FINAL SITE REPORT

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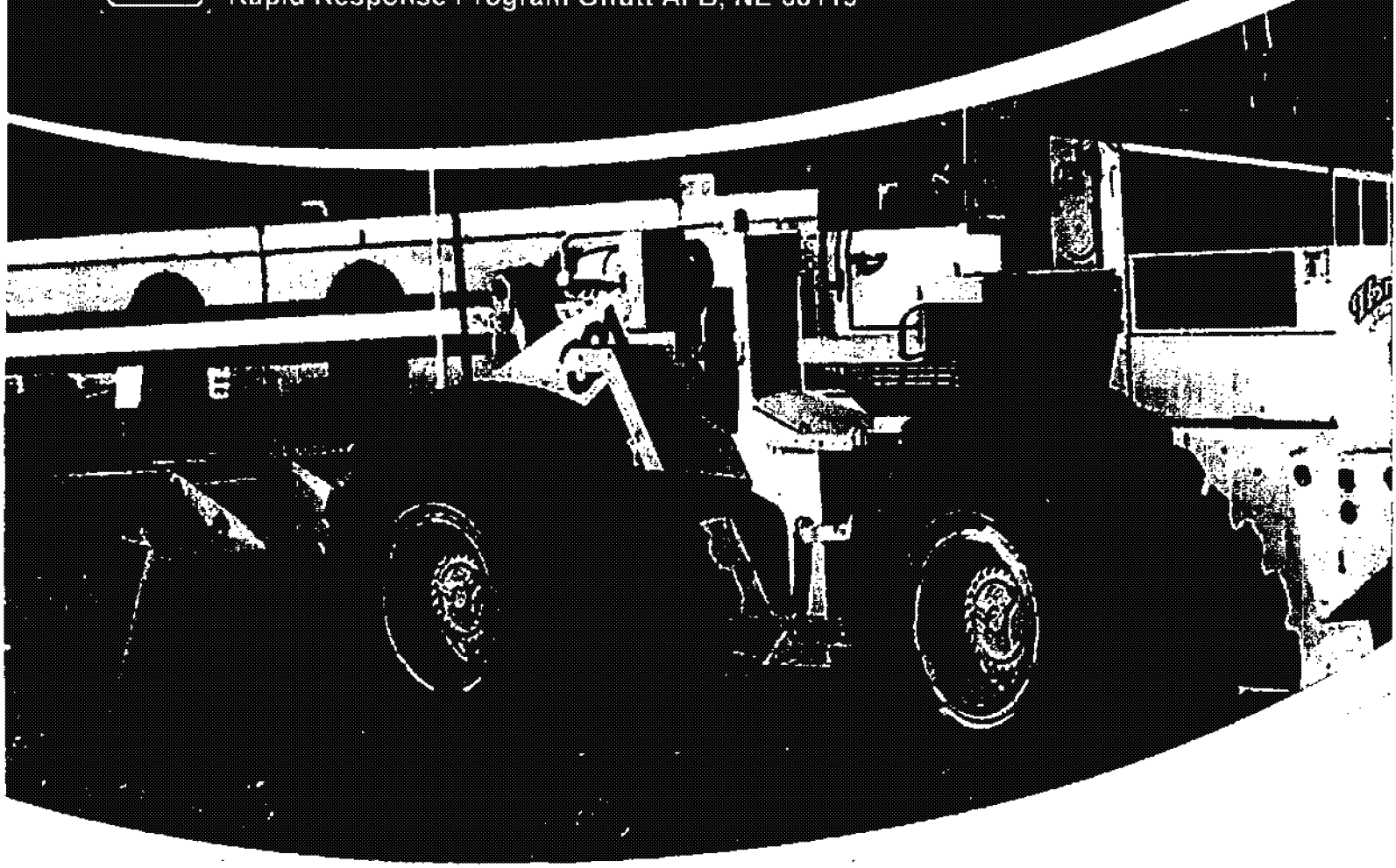
Contract No. DACA45-01-D-0001 | Task Order #14
July 18, 2003 through March 29, 2004

Vasquez Boulevard/Interstate 70
Denver, Colorado

US Army Corps of Engineers Omaha District
Rapid Response Program Offutt AFB, NE 68113



PRI

3760 Convoy Street, Suite 230 | San Diego, CA 92111

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Prepared for:

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Prepared by:

Project Resources Inc.
3760 Convoy Street, Suite 230
San Diego, California 92111

TABLE OF CONTENTS

1.0 Executive Summary 1
1.1 Site Description 1
1.2 Site History 1
1.3 Record of Decision 3
1.4 Soil Remediation Project 3
1.4.1. Pre-Remediation 3
1.4.2. Property Remediation 6
1.4.3. Post-Remediation 7
2.0 Property Summary 8
2.1 Introduction 8
2.2 Production Summary 15
3.0 Air Monitoring & Personal Monitoring 15
3.1 Air Monitoring 15
3.2 Personal Monitoring 17
4.0 Backfill Material summary 17
4.1 Backfill Summary 17
4.2 Backfill Sampling 17
5.0 Waste Disposal Summary 18
6.0 References 19
7.0 Attachments 20

LIST OF ATTACHMENTS

A. VB/I-70 Superfund Site Boundary Map
B. Remedial Design Work Plan
C. Chemical Sampling and Analysis Plan
D. Individual Property Completion Reports
E. Twenty Day Report -- Vasquez Boulevard / I-70 Removal Action Air Monitoring Evaluation
F. Air Monitoring Data Reports and Summary Table VB I-70 / Vasquez Boulevard
G. Particle Size Analysis of Soils
H. Analytical Results For Backfill Soils
I. Analytical Results For Driveway Gravel
J. Analytical Results For Disposal Soils

LIST OF TABLES

2.1 Property Summary 9

2.2 Production Summary 15

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LIST OF ACRONYMS

AIHA	American Industrial Hygiene Association
ASARCO	American Smelting and Refining Company
ASTM	American Society for Testing and Materials
CDPHE	Colorado Department of Public Health and Environment
CSAP	Chemical Sampling and Analysis Plan
cy	cubic yards
DADS	Denver and Arapahoe Disposal Site
ELLAP	Environmental Lead Laboratory Accreditation Program
ELPAT	Environmental Lead Proficiency Analytical Testing Program
IHI	IHI Environmental
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NLLAP	National Lead Laboratory Accreditation Program
NPL	EPA Superfund National Priorities List
OU	Operable Unit
PDR	Personal Data RAM
PM_{10}	particulate matter less than 10 microns
$PM_{2.5}$	particulate matter less than 2.5 microns
PPE	personal protective equipment
ppm	parts per million
PRI	Project Resources Inc.
RI	Remedial Investigation
ROD	Record of Decision
Site	VB/I-70 Superfund Site
TSP	total suspended particulate
TWA	time weighted average
ug/m^3	micrograms per cubic meter
UNCC	Utility Notification Center of Colorado
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VB/I-70	Vasquez Boulevard and Interstate 70

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1.0 EXECUTIVE SUMMARY

1.1 Site Description

The Vasquez Boulevard and Interstate 70 (VB/I-70) Superfund Site (Site) is comprised of approximately 4.5 square miles, located in the north-central section of the City and County of Denver, Colorado (see Attachment A, VB/I-70 Superfund Site Boundary Map). The Site includes the Denver neighborhoods of Cole, Clayton, Swansea, Elyria, southwest Globeville, and a northern section of Curtis Park. There are approximately 4,000 residential properties, 10 schools, and 7 parks located within the Site boundaries. Most residences are single family dwellings; however, some multi-family homes and apartment buildings are also present. A number of commercial and industrial properties are included within the boundaries of the Site as well.

According to the 2000 census, the total population living within the Site boundaries was 17,545, including 2,400 children 6 years of age or younger.

The topography of the Site is largely flat, sloping gently towards the Platte River, which flows in a northeasterly direction through the Site. There are no other major surface water bodies within the Site area.

Annual rainfall at the Site measures approximately 16 inches, 60 percent of which falls during the spring and summer months. The rainiest month is May, with an average rainfall of 2.6 inches. Snowfall totals average approximately 60 inches, with March usually receiving the most snow. The Rocky Mountain foothills, approximately 20 miles west of the Site, create a predominantly southern wind flow, with an average velocity of approximately 8.5 miles per hour (mph). Peak winds can reach velocities of 30 to 50 mph, with the highest winds tending to be from the north-northwest (Colorado Climate Center 2000).

1.2 Site History

Historically, the VB/I-70 Site location was a major smelting center for the Rocky Mountain West. The Omaha and Grant Smelter, the Argo Smelter, and the Globe Smelter all previously operated in the area from the 1870s through the present; refining gold, silver, copper, lead and zinc. The Globe plant is the only facility that is still in operation today.

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The Site came to the attention of the U.S. Environmental Protection Agency (USEPA) as a result of studies directed by the Colorado Department of Public Health and Environment (CDPHE) at the Globe Smelter. These studies indicated that elevated concentrations of arsenic and/or lead occurred in the soils of some residential properties in the Swansea and Elyria area. Although the source of these elevated levels is not known, it was considered plausible that the contamination could be associated with the three aforementioned smelters that previously operated in the area. Information also indicates that alternative potential sources include the historic application of arsenic- and/or lead-containing lawn care products that were readily available for use in the 1950s and 1960s. Anthropogenic sources such as automobile exhaust or leaded paint may also account for the presence of lead in the soils.

In March of 1998, following a request for assistance from the CDPHE, the USEPA began investigating the nature and extent of metals contamination in the Site with an extensive soil sampling effort. Soils were sampled in the residential yards, schools, and playgrounds in Swansea, Elyria, and the northern half of the Cole and Clayton neighborhoods. Based on the results of this sampling effort and meetings with community members, USEPA defined a study area that included all of the Swansea, Elyria, Cole, Clayton, and portions of Globeville neighborhoods. Based on results from the sampled properties, USEPA determined that the residential properties located within this study area contained concentrations of arsenic and/or lead at levels that could present unacceptable health risks to residents with long term exposures. Consequently, on July 22, 1999, the USEPA added the VB/I-70 Site to the USEPA Superfund National Priorities List (NPL).

Following the addition of the Site to the NPL, the USEPA began a large residential-soil remedial investigation (RI) in August of 1999. Over 3,000 of the approximately 4,000 properties at the Site were sampled, resulting in an estimated 850 residential properties with concentrations of lead and/or arsenic high enough to require removal. Of the sampled properties, 48 residential properties were identified that required emergency action. The USEPA deemed that the concentrations of lead and/or arsenic at these properties potentially posed immediate health risks to residents. In order to help ensure protection of children living in the area, the USEPA immediately removed the soil from these properties and replaced it with clean soil. The USEPA completed this work in the fall of 2000.

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The USEPA released a Proposed Plan outlining its preferred clean-up option for the remaining properties in May 2002 (USEPA, 2002). Due to extensive public comments requesting that USEPA lower the soil concentration clean-up levels, a new clean-up alternative was published in May 2003. A Record of Decision (ROD) detailing USEPA's final clean-up decision was then issued on September 25, 2003 (USEPA, 2003).

1.3 Record of Decision

For the purpose of investigation and remediation, the Site was divided into three operable units (OUs). The "Site," as discussed in this report, actually refers to Operable Unit 1 (OU1), Off-Facility (Residential) Soils of the VB/I-70 Site. USEPA's highest priority at the Site is OU1, because the greatest potential for human exposure to contaminants of concern is located in the residential yards. Operable Units 2 (OU2) and 3 (OU3) address On-Facility soils and groundwater at the Omaha & Grant Smelter and Argo Smelter sites, respectively. The structures associated with both of these smelters have been demolished and the sites have been redeveloped with commercial businesses.

Properties with lead and/or arsenic soil concentrations greater than 70 parts per million (ppm) arsenic and 400 ppm lead require soil removal. The action level for lead is exceeded when the average lead concentrations from three composite soil samples taken from the property are greater than 400 ppm. The action level for arsenic is exceeded when the highest arsenic concentration from three composite soil samples taken from the property is greater than 70 ppm. For properties where soil removal is conducted, all accessible soils are removed to a depth of 12 inches. The excavation areas are then backfilled with clean soil, and pre-remediation yard features are restored to the extent practicable, in consultation with the property owner.

1.4 Soil Remediation Project

1.4.1. Pre-Remediation

In order to address the contamination found at the VB/I-70 Site, the USEPA, Region VIII, Superfund Program, requested the U.S. Army Corps of Engineers (USACE), Omaha District, Rapid Response Program to execute a non-time critical removal action for 133 residential properties. These properties were identified as having some of the highest soil exposure point concentrations above the residential soil remedial action levels established by

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USEPA in the ROD discussed above. Project Resources Inc. (PRI) was contracted in 2003 to remediate the initial 133 residential properties. PRI exceeded this goal by remediating 33 additional properties, completing a total of 166 properties within the task order budget. Remediation activities were conducted in accordance with the *Remedial Design Work Plan for Soil Sampling and Remediation Program, Operable Unit 1, Vasquez Boulevard/Interstate 70 Superfund Site, Denver, Colorado,* (see Attachment B), and with approval by the USEPA. This report details the work conducted by the USACE and PRI to remediate the soil contamination at each of these 166 properties.

In July of 2003, PRI began investigating ownership of the 166 homes scheduled for soil remediation. Initially, PRI was given the list of homes to be remediated, including contact information for the owners of the property that granted access to have the property sampled. However, because much of the sampling had taken place during previous years, a good deal of this information had changed. PRI obtained the most current record of ownership for each of the 166 properties via the Real Property Records page on the Denver Assessor's website. PRI then went to the Denver Assessor's Office to acquire Platt maps for each of the properties to identify exact property size and boundaries to use during excavation.

Once the correct property owners were identified and Platt maps were obtained for each of the 166 properties, PRI contacted each of the property owners to schedule a restoration appointment to discuss the specifics of the project and how it would be carried out at their location. During these appointments, the remediation process was explained to the homeowner. At that time, the property owners were given the chance to have input on how the property would be restored following the removal of the soil and landscaping. Owners were also asked if there were any special circumstances that may affect the clean-up process at their location. The information discussed during the meeting was documented in a restoration agreement that was signed by the homeowner to help ensure that they were aware of and agreed to the conditions of the clean-up of their property.

Maps of the property were drawn during the restoration appointment to be utilized by the remediation crews during the clean-up process. Included in these maps were sketches of the property, its contents, and the current condition of the land. Special items to be removed and/or replaced by the remediation crews were noted as well. The overall square footage of the property was measured using a measuring wheel. These measurements were documented on the

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property map in order to assess the equipment and personnel needed to remove the contaminated soils from the property. The square footage measurements were also used to estimate the different materials and the quantities that would be necessary to restore the property to its original condition. The square footage and/or contents of all flowerbeds located at the property were also documented in order to estimate the correct compensation needed by the owner for the replacement of these materials.

If an irrigation system was present at the property, the location of sprinkler heads was documented, as well as the various watering zones, so that the system could be replaced in like condition. Any special instructions and/or requests noted by the owner were documented on the property map to help ensure that the crews removing the soil would be knowledgeable of the owner's wishes. Upon completion of the property sketch, the homeowner was given a chance to review and/or comment on the property map to help ensure it was satisfactory prior to excavation of their property.

During the restoration appointment at the property, both video and photo documentation were conducted to record the current condition of the property prior to excavation of the soils. The interior foundation of the home was also documented, if a basement was present at the location, to help ensure that excavation did not negatively impact the foundation. Approximately 150 digital photographs and 10 minutes of digital video were taken at each property prior to remediation. If a working sprinkler system was present that would need to be replaced, the system was turned on and each of the sprinkler heads and zones were recorded on video.

As noted above, if flowerbeds were present for which the owner desired compensation, documentation of the flowerbeds was conducted. For large flowerbeds containing a variety of different flowers, the overall square footage of the bed was determined. Compensation was given to the homeowner in the amount of $2.50 per square foot at a local nursery. For smaller beds containing a limited number of flora, plants were itemized and the owner was compensated at a rate of $7.00 per plant. For large shrubs and bushes, the owner was compensated at a rate of $12.00 per bush. Small trees that had to be removed were compensated at a rate of $50.00 per tree. The compensation given to the property owners for the landscaping was given in the form of a replacement certificate to be redeemed at Paulino Gardens, Inc., a full service garden center and local nursery in Denver.

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If flowerbeds were present at the property which the owner did not want removed, PRI collected soil samples from the beds to estimate the lead and/or arsenic concentrations in the soils. The flowerbeds were divided into two sections and a sample was taken from each section [see Chemical Sampling and Analysis Plan (CSAP), Attachment C]. The soil was then composited and submitted to Analytica Environmental Laboratories Incorporated, located in Denver, CO [National Lead Laboratory Accreditation Program (NLLAP) by the American Industrial Hygiene Association (AIHA) Environmental Lead Laboratory Accreditation Program (ELLAP) Laboratory ID# 10790; Proficient in the AIHA Environmental Lead Proficiency Analytical Testing Program (ELPAT) Laboratory ID# 10790]. If results from the soil samples showed concentrations of lead and/or arsenic in the soils above the remediation levels discussed in the ROD, the beds were removed. If the levels of lead and/or arsenic were below the remediation levels, the flowerbeds and their contents were left untouched during the remediation process.

Following the completion of the restoration appointment, written documentation, owner information, and photographs for the specific property were input into an Access Database managed by PRI. Each property was given a unique property identification number by the USEPA that was utilized by PRI to differentiate the individual properties (see Table 2.1 – Property Summary). The status of each property was then tracked in the Access Database throughout the entire project.

1.4.2. Property Remediation

Once the restoration appointment had been conducted at a property and the terms and conditions of the property remediation had been agreed upon by both the owner and PRI, the property was added to the list of homes ready for remediation. This list was updated on a daily basis and submitted to the USACE. Weekly schedules were then developed for the remediation of the properties ready for excavation. These schedules were created based both on the size and location of the properties, in order to complete the remediation of the properties in a cost-effective manner.

Following placement of a property on the list scheduled for excavation, the address was submitted to the Utility Notification Center of Colorado (UNCC). This was completed a minimum of 72 hours prior to excavation of the property to help ensure that underground utilities

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would be marked prior to the arrival of the remediation crews. The owner of the property was then notified that the property was scheduled for excavation and that extraneous items located within the property boundaries should be relocated prior to removal of the soils.

The average time necessary for the remediation crews to complete the soil replacement at a property was three days. During this period, the crew would utilize the property map created during the restoration appointment to help ensure that the property was excavated and/or restored according to the terms agreed upon with the owner. If an irrigation system was present at the property, salvageable equipment (e.g., sprinkler heads and control boxes) was removed to be re-used when replacing the system.

Once excavation began, accessible soils on the property were removed to a depth of 12 inches. This depth was confirmed using grade stakes driven into the ground at the 12 inch depth. For verification, photographs were taken to document that the required 12 inch depth had been reached. The contaminated soils removed from the property were disposed of at the American Smelting and Refining Company (ASARCO) property. Clean backfill was then transported to the property to be utilized for restoration. The source of the clean soils used for backfill and the method of determining that it was appropriate for use are discussed in Section 4.0.

If an irrigation system was present prior to excavation of the property, the system was replaced to provide adequate coverage of the property using as much of the original equipment as possible. Replacement materials that were required to remediate the property other than sod were then placed on the property according to instructions illustrated on the property map. The available materials consisted of various types of landscaping rock and/or mulch.

1.4.3. Post-Remediation

On a weekly basis, weather permitting, sod was placed on the properties where remediation of the soils had been completed. Digital photographs of the property were taken to document the condition of the property following completion of work at the location. For a period of approximately 30 days, PRI provided adequate watering of the new sod using water trucks. Because of the on-going drought in Colorado, watering restrictions were imposed on the residents living within the city of Denver. Therefore, once the remediation of the property was completed, the residence was provided with watering permits given to PRI from Denver Water

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Department. These permits were displayed in the windows of the properties for a 30-day time frame to allow for watering of the new sod.

Upon completion of the 30-day time period, PRI conducted a site visit to each property to meet with the owner and retrieve the watering permit. At this time, the owner was asked to sign a completion agreement for the restoration of the property. This paperwork documented that the work was completed to the satisfaction of the property owner (see Attachment D, Individual Property Completion Reports). Photographs of the property were taken to document the condition of the property at the end of the 30-day period.

2.0 PROPERTY SUMMARY

2.1 Introduction

Property remediation began during the week of August 11, 2003. The soils remediation continued through the fall, and was concluded the week of December 8, 2003, for the winter season. During this initial period, 133 properties, totaling approximately 448,974 square feet, were remediated, with approximately 8 properties being completed per week. Work began again the week of February 16, 2004, and continued through the week of March 29, 2004. During this second period, the remaining 33 properties, totaling approximately 96,011 square feet, were remediated, with approximately 5 properties being completed per week. Table 2.1 summarizes the excavation details for each of the 166 remediated properties.

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Table 2.1-Property Summary

Sequence Number	Address	Excavated	Sod	Rock	Mulch	Open Soil	Driveway	Total	Week End	Est/Week	Actual/Week
1	3515 HARRISON ST	5120	4224	0	0	0	0	4224			
2	4935 ADAMS ST	3485	3251	0	523	30	0	3804			
3	3609 HIGH ST	1115	917	0	0	315	0	1232			
4	3452 JOSEPHINE St	3255	3255	0	0	0	0	3255	8/15/2003	12975	12,515
5	4712 BRIGHTON BLVD	2184	1925	158	80	0	160	2323		Cum Sq Ft	12,515
6	3601 YORK ST	3410	3311	86	0	0	0	3397			
7	3521 JOSEPHINE ST	3107	1733	258	0	268	0	2259			
8	4909 MILWAUKEE ST	3383	3395	0	0	380	0	3775			
9	3724 YORK ST	2672	1348	1502	506	0	0	3356			
10	3447 SAINT PAUL ST	3231	3273	0	15	0	0	3288	8/22/2003	17987	18,398
11	4811 CLAYTON ST	1200	3465	0	0	0	0	3465		Cum Sq Ft	30,913
12	3730 YORK ST	3266	1925	328	400	0	789	3442			
13	3536 ELIZABETH ST	3092	3080	0	0	0	0	3080			
14	4680 CLAYTON ST	4228	3300	0	58	0	809	4167	8/29/2003	11786	14,154
15	3705 MADISON ST	5559	2800	1370	1195	40	0	5405		Cum Sq Ft	45,067
16	4995 STEELE	4658	4620	0	0	0	0	4620			
17	3401 BRUCE RANDOLPH	5850	3150	0	729	264	0	4143			
18	4616 RACE ST	2269	2695	0	0	0	0	2695	9/5/2003	18336	16,863
19	4775 RACE ST	6173	2310	0	3513	540	275	6638		Cum Sq Ft	61,930
20	4785 CLAUDE CT	2443	1890	1035	0	0	0	2925			
21	3750 YORK ST	6852	0	6600	737	0	0	7337			
22	3786 GILPIN ST	4000	840	301	1870	302	0	3313			
23	4620 RACE ST	2197	315	888	0	0	960	2163			
24	4351 RACE ST	5363	3360	278	600	427	117	4782			
25	3346 GILPIN ST	1642	0	1657	0	0	0	1657			
26	3350 GILPIN ST	2261	1260	216	342	84	560	2462			
27	3784 GILPIN ST	1889	1260	1332	0	0	0	2592	9/12/2003	32820	33,869
28	4830 CLAYTON ST	3707	2940	309	75	0	0	3324		Cum Sq Ft	95,799
29	3781 GILPIN ST	2701	1680	78	0	0	546	2304			
30	4809 MILWAUKEE ST	5151	4377	0	0	1079	0	5456			
31	4932 STEELE ST	2475	2100	0	0	237	0	2337			
32	3765 GILPIN ST	5559	3780	1054	0	32	0	4866			

ED_002842_00002502-00013

Sequence Number	Address	Excavated	Sod	Rock	Mulch	Open Soil	Driveway	Total	Week End	Est/Week	Actual/Week
33	4965 SAINT PAUL ST	3830	1155	655	2519	0	0	4329			
34	3838 GILPIN ST	1665	1680	304	0	111	0	2095			
35	3842 GILPIN ST	1399	840	683	0	187	0	1710			
36	3557 GAYLORD ST	3726	3555	319	0	158	0	4032	9/19/2003	30213	30,453
37	4318 SAINT PAUL ST	11076	4808	5680	0	2763	0	13251		Cum Sq Ft	126,252
38	3230 GAYLORD ST	3842	2668	160	0	0	728	3556			
39	5044 STEELE ST	3424	4235	0	0	0	0	4235			
40	3227 GAYLORD ST	4134	2933	210	150	0	0	3293			
41	4780 COLUMBINE ST	4975	4000	480	0	82	0	4562			
42	3519 LAFAYETTE ST	2252	1718	0	0	0	672	2390	9/26/2003	29703	31,287
43	3523 LAFAYETTE ST	2357	2252	0	0	0	442	2694		Cum Sq Ft	157,539
44	3549 LAFAYETTE ST	1603	918	553	54	0	0	1525			
45	4701 FILLMORE ST	4761	3733	488	0	32	442	4695			
46	3515 LAFAYETTE ST	1505	1718	0	0	0	0	1718			
47	3655 HARRISON ST	6653	5867	328	0	1000	0	7195			
48	4650 FILLMORE ST	3664	2400	0	0	0	0	2400			
49	3440 JACKSON ST	4648	3467	1504	0	30	0	5001			
50	4640 FILLMORE ST	3122	2668	0	0	0	475	3143			
51	4635 FILLMORE ST	6527	4000	0	0	52	1904	5956			
52	4744 GAYLORD ST	3288	1333	1538	0	0	0	2871			
53	4775 HIGH ST	3714	2667	914	0	321	0	3902	10/3/2003	41842	41,100
54	3441 GARFIELD ST	4983	3733	360	0	219	0	4312		Cum Sq Ft	198,639
55	3339 ELIZABETH ST	3025	400	925	1002	0	464	2791			
56	3343 ELIZABETH ST	2035	1467	44	0	100	0	1611			
57	3321 ELIZABETH ST	2673	3096	0	0	42	0	3138			
58	3560 ELIZABETH ST	6613	5867	0	0	45	0	5912			
59	4459 THOMPSON CT	7022	533	2429	2812	0	1120	6894			
60	3528 ELIZABETH ST	1606	1067	203	90	213	0	1573			
61	4658 WILLIAMS ST	2195	1333	0	906	0	167	2406	10/10/2003	30152	28,637
62	3927 ADAMS ST	4306	3467	0	352	0	0	3819		Cum Sq Ft	227,276
63	3350 COLUMBINE ST	2133	1600	559	0	128	237	2524			
64	4309 COLUMBINE ST	981	800	499	0	0	0	1299			
65	3535 CLAYTON ST	2723	1867	0	75	0	387	2329			
66	4314 JOSEPHINE ST	1178	1155	0	162	63	0	1380			

