project ID: G128-664

Analyzed By: EKR
Date Collected: 11/20/00
Date Received: 11/21/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/28/00	1	1	BQL
Diisopropyl ether (DIPE)	11/28/00	1	1	BQL
Ethylbenzene	11/28/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/28/00	1	2	BQL
Toluene	11/28/00	1	1	BQL
m/p-Xylene	11/28/00	1	2	BQL
o-Xylene	11/28/00	1	2	BQL

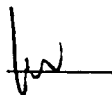
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	103

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

**Results for Polynuclear Aromatic Hydrocarbons
EPA 610 by GCMS 625**

Client Sample ID: HPFF-10
Client Project ID: HPFF
Lab Sample ID: 10185
Lab Project ID: G128-664
Matrix: Water

Date Collected: 11/20/00
Date Received: 11/21/00
Date Analyzed: 11/29/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

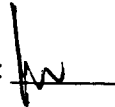
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.6	76
Nitrobenzene-d5	10	6.6	66
4-Terphenyl-d14	10	11.3	113

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-10 DUP
Client Project ID: HPFF
Lab Sample ID: 10186
Lab Project ID: G128-664
Matrix: Water

Date Collected: 11/20/00
Date Received: 11/21/00
Date Analyzed: 11/29/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

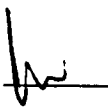
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.7	87
Nitrobenzene-d5	10	7	70
4-Terphenyl-d14	10	12.2	122

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-14
Client Project ID: HPFF
Lab Sample ID: 10187
Lab Project ID: G128-664
Matrix: Water

Date Collected: 11/20/00
Date Received: 11/21/00
Date Analyzed: 11/29/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	26
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
Nitrobenzene-d5	10	6.5	65
4-Terphenyl-d14	10	10.9	109

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

**Results for Polynuclear Aromatic Hydrocarbons
EPA 610 by GCMS 625**

Client Sample ID: 1115-14 DUP
Client Project ID: HPFF
Lab Sample ID: 10188
Lab Project ID: G128-664
Matrix: Water

Date Collected: 11/20/00
Date Received: 11/21/00
Date Analyzed: 11/29/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	25
Phenanthrene	10	BQL
Pyrene	10	BQL

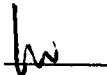
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.4	74
Nitrobenzene-d5	10	6.7	67
4-Terphenyl-d14	10	11.8	118

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-5
Client Project ID: HPFF
Lab Sample ID: 10189
Lab Project ID: G128-664
Matrix: Water

Date Collected: 11/20/00
Date Received: 11/21/00
Date Analyzed: 11/30/00
Analyzed By: MRC
Dilution: 10

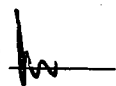
Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	100	BQL
Acenaphthylene	100	BQL
Anthracene	100	BQL
Benzo[a]anthracene	100	BQL
Benzo[a]pyrene	100	BQL
Benzo[b]fluoranthene	100	BQL
Benzo[g,h,i]perylene	100	BQL
Benzo[k]fluoranthene	100	BQL
Chrysene	100	BQL
Dibenzo[a,h]anthracene	100	BQL
Fluoranthene	100	BQL
Fluorene	100	BQL
Indeno(1,2,3-c,d)pyrene	100	BQL
1-Methylnaphthalene	100	720
2-Methylnaphthalene	100	1400
Naphthalene	100	1800
Phenanthrene	100	BQL
Pyrene	100	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	NA	NA
Nitrobenzene-d5	10	NA	NA
4-Terphenyl-d14	10	NA	NA

Comments:

Results are corrected for %solids and dilution where applicable.

Flags: NA = Not applicable, surrogates diluted out.
BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

**Results for Polynuclear Aromatic Hydrocarbons
EPA 610 by GCMS 625**

Client Sample ID: 1115-5
Client Project ID: HPFF
Lab Sample ID: 10189
Lab Project ID: G128-664
Matrix: Water

Date Collected: 11/20/00
Date Received: 11/21/00
Date Analyzed: 11/29/00
Analyzed By: MRC
Dilution: 1

The following data was generated by a GC/MS screening run, not a certified method.

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

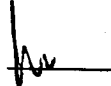
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	3.2	32
Nitrobenzene-d5	10	9.7	97
4-Terphenyl-d14	10	6.6	66

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-5 DUP
Client Project ID: HPFF
Lab Sample ID: 10190
Lab Project ID: G128-664
Matrix: Water

Date Collected: 11/20/00
Date Received: 11/21/00
Date Analyzed: 11/30/00
Analyzed By: MRC
Dilution: 10

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	100	BQL
Acenaphthylene	100	BQL
Anthracene	100	BQL
Benzo[a]anthracene	100	BQL
Benzo[a]pyrene	100	BQL
Benzo[b]fluoranthene	100	BQL
Benzo[g,h,i]perylene	100	BQL
Benzo[k]fluoranthene	100	BQL
Chrysene	100	BQL
Dibenzo[a,h]anthracene	100	BQL
Fluoranthene	100	BQL
Fluorene	100	BQL
Indeno(1,2,3-c,d)pyrene	100	BQL
1-Methylnaphthalene	100	870
2-Methylnaphthalene	100	1600
Naphthalene	100	2000
Phenanthrene	100	BQL
Pyrene	100	BQL

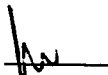
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	NA	NA
Nitrobenzene-d5	10	NA	NA
4-Terphenyl-d14	10	NA	NA

Comments:

Results are corrected for %solids and dilution where applicable.

Flags: NA = Not applicable, surrogates diluted out.

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

**Results for Polynuclear Aromatic Hydrocarbons
EPA 610 by GCMS 625**

Client Sample ID: 1115-5 DUP
Client Project ID: HPFF
Lab Sample ID: 10190
Lab Project ID: G128-664
Matrix: Water

Date Collected: 11/20/00
Date Received: 11/21/00
Date Analyzed: 11/29/00
Analyzed By: MRC
Dilution: 1

The following data was generated by a GC/MS screening run, not a certified method.

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

12

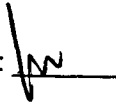
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	2.9	29
Nitrobenzene-d5	10	9.7	97
4-Terphenyl-d14	10	4.9	49

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

Results for Polynuclear Aromatic Hydrocarbons
EPA 610 by GCMS 625

Client Sample ID: 1115-25
 Client Project ID: HPFF
 Lab Sample ID: 10191
 Lab Project ID: G128-664
 Matrix: Water

Date Collected: 11/20/00
 Date Received: 11/21/00
 Date Analyzed: 11/29/00
 Analyzed By: MRC
 Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

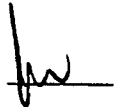
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.2	82
Nitrobenzene-d5	10	8.2	82
4-Terphenyl-d14	10	12.1	121

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: 1115-13
 Client Project ID: HPFF
 Lab Sample ID: 10192
 Lab Project ID: G128-664
 Matrix: Water

Date Collected: 11/20/00
 Date Received: 11/21/00
 Date Analyzed: 12/1/00
 Analyzed By: MRC
 Dilution: 4

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	40	BQL
Acenaphthylene	40	BQL
Anthracene	40	BQL
Benzo[a]anthracene	40	BQL
Benzo[a]pyrene	40	BQL
Benzo[b]fluoranthene	40	BQL
Benzo[g,h,i]perylene	40	BQL
Benzo[k]fluoranthene	40	BQL
Chrysene	40	BQL
Dibenzo[a,h]anthracene	40	BQL
Fluoranthene	40	BQL
Fluorene	40	BQL
Indeno(1,2,3-c,d)pyrene	40	BQL
1-Methylnaphthalene	40	57
2-Methylnaphthalene	40	80
Naphthalene	40	980
Phenanthrene	40	BQL
Pyrene	40	BQL

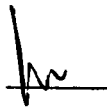
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.9	89
Nitrobenzene-d5	10	9.8	98
4-Terphenyl-d14	10	12.3	123

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: 1115-13
Client Project ID: HPFF
Lab Sample ID: 10192
Lab Project ID: G128-664
Matrix: Water

Date Collected: 11/20/00
Date Received: 11/21/00
Date Analyzed: 11/29/00
Analyzed By: MRC
Dilution: 1

The following data was generated by a GC/MS screening run, not a certified method.

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	21
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

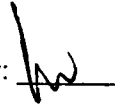
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.6	86
Nitrobenzene-d5	10	8.3	83
4-Terphenyl-d14	10	11.6	116

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-15
Client Project ID: HPFF
Lab Sample ID: 10193
Lab Project ID: G128-664
Matrix: Water

Date Collected: 11/20/00
Date Received: 11/21/00
Date Analyzed: 11/29/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	12
2-Methylnaphthalene	10	14
Naphthalene	10	140
Phenanthrene	10	BQL
Pyrene	10	BQL

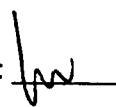
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.5	85
Nitrobenzene-d5	10	7	70
4-Terphenyl-d14	10	11.4	114

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: MW-20
Client Project ID: HPFF
Lab Sample ID: 10194
Lab Project ID: G128-664
Matrix: Water

Date Collected: 11/20/00
Date Received: 11/21/00
Date Analyzed: 11/29/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

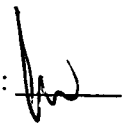
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	5.6	56
Nitrobenzene-d5	10	5.5	55
4-Terphenyl-d14	10	9.6	96

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: HPFF-6
 Client Project ID: HPFF
 Lab Sample ID: 10195
 Lab Project ID: G128-664
 Matrix: Water

Date Collected: 11/20/00
 Date Received: 11/21/00
 Date Analyzed: 11/29/00
 Analyzed By: MRC
 Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

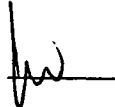
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.7	87
Nitrobenzene-d5	10	10	100
4-Terphenyl-d14	10	11.9	119

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

Phone: (910)-350-1903 FAX: (910)-350-1557

Client: CATLIN Project ID: HPFF Date: 11/21/00 Report To: MEM C CATLIN
 Address: WILMINGTON Contact: _____ Turnaround: STD
 Address: _____ Phone: _____ Job Number: 200-216-19 QUESTIONS CALL JOHLI
 Note #: 1489 Fax: _____ P.O. Number: 201121-1 Invoice To: SAIELA C CATLIN

Sample ID	Date	Time	Matrix	Preservatives				Analyses								Comments: Please specify any special reporting requirements			
				ACI				202	610										
HPFF-10	11/20/00	1100	epw	x				x		x									
4PFF-10 EXTRA	↓	1100	↓	x				x		x								6128-664	
HPFF-10 DUP		1100		x				x		x								EXTRA	
115-14		1200		x				x		x									
115-14 EXTRA		1200		x				x		x									EXTRA
115-14 DUP		1200		x				x		x									
115-85 apw		1230		x				x		x									
115-85 apw DUP		1230		x				x		x									EXTRA 610 SAMPLES FOR PARADIGM IN HOUSE QA/QC PER ASHLEY'S REQUEST
115-25		1300		x				x		x									
115-13	↓	1330	↓	x				x		x									

Relinquished By	Date	Time	Received By	Date	Time	Temperature	State Certification Requested
<i>Joeli Cascale</i>	11/21/00	0830	<i>Joeli Cascale</i>	11/21/00	0830	ON ICE	NC ☒ SC _____ Other _____
							SEE REVERSE FOR TERMS AND CONDITIONS

ient: CATLIN
ldress: WILMINGTON
ldress: _____
ote #: 14B9

Project ID: HPFF
Contact: _____
Phone: _____
Fax: _____

Date: 11/21/00

Turnaround: STD

Job Number: 200-216-19

P.O. Number: 201124

Report To: MEMO CATLIN

QUESTIONS CALL JOHLI

Invoice To: SHIELA C. CATLIN

[illegible]

ORIGINAL

FILE COPY

200-216-19

PARADIGM ANALYTICAL LABORATORIES, INC.

2627 Northchase Parkway S.E.
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

57 12-4-00

Mr. Mike E. Mason
Richard Catlin & Associates
P.O. Box 10279
Wilmington, NC 28404-0279

November 29, 2000

Report Number: G128-660

Client Project ID: HPFF

Dear Mr. Mason,

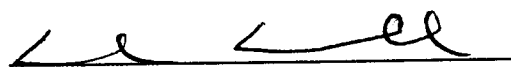
Enclosed are the results of the analytical services performed under the referenced project. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call for assistance. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,

Paradigm Analytical Laboratories, Inc.



Laboratory Director
Mark Randall

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-2
Client Project ID: HPFF
Lab Sample ID: 99529
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/15/00	1	1	BQL
Diisopropyl ether (DIPE)	11/15/00	1	1	BQL
Ethylbenzene	11/15/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/15/00	1	2	BQL
Toluene	11/15/00	1	1	BQL
m/p-Xylene	11/15/00	1	2	BQL
o-Xylene	11/15/00	1	2	BQL

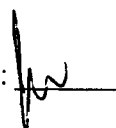
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	98

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-4
Client Project ID: HPFF
Lab Sample ID: 99530
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/15/00	1	1	BQL
Diisopropyl ether (DIPE)	11/15/00	1	1	BQL
Ethylbenzene	11/15/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/15/00	1	2	BQL
Toluene	11/15/00	1	1	BQL
m/p-Xylene	11/15/00	1	2	BQL
o-Xylene	11/15/00	1	2	BQL

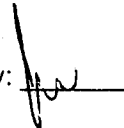
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-6
Client Project ID: HPFF
Lab Sample ID: 99531
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/15/00	4	4	81
Diisopropyl ether (DIPE)	11/15/00	4	4	5
Ethylbenzene	11/15/00	4	4	BQL
Methyl-tert-butyl ether (MTBE)	11/15/00	4	8	BQL
Toluene	11/15/00	4	4	BQL
m/p-Xylene	11/15/00	4	8	BQL
o-Xylene	11/15/00	4	8	BQL

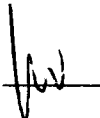
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: 1115-6
Client Project ID: HPFF
Lab Sample ID: 99531
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

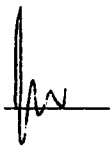
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Ethylbenzene	11/14/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/14/00	1	1	BQL
Toluene	11/14/00	1	1	BQL
m/p-Xylene	11/14/00	1	2	BQL
o-Xylene	11/14/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: DUP1115-6

Client Project ID: HPFF

Lab Sample ID: 99532

Lab Project ID: G128-660

Analyzed By: EKR

Date Collected: 11/13/00

Date Received: 11/14/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/15/00	4	4	67
Diisopropyl ether (DIPE)	11/15/00	4	4	4
Ethylbenzene	11/15/00	4	4	BQL
Methyl-tert-butyl ether (MTBE)	11/15/00	4	8	BQL
Toluene	11/15/00	4	4	BQL
m/p-Xylene	11/15/00	4	8	BQL
o-Xylene	11/15/00	4	8	BQL

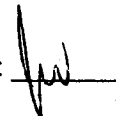
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: DUP1115-6

Client Project ID: HPFF

Lab Sample ID: 99532

Lab Project ID: G128-660

Analyzed By: EKR

Date Collected: 11/13/00

Date Received: 11/14/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

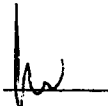
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Ethylbenzene	11/14/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/14/00	1	1	BQL
Toluene	11/14/00	1	1	BQL
m/p-Xylene	11/14/00	1	2	BQL
o-Xylene	11/14/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-8
Client Project ID: HPFF
Lab Sample ID: 99533
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/15/00	1	1	BQL
Diisopropyl ether (DIPE)	11/15/00	1	1	BQL
Ethylbenzene	11/15/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/15/00	1	2	BQL
Toluene	11/15/00	1	1	BQL
m/p-Xylene	11/15/00	1	2	BQL
o-Xylene	11/15/00	1	2	BQL