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Sequence Number	Address	Excavated	Sod	Rock	Mulch	Open Soil	Driveway	Total	Week End	Est/Week	Actual/Week
67	3337 STEELE ST	4001	2923	182	0	24	480	3609			
68	3522 MARION ST	4529	2400	1274	0	72	0	3746	10/17/2003	19851	18,706
69	3754 MARION ST	1773	1155	0	0	0	504	1659		Cum Sq Ft	245,982
70	3701 COOK ST	5106	3272	0	0	948	0	4220			
71	3659 MARION ST	1238	770	440	0	31	0	1241			
72	3911 HUMBOLT ST	1418	963	620	0	0	0	1583			
73	3710 MADISON ST	6386	3220	903	598	0	1165	5886			
74	3511 HUMBOLT ST	2684	1280	1712	0	0	0	2992			
75	3743 FRANKLIN ST	2500	833	1328	0	59	0	2220			
76	3830 FRANKLIN ST	1219	1333	0	0	100	0	1433			
77	4319 FILLMORE	3678	1067	200	300	0	2200	3767			
78	3622 LAFAYETTE ST	3465	2784	0	462	19	0	3265			
79	3834 FRANKLIN ST	2031	770	1300	0	0	0	2070			
80	3423 MILWAUKEE ST	2727	2663	272	40	0	0	2975			
81	3760 FRANKLIN ST	1964	960	0	0	761	190	1911			
82	3453 FRANKLIN ST	1049	770	120	0	90	0	980	10/23/2003	37238	36,202
83	3529 FRANKLIN ST	1784	1333	0	163	14	0	1510		Cum Sq Ft	282,184
84	1815 E 36th Ave	800	800	0	0	0	0	800			
85	3551 MILWAUKEE ST	3525	2667	0	0	1377	0	4044			
86	1717 E 36th Ave	1920	533	0	1226	212	0	1971			
87	3326 WILLIAMS ST	2681	1600	237	0	0	600	2437			
88	3541 MILWAUKEE ST	3591	2667	119	0	328	0	3114			
89	3541 WILLIAMS ST	652	578	0	0	0	80	658			
90	3408 MILWAUKEE ST	3717	770	0	2979	700	0	4449			
91	3616 WILLIAMS ST	2110	770	1280	0	0	0	2050			
92	3450 SAINT PAUL ST	3393	2400	0	301	370	0	3071			
93	3942 WILLIAMS ST	1326	385	384	675	12	0	1456	10/31/2003	25499	25,560
94	3441 SAINT PAUL ST	3383	3200	0	101	27	0	3328		Cum Sq Ft	307,744
95	4781 RACE ST	1914	1333	446	0	14	0	1793			
96	3423 SAINT PAUL ST	3135	2933	117	0	27	100	3177			
97	4315 STEELE ST	2745	2000	616	0	56	0	2672			
98	3440 JOSEPHINE ST	3724	1600	110	1021	300	0	3031			
99	4654 HIGH ST	3654	2667	228	613	9	0	3517			

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Sequence Number	Address	Excavated	Sod	Rock	Mulch	Open Soil	Driveway	Total	Week End	Est/Week	Actual/Week
100	3432 JOSEPHINE ST	2035	1600	411	396	50	0	2457			
101	4705 CLAYTON ST	5276	4480	213	262	0	485	5440			
102	3245 JOSEPHINE ST	2567	1663	670	243	50	0	2626			
103	4920 MILWAUKEE ST	3014	2800	198	0	107	0	3105	11/7/2003	31447	31,146
104	4950 MILWAUKEE ST	7882	6667	1136	117	0	0	7920		Cum Sq Ft	338,890
105	3542 VINE ST	8315	8000	0	600	815	0	9415			
106	3620 SAINT PAUL ST	6653	2560	3158	0	0	1221	6939			
107	3906 JACKSON ST	6496	6400	152	44	0	195	6791			
108	4205 FOX ST	6782	0	812	4507	0	1463	6782			
109	3720 VINE ST	2912	3200	0	105	105	114	3524			
110	3754 DELGANY ST	968	640	0	0	30	0	670			
111	3646 DELGANY SY	1868	0	1118	0	0	750	1868			
112	4143 FOX ST	6000	0	0	255	36	6210	6501	11/14/2003	47876	50,410
	4143 FOX ST	6928	0	0	254	36	6209	6499		Cum Sq Ft	389,300
113	3433 GILPIN ST	1531	960	0	0	0	721	1681			
114	4710 RACE ST	3578	1600	0	0	22	1939	3561			
115	3415 WILLIAMS ST	1526	640	914	0	20	0	1574			
116	4660 MILWAUKEE	3043	2828	125	0	36	0	2989			
117	3209 GAYLORD ST	2002	1920	382	-	67	0	2369			
118	4850 CLAYTON ST	3404	2880	254	0	0	599	3733			
119	3549 RACE ST	3010	1500	0	0	40	0	1540			
120	3521 DELGANY ST	2868	1200	765	0	70	702	2737			
121	3722 RACE ST	1505	2560	0	0	24	0	2584			
122	3329 HIGH ST	1923	1500	63	0	40	0	1603	11/22/2003	31318	30,870
123	3333 HIGH ST	2048	2503	0	28	0	0	2531		Cum Sq Ft	420,170
124	3337 HIGH ST	2308	1875	0	0	240	0	2115			
125	4782 CLAUDE CT	1621	963	0	0	828	0	1791			
126	4442 JOSEPHINE ST	1382	640	0	112	0	676	1428			
127	4539 COLUMBINE ST	1256	770	364	0	19	0	1153			
128	4422 DELAWARE ST	2917	1280	56	0	1436	0	2772			
129	3640 HUMBOLDT ST	1865	743	0	288	0	1000	2031	12/5/2003	13397	13,821
130	3531 LAFAYETTE ST	1773	1280	546	0	0	0	1826		Cum Sq Ft	433,991
131	3727 LAFAYETTE ST	1965	2435	0	0	73	0	2508			

Sequence Number	Address	Excavated	Sod	Rock	Mulch	Open Soil	Driveway	Total	Week End	Est/Week	Actual/Week
132	3720 DELGANY ST	3454	2820	0	321	1125	0	4266			
133	3201 GAYLORD ST	6110	3010	322	1840	935	276	6383	12/12/2003	13302	14,983
	VB/I-70, 2003	445,742	292,095	59,832	36,616	21,298	39,133	448,974		Cum Sq Ft	448,974
	Est Avg/Site (through 133)	3,351	2,196	450	275	160	294	3,376			

Spring 2004

Sequence Number	Address	Excavated	Sod	Rock	Mulch	Open Soil	Driveway	Total	Week End	Est/Week	Actual/Week
134	3216 JOSEPHINE ST	4,225	2,950	173	0	347	0	3,470			
135	3222 JOSEPHINE ST	3,210	2,565	333	0	0	228	3,126			
136	3228 JOSEPHINE ST	2,114	2,310	180	0	122	0	2,612	2/20/2004	9,549	9,208
137	3341 JOSEPHINE ST	1,876	1,575	220	0	56	0	1,851		Cum Sq Ft	9,208
138	3347 JOSEPHINE ST	2,404	1,630	0	0	0	0	1,630		Spring 2004	9,208
139	3216 VINE ST	2,477	2,310	0	0	233	0	2,543			
140	3244 VINE ST	3,149	2,695	51	0	288	0	3,034			
141	3250 VINE ST	3,128	2,695	0	422	60	0	3,177	2/27/2004	13,034	12,235
142	3315 RACE ST	3,219	3,650	260	0	607	0	4,517		Cum Sq Ft	21,443
143	3328 RACE ST	3,020	3,840	0	178	0	0	4,018		Spring 2004	21,443
144	3332 RACE ST	3,129	3,840	0	0	0	0	3,840			
145	3315 GAYLORD ST	2,023	1,440	0	454	0	0	1,894	3/5/2004	11,391	14,269
146	1227 MARTIN LUTHER KING BLVD	1,000	726	0	234	0	0	960		Cum Sq Ft	35,712
147	3245 GAYLORD ST	2,398	2,240	120	144	66	0	2,570		Spring 2004	35,712
148	3226 GAYLORD ST	3,196	2,880	72	0	0	0	2,952			
149	3250 GAYLORD ST	3,440	3,040	848	0	0	76	3,964			
150	3214 GAYLORD ST	3,106	3,040	363	0	0	25	3,428	3/12/2004	13,140	13,874
151	3217 GAYLORD ST	2,970	2,880	0	0	26	330	3,236		Cum Sq Ft	49,586
152	3225 MARION ST	1,949	2,095	0	0	0	0	2,095		Spring 2004	49,586

Sequence Number	Address	Excavated	Sod	Rock	Mulch	Open Soil	Driveway	Total	Week End	Est/Week	Actual/Week
153	3233 MARION ST	2,078	1,800	0	138	16	0	1,954			
154	3314 LAFAYETTE ST	1,558	1,650	0	0	0	0	1,650			
155	3318 FRANKLIN ST	2,877	3,000	0	0	0	0	3,000	3/19/2004	11,432	11,935
156	3444 GILPIN ST	2,499	2,550	0	0	48	0	2,598		Cum Sq Ft	61,521
157	3349 HIGH ST (Sprinkler)	1,146	1,200	235	0	101	0	1,536		Spring 2004	61,521
158	1903 BRUCE RANDOLPH	3,329	3,300	0	0	41	342	3,683			
159	3517 DELGANY ST	1,964	1,200	85	0	0	702	1,987			
160	4463 CHEROKEE ST.	2,745	1,440	197	0	0	206	1,843	3/26/2004	11,683	11,647
161	5020 STEELE ST	4,630	3,600	197	60	330	263	4,450		Cum Sq Ft	73,168
162	3220 YORK ST	3,641	1,950	0	370	406	700	3,426		Spring 2004	73,168
163	4992 STEELE ST	2,915	2,160	168	0	85	554	2,967			
164	3215 FILLMORE ST	3,495	2,880	182	32	0	185	3,279			
165	4986 STEELE ST	4,744	4,680	164	0	0	60	4,904			
166	3221 FILLMORE ST	3,015	3,520	115	0	72	110	3,817	4/2/2004	22,440	22,843
	VB/I-70, 2004	92,669	83,331	3963	2032	2904	3781	96011		Cum Sq Ft	96,011
	(Spring 2004, 33 Sites)	2,808	2,525	120	62	88	115	2,909		Spring 2004	96,011

VB/I-70, To Date	538,411	375,426	63,795	38,648	24,202	42,914	544,985
Est Avg/Site (through 166)	3,243	2,262	384	233	146	259	3,283

2.2 Production Summary

The following table summarizes item quantities, project days, and personnel hours.

Table 2.2 – Production Summary

Item	Quantities	Units
Properties	166	Properties
Contaminated soil to ASARCO	19,937	Cubic Yards
Sod	375,426	Square Feet
Project days	226	Days
Personnel hours	37,463.50	Hours
Weather delays	2	Days
Lost work delays	0	Days

3.0 AIR MONITORING & PERSONAL MONITORING

3.1 Air Monitoring

In August 2003, PRI retained IHI Environmental (IHI) to provide air monitoring services during the removal actions conducted in OU1. Initial air monitoring activities commenced on August 13, 2003, and continued through November 2003. The initial 20 days of air monitoring included collecting three samples from Airmetrics MiniVol sample pumps (MiniVol) and an MIE Personal DataRAM (PDR)-1000, collected at a single residential site each day during soil-remediation activities. One MiniVol collected particulate matter less than 10 microns (PM_{10}) in size, a second collected particulate matter less than 2.5 microns ($PM_{2.5}$) in size, and a third collected total suspended particulate (TSP). The sample collected for TSP was also analyzed for lead and arsenic.

The PDR is a direct-reading instrument that reads instantaneous TSP, a 15-minute average concentration, and records a time weighted average (TWA) for the daily sampling period.

The objective of the first 20 days of air monitoring was to help ensure that dust suppression practices were sufficient to keep values of TSP, lead, and arsenic below the established project action levels. Dust control measures conducted by PRI consisted primarily of watering down the areas undergoing remediation with a hose, and pre-

ED_002842_00002502-00019

wetting the fill before it was brought to the backfill site. The objective of the collection of multiple side-by-side samples during the first 20 days of the project was to evaluate the data to develop a correlation between measured values of TSP less than 10 microns (PM_{10}) and particulate matter less than 2.5 microns ($PM_{2.5}$). This correlation was developed to determine a site-specific Action Level for dust control purposes based on the National Ambient Air Quality Standards (NAAQS) for $PM_{2.5}$ and PM_{10}.

The results of the lead and arsenic sampling for the initial 20-day period indicated that little airborne lead or arsenic was being generated during soil-remediation activities. No exceedances of the action levels for lead or arsenic occurred during the initial 20-day sampling period. TSP concentrations ranged from 39 micrograms per cubic meter (ug/m^3) to 652 ug/m^3, and the TWA measured on the PDRs ranged from 11 ug/m^3 to 219 ug/m^3. For a complete description of the sample collection, analysis, and analytical results for the initial 20 days of air monitoring see Attachment E, Twenty Day Report Vasquez Boulevard / I-70 Removal Action Air Monitoring Evaluation, prepared by IHI.

Following the initial 20-day sampling period, IHI returned to the site on a quarterly basis to conduct air monitoring. No exceedances of the action levels for lead or arsenic occurred during the sampling periods. A summary of the analytical results of air monitoring conducted throughout the project is included in Attachment F, Air Monitoring Data Reports and Summary Table VB/I-70/Vasquez Boulevard, prepared by IHI.

In addition to the quarterly air monitoring conducted during the project, PRI ran three PDRs daily to help ensure that TSP levels did not exceed the established project action levels. One PDR collected data at the staging area where the clean backfill materials were stored. One PDR was positioned at the ASARCO property where the contaminated soils were disposed of. The third PDR was set up at one of the residential properties being excavated. If TSP levels exceeded the established project action levels of 150 ug/m^3 over two consecutive 15-minute intervals, then work was stopped and aggressive dust suppression measures were taken. Analytical data from the daily air monitoring conducted by PRI were submitted to USACE with the daily Quality Control Reports.

ED_002842_00002502-00020

3.2 Personal Monitoring

In addition to the community air monitoring conducted at the site, personal air monitoring was conducted as well. Each day a different employee was chosen to wear a personal air monitor for the day. At no time did results from this personal air monitoring show elevated concentrations of lead, arsenic, or TSP.

Blood lead monitoring of personnel working on-site was conducted on a bi-annual schedule. Arsenic monitoring was conducted on an annual basis. Personnel monitoring data showed no elevated concentrations of lead and/or arsenic in their blood.

4.0 BACKFILL MATERIAL SUMMARY

4.1 Backfill Summary

Excavated properties were backfilled and restored in kind with clean replacement materials (see Attachment B, *Remedial Design Work Plan*). Prior to beginning the removal actions, specific textural characteristics for the replacement soils were established by PRI, and approved by USEPA, according to the following procedure. Soil samples were collected from 10 residences to be remediated, as follows: 3 from the Cole neighborhood; 3 from the Clayton neighborhood; 1 from the Elyria neighborhood; and 3 from the Swansea neighborhood (at least one from locations north and south of I-70). Within each neighborhood, the Supervising Contractor selected properties that were spatially distant from each other to provide data across a given residential site. The soil samples were then analyzed for clay, silt and sand composition according to American Society for Testing and Materials (ASTM) Method D-422 (ASTM, 2002). The results of these analyses were plotted on a textural triangle to characterize the soils (Attachment G).

4.2 Backfill Sampling

From August 2003 through March 2004, samples were taken of the backfill materials (soils and driveway gravel) utilized to restore the remediated properties (see Attachment C, CSAP). These samples were collected by PRI every 5,000 cubic yards (cy) for soils, and 1,000 cy for driveway gravel to help ensure that the materials being used contained no significant contaminants of concern. The analytical results from the

ED_002842_00002502-00021

collected samples are contained in Attachment H, Analytical Results for Backfill Soils and Attachment I, Analytical Results for Driveway Gravel. One backfill sample, M-002, was not processed for VOC's due to insufficient temperature. However, all backfill samples were collected from the same source, and the VOC results from the other samples collected were below action levels. The results show that backfill materials were acceptable for use.

5.0 WASTE DISPOSAL SUMMARY

From August 2003 through March 2004, a total of 19,937 cubic yards of contaminated soils were transported to the ASARCO property. Waste disposal samples were collected approximately every 3,500 cy (or approximately every 20 properties) from the excavated soils (see Attachment C, CSAP). Waste derived from personal protective equipment (PPE) was also sampled and disposed at Denver and Arapahoe Disposal Site (DADS). The analytical results from the collected samples for disposal soils and PPE are contained in Attachment J, Analytical Results for Disposal Soils.

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6.0 REFERENCES

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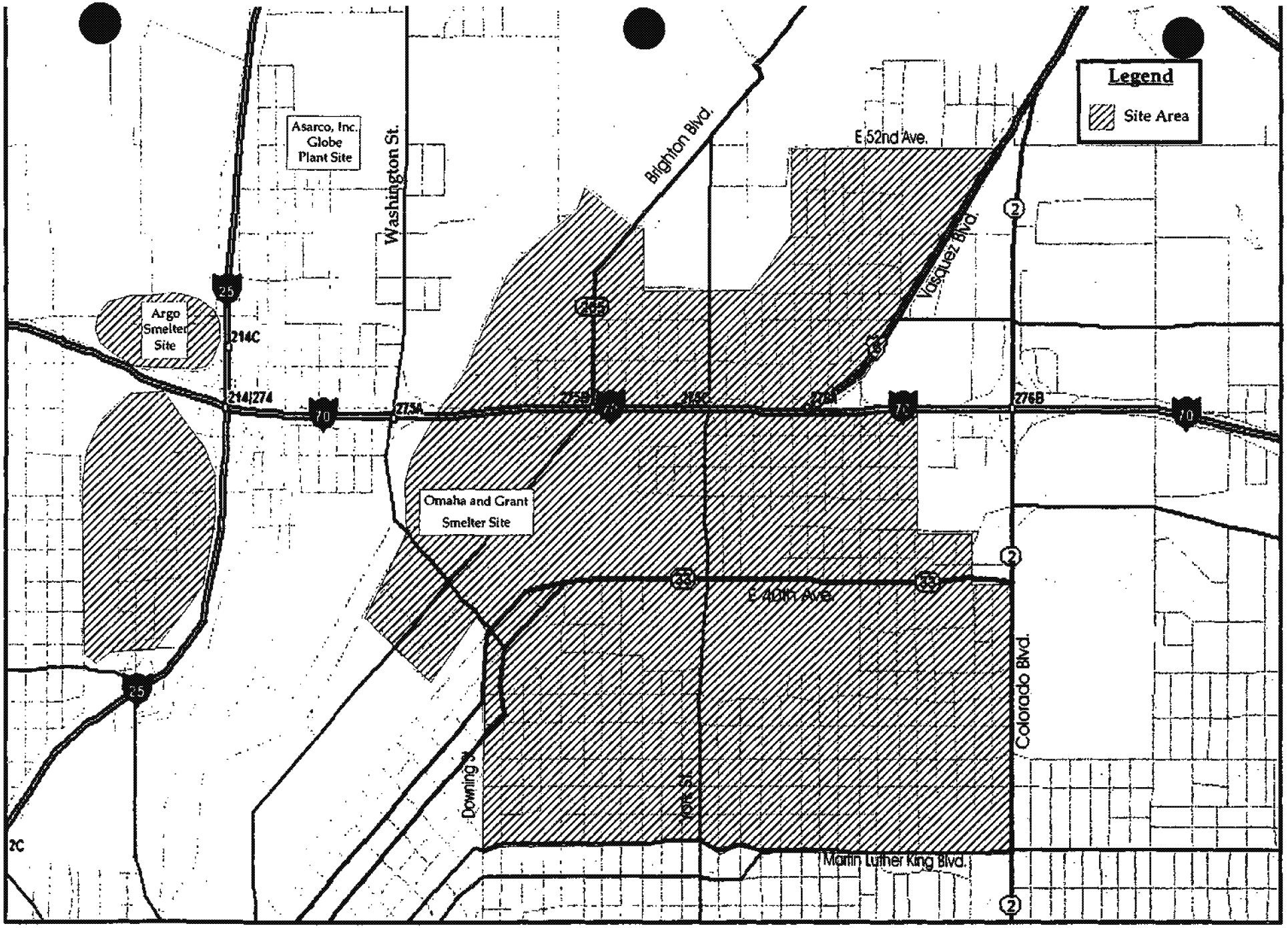
ED_002842_00002502-00023

7.0 ATTACHMENTS

ED_002842_00002502-00024

ATTACHMENT A
VB/I-70 SUPERFUND SITE BOUNDARY MAP



VB/I-70 Superfund Site

ATTACHMENT B
REMEDIAL DESIGN WORK PLAN

(Previously Submitted Separately)

ATTACHMENT C
CHEMICAL SAMPLING AND ANALYSIS PLAN

Chemical Sampling and Analysis Plan For Non-Time-Critical Removal Action Operable Unit 1 Vasquez Boulevard / Interstate 70 Superfund Site Denver, Colorado

July 2003

Prepared for:

U.S. Army Corps of Engineers
Rapid Response Program Office
Omaha District
Fort Crook Area
Offutt AFB, Nebraska 68113

Prepared by:

Project Resources Inc.

3760 Convoy Street, Suite 230
San Diego, California 92111
(858) 505-1000
fax: (858) 505-1010

1 Introduction

This Chemical Sampling and Analysis Plan (CSAP) present the quality assurance (QA) and quality control (QC) requirements for the non-time-critical removal action at the Vasquez Boulevard and Interstate 70 (VB/I70) Superfund Site in the north-central section of Denver, Colorado.

The United States Environmental Protection Agency (USEPA) is the lead agency responsible for this non-time-critical removal action. The United States Army Corps of Engineers (USACE) is the Supervising Contractor for this action, and has contracted Project Resources Inc. (PRI) as its construction contractor. PRI will carry out the non-time-critical removal action for USACE, and consequently will implement this CSAP.

This CSAP was written as an adjunct to the Construction Quality Assurance Plan (CQAP) prepared for the USEPA by MFG, Inc. and Tetra Tech EM Inc. The CQAP provides procedures to demonstrate compliance with the removal action, as well as a summary of QC procedures used by PRI to achieve compliance. The CSAP provides additional details to the QA/QC procedures and plans. Both the CQAP and CSAP are supported by and included as appendices to the Removal Action Work Plan, dated March 2003.

ED_002842_00002502-00030

2 Project Organization

This section gives an overview of the primary project participants, with emphasis on the Construction Contractor (i.e., PRI). Also discussed are the roles and responsibilities of these participants during the implementation of the non-time-critical removal action at VB/I70.

The USEPA has overall responsibility for remedial and removal actions at the VB/I70 site. Representing USEPA during construction is the USACE as Supervising Contractor. The USACE also has overall responsibility for management and documentation of the removal action, and for compliance with project requirements and meeting project objectives. Supporting USACE is PRI as its Construction Contractor. PRI will carry out the removal action in accordance with the Non-Time-Critical Removal Action Work Plan (March 2003), and the CQAP and CSAP.

Key staff from PRI includes the Quality Control Manager (QCM). The QCM will:

- be responsible for the day-to-day inspection of removal action activities
- provide and demonstrate compliance with the CQAP and CSAP
- document inspections and work progress for contract administration purposes.

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3 Sampling and Analysis

This section discusses the activities related to the non-time-critical removal action that resulted in sampling, sampling requirements, and sample analysis requirements. Further discussion and information can be found in the CQAP.

3.1 Activities

Table 3-1 gives a summary of activities associated with PRI's project work at the VB/I70 site that will require sampling and laboratory analysis. In general, there are three major project phases that contain activities requiring sampling and laboratory analysis: 1) pre-remediation characterization; 2) remediation construction; and 3) disposal characterization.

The pre-remediation phase includes the sampling of soils at those sites that wish to maintain their gardens and/or flower beds. Those gardens and flower beds that show acceptable concentrations of contaminants of concern (i.e., arsenic and lead) will be remain undisturbed while the remaining soils at the site are remediated. Those sites whose gardens and flower beds have unacceptably high contaminant concentrations will not be remediated. Also sampled during this phase are the soils at ten sites; these soils will be characterized using their geotechnical properties, to help in selecting in-kind soils for replacement

The remediation phase includes the sampling of soils that will be used as replacement soils at sites that were remediated, to demonstrate that the new soils are not contaminated with arsenic, lead, metals, pesticides, or semi- and volatile organic compounds. Replacement gravels are also sampled and assessed for their arsenic and lead concentrations. The soils and gravels are also sampled to assess their geotechnical properties, again to demonstrate acceptability relative to replacement criteria (viz., particle size and gradation).

The disposal characterization phase will sample the removed soil and characterized as to disposal criteria (i.e., leachable metals, pesticides and herbicides, and semi- and volatile organic compounds).

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Table 3-1 Summary of Sampling Requirements for Chemical Analysis

Phase	Sampled Material	Parameter	Acceptance Criteria	Frequency
Pre-remediation	Soils from gardens and flowerbeds	As, Pb	< residential action concentrations	Each garden or flowerbed which will be left undisturbed
	Soils being removed from yards	Texture and particle size	None: establishes replacement criteria	10 sites total
Remediation	Replacement soils	As, Pb	< residential action concentrations	Source; every 1,000 yd^3; when there's an observed materials change
		Texture and particle size	Similar to removed soils	Source; every 5,000 yd^3; when there's an observed materials change
		Metals, pesticides, PCBs, SVOCs, VOCs	< residential action concentrations	Source; every 5,000 yd^3; when there's an observed materials change
	Replacement gravel	As, Pb	Meets gravel criteria	Source; every 1,000 yd^3; when there's an observed materials change
		Gradation	Meets gradation requirements	Source; every 5,000 yd^3; when there's an observed materials change
Disposal	Soils removed from yards. Sampling from staging area stockpile.	TCLP metals, pesticides, herbicides, SVOCs, VOCs	Meets disposal site requirements	Every 3,500 CY of excavated soils (~ every 20 properties)

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3.2 Sampling Requirements

Table 3-2 gives a summary of sampling requirements associated with PRI's project work at the VB/I70 site. Five types of samples are planned:

1. Soils from flower beds and gardens
2. Soils removed from yards as part of the removal action
3. Replacement soils for yards
4. Replacement gravels for driveways and parking areas
5. Water used to demonstrate no cross-contamination from equipment.

The table summarizes the type of sampling containers, sample volumes, and holding times required for each type of sample. Because sampling requirements are driven by the type of analysis and specific USEPA laboratory method, these are also given in the table.

Chain-of-custody records should comply with requirements found in the CQAP. Preservation of samples should be accomplished using an ice-chilled cooler; chilling is not needed for soil and gravel samples being analyzed for particle gradation, or for flower bed and garden soils being analyzed for arsenic and lead. The water-equipment blanks also do not require chilling.

3.3 Analytical Requirements

Table 3-2 also gives a summary of the USEPA and American Society for Testing and Materials (ASTM) methods to be used in analyzing sampled materials. For samples requiring lead (Pb) and arsenic (As) analysis, sample preparation using acid digestion

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Table 3-2 Sampling and Analytical Methods for Chemical Analysis

Sampled Material	Analytical Method	EPA Method	Container	Volume	Holding Time
Flowerbed and garden soils	Acid digestion ICP-AES (As, Pb)	3052 6010B	Clean bag or glass jar	50g	180 days
Soils removed from yards, and replacement soils	TCLP[1]	1311	-	-	7 days
	ICP-AES (metals)	6010B	Clean 8oz glass jar	50g	180 days
	Manual cold-vapor (Hg)	7471A			14 days
	GC (oragano pesticides)	8081A	Clean 8oz glass jar	100g	40 days after extraction
	GC (chlorinated herbicides)[2]	8151A			
	GC (polychlorinated biphenyls)[3]	8082			
	GC (semivolatile organics)	8270C			
	GC (volatile organics)	8260B		50 g	14 days
	Particle gradation[2]	D-422[4]	Clean Bucket	5 gal	-
Replacement gravel	Acid digestion ICP-AES (As, Pb)	3052 6010B	Clean Bucket	5 gal	180 days
	Particle gradation	D-422[4]			-
Water-equipment blanks	ICP-AES (As, Pb)	6010B	Plastic or glass bottle	500 mL	180 days

Abbreviations and notes:
ICP-AES: Inductively Coupled Plasma-Atomic Emission Spectrometry
TCLP: Toxicity Characteristic Leaching Procedure
GC: Gas Chromatography
1): TCLP for removed soils only (not replacement)
2): for removed soils only
3): for replacement soils only
4): ASTM method
g: grams
oz: ounces
gal: gallons
mL: milliliters

ED_002842_00002502-00035

(USEPA Method 3052) is followed by sample testing using atomic emission spectrometry (USEPA Method 6010B). For samples being characterized for disposal purposes, sample preparation using leaching procedures (USEPA Method 1311) is followed by testing using either gas chromatography (USEPA Methods 8081A, 8151A, 8082, 8270C, and 8260B), or atomic emission spectrometry (USEPA Methods 6010B and 7471A).

3.4 Sampling Locations

Garden/Flower-Bed Sampling

Soils sampled from gardens or flowerbeds will be on a property-by-property basis, and will consist of one composite sample per residence. The composite is taken by:

- Dividing garden or flowerbed into two equal areas
- Sampling the center of each area by coring to a depth of 0 to 2 inches
- Blending the two sub-samples and retrieving a composite from the blend.

These samples will be analyzed for arsenic and lead.

Soil Texture Sampling for Backfill Criteria

Removed yard soils will be sampled as a subset of all yards remediated, and will consist of one sample from each of ten spatially representative properties. The ten properties will be selected as follows:

- Three from the Cole neighborhood
- Three from the Clayton neighborhood
- One from the Elyria neighborhood
- Three from the Swansea neighborhood (at least one from either side of I-70).

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The selected properties should be spatially distant from each other. Each soil sample should be from the center of the yard, at a depth of 0 to 12 inches. These samples are used for geotechnical (i.e., particle gradation) characterization.

Clean Backfill Material Sampling

Replacement soils and gravels are sampled at a frequency of one grab sample for every 5000 cubic yards of material. The samples are taken from truck-loads, stockpiles, or already placed materials. These samples are analyzed for metals, pesticides, polychlorinated biphenyls (PCBs), semivolatile organics, and volatile organics, as well as for geotechnical (i.e., gradation) characterization. In addition, one grab sample for every 1000 cubic yards will be taken for assessing the arsenic and lead concentrations in replace
Materials.

Waste Disposal Characterization

Excavated materials will be sampled for disposal characteristics as a stockpile composite from every 3,500 CY yards of excavated soils (~ every 20 properties) [Note: This is a change from the procedure outlined in the VB-I70 Workplan]. The materials excavated will be transported to a temporary staging area, located on the ASARCO property, and placed in a stockpile. The stockpile(s) will be sampled as follows:

- The stockpile (~ 3,500 CY in size or less) will be divided into four equal units.
- Each of the four units will be sampled randomly at four points (1 from the top, 2 from mid-height, and 1 near the toe of the pile).
- The four soil samples from each respective unit will be blended, with a composite sample taken from the blend for analysis.

The samples will be utilized for waste characterization purposes, and will be analyzed via TCLP for metals, pesticides, herbicides, semivolatile organics, and volatile organics.

3.5 Sample Identification

Samples will be identified using a number and letter scheme, as follows:

a) For residences, the property identification number (assigned by a designee of the Construction Contractor), with a prefix of "P" (for "property")
b) For bulk imported materials, the source identification number (assigned by a designee of the Construction Contractor), with a prefix of "M" (for "Materials")
c) Sequential sample number (001, 002, 003, etc.)
d) Sample matrix code letter:
    a. S = soil
    b. G = gravel
    c. W = water
e) Sample type code letter:
    a. C = composite
    b. G = grab
f) Sample use code letter:
    a. P = primary
    b. D = duplicate
    c. E = equipment blank.

For example, a sample with the following identification:

P027-002-SCD

Would be the second composite sample's duplicate from the 27th residence.

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3.6 Decontamination

All non-disposable sampling equipment will be decontaminated before sample collection by:

- Washing with Alconox soap and water, with brushing to remove attached particles
- Rinsing with tap water
- Rinsing with distilled water
- Rinsing again with distilled water.

One sample of the final distilled water rinsate will be collected each day after decontamination.

3.7 Field Quality Control Checks

For media covered by this CSAP, one type of quality control sample will be collected during removal action activities: equipment blanks. Equipment blanks consist of distilled water poured through the sampling device, and collected in a clean 500 mL sample bottle (see Table 3-2). Equipment blanks will only be required for soil samples taken from gardens and flowerbeds. Removed soils will be characterized for particle gradation, and thus will not need equipment blanks. Disposed soils also will need equipment blanks because samples will be composited and analyzed via TCLP at relatively high threshold concentrations. Replacement materials will be sampled with disposable, pre-cleaned sampling equipment.

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4 Reporting

This section describes the reporting content, format, and frequency for chemical data resulting from samples collected per this CSAP.

4.1 Chain-of-Custody

Samples will be maintained under strict chain-of-custody procedures. Each shipping container will include a Chain-of-Custody Record and Request for Analysis (CC/RA) form, to be prepared by the Sampling/Analysis Team member responsible for sample collection. The CC/RA form includes:

- Project identification ("VB/I70 Project")
- Date and time of sampling
- Sample identification (per Section 3.5)
- Sample preservation, if any
- Number and types of sample containers
- Sample hazards, if any
- Analysis requested
- Turn-around time
- Method of shipment
- Carrier or waybill number (if any).

The sampler should sign the CC/RA form, as should the carrier and laboratory upon receipt. Transfer dates and times should also be included with signatures. The lab should also record the condition of samples upon receipt.

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4.2 Laboratory Report

Laboratory calculations and data review by the laboratory should follow the procedures specified by the USEPA methods listed in Table 3-2. The laboratory should summarize and compile a data package that includes:

- Copy of CC/RA form
- Results of analyses for each sample, along with units of measurement
- Date received, extracted, and analyzed
- USEPA or ASTM methods used for analysis
- Quantitation limits (i.e., detection limits)
- Laboratory QC results (e.g., controls, spikes, duplicates, blanks).

Data packages should be sent directly from the laboratory to the USACE Project Chemist.

4.3 Data Acceptance

The USACE Project Chemist should review all data packages for completeness, and its results for accuracy and precision. In particular, the following should be reviewed:

- CC/RA form is complete
- Holding times comply with those is Table 3-2
- Detection limits are below action levels
- Lab QC results are acceptable
- Equipment blanks are not contaminated.

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Acceptable Lab QC is defined as:

- Precision:
  - Ratio of lab control duplicates has a relative percent difference (RPD) of <20%
  - Ratio of matrix spike duplicates has a RPD of <20%
  - Ratio of analytical duplicates has a RPD of <30%
- Accuracy:
  - Lab control sample has an 80 to 120% recovery
  - Matrix spike has a 75 to 125% recovery
  - Lab blanks <minimum detection concentrations.

Corrective actions, as necessary, will be implemented per the steps described in Section 5.

4.4 Data Management and Reporting

Data will be reported by the Construction Contractor in monthly and annual progress reports. In these reports, the laboratory data will be tabulated to include:

- Sample location and identification
- Date of sampling
- Analytical method
- Analytes and measured concentration (or value)
- Detection limits

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5 Laboratory qualifiers (if any). Non-conformance and Corrective Actions

Assessments are made by the QCM, the Sampling/Analysis Team Leader, and the USACE Project Chemist throughout the project to help ensure that appropriate procedures have been implemented. In the event that situations arise that affect the procedures presented in this CSAP, an assessment will be made as to the impact this would have on the project objectives. If corrections or modifications are required, the documentation of such actions will be detailed by procedures presented below. All non-conformances will be reported to the Project Manager within 24 hours of detection.

Corrective actions may be required for two classes of problems: 1) analytical and equipment problems, and 2) non-conformance problems. Analytical and equipment problems may be detected during sampling and sample handling, sample preparation, laboratory instrumental analysis, and data review.

For non-conformance problems, a formal corrective action program will be developed and implemented once the problem is identified. The person who identifies the problem is responsible for notifying the QCM or Sampling/Analysis Team Leader. If the problem is analytical in nature, supportive information will be promptly communicated to the USACE Project Chemist. Implementation of corrective action will be confirmed in writing through the same channels by completing a corrective action report (CAR).

Any non-conformance with the quality control procedures in this CSAP will be identified and corrected, as necessary. The Project Manager or his designee will issue a CAR for each non-conformance condition.

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Corrective actions will be implemented and documented in the field record book for any non-conformances associated with field activities. No staff member will initiate corrective action without prior communication of findings through the proper channels.

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ATTACHMENT A

STANDARD OPERATING PROCEDURES

STANDARD OPERATING PROCEDURE FOR SOIL SAMPLING

1.0 PURPOSE AND SCOPE

The procedures included herein apply to all investigative soil sampling performed during removal actions for Operable Unit No. 1, Off-Facility Soils, of the VB/170 Superfund Site. Methods for collecting soil samples from residential properties are provided. Samples will be collected from: 1) garden and flowerbed areas for analysis of arsenic and lead content; 2) yards scheduled for removal for soil composition analyses; and 3) yard excavation areas for analysis of leachate metal, pesticide, herbicide, semi-volatile and volatile constituent concentrations (disposal characteristics).

2.0 TRAINING AND QUALIFICATIONS

All personnel performing these procedures will be trained in the use of these procedures, have significant relevant sampling experience as approved by the project manager and be experienced in sample handling, documentation and shipping.

3.0 EQUIPMENT AND SUPPLIES

The following equipment and supplies will be used to collect investigative soil samples:

- Coring probes, 2-inch minimum diameter, lead-free. The probes must be capable of being forced into hard ground to a depth of up to 6 inches without being damaged. A number of devices can be utilized as a coring probe. Examples include: plastic or steel pipe and a professional stainless steel coring probe equipped with plastic liners, cross T-bar, and hammer.

- Stainless steel bowls, two gallon size or larger.

- Stainless steel spoon, large serving size.

- Shovel, standard size.

- Sample collection container, new containers of the size and type specified in the project Construction Quality Assurance Plan (CQAP) for the sample.

- Steel or plastic measuring tape or ruler, divisions to at least 1/8 inch.
- Field notebooks, bound with individually numbered pages, see Section 4.
- Indelible ink marker, black or blue.
- Ink pens, black or blue.
- Packaging tape, used for sealing shipping containers.
- Plastic bags, trash bags with ties.
- Plastic gloves, powderless. Gloves with powder should not be used to avoid potential contamination of samples from powder material.
- Preprinted field forms (Exterior & Sample Location Map forms) preprinted with sufficient entry lines to address documentation needs presented in subsection.
- Shipping containers, cardboard or plastic for interim storage and shipment of sample collection containers.

4.0 SAMPLE COLLECTION PROCEDURES

The objectives of the residential sampling program and procedures for identifying properties to be sampled are described in the project CQAP. Soil samples will be collected from gardens and flowerbed areas and from yard excavation areas according to the following procedures.

4.1 Garden and Flowerbed Sampling

Soil samples will be collected from each garden or flowerbed sampling unit by subdividing the sampling unit into two approximately equal-sized sub areas. One soil sample will then be collected from the 0 to 2 inch depth interval at the approximate center of each sub area and composited according to the following procedure:

1. At the subsample location, begin by clearing a circular area approximately 4 inches in diameter of any surface covering such as mulch, loose debris, vegetation or sod (if present).

2. Advance the decontaminated coring probe into the underlying soil to the required 2-inch depth. Retrieve the coring probe and remove the collected soil into a decontaminated bowl. Verify with the tape measure or ruler that soil has been collected over the full 0 to 2 inch depth interval.

3. Repeat steps 1 and 2 at the center of the second sub area.

4. Thoroughly homogenize the soil in the bowl using a decontaminated stainless steel spoon. Then scoop soil from random locations in the bowl into the sampling container until the sampling container has been filled. If any large rock fragments or large foreign materials (e.g., paper or plastic trash, nails, etc.) are present, these may be removed from the sample container. Seal and label the container.

5. Fill the probe holes with the left over soil from the bowl, tamp down fill and replace vegetation or sod over fill surface.

Equipment used to collect the soil samples will be decontaminated after each sampling unit. However, it will not be necessary to decontaminate the sampling equipment between sub areas that comprise a single sample. Decontamination procedures are provided in the SOP for Sampling Equipment Decontamination.

4.2 Yard Composition Sampling

A soil sample will be collected from each yard selected for soil composition sampling. The soil sample will be collected from the 0 to 12 inch depth interval near the center of the yard according to the following procedure:

1. At the sample location, begin by clearing a circular area approximately 18 inches in diameter of any surface covering such as mulch, loose debris, vegetation or sod (if present).
2. Using a shovel that is free of accumulated solids, retrieve soil evenly from the 0 to 12 inch depth interval and place it into a clean 5 gallon bucket. Repeat until bucket is approximately ¾ full. Cover the bucket with a clean lid.
3. Fill the soil hole with commercially available topsoil or potting soil and tamp down.

Shovels used to collect the soil shall be cleaned by scraping off any accumulated soil and leaving the soil at the sampling location. It will not be necessary to decontaminate the sampling equipment used to collect the yard composition samples.

4.3 Disposal Characteristics Sampling

One composite sample will be collected from every twenty properties scheduled for remediation. The composite sample will be prepared by randomly selecting four of the properties for sampling using a spreadsheet-based random number generator routine. One composite sample will then be collected from the four properties according to the following procedure:

1. At each selected property, the exposed soil areas (yards, unpaved driveways and unpaved parking areas) will be subdivided into four approximately equal-sized sampling units (sub areas). One soil sample will then be collected from the approximate center of each sub area as follows:

    - Begin by clearing a circular area approximately 4 inches in diameter of any surface covering such as mulch, loose debris, vegetation or sod (if present).

    - Advance the decontaminated coring probe into the underlying soil until it is full. Retrieve the coring probe and remove the collected soil into a decontaminated bowl. Repeat this procedure until soil has been collected over the full 0 to 12 inch depth interval, as verified with the tape measure or ruler.

    - Repeat this procedure to collect samples from the center of the three remaining sub areas.

    - Thoroughly homogenize the soil in the bowl. Then remove a volume slightly greater than ¼ of the sample container by scooping soil from random locations in the bowl into a second decontaminated bowl.

    - Fill the probe holes with soil from the original bowl, tamp down fill and replace vegetation or sod over fill surface.

2. Repeat the procedures in Step 1 at the three remaining properties to produce four bowls of homogenized soil.

3. Next combine and thoroughly homogenize the four bowls of soil in a single decontaminated bowl. Scoop soil from random locations in the final bowl into the sampling container until the sampling container has been filled. If any large rock fragments or large foreign materials (e.g., paper or plastic trash, nails, etc.)

are present, these may be removed from the sample container. Seal and label the container.

Equipment used to collect the soil samples will be decontaminated after the final composite sample is collected. However, it will not be necessary to decontaminate the sampling equipment between yards that comprise a single sample. Decontamination procedures are provided in the SOP for Sampling Equipment Decontamination.

4.4 Documentation

The sampling team will maintain field notes describing date and time of sampling, weather conditions, personnel present, special instructions, property contact information and sample numbers and sample storage or shipping information. The following information will also be recorded on the Soil Sampling Form:

- Date
- Property block and lot number (if available)
- Property address
- Sampling team members
- Sample numbers
- Location description, including depth
- Soil description

In addition, a site map will be prepared to show the location of the main residence, garage, and significant outbuildings, approximate property boundaries, garden and flowerbed areas, and sample locations. The sub sample locations will be clearly labeled, and the areas represented by each composite sample will be delineated on the site map. This information will be recorded on an Exterior & Sample Location Map form (attached). The Exterior & Sample Location Map form will be forwarded to the Supervising Contractor's Project Manager for inclusion in the hard copy property file.

Sample custody procedures (sample delivery and pick-up information) will be followed in accordance with the SOP for Sample Handling and Documentation. A copy of chain-of-custody form will be included in the hard copy property file.

5.0 EQUIPMENT CALIBRATION AND MAINTENANCE

Soil sampling equipment will be inspected for damage or wear after each sampling day. Worn or unusable equipment will be replaced immediately.

6.0 REFERENCES

U.S. Environmental Protection Agency, 1995. Residential Sampling for Lead: Protocols for Dust and Soil Sampling, EPA Doc. No. 747-R-95-001, March.

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STANDARD OPERATING PROCEDURE FOR SAMPLING EQUIPMENT DECONTAMINATION

1.0 PURPOSE AND SCOPE

These procedures apply to investigation and replacement material sampling performed during removal actions for Operable Unit No. 1, Off-Facility Soils, of the VB/I70 Superfund Site. Methods for decontaminating soil sampling equipment are provided.

2.0 PROCEDURES

Equipment used to collect samples will be decontaminated prior to each use, but decontamination will not be required between collection of sub samples of a single composite sample. The equipment requiring decontamination includes the soil scoops or coring devices used to collect the samples and the bowls/buckets and spoons that may be used to contain or homogenize samples. Soil samples will be collected according to the procedures described in the SOPs for Soil Sampling and Replacement Material Sampling.

2.1 Equipment

The following is a list of equipment needed to decontaminate sampling equipment.

- Non-phosphate detergent such as Alconox
- Tap water – several gallons probably necessary
- Deionized water
- Chemical-free towels or paper towels
- Cleaning containers – plastic and/or galvanized steel pans or buckets
- Stiff cleaning brushes
- Aluminum foil, plastic wrap or plastic bags.
- Plastic bags for trash
- Powderless plastic gloves

2.2 Equipment Decontamination Procedures

1. Add the non-phosphate detergent to the appropriate amount of tap water in one of the clean plastic or stainless steel containers. Stir to mix.
2. Put on a pair of powderless plastic gloves.

3. Using the stiff brush, scrub all sampling equipment with the detergent/tap water solution. Scrub the equipment until all visible remnants of the sampled material are removed. During the decontamination process, do not lay any equipment being decontaminated on a surface other than a clean piece of plastic or aluminum foil.
4. Rinse each piece of equipment with clean tap water.
5. Rinse each piece of equipment with deionized water.
6. Place the cleaned equipment on clean aluminum foil or plastic wrap and allow to air dry or dry with clean chemical-free paper towels.
7. If not using the equipment immediately, place the clean dry equipment in plastic bags or wrap in aluminum foil for storage.
8. Contain and dispose of all decontamination water by pouring used solutions onto the ground surface at the sampling location.
9. Clean the container that had the detergent/tap water solution and the brush for future use.

2.3 Documentation

Field notes will describe the procedure used and the frequency of sampling equipment decontamination (this SOP may be referenced). Any procedure not in accordance with this SOP should be documented in the field notes.

STANDARD OPERATING PROCEDURE FOR SAMPLE HANDLING AND DOCUMENTATION

1.0 PURPOSE AND SCOPE

These procedures apply to sample handling and documentation performed for removal actions for Operable Unit No. 1, Off-Facility Soils, of the VB/I70 Superfund Site. Methods for soil, replacement material and water sample handling and documentation are provided.

2.0 SAMPLE HANDLING PROCEDURES

Soil, replacement material and water samples will be collected during property removal action activities. Samples will be collected according to the procedures described in the respective sampling SOPs.

2.1 Sample Identification

Each sample will be assigned a unique sample identification number. Each identification number assigned to an environmental sample will identify the property from which the sample was collected (if applicable), the sample matrix, the date of sample collection and sample sequence or depth (if applicable). Sample identification numbers will have several components, as explained using the following example:

VB/I70B138L101DC031029-1

The first character string, VB/I70, represents the site name. This is followed by the letter "B" and the block number for the property (138) and then the letter "L" and the lot number for the property (101). [Note: the block and lot numbers will only be used for flowerbed and garden samples because the remaining samples are not tied to a specific property] The next letters, DC, indicate the sample type (G = garden, F= flowerbed, DC = disposal characteristics, RT = replacement topsoil/garden soil, RS = replacement subsoil, RR = replacement road base, RG = replacement gravel, and EB = equipment blank). Following the sample matrix letter will be the sample collection date (year, month, day).

Additional information pertaining to the sample sequence may follow the date. For example, a "-1" or "-2" would indicate the sample sequence. A description of any additional information included in the sample identification number will be documented in the field records.

QC samples will follow the same convention. For example, an equipment blank may be

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called VB/I70EB031029-1 to indicate it is the first (-1) equipment blank (EB).

2.2 Sample Containers and Preservation

Proper sample preparation practices will be observed to minimize sample contamination and avoid repeat analyses due to anomalous analytical results. Sample containers will either be commercially cleaned bottles or other appropriate sample containers provided by the analytical laboratory or, for soil samples, clean unused plastic bags. Bottles for samples that require preservation will either be pre-preserved by the laboratory or the preservative will be shipped separately for addition to the samples in the field. Sample preservation will be performed immediately upon collection to ensure that laboratory results are not compromised by improper preservation.

2.3 Sample Chain-of-Custody

After samples have been collected, they will be maintained under strict chain-of-custody procedures. The procedures described below will be used to document the transfer of custody of the environmental samples from the field to the designated analytical laboratory. The field sampling personnel will complete a Chain-of-Custody Record and Request for Analysis (CC/RA) form or similar form supplied by a laboratory for each shipping container (i.e., cooler or other container) of samples to be sent to each laboratory for analysis. The CC/RA for a shipping container will list only those samples in that shipping container. Information contained on the triplicate carbonless CC/RA form includes:

- Project identification;
- Date and time of sampling;
- Sample identification;
- Sample matrix type;
- Sample preservation methods (if any);
- Number and types of sample containers;
- Sample hazards (if any);
- Analysis type requested;
- Sample turn-around time;
- Method of shipment;
- Carrier/waybill number (if any);
- Signature of sampling personnel;
- Signature, name and company of person relinquishing and person receiving the samples when custody is being transferred;
- Date and time of sample custody transfer; and

- Condition of samples upon receipt by laboratory.

The sample collector will cross out any blank space on the CC/RA below the last sample number listed (on the part of the form where samples are listed). A sample label will be affixed to each sample container and filled out using indelible ink. Labels will be protected with a layer of clear tape. Each container will be carefully packaged in a shipping container (typically an ice chest) and shipped to the appropriate laboratory, as described below (Section 2.4).

The sampling personnel whose signature appears on the CC/RA is responsible for the custody of the sample from the time of sample collection until the custody of the sample is transferred to a designated laboratory, a courier, or to another employee for the purpose of transporting the sample to the designated laboratory. The sample is considered to be in custody when the sample is: (1) in the direct possession of the sample custodian; (2) in plain view of the sample custodian; or (3) is securely locked in a restricted access area by the sample custodian.

Custody is transferred when both parties to the transfer complete the portion of the CC/RA under "Relinquished by" and "Received by." Signatures, printed names, company names, date and time are required. Upon transfer of custody, the sampling personnel who relinquished the samples will retain the third sheet (pink copy) of the CC/RA. When the samples are shipped by a common carrier, a Bill of Lading supplied by the carrier will be used to document the sample custody, and its identification number will be entered on the CC/RA. Copies, receipts or carbons of Bills of Lading will be retained as part of the permanent documentation in the project file. It is not necessary for courier personnel to sign the CC/RA. When the samples are received by the laboratory, the CC/RA will be immediately signed along with the date and time of receipt. The top sheet (white copy) of the CC/RA (or a copy of it) will be returned with the final analytical report.