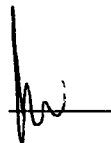
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC 602

Client Sample ID: DUP1115-8
Client Project ID: HPFF
Lab Sample ID: 99534
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/15/00	1	1	BQL
Diisopropyl ether (DIPE)	11/15/00	1	1	BQL
Ethylbenzene	11/15/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/15/00	1	2	BQL
Toluene	11/15/00	1	1	BQL
m/p-Xylene	11/15/00	1	2	BQL
o-Xylene	11/15/00	1	2	BQL

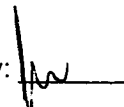
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-17
Client Project ID: HPFF
Lab Sample ID: 99535
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/15/00	400	400	9400
Diisopropyl ether (DIPE)	11/15/00	400	400	1000
Ethylbenzene	11/15/00	400	400	1000
Methyl-tert-butyl ether (MTBE)	11/15/00	400	800	BQL
Toluene	11/15/00	400	400	BQL
m/p-Xylene	11/15/00	400	800	BQL
o-Xylene	11/15/00	400	800	BQL

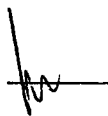
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: 1115-17
Client Project ID: HPFF
Lab Sample ID: 99535
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

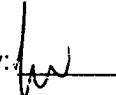
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/14/00	1	1	BQL
Toluene	11/14/00	1	1	66
m/p-Xylene	11/14/00	1	2	690
o-Xylene	11/14/00	1	1	200

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-18
Client Project ID: HPFF
Lab Sample ID: 99536
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	10	10	280
Diisopropyl ether (DIPE)	11/16/00	10	10	240
Ethylbenzene	11/16/00	10	10	13
Methyl-tert-butyl ether (MTBE)	11/16/00	10	20	BQL
Toluene	11/16/00	10	10	BQL
m/p-Xylene	11/16/00	10	20	BQL
o-Xylene	11/16/00	10	20	BQL

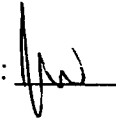
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC/MS Screening

Client Sample ID: 1115-18
Client Project ID: HPFF
Lab Sample ID: 99536
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

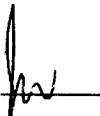
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/14/00	1	1	BQL
Toluene	11/14/00	1	1	1
m/p-Xylene	11/14/00	1	2	5
o-Xylene	11/14/00	1	1	3

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-21
Client Project ID: HPFF
Lab Sample ID: 99537
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	50	50	1600
Diisopropyl ether (DIPE)	11/16/00	50	50	690
Ethylbenzene	11/16/00	50	50	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	50	100	BQL
Toluene	11/16/00	50	50	BQL
m/p-Xylene	11/16/00	50	100	BQL
o-Xylene	11/16/00	50	100	BQL

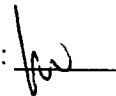
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	98

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: 1115-21
Client Project ID: HPFF
Lab Sample ID: 99537
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

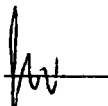
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Ethylbenzene	11/14/00	1	1	1
Methyl-tert-butyl ether (MTBE)	11/14/00	1	1	BQL
Toluene	11/14/00	1	1	1
m/p-Xylene	11/14/00	1	2	BQL
o-Xylene	11/14/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-22
Client Project ID: HPFF
Lab Sample ID: 99538
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	50	50	1100
Diisopropyl ether (DIPE)	11/16/00	50	50	BQL
Ethylbenzene	11/16/00	50	50	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	50	100	BQL
Toluene	11/16/00	50	50	BQL
m/p-Xylene	11/16/00	50	100	BQL
o-Xylene	11/16/00	50	100	BQL

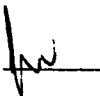
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	103

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: 1115-22
Client Project ID: HPFF
Lab Sample ID: 99538
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

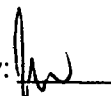
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/14/00	1	1	20
Ethylbenzene	11/14/00	1	1	7
Methyl-tert-butyl ether (MTBE)	11/14/00	1	1	BQL
Toluene	11/14/00	1	1	5
m/p-Xylene	11/14/00	1	2	BQL
o-Xylene	11/14/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC 602

Client Sample ID: 1115-23
Client Project ID: HPFF
Lab Sample ID: 99539
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	2	2	6
Diisopropyl ether (DIPE)	11/16/00	2	2	64
Ethylbenzene	11/16/00	2	2	6
Methyl-tert-butyl ether (MTBE)	11/16/00	2	4	BQL
Toluene	11/16/00	2	2	BQL
m/p-Xylene	11/16/00	2	4	BQL
o-Xylene	11/16/00	2	4	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	42	104

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: 1115-23
Client Project ID: HPFF
Lab Sample ID: 99539
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

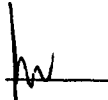
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/14/00	1	1	BQL
Toluene	11/14/00	1	1	BQL
m/p-Xylene	11/14/00	1	2	BQL
o-Xylene	11/14/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles***by GC 602*

Client Sample ID: 1115-24
Client Project ID: HPFF
Lab Sample ID: 99540
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	100	100	3100
Diisopropyl ether (DIPE)	11/16/00	100	100	1100
Ethylbenzene	11/16/00	100	100	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	100	200	BQL
Toluene	11/16/00	100	100	BQL
m/p-Xylene	11/16/00	100	200	BQL
o-Xylene	11/16/00	100	200	BQL

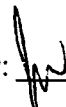
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	103

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: 1115-24
Client Project ID: HPFF
Lab Sample ID: 99540
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

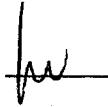
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Ethylbenzene	11/14/00	1	1	7
Methyl-tert-butyl ether (MTBE)	11/14/00	1	1	BQL
Toluene	11/14/00	1	1	BQL
m/p-Xylene	11/14/00	1	2	BQL
o-Xylene	11/14/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: GT8
Client Project ID: HPFF
Lab Sample ID: 99541
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	4
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

Surrogate Spike Recoveries

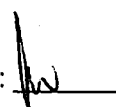
	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	104

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: GT9
Client Project ID: HPFF
Lab Sample ID: 99542
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/15/00	1	1	3
Diisopropyl ether (DIPE)	11/15/00	1	1	13
Ethylbenzene	11/15/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/15/00	1	2	BQL
Toluene	11/15/00	1	1	BQL
m/p-Xylene	11/15/00	1	2	BQL
o-Xylene	11/15/00	1	2	BQL

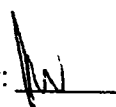
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	37	93

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-13
Client Project ID: HPFF
Lab Sample ID: 99543
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	10	10	180
Diisopropyl ether (DIPE)	11/16/00	10	10	BQL
Ethylbenzene	11/16/00	10	10	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	10	20	BQL
Toluene	11/16/00	10	10	BQL
m/p-Xylene	11/16/00	10	20	BQL
o-Xylene	11/16/00	10	20	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	42	104

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: AN

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-13
Client Project ID: HPFF
Lab Sample ID: 99543
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

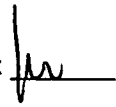
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/14/00	1	1	10
Ethylbenzene	11/14/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/14/00	1	1	BQL
Toluene	11/14/00	1	1	BQL
m/p-Xylene	11/14/00	1	2	BQL
o-Xylene	11/14/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 78GW14

Client Project ID: HPFF

Lab Sample ID: 99544

Lab Project ID: G128-660

Analyzed By: EKR

Date Collected: 11/13/00

Date Received: 11/14/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/15/00	1	1	BQL
Diisopropyl ether (DIPE)	11/15/00	1	1	BQL
Ethylbenzene	11/15/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/15/00	1	2	BQL
Toluene	11/15/00	1	1	BQL
m/p-Xylene	11/15/00	1	2	BQL
o-Xylene	11/15/00	1	2	BQL

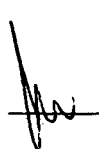
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 78GW19
Client Project ID: HPFF
Lab Sample ID: 99545
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	25
Diisopropyl ether (DIPE)	11/16/00	1	1	1
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

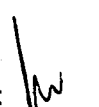
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	103

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles***by GC 602*

Client Sample ID: 78GW22-2

Client Project ID: HPFF

Lab Sample ID: 99546

Lab Project ID: G128-660

Analyzed By: EKR

Date Collected: 11/13/00

Date Received: 11/14/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	28
Diisopropyl ether (DIPE)	11/16/00	1	1	3
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	103

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-39
Client Project ID: HPFF
Lab Sample ID: 99547
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

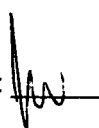
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	42	104

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1101-2
Client Project ID: HPFF
Lab Sample ID: 99548
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

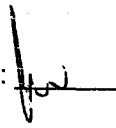
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	42	104

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1101-3
Client Project ID: HPFF
Lab Sample ID: 99549
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

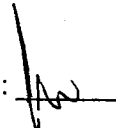
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	42	105

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles**

by GC 602

Client Sample ID: HPFF-37
Client Project ID: HPFF
Lab Sample ID: 99550
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

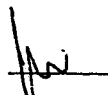
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	42	104

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles**

by GC 602

Client Sample ID: HPFF-32

Client Project ID: HPFF

Lab Sample ID: 99551

Lab Project ID: G128-660

Analyzed By: EKR

Date Collected: 11/13/00

Date Received: 11/14/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

Surrogate Spike Recoveries

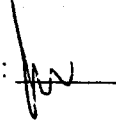
	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-35
Client Project ID: HPFF
Lab Sample ID: 99552
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	103

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles**

by GC 602

Client Sample ID: HPFF-34
Client Project ID: HPFF
Lab Sample ID: 99553
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

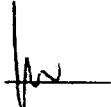
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	103

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles***by GC 602*

Client Sample ID: 78GW15
Client Project ID: HPFF
Lab Sample ID: 99554
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

Surrogate Spike Recoveries

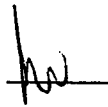
	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	97

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-36

Client Project ID: HPFF

Lab Sample ID: 99555

Lab Project ID: G128-660

Analyzed By: EKR

Date Collected: 11/13/00

Date Received: 11/14/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

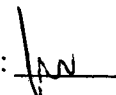
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-1
Client Project ID: HPFF
Lab Sample ID: 99556
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

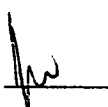
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles***by GC 602*

Client Sample ID: 78GW-12

Client Project ID: HPFF

Lab Sample ID: 99557

Lab Project ID: G128-660

Analyzed By: EKR

Date Collected: 11/13/00

Date Received: 11/14/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

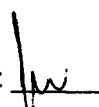
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC 602

Client Sample ID: 78GW-16
Client Project ID: HPFF
Lab Sample ID: 99558
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

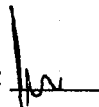
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-33
Client Project ID: HPFF
Lab Sample ID: 99559
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

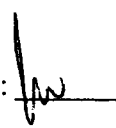
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: MW-4
Client Project ID: HPFF
Lab Sample ID: 99560
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

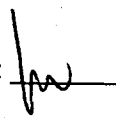
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: MW-3
Client Project ID: HPFF
Lab Sample ID: 99561
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/16/00	1	1	BQL
Diisopropyl ether (DIPE)	11/16/00	1	1	BQL
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	2	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	2	BQL

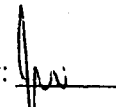
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-4
Client Project ID: HPFF
Lab Sample ID: 99562
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/17/00	1	1	BQL
Diisopropyl ether (DIPE)	11/17/00	1	1	BQL
Ethylbenzene	11/17/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/17/00	1	2	BQL
Toluene	11/17/00	1	1	BQL
m/p-Xylene	11/17/00	1	2	BQL
o-Xylene	11/17/00	1	2	BQL

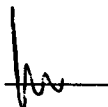
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	103

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: MW-9
Client Project ID: HPFF
Lab Sample ID: 99563
Lab Project ID: G128-660

Analyzed By: EKR
Date Collected: 11/13/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/17/00	1	1	BQL
Diisopropyl ether (DIPE)	11/17/00	1	1	BQL
Ethylbenzene	11/17/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/17/00	1	2	BQL
Toluene	11/17/00	1	1	BQL
m/p-Xylene	11/17/00	1	2	BQL
o-Xylene	11/17/00	1	2	BQL

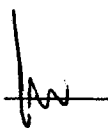
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-2
Client Project ID: HPFF
Lab Sample ID: 99529
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/18/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.3	73
Nitrobenzene-d5	10	7.7	77
4-Terphenyl-d14	10	8.9	89

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-4
Client Project ID: HPFF
Lab Sample ID: 99530
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/18/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

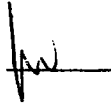
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.2	72
Nitrobenzene-d5	10	7.7	77
4-Terphenyl-d14	10	9.8	98

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-6
Client Project ID: HPFF
Lab Sample ID: 99531
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/18/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

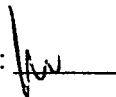
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
Nitrobenzene-d5	10	8.1	81
4-Terphenyl-d14	10	9.1	91

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: DUP1115-6
Client Project ID: HPFF
Lab Sample ID: 99532
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/18/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

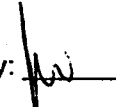
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.1	81
Nitrobenzene-d5	10	8.4	84
4-Terphenyl-d14	10	10	100

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-8
Client Project ID: HPFF
Lab Sample ID: 99533
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/18/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

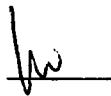
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.3	73
Nitrobenzene-d5	10	7.6	76
4-Terphenyl-d14	10	9.7	97

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: DUP1115-8
Client Project ID: HPFF
Lab Sample ID: 99534
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/18/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

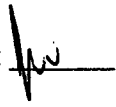
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.1	71
Nitrobenzene-d5	10	7.2	72
4-Terphenyl-d14	10	8.6	86

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-17
Client Project ID: HPFF
Lab Sample ID: 99535
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/18/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	34
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	18
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	36
2-Methylnaphthalene	10	47
Naphthalene	10	470
Phenanthrene	10	BQL
Pyrene	10	BQL

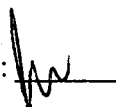
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
Nitrobenzene-d5	10	7.2	72
4-Terphenyl-d14	10	9.7	97

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: 1115-18
 Client Project ID: HPFF
 Lab Sample ID: 99536
 Lab Project ID: G128-660
 Matrix: Water

Date Collected: 11/13/00
 Date Received: 11/14/00
 Date Analyzed: 11/18/00
 Analyzed By: MRC
 Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

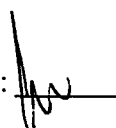
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.8	68
Nitrobenzene-d5	10	6.7	67
4-Terphenyl-d14	10	9.2	92

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-21
Client Project ID: HPFF
Lab Sample ID: 99537
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/18/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	12
Phenanthrene	10	BQL
Pyrene	10	BQL

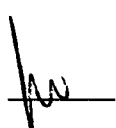
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
Nitrobenzene-d5	10	8.1	81
4-Terphenyl-d14	10	9.8	98

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-22
Client Project ID: HPFF
Lab Sample ID: 99538
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/17/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.3	83
Nitrobenzene-d5	10	7.8	78
4-Terphenyl-d14	10	9.7	97

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-23
Client Project ID: HPFF
Lab Sample ID: 99539
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/17/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

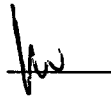
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
Nitrobenzene-d5	10	7.8	78
4-Terphenyl-d14	10	9.4	94

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-24
Client Project ID: HPFF
Lab Sample ID: 99540
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/20/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