2.4 Sample Shipping

All samples collected for laboratory analysis will be labeled and placed in an insulated cooler or other appropriate shipping container. If necessary for sample preservation, bags of ice will be placed around the samples to maintain a temperature of approximately 4°C. The ice in the cooler will be double-bagged. The coolers will be filled with packing material such as vermiculite or styrofoam to prevent sample breakage during shipment. The chain-of-custody forms (Section 2.3) will be placed in a sealed plastic bag and taped to the inside top of the cooler. The cooler will be taped shut and chain-of-custody seals will be attached to the outside of the cooler to ensure that the cooler cannot be opened without breaking the seal. Samples will be delivered or shipped via express delivery to the appropriate laboratory.

3.0 FIELD DOCUMENTATION

Documentation of observations and data acquired in the field provide information on sample acquisition, field conditions at the time of sampling, and a permanent record of field activities. Field observations and data collected during routine testing, monitoring, and sampling activities will be recorded with waterproof ink in a permanently bound weatherproof field log book with consecutively numbered pages or on field data sheets.

Field notebook and data sheet entries will include the information listed below, at a minimum. Additional information to be documented may be specified in the SOPs related to each type of sample collection.

- Project name
- Date and time of entries
- Data (i.e. field XRF measurements, soil descriptions)
- Sample identification numbers
- Date and time samples collected
- Sample location/description
- Comments and variances from the Work Plan/QAP
- Signature of field representative

ATTACHMENT D
INDIVIDUAL PROPERTY COMPLETION REPORTS

(Previously Submitted Separately)

ATTACHMENT E
TWENTY DAY REPORT – VASQUEZ BOULEVARD/I-70 REMOVAL ACTION AIR MONITORING EVALUATION

TWENTY DAY REPORT

Vazquez Boulevard / I-70 Removal Action
Air Monitoring Evaluation
Denver, Colorado

November 25, 2003

Prepared For:

Project Resources, Inc.
6820 North Broadway
Denver, Colorado 80221

Prepared By:

IHI Environmental
640 East Wilmington Avenue
Salt Lake City, Utah 84106
Phone: (801) 466-2223
Fax: (801) 466-9616

TWENTY DAY REPORT

Vazquez Boulevard / I-70 Removal Action
Air Monitoring Evaluation
Denver, Colorado

November 25, 2003

Report Prepared By:

Chris Nolan
Senior Project Manager

Report Reviewed By:

Kent Wheeler
Manager, Environmental Services

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 Objective 1

2.0 METHODOLGY 2

2.1 Sample Collection and Analysis 2
2.2 Correlation Analysis 3
2.3 Quality Assurance/Quality Control 4

3.0 RESULTS 4

3.1 Lead, Arsenic, TSP 4
3.2 Correlation Analysis 6
3.3 Quality Assurance/Quality Control 7

4.0 DISCUSSION 8

4.1 Lead, Arsenic, and TSP 8
4.2 Correlation Analysis 8
4.3 Quality Assurance/Quality Control 8

5.0 CONCLUSIONS 8

6.0 LIMITATIONS AND EXCLUSION OF WARRANTY 9

TABLES
Table 1: Lead, Arsenic, TSP, and PDR Data
Table 2: Co-Located Sample Data

APPENDICES
Appendix 1: Laboratory Reports
Appendix 2: PDR Data
Appendix 3: Correlation Analysis
Appendix 4: Daily Field Notes

1.0 INTRODUCTION

In August 2003, Project Resources, Inc. (PRI) retained IHI Environmental (IHI) to provide air monitoring services during the Removal Action conducted in Operational Unit 1 (OU 1) of the Vasquez Boulevard / I-70 Superfund Site. The activities commenced on August 13, 2003, and are planned to continue through November, 2003.

The focus of the removal action is to remediate lead- and arsenic-impacted soils around residential housing at 142 locations. PRI was the contractor conducting the soil removal at the residences. Soil at each residence was excavated to a depth of 12 inches. Dust-control measures, primarily watering down the areas undergoing remediation with a hose, and pre-wetting fill before it was brought to the backfill site, were specified as part of the Dust Control Plan for the Removal Action.

The initial 20 days of air monitoring included collecting three samples from Airmetrics MiniVol sample pumps (MiniVol) and a MIE Personal DataRAM PDR-1000 (PDR), co-located at a single residential site each day during soil-remediation activities. One MiniVol collected particulate matter less than 10 microns (PM_{10}) in size, a second collected particulate matter less than 2.5 microns ($PM_{2.5}$) in size, and a third collected total suspended particulate (TSP). The sample collected for TSP was also analyzed for lead and arsenic.

The PDR is a direct-reading instrument that reads instantaneous TSP, a 15-minute average concentration, and records a time-weighted average (TWA) for the daily sampling period.

During the initial 20 days, the soil remediation occurring at additional residences was monitored using a single MiniVol and a PDR. The MiniVol sample was analyzed for TSP, lead, and arsenic.

1.1 Objective

The objective of the first 20 days of air monitoring was to ensure that dust suppression practices were sufficient to keep values of TSP, lead, and arsenic below the established project action levels. The objective of the collection of multiple side-by-side samples during

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the first 20 days of the project was to evaluate the data to develop a correlation between measured values of total suspended particulate (TSP) and particulate matter less than 10 microns (PM_{10}), and particulate matter less than 2.5 microns ($PM_{2.5}$). The correlation was developed to determine a site-specific Action Level for dust control purposes based on the National Ambient Air Quality Standards (NAAQS) for $PM_{2.5}$ and PM_{10}.

2.0 METHODOLGY

2.1 Sample Collection and Analysis

Total suspended particulate was measured two ways:

1. using MiniVols to collect particulate samples on pre-weighted filters, which were analyzed by gravimetric analysis; and

2. using PDR particle counter, which calculated a running 15-minute time weighted average (TWA).

During the initial 20 days of soil remediation, three MiniVols and a PDR were co-located at a pre-determined site along the predicted downwind property boundary. The MiniVol sample port and the PDR were placed approximately two meters from the ground on the downwind property perimeter. The MiniVols and PDR were started approximately one hour before activity began in the morning, ran throughout the day, and were turned off one hour after work had ceased for the day.

The samples collected for $PM_{2.5}$ and PM_{10} were collected following identical procedures as the TSP sample, with the exception that impactors were placed in the pre-separator/filter holder assembly. The impactors mechanically sort particulate matter to allow only the proper particle-size fraction through to the filter. MiniVol samples were collected on a 47 mm Teflon filter attached to the MiniVol sampling pump. The flow rate was set to approximately five liters per minute each morning, and the rate was measured and recorded at the end of each sampling event. The filters were handled following established Standard Operating Procedures (SOPs) to ensure no outside contaminants were introduced into the sample. The

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filters were analyzed by gravimetric analysis using Method IO-3.1. Filters that collected TSP were also analyzed for lead and arsenic by EPA Method 6010, at Chester LabNet, Tigard, Oregon.

All PDRs had been properly maintained and calibrated prior to use and each PDR was zeroed prior to operation. The PDR data was downloaded from the PDR at the end of each sampling event. The data was reviewed, compared to action levels, and submitted to PRI daily.

During the sampling event, each air monitoring location was visited three times daily by the air monitoring technician to ensure that the MiniVols and PDRs were working properly. The technician recorded the time, the current TWA as displayed on the PDR, wind direction, and corrections made in the positioning of the monitors in a bound logbook. Typically, the wind was stable at 0-2 MPH from the South, changing late in the day to a stronger wind from a northerly direction.

2.2 Correlation Analysis

The data from the co-located samplers was analyzed using a commercially available statistical evaluation program, JMP, written by SAS (Version 3.2.1, copyright 1997). A linear correlation between the TSP data and the PM_{10} and $PM_{2.5}$ data was developed, which had the following general relationship:

$$y = b + mx$$

Where:
- y = concentration of particulate matter (either PM_{10} or $PM_{2.5}$)
- b = Y intercept
- m = slope of the line
- x = particulate (TSP) concentration

After developing a best-fit line, a 95% confidence interval was developed around the estimate of the y-intercept and the slope of the line. The upper 95% confidence interval was used to back calculate the relationship between TSP data and the NAAQS for PM_{10} (150 ug/m^3) and $PM_{2.5}$ (65 ug/m^3).

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Since the TSP analysis is not real time and therefore cannot be used in the field to quickly monitor dust-control practices, a linear correlation (using the method above) was also made between the PDR time weighted average for the day, the PM_{10}, and the $PM_{2.5}$.

2.3 Quality Assurance/Quality Control

Quality control for the sampling program followed procedures described in the *Quality Assurance Project Plan for the Air Monitoring Activities at Vasquez Blvd./I-70 Removal Action* (QAPP)(IHI Environmental, 2003). Procedures included standardized sample collection and handling methods, documenting pertinent field information, equipment calibration, and maintaining chain-of-custody records. Chester LabNet followed standardized laboratory procedures and validated the data using their QA Management Plan as provided in the QAPP.

3.0 RESULTS

3.1 Lead, Arsenic, TSP

Table 1 summarizes the air monitoring data collected in the initial 20 days of soil remediation, with the exception of the $PM_{2.5}$ and PM_{10} results. Laboratory results are attached in Appendix 1. Copies of the PDR data are found in Appendix 2.

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Table 1
Lead, Arsenic, TSP and PDR Data

Site	Sample Date	As (ug/m^3)	Pb (ug/m^3)	TSP (ug/m^3)	PDR* (ug/m^3)
3515 Harrison (1697)	8/13/03	<0.32	0.251	101.00	20
3515 Harrison (1697)	8/14/03	<0.32	0.365	377.60	45
4935 Adams (3676)	8/14/03	<0.32	0.405	138.90	25
3609 High (429)	8/15/03	<0.097	<0.073	142.25	22
4935 Adams (3676)	8/15/03	<0.13	<0.098	302.40	34
3515 Harrison (1697)	8/15/03	<0.096	<0.072	651.78	219
3452 Josephine (1188)	8/16/03	<0.095	0.081	121.12	28
3609 High (429)	8/16/03	<0.101	0.107	134.12	37
3601 York (837)	8/18/03	<0.101	0.13	304.75	32
3521 Josephine (1236)	8/18/03	<0.1	0.088	117.79	25
3452 Josephine (1188)	8/18/03	<0.097	0.099	330.80	23
4712 Brighton (2370)	8/19/03	<0.104	0.218	146.01	32
3521 Josephine (1236)	8/19/03	<0.1	<0.075	111.49	31
3601 York (837)	8/19/03	<0.099	0.088	195.85	40
3724 York (1336)	8/20/03	<0.1	0.091	94.98	16
4712 Brighton Blvd. (2378)	8/20/03	<0.101	0.283	247.47	26
3447 St. Paul (1119)	8/20/03	<0.105	<0.079	46.14	24
3521 Josephine (1236)	8/20/03	<0.102	<0.077	158.35	33
4909 Milwaukee (3865)	8/21/03	<0.1	0.086	125.70	40
3724/3730 York (1336/2776)	8/21/03	<0.1	<0.075	110.49	34
3447 St. Paul (1119)	8/21/03	<0.108	<0.081	104.29	44
3447 St. Paul (1119)	8/22/03	<0.097	<0.073	97.52	16
4909 Milwaukee (3865)	8/22/03	<0.091	<0.068	128.32	17
3724/3730 York (1336/2776)	8/22/03	<0.099	0.105	129.32	37
3447 St. Paul (3302)	8/23/03	<0.158	<0.119	38.63	0
4909 Milwaukee (3865)	8/23/03	<0.151	<0.113	40.06	10
3724/3730 York (1336/2776)	8/23/03	<0.155	<0.117	134.47	23
4811 Clayton (3712)	8/25/03	<0.094	0.126	79.35	14
4909 Milwaukee (3865)	8/25/03	<0.095	0.123	93.77	24
3447 St. Paul (1119)	8/25/03	<0.098	<0.073	125.12	25
3724/3730 York (1336/2776)	8/25/03	<0.099	<0.074	184.06	47
4811 Clayton (3712)	8/26/03	<0.093	0.085	68.74	12
3447 St. Paul (1119)	8/26/03	<0.095	0.076	54.93	10
3724/3730 York (1336/2776)	8/26/03	<0.098	0.101	278.18	52
4860 Clayton (2157)	8/27/03	<0.097	<0.073	112.40	20
3536 Elizabeth (1265)	8/27/03	<0.097	<0.073	90.16	10
3536 Elizabeth (1265)	8/28/03	<0.140	<0.078	160.48	39
4860 Clayton (2157)	8/28/03	<0.104	0.099	205.87	48
4995 Steele (3821)	9/2/03	<0.137	0.166	84.58	12
3705 Madison (1831)	9/3/03	<0.101	0.107	229.53	47
4995 Steele (3821)	9/3/03	<0.096	0.117	240.77	42
4616 Race (3484)	9/4/03	<0.099	0.112	112.21	43
3401 Bruce Randolph Ave. (1571)	9/4/03	<0.098	0.077	81.65	14
3401 Bruce Randolph Ave (1571)	9/5/03	<0.098	0.155	172.06	21
4775 Race (3520)	9/5/03	<0.097	0.118	92.60	21
3786 Gilpin (3407)	9/6/03	<0.097	0.155	83.76	14
3401 Bruce Randolph Ave. (1571)	9/6/03	<0.101	0.096	356.49	48
4775 Race (3520)	9/6/03	<0.09	0.165	141.25	28
4775 Race (3520)	9/8/03	<0.095	0.135	94.90	11
3786 Gilpin (3407)	9/8/03	<0.094	0.139	327.56	35
4785 Claude (3581)	9/8/03	<0.094	0.146	132.16	25
Project Action Levels		2.8 ug/m^3	1.5 ug/m^3	150 ug/m^3	150 ug/m^3

* Time-Weighted Average TSP for the sampling period.

ED_002842_00002502-00067

3.2 Correlation Analysis

The data for the co-located samplers collected during the initial 20 days of monitoring are shown in Table 2. Correlation analysis is presented in Appendix 3. The field notes, including meteorological measurements are included in Appendix 4.

Table 2
Co-located Sample Data

Site	Sample Date	PM 2.5 (ug/m^3)	PM 10 (ug/m^3)	TSP (ug/m^3)	PDR* (ug/m^3)
3515 Harrison (1697)	8/13/03	22.44	48.39	101.00	20
4935 Adams (3676)	8/14/03	26.07	52.20	138.90	25
3609 High (429)	8/15/03	23.10	52.52	142.25	22
3452 Josephine (1188)	8/16/03	35.38	59.64	121.12	28
3601 York (837)	8/18/03	26.83	64.23	304.75	32
4712 Brighton (2370)	8/19/03	26.61	51.85	146.01	32
3724 York (1336)	8/20/03	31.01	42.43	94.98	16
4909 Milwaukee (3865)	8/21/03	29.55	69.21	125.70	40
3447 St. Paul (1119)	8/22/03	20.67	38.16	97.52	16
3447 St. Paul (3302)	8/23/03	10.90	19.24	38.63	0
4811 Clayton (3712)	8/25/03	11.58	26.16	79.35	14
4811 Clayton (3712)	8/26/03	17.95	32.56	68.74	12
4860 Clayton (2157)	8/27/03	13.04	33.87	112.40	20
3536 Elizabeth (1265)	8/28/03	27.19	46.07	160.48	39
4995 Steele (3821)	9/2/03	23.55	41.29	84.58	12
3705 Madison (1831)	9/3/03	39.64	87.75	229.53	47
4616 Race (3484)	9/4/03	17.26	39.14	112.21	43
3401 Bruce Randolf Ave (1571)	9/5/03	29.47	59.52	172.06	21
3786 Gilpin (3407)	9/6/03	13.53	26.01	83.76	14
4785 Claude (3581)	9/8/03	16.12	44.95	132.16	25

* Time-Weighted Average TSP for the sampling period.

The data in Table 2 was used to generate linear correlations between PM_{10} and $PM_{2.5}$ and TSP to allow for estimation of PM_{10} and $PM_{2.5}$ levels based on TSP concentrations. Details of the linear correlation are presented in Appendix 3.

The equation describing the line for PM_{10} versus TSP has an R-squared of 0.58.

Back calculating a PM_{10} Action Level for TSP using the National Ambient Air Quality Standard for PM_{10} of 150 ug/m^3 results in a value of 393 ug/m^3.

The equation describing the line for $PM_{2.5}$ versus TSP has an R-squared of 0.33.

Back calculating a $PM_{2.5}$ Action Level for the PDR using the NAAQS for $PM_{2.5}$ of 65 ug/m^3 results in a value of 340 ug/m^3.

ED_002842_00002502-00068

To provide useful field information, the PDR data also were regressed against the PM_{10} and $PM_{2.5}$ data. Appendix 3 provided the results of the analysis.

The equation describing the line for PM_{10} versus the PDR data has an R-squared of 0.56. Back calculating a PM_{10} Action Level for the PDR using the NAAQS for PM_{10} of 150 ug/m^3 results in a value of 79 ug/m^3.

The equation describing the line for $PM_{2.5}$ versus the PDR data has an R-squared of 0.35. Back calculating a $PM_{2.5}$ Action Level for the PDR using the NAAQS for $PM_{2.5}$ of 65 ug/m^3 results in a value of 67 ug/m^3.

3.3 Quality Assurance/Quality Control

A review of the sampling program indicated that there were no sampling problems. Field notes were intact and complete; samples were in acceptable condition when received by the laboratory, there were no chain-of-custody discrepancies, with the exception of the samples collected on August 19, 2003, where the site ID was listed on the chain-of-custody form rather than the field sample ID. This discrepancy applies to field samples VBI70-081903-T8227, VBI70-081903-T8228, VBI70-081903-T8229, VBI70-081903-T8230, and VBI70-081903-T8231. This situation was discussed with the laboratory to make the laboratory aware of our identification system, and no additional problems were encountered.

During the first 20 days of sampling, 2 field blanks were collected and submitted for lead and arsenic analysis. The field equipment blanks (VBI70-081403-T8212 and VBI70-090803-T8161) results indicted that there were no problems with filter-handling procedures.

The samples were analyzed in eight batches. The complete laboratory reports, including case narrative, case narrative summary, analytical results, QA/QC Report, and chain-of-custody documentation are attached in Appendix 1. The data met all of the requirements of the QAPP (IHI, 2003). Because the laboratory QA criteria met all of the required specifications, no corrective actions were required. The data was judged to be valid and acceptable for its intended use.

ED_002842_00002502-00069

4.0 DISCUSSION

4.1 Lead, Arsenic, and TSP

The results of the lead and arsenic sampling indicate that little airborne lead or arsenic is being generated during soil-remediation activities. No exceedances of the action levels for lead or arsenic have occurred during the initial 20-day sampling period. TSP levels ranged from 39 ug/m^3 to 652 ug/m^3, and the TWA measured on the PDRs ranged from 11 ug/m^3 to 219 ug/m^3.

4.2 Correlation Analysis

While higher R squared values would be desirable (so that the models would more fully explain the data), the t-tests on the parameters indicate that the proper model is a line with a positive slope. The R-squared values are similar when comparing the TSP and PDR data versus the PM_{10} and $PM_{2.5}$.

4.3 Quality Assurance/Quality Control

A review of the QA/QC results indicated that the data can be used without qualification.

5.0 CONCLUSIONS

The t-tests on the parameters indicate the linear regression of the TSP and the PDR data against the PM10 and PM2.5 is valid. Based on the data from the first 20 days of monitoring, IHI believes that the dust from the site is not exceeding the action levels based on the NAAQS for PM_{10}, $PM_{2.5}$, lead, or arsenic. A linear regression of the PDR data with PM_{10} and $PM_{2.5}$ analysis suggests that the PDRs can be used to show compliance with the action levels.

ED_002842_00002502-00070

6.0 LIMITATIONS AND EXCLUSION OF WARRANTY

This Project was performed using, as a minimum, practices consistent with standards acceptable within the industry at this time, and a level of diligence typically exercised by environmental consultants performing similar services.

The techniques used in this Project were based on the Scope of Work as presented to, or discussed with, the client; these techniques may have been altered in the field as a result of actual site conditions. The procedures used attempt to establish a balance between the competing goals of limiting investigative and reporting costs and time, and reducing the uncertainty about unknown conditions. Therefore, because the conditions of this report were derived from the scope, costs, time and other limitations, the conclusions should not be construed as a guarantee that all environmental liabilities have been identified and fully evaluated.

This Report presents IHI's professional opinion and judgement, which are dependent upon information obtained during the performance of consulting services. It should be noted that no investigation can be thorough enough to exclude the possible presence of potential liabilities at a site. In cases where contaminants have not been discovered through exploration, this should not be construed as a guarantee that contaminants do not exist. At a given site, environmental conditions may exist that cannot be identified by visual observation or through the analytical methods used. Where sample collection and testing have been performed, IHI's professional opinions are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at unsampled locations. IHI assumes no responsibility for omissions or errors resulting from inaccurate information, or data, provided by sources outside of IHI or from omissions or errors in public records.

No warranty or guarantee, expressed or implied, is made regarding the findings, conclusions or recommendations contained in this report. The limitations presented above supersede the requirements or provisions of all other contracts or scopes of work, implied or otherwise, except those stated or acknowledged herein.

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APPENDIX 1

Laboratory Reports

IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 03-220

SUBMITTED BY:
CHESTER LABNET
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: August 18, 2003

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	03-220
Sample Description:	47mm Teflon Filters
Sample Numbers:	03-T8203 through 03-T8212

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul Duda 8/18/03

Project Manager Date
Paul Duda

CASE NARRATIVE SUMMARY

LABORATORY: Chester LabNet
PROJECT #: I005

REPORT # 03-220

I SAMPLE RECEIPT

A DATE 8.14.03 8-15-03
B NO. OF SAMPLES 10
C SAMPLE TYPE 47mm Teflon
D ANALYSIS REQUESTED Gravimetry & As, Pb by ICP
E SHIPPING PROBLEMS/CORRECTIVE ACTIONS none/none
F DOCUMENTATION PROBLEMS/CORRECTIVE ACTIONS none/none

II SAMPLE PREPARATION

A DIGESTION PROBLEMS/CORRECTIVE ACTIONS none/none
B DEVIATIONS FROM SOP(S) none

III SAMPLE ANALYSIS

A INSTRUMENT PROBLEMS/CORRECTIVE ACTIONS none/none
B ICV RECOVERIES/FLAGGING within control/none
C ICB RESULTS/FLAGGING within control/none
D METHOD BLANK RESULTS/FLAGGING within control/none
E LCS RECOVERIES/FLAGGING within control/none
F POST DIGESTION SPIKE RECOVERIES/FLAGGING within control/none

IV OTHER PROBLEMS/COMMENTS

SH 8.19.03
~~none~~
Analyst performed post spike with calibration standard. In the future, analyst will spike with different lot than that used for calibration.