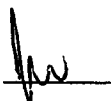
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
Nitrobenzene-d5	10	7.9	79
4-Terphenyl-d14	10	10.8	108

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: GT8
Client Project ID: HPFF
Lab Sample ID: 99541
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/17/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

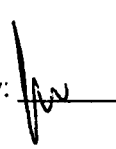
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.1	81
Nitrobenzene-d5	10	7.7	77
4-Terphenyl-d14	10	9.3	93

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: GT9
 Client Project ID: HPFF
 Lab Sample ID: 99542
 Lab Project ID: G128-660
 Matrix: Water

Date Collected: 11/13/00
 Date Received: 11/14/00
 Date Analyzed: 11/18/00
 Analyzed By: MRC
 Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

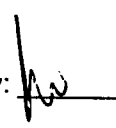
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8	80
Nitrobenzene-d5	10	8	80
4-Terphenyl-d14	10	8.9	89

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-13
Client Project ID: HPFF
Lab Sample ID: 99543
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/18/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

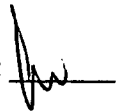
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8	80
Nitrobenzene-d5	10	8	80
4-Terphenyl-d14	10	10.3	103

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW14
Client Project ID: HPFF
Lab Sample ID: 99544
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/18/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

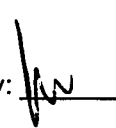
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.9	79
Nitrobenzene-d5	10	7.9	79
4-Terphenyl-d14	10	7.1	71

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW19
Client Project ID: HPFF
Lab Sample ID: 99545
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/20/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

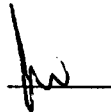
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.4	74
Nitrobenzene-d5	10	7.3	73
4-Terphenyl-d14	10	8.4	84

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW22-2
Client Project ID: HPFF
Lab Sample ID: 99546
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/18/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

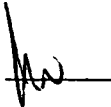
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
Nitrobenzene-d5	10	7.3	73
4-Terphenyl-d14	10	9	90

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-39
Client Project ID: HPFF
Lab Sample ID: 99547
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/20/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

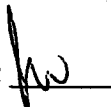
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.1	81
Nitrobenzene-d5	10	8.3	83
4-Terphenyl-d14	10	9.4	94

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1101-2
Client Project ID: HPFF
Lab Sample ID: 99548
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/20/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

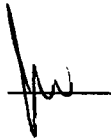
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.9	79
Nitrobenzene-d5	10	8	80
4-Terphenyl-d14	10	7.9	79

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1101-3
Client Project ID: HPFF
Lab Sample ID: 99549
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/20/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

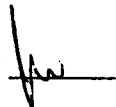
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
Nitrobenzene-d5	10	8	80
4-Terphenyl-d14	10	9	90

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-37

Client Project ID: HPFF

Lab Sample ID: 99550

Lab Project ID: G128-660

Matrix: Water

Date Collected: 11/13/00

Date Received: 11/14/00

Date Analyzed: 11/21/00

Analyzed By: MRC

Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

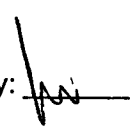
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.8	78
Nitrobenzene-d5	10	7.7	77
4-Terphenyl-d14	10	10.5	105

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: HPFF-32

Client Project ID: HPFF

Lab Sample ID: 99551

Lab Project ID: G128-660

Matrix: Water

Date Collected: 11/13/00

Date Received: 11/14/00

Date Analyzed: 11/21/00

Analyzed By: MRC

Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

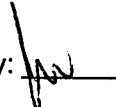
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8	80
Nitrobenzene-d5	10	8	80
4-Terphenyl-d14	10	9.7	97

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-35
Client Project ID: HPFF
Lab Sample ID: 99552
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

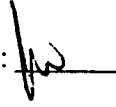
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.1	81
Nitrobenzene-d5	10	8	80
4-Terphenyl-d14	10	10.7	107

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-34
Client Project ID: HPFF
Lab Sample ID: 99553
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	11
Phenanthrene	10	BQL
Pyrene	10	BQL

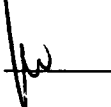
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
Nitrobenzene-d5	10	7.6	76
4-Terphenyl-d14	10	10.5	105

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW15
Client Project ID: HPFF
Lab Sample ID: 99554
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

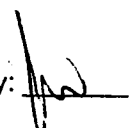
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.1	81
Nitrobenzene-d5	10	8	80
4-Terphenyl-d14	10	10.9	109

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-36
Client Project ID: HPFF
Lab Sample ID: 99555
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

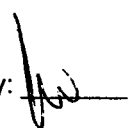
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
Nitrobenzene-d5	10	7.5	75
4-Terphenyl-d14	10	9.5	95

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: 1115-1
 Client Project ID: HPFF
 Lab Sample ID: 99556
 Lab Project ID: G128-660
 Matrix: Water

Date Collected: 11/13/00
 Date Received: 11/14/00
 Date Analyzed: 11/18/00
 Analyzed By: MRC
 Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

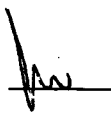
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
Nitrobenzene-d5	10	7.7	77
4-Terphenyl-d14	10	10.4	104

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: 78GW-12

Client Project ID: HPFF

Lab Sample ID: 99557

Lab Project ID: G128-660

Matrix: Water

Date Collected: 11/13/00

Date Received: 11/14/00

Date Analyzed: 11/18/00

Analyzed By: MRC

Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

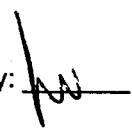
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
Nitrobenzene-d5	10	7.4	74
4-Terphenyl-d14	10	10.7	107

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW-16

Client Project ID: HPFF

Lab Sample ID: 99558

Lab Project ID: G128-660

Matrix: Water

Date Collected: 11/13/00

Date Received: 11/14/00

Date Analyzed: 11/21/00

Analyzed By: MRC

Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

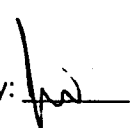
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	10	100
Nitrobenzene-d5	10	10.8	108
4-Terphenyl-d14	10	13	130

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: HPFF-33

Client Project ID: HPFF

Lab Sample ID: 99559

Lab Project ID: G128-660

Matrix: Water

Date Collected: 11/13/00

Date Received: 11/14/00

Date Analyzed: 11/18/00

Analyzed By: MRC

Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

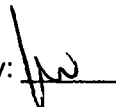
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8	80
Nitrobenzene-d5	10	8	80
4-Terphenyl-d14	10	9.5	95

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: MW-4
Client Project ID: HPFF
Lab Sample ID: 99560
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

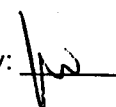
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8	80
Nitrobenzene-d5	10	7.8	78
4-Terphenyl-d14	10	8.5	85

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: MW-3
Client Project ID: HPFF
Lab Sample ID: 99561
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

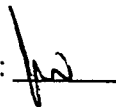
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.9	79
Nitrobenzene-d5	10	7.9	79
4-Terphenyl-d14	10	8.1	81

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-4
Client Project ID: HPFF
Lab Sample ID: 99562
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

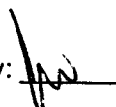
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
Nitrobenzene-d5	10	6.7	67
4-Terphenyl-d14	10	8.6	86

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: MW-9
Client Project ID: HPFF
Lab Sample ID: 99563
Lab Project ID: G128-660
Matrix: Water

Date Collected: 11/13/00
Date Received: 11/14/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

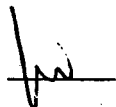
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
Nitrobenzene-d5	10	7.8	78
4-Terphenyl-d14	10	9.8	98

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

Client: CATLIN

Project ID: HPFF

Date: 11/13/00

Report To: MEM @

Address: ILM

Contact:

Turnaround: STD

CATLIN

Address:

Phone:

Job Number: 97106-19

Site #: 1489

Fax:

P.O. Number: ~~1489~~

Invoice To: SHEILA @ CATLIN

Sample ID	Date	Time	Matrix	Preservatives				Analyses								Comments: Please specify any special reporting requirements
				HCl												
115-2	11/13/00	930	620 H ₂ O	✓				✓		✓						G128-660
15-4		1200														
15-6		1530														
UP115-6		1530														
115-8		1230														
UP115-8		1230														
15-17		1245														
15-18		1410														
115-21		945														
115-22		1300														

Relinquished By	Date	Time	Received By	Date	Time	Temperature	State Certification Requested
Ben A. [Signature]	11/13/00	1600	[Signature]	11/13/00	1600	ON ICE	NC ☒ SC ☐ Other ☐
			[Signature]	11/13/00	1705	walk in on ice	

SEE REVERSE FOR
TERMS AND CONDITIONS

Client: CATLIN Project ID: HPFF Date: 11/13/00 Report To: MEM @ CATLIN
 Address: ILM Contact: _____ Turnaround: STD
 Address: _____ Phone: _____ Job Number: 97106-19
 Site #: 1489 Fax: _____ P.O. Number: _____ Invoice To: SHEILA @ CATLIN

Sample ID	Date	Time	Matrix	Preservatives				Analyses								Comments: Please specify any special reporting requirements
115-23	11/13/00	1445	GND H2O	✓				✓		✓						EXTRA 610 SAMPLES
115-24		1000														INCLUDE FOR PARADIGM
GT8		1430														INHOUSE QA/QC PER
GT9		1400														ASHLEY'S REQUEST
T9 EXTRA		1400														
HPFF-13		1540														G128-660
HPFF-13 EXTRA		1540														
186W14		1015														
186W19		1300														
186W22-2	✓	1345	✓	✓				✓		✓						
Relinquished By		Date	Time	Received By		Date	Time	Temperature	State Certification Requested							
Ben A. [Signature]		11/13/00	1600	Chris [Signature]		11/13	1600	ON ICE	NC ☒ SC _____ Other _____							
				Julie [Signature]		11/13/00	1705	WALK-IN ON ICE	SEE REVERSE FOR TERMS AND CONDITIONS							

nt: CATLIN Project ID: HPFF Date: 11/13/00 Report To: MEM @ CATLIN
 ress: ILM Contact: _____ Turnaround: STD
 ress: _____ Phone: _____ Job Number: 97106-19
 te #: _____ Fax: _____ P.O. Number: _____ Invoice To: SHEILA @ CATLIN

Sample ID	Date	Time	Matrix	Preservatives				Analyses								Comments: Please specify any special reporting requirements
				ICI				602		610						
PFF-39	11/13/00	1000	GRD H ₂ O	✓				✓		✓						EXTRA 610 SAMPLES
01-2		1220														FOR PARADIGM IN
01-3		1220														HOUSE QA/QC PER
HPFF-37		1006														ASHLEY'S REQUEST
PFF-32		1255														
PFF-35		1150														G128-660
PFF-34		1100														
3 GW15		1045														
PFF-36		1017														
15-1	✓	955	✓	✓				✓		✓						

Relinquished By	Date	Time	Received By	Date	Time	Temperature	State Certification Requested
Ben A. [Signature]	11/13/00	1600	[Signature]	11/13	16:00	6N16	NC ☒ SC _____ Other _____
			[Signature]				

SEE REVERSE FOR
TERMS AND CONDITIONS

nt: CATLIN

Project ID: HPFF

Date: 11/13/00

Report To: MEM @ CATLIN

ress: ILM

Contact: _____

Turnaround: STP

ress: _____

Phone: _____

Job Number: 97106-19

te #: 1489

Fax: _____

P.O. Number: _____

Invoice To: STEILA@CATLIN

Sample ID	Date	Time	Matrix	Preservatives				Analyses										Comments: Please specify any special reporting requirements
				J	I													
8 GW-12	11/13/00	1300	600 H ₂ O	✓				✓		✓								6128-660
3 GW-16		1322																
PFF-33		1300																
NW-4		1500																
NW-3		1439																
PFF-4		1430																
NW-9	✓	1415	✓	✓				✓		4								

Relinquished By	Date	Time	Received By	Date	Time	Temperature	State Certification Requested
Ben A. [Signature]	11/13/00	1600	Chris [Signature]	11/13	1600	on ice	NC ☒ SC _____ Other _____
			Julie [Signature]	11/13/00	1705	w/11cm on ice	

ORIGINAL

SEE REVERSE FOR
TERMS AND CONDITIONS

FILE 0077

200-216-19

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway S.E.
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

12-4-00

Mr. Mike E. Mason
Richard Catlin & Associates
P.O. Box 10279
Wilmington, NC 28404-0279

December 4, 2000

Report Number: G128-662

Client Project ID: HPFF

Dear Mr. Mason,

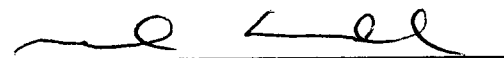
Enclosed are the results of the analytical services performed under the referenced project. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call for assistance. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,

Paradigm Analytical Laboratories, Inc.



Laboratory Director
Mark Randall

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-31

Client Project ID: HPFF

Lab Sample ID: 99712

Lab Project ID: G128-662

Analyzed By: RNP

Date Collected: 11/15/00

Date Received: 11/15/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	1	1	BQL
Diisopropyl ether (DIPE)	11/20/00	1	1	BQL
Ethylbenzene	11/20/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	1	2	BQL
Toluene	11/20/00	1	1	BQL
m/p-Xylene	11/20/00	1	2	BQL
o-Xylene	11/20/00	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: MW-A
Client Project ID: HPFF
Lab Sample ID: 99713
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/19/00	200	200	2900
Diisopropyl ether (DIPE)	11/19/00	200	200	BQL
Ethylbenzene	11/19/00	200	200	1600
Methyl-tert-butyl ether (MTBE)	11/19/00	200	400	BQL
Toluene	11/19/00	200	200	7200
m/p-Xylene	11/19/00	200	400	6100
o-Xylene	11/19/00	200	400	2900

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: MW-A
Client Project ID: HPFF
Lab Sample ID: 99713
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/17/00	1	1	38
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-40
 Client Project ID: HPFF
 Lab Sample ID: 99714
 Lab Project ID: G128-662

Analyzed By: RNP
 Date Collected: 11/15/00
 Date Received: 11/15/00
 Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	1	1	BQL
Diisopropyl ether (DIPE)	11/20/00	1	1	BQL
Ethylbenzene	11/20/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	1	2	BQL
Toluene	11/20/00	1	1	BQL
m/p-Xylene	11/20/00	1	2	BQL
o-Xylene	11/20/00	1	2	BQL

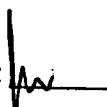
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GC 602

Client Sample ID: MW-17
Client Project ID: HPFF
Lab Sample ID: 99715
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	500	500	15000
Diisopropyl ether (DIPE)	11/20/00	500	500	BQL
Ethylbenzene	11/20/00	500	500	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	500	1000	BQL
Toluene	11/20/00	500	500	13000
m/p-Xylene	11/20/00	500	1000	2600
o-Xylene	11/20/00	500	1000	1100

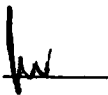
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: MW-17
Client Project ID: HPFF
Lab Sample ID: 99715
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

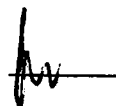
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/17/00	1	1	BQL
Ethylbenzene	11/17/00	1	1	560
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	65

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: HPFF-1
Client Project ID: HPFF
Lab Sample ID: 99716
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	1	1	BQL
Diisopropyl ether (DIPE)	11/20/00	1	1	BQL
Ethylbenzene	11/20/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	1	2	BQL
Toluene	11/20/00	1	1	BQL
m/p-Xylene	11/20/00	1	2	BQL
o-Xylene	11/20/00	1	2	BQL

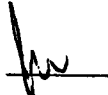
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GC 602