Sheri Hildstrub 8-19-03
Laboratory Director Date

08/03

Client: I005 - IHI Environmental
Report Number: 03-220

Lab ID: 03-T8203
Client ID: UBI70-081303-T8203
Sample Date: 8/13/03
Mass: 74. +- 10. µg
Volume: 3.028 +- 0.303 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 24.44 +- 4.11 µg/m³

3515 Harrison (1697)

Lab ID: 03-T8204
Client ID: UBI70-081303-T8204
Sample Date: 8/13/03
Mass: 147. +- 10. µg
Volume: 3.038 +- 0.304 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 48.39 +- 5.85 µg/m³

3515 Harrison (1697)

Lab ID: 03-T8205
Client ID: UBI-70-081303-T8205
Sample Date: 8/13/03
Mass: 307. +- 10. µg
Volume: 3.039 +- 0.304 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 101.0 +- 10.63 µg/m³

3515 Harrison 1697

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.104	< MDL	0.1053
Pb	0.251	0.240	0.082	0.078	0.082	0.079

Lab ID: 03-T8206
Client ID: UBI70-081303-T8206
Sample Date: 8/13/03
Mass: 223. +- 10. µg
Volume: 2.914 +- 0.291 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 76.53 +- 8.38 µg/m³

Background

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.143	< MDL	0.1098
Pb	< MDL	0.240	< MDL	0.108	< MDL	0.0824

Client: I005 - IHI Environmental
Report Number: 03-220

Lab ID: 03-T8207
Client ID: UBI70-081403-T8207
Sample Date: 8/14/03
Mass: 85. +- 10. µg
Volume: 3.260 +- 0.326 m³
Size Fraction: PM2.5
Suspended Particulates: 26.07 +- 4.03 µg/m³

4935 Adams (3676)

Lab ID: 03-T8208
Client ID: UBI70-081403-T8208
Sample Date: 8/14/03
Mass: 171. +- 10. µg
Volume: 3.276 +- 0.328 m³
Size Fraction: PM10
Suspended Particulates: 52.20 +- 6.05 µg/m³

4935 Adams (3676)

Lab ID: 03-T8209
Client ID: UBI70-081403-T8209
Sample Date: 8/14/03
Mass: 455. +- 10. µg
Volume: 3.275 +- 0.328 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 138.9 +- 14.25 µg/m³

4935 Adams (3676)

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.070	< MDL	0.0977
Pb	0.405	0.240	0.089	0.053	0.124	0.073

Lab ID: 03-T8210
Client ID: UBI-081403-T8210
Sample Date: 8/14/03
Mass: 237. +- 10. µg
Volume: 3.138 +- 0.314 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 75.53 +- 8.20 µg/m³

Background

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.135	< MDL	0.1020
Pb	< MDL	0.240	< MDL	0.101	< MDL	0.0765

Client: I005 - IHI Environmental
Report Number: 03-220

Lab ID: 03-T8211
Client ID: UBI70-081403-T8211
Sample Date: 8/14/03
Mass: 1168. +- 10. µg
Volume: 3.093 +- 0.309 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 377.6 +- 37.86 µg/m³

3515 Harrison (1697)

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.027	< MDL	0.1035
Pb	0.365	0.240	0.031	0.021	0.118	0.078

Lab ID: 03-T8212
Client ID: UBI70-081403-T8212
Sample Date: 8/14/03
Mass: 7. +- 10. µg
Deposit Area: 11.3 cm²
Size Fraction: TSP

10 East 55th Ave
Blank

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL
ICP				
As	< MDL	0.320	< MDL	4.57
Pb	0.258	0.240	3.69	3.43

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-220

==========

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	6.00
Pb	Prep_Blk	< MDL	6.00
Pb	Meth_Blk	< MDL	6.00
Pb	CCB	< MDL	6.00
Pb	CCB	< MDL	6.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	1040	104.1
As	CCV	1000	1040	103.6
As	CCV	1000	1030	103.1
Pb	ICV	1000	1020	101.7
Pb	CCV	1000	1000	100.2
Pb	CCV	1000	1010	100.9

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	03-T8205	< 8	< 8	N/C #
Pb	03-T8205	6.26	< 6	N/C #

RPD = {(sample-replicate)/[(sample+replicate)/2]}x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	971.	1000	97.1
As	03-T8206	< 8	3910	4000	97.8
Pb	LCS	< 6	964.	1000	96.4
Pb	03-T8206	< 6	3910	4000	97.8

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-220

Serial Dilution Data

Analyte	Sample ID	Sample Conc. µg/L	Ser. Dil. Conc. µg/L	RPD
As	03-T8209	< MDL	< MDL	N/C
Pb	03-T8209	10.13	33.62	107.4 #

RPD = {(sample-duplicate)/[(sample + duplicate)/2]}x100
N/C: RPD is not calculated when sample or serial dilution is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample concentration is less than 10x the detection limit

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

CHAIN OF CUSTODY RECORD

PROJECT NO: 03E-7080

PROJECT NAME: UBI70

SAMPLERS (Signature): [signature] / Robert Burton

(Printed): CHRIS NOLAN / ROB BURTON

BILLING ADDRESS: INI ENV. 640 E. WILMINGTON AVE SALT LAKE CITY, UT 84106

REPORT MAILING ADDRESS: CHRIS NOLAN INI ENV. 640 E. WILMINGTON AVE SALT LAKE CITY, UT 84105

Turn Around Time (circle one): 24 hr 48 hr 3 day 5 day S 6 DAY

QC Level: _____

Analyses

Field Sample ID	Log Book	Date	Time (IN MINUTES)	~~Comp~~	~~Grab~~	No. of Containers	Sample Matrix			PM 2.5	PM 10	TSP	Pb BY 6010B	As BY 6010B				Remarks
UBI70-081303-T8203		8/13/03	654	4.63			47mm Filter			X								3515 HARRISON 1697
UBI70-081303-T8204		8/13/03	652	4.66							X							3515 HARRISON 1697
UBI70-081303-T8205		8/13/03	648	4.69								X	X	X				3515 HARRISON 1697
UBI70-081303-T8206		8/13/03	632	4.61								X	X	X				BACKGROUND
																		VIA FEDEX 842279310739

TIME IN MINUTES

FLOW RATE l/m

Relinquished by: (Signature)	Date	Received by: (Signature)	Date	Relinquished by: (Signature)	Date	Received by Laboratory: (Signature)	Date
[signature]	8/13/03	[signature]	8-14-03				
(Printed) CHRISTOPHER NOLAN	Time 1910	(Printed) LISA BALL	Time 1	(Printed)	Time	(Printed)	Time

IHI ENVIRONMENTAL

Corporate Headquarters
640 E. Wilmington Avenue
Salt Lake City, UT 84106
ph: 801-466-2223
fax: 801-466-9616

California Office
1260 45th St., Suite L
Emeryville, CA 94608
ph: 510-923-1661
fax: 510-923-1468

Arizona Office
4527 N. 16th St., Suite 105
Phoenix, AZ 85016
ph: 602-776-0300
fax: 602-776-0301

Colorado Office
3000 Youngfield St., Suite 285
Lakewood, CO 80215
ph: 303-980-8749
fax: 303-989-2716

White - lab; Yellow - File

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT NO: 03E-7080

PROJECT NAME: VBI70

SAMPLERS (Signature): [signature]

(Printed): CHRIS NOLAN / ROB BURTON

BILLING ADDRESS: IHI ENVIRONMENTAL, 640 E. WILMINGTON AVE, SALT LAKE CITY, UT 84106

REPORT MAILING ADDRESS: ATTN CHRIS NOLAN

Turn Around Time (circle one): 24 hr 48 hr 3 day 5 day S

QC Level: _____

Field Sample ID	Log Book	Date	~~Time~~ CN	~~Comp~~	~~Grab~~	No. of Containers	Sample Matrix	PM 2.5	PM 10	TSP	Pb BY 6010B	As	Remarks
VBI70-081403-T8207		8/14/03	654	3260		1	47mm FILTER	X					4935 ADAMS - 3676
VBI70-081403-T8208		8/14/03	655	3276		1			X				4935 ADAMS - 3676
VBI70-081403-T8209		8/14/03	657	3275		1				X	X	X	4935 ADAMS - 3676
VBI70-081403-T8210		8/14/03	618	3138		1				X	X	X	BKG POLICE STATION
VBI70-081403-T8211		8/14/03	615	3093		1				X	X	X	3515 HARRISON 1697
VBI70-081403-T8212		8/14/03	NA	NA		1				X	X	X	10 E. 55TH AVE (FIELD BLANK
			↑ TIME IN MINUTES	↑ FLOW IN ~~RATE~~ CN ~~R/~~ CN	TOTAL LITRES								SENT VIA FEDEX
													# 842279310717

Relinquished by: (Signature)	Date	Received by: (Signature)	Date	Relinquished by: (Signature)	Date	Received by Laboratory: (Signature)	Date
[signature]	8/14/03	[signature]	8-15-03				
(Printed) CHRISTOPHER NOLAN	Time 1925	(Printed) LISA BALL	Time 10:00	(Printed)	Time	(Printed)	Time

IHI ENVIRONMENTAL

Corporate Headquarters
640 E. Wilmington Avenue
Salt Lake City, UT 84106
ph: 801-466-2223
fax: 801-466-9616

California Office
1260 45th St., Suite L
Emeryville, CA 94608
ph: 510-923-1661
fax: 510-923-1468

Arizona Office
4527 N. 16th St., Suite 105
Phoenix, AZ 85016
ph: 602-776-0300
fax: 602-776-0301

Colorado Office
3000 Youngfield St., Suite 285
Lakewood, CO 80215
ph: 303-980-8749
fax: 303-989-2716

White - lab; Yellow - File

RAW DATA

Available upon request

IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 03-224

SUBMITTED BY:
CHESTER LABNET
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: August 25, 2003

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	03-224
Sample Description:	47mm Teflon Filters
Sample Numbers:	03-T8213 through 03-T8231

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul Duda 8/25/03

Project Manager Date
Paul Duda

CASE NARRATIVE SUMMARY

LABORATORY: Chester LabNet
PROJECT #: 1005

REPORT # 03-224

I SAMPLE RECEIPT

A DATE 8-18-03, 8-19-03
B NO. OF SAMPLES 14
C SAMPLE TYPE 47mm Teflon
D ANALYSIS REQUESTED ~~Gravimetry~~ As, Pb by ICP

E SHIPPING PROBLEMS/CORRECTIVE ACTIONS none / none

F DOCUMENTATION PROBLEMS/CORRECTIVE ACTIONS none / none

II SAMPLE PREPARATION

A DIGESTION PROBLEMS/CORRECTIVE ACTIONS none / none

B DEVIATIONS FROM SOP(S) none

III SAMPLE ANALYSIS

A INSTRUMENT PROBLEMS/CORRECTIVE ACTIONS none / none

B ICV RECOVERIES/FLAGGING within control / none

C ICB RESULTS/FLAGGING within control / none

D METHOD BLANK RESULTS/FLAGGING within control / none

E LCS RECOVERIES/FLAGGING within control / none

F POST DIGESTION SPIKE RECOVERIES/FLAGGING within control / none

IV OTHER PROBLEMS/COMMENTS

none

[signature] 8-21-03
Laboratory Director Date

08/03

CASE NARRATIVE SUMMARY

LABORATORY: Chester LabNet
PROJECT #: I005

REPORT # 03-224

I SAMPLE RECEIPT

A DATE 8-20-03
B NO. OF SAMPLES 5
C SAMPLE TYPE 47mm Teflon
D ANALYSIS REQUESTED gravimetry & As, Pb by ICP
E SHIPPING PROBLEMS/CORRECTIVE ACTIONS none/none

F DOCUMENTATION PROBLEMS/CORRECTIVE ACTIONS none/none

II SAMPLE PREPARATION

A DIGESTION PROBLEMS/CORRECTIVE ACTIONS none/none

B DEVIATIONS FROM SOP(S) none

III SAMPLE ANALYSIS

A INSTRUMENT PROBLEMS/CORRECTIVE ACTIONS none/none

B ICV RECOVERIES/FLAGGING within control/none

C ICB RESULTS/FLAGGING within control/none

D METHOD BLANK RESULTS/FLAGGING within control/none

E LCS RECOVERIES/FLAGGING within control/none

F POST DIGESTION SPIKE RECOVERIES/FLAGGING within control/none

IV OTHER PROBLEMS/COMMENTS

none

Laboratory Director 8-22-03 Date

08/03

Client: I005 - IHI Environmental
Report Number: 03-224

Lab ID: 03-T8213
Client ID: VBI70-081403-T8213
Sample Date: 8/15/03
Mass: 76. +- 10. µg
Volume: 3.290 +- 0.329 m³
Size Fraction: PM2.5
Suspended Particulates: 23.10 +- 3.82 µg/m³
Comments: 3609 High (429)

Lab ID: 03-T8214
Client ID: VBI70-081403-T8214
Sample Date: 8/15/03
Mass: 175. +- 10. µg
Volume: 3.332 +- 0.333 m³
Size Fraction: PM10
Suspended Particulates: 52.52 +- 6.05 µg/m³
Comments: 3609 High (429)

Lab ID: 03-T8215
Client ID: VBI70-081403-T8215
Sample Date: 8/15/03
Mass: 468. +- 10. µg
Volume: 3.290 +- 0.329 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 142.2 +- 14.55 µg/m³
Comments: 3609 High (429)

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.068	< MDL	0.0973
Pb	< MDL	0.240	< MDL	0.051	< MDL	0.0729

Lab ID: 03-T8216
Client ID: VBI70-081403
Sample Date: 8/15/03
Mass: 743. +- 10. µg
Volume: 2.457 +- 0.246 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 302.4 +- 30.55 µg/m³
Comments: 4935 Adams (3676)

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.043	< MDL	0.1302
Pb	< MDL	0.240	< MDL	0.032	< MDL	0.0977

Client: I005 - IHI Environmental
Report Number: 03-224

Lab ID: 03-T8217
Client ID: VBI70-081403-T8217
Sample Date: 8/15/03
Mass: 2175. +- 10. µg
Volume: 3.337 +- 0.334 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 651.8 +- 65.31 µg/m³
Comments: 3515 Harrison (1697)

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.015	< MDL	0.0959
Pb	< MDL	0.240	< MDL	0.011	< MDL	0.0719

Lab ID: 03-T8218
Client ID: VBI70-081603-T8218
Sample Date: 8/16/03
Mass: 95. +- 10. µg
Volume: 2.685 +- 0.268 m³
Size Fraction: PM2.5
Suspended Particulates: 35.38 +- 5.13 µg/m³
Comments: 3452 Josephine (1188)

Lab ID: 03-T8219
Client ID: VBI70-081603-T8219
Sample Date: 8/16/03
Mass: 201. +- 10. µg
Volume: 3.370 +- 0.337 m³
Size Fraction: PM10
Suspended Particulates: 59.64 +- 6.66 µg/m³
Comments: 3452 Josephine (1188)

Lab ID: 03-T8220
Client ID: VBI70-081603-T8220
Sample Date: 8/16/03
Mass: 410. +- 10. µg
Volume: 3.385 +- 0.338 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 121.1 +- 12.45 µg/m³
Comments: 3452 Josephine (1188)

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.078	< MDL	0.0945
Pb	0.274	0.240	0.067	0.059	0.081	0.071

Client: I005 - IHI Environmental
Report Number: 03-224

Lab ID: 03-T8221
Client ID: VBI70-081603-T8221
Sample Date: 8/16/03
Mass: 423. +- 10. µg
Volume: 3.154 +- 0.315 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 134.1 +- 13.76 µg/m³
Comments: 3609 High (429)

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.076	< MDL	0.1015
Pb	0.337	0.240	0.080	0.057	0.107	0.076

Lab ID: 03-T8222
Client ID: VBI70-081803-T8222
Sample Date: 8/18/03
Mass: 83. +- 10. µg
Volume: 3.094 +- 0.309 m³
Size Fraction: PM2.5
Suspended Particulates: 26.83 +- 4.20 µg/m³
Comments: 3601 York (837)

Lab ID: 03-T8223
Client ID: VBI70-081803-T8223
Sample Date: 8/18/03
Mass: 202. +- 10. µg
Volume: 3.145 +- 0.314 m³
Size Fraction: PM10
Suspended Particulates: 64.23 +- 7.16 µg/m³
Comments: 3601 York (837)

Lab ID: 03-T8224
Client ID: VBI70-081803-T8224
Sample Date: 8/18/03
Mass: 963. +- 10. µg
Volume: 3.160 +- 0.316 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 304.7 +- 30.64 µg/m³
Comments: 3601 York (837)

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.033	< MDL	0.1013
Pb	0.410	0.240	0.043	0.025	0.130	0.076

Client: I005 - IHI Environmental
Report Number: 03-224

Lab ID: 03-T8225
Client ID: VBI70-081803-T8225
Sample Date: 8/18/03
Filter Lot #: 32061
Mass: 378. +- 10. µg
Volume: 3.209 +- 0.321 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 117.8 +- 12.19 µg/m³
Comments: 3521 Josephine (1236)

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.085	< MDL	0.0997
Pb	0.282	0.240	0.075	0.063	0.088	0.075

Lab ID: 03-T8226
Client ID: VBI70-081803-T8226
Sample Date: 8/18/03
Filter Lot #: 32061
Mass: 1089. +- 10. µg
Volume: 3.292 +- 0.329 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 330.8 +- 33.20 µg/m³
Comments: 3452 Josephine (1188)

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.029	< MDL	0.0972
Pb	0.327	0.240	0.030	0.022	0.099	0.073

Client: I005 - IHI Environmental
Report Number: 03-224

Lab ID: 03-T8227
Client ID: 4712 Brighton
Site: 2370
Sample Date: 8/19/03
Filter Lot #: 32061
Mass: 82. +- 10. µg
Volume: 3.082 +- 0.308 m³
Size Fraction: PM2.5
Suspended Particulates: 26.61 +- 4.19 µg/m³

Lab ID: 03-T8228
Client ID: 4712 Brighton
Site: 2370
Sample Date: 8/19/03
Filter Lot #: 32061
Mass: 160. +- 10. µg
Volume: 3.086 +- 0.309 m³
Size Fraction: PM10
Suspended Particulates: 51.85 +- 6.12 µg/m³

Lab ID: 03-T8229
Client ID: 4712 Brighton
Site: 2370
Sample Date: 8/19/03
Filter Lot #: 32061
Mass: 450. +- 10. µg
Volume: 3.082 +- 0.308 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 146.0 +- 14.95 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.071	< MDL	0.1038
Pb	0.672	0.240	0.149	0.053	0.218	0.078

Lab ID: 03-T8230
Client ID: 3512 Josephine
Site: 1236
Sample Date: 8/19/03
Filter Lot #: 32061
Mass: 357. +- 10. µg
Volume: 3.202 +- 0.320 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 111.5 +- 11.57 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.090	< MDL	0.0999
Pb	< MDL	0.240	< MDL	0.067	< MDL	0.0750

Client: I005 - IHI Environmental
Report Number: 03-224

Lab ID: 03-T8231
Client ID: 3601 York
Site: 837
Sample Date: 8/19/03
Filter Lot #: 32061
Mass: 633. +- 10. µg
Volume: 3.232 +- 0.323 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended
Particulates: 195.9 +- 19.82 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.051	< MDL	0.0990
Pb	0.283	0.240	0.045	0.038	0.088	0.074

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-224

==========

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
As	ICB	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	6.00
Pb	Prep_Blk	< MDL	6.00
Pb	Meth_Blk	< MDL	6.00
Pb	CCB	< MDL	6.00
Pb	ICB	< MDL	6.00
Pb	CCB	< MDL	6.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	1040	104.4
As	CCV	1000	1040	104.2
As	ICV	1000	1050	104.8
As	CCV	1000	1020	102.1
Pb	ICV	1000	1010	101.1
Pb	CCV	1000	997.	99.7
Pb	ICV	1000	1020	101.9
Pb	CCV	1000	992.	99.2

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	03-T8215	< 8	< 8	N/C #
Pb	03-T8215	< 6	< 6	N/C #

RPD = {(sample-replicate)/[(sample+replicate)/2]}x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-224

==========

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	968.	1000	96.8
As	03-T8216	< 8	193.	200.	96.4
Pb	LCS	< 6	961.	1000	96.1
Pb	03-T8216	< 6	195.	200.	97.6

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-224

Serial Dilution Data

Analyte	Sample ID	Sample Conc. µg/L	Ser. Dil. Conc. µg/L	RPD
As	03-T8217	< DL	< DL	N/C #
Pb	03-T8217	< DL	< DL	N/C #

RPD = {(sample-duplicate)/[(sample + duplicate)/2]}x100
N/C: RPD is not calculated when sample or serial dilution is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample concentration is less than 10x the detection limit

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-224

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	6.00
Pb	Prep_Blk	< MDL	6.00
Pb	Meth_Blk	< MDL	6.00
Pb	CCB	< MDL	6.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	1020	101.8
As	CCV	1000	998.	99.8
Pb	ICV	1000	988.	98.8
Pb	CCV	1000	979.	97.9

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	03-T8229	< 8	< 8	N/C #
Pb	03-T8229	16.8	16.5	2.10 #

RPD = {(sample-replicate)/[(sample+replicate)/2]}x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	978.	1000	97.8
As	03-T8230	< 8	191.	200.	95.4
Pb	LCS	< 6	984.	1000	98.4
Pb	03-T8230	< 6	196.	200.	97.8

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-224

Serial Dilution Data

Analyte	Sample ID	Sample Conc. µg/L	Ser. Dil. Conc. µg/L	RPD
As	03-T8231	< DL	< DL	N/C #
Pb	03-T8231	7.075	< DL	N/C #

RPD = {(sample-duplicate)/[(sample + duplicate)/2]}x100
N/C: RPD is not calculated when sample or serial dilution is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample concentration is less than 10x the detection limit

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NO: 03E-7080

PROJECT NAME: VB I70

SAMPLERS (Signature): Robert S. Burton

(Printed): Rob Burton

BILLING ADDRESS: IHI Environmental, 640 E. Wilmington, Salt Lake City, UT 84106

REPORT MAILING ADDRESS: ATTN: C. Nolan

Turn Around Time (circle one): 24 hr 48 hr 3 day 5 day S

QC Level: _____

Analyses

Field Sample ID	Log Book	Date	Time	PB Comp	Grab	No. of Containers	Sample Matrix	PM 2.5	PM 10	TSP	Pb by 6010B	As by 6010B				Remarks
VBI70-081403-T8Z13		8/15/03	666	3290		1	47mm filter	X								3609 High (429)
VBI70-081403-T8Z14			666	3332		1			X							3609 High (429)
VBI70-081403-T8Z15			666	3290		1				X	X	X				3609 High (429)
VBI70-081403-T8Z16			661	2457		1				X	X	X				4935 Adams (3676)
VBI70-081403-T8Z17			492	3337		1				X	X	X				3515 Harrison (1697)
																Sent via FedEx
																#842279310706

time (mins)

total flow (ft³)

Relinquished by: (Signature)	Date	Received by: (Signature)	Date	Relinquished by: (Signature)	Date	Received by Laboratory: (Signature)	Date
Robert S. Burton	8/15/03	Lisa Ball	8-18-03				
(Printed) Rob Burton	Time	(Printed) Lisa Ball	Time 1010	(Printed)	Time	(Printed)	Time

IHI ENVIRONMENTAL

Corporate Headquarters
640 E. Wilmington Avenue
Salt Lake City, UT 84106
ph: 801-466-2223
fax: 801-466-9616

California Office
1260 45th St., Suite L
Emeryville, CA 94608
ph: 510-923-1661
fax: 510-923-1468

Arizona Office
4527 N. 16th St., Suite 105
Phoenix, AZ 85016
ph: 602-776-0300
fax: 602-776-0301

Colorado Office
3000 Youngfield St., Suite 285
Lakewood, CO 80215
ph: 303-980-8749
fax: 303-989-2716

White - lab; Yellow - File

CHAIN OF CUSTODY RECORD

PROJECT NO: 03E-7080

PROJECT NAME: VBI70 Superfund

SAMPLERS (Signature): Robert S Burton

(Printed): Rob Burton

Turn Around Time (circle one): 24 hr 48 hr 3 day 5 day S

QC Level: _____

BILLING ADDRESS:
IHI Environmental
640 E. Wilmington
SLC, UT 84106

REPORT MAILING ADDRESS:
ATTN: C. Nolan

Field Sample ID	Log Book	Date	Time (mins)	Comp (total flow (liters))	Grab	No. of Containers	Sample Matrix	PM 2.5	PM 10	TSP	Pb by 6010B	As by 6010B					Remarks
~~03-T8218~~ RB VBI70-081603-T8218		8-16-03	532	2685		1	47mm filter	X									3452 Josephine (1188)
VBI70-081603-T8219		↓	658	3370		1	↓		X								↓
VBI70-081603-T8220		↓	658	3385		1	↓			X	X	X					↓
VBI70-081603-T8221		↓	640	3154		1	↓			X	X	X					3609 High (429)
VBI70-081803-T8222		8-18-03	644	3094		1	↓	X									3601 York (837)
VBI70-081803-T8223		↓	641	3145		1	↓		X								↓
VBI70-081803-T8224		↓	635	3160		1	↓			X	X	X					↓
VBI70-081803-T8225		↓	654	3209		1	↓			X	X	X					3521 Josephine (1236)
VBI70-081803-T8226		↓	671	3292		1	↓			X	X	X					3452 Josephine (1188)
																	Fed Ex # 842279310680

Relinquished by: (Signature)	Date	Received by: (Signature)	Date	Relinquished by: (Signature)	Date	Received by Laboratory: (Signature)	Date
Robert S. Burton	8/18/03	Paul Duda	8/19/03				
(Printed)	Time	(Printed)	Time	(Printed)	Time	(Printed)	Time
Rob Burton		Paul Duda	9:55				

IHI ENVIRONMENTAL

Corporate Headquarters
640 E. Wilmington Avenue
Salt Lake City, UT 84106
ph: 801-466-2223
fax: 801-466-9616

California Office
1260 45th St., Suite L
Emeryville, CA 94608
ph: 510-923-1661
fax: 510-923-1466

Arizona Office
4527 N. 16th St., Suite 105
Phoenix, AZ 85016
ph: 602-776-0300
fax: 602-776-0301

Colorado Office
3000 Youngfield St., Suite 285
Lakewood, CO 80215
ph: 303-980-8749
fax: 303-989-2716

White - lab; Yellow - File

Company Name: IHI Environmental		
Contact: Chris Nolan	Phone: 801-466-87223	
E-Mail Address:	Fax: 801-466-3616	
Report Address: 640 E. Wilmington Ave.		
City: Salt Lake City	State: UT	Zip: 84106
Billing Address: Same		
City:	State:	Zip:
P.O./Project #: 03E-7080		

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Turn Around Time
☐ Standard
☑ Rush 5 Day (Specify)

LabNet ID	Field Sample ID	Site	Sample Date	Volume (m³)	Particle Size	P.M. 2.5	P.M. 10	TSP	Pb by 6010B	As by 6010B						Remarks
03-T8227	4712 Brighton	2370	8-19-03	3082		X										
03-T8228	4712 Brighton	2370	8-19-03	3086			X									
03-T8229	4712 Brighton	2370	8-19-03	3082				X	X	X						
03-T8230	3521 Josephine	1236	8-19-03	3202				X	X	X						
03-T8231	3601 York	857	8-19-03	3232				X	X	X						
																FedEx# 842279310670

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	Notes:
Robert S. Burton 8/19/03 1900	Luan M Ball 8/20/03 10:00	
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	

RAW DATA

Available upon request

IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 03-231

SUBMITTED BY:
CHESTER LABNET
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: September 2, 2003

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	03-231
Sample Description:	47mm Teflon Filters
Sample Numbers:	03-T8232, 03-T8275 through 03-T8294

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul Duda 9/2/03

Project Manager Date
Paul Duda

CASE NARRATIVE SUMMARY

LABORATORY: Chester LabNet
PROJECT #: I005

REPORT # 03-231

I SAMPLE RECEIPT

A DATE 8.25.03, 8.26.03
B NO. OF SAMPLES 21
C SAMPLE TYPE 47mm Teflon
D ANALYSIS REQUESTED As, Pb by ICP

E SHIPPING PROBLEMS/CORRECTIVE ACTIONS none/none

F DOCUMENTATION PROBLEMS/CORRECTIVE ACTIONS none/none

II SAMPLE PREPARATION

A DIGESTION PROBLEMS/CORRECTIVE ACTIONS none/none

B DEVIATIONS FROM SOP(S) none

III SAMPLE ANALYSIS

A INSTRUMENT PROBLEMS/CORRECTIVE ACTIONS none/none

B ICV RECOVERIES/FLAGGING within control/none

C ICB RESULTS/FLAGGING within control/none

D METHOD BLANK RESULTS/FLAGGING within control/none

E LCS RECOVERIES/FLAGGING within control/none

F POST DIGESTION SPIKE RECOVERIES/FLAGGING within control/none

IV OTHER PROBLEMS/COMMENTS

none

Steve Hildstab 9.2.03
Laboratory Director Date

08/03

Client: I005 - IHI Environmental
Report Number: 03-231

Lab ID: 03-T8232
Client ID: VB/I70-08/20/03-T8232
Site: 3724 York (1336)
Sample Date: 8/20/03
Filter Lot #: 32061
Mass: 100. +- 10. µg
Volume: 3.225 +- 0.322 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 31.01 +- 4.38 µg/m³