Client Sample ID: HPFF-7
Client Project ID: HPFF
Lab Sample ID: 99717
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	1	1	6
Diisopropyl ether (DIPE)	11/20/00	1	1	BQL
Ethylbenzene	11/20/00	1	1	33
Methyl-tert-butyl ether (MTBE)	11/20/00	1	2	BQL
Toluene	11/20/00	1	1	1
m/p-Xylene	11/20/00	1	2	3
o-Xylene	11/20/00	1	2	BQL

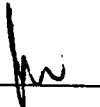
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: HPFF-8
Client Project ID: HPFF
Lab Sample ID: 99718
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	400	400	8500
Diisopropyl ether (DIPE)	11/20/00	400	400	2200
Ethylbenzene	11/20/00	400	400	600
Methyl-tert-butyl ether (MTBE)	11/20/00	400	800	BQL
Toluene	11/20/00	400	400	1200
m/p-Xylene	11/20/00	400	800	1000
o-Xylene	11/20/00	400	800	BQL

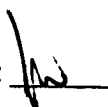
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-8
Client Project ID: HPFF
Lab Sample ID: 99718
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

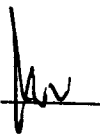
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL
o-Xylene	11/17/00	1	2	520

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: HPFF-14
Client Project ID: HPFF
Lab Sample ID: 99719
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	200	200	1400
Diisopropyl ether (DIPE)	11/20/00	200	200	BQL
Ethylbenzene	11/20/00	200	200	960
Methyl-tert-butyl ether (MTBE)	11/20/00	200	400	BQL
Toluene	11/20/00	200	200	5000
m/p-Xylene	11/20/00	200	400	3200
o-Xylene	11/20/00	200	400	1700

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	99

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: HPFF-14

Client Project ID: HPFF

Lab Sample ID: 99719

Lab Project ID: G128-662

Analyzed By: RNP

Date Collected: 11/15/00

Date Received: 11/15/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/17/00	1	1	29
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-12
 Client Project ID: HPFF
 Lab Sample ID: 99720
 Lab Project ID: G128-662

Analyzed By: RNP
 Date Collected: 11/15/00
 Date Received: 11/15/00
 Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/21/00	100	100	1600
Diisopropyl ether (DIPE)	11/21/00	100	100	BQL
Ethylbenzene	11/21/00	100	100	BQL
Methyl-tert-butyl ether (MTBE)	11/21/00	100	200	BQL
Toluene	11/21/00	100	100	BQL
m/p-Xylene	11/21/00	100	200	BQL
o-Xylene	11/21/00	100	200	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-12
Client Project ID: HPFF
Lab Sample ID: 99720
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/17/00	1	1	44
Ethylbenzene	11/17/00	1	1	19
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL
Toluene	11/17/00	1	1	110
m/p-Xylene	11/17/00	1	2	53
o-Xylene	11/17/00	1	2	28

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: HPFF-12 DUP
Client Project ID: HPFF
Lab Sample ID: 99721
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/21/00	100	100	1700
Diisopropyl ether (DIPE)	11/21/00	100	100	BQL
Ethylbenzene	11/21/00	100	100	BQL
Methyl-tert-butyl ether (MTBE)	11/21/00	100	200	BQL
Toluene	11/21/00	100	100	BQL
m/p-Xylene	11/21/00	100	200	BQL
o-Xylene	11/21/00	100	200	BQL

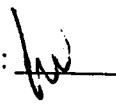
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-12 DUP
Client Project ID: HPFF
Lab Sample ID: 99721
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

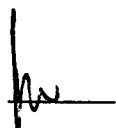
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/17/00	1	1	44
Ethylbenzene	11/17/00	1	1	5
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL
Toluene	11/17/00	1	1	57
m/p-Xylene	11/17/00	1	2	9
o-Xylene	11/17/00	1	2	3

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: HPFF-42
Client Project ID: HPFF
Lab Sample ID: 99722
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	1	1	BQL
Diisopropyl ether (DIPE)	11/20/00	1	1	BQL
Ethylbenzene	11/20/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	1	2	BQL
Toluene	11/20/00	1	1	BQL
m/p-Xylene	11/20/00	1	2	BQL
o-Xylene	11/20/00	1	2	BQL

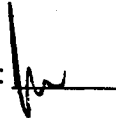
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-42 DUP

Client Project ID: HPFF

Lab Sample ID: 99723

Lab Project ID: G128-662

Analyzed By: RNP

Date Collected: 11/15/00

Date Received: 11/15/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	1	1	BQL
Diisopropyl ether (DIPE)	11/20/00	1	1	BQL
Ethylbenzene	11/20/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	1	2	BQL
Toluene	11/20/00	1	1	BQL
m/p-Xylene	11/20/00	1	2	BQL
o-Xylene	11/20/00	1	2	BQL

Surrogate Spike Recoveries

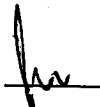
	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: HPFF-30
Client Project ID: HPFF
Lab Sample ID: 99724
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	10	10	150
Diisopropyl ether (DIPE)	11/20/00	10	10	12
Ethylbenzene	11/20/00	10	10	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	10	20	BQL
Toluene	11/20/00	10	10	13
m/p-Xylene	11/20/00	10	20	BQL
o-Xylene	11/20/00	10	20	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: HPFF-30
Client Project ID: HPFF
Lab Sample ID: 99724
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

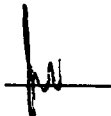
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Ethylbenzene	11/17/00	1	1	4
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL
m/p-Xylene	11/17/00	1	2	25
o-Xylene	11/17/00	1	2	22

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 78GW17-2
Client Project ID: HPFF
Lab Sample ID: 99725
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	1	1	1
Diisopropyl ether (DIPE)	11/20/00	1	1	BQL
Ethylbenzene	11/20/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	1	2	BQL
Toluene	11/20/00	1	1	BQL
m/p-Xylene	11/20/00	1	2	BQL
o-Xylene	11/20/00	1	2	BQL

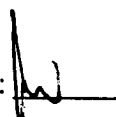
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GC 602

Client Sample ID: 78GW17-2 DUP
Client Project ID: HPFF
Lab Sample ID: 99726
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	1	1	1
Diisopropyl ether (DIPE)	11/20/00	1	1	BQL
Ethylbenzene	11/20/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	1	2	BQL
Toluene	11/20/00	1	1	BQL
m/p-Xylene	11/20/00	1	2	BQL
o-Xylene	11/20/00	1	2	BQL

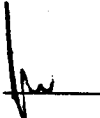
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-38

Client Project ID: HPFF

Lab Sample ID: 99727

Lab Project ID: G128-662

Analyzed By: RNP

Date Collected: 11/15/00

Date Received: 11/15/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	1	1	BQL
Diisopropyl ether (DIPE)	11/20/00	1	1	BQL
Ethylbenzene	11/20/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	1	2	BQL
Toluene	11/20/00	1	1	BQL
m/p-Xylene	11/20/00	1	2	BQL
o-Xylene	11/20/00	1	2	BQL

Surrogate Spike Recoveries

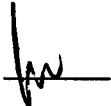
	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: HPFF-3
Client Project ID: HPFF
Lab Sample ID: 99728
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	1	1	BQL
Diisopropyl ether (DIPE)	11/20/00	1	1	BQL
Ethylbenzene	11/20/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	1	2	BQL
Toluene	11/20/00	1	1	BQL
m/p-Xylene	11/20/00	1	2	BQL
o-Xylene	11/20/00	1	2	BQL

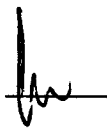
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GC 602

Client Sample ID: HPFF-22
Client Project ID: HPFF
Lab Sample ID: 99729
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	1000	1000	11000
Diisopropyl ether (DIPE)	11/20/00	1000	1000	BQL
Ethylbenzene	11/20/00	1000	1000	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	1000	2000	BQL
Toluene	11/20/00	1000	1000	11000
m/p-Xylene	11/20/00	1000	2000	3500
o-Xylene	11/20/00	1000	2000	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: HPFF-22

Client Project ID: HPFF

Lab Sample ID: 99729

Lab Project ID: G128-662

Analyzed By: RNP

Date Collected: 11/15/00

Date Received: 11/15/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.

The data, while qualitatively correct, provides only estimated concentrations.

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/17/00	1	1	220
Ethylbenzene	11/17/00	1	1	790
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL
o-Xylene	11/17/00	1	2	1800

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GC 602

Client Sample ID: GT-4
Client Project ID: HPFF
Lab Sample ID: 99730
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	20	20	120
Diisopropyl ether (DIPE)	11/20/00	20	20	BQL
Ethylbenzene	11/20/00	20	20	98
Methyl-tert-butyl ether (MTBE)	11/20/00	20	40	BQL
Toluene	11/20/00	20	20	BQL
m/p-Xylene	11/20/00	20	40	430
o-Xylene	11/20/00	20	40	120

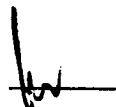
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: GT-4

Client Project ID: HPFF

Lab Sample ID: 99730

Lab Project ID: G128-662

Analyzed By: RNP

Date Collected: 11/15/00

Date Received: 11/15/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.

The data, while qualitatively correct, provides only estimated concentrations.

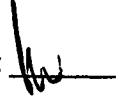
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/17/00	1	1	15
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL
Toluene	11/17/00	1	1	140

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 1115-11
Client Project ID: HPFF
Lab Sample ID: 99731
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	10	10	140
Diisopropyl ether (DIPE)	11/20/00	10	10	BQL
Ethylbenzene	11/20/00	10	10	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	10	20	BQL
Toluene	11/20/00	10	10	BQL
m/p-Xylene	11/20/00	10	20	BQL
o-Xylene	11/20/00	10	20	BQL

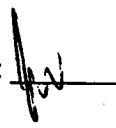
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: 1115-11
Client Project ID: HPFF
Lab Sample ID: 99731
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

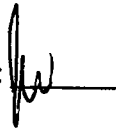
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/17/00	1	1	14
Ethylbenzene	11/17/00	1	1	3
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL
Toluene	11/17/00	1	1	6
m/p-Xylene	11/17/00	1	2	11
o-Xylene	11/17/00	1	2	4

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: MW-19
Client Project ID: HPFF
Lab Sample ID: 99732
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	1	1	BQL
Diisopropyl ether (DIPE)	11/20/00	1	1	BQL
Ethylbenzene	11/20/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	1	2	BQL
Toluene	11/20/00	1	1	BQL
m/p-Xylene	11/20/00	1	2	BQL
o-Xylene	11/20/00	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1115-10
Client Project ID: HPFF
Lab Sample ID: 99733
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/21/00	10	10	200
Diisopropyl ether (DIPE)	11/21/00	10	10	15
Ethylbenzene	11/21/00	10	10	35
Methyl-tert-butyl ether (MTBE)	11/21/00	10	20	BQL
Toluene	11/21/00	10	10	BQL
m/p-Xylene	11/21/00	10	20	BQL
o-Xylene	11/21/00	10	20	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: 1115-10
Client Project ID: HPFF
Lab Sample ID: 99733
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

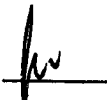
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL
Toluene	11/17/00	1	1	2
m/p-Xylene	11/17/00	1	2	BQL
o-Xylene	11/17/00	1	2	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: GT-7
Client Project ID: HPFF
Lab Sample ID: 99734
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/21/00	100	100	1000
Diisopropyl ether (DIPE)	11/21/00	100	100	BQL
Ethylbenzene	11/21/00	100	100	BQL
Methyl-tert-butyl ether (MTBE)	11/21/00	100	200	BQL
Toluene	11/21/00	100	100	BQL
m/p-Xylene	11/21/00	100	200	BQL
o-Xylene	11/21/00	100	200	BQL

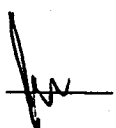
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: GT-7
Client Project ID: HPFF
Lab Sample ID: 99734
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

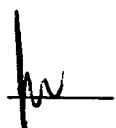
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/17/00	1	1	78
Ethylbenzene	11/17/00	1	1	11
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL
Toluene	11/17/00	1	1	21
m/p-Xylene	11/17/00	1	2	9
o-Xylene	11/17/00	1	2	3

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 1115-12
Client Project ID: HPFF
Lab Sample ID: 99735
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/21/00	200	200	2000
Diisopropyl ether (DIPE)	11/21/00	200	200	BQL
Ethylbenzene	11/21/00	200	200	240
Methyl-tert-butyl ether (MTBE)	11/21/00	200	400	BQL
Toluene	11/21/00	200	200	1400
m/p-Xylene	11/21/00	200	400	430
o-Xylene	11/21/00	200	400	BQL

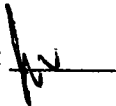
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: 1115-12
Client Project ID: HPFF
Lab Sample ID: 99735
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

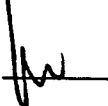
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/17/00	1	1	25
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL
o-Xylene	11/17/00	1	2	350

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-20
Client Project ID: HPFF
Lab Sample ID: 99736
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/21/00	1000	1000	5800
Diisopropyl ether (DIPE)	11/21/00	1000	1000	BQL
Ethylbenzene	11/21/00	1000	1000	BQL
Methyl-tert-butyl ether (MTBE)	11/21/00	1000	2000	BQL
Toluene	11/21/00	1000	1000	18000
m/p-Xylene	11/21/00	1000	2000	3400
o-Xylene	11/21/00	1000	2000	BQL

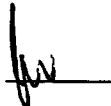
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-20
Client Project ID: HPFF
Lab Sample ID: 99736
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

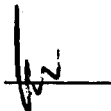
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/17/00	1	1	1000
Ethylbenzene	11/17/00	1	1	820
Methyl-tert-butyl ether (MTBE)	11/17/00	1	1	BQL
o-Xylene	11/17/00	1	2	2000

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 78GW21
Client Project ID: HPFF
Lab Sample ID: 99737
Lab Project ID: G128-662

Analyzed By: RNP
Date Collected: 11/15/00
Date Received: 11/15/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/21/00	1	1	BQL
Diisopropyl ether (DIPE)	11/21/00	1	1	BQL
Ethylbenzene	11/21/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/21/00	1	2	BQL
Toluene	11/21/00	1	1	BQL
m/p-Xylene	11/21/00	1	2	BQL
o-Xylene	11/21/00	1	2	BQL

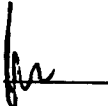
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-31
Client Project ID: HPFF
Lab Sample ID: 99712
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

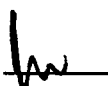
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.3	83
Nitrobenzene-d5	10	8.4	84
4-Terphenyl-d14	10	9.5	95

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: MW-A
Client Project ID: HPFF
Lab Sample ID: 99713
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 4

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	40	BQL
Acenaphthylene	40	BQL
Anthracene	40	BQL
Benzo[a]anthracene	40	BQL
Benzo[a]pyrene	40	BQL
Benzo[b]fluoranthene	40	BQL
Benzo[g,h,i]perylene	40	BQL
Benzo[k]fluoranthene	40	BQL
Chrysene	40	BQL
Dibenzo[a,h]anthracene	40	BQL
Fluoranthene	40	BQL
Fluorene	40	BQL
Indeno(1,2,3-c,d)pyrene	40	BQL
1-Methylnaphthalene	40	430
2-Methylnaphthalene	40	650
Naphthalene	40	1100
Phenanthrene	40	BQL
Pyrene	40	BQL

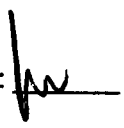
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.4	64
Nitrobenzene-d5	10	7.9	79
4-Terphenyl-d14	10	6.8	68

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: MW-A
Client Project ID: HPFF
Lab Sample ID: 99713
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

The following data was generated by a GC/MS screening run, not a certified method.

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	13
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	17
Indeno(1,2,3-c,d)pyrene	10	BQL
Phenanthrene	10	23
Pyrene	10	BQL

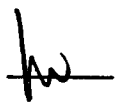
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.1	71
Nitrobenzene-d5	10	13.7	137
4-Terphenyl-d14	10	6.7	67

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-40
Client Project ID: HPFF
Lab Sample ID: 99714
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.8	78
Nitrobenzene-d5	10	8.1	81
4-Terphenyl-d14	10	7	70

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: MW-17
Client Project ID: HPFF
Lab Sample ID: 99715
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	28
2-Methylnaphthalene	10	50
Naphthalene	10	270
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.9	79
Nitrobenzene-d5	10	9.1	91
4-Terphenyl-d14	10	8.4	84

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-1
Client Project ID: HPFF
Lab Sample ID: 99716
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

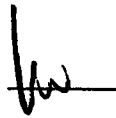
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.2	82
Nitrobenzene-d5	10	8.4	84
4-Terphenyl-d14	10	7.9	79

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-7
Client Project ID: HPFF
Lab Sample ID: 99717
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

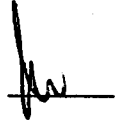
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.8	78
Nitrobenzene-d5	10	7.6	76
4-Terphenyl-d14	10	10	100

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-8
Client Project ID: HPFF
Lab Sample ID: 99718
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	16
2-Methylnaphthalene	10	25
Naphthalene	10	170
Phenanthrene	10	BQL
Pyrene	10	BQL

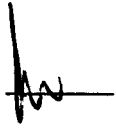
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.2	82
Nitrobenzene-d5	10	8.5	85
4-Terphenyl-d14	10	11	110

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-14
Client Project ID: HPFF
Lab Sample ID: 99719
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	57
2-Methylnaphthalene	10	75
Naphthalene	10	190
Phenanthrene	10	BQL
Pyrene	10	BQL

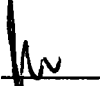
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.5	65
Nitrobenzene-d5	10	9.5	95
4-Terphenyl-d14	10	6.1	61

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-12
Client Project ID: HPFF
Lab Sample ID: 99720
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

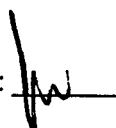
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
Nitrobenzene-d5	10	7.2	72
4-Terphenyl-d14	10	10.6	106

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons
EPA 610 by GCMS 625

Client Sample ID: HPFF-12 DUP
Client Project ID: HPFF
Lab Sample ID: 99721
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.6	76
Nitrobenzene-d5	10	7.1	71
4-Terphenyl-d14	10	10.7	107

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-42
Client Project ID: HPFF
Lab Sample ID: 99722
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

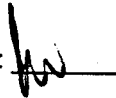
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.6	76
Nitrobenzene-d5	10	7.5	75
4-Terphenyl-d14	10	6.7	67

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons
EPA 610 by GCMS 625

Client Sample ID: HPFF-42 DUP
Client Project ID: HPFF
Lab Sample ID: 99723
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

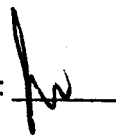
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.4	64
Nitrobenzene-d5	10	7.3	73
4-Terphenyl-d14	10	6.1	61

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-30
Client Project ID: HPFF
Lab Sample ID: 99724
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

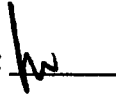
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.2	62
Nitrobenzene-d5	10	7.6	76
4-Terphenyl-d14	10	4	40

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW17-2
Client Project ID: HPFF
Lab Sample ID: 99725
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

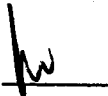
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.9	69
Nitrobenzene-d5	10	6.6	66
4-Terphenyl-d14	10	9	90

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW17-2 DUP
Client Project ID: HPFF
Lab Sample ID: 99726
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.1	71
Nitrobenzene-d5	10	6.5	65
4-Terphenyl-d14	10	9.7	97

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-38
Client Project ID: HPFF
Lab Sample ID: 99727
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

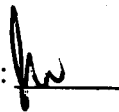
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
Nitrobenzene-d5	10	7.6	76
4-Terphenyl-d14	10	8.1	81

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-3
Client Project ID: HPFF
Lab Sample ID: 99728
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.8	78
Nitrobenzene-d5	10	7.9	79
4-Terphenyl-d14	10	9.8	98

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-22
Client Project ID: HPFF
Lab Sample ID: 99729
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	37
2-Methylnaphthalene	10	55
Naphthalene	10	250
Phenanthrene	10	BQL
Pyrene	10	BQL

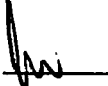
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7	70
Nitrobenzene-d5	10	8.9	89
4-Terphenyl-d14	10	6.8	68

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: GT-4
Client Project ID: HPFF
Lab Sample ID: 99730
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	17
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	5.2	52
Nitrobenzene-d5	10	8.7	87
4-Terphenyl-d14	10	5.5	55

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: AN

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-11
Client Project ID: HPFF
Lab Sample ID: 99731
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.9	79
Nitrobenzene-d5	10	8.3	83
4-Terphenyl-d14	10	9	90

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: MW-19
Client Project ID: HPFF
Lab Sample ID: 99732
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

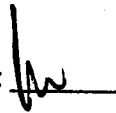
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
Nitrobenzene-d5	10	8.2	82
4-Terphenyl-d14	10	6.6	66

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-10
Client Project ID: HPFF
Lab Sample ID: 99733
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	25
Naphthalene	10	17
Phenanthrene	10	BQL
Pyrene	10	BQL

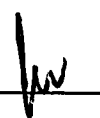
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
Nitrobenzene-d5	10	8.4	84
4-Terphenyl-d14	10	7.9	79

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: GT-7
Client Project ID: HPFF
Lab Sample ID: 99734
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/23/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
Nitrobenzene-d5	10	7.7	77
4-Terphenyl-d14	10	7.2	72

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-12
Client Project ID: HPFF
Lab Sample ID: 99735
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/23/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	11
2-Methylnaphthalene	10	17
Naphthalene	10	44
Phenanthrene	10	BQL
Pyrene	10	BQL

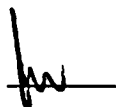
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.7	67
Nitrobenzene-d5	10	7.8	78
4-Terphenyl-d14	10	6.8	68

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

**Results for Polynuclear Aromatic Hydrocarbons
EPA 610 by GCMS 625**

Client Sample ID: HPFF-20
Client Project ID: HPFF
Lab Sample ID: 99736
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/23/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	38
2-Methylnaphthalene	10	63
Naphthalene	10	190
Phenanthrene	10	BQL
Pyrene	10	BQL

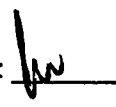
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.2	62
Nitrobenzene-d5	10	8	80
4-Terphenyl-d14	10	6.8	68

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW21
Client Project ID: HPFF
Lab Sample ID: 99737
Lab Project ID: G128-662
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/15/00
Date Analyzed: 11/23/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

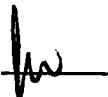
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
Nitrobenzene-d5	10	7.7	77
4-Terphenyl-d14	10	9.9	99

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

527 Northchase Parkway SE, Wilmington, NC 28405

Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 19396

Page 1 of 3

Client: CATLIN

Project ID: HPFF

Date: 11/15/00

Report To: MEM @CATLIN

Address: ILM

Contact: _____

Turnaround: STD

Address: _____

Phone: _____

Job Number: 97106

Note #: 1489

Fax: _____

P.O. Number: _____

Invoice To: SHEILA @CATLIN

Sample ID	Date	Time	Matrix	AC1	AC2	AC3	AC4	AC5	AC6	AC7	AC8	AC9	AC10	AC11	AC12	Comments
HPFF-31	11/15/00	1010	GND H ₂ O	✓												* PLEASE INCLUDE LOW RUNS -> SCREENING O.K. G128-662
MW-A		1400														EXTRA 610 SAMPLES INCLUDED FOR PARADIGM
HPFF-40		1100														INHOUSE QA/QC PERL
MW-17		1200														ASHLEY'S REQUEST
HPFF-1		1430														
HPFF-7		1410														
HPFF-8		1215														EXTRA
HPFF-14		1540														EXTRA
HPFF-12		1530														
HPFF-12 DUP	✓	1530	✓	✓												

Relinquished By	Date	Time	Received By	Date	Time	Temperature	State Certification Requested
Bonnie A. [Signature]	11/15/00	1545	Chris [Signature]	11/15/00	1545	ON ICE	NC ☒ SC _____ Other _____
			Julie [Signature]	11/15/00	1545	WOLKIN ON ICE	

SEE REVERSE FOR TERMS AND CONDITIONS

ORIGINAL

Client: CATLIN
Address: ILM
Project ID: HPFF
Date: 11/15/00
Report To: MEM@CATLIN
Contact: _____
Turnaround: STD
Phone: _____
Job Number: 97106
Note #: 1489
P.O. Number: _____
Invoice To: STELLA@CATLIN

Sample ID	Date	Time	Matrix	Preservatives				Analytes										Comments Please specify any special reporting requirements	
				IC	GC	WV	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC		
HPFF-42	11/15/00	1030	GLD H2O	✓					✓	✓									G 128-662
HPFF-42 DUP		1030																	
HPFF-30		1130																	
786W17-2		1015																	
86W17-2 DUP		1015																	
HPFF-38		1432																	
HPFF-3		1410																	
HPFF-22		1500																	
IT-4		940																	
1115-11	✓	1030	✓	✓					✓	✓									
Relinquished By				Date	Time	Received By				Date	Time	Temperature	State Certification Requested						
Ben A. [Signature]				11/15/00	1545	Chris [Signature]				11/15/00	1545	ON ICE	NC ☒ SC _____ Other _____ SEE REVERSE FOR TERMS AND CONDITIONS						
						Julie [Signature]				11/15/00	1545	Wet/Kin ON ICE							

Sample ID	Date	Time	Temp	Humidity	Wind	Pressure	Clouds	Visibility	Weather	Remarks
1W-19	11/15/00	1207	62.0	M20	✓	✓	✓	✓	✓	✓
15-10		1010								
T-7		1045								
15-12		940								
PF-20		1400								
16W21		1150								

*** PLEASE INCLUDE LOW RUNS - SCREENING O.K**

G128-662

ORIGINAL

FILE COPY

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway S.E.
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

200-216-19

12-4-00

Mr. Mike E. Mason
Richard Catlin & Associates
P.O. Box 10279
Wilmington, NC 28404-0279

December 4, 2000

Report Number: G128-663

Client Project ID: HPFF

Dear Mr. Mason,

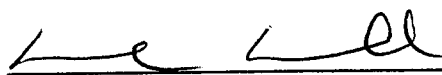
Enclosed are the results of the analytical services performed under the referenced project. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call for assistance. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,

Paradigm Analytical Laboratories, Inc.



Laboratory Director
Mark Randall

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC 602

Client Sample ID: MW-6
Client Project ID: HPFF
Lab Sample ID: 99869
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/22/00	2	2	28
Diisopropyl ether (DIPE)	11/22/00	2	2	BQL
Ethylbenzene	11/22/00	2	2	17
Methyl-tert-butyl ether (MTBE)	11/22/00	2	4	BQL
Toluene	11/22/00	2	2	7
m/p-Xylene	11/22/00	2	4	28
o-Xylene	11/22/00	2	4	5

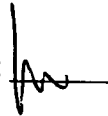
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	99

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC/MS Screening

Client Sample ID: MW-6
Client Project ID: HPFF
Lab Sample ID: 99869
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

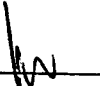
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/20/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC 602

Client Sample ID: HPFF-29
Client Project ID: HPFF
Lab Sample ID: 99870
Lab Project ID: G128-663

Analyzed By: EKR
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/22/00	2000	2000	23000
Diisopropyl ether (DIPE)	11/22/00	2000	2000	6800
Ethylbenzene	11/22/00	2000	2000	6700
Methyl-tert-butyl ether (MTBE)	11/22/00	2000	4000	BQL
Toluene	11/22/00	2000	2000	47000
m/p-Xylene	11/22/00	2000	4000	20000
o-Xylene	11/22/00	2000	4000	8300

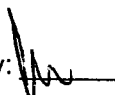
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	42	104

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: HPFF-29
Client Project ID: HPFF
Lab Sample ID: 99870
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

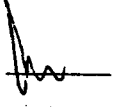
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	1600

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-2
Client Project ID: HPFF
Lab Sample ID: 99871
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/24/00	1	1	BQL
Diisopropyl ether (DIPE)	11/24/00	1	1	BQL
Ethylbenzene	11/24/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/24/00	1	2	BQL
Toluene	11/24/00	1	1	BQL
m/p-Xylene	11/24/00	1	2	BQL
o-Xylene	11/24/00	1	2	BQL

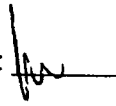
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	103

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: MW-5
Client Project ID: HPFF
Lab Sample ID: 99872
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/22/00	1	1	BQL
Diisopropyl ether (DIPE)	11/22/00	1	1	BQL
Ethylbenzene	11/22/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/22/00	1	2	BQL
Toluene	11/22/00	1	1	BQL
m/p-Xylene	11/22/00	1	2	BQL
o-Xylene	11/22/00	1	2	BQL

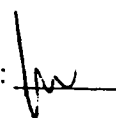
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC 602

Client Sample ID: 78GW-13
Client Project ID: HPFF
Lab Sample ID: 99873
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/22/00	1	1	BQL
Diisopropyl ether (DIPE)	11/22/00	1	1	BQL
Ethylbenzene	11/22/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/22/00	1	2	BQL
Toluene	11/22/00	1	1	BQL
m/p-Xylene	11/22/00	1	2	BQL
o-Xylene	11/22/00	1	2	BQL

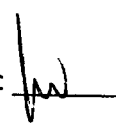
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC 602

Client Sample ID: HPFF-26
Client Project ID: HPFF
Lab Sample ID: 99874
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/22/00	1	1	BQL
Diisopropyl ether (DIPE)	11/22/00	1	1	BQL
Ethylbenzene	11/22/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/22/00	1	2	BQL
Toluene	11/22/00	1	1	BQL
m/p-Xylene	11/22/00	1	2	BQL
o-Xylene	11/22/00	1	2	BQL

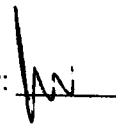
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-24
Client Project ID: HPFF
Lab Sample ID: 99875
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/24/00	100	100	1700
Diisopropyl ether (DIPE)	11/24/00	100	100	440
Ethylbenzene	11/24/00	100	100	110
Methyl-tert-butyl ether (MTBE)	11/24/00	100	200	BQL
Toluene	11/24/00	100	100	2200
m/p-Xylene	11/24/00	100	200	1500
o-Xylene	11/24/00	100	200	1600

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-23

Client Project ID: HPFF

Lab Sample ID: 99876

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/25/00	1000	1000	5200
Diisopropyl ether (DIPE)	11/25/00	1000	1000	BQL
Ethylbenzene	11/25/00	1000	1000	1100
Methyl-tert-butyl ether (MTBE)	11/25/00	1000	2000	BQL
Toluene	11/25/00	1000	1000	17000
m/p-Xylene	11/25/00	1000	2000	6400
o-Xylene	11/25/00	1000	2000	2800

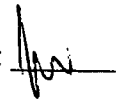
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-23
Client Project ID: HPFF
Lab Sample ID: 99876
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

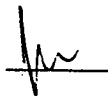
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/20/00	1	1	1100
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-21

Client Project ID: HPFF

Lab Sample ID: 99877

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/22/00	1	1	6
Diisopropyl ether (DIPE)	11/22/00	1	1	BQL
Ethylbenzene	11/22/00	1	1	1
Methyl-tert-butyl ether (MTBE)	11/22/00	1	2	BQL
Toluene	11/22/00	1	1	17
m/p-Xylene	11/22/00	1	2	7
o-Xylene	11/22/00	1	2	3

Surrogate Spike Recoveries

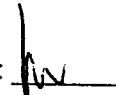
	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles**

by GC 602

Client Sample ID: HPFF-25

Client Project ID: HPFF

Lab Sample ID: 99878

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/25/00	1000	1000	13000
Diisopropyl ether (DIPE)	11/25/00	1000	1000	4800
Ethylbenzene	11/25/00	1000	1000	3400
Methyl-tert-butyl ether (MTBE)	11/25/00	1000	2000	BQL
Toluene	11/25/00	1000	1000	36000
m/p-Xylene	11/25/00	1000	2000	12000
o-Xylene	11/25/00	1000	2000	4700

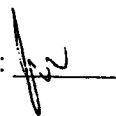
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: HPFF-25

Client Project ID: HPFF

Lab Sample ID: 99878

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

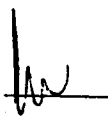
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles**

by GC 602

Client Sample ID: HPFF-17

Client Project ID: HPFF

Lab Sample ID: 99879

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/23/00	50	50	540
Diisopropyl ether (DIPE)	11/23/00	50	50	BQL
Ethylbenzene	11/23/00	50	50	99
Methyl-tert-butyl ether (MTBE)	11/23/00	50	100	BQL
Toluene	11/23/00	50	50	360
m/p-Xylene	11/23/00	50	100	230
o-Xylene	11/23/00	50	100	120

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-17

Client Project ID: HPFF

Lab Sample ID: 99879

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.