Lab ID: 03-T8275
Client ID: VB/I70-08/20/03-T8275
Site: 3724 York (1336)
Sample Date: 8/20/03
Filter Lot #: 32061
Mass: 136. +- 10. µg
Volume: 3.205 +- 0.320 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 42.43 +- 5.26 µg/m³

Lab ID: 03-T8276
Client ID: VB/I70-08/20/03-T8276
Site: 3724 York (1336)
Sample Date: 8/20/03
Filter Lot #: 32061
Mass: 303. +- 10. µg
Volume: 3.190 +- 0.319 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 94.98 +- 10.00 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.106	< MDL	0.1003
Pb	0.290	0.240	0.096	0.079	0.091	0.075

Lab ID: 03-T8277
Client ID: VB/I70-08/20/03-T8277
Site: 4712 Brighton Blvd (2378)
Sample Date: 8/20/03
Filter Lot #: 32061
Mass: 782. +- 10. µg
Volume: 3.160 +- 0.316 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 247.5 +- 24.95 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.041	< MDL	0.1013
Pb	0.894	0.240	0.114	0.031	0.283	0.076

Client: I005 - IHI Environmental
Report Number: 03-231

Lab ID: 03-T8278
Client ID: VB/I70-08/20/03-T8278
Site: 3447 St. Paul (1119)
Sample Date: 8/20/03
Filter Lot #: 32061
Mass: 141. +- 10. µg
Volume: 3.056 +- 0.306 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 46.14 +- 5.66 µg/m³

Analyte	µg/filter Conc.	MDL	percent Conc.	MDL	µg/m³ Conc.	MDL
ICP						
As	< MDL	0.320	< MDL	0.227	< MDL	0.1047
Pb	< MDL	0.240	< MDL	0.170	< MDL	0.0785

Lab ID: 03-T8279
Client ID: VB/I70-08/20/03-T8279
Site: 3521 Josephine (1256)
Sample Date: 8/20/03
Filter Lot #: 32061
Mass: 495. +- 10. µg
Volume: 3.126 +- 0.313 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 158.3 +- 16.17 µg/m³

Analyte	µg/filter Conc.	MDL	percent Conc.	MDL	µg/m³ Conc.	MDL
ICP						
As	< MDL	0.320	< MDL	0.065	< MDL	0.1024
Pb	< MDL	0.240	< MDL	0.048	< MDL	0.0768

Lab ID: 03-T8280
Client ID: VB/I70-08/21/03-T8280
Site: 4909 Milwaukee (3865)
Sample Date: 8/21/03
Filter Lot #: 32061
Mass: 93. +- 10. µg
Volume: 3.147 +- 0.315 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 29.55 +- 4.34 µg/m³

Client: I005 - IHI Environmental
Report Number: 03-231

Lab ID: 03-T8281
Client ID: VB/I70-08/21/03-T8281
Site: 4909 Milwaukee (3865)
Sample Date: 8/21/03
Filter Lot #: 32061
Mass: 221. +- 10. µg
Volume: 3.193 +- 0.319 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 69.21 +- 7.59 µg/m³

Lab ID: 03-T8282
Client ID: VB/I70-08/21/03-T8282
Site: 4909 Milwaukee (3865)
Sample Date: 8/21/03
Filter Lot #: 32061
Mass: 402. +- 10. µg
Volume: 3.198 +- 0.320 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 125.7 +- 12.96 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.080	< MDL	0.1001
Pb	0.275	0.240	0.068	0.060	0.086	0.075

Lab ID: 03-T8283
Client ID: VB/I70-08/21/03-T8283
Site: 3724/3730 York (1336/2776)
Sample Date: 8/21/03
Filter Lot #: 32061
Mass: 354. +- 10. µg
Volume: 3.204 +- 0.320 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 110.5 +- 11.47 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.090	< MDL	0.0999
Pb	< MDL	0.240	< MDL	0.068	< MDL	0.0749

Client: I005 - IHI Environmental
Report Number: 03-231

Lab ID: 03-T8284
Client ID: VB/I70-08/21/03-T8284
Site: 3447 St. Paul (1119)
Sample Date: 8/21/03
Filter Lot #: 32061
Mass: 309. +- 10. µg
Volume: 2.963 +- 0.296 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 104.3 +- 10.95 µg/m³

Analyte	µg/filter Conc.	MDL	percent Conc.	MDL	µg/m³ Conc.	MDL
ICP						
As	< MDL	0.320	< MDL	0.104	< MDL	0.1080
Pb	< MDL	0.240	< MDL	0.078	< MDL	0.0810

Lab ID: 03-T8285
Client ID: VB/I70-08/22/03-T8285
Site: 3447 St. Paul (1119)
Sample Date: 8/22/03
Filter Lot #: 32061
Mass: 66. +- 10. µg
Volume: 3.193 +- 0.319 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 20.67 +- 3.75 µg/m³

Lab ID: 03-T8286
Client ID: VB/I70-08/22/03-T8286
Site: 3447 St. Paul (1119)
Sample Date: 8/22/03
Filter Lot #: 32061
Mass: 126. +- 10. µg
Volume: 3.302 +- 0.330 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 38.16 +- 4.87 µg/m³

Lab ID: 03-T8287
Client ID: VB/I70-08/22/03-T8287
Site: 3447 St. Paul (1119)
Sample Date: 8/22/03
Filter Lot #: 32061
Mass: 322. +- 10. µg
Volume: 3.302 +- 0.330 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 97.52 +- 10.21 µg/m³

Analyte	µg/filter Conc.	MDL	percent Conc.	MDL	µg/m³ Conc.	MDL
ICP						
As	< MDL	0.320	< MDL	0.099	< MDL	0.0969
Pb	< MDL	0.240	< MDL	0.075	< MDL	0.0727

Client: I005 - IHI Environmental
Report Number: 03-231

Lab ID: 03-T8288
Client ID: VB/I70-08/22/03-T8288
Site: 4909 Milwaukee (3865)
Sample Date: 8/22/03
Filter Lot #: 32061
Mass: 450. +- 10. µg
Volume: 3.507 +- 0.351 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 128.3 +- 13.16 µg/m³

Analyte	µg/filter Conc.	MDL	percent Conc.	MDL	µg/m³ Conc.	MDL
ICP						
As	< MDL	0.320	< MDL	0.071	< MDL	0.0912
Pb	< MDL	0.240	< MDL	0.053	< MDL	0.0684

Lab ID: 03-T8289
Client ID: VB/I70-08/22/03-T8289
Site: 3724/3730 York (1336/2776)
Sample Date: 8/22/03
Filter Lot #: 32061
Mass: 419. +- 10. µg
Volume: 3.240 +- 0.324 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 129.3 +- 13.30 µg/m³

Analyte	µg/filter Conc.	MDL	percent Conc.	MDL	µg/m³ Conc.	MDL
ICP						
As	< MDL	0.320	< MDL	0.076	< MDL	0.0988
Pb	0.340	0.240	0.081	0.057	0.105	0.074

Lab ID: 03-T8290
Client ID: VB/I70-08/23/03-T8290
Site: 3447 St. Paul (3302)
Sample Date: 8/23/03
Filter Lot #: 32061
Mass: 22. +- 10. µg
Volume: 2.019 +- 0.202 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 10.90 +- 5.07 µg/m³

Client: I005 - IHI Environmental
Report Number: 03-231

Lab ID: 03-T8291
Client ID: VB/I70-08/23/03-T8291
Site: 3447 St. Paul (3302)
Sample Date: 8/23/03
Filter Lot #: 32061
Mass: 40. +- 10. µg
Volume: 2.079 +- 0.208 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 19.24 +- 5.18 µg/m³

Lab ID: 03-T8292
Client ID: VB/I70-08/23/03-T8292
Site: 3447 St. Paul (3302)
Sample Date: 8/23/03
Filter Lot #: 32061
Mass: 78. +- 10. µg
Volume: 2.019 +- 0.202 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 38.63 +- 6.28 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.410	< MDL	0.1585
Pb	< MDL	0.240	< MDL	0.308	< MDL	0.1189

Lab ID: 03-T8293
Client ID: VB/I70-08/23/03-T8293
Site: 4909 Milwaukee (3865)
Sample Date: 8/23/03
Filter Lot #: 32061
Mass: 85. +- 10. µg
Volume: 2.122 +- 0.212 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 40.06 +- 6.18 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.376	< MDL	0.1508
Pb	< MDL	0.240	< MDL	0.282	< MDL	0.1131

Client: I005 - IHI Environmental
Report Number: 03-231

Lab ID: 03-T8294
Client ID: VB/I70-08/23/03-T8294
Site: 3724/3730 York (3507)
Sample Date: 8/23/03
Filter Lot #: 32061
Mass: 277. +- 10. µg
Volume: 2.060 +- 0.206 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 134.5 +- 14.30 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.116	< MDL	0.1553
Pb	< MDL	0.240	< MDL	0.087	< MDL	0.1165

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-231

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	6.00
Pb	Prep_Blk	< MDL	6.00
Pb	Meth_Blk	< MDL	6.00
Pb	CCB	< MDL	6.00
Pb	CCB	< MDL	6.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	1050	104.9
As	CCV	1000	1020	102.1
As	CCV	1000	1000	100.4
Pb	ICV	1000	1010	101.4
Pb	CCV	1000	1010	101.1
Pb	CCV	1000	1000	100.1

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	03-T8276	< 8	< 8	N/C #
Pb	03-T8276	7.25	7.17	1.16 #

RPD = {(sample-replicate)/[(sample+replicate)/2]}x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	959.	1000	95.9
As	03-T8277	< 8	194.	200.	97.0
Pb	LCS	< 6	965.	1000	96.5
Pb	03-T8277	17.9	210.	200.	96.1

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number:

Serial Dilution Data

Analyte	Sample ID	Sample Conc. µg/L	Ser. Dil. Conc. µg/L	RPD
As	03-T8278	<8	<40	N/C
Pb	03-T8278	<6	<30	N/C

RPD = {(sample-duplicate)/[(sample + duplicate)/2]}x100
N/C: RPD is not calculated when sample or serial dilution is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample concentration is less than 10x the detection limit

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

Company Name	HI Environmental
Contact	C. Nolan
Phone	801-466-2223
E-Mail Address	
Fax	801-466-9616
Report Address	640 E. Wilmington
City	SLC
State	UT
Zip	84106
Billing Address	Same
City	
State	
Zip	
P.O./Project #	03E-7080

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

CHAIN-OF-CUSTODY RECORD

Page ___ of ___

Turn Around Time
☐ Standard
☐ Rush _____ Specify

LabNet ID	Field Sample ID	Site	Sample Date	Volume ~~(m³)~~ liters	Particle Size	PM 2.5	PM 10	TSP	As by 6010B	Pb by 6010B						Remarks
03-T8232	VB/I70	1336	~~8/20/03~~ 8/20/03	3225		X										3724 York
03-T8275		1336	8/20/03	3205			X									3724 York
03-T8276		1336		3190				X	X	X						3724 York
03-T8277		~~3370~~ ~~3365~~		3160				X	X	X						4712 Brighton Blvd
03-T8278		1119		3056				X	X	X						3447 St. Paul
03-T8279		1256		3126				X	X	X						3521 Josephine

Relinquished By: (Signature) Date/Time Robert G. Brown 8/20/03 1900	Received By: (Signature) Date/Time [illegible] 8/25/03 10:[illegible]	Notes:
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	

Company Name: IHI Environmental	
Contact: C. Nolan	Phone: 801-466-2223
E-Mail Address:	Fax: 801-466-9616
Report Address: 640 E. Wilmington	
City: SLC	State: UT / Zip: 84106
Billing Address: same	
City:	State: / Zip:
P.O./Project #: 03E-7080	

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

CHAIN-OF-CUSTODY RECORD

Turn Around Time
☐ Standard
☒ Rush 5 Day (Specify)

LabNet ID	Field Sample ID	Site	Sample Date	Volume ~~(m³)~~ liters	Particle Size	P.M. 2.5	P.M. 10	TSP	As by 6010B	Pb by 6010B						Remarks
03-T8280	VB/I70-0821	3865	21-Aug 03	3147		X										4909 Milwaukee
03-T8281	↓	X3865	↓	3193			X									↓
03-T8282	↓	3865	↓	3198				X	X	X						↓
03-T8283	↓	1336/2776	↓	3204				X	X	X						3724/3730 York
03-T8284	↓	~~1265~~ 1119	↓	2963				X	X	X						3447 St. Paul
03-T8285	VB/I70-0822	~~1265~~ 1119	22 Aug 03	3193		X										↓
03-T8286	↓	~~1265~~ 1119	↓	3302			X									↓
03-T8287	↓	~~1265~~ 1119	↓	3302				X	X	X						↓
03-T8288	↓	3865	↓	3507				X	X	X						4909 Milwaukee
03-T8289	↓	1336/2776	↓	3240				X	X	X						3724/3730 York
03-T8290	VB/I70-0823	3302	23 Aug 03	~~3302~~ RB ← 2019		X										3447 St. Paul
03-T8291	↓	3302	↓	~~3302~~ RB ← 2079			X									↓

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time
Robert S. Burton 25 Aug 03 1500	[signature] 8/26/03 10:00
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time

Notes: Via FedEx #842279310625

Company Name	IHI Environmental
Contact	C. Nolan
Phone	801-466-2223
E-Mail Address	
Fax	801-466-9616
Report Address	640 E. Wilmington
City	SLC
State	UT
Zip	84106
Billing Address	same
City	
State	
Zip	
P.O./Project #	03E-7080

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12242 SW Garden Place
Tigard, OR 97223
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Fax (503) 624-2653
CLN@ChesterLab.Net

CHAIN-OF-CUSTODY RECORD

Turn Around Time
☐ Standard
☐ Rush _____ Specify

LabNet ID	Field Sample ID	Site	Sample Date	Volume ~~(m³)~~ liters	Particle Size	Fe	As by 6010B	Pb by 6010B								Remarks
03-T8292	VB/170-0023	3302	23Aug03	2019		X	X	X								3447 St. Paul
03-T8293	↓	3865	↓	2122		X	X	X								4909 Milwaukee
03-T8294	↓	3507	↓	2060		X	X	X								3724/3730 York

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time
[signature] 25Aug03 1500	[signature] 8/26/03 11:00
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time

Notes:

RAW DATA

Available upon request

IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 03-237

SUBMITTED BY:
CHESTER LABNET
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: September 5, 2003

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	03-237
Sample Description:	47mm Teflon Filters
Sample Numbers:	03-T8295 through 03-T8313

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul Duda 9/5/03

Project Manager Date
Paul Duda

Client: I005 - IHI Environmental
Report Number: 03-237

Lab ID: 03-T8295
Client ID: VB/I70-082503-T8295
Site: 4811 Clayton (3712)
Sample Date: 8/25/03
Filter Lot #: 32061
Mass: 39. +- 10. µg
Volume: 3.369 +- 0.337 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 11.58 +- 3.19 µg/m³

Lab ID: 03-T8296
Client ID: VB/I70-082503-T8296
Site: 4811 Clayton (3712)
Sample Date: 8/25/03
Filter Lot #: 32061
Mass: 90. +- 10. µg
Volume: 3.441 +- 0.344 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 26.16 +- 3.91 µg/m³

Lab ID: 03-T8297
Client ID: VB/I70-082503-T8297
Site: 4811 Clayton (3712)
Sample Date: 8/25/03
Filter Lot #: 32061
Mass: 269. +- 10. µg
Volume: 3.390 +- 0.339 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 79.35 +- 8.47 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.119	< MDL	0.0944
Pb	0.427	0.240	0.159	0.089	0.126	0.071

Lab ID: 03-T8298
Client ID: VB/I70-082503-T8298
Site: 4909 Milwaukee (3865)
Sample Date: 8/25/03
Filter Lot #: 32061
Mass: 316. +- 10. µg
Volume: 3.370 +- 0.337 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 93.77 +- 9.84 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.101	< MDL	0.0950
Pb	0.414	0.240	0.131	0.076	0.123	0.071

Client: I005 - IHI Environmental
Report Number: 03-237

Lab ID: 03-T8299
Client ID: VB/I70-082503-T8299
Site: 3447 St. Paul (1119)
Sample Date: 8/25/03
Filter Lot #: 32061
Mass: 409. +- 10. µg
Volume: 3.269 +- 0.327 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 125.1 +- 12.88 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.078	< MDL	0.0979
Pb	< MDL	0.240	< MDL	0.059	< MDL	0.0734

Lab ID: 03-T8300
Client ID: VB/I70-082503-T8300
Site: 3724/3730 York (1336/2776)
Sample Date: 8/25/03
Filter Lot #: 32061
Mass: 596. +- 10. µg
Volume: 3.238 +- 0.324 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 184.1 +- 18.67 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.054	< MDL	0.0988
Pb	< MDL	0.240	< MDL	0.040	< MDL	0.0741

Lab ID: 03-T8301
Client ID: VB/I70-082603-T8301
Site: 4811 Clayton (3712)
Sample Date: 8/26/03
Filter Lot #: 32061
Mass: 60. +- 10. µg
Volume: 3.343 +- 0.334 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 17.95 +- 3.49 µg/m³

Client: I005 - IHI Environmental
Report Number: 03-237

Lab ID: 03-T8302
Client ID: VB/I70-082603-T8302
Site: 4811 Clayton (3712)
Sample Date: 8/26/03
Filter Lot #: 32061
Mass: 110. +- 10. µg
Volume: 3.378 +- 0.338 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 32.56 +- 4.40 µg/m³

Lab ID: 03-T8303
Client ID: VB/I70-082603-T8303
Site: 4811 Clayton (3712)
Sample Date: 8/26/03
Filter Lot #: 32061
Mass: 236. +- 10. µg
Volume: 3.433 +- 0.343 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 68.74 +- 7.46 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.136	< MDL	0.0932
Pb	0.293	0.240	0.124	0.102	0.085	0.070

Lab ID: 03-T8304
Client ID: VB/I70-082603-T8304
Site: 3447 St. Paul (1119)
Sample Date: 8/26/03
Filter Lot #: 32061
Mass: 185. +- 10. µg
Volume: 3.368 +- 0.337 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 54.93 +- 6.25 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.173	< MDL	0.0950
Pb	0.256	0.240	0.138	0.130	0.076	0.071

Client: I005 - IHI Environmental
Report Number: 03-237

Lab ID: 03-T8305
Client ID: VB/I70-082603-T8305
Site: 3724/3730 York (1336/2776)
Sample Date: 8/26/03
Filter Lot #: 32061
Mass: 913. +- 10. µg
Volume: 3.282 +- 0.328 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 278.2 +- 27.97 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.035	< MDL	0.0975
Pb	0.333	0.240	0.036	0.026	0.101	0.073

Lab ID: 03-T8306
Client ID: VB/I70-082703-T8306
Site: 4860 Clayton (2157)
Sample Date: 8/27/03
Filter Lot #: 32061
Mass: 43. +- 10. µg
Volume: 3.298 +- 0.330 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 13.04 +- 3.30 µg/m³

Lab ID: 03-T8307
Client ID: VB/I70-082703-T8307
Site: 4860 Clayton (2157)
Sample Date: 8/27/03
Filter Lot #: 32061
Mass: 112. +- 10. µg
Volume: 3.307 +- 0.331 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 33.87 +- 4.54 µg/m³

Lab ID: 03-T8308
Client ID: VB/I70-082703-T8308
Site: 4860 Clayton (2157)
Sample Date: 8/27/03
Filter Lot #: 32061
Mass: 369. +- 10. µg
Volume: 3.283 +- 0.328 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 112.4 +- 11.64 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.087	< MDL	0.0975
Pb	< MDL	0.240	< MDL	0.065	< MDL	0.0731

Client: I005 - IHI Environmental
Report Number: 03-237

Lab ID: 03-T8309
Client ID: VB/I70-082703-T8309
Site: 3536 Elizabeth (1265)
Sample Date: 8/27/03
Filter Lot #: 32061
Mass: 297. +- 10. µg
Volume: 3.294 +- 0.329 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 90.16 +- 9.50 µg/m³

Analyte	µg/filter Conc.	MDL	percent Conc.	MDL	µg/m³ Conc.	MDL
ICP						
As	< MDL	0.320	< MDL	0.108	< MDL	0.0971
Pb	< MDL	0.240	< MDL	0.081	< MDL	0.0729

Lab ID: 03-T8310
Client ID: VB/I70-082803-T8310
Site: 3536 Elizabeth (1265)
Sample Date: 8/28/03
Filter Lot #: 32061
Mass: 83. +- 10. µg
Volume: 3.053 +- 0.305 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 27.19 +- 4.26 µg/m³

Lab ID: 03-T8311
Client ID: VB/I70-082803-T8311
Site: 3536 Elizabeth (1265)
Sample Date: 8/28/03
Filter Lot #: 32061
Mass: 143. +- 10. µg
Volume: 3.104 +- 0.310 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 46.07 +- 5.62 µg/m³

Lab ID: 03-T8312
Client ID: VB/I70-082803-T8312
Site: 3536 Elizabeth (1265)
Sample Date: 8/28/03
Filter Lot #: 32061
Mass: 493. +- 10. µg
Volume: 3.072 +- 0.307 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 160.5 +- 16.36 µg/m³

Analyte	µg/filter Conc.	MDL	percent Conc.	MDL	µg/m³ Conc.	MDL
ICP						
As	< MDL	0.320	< MDL	0.065	< MDL	0.1042
Pb	< MDL	0.240	< MDL	0.049	< MDL	0.0781

Client: I005 - IHI Environmental
Report Number: 03-237

Lab ID: 03-T8313
Client ID: VB/I70-082803-T8313
Site: 4860 Clayton (2157)
Sample Date: 8/28/03
Filter Lot #: 32061
Mass: 631. +- 10. µg
Volume: 3.065 +- 0.306 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 205.9 +- 20.81 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.051	< MDL	0.1044
Pb	0.303	0.240	0.048	0.038	0.099	0.078

CASE NARRATIVE SUMMARY

LABORATORY: Chester LabNet
PROJECT #: I005

REPORT # 03-237

I SAMPLE RECEIPT

A DATE 8.29.03
B NO. OF SAMPLES 19
C SAMPLE TYPE 47mm Teflon
D ANALYSIS REQUESTED gravimetry & As, Pb by ICP
E SHIPPING PROBLEMS/CORRECTIVE ACTIONS none/none
F DOCUMENTATION PROBLEMS/CORRECTIVE ACTIONS none/none

II SAMPLE PREPARATION

A DIGESTION PROBLEMS/CORRECTIVE ACTIONS none/none
B DEVIATIONS FROM SOP(S) none

III SAMPLE ANALYSIS

A INSTRUMENT PROBLEMS/CORRECTIVE ACTIONS none/none
B ICV RECOVERIES/FLAGGING within control/none
C ICB RESULTS/FLAGGING within control/none
D METHOD BLANK RESULTS/FLAGGING within control/none
E LCS RECOVERIES/FLAGGING within control/none
F POST DIGESTION SPIKE RECOVERIES/FLAGGING within control/none

IV OTHER PROBLEMS/COMMENTS

none

Laboratory Director

9.5.03
Date

08/03

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-237

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Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	6.00
Pb	Prep_Blk	< MDL	6.00
Pb	Meth_Blk	< MDL	6.00
Pb	CCB	< MDL	6.00
Pb	CCB	< MDL	6.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	1040	103.8
As	CCV	1000	1010	101.2
As	CCV	1000	1000	100.2
Pb	ICV	1000	991.	99.1
Pb	CCV	1000	984.	98.4
Pb	CCV	1000	981.	98.1

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	03-T8297	< 8	< 8	N/C #
Pb	03-T8297	10.7	9.66	9.89 #

RPD = {(sample-replicate)/[(sample+replicate)/2)}x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	946.	1000	94.6
As	03-T8298	< 8	190.	200.	94.8
Pb	LCS	< 6	949.	1000	94.9
Pb	03-T8298	8.28	197.	200.	94.3

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-237

==========

Serial Dilution Data

Analyte	Sample ID	Sample Conc. µg/L	Ser. Dil. Conc. µg/L	RPD
As	03-T8299	<8	<40	N/C
Pb	03-T8299	<6	<30	N/C

RPD = {(sample-duplicate)/[(sample + duplicate)/2]}x100
N/C: RPD is not calculated when sample or serial dilution is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample concentration is less than 10x the detection limit

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

Company Name: IHI Environmental		
Contact: C. Nolan	Phone: 801-466-9616	
E-Mail Address:	Fax: 801-466-2223	
Report Address: 640 E. Wilmington		
City: S.L.C.	State: UT	Zip: 84106
Billing Address: Same		
City:	State:	Zip:
P.O./Project #: 03E-7080		

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

CHAIN-OF-CUSTODY RECORD

Turn Around Time: ☐ Standard ☒ Rush 5 Day (Specify)

LabNet ID	Field Sample ID	~~Site~~	Sample Date	Volume ~~(m³)~~ liters	Particle Size	PM 2.5	PM 10	TSP	As by 6010B	Pb by 6010B						Remarks
03-T8295	VB/I70-0825	503-T8295	25 Aug 03	3369		X										4811 Clayton (3712)
03-T8296	VB/I70-0825	03-T8296		3441			X									
03-T8297	VB/I70-0825	03-T8297		3390				X	X	X						
03-T8298	VB/I70-0825	03-T8298		3370				X	X	X						4909 Milwaukee (3865)
03-T8299	VB/I70-0825	03-T8299		3269				X	X	X						3447 St. Paul (~~1265~~ RB) 1119
03-T8300	VB/I70-0825	03-T8300		3238				X	X	X						3724/3730 York (1336/2776)
03-T8301	VB/I70-0826	03-T8301	26 Aug 03	3343		X										4811 Clayton (3712)
03-T8302	VB/I70-0826	03-T8302		3378			X									
03-T8303	VB/I70-0826	03-T8303		3433				X	X	X						
03-T8304	VB/I70-0826	03-T8304		3368				X	X	X						3447 St. Paul (~~1265~~ RB) 1119
03-T8305	VB/I70-0826	03-T8305		3287				X	X	X						3724/3730 York (1336/2776)
03-T8306	VB/I70-0827	03-T8306	27 Aug 03	3298		X										~~3536 Elizabeth (1265)~~ RB 4680 Clayton (2157)