The data, while qualitatively correct, provides only estimated concentrations.

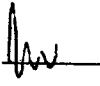
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/20/00	1	1	48
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles**

by GC 602

Client Sample ID: MW-11
Client Project ID: HPFF
Lab Sample ID: 99880
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/23/00	100	100	550
Diisopropyl ether (DIPE)	11/23/00	100	100	BQL
Ethylbenzene	11/23/00	100	100	450
Methyl-tert-butyl ether (MTBE)	11/23/00	100	200	BQL
Toluene	11/23/00	100	100	2200
m/p-Xylene	11/23/00	100	200	1200
o-Xylene	11/23/00	100	200	840

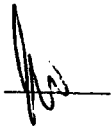
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: MW-11

Client Project ID: HPFF

Lab Sample ID: 99880

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

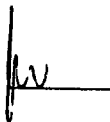
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/20/00	1	1	73
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	4

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 78GW-17-1

Client Project ID: HPFF

Lab Sample ID: 99881

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/23/00	1	1	BQL
Diisopropyl ether (DIPE)	11/23/00	1	1	BQL
Ethylbenzene	11/23/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/23/00	1	2	BQL
Toluene	11/23/00	1	1	BQL
m/p-Xylene	11/23/00	1	2	BQL
o-Xylene	11/23/00	1	2	BQL

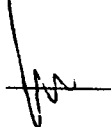
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	103

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles**

by GC 602

Client Sample ID: 1115-7
Client Project ID: HPFF
Lab Sample ID: 99882
Lab Project ID: G128-663

Analyzed By: EKR
Date Collected: 11/15/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/21/00	250	250	3000
Diisopropyl ether (DIPE)	11/21/00	250	250	310
Ethylbenzene	11/21/00	250	250	1100
Methyl-tert-butyl ether (MTBE)	11/21/00	250	500	BQL
Toluene	11/21/00	250	250	7700
m/p-Xylene	11/21/00	250	500	2400
o-Xylene	11/21/00	250	500	1300

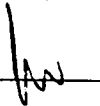
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	99

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles***by GC/MS Screening*

Client Sample ID: 1115-7

Client Project ID: HPFF

Lab Sample ID: 99882

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/15/00

Date Received: 11/17/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.

The data, while qualitatively correct, provides only estimated concentrations.

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles**

by GC 602

Client Sample ID: MW-18
Client Project ID: HPFF
Lab Sample ID: 99883
Lab Project ID: G128-663

Analyzed By: CKC
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/28/00	1000	1000	15000
Diisopropyl ether (DIPE)	11/28/00	1000	1000	1800
Ethylbenzene	11/28/00	1000	1000	2200
Methyl-tert-butyl ether (MTBE)	11/28/00	1000	2000	BQL
Toluene	11/28/00	1000	1000	34000
m/p-Xylene	11/28/00	1000	2000	9300
o-Xylene	11/28/00	1000	2000	4900

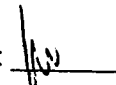
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	42	105

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: MW-18

Client Project ID: HPFF

Lab Sample ID: 99883

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.

The data, while qualitatively correct, provides only estimated concentrations.

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC 602

Client Sample ID: 1115-3
Client Project ID: HPFF
Lab Sample ID: 99884
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/25/00	1	1	11
Diisopropyl ether (DIPE)	11/25/00	1	1	3
Ethylbenzene	11/25/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/25/00	1	2	BQL
Toluene	11/25/00	1	1	BQL
m/p-Xylene	11/25/00	1	2	BQL
o-Xylene	11/25/00	1	2	BQL

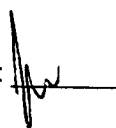
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles**

by GC 602

Client Sample ID: 1115-19
Client Project ID: HPFF
Lab Sample ID: 99885
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/23/00	100	100	2200
Diisopropyl ether (DIPE)	11/23/00	100	100	860
Ethylbenzene	11/23/00	100	100	120
Methyl-tert-butyl ether (MTBE)	11/23/00	100	200	BQL
Toluene	11/23/00	100	100	BQL
m/p-Xylene	11/23/00	100	200	BQL
o-Xylene	11/23/00	100	200	BQL

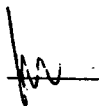
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC/MS Screening

Client Sample ID: 1115-19
Client Project ID: HPFF
Lab Sample ID: 99885
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

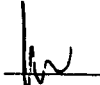
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	2
Toluene	11/20/00	1	1	33
m/p-Xylene	11/20/00	1	2	39
o-Xylene	11/20/00	1	1	74

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC 602

Client Sample ID: 1115-20
Client Project ID: HPFF
Lab Sample ID: 99886
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/25/00	1000	1000	23000
Diisopropyl ether (DIPE)	11/25/00	1000	1000	11000
Ethylbenzene	11/25/00	1000	1000	2200
Methyl-tert-butyl ether (MTBE)	11/25/00	1000	2000	BQL
Toluene	11/25/00	1000	1000	31000
m/p-Xylene	11/25/00	1000	2000	5600
o-Xylene	11/25/00	1000	2000	2600

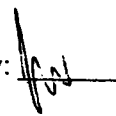
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: 1115-20

Client Project ID: HPFF

Lab Sample ID: 99886

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

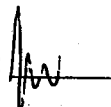
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	16

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles**

by GC 602

Client Sample ID: MW-10R

Client Project ID: HPFF

Lab Sample ID: 99887

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/25/00	500	500	3800
Diisopropyl ether (DIPE)	11/25/00	500	500	BQL
Ethylbenzene	11/25/00	500	500	1200
Methyl-tert-butyl ether (MTBE)	11/25/00	500	1000	BQL
Toluene	11/25/00	500	500	8000
m/p-Xylene	11/25/00	500	1000	4800
o-Xylene	11/25/00	500	1000	1700

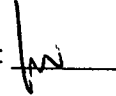
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	103

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: MW-10R

Client Project ID: HPFF

Lab Sample ID: 99887

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

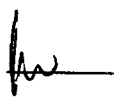
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/20/00	1	1	220
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC 602

Client Sample ID: HPFF-16
Client Project ID: HPFF
Lab Sample ID: 99888
Lab Project ID: G128-663

Analyzed By: EKR
Date Collected: 11/15/00
Date Received: 11/17/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/21/00	20	20	580
Diisopropyl ether (DIPE)	11/21/00	20	20	BQL
Ethylbenzene	11/21/00	20	20	44
Methyl-tert-butyl ether (MTBE)	11/21/00	20	40	BQL
Toluene	11/21/00	20	20	BQL
m/p-Xylene	11/21/00	20	40	BQL
o-Xylene	11/21/00	20	40	BQL

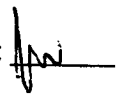
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	99

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: HPFF-16

Client Project ID: HPFF

Lab Sample ID: 99888

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/15/00

Date Received: 11/17/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.

The data, while qualitatively correct, provides only estimated concentrations.

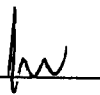
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/20/00	1	1	12
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	BQL
Toluene	11/20/00	1	1	21
m/p-Xylene	11/20/00	1	2	16
o-Xylene	11/20/00	1	1	9

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.**Results for Volatiles**

by GC 602

Client Sample ID: HPFF-41

Client Project ID: HPFF

Lab Sample ID: 99889

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/25/00	4	4	86
Diisopropyl ether (DIPE)	11/25/00	4	4	15
Ethylbenzene	11/25/00	4	4	BQL
Methyl-tert-butyl ether (MTBE)	11/25/00	4	8	BQL
Toluene	11/25/00	4	4	BQL
m/p-Xylene	11/25/00	4	8	8
o-Xylene	11/25/00	4	8	BQL

Surrogate Spike Recoveries

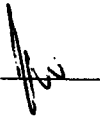
	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.
Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-41
Client Project ID: HPFF
Lab Sample ID: 99889
Lab Project ID: G128-663

Analyzed By: RNP
Date Collected: 11/16/00
Date Received: 11/17/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

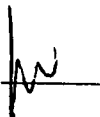
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Ethylbenzene	11/20/00	1	1	1
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	BQL
Toluene	11/20/00	1	1	11
o-Xylene	11/20/00	1	1	8

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 78GW31-2

Client Project ID: HPFF

Lab Sample ID: 99890

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/23/00	1	1	BQL
Diisopropyl ether (DIPE)	11/23/00	1	1	BQL
Ethylbenzene	11/23/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/23/00	1	2	BQL
Toluene	11/23/00	1	1	BQL
m/p-Xylene	11/23/00	1	2	BQL
o-Xylene	11/23/00	1	2	BQL

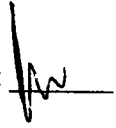
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 78GW31-3

Client Project ID: HPFF

Lab Sample ID: 99891

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/23/00	1	1	BQL
Diisopropyl ether (DIPE)	11/23/00	1	1	BQL
Ethylbenzene	11/23/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/23/00	1	2	BQL
Toluene	11/23/00	1	1	BQL
m/p-Xylene	11/23/00	1	2	BQL
o-Xylene	11/23/00	1	2	BQL

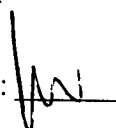
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 78GW31-2 DUP

Client Project ID: HPFF

Lab Sample ID: 99892

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/23/00	1	1	BQL
Diisopropyl ether (DIPE)	11/23/00	1	1	BQL
Ethylbenzene	11/23/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/23/00	1	2	BQL
Toluene	11/23/00	1	1	BQL
m/p-Xylene	11/23/00	1	2	BQL
o-Xylene	11/23/00	1	2	BQL

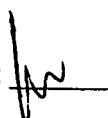
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-11

Client Project ID: HPFF

Lab Sample ID: 99894

Lab Project ID: G128-663

Analyzed By: EKR

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/24/00	2	2	59
Diisopropyl ether (DIPE)	11/24/00	2	2	BQL
Ethylbenzene	11/24/00	2	2	BQL
Methyl-tert-butyl ether (MTBE)	11/24/00	2	4	BQL
Toluene	11/24/00	2	2	BQL
m/p-Xylene	11/24/00	2	4	BQL
o-Xylene	11/24/00	2	4	BQL

Surrogate Spike Recoveries

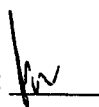
	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	98

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC/MS Screening

Client Sample ID: HPFF-11

Client Project ID: HPFF

Lab Sample ID: 99894

Lab Project ID: G128-663

Analyzed By: RNP

Date Collected: 11/16/00

Date Received: 11/17/00

Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/20/00	1	1	1
Ethylbenzene	11/20/00	1	1	1
Methyl-tert-butyl ether (MTBE)	11/20/00	1	1	BQL
Toluene	11/20/00	1	1	BQL
m/p-Xylene	11/20/00	1	2	BQL
o-Xylene	11/20/00	1	2	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: W

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: MW-6
Client Project ID: HPFF
Lab Sample ID: 99869
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/23/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	41
2-Methylnaphthalene	10	78
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

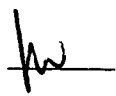
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.4	74
Nitrobenzene-d5	10	8.2	82
4-Terphenyl-d14	10	9.7	97

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-29
Client Project ID: HPFF
Lab Sample ID: 99870
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 20

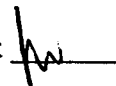
Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	200	BQL
Acenaphthylene	200	BQL
Anthracene	200	BQL
Benzo[a]anthracene	200	BQL
Benzo[a]pyrene	200	BQL
Benzo[b]fluoranthene	200	BQL
Benzo[g,h,i]perylene	200	BQL
Benzo[k]fluoranthene	200	BQL
Chrysene	200	BQL
Dibenzo[a,h]anthracene	200	BQL
Fluoranthene	200	BQL
Fluorene	200	BQL
Indeno(1,2,3-c,d)pyrene	200	BQL
1-Methylnaphthalene	200	2300
2-Methylnaphthalene	200	4000
Naphthalene	200	5800
Phenanthrene	200	BQL
Pyrene	200	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	NA	NA
Nitrobenzene-d5	10	NA	NA
4-Terphenyl-d14	10	NA	NA

Comments:

Results are corrected for %solids and dilution where applicable.

Flags: NA = Not applicable, surrogates diluted out.
BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: HPFF-29
Client Project ID: HPFF
Lab Sample ID: 99870
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/23/00
Analyzed By: MRC
Dilution: 1

The following data was generated by a GC/MS screening run, not a certified method.

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	56
Acenaphthylene	10	20
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	20
Fluorene	10	65
Indeno(1,2,3-c,d)pyrene	10	BQL
Phenanthrene	10	73
Pyrene	10	16

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7	70
Nitrobenzene-d5	10	*	*
4-Terphenyl-d14	10	4.8	48

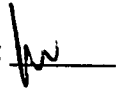
Comments:

Results are corrected for %solids and dilution where applicable.

* Compound results not obtainable due to matrix interferences.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-2
Client Project ID: HPFF
Lab Sample ID: 99871
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/23/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

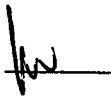
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.4	74
Nitrobenzene-d5	10	7.1	71
4-Terphenyl-d14	10	9.6	96

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: MW-5
 Client Project ID: HPFF
 Lab Sample ID: 99872
 Lab Project ID: G128-663
 Matrix: Water

Date Collected: 11/16/00
 Date Received: 11/17/00
 Date Analyzed: 11/23/00
 Analyzed By: MRC
 Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

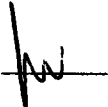
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.1	71
Nitrobenzene-d5	10	7.7	77
4-Terphenyl-d14	10	6.1	61

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW-13
Client Project ID: HPFF
Lab Sample ID: 99873
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

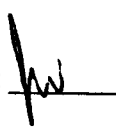
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.2	82
Nitrobenzene-d5	10	8.2	82
4-Terphenyl-d14	10	11.1	111

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: HPFF-26

Client Project ID: HPFF

Lab Sample ID: 99874

Lab Project ID: G128-663

Matrix: Water

Date Collected: 11/16/00

Date Received: 11/17/00

Date Analyzed: 11/28/00

Analyzed By: MRC

Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

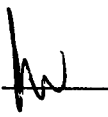
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
Nitrobenzene-d5	10	7.3	73
4-Terphenyl-d14	10	11.1	111

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-24
Client Project ID: HPFF
Lab Sample ID: 99875
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	26
2-Methylnaphthalene	10	57
Naphthalene	10	120
Phenanthrene	10	BQL
Pyrene	10	BQL

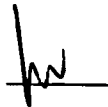
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	4	40
Nitrobenzene-d5	10	7.2	72
4-Terphenyl-d14	10	8.8	88

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-23
Client Project ID: HPFF
Lab Sample ID: 99876
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	36
2-Methylnaphthalene	10	53
Naphthalene	10	210
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	5.6	56
Nitrobenzene-d5	10	5.5	55
4-Terphenyl-d14	10	11.4	114

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-21
Client Project ID: HPFF
Lab Sample ID: 99877
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

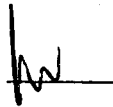
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.2	82
Nitrobenzene-d5	10	8.8	88
4-Terphenyl-d14	10	6.7	67

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-25
Client Project ID: HPFF
Lab Sample ID: 99878
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 4

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	40	BQL
Acenaphthylene	40	BQL
Anthracene	40	BQL
Benzo[a]anthracene	40	BQL
Benzo[a]pyrene	40	BQL
Benzo[b]fluoranthene	40	BQL
Benzo[g,h,i]perylene	40	BQL
Benzo[k]fluoranthene	40	BQL
Chrysene	40	BQL
Dibenzo[a,h]anthracene	40	BQL
Fluoranthene	40	BQL
Fluorene	40	BQL
Indeno(1,2,3-c,d)pyrene	40	BQL
1-Methylnaphthalene	40	440
2-Methylnaphthalene	40	750
Naphthalene	40	1000
Phenanthrene	40	BQL
Pyrene	40	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	5.7	57
Nitrobenzene-d5	10	8.7	87
4-Terphenyl-d14	10	4.8	48

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: HW

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons
EPA 610 by GCMS 625

Client Sample ID: HPFF-25
Client Project ID: HPFF
Lab Sample ID: 99878
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

The following data was generated by a GC/MS screening run, not a certified method.

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

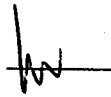
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	5.2	52
Nitrobenzene-d5	10	7.3	73
4-Terphenyl-d14	10	6.6	66

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: HPFF-17

Client Project ID: HPFF

Lab Sample ID: 99879

Lab Project ID: G128-663

Matrix: Water

Date Collected: 11/16/00

Date Received: 11/17/00

Date Analyzed: 11/28/00

Analyzed By: MRC

Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

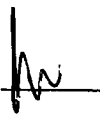
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.6	76
Nitrobenzene-d5	10	8.2	82
4-Terphenyl-d14	10	8	80

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: MW-11
Client Project ID: HPFF
Lab Sample ID: 99880
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

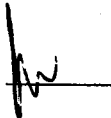
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	5.3	53
Nitrobenzene-d5	10	10.2	102
4-Terphenyl-d14	10	4.8	48

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW-17-1
Client Project ID: HPFF
Lab Sample ID: 99881
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

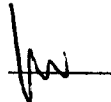
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	20	8	80
Nitrobenzene-d5	20	8.1	81
4-Terphenyl-d14	20	12.6	126

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-7
Client Project ID: HPFF
Lab Sample ID: 99882
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	43
2-Methylnaphthalene	10	70
Naphthalene	10	170
Phenanthrene	10	BQL
Pyrene	10	BQL

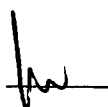
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.8	78
Nitrobenzene-d5	10	8.6	86
4-Terphenyl-d14	10	12.2	122

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: MW-18
 Client Project ID: HPFF
 Lab Sample ID: 99883
 Lab Project ID: G128-663
 Matrix: Water

Date Collected: 11/16/00
 Date Received: 11/17/00
 Date Analyzed: 11/28/00
 Analyzed By: MRC
 Dilution: 5

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	50	BQL
Acenaphthylene	50	BQL
Anthracene	50	BQL
Benzo[a]anthracene	50	BQL
Benzo[a]pyrene	50	BQL
Benzo[b]fluoranthene	50	BQL
Benzo[g,h,i]perylene	50	BQL
Benzo[k]fluoranthene	50	BQL
Chrysene	50	BQL
Dibenzo[a,h]anthracene	50	BQL
Fluoranthene	50	BQL
Fluorene	50	BQL
Indeno(1,2,3-c,d)pyrene	50	BQL
1-Methylnaphthalene	50	310
2-Methylnaphthalene	50	560
Naphthalene	50	1400
Phenanthrene	50	BQL
Pyrene	50	BQL

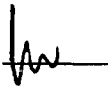
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
Nitrobenzene-d5	10	9.6	96
4-Terphenyl-d14	10	9.2	92

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: MW-18
Client Project ID: HPFF
Lab Sample ID: 99883
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

The following data was generated by a GC/MS screening run, not a certified method.

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
Phenanthrene	10	10
Pyrene	10	BQL

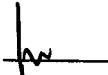
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.5	65
Nitrobenzene-d5	10	6	60
4-Terphenyl-d14	10	10.4	104

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-3
Client Project ID: HPFF
Lab Sample ID: 99884
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

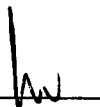
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.9	79
Nitrobenzene-d5	10	8	80
4-Terphenyl-d14	10	13.5	135

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-19
Client Project ID: HPFF
Lab Sample ID: 99885
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	22
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.3	83
Nitrobenzene-d5	10	8.3	83
4-Terphenyl-d14	10	12.5	125

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: W

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-20
Client Project ID: HPFF
Lab Sample ID: 99886
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	15
2-Methylnaphthalene	10	19
Naphthalene	10	240
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.4	84
Nitrobenzene-d5	10	8.3	83
4-Terphenyl-d14	10	13.2	132

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: W

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: MW-10R
Client Project ID: HPFF
Lab Sample ID: 99887
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	12
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	250
2-Methylnaphthalene	10	370
Naphthalene	10	460
Phenanthrene	10	21
Pyrene	10	12

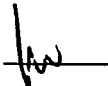
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	5.4	54
Nitrobenzene-d5	10	8.3	83
4-Terphenyl-d14	10	6	60

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-16
Client Project ID: HPFF
Lab Sample ID: 99888
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/15/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	32
Phenanthrene	10	BQL
Pyrene	10	BQL

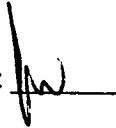
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.8	68
Nitrobenzene-d5	10	7.4	74
4-Terphenyl-d14	10	7.6	76

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons

EPA 610 by GCMS 625

Client Sample ID: HPFF-41
 Client Project ID: HPFF
 Lab Sample ID: 99889
 Lab Project ID: G128-663
 Matrix: Water

Date Collected: 11/16/00
 Date Received: 11/17/00
 Date Analyzed: 11/28/00
 Analyzed By: MRC
 Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

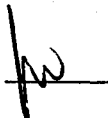
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.1	81
Nitrobenzene-d5	10	9.2	92
4-Terphenyl-d14	10	8.1	81

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW31-2
Client Project ID: HPFF
Lab Sample ID: 99890
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

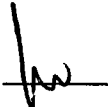
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8	80
Nitrobenzene-d5	10	8.8	88
4-Terphenyl-d14	10	11.4	114

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW31-3
Client Project ID: HPFF
Lab Sample ID: 99891
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

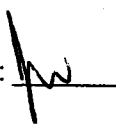
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.1	71
Nitrobenzene-d5	10	7.1	71
4-Terphenyl-d14	10	9.2	92

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW31-2 DUP
Client Project ID: HPFF
Lab Sample ID: 99892
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

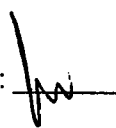
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.9	79
Nitrobenzene-d5	10	8.6	86
4-Terphenyl-d14	10	11	110

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

**Results for Polynuclear Aromatic Hydrocarbons
EPA 610 by GCMS 625**

Client Sample ID: HPFF-11
Client Project ID: HPFF
Lab Sample ID: 99894
Lab Project ID: G128-663
Matrix: Water

Date Collected: 11/16/00
Date Received: 11/17/00
Date Analyzed: 11/28/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

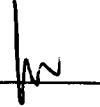
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.9	79
Nitrobenzene-d5	10	8.8	88
4-Terphenyl-d14	10	10.3	103

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

Client: CATLIN Project ID: HPFF Date: 11/16/00 Report To: MEM @
 Address: ILM Contact: _____ Turnaround: STD CATLIN
 Address: _____ Phone: _____ Job Number: 97106
 Note #: 1489 Fax: _____ P.O. Number: _____ Invoice To: SHELIA @ Catlin

Sample ID	Date	Time	Matrix	Preservatives				Analyses								Comments: Please specify any special reporting requirements		
				HCL														
MW-16	11/16	1515	GRM H2O															* Please include low runs → Screen in
HPFF-29		1448																O.K.
HPFF-2		1535																
MW-5		1500																
78 GW-13		1415																
HPFF-26		1045																
HPFF-24		1005																
HPFF-23		1130																
HPFF-21		1210																
HPFF-25		1010																
Relinquished By				Date	Time	Received By				Date	Time	Temperature	State Certification Requested					
Bentley				11/16/00	1600	Chris Jolly				11/16/00	1600	on ICE	NC ☒ SC ☐ Other ☐					
						Juli Johnson				11/16/00	1710	Walking on Ice	SEE REVERSE FOR TERMS AND CONDITIONS					

Report To: MEM @CATZIN

P.O. Number: _____

Invoice To: SHELAE CATLIN

Sample ID	Date	Time	Matrix	Preservatives				Analyses								Comments: Please specify any special reporting requirements		
				HCl														
HPFF-17	11/16/00	1115	GND H2O	↓				↓		↓								G128-603
mw-11	↓	1155	↓	↓				↓		↓								
786W-17-1	↓	1400	↓	↓				↓		↓								
115-7	11/15/00	1700	↓	↓				↓		↓								
mw-18	11/14/00	1130	↓	↓				↓		↓								
1115-3	↓	1515	↓	↓				↓		↓								
1115-19	↓	1730	↓	↓				↓		↓								
115-20	↓	1530	↓	↓				↓		↓								EXTRA → INCLUDE EXTRA G10 FOR PARADIGM INTENSE QA/QL PER ASLEY'S REQUEST
MW-10R	↓	1030	↓	↓				↓		↓								
MW-11	↓		↓	↓				↓		↓								
Relinquished By		Date	Time	Received By		Date	Time	Temperature		State Certification Requested								
Ben Az/la		11/16/00	1600	Cheryl G		11/16/00	1600	CEN 1CC		NC ☒ SC ☐ Other ☐								
SEE REVERSE FOR TERMS AND CONDITIONS																		

Client: CATLIN Project ID: HPFF Date: 11/16/00 Report To: MEMO@CATLIN
Address: ILM Contact: _____ Turnaround: STP
Address: _____ Phone: _____ Job Number: 97104
Note #: 1489 Fax: _____ P.O. Number: _____ Invoice To: STELLA@CATLIN

[illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway S.E.
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

FILE COPY

200-216-19

12

12-4-00

Mr. Mike E. Mason
Richard Catlin & Associates
P.O. Box 10279
Wilmington, NC 28404-0279

December 4, 2000

Report Number: G128-661

Client Project ID: HPFF

Dear Mr. Mason,

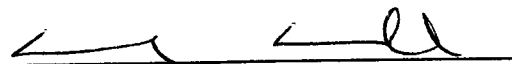
Enclosed are the results of the analytical services performed under the referenced project. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call for assistance. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,

Paradigm Analytical Laboratories, Inc.



Laboratory Director
Mark Randall

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: 1101-01
Client Project ID: HPFF
Lab Sample ID: 99593
Lab Project ID: G128-661

Analyzed By: EKR
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/17/00	1	1	BQL
Diisopropyl ether (DIPE)	11/17/00	1	1	BQL
Ethylbenzene	11/17/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/17/00	1	2	BQL
Toluene	11/17/00	1	1	BQL
m/p-Xylene	11/17/00	1	2	BQL
o-Xylene	11/17/00	1	2	BQL

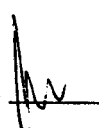
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: HPFF-5
Client Project ID: HPFF
Lab Sample ID: 99594
Lab Project ID: G128-661

Analyzed By: EKR
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/22/00	5	5	140
Diisopropyl ether (DIPE)	11/22/00	5	5	14
Ethylbenzene	11/22/00	5	5	6
Methyl-tert-butyl ether (MTBE)	11/22/00	5	10	BQL
Toluene	11/22/00	5	5	BQL
m/p-Xylene	11/22/00	5	10	BQL
o-Xylene	11/22/00	5	10	BQL

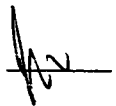
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	99

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-5
Client Project ID: HPFF
Lab Sample ID: 99594
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/16/00	1	1	12
Toluene	11/16/00	1	1	3
m/p-Xylene	11/16/00	1	2	2
o-Xylene	11/16/00	1	1	1

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: W

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-9
Client Project ID: HPFF
Lab Sample ID: 99595
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	800	800	17000
Diisopropyl ether (DIPE)	11/20/00	800	800	1900
Ethylbenzene	11/20/00	800	800	1300
Methyl-tert-butyl ether (MTBE)	11/20/00	800	1600	BQL
Toluene	11/20/00	800	800	2400
m/p-Xylene	11/20/00	800	1600	BQL
o-Xylene	11/20/00	800	1600	BQL

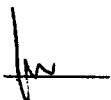
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	99

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-9
Client Project ID: HPFF
Lab Sample ID: 99595
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

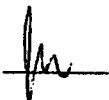
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/16/00	1	1	13
m/p-Xylene	11/16/00	1	2	820
o-Xylene	11/16/00	1	1	380

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: HPFF-9 DUP

Client Project ID: HPFF

Lab Sample ID: 99596

Lab Project ID: G128-661

Analyzed By: EKR

Date Collected: 11/14/00

Date Received: 11/14/00

Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/21/00	800	800	17000
Diisopropyl ether (DIPE)	11/21/00	800	800	2000
Ethylbenzene	11/21/00	800	800	1300
Methyl-tert-butyl ether (MTBE)	11/21/00	800	1600	BQL
Toluene	11/21/00	800	800	2300
m/p-Xylene	11/21/00	800	1600	BQL
o-Xylene	11/21/00	800	1600	BQL

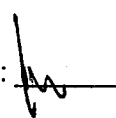
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	98

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-9 DUP
Client Project ID: HPFF
Lab Sample ID: 99596
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

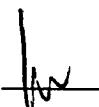
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/16/00	1	1	12
m/p-Xylene	11/16/00	1	2	800
o-Xylene	11/16/00	1	1	370

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GC 602

Client Sample ID: HPFF-19
Client Project ID: HPFF
Lab Sample ID: 99597
Lab Project ID: G128-661

Analyzed By: EKR
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/17/00	1000	1000	20000
Diisopropyl ether (DIPE)	11/17/00	1000	1000	4700
Ethylbenzene	11/17/00	1000	1000	3100
Methyl-tert-butyl ether (MTBE)	11/17/00	1000	2000	BQL
Toluene	11/17/00	1000	1000	30000
m/p-Xylene	11/17/00	1000	2000	8900
o-Xylene	11/17/00	1000	2000	4400