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	Notes:
Robert S. Burton 28 Aug 03 1816	[signature] 8/28/03 10:00	FedEx # 842279310636
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	

Company Name	IHI Environmental
Contact	C. Nalan
Phone	801-466-7223
E-Mail Address	
Fax	801-466-9616
Report Address	640 E. Wilmington
City	S.L.C.
State	UT
Zip	84106
Billing Address	Same
City	
State	
Zip	
P.O./Project #	03E-78PB-7080

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

CHAIN-OF-CUSTODY RECORD

Turn Around Time
☐ Standard
☒ Rush 5 Day
Specify

LabNet ID	Field Sample ID	~~Site~~	Sample Date	Volume ~~(m³)~~ liters	Particle Size	PM 2.5	PM 10	RTSP	As by 6010B	Pb by 6010B					Remarks
03-T8307	VB/I70-082703	T8307	27 Aug 03	3307			X								~~3536 Elizabeth (1265)~~ 4680 Clayton (2157)
03-T8308	VB/I70-082703	T8308		3283				X	X	X					
03-T8309	VB/I70-082703	T8309		3294				X	X	X					~~4680 Clayton (2157)~~ 3536 Elizabeth (1265)
03-T8310	VB/I70-082803	T8310	28 Aug 03	3053		X									
03-T8311	VB/I70-082803	T8311		3104			X								
03-T8312	VB/I70-082803	T8312		3072				X	X	X					
03-T8313	VB/I70-082803	T8313		3065				X	X	X					4680 Clayton (2157

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	Notes:
Bruce S. Burton 28 Aug 03 1816	[illegible] 8/29/03 10:[illegible]	
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	

RAW DATA

Available upon request

IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 03-244

SUBMITTED BY:
CHESTER LABNET
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: September 12, 2003

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	03-244
Sample Description:	47mm Teflon Filters
Sample Numbers:	03-T8147 through 03-T8150, 03-T8314 through 03-T8324

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul Duda 9/12/03

Project Manager Date
Paul Duda

CASE NARRATIVE SUMMARY

LABORATORY: Chester LabNet
PROJECT #: I005

REPORT # 03-244

I SAMPLE RECEIPT

A DATE 9.12.03
B NO. OF SAMPLES 7
C SAMPLE TYPE 47mm Teflon
D ANALYSIS REQUESTED gravimetry & As, Pb by ICP
E SHIPPING PROBLEMS/CORRECTIVE ACTIONS none/none
F DOCUMENTATION PROBLEMS/CORRECTIVE ACTIONS none/none

II SAMPLE PREPARATION

A DIGESTION PROBLEMS/CORRECTIVE ACTIONS none/none
B DEVIATIONS FROM SOP(S) none

III SAMPLE ANALYSIS

A INSTRUMENT PROBLEMS/CORRECTIVE ACTIONS none/none
B ICV RECOVERIES/FLAGGING within control/none
C ICB RESULTS/FLAGGING within control/none
D METHOD BLANK RESULTS/FLAGGING within control/none
E LCS RECOVERIES/FLAGGING within control/none
F POST DIGESTION SPIKE RECOVERIES/FLAGGING within control/none

IV OTHER PROBLEMS/COMMENTS

none

Suzi Heldstab 9.12.03
Laboratory Director Date

08/03

Client: I005 - IHI Environmental
Report Number: 03-244

Lab ID: 03-T8314
Client ID: VB/I-70-090203-T8314
Site: 4995 Steele (3821)
Sample Date: 9/ 2/03
Filter Lot #: 32061
Mass: 77. +- 10. μg
Volume: 3.270 +- 0.327 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 23.55 +- 3.86 μg/m³

Lab ID: 03-T8315
Client ID: VB/I-70-090203-T8315
Site: 4995 Steele (3821)
Sample Date: 9/ 2/03
Filter Lot #: 32061
Mass: 138. +- 10. μg
Volume: 3.342 +- 0.334 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 41.29 +- 5.10 μg/m³

Lab ID: 03-T8316
Client ID: VB/I-70-090203-T8316
Site: 4995 Steele (3821)
Sample Date: 9/ 2/03
Filter Lot #: 32061
Mass: 198. +- 10. μg
Volume: 2.341 +- 0.234 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 84.58 +- 9.47 μg/m³

Analyte	μg/filter Conc.	μg/filter MDL	percent Conc.	percent MDL	μg/m³ Conc.	μg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.162	< MDL	0.1367
Pb	0.388	0.240	0.196	0.121	0.166	0.103

Lab ID: 03-T8317
Client ID: VB/I-70-090303-T8317
Site: 3705 Madison (1831)
Sample Date: 9/ 3/03
Filter Lot #: 32061
Mass: 125. +- 10. μg
Volume: 3.153 +- 0.315 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 39.64 +- 5.07 μg/m³

Client: I005 - IHI Environmental
Report Number: 03-244

Lab ID: 03-T8318
Client ID: VB/I-70-090303-T8318
Site: 3705 Madison (1831)
Sample Date: 9/ 3/03
Filter Lot #: 32061
Mass: 278. +- 10. μg
Volume: 3.168 +- 0.317 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 87.75 +- 9.33 μg/m³

Lab ID: 03-T8319
Client ID: VB/I-70-090303-T8319
Site: 3705 Madison (1831)
Sample Date: 9/ 3/03
Filter Lot #: 32061
Mass: 726. +- 10. μg
Volume: 3.163 +- 0.316 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 229.5 +- 23.15 μg/m³

Analyte	μg/filter Conc.	μg/filter MDL	percent Conc.	percent MDL	μg/m³ Conc.	μg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.044	< MDL	0.1012
Pb	0.338	0.240	0.047	0.033	0.107	0.076

Lab ID: 03-T8320
Client ID: VB/I-70-090303-T8320
Site: 4995 Steele (3821)
Sample Date: 9/ 3/03
Filter Lot #: 32061
Mass: 802. +- 10. μg
Volume: 3.331 +- 0.333 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 240.8 +- 24.26 μg/m³

Analyte	μg/filter Conc.	μg/filter MDL	percent Conc.	percent MDL	μg/m³ Conc.	μg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.040	< MDL	0.0961
Pb	0.390	0.240	0.049	0.030	0.117	0.072

Client: I005 - IHI Environmental
Report Number: 03-244

Lab ID: 03-T8321
Client ID: VB/I-70-090403-T8321
Site: 4616 Race (3484)
Sample Date: 9/ 4/03
Filter Lot #: 32061
Mass: 56. +- 10. µg
Volume: 3.245 +- 0.324 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 17.26 +- 3.53 µg/m³

Lab ID: 03-T8322
Client ID: VB/I-70-090403-T8322
Site: 4616 Race (3484)
Sample Date: 9/ 4/03
Filter Lot #: 32061
Mass: 127. +- 10. µg
Volume: 3.245 +- 0.324 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 39.14 +- 4.98 µg/m³

Lab ID: 03-T8323
Client ID: VB/I-70-090403-T8323
Site: 4616 Race (3484)
Sample Date: 9/ 4/03
Filter Lot #: 32061
Mass: 363. +- 10. µg
Volume: 3.235 +- 0.324 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 112.2 +- 11.66 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.088	< MDL	0.0989
Pb	0.362	0.240	0.100	0.066	0.112	0.074

Lab ID: 03-T8324
Client ID: VB/I-70-090403-T8324
Site: 3401 Bruce Randolf Ave (1571)
Sample Date: 9/ 4/03
Filter Lot #: 32061
Mass: 267. +- 10. µg
Volume: 3.270 +- 0.327 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 81.65 +- 8.72 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.120	< MDL	0.0979
Pb	0.251	0.240	0.094	0.090	0.077	0.073

Client: I005 - IHI
Report Number: 03-244

Lab ID: 03-T8147
Client ID: VB/I-70-090503-T8147
Site: 3401 Bruce Randolf Ave (1571)
Sample Date: 9/ 5/03
Mass: 96. +- 10. µg
Volume: 3.258 +- 0.326 m³
Deposit Area: 11.3 cm²
Size Fraction: PM2.5
Suspended Particulates: 29.47 +- 4.26 µg/m³

Lab ID: 03-T8148
Client ID: VB/I-70-090503-T8148
Site: 3401 Bruce Randolf Ave (1571)
Sample Date: 9/ 5/03
Mass: 196. +- 10. µg
Volume: 3.293 +- 0.329 m³
Deposit Area: 11.3 cm²
Size Fraction: PM10
Suspended Particulates: 59.52 +- 6.68 µg/m³

Lab ID: 03-T8149
Client ID: VB/I-70-090503-T8149
Site: 3401 Bruce Randolf Ave (1571)
Sample Date: 9/ 5/03
Mass: 564. +- 10. µg
Volume: 3.278 +- 0.328 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 172.1 +- 17.48 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.057	< MDL	0.0976
Pb	0.507	0.240	0.090	0.043	0.155	0.073

Lab ID: 03-T8150
Client ID: VB/I-70-090503-T8150
Site: 4775 Race (3520)
Sample Date: 9/ 5/03
Mass: 304. +- 10. µg
Volume: 3.283 +- 0.328 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 92.60 +- 9.74 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.105	< MDL	0.0975
Pb	0.386	0.240	0.127	0.079	0.118	0.073

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-244

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	6.00
Pb	Prep_Blk	< MDL	6.00
Pb	Meth_Blk	< MDL	6.00
Pb	CCB	< MDL	6.00
Pb	CCB	< MDL	6.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	996.	99.6
As	CCV	1000	977.	97.7
As	CCV	1000	984.	98.4
Pb	ICV	1000	966.	96.6
Pb	CCV	1000	971.	97.1
Pb	CCV	1000	963.	96.3

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	03-T8149	< 8	< 8	N/C #
Pb	03-T8149	12.7	11.7	7.78 #

RPD = ((sample-replicate)/[(sample+replicate)/2])x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	959.	1000	95.9
As	03-T8150	< 8	190.	200.	95.2
Pb	LCS	< 6	970.	1000	97.0
Pb	03-T8150	7.73	200.	200.	95.9

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-244

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Serial Dilution Data

Analyte	Sample ID	Sample Conc. µg/L	Ser. Dil. Conc. µg/L	RPD
As	03-T8316	< MDL	< MDL	N/C
Pb	03-T8316	9.701	< MDL	N/C

RPD = {(sample-duplicate)/[(sample + duplicate)/2]}x100
N/C: RPD is not calculated when sample or serial dilution is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample concentration is less than 10x the detection limit

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

Company Name	IHI Environmental
Contact	C. Nolan
Phone	801-466-9223
E-Mail Address	
Fax	801-466-9616
Report Address	640 E. Wilmington
City	SLC
State	UT
Zip	84106
Billing Address	Same
City	
State	
Zip	
P.O./Project #	03E-7080

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

CHAIN-OF-CUSTODY RECORD

Turn Around Time
☐ Standard
☒ Rush 5 day (Specify)

LabNet ID	Field Sample ID	~~Site~~	Sample Date	Volume ~~(m³)~~ liters	Particle Size	PM 2.5	PM 10	TSP	As by 6010B	Pb by 6010B						Remarks
03-T8314	VB/I-70-090203	-T8314	2 Sept 03	3270		X										4995 Steele (3821)
03-T8315	VB/I70-090203	-T8315	↓	3342			X									↓
03-T8316	VB/I70-090203	-T8316	↓	2341				X	X	X						↓
03-T8317	VB/I70-090303	-T8317	3 Sept 03	3153		X										3705 Madison (1831)
03-T8318	VB/I70-090303	-T8318	↓	3168			X									↓
03-T8319	VB/I70-090303	-T8319	↓	3163				X	X	X						↓
03-T8320	VB/I70-090303	-T8320	↓	3331				X	X	X						4995 Steele (3821)
03-T8321	VB/I70-090403	-T8321	4 Sept 03	3245		X										4616 Race (3484)
03-T8322	VB/I70-090403	-T8322	↓	3245			X									↓
03-T8323	VB/I70-090403	-T8323	↓	3235				X	X	X						↓
03-T8324	VB/I70-090403	-T8324	↓	3270				X	X	X						3401 Bruce Randolf Ave. (1571)
03-T8150	VB/I70-090503	-T8150	5 Sept 03	3283				X	X	X						4775 Race (3520)

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time
Robert S. Barrow 6 Sept 03 0930	[signature] 9/8/03 LO
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time

Notes: Via FedEx #842279310647

Company Name: IHI Environmental	
Contact: C. Nolan	Phone: 801-466-2223
E-Mail Address:	Fax: 801-466-9616
Report Address: 640 E. Wilmington	
City: SLC	State: UT / Zip: 84106
Billing Address: Same	
City:	State: / Zip:
P.O./Project #: 03E-7080	

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

CHAIN-OF-CUSTODY RECORD

Turn Around Time
☐ Standard
☐ Rush _____ Specify

LabNet ID	Field Sample ID	~~Site~~	Sample Date	Volume ~~(m³)~~ liters	Particle Size	PM 2.5	PM 10	TSP	As by 6010B	Pb by 6010B						Remarks
03-T8147	VB/170-090503-T8147		5 Sept 03	3258		X										3401 Bruce Randolph (1571)
03-T8148	VB/170-090503-T8148		↓	3293			X									↓
03-T8149	VB/170-090503-T8149		↓	3278				X	X	X						↓

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time
Roscoe S Brown 6 Sept 03 0930	[signature] 9/8/03
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time

Notes:

RAW DATA

Available upon request

IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 03-249

SUBMITTED BY:
CHESTER LABNET
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: September 15, 2003

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	03-249
Sample Description:	47mm Teflon Filters
Sample Numbers:	03-T8151 through 03-T8161

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul Duda 9/15/03

Project Manager Date
Paul Duda

CASE NARRATIVE SUMMARY

LABORATORY: Chester LabNet
PROJECT #: I005

REPORT # 03-249

I SAMPLE RECEIPT

A DATE 9.10.03
B NO. OF SAMPLES 11
C SAMPLE TYPE 47mm Teflon
D ANALYSIS REQUESTED As, Pb by ICP

E SHIPPING PROBLEMS/CORRECTIVE ACTIONS none/none

F DOCUMENTATION PROBLEMS/CORRECTIVE ACTIONS none/none

II SAMPLE PREPARATION

A DIGESTION PROBLEMS/CORRECTIVE ACTIONS none/none

B DEVIATIONS FROM SOP(S) none/none

III SAMPLE ANALYSIS

A INSTRUMENT PROBLEMS/CORRECTIVE ACTIONS none/none

B ICV RECOVERIES/FLAGGING within control/none

C ICB RESULTS/FLAGGING within control/none

D METHOD BLANK RESULTS/FLAGGING within control/none

E LCS RECOVERIES/FLAGGING within control/none

F POST DIGESTION SPIKE RECOVERIES/FLAGGING within control/none

IV OTHER PROBLEMS/COMMENTS

none

Laboratory Director

9.15.03
Date

08/03

Client: I005 - IHI
Report Number: 03-249

Lab ID: 03-T8151
Client ID: VB/I70-090603-T8151
Sample Date: 9/ 6/03
Mass: 46. +- 10. µg
Volume: 3.399 +- 0.340 m³
Size Fraction: PM2.5
Suspended Particulates: 13.53 +- 3.24 µg/m³

Lab ID: 03-T8152
Client ID: VB/I70-090603-T8152
Sample Date: 9/ 6/03
Mass: 86. +- 10. µg
Volume: 3.307 +- 0.331 m³
Size Fraction: PM10
Suspended Particulates: 26.01 +- 3.99 µg/m³

Lab ID: 03-T8153
Client ID: VB/I70-090603-T8153
Sample Date: 9/ 6/03
Mass: 277. +- 10. µg
Volume: 3.307 +- 0.331 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 83.76 +- 8.91 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.116	< MDL	0.0968
Pb	0.513	0.240	0.185	0.087	0.155	0.073

Lab ID: 03-T8154
Client ID: VB/I70-090603-T8154
Sample Date: 9/ 6/03
Mass: 1124. +- 10. µg
Volume: 3.153 +- 0.315 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 356.5 +- 35.76 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.028	< MDL	0.1015
Pb	0.303	0.240	0.027	0.021	0.096	0.076

Client: I005 - IHI
Report Number: 03-249

Lab ID: 03-T8155
Client ID: VB/I70-090603-T8155
Sample Date: 9/ 6/03
Mass: 503. +- 10. µg
Volume: 3.561 +- 0.356 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 141.3 +- 14.40 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.064	< MDL	0.0899
Pb	0.586	0.240	0.117	0.048	0.165	0.067

Lab ID: 03-T8156
Client ID: VB/I70-090803-T8156
Sample Date: 9/ 8/03
Mass: 56. +- 10. µg
Volume: 3.473 +- 0.347 m³
Size Fraction: PM2.5
Suspended Particulates: 16.12 +- 3.30 µg/m³

Lab ID: 03-T8157
Client ID: VB/I70-090803-T8157
Sample Date: 9/ 8/03
Mass: 154. +- 10. µg
Volume: 3.426 +- 0.343 m³
Size Fraction: PM10
Suspended Particulates: 44.95 +- 5.36 µg/m³

Lab ID: 03-T8158
Client ID: VB/I70-090803-T8158
Sample Date: 9/ 8/03
Mass: 450. +- 10. µg
Volume: 3.405 +- 0.340 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended Particulates: 132.2 +- 13.52 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.071	< MDL	0.0940
Pb	0.499	0.240	0.111	0.053	0.146	0.070

Client: I005 - IHI
Report Number: 03-249

Lab ID: 03-T8159
Client ID: VB/I70-090803-T8159
Sample Date: 9/ 8/03
Mass: 320. +- 10. µg
Volume: 3.372 +- 0.337 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended
Particulates: 94.90 +- 9.94 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.100	< MDL	0.0949
Pb	0.455	0.240	0.142	0.075	0.135	0.071

Lab ID: 03-T8160
Client ID: VB/I70-090803-T8160
Sample Date: 9/ 8/03
Mass: 1116. +- 10. µg
Volume: 3.407 +- 0.341 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP
Suspended
Particulates: 327.6 +- 32.92 µg/m³

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL	µg/m³ Conc.	µg/m³ MDL
ICP						
As	< MDL	0.320	< MDL	0.029	< MDL	0.0939
Pb	0.472	0.240	0.042	0.022	0.139	0.070

Lab ID: 03-T8161
Client ID: VB/I70-090803-T8161
Sample Date: 9/ 8/03
Mass: 3. +- 10. µg
Deposit Area: 11.3 cm²
Size Fraction: TSP

Analyte	µg/filter Conc.	µg/filter MDL	percent Conc.	percent MDL
ICP				
As	< MDL	0.320	< MDL	10.7
Pb	0.321	0.240	10.7	8.00

QA/QC Report

Client Name: IHI
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-249

==========

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	6.00
Pb	Prep_Blk	< MDL	6.00
Pb	Meth_Blk	< MDL	6.00
Pb	CCB	< MDL	6.00
Pb	CCB	< MDL	6.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	1030	102.9
As	CCV	1000	1000	100.2
As	CCV	1000	1010	100.6
Pb	ICV	1000	973.	97.3
Pb	CCV	1000	968.	96.8
Pb	CCV	1000	967.	96.7

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	03-T8153	< 8	< 8	N/C #
Pb	03-T8153	12.8	13.4	4.12 #

RPD = {(sample-replicate)/{(sample+replicate)/2}}x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	968.	1000	96.8
As	03-T8154	< 8	189.	200.	94.6
Pb	LCS	< 6	945.	1000	94.5
Pb	03-T8154	6.07	194.	200.	94.0

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 03-249

==========

Serial Dilution Data

Analyte	Sample ID	Sample Conc. µg/L	Ser. Dil. Conc. µg/L	RPD
As	03-T8155	< DL	< 40	N/C
Pb	03-T8155	14.65	< 30	N/C

RPD = {(sample-duplicate)/[(sample + duplicate)/2]}x100
N/C: RPD is not calculated when sample or serial dilution is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample concentration is less than 10x the detection limit

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

CHAIN OF CUSTODY RECORD

Page 1 of ____

PROJECT NO: 03-7080

PROJECT NAME: VB/I70 Superfund

SAMPLERS (Signature): Robert S Burton

(Printed): Rob Burton

BILLING ADDRESS:

REPORT MAILING ADDRESS:

Turn Around Time (circle one): 24 hr 48 hr 3 day 5 day S

QC Level: _____

Via FedEx # 842279310577

Field Sample ID	LAB ID ~~Log Book~~	Date	min. Time	Volume liters ~~Comp~~	Grab	No. of Containers	Sample Matrix	PM 2.5	PM 10	TSP	As by 6010B	Pb by 6010B					Remarks
VB/I70-090603-~~03-TP6~~ T8151	03-T8151	6 Sept 03	669	3399				X									3786 Gilpin (3407)
VB/I70-090603-T8152	03-T8152	↓	669	3307					X								↓
VB/I70-090603-T8153	03-T8153		669	3307						X	X	X					
VB/I70-090603-T8154	03-T8154		636	3153						X	X	X					3401 Bruce Randolph (1571)
VB/I70-090603-T8155	03-T8155		704	3561						X	X	X					4775 Race (3520)
VB/I70-090803-T8156	03-T8156	8 Sept 03	687	3473				X									4785 Clayton (3581)
VB/I70-090803-T8157	03-T8157	↓	687	3426					X								↓
VB/I70-090803-T8158	03-T8158		687	3405						X	X	X					
VB/I70-090803-T8159	03-T8159		661	3372						X	X	X					4775 Race (3520)
VB/I70-090803-T8160	03-T8160		675	3407						X	X	X					3786 Gilpin (3407)
VB/I70-090803-T8161	03-T8161	8 Sept 03	—	—						X	X	X					FIELD BLANK

Relinquished by: (Signature)	Date	Received by: (Signature)	Date	Relinquished by: (Signature)	Date	Received by Laboratory: (Signature)	Date
Robert S. Burton	9 Sept 03	[signature]	9/10/03				
(Printed)	Time	(Printed)	Time	(Printed)	Time	(Printed)	Time
Rob Burton	1217	Lisa Ball	9/10/03				

IHI ENVIRONMENTAL

Corporate Headquarters
640 E. Wilmington Avenue
Salt Lake City, UT 84106
ph: 801-466-2223
fax: 801-466-9616

California Office
1260 45th St., Suite L
Emeryville, CA 94608
ph: 510-923-1661
fax: 510-923-1468

Arizona Office
4527 N. 16th St., Suite 105
Phoenix, AZ 85016
ph: 602-776-0300
fax: 602-776-0301

Colorado Office
3000 Youngfield St., Suite 285
Lakewood, CO 80215
ph: 303-980-8749
fax: 303-989-2716

White - lab; Yellow - File

RAW DATA

Available upon request

Address: Background
Site ID:
Date: 8/13/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 42
Start time and date: 07:43:59 13-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.168 mg/m³
Time at maximum: 16:04:13 Aug 13
Max STEL Concentration: 0.026 mg/m³
Time at max STEL: 10:19:29 Aug 13
Overall Avg Conc: 0.009 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	13-Aug	07:58:59	0.013	30	13-Aug	15:13:59	0.003
2	13-Aug	08:13:59	0.017	31	13-Aug	15:28:59	0.001
3	13-Aug	08:28:59	0.018	32	13-Aug	15:43:59	0.001
4	13-Aug	08:43:59	0.022	33	13-Aug	15:58:59	0.003
5	13-Aug	08:58:59	0.018	34	13-Aug	16:13:59	0.003
6	13-Aug	09:13:59	0.014	35	13-Aug	16:28:59	0.001
7	13-Aug	09:28:59	0.017	36	13-Aug	16:43:59	0.001
8	13-Aug	09:43:59	0.017	37	13-Aug	16:58:59	0
9	13-Aug	09:58:59	0.019	38	13-Aug	17:13:59	0.001
10	13-Aug	10:13:59	0.023	39	13-Aug	17:28:59	0.001
11	13-Aug	10:28:59	0.024	40	13-Aug	17:43:59	0.003
12	13-Aug	10:43:59	0.019	41	13-Aug	17:58:59	0.002
13	13-Aug	10:58:59	0.018	42	13-Aug	18:13:59	0.002
14	13-Aug	11:13:59	0.015				
15	13-Aug	11:28:59	0.016				
16	13-Aug	11:43:59	0.014				
17	13-Aug	11:58:59	0.017				
18	13-Aug	12:13:59	0.013				
19	13-Aug	12:28:59	0.014				
20	13-Aug	12:43:59	0.012				
21	13-Aug	12:58:59	0.017				
22	13-Aug	13:13:59	0.012				
23	13-Aug	13:28:59	0.007				
24	13-Aug	13:43:59	0.005				
25	13-Aug	13:58:59	0.005				
26	13-Aug	14:13:59	0.005				
27	13-Aug	14:28:59	0.005				
28	13-Aug	14:43:59	0.004				
29	13-Aug	14:58:59	0.003				