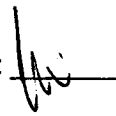
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: HPFF-19
Client Project ID: HPFF
Lab Sample ID: 99597
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/16/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GC 602

Client Sample ID: 78GW32-2
Client Project ID: HPFF
Lab Sample ID: 99598
Lab Project ID: G128-661

Analyzed By: EKR
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/17/00	10	10	23
Diisopropyl ether (DIPE)	11/17/00	10	10	220
Ethylbenzene	11/17/00	10	10	BQL
Methyl-tert-butyl ether (MTBE)	11/17/00	10	20	BQL
Toluene	11/17/00	10	10	BQL
m/p-Xylene	11/17/00	10	20	BQL
o-Xylene	11/17/00	10	20	BQL

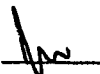
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	97

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: 78GW32-2
Client Project ID: HPFF
Lab Sample ID: 99598
Lab Project ID: G128-661

Analyzed By: EKR
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

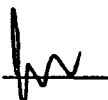
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Ethylbenzene	11/16/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/16/00	1	1	BQL
Toluene	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	BQL
o-Xylene	11/16/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GC 602

Client Sample ID: HPFF-27
Client Project ID: HPFF
Lab Sample ID: 99599
Lab Project ID: G128-661

Analyzed By: EKR
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/17/00	2	2	45
Diisopropyl ether (DIPE)	11/17/00	2	2	BQL
Ethylbenzene	11/17/00	2	2	BQL
Methyl-tert-butyl ether (MTBE)	11/17/00	2	4	BQL
Toluene	11/17/00	2	2	BQL
m/p-Xylene	11/17/00	2	4	BQL
o-Xylene	11/17/00	2	4	BQL

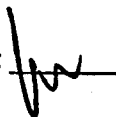
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	42	104

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: HPFF-27
Client Project ID: HPFF
Lab Sample ID: 99599
Lab Project ID: G128-661

Analyzed By: RNP
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

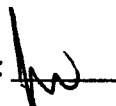
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/29/00	1	1	BQL
Ethylbenzene	11/29/00	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/29/00	1	2	BQL
Toluene	11/29/00	1	1	1
m/p-Xylene	11/29/00	1	2	BQL
o-Xylene	11/29/00	1	2	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: GT-2
Client Project ID: HPFF
Lab Sample ID: 99600
Lab Project ID: G128-661

Analyzed By: EKR
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/22/00	2000	2000	21000
Diisopropyl ether (DIPE)	11/22/00	2000	2000	BQL
Ethylbenzene	11/22/00	2000	2000	9800
Methyl-tert-butyl ether (MTBE)	11/22/00	2000	4000	BQL
Toluene	11/22/00	2000	2000	51000
m/p-Xylene	11/22/00	2000	4000	25000
o-Xylene	11/22/00	2000	4000	12000

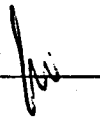
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	98

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: GT-2
Client Project ID: HPFF
Lab Sample ID: 99600
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

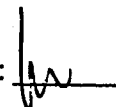
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/16/00	1	1	10
Methyl-tert-butyl ether (MTBE)	11/16/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: GT-6
Client Project ID: HPFF
Lab Sample ID: 99601
Lab Project ID: G128-661

Analyzed By: EKR
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/21/00	400	400	4000
Diisopropyl ether (DIPE)	11/21/00	400	400	BQL
Ethylbenzene	11/21/00	400	400	3000
Methyl-tert-butyl ether (MTBE)	11/21/00	400	800	BQL
Toluene	11/21/00	400	400	9500
m/p-Xylene	11/21/00	400	800	6200
o-Xylene	11/21/00	400	800	3700

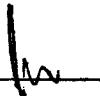
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: GT-6
Client Project ID: HPFF
Lab Sample ID: 99601
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

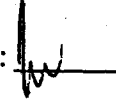
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/16/00	1	1	6
Methyl-tert-butyl ether (MTBE)	11/16/00	1	1	9

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: GT-3
Client Project ID: HPFF
Lab Sample ID: 99602
Lab Project ID: G128-661

Analyzed By: EKR
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/21/00	250	250	1800
Diisopropyl ether (DIPE)	11/21/00	250	250	350
Ethylbenzene	11/21/00	250	250	880
Methyl-tert-butyl ether (MTBE)	11/21/00	250	500	BQL
Toluene	11/21/00	250	250	3900
m/p-Xylene	11/21/00	250	500	1900
o-Xylene	11/21/00	250	500	1900

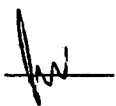
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: GT-3
Client Project ID: HPFF
Lab Sample ID: 99602
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

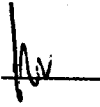
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/16/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles by GC 602

Client Sample ID: GT-5
Client Project ID: HPFF
Lab Sample ID: 99603
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	5	5	7
Diisopropyl ether (DIPE)	11/20/00	5	5	BQL
Ethylbenzene	11/20/00	5	5	27
Methyl-tert-butyl ether (MTBE)	11/20/00	5	10	BQL
Toluene	11/20/00	5	5	BQL
m/p-Xylene	11/20/00	5	10	190
o-Xylene	11/20/00	5	10	BQL

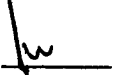
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: GT-5
Client Project ID: HPFF
Lab Sample ID: 99603
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

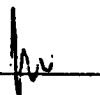
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Diisopropyl ether (DIPE)	11/16/00	1	1	2
Methyl-tert-butyl ether (MTBE)	11/16/00	1	1	BQL
Toluene	11/16/00	1	1	4
o-Xylene	11/16/00	1	1	13

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: GT-1
Client Project ID: HPFF
Lab Sample ID: 99604
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	5	5	120
Diisopropyl ether (DIPE)	11/20/00	5	5	5
Ethylbenzene	11/20/00	5	5	44
Methyl-tert-butyl ether (MTBE)	11/20/00	5	10	BQL
Toluene	11/20/00	5	5	35
m/p-Xylene	11/20/00	5	10	48
o-Xylene	11/20/00	5	10	23

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	101

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: GT-1
Client Project ID: HPFF
Lab Sample ID: 99604
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Methyl-tert-butyl ether (MTBE)	11/16/00	1	1	BQL

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 1115-9
Client Project ID: HPFF
Lab Sample ID: 99605
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/20/00	20	20	800
Diisopropyl ether (DIPE)	11/20/00	20	20	21
Ethylbenzene	11/20/00	20	20	BQL
Methyl-tert-butyl ether (MTBE)	11/20/00	20	40	BQL
Toluene	11/20/00	20	20	23
m/p-Xylene	11/20/00	20	40	BQL
o-Xylene	11/20/00	20	40	BQL

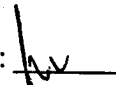
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	98

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC/MS Screening

Client Sample ID: 1115-9
Client Project ID: HPFF
Lab Sample ID: 99605
Lab Project ID: G128-661

Analyzed By: CKC
Date Collected: 11/14/00
Date Received: 11/14/00
Matrix: Water

The following data was generated by a GC/MS screening run, not a certified method.
The data, while qualitatively correct, provides only estimated concentrations.

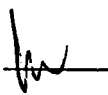
Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Ethylbenzene	11/16/00	1	1	11
Methyl-tert-butyl ether (MTBE)	11/16/00	1	1	BQL
m/p-Xylene	11/16/00	1	2	9
o-Xylene	11/16/00	1	1	2

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1101-01
Client Project ID: HPFF
Lab Sample ID: 99593
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

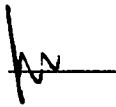
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
Nitrobenzene-d5	10	8.1	81
4-Terphenyl-d14	10	7.6	76

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-5
Client Project ID: HPFF
Lab Sample ID: 99594
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

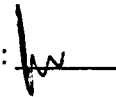
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.6	76
Nitrobenzene-d5	10	7.6	76
4-Terphenyl-d14	10	6.6	66

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-9
Client Project ID: HPFF
Lab Sample ID: 99595
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	82
Phenanthrene	10	BQL
Pyrene	10	BQL

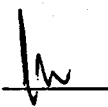
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	5.9	59
Nitrobenzene-d5	10	5.8	58
4-Terphenyl-d14	10	8.2	82

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-9 DUP
Client Project ID: HPFF
Lab Sample ID: 99596
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	93
Phenanthrene	10	BQL
Pyrene	10	BQL

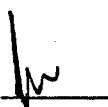
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.8	78
Nitrobenzene-d5	10	8.4	84
4-Terphenyl-d14	10	10	100

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-19
Client Project ID: HPFF
Lab Sample ID: 99597
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	88
2-Methylnaphthalene	10	150
Naphthalene	10	360
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	5	50
Nitrobenzene-d5	10	10.4	104
4-Terphenyl-d14	10	3.6	36

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: W

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 78GW32-2
Client Project ID: HPFF
Lab Sample ID: 99598
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

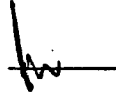
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
Nitrobenzene-d5	10	7.9	79
4-Terphenyl-d14	10	10	100

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: HPFF-27
Client Project ID: HPFF
Lab Sample ID: 99599
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

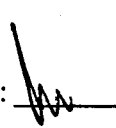
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.1	71
Nitrobenzene-d5	10	8	80
4-Terphenyl-d14	10	3.9	39

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: GT-2
Client Project ID: HPFF
Lab Sample ID: 99600
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 2

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	20	BQL
Acenaphthylene	20	BQL
Anthracene	20	BQL
Benzo[a]anthracene	20	BQL
Benzo[a]pyrene	20	BQL
Benzo[b]fluoranthene	20	BQL
Benzo[g,h,i]perylene	20	BQL
Benzo[k]fluoranthene	20	BQL
Chrysene	20	BQL
Dibenzo[a,h]anthracene	20	BQL
Fluoranthene	20	23
Fluorene	20	BQL
Indeno(1,2,3-c,d)pyrene	20	BQL
1-Methylnaphthalene	20	170
2-Methylnaphthalene	20	320
Naphthalene	20	740
Phenanthrene	20	BQL
Pyrene	20	22

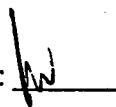
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	4.5	45
Nitrobenzene-d5	10	7.9	79
4-Terphenyl-d14	10	4.1	41

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons
EPA 610 by GCMS 625

Client Sample ID: GT-2
Client Project ID: HPFF
Lab Sample ID: 99600
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

The following data was generated by a GC/MS screening run, not a certified method.

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
Phenanthrene	10	19

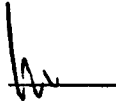
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	4.5	45
Nitrobenzene-d5	10	9.1	91
4-Terphenyl-d14	10	4.4	44

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: GT-6
Client Project ID: HPFF
Lab Sample ID: 99601
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	20
2-Methylnaphthalene	10	29
Naphthalene	10	130
Phenanthrene	10	BQL
Pyrene	10	BQL

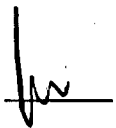
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	5.6	56
Nitrobenzene-d5	10	8.9	89
4-Terphenyl-d14	10	3.8	38

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: GT-3
Client Project ID: HPFF
Lab Sample ID: 99602
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/27/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	25
Acenaphthylene	10	BQL
Anthracene	10	22
Benzo[a]anthracene	10	32
Benzo[a]pyrene	10	21
Benzo[b]fluoranthene	10	26
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	17
Chrysene	10	25
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	92
Fluorene	10	20
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	100
2-Methylnaphthalene	10	210
Naphthalene	10	220
Phenanthrene	10	89
Pyrene	10	100

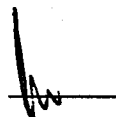
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	3.5	35
Nitrobenzene-d5	10	9.7	97
4-Terphenyl-d14	10	7.3	73

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

**Results for Polynuclear Aromatic Hydrocarbons
EPA 610 by GCMS 625**

Client Sample ID: GT-5
Client Project ID: HPFF
Lab Sample ID: 99603
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	32
Phenanthrene	10	BQL
Pyrene	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7	70
Nitrobenzene-d5	10	7.5	75
4-Terphenyl-d14	10	8.3	83

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: GT-1
Client Project ID: HPFF
Lab Sample ID: 99604
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/22/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

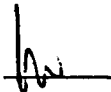
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.9	69
Nitrobenzene-d5	10	8.5	85
4-Terphenyl-d14	10	5.8	58

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Polynuclear Aromatic Hydrocarbons EPA 610 by GCMS 625

Client Sample ID: 1115-9
Client Project ID: HPFF
Lab Sample ID: 99605
Lab Project ID: G128-661
Matrix: Water

Date Collected: 11/14/00
Date Received: 11/14/00
Date Analyzed: 11/21/00
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Chrysene	10	BQL
Dibenzo[a,h]anthracene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Indeno(1,2,3-c,d)pyrene	10	BQL
1-Methylnaphthalene	10	BQL
2-Methylnaphthalene	10	BQL
Naphthalene	10	BQL
Phenanthrene	10	BQL
Pyrene	10	BQL

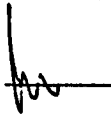
Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.3	83
Nitrobenzene-d5	10	8.7	87
4-Terphenyl-d14	10	8.1	81

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: 

nt: CATLIN

Project ID: 14PFF

Date: 11/14/00

Report To: MEM@CATLIN

ress: ILM

Contact: _____

Turnaround: STD

ress: _____

Phone: _____

Job Number: 97106

te #: 1489

Fax: _____

P.O. Number: _____

Invoice To: SHEILA@CATLIN

Sample ID	Date	Time	Matrix	Preservatives				Analyses								Comments: Please specify any special reporting requirements				
115-6	11/14/00	1530	600 #20	✓				602	610											
5-6 DUP		1530																		
101-01		1430																		
PFF-5		1435																		
PFF-9		1500																		
PFF-9 DUP		1500																		
PFF-19		1030																		
36W32-2		1100																		
4W32-2 EXTRA		1100																		
																			G128-661 sample 115-6 not taken EXTRA 610 SAMPLE INCLUDED FOR PARADIGM IN HOUSE QA/QC PER ASHLEY'S REQUEST	
Relinquished By		Date	Time	Received By		Date	Time	Temperature	State Certification Requested											
m. Ashby		11/14/00	1530	Chris Jolly		11/14/00	1530	ON ICE	NC ☒ SC _____ Other _____											
				John Jolly		11/14/00	1030	11/14/00	SEE REVERSE FOR TERMS AND CONDITIONS											

nt: CATLIN

Project ID: HPFF

Date: 11/14/00

Report To: MEM @ CATLIN

ress: ILM

Contact:

Turnaround: STD

ress:

Phone:

Job Number: 97106

te #: 1489

Fax:

P.O. Number:

Invoice To: STELLA @ CATLIN

Sample ID	Date	Time	Matrix	Preservatives				Analyses								Comments: Please specify any special reporting requirements
				HCl	NaOH	NaF	NaCl	Na2S2O3	Na2S2O8	Na2S2O5	Na2S2O4	Na2S2O3	Na2S2O8	Na2S2O5	Na2S2O4	
PFC-27	11/14/00	1030	GRN H2O	✓					✓		✓					G128-661
ST-2		1425														
ST-6		1045														
ST-3		1400														
ST-5		1400														
T-1		1430														
15-9	✓	1020	✓	✓					✓		✓					

Relinquished By	Date	Time	Received By	Date	Time	Temperature	State Certification Requested
Bm H. H.	11/14/00	1530	Chris Kelly	11/14/00	1530	on ICE	NC ☒ SC _____ Other _____
			Julie John	11/14/00	1635	walkin on ice	

SEE REVERSE FOR
TERMS AND CONDITIONS