Address: 3515 Harrison
Site ID: 1697
Date: 8/13/03

pDR-1000
User ID: 4018
Tag Number: 01
Number of logged points: 42
Start time and date: 07:19:07 13-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.680 mg/m³
Time at maximum: 15:31:10 Aug 13
Max STEL Concentration: 0.032 mg/m³
Time at max STEL: 08:51:37 Aug 13
Overall Avg Conc: 0.020 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	13-Aug	07:34:07	0.018	30	13-Aug	14:49:07	0.017
2	13-Aug	07:49:07	0.019	31	13-Aug	15:04:07	0.027
3	13-Aug	08:04:07	0.02	32	13-Aug	15:19:07	0.021
4	13-Aug	08:19:07	0.022	33	13-Aug	15:34:07	0.025
5	13-Aug	08:34:07	0.026	34	13-Aug	15:49:07	0.009
6	13-Aug	08:49:07	0.028	35	13-Aug	16:04:07	0.022
7	13-Aug	09:04:07	0.029	36	13-Aug	16:19:07	0.011
8	13-Aug	09:19:07	0.021	37	13-Aug	16:34:07	0.015
9	13-Aug	09:34:07	0.024	38	13-Aug	16:49:07	0.011
10	13-Aug	09:49:07	0.022	39	13-Aug	17:04:07	0.007
11	13-Aug	10:04:07	0.026	40	13-Aug	17:19:07	0.009
12	13-Aug	10:19:07	0.031	41	13-Aug	17:34:07	0.011
13	13-Aug	10:34:07	0.026	42	13-Aug	17:49:07	0.011
14	13-Aug	10:49:07	0.024				
15	13-Aug	11:04:07	0.021				
16	13-Aug	11:19:07	0.02				
17	13-Aug	11:34:07	0.028				
18	13-Aug	11:49:07	0.021				
19	13-Aug	12:04:07	0.02				
20	13-Aug	12:19:07	0.02				
21	13-Aug	12:34:07	0.019				
22	13-Aug	12:49:07	0.018				
23	13-Aug	13:04:07	0.021				
24	13-Aug	13:19:07	0.016				
25	13-Aug	13:34:07	0.018				
26	13-Aug	13:49:07	0.015				
27	13-Aug	14:04:07	0.018				
28	13-Aug	14:19:07	0.018				
29	13-Aug	14:34:07	0.03				

Address: Background
Site ID:
Date: 8/14/03

Start time and date: 07:29:03 14-Aug
Elapsed time: 10:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.394 mg/m³
Time at maximum: 15:48:36 Aug 14
Max STEL Concentration: 0.035 mg/m³
Time at max STEL: 09:07:03 Aug 14
Overall Avg Conc: 0.018 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	14-Aug	07:44:03	0.024	30	14-Aug	14:59:03	0.01
2	14-Aug	07:59:03	0.023	31	14-Aug	15:14:03	0.012
3	14-Aug	08:14:03	0.025	32	14-Aug	15:29:03	0.01
4	14-Aug	08:29:03	0.028	33	14-Aug	15:44:03	0.01
5	14-Aug	08:44:03	0.032	34	14-Aug	15:59:03	0.014
6	14-Aug	08:59:03	0.033	35	14-Aug	16:14:03	0.007
7	14-Aug	09:14:03	0.032	36	14-Aug	16:29:03	0.003
8	14-Aug	09:29:03	0.033	37	14-Aug	16:44:03	0.002
9	14-Aug	09:44:03	0.033	38	14-Aug	16:59:03	0.003
10	14-Aug	09:59:03	0.033	39	14-Aug	17:14:03	0.003
11	14-Aug	10:14:03	0.029	40	14-Aug	17:29:03	0.002
12	14-Aug	10:29:03	0.029				
13	14-Aug	10:44:03	0.029				
14	14-Aug	10:59:03	0.028				
15	14-Aug	11:14:03	0.026				
16	14-Aug	11:29:03	0.024				
17	14-Aug	11:44:03	0.02				
18	14-Aug	11:59:03	0.021				
19	14-Aug	12:14:03	0.021				
20	14-Aug	12:29:03	0.023				
21	14-Aug	12:44:03	0.019				
22	14-Aug	12:59:03	0.018				
23	14-Aug	13:14:03	0.018				
24	14-Aug	13:29:03	0.017				
25	14-Aug	13:44:03	0.014				
26	14-Aug	13:59:03	0.01				
27	14-Aug	14:14:03	0.01				
28	14-Aug	14:29:03	0.01				
29	14-Aug	14:44:03	0.01				

Address: 4935 Adams
Site ID: 3676
Date: 8/14/03

pDR-1000
User ID: 4018
Tag Number: 02
Number of logged points: 43
Start time and date: 07:13:24 14-Aug
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.462 mg/m³
Time at maximum: 11:00:16 Aug 14
Max STEL Concentration: 0.078 mg/m³
Time at max STEL: 11:12:54 Aug 14
Overall Avg Conc: 0.025 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	14-Aug	07:28:24	0.03	30	14-Aug	14:43:24	0.014
2	14-Aug	07:43:24	0.027	31	14-Aug	14:58:24	0.014
3	14-Aug	07:58:24	0.025	32	14-Aug	15:13:24	0.021
4	14-Aug	08:13:24	0.03	33	14-Aug	15:28:24	0.025
5	14-Aug	08:28:24	0.033	34	14-Aug	15:43:24	0.019
6	14-Aug	08:43:24	0.03	35	14-Aug	15:58:24	0.015
7	14-Aug	08:58:24	0.03	36	14-Aug	16:13:24	0.012
8	14-Aug	09:13:24	0.03	37	14-Aug	16:28:24	0.015
9	14-Aug	09:28:24	0.026	38	14-Aug	16:43:24	0.024
10	14-Aug	09:43:24	0.026	39	14-Aug	16:58:24	0.016
11	14-Aug	09:58:24	0.023	40	14-Aug	17:13:24	0.01
12	14-Aug	10:13:24	0.056	41	14-Aug	17:28:24	0.01
13	14-Aug	10:28:24	0.028	42	14-Aug	17:43:24	0.01
14	14-Aug	10:43:24	0.029	43	14-Aug	17:58:24	0.008
15	14-Aug	10:58:24	0.043				
16	14-Aug	11:13:24	0.078				
17	14-Aug	11:28:24	0.036				
18	14-Aug	11:43:24	0.025				
19	14-Aug	11:58:24	0.034				
20	14-Aug	12:13:24	0.019				
21	14-Aug	12:28:24	0.02				
22	14-Aug	12:43:24	0.02				
23	14-Aug	12:58:24	0.029				
24	14-Aug	13:13:24	0.023				
25	14-Aug	13:28:24	0.031				
26	14-Aug	13:43:24	0.043				
27	14-Aug	13:58:24	0.026				
28	14-Aug	14:13:24	0.021				
29	14-Aug	14:28:24	0.015				

Address: 3515 Harrison
Site ID: 1697
Date: 8/14/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 40
Start time and date: 07:37:01 14-Aug
Elapsed time: 10:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 2.195 mg/m³
Time at maximum: 16:01:53 Aug 14
Max STEL Concentration: 0.159 mg/m³
Time at max STEL: 13:18:31 Aug 14
Overall Avg Conc: 0.045 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	14-Aug	07:52:01	0.023	30	14-Aug	15:07:01	0.098
2	14-Aug	08:07:01	0.024	31	14-Aug	15:22:01	0.046
3	14-Aug	08:22:01	0.027	32	14-Aug	15:37:01	0.037
4	14-Aug	08:37:01	0.049	33	14-Aug	15:52:01	0.047
5	14-Aug	08:52:01	0.032	34	14-Aug	16:07:01	0.068
6	14-Aug	09:07:01	0.055	35	14-Aug	16:22:01	0.047
7	14-Aug	09:22:01	0.037	36	14-Aug	16:37:01	0.021
8	14-Aug	09:37:01	0.035	37	14-Aug	16:52:01	0.027
9	14-Aug	09:52:01	0.032	38	14-Aug	17:07:01	0.019
10	14-Aug	10:07:01	0.03	39	14-Aug	17:22:01	0.016
11	14-Aug	10:22:01	0.04	40	14-Aug	17:37:01	0.021
12	14-Aug	10:37:01	0.04				
13	14-Aug	10:52:01	0.027				
14	14-Aug	11:07:01	0.025				
15	14-Aug	11:22:01	0.032				
16	14-Aug	11:37:01	0.027				
17	14-Aug	11:52:01	0.043				
18	14-Aug	12:07:01	0.043				
19	14-Aug	12:22:01	0.025				
20	14-Aug	12:37:01	0.022				
21	14-Aug	12:52:01	0.021				
22	14-Aug	13:07:01	0.078				
23	14-Aug	13:22:01	0.157				
24	14-Aug	13:37:01	0.126				
25	14-Aug	13:52:01	0.044				
26	14-Aug	14:07:01	0.07				
27	14-Aug	14:22:01	0.033				
28	14-Aug	14:37:01	0.103				
29	14-Aug	14:52:01	0.074				

Address: 3515 Harrison
Site ID: 1697
Date: 08/15/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 22
Start time and date: 10:01:04 15-Aug
Elapsed time: 05:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 9.655 mg/m³
Time at maximum: 14:26:31 Aug 15
Max STEL Concentration: 0.711 mg/m³
Time at max STEL: 11:41:34 Aug 15
Overall Avg Conc: 0.219 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)
1	15-Aug	10:16:04	0.186
2	15-Aug	10:31:04	0.546
3	15-Aug	10:46:04	0.129
4	15-Aug	11:01:04	0.431
5	15-Aug	11:16:04	0.169
6	15-Aug	11:31:04	0.126
7	15-Aug	11:46:04	0.671
8	15-Aug	12:01:04	0.16
9	15-Aug	12:16:04	0.051
10	15-Aug	12:31:04	0.049
11	15-Aug	12:46:04	0.05
12	15-Aug	13:01:04	0.095
13	15-Aug	13:16:04	0.117
14	15-Aug	13:31:04	0.398
15	15-Aug	13:46:04	0.516
16	15-Aug	14:01:04	0.086
17	15-Aug	14:16:04	0.222
18	15-Aug	14:31:04	0.642
19	15-Aug	14:46:04	0.065
20	15-Aug	15:01:04	0.047
21	15-Aug	15:16:04	0.056
22	15-Aug	15:31:04	0.027

Address: 3609 High
Site ID: 429
Date: 8/15/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 43
Start time and date: 07:05:11 15-Aug
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.721 mg/m³
Time at maximum: 16:42:10 Aug 15
Max STEL Concentration: 0.114 mg/m³
Time at max STEL: 16:51:12 Aug 15
Overall Avg Conc: 0.022 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	15-Aug	07:20:11	0.024	30	15-Aug	14:35:11	0.008
2	15-Aug	07:35:11	0.024	31	15-Aug	14:50:11	0.009
3	15-Aug	07:50:11	0.022	32	15-Aug	15:05:11	0.016
4	15-Aug	08:05:11	0.023	33	15-Aug	15:20:11	0.026
5	15-Aug	08:20:11	0.024	34	15-Aug	15:35:11	0.014
6	15-Aug	08:35:11	0.023	35	15-Aug	15:50:11	0.019
7	15-Aug	08:50:11	0.022	36	15-Aug	16:05:11	0.033
8	15-Aug	09:05:11	0.021	37	15-Aug	16:20:11	0.026
9	15-Aug	09:20:11	0.027	38	15-Aug	16:35:11	0.011
10	15-Aug	09:35:11	0.02	39	15-Aug	16:50:11	0.113
11	15-Aug	09:50:11	0.019	40	15-Aug	17:05:11	0.014
12	15-Aug	10:05:11	0.021	41	15-Aug	17:20:11	0.013
13	15-Aug	10:20:11	0.024	42	15-Aug	17:35:11	0.011
14	15-Aug	10:35:11	0.031	43	15-Aug	17:50:11	0.011
15	15-Aug	10:50:11	0.03				
16	15-Aug	11:05:11	0.033				
17	15-Aug	11:20:11	0.027				
18	15-Aug	11:35:11	0.029				
19	15-Aug	11:50:11	0.02				
20	15-Aug	12:05:11	0.025				
21	15-Aug	12:20:11	0.033				
22	15-Aug	12:35:11	0.015				
23	15-Aug	12:50:11	0.013				
24	15-Aug	13:05:11	0.015				
25	15-Aug	13:20:11	0.01				
26	15-Aug	13:35:11	0.01				
27	15-Aug	13:50:11	0.009				
28	15-Aug	14:05:11	0.015				
29	15-Aug	14:20:11	0.012				

Address: 4935 Adams
Site ID: 3676
Date: 8/15/03

pDR-1000
User ID: 4018
Tag Number: 01
Number of logged points: 44
Start time and date: 07:20:45 15-Aug
Elapsed time: 11:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 4.786 mg/m³
Time at maximum: 14:42:12 Aug 15
Max STEL Concentration: 0.233 mg/m³
Time at max STEL: 14:52:45 Aug 15
Overall Avg Conc: 0.034 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	15-Aug	07:35:45	0.025	30	15-Aug	14:50:45	0.191
2	15-Aug	07:50:45	0.021	31	15-Aug	15:05:45	0.091
3	15-Aug	08:05:45	0.023	32	15-Aug	15:20:45	0.031
4	15-Aug	08:20:45	0.027	33	15-Aug	15:35:45	0.064
5	15-Aug	08:35:45	0.038	34	15-Aug	15:50:45	0.028
6	15-Aug	08:50:45	0.038	35	15-Aug	16:05:45	0.028
7	15-Aug	09:05:45	0.029	36	15-Aug	16:20:45	0.053
8	15-Aug	09:20:45	0.026	37	15-Aug	16:35:45	0.064
9	15-Aug	09:35:45	0.025	38	15-Aug	16:50:45	0.02
10	15-Aug	09:50:45	0.021	39	15-Aug	17:05:45	0.015
11	15-Aug	10:05:45	0.023	40	15-Aug	17:20:45	0.029
12	15-Aug	10:20:45	0.025	41	15-Aug	17:35:45	0.016
13	15-Aug	10:35:45	0.03	42	15-Aug	17:50:45	0.015
14	15-Aug	10:50:45	0.027	43	15-Aug	18:05:45	0.015
15	15-Aug	11:05:45	0.028	44	15-Aug	18:20:45	0.022
16	15-Aug	11:20:45	0.027				
17	15-Aug	11:35:45	0.029				
18	15-Aug	11:50:45	0.023				
19	15-Aug	12:05:45	0.024				
20	15-Aug	12:20:45	0.022				
21	15-Aug	12:35:45	0.019				
22	15-Aug	12:50:45	0.019				
23	15-Aug	13:05:45	0.025				
24	15-Aug	13:20:45	0.021				
25	15-Aug	13:35:45	0.012				
26	15-Aug	13:50:45	0.069				
27	15-Aug	14:05:45	0.033				
28	15-Aug	14:20:45	0.035				
29	15-Aug	14:35:45	0.045				

Address: Background
Site ID:
Date: 8/15/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 46
Start time and date: 07:32:43 15-Aug
Elapsed time: 11:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.183 mg/m³
Time at maximum: 07:33:05 Aug 15
Max STEL Concentration: 0.033 mg/m³
Time at max STEL: 07:47:43 Aug 15
Overall Avg Conc: 0.015 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	15-Aug	07:47:43	0.033	30	15-Aug	15:02:43	0.009
2	15-Aug	08:02:43	0.019	31	15-Aug	15:17:43	0.01
3	15-Aug	08:17:43	0.02	32	15-Aug	15:32:43	0.011
4	15-Aug	08:32:43	0.022	33	15-Aug	15:47:43	0.009
5	15-Aug	08:47:43	0.022	34	15-Aug	16:02:43	0.01
6	15-Aug	09:02:43	0.021	35	15-Aug	16:17:43	0.011
7	15-Aug	09:17:43	0.02	36	15-Aug	16:32:43	0.009
8	15-Aug	09:32:43	0.021	37	15-Aug	16:47:43	0.01
9	15-Aug	09:47:43	0.02	38	15-Aug	17:02:43	0.01
10	15-Aug	10:02:43	0.021	39	15-Aug	17:17:43	0.009
11	15-Aug	10:17:43	0.02	40	15-Aug	17:32:43	0.01
12	15-Aug	10:32:43	0.021	41	15-Aug	17:47:43	0.01
13	15-Aug	10:47:43	0.023	42	15-Aug	18:02:43	0.011
14	15-Aug	11:02:43	0.02	43	15-Aug	18:17:43	0.011
15	15-Aug	11:17:43	0.02	44	15-Aug	18:32:43	0.01
16	15-Aug	11:32:43	0.023	45	15-Aug	18:47:43	0.01
17	15-Aug	11:47:43	0.025	46	15-Aug	19:02:43	0.01
18	15-Aug	12:02:43	0.022				
19	15-Aug	12:17:43	0.02				
20	15-Aug	12:32:43	0.017				
21	15-Aug	12:47:43	0.016				
22	15-Aug	13:02:43	0.016				
23	15-Aug	13:17:43	0.014				
24	15-Aug	13:32:43	0.012				
25	15-Aug	13:47:43	0.012				
26	15-Aug	14:02:43	0.011				
27	15-Aug	14:17:43	0.011				
28	15-Aug	14:32:43	0.009				
29	15-Aug	14:47:43	0.009				

Address: 4935 Adams
Site ID: 3676
Date: 8/16/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 29
Start time and date: 07:59:33 16-Aug
Elapsed time: 07:15:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.321 mg/m³
Time at maximum: 07:59:34 Aug 16
Max STEL Concentration: 0.031 mg/m³
Time at max STEL: 09:13:04 Aug 16
Overall Avg Conc: 0.011 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)
1	16-Aug	08:14:33	0.026
2	16-Aug	08:29:33	0.021
3	16-Aug	08:44:33	0.023
4	16-Aug	08:59:33	0.021
5	16-Aug	09:14:33	0.03
6	16-Aug	09:29:33	0.022
7	16-Aug	09:44:33	0.019
8	16-Aug	09:59:33	0.019
9	16-Aug	10:14:33	0.019
10	16-Aug	10:29:33	0.015
11	16-Aug	10:44:33	0.011
12	16-Aug	10:59:33	0.01
13	16-Aug	11:14:33	0.01
14	16-Aug	11:29:33	0.011
15	16-Aug	11:44:33	0.007
16	16-Aug	11:59:33	0.008
17	16-Aug	12:14:33	0.01
18	16-Aug	12:29:33	0.008
19	16-Aug	12:44:33	0.003
20	16-Aug	12:59:33	0.006
21	16-Aug	13:14:33	0.004
22	16-Aug	13:29:33	0.008
23	16-Aug	13:44:33	0.004
24	16-Aug	13:59:33	0.003
25	16-Aug	14:14:33	0.002
26	16-Aug	14:29:33	0.003
27	16-Aug	14:44:33	0.002
28	16-Aug	14:59:33	0.003
29	16-Aug	15:14:33	0.002

Address: 3609 High
Site ID: 429
Date: 8/16/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 42
Start time and date: 07:16:27 16-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 4.097 mg/m³
Time at maximum: 13:30:40 Aug 16
Max STEL Concentration: 0.243 mg/m³
Time at max STEL: 15:03:27 Aug 16
Overall Avg Conc: 0.037 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	16-Aug	07:31:27	0.009	30	16-Aug	14:46:27	0.012
2	16-Aug	07:46:27	0.012	31	16-Aug	15:01:27	0.222
3	16-Aug	08:01:27	0.01	32	16-Aug	15:16:27	0.046
4	16-Aug	08:16:27	0.041	33	16-Aug	15:31:27	0.163
5	16-Aug	08:31:27	0.075	34	16-Aug	15:46:27	0.017
6	16-Aug	08:46:27	0.091	35	16-Aug	16:01:27	0.022
7	16-Aug	09:01:27	0.025	36	16-Aug	16:16:27	0.02
8	16-Aug	09:16:27	0.017	37	16-Aug	16:31:27	0.014
9	16-Aug	09:31:27	0.018	38	16-Aug	16:46:27	0.016
10	16-Aug	09:46:27	0.021	39	16-Aug	17:01:27	0.012
11	16-Aug	10:01:27	0.033	40	16-Aug	17:16:27	0.01
12	16-Aug	10:16:27	0.014	41	16-Aug	17:31:27	0.013
13	16-Aug	10:31:27	0.015	42	16-Aug	17:46:27	0.011
14	16-Aug	10:46:27	0.01				
15	16-Aug	11:01:27	0.004				
16	16-Aug	11:16:27	0.004				
17	16-Aug	11:31:27	0.008				
18	16-Aug	11:46:27	0.003				
19	16-Aug	12:01:27	0.131				
20	16-Aug	12:16:27	0.05				
21	16-Aug	12:31:27	0.009				
22	16-Aug	12:46:27	0.08				
23	16-Aug	13:01:27	0.029				
24	16-Aug	13:16:27	0.023				
25	16-Aug	13:31:27	0.117				
26	16-Aug	13:46:27	0.031				
27	16-Aug	14:01:27	0.012				
28	16-Aug	14:16:27	0.071				
29	16-Aug	14:31:27	0.014				

Address: 3452 Josephine
Site ID: 1188
Date: 8/16/03

pDR-1000
User ID: 4018
Tag Number: 01
Number of logged points: 41
Start time and date: 07:36:08 16-Aug
Elapsed time: 10:15:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 5.293 mg/m³
Time at maximum: 16:24:18 Aug 16
Max STEL Concentration: 0.268 mg/m³
Time at max STEL: 16:38:08 Aug 16
Overall Avg Conc: 0.028 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	16-Aug	07:51:08	0.016	30	16-Aug	15:06:08	0.029
2	16-Aug	08:06:08	0.014	31	16-Aug	15:21:08	0.032
3	16-Aug	08:21:08	0.015	32	16-Aug	15:36:08	0.01
4	16-Aug	08:36:08	0.048	33	16-Aug	15:51:08	0.013
5	16-Aug	08:51:08	0.021	34	16-Aug	16:06:08	0.043
6	16-Aug	09:06:08	0.023	35	16-Aug	16:21:08	0.017
7	16-Aug	09:21:08	0.03	36	16-Aug	16:36:08	0.26
8	16-Aug	09:36:08	0.024	37	16-Aug	16:51:08	0.096
9	16-Aug	09:51:08	0.027	38	16-Aug	17:06:08	0.145
10	16-Aug	10:06:08	0.026	39	16-Aug	17:21:08	0.008
11	16-Aug	10:21:08	0.049	40	16-Aug	17:36:08	0.004
12	16-Aug	10:36:08	0.023	41	16-Aug	17:51:08	0.006
13	16-Aug	10:51:08	0.01				
14	16-Aug	11:06:08	0.008				
15	16-Aug	11:21:08	0.008				
16	16-Aug	11:36:08	0.007				
17	16-Aug	11:51:08	0.007				
18	16-Aug	12:06:08	0.007				
19	16-Aug	12:21:08	0.009				
20	16-Aug	12:36:08	0.006				
21	16-Aug	12:51:08	0.003				
22	16-Aug	13:06:08	0.003				
23	16-Aug	13:21:08	0.003				
24	16-Aug	13:36:08	0.004				
25	16-Aug	13:51:08	0.005				
26	16-Aug	14:06:08	0.013				
27	16-Aug	14:21:08	0.006				
28	16-Aug	14:36:08	0.014				
29	16-Aug	14:51:08	0.094				

Address: Background
Site ID:
Date: 8/16/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 40
Start time and date: 07:49:37 16-Aug
Elapsed time: 10:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.134 mg/m³
Time at maximum: 11:44:41 Aug 16
Max STEL Concentration: 0.024 mg/m³
Time at max STEL: 10:05:37 Aug 16
Overall Avg Conc: 0.013 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	16-Aug	08:04:37	0.02	30	16-Aug	15:19:37	0.008
2	16-Aug	08:19:37	0.018	31	16-Aug	15:34:37	0.008
3	16-Aug	08:34:37	0.016	32	16-Aug	15:49:37	0.01
4	16-Aug	08:49:37	0.016	33	16-Aug	16:04:37	0.011
5	16-Aug	09:04:37	0.016	34	16-Aug	16:19:37	0.01
6	16-Aug	09:19:37	0.02	35	16-Aug	16:34:37	0.009
7	16-Aug	09:34:37	0.022	36	16-Aug	16:49:37	0.008
8	16-Aug	09:49:37	0.02	37	16-Aug	17:04:37	0.009
9	16-Aug	10:04:37	0.023	38	16-Aug	17:19:37	0.009
10	16-Aug	10:19:37	0.018	39	16-Aug	17:34:37	0.01
11	16-Aug	10:34:37	0.018	40	16-Aug	17:49:37	0.011
12	16-Aug	10:49:37	0.014				
13	16-Aug	11:04:37	0.013				
14	16-Aug	11:19:37	0.013				
15	16-Aug	11:34:37	0.012				
16	16-Aug	11:49:37	0.013				
17	16-Aug	12:04:37	0.014				
18	16-Aug	12:19:37	0.015				
19	16-Aug	12:34:37	0.012				
20	16-Aug	12:49:37	0.009				
21	16-Aug	13:04:37	0.01				
22	16-Aug	13:19:37	0.009				
23	16-Aug	13:34:37	0.011				
24	16-Aug	13:49:37	0.012				
25	16-Aug	14:04:37	0.011				
26	16-Aug	14:19:37	0.008				
27	16-Aug	14:34:37	0.009				
28	16-Aug	14:49:37	0.012				
29	16-Aug	15:04:37	0.011				

Address: 3521 Josephine
Site ID: 1236
Date: 08/18/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 34
Start time and date: 07:28:06 18-Aug
Elapsed time: 08:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.860 mg/m³
Time at maximum: 15:53:15 Aug 18
Max STEL Concentration: 0.072 mg/m³
Time at max STEL: 16:03:07 Aug 18
Overall Avg Conc: 0.025 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	18-Aug	07:43:06	0.017	30	18-Aug	14:58:06	0.009
2	18-Aug	07:58:06	0.02	31	18-Aug	15:13:06	0.023
3	18-Aug	08:13:06	0.022	32	18-Aug	15:28:06	0.024
4	18-Aug	08:28:06	0.024	33	18-Aug	15:43:06	0.027
5	18-Aug	08:43:06	0.025	34	18-Aug	15:58:06	0.063
6	18-Aug	08:58:06	0.036				
7	18-Aug	09:13:06	0.033				
8	18-Aug	09:28:06	0.03				
9	18-Aug	09:43:06	0.035				
10	18-Aug	09:58:06	0.037				
11	18-Aug	10:13:06	0.042				
12	18-Aug	10:28:06	0.049				
13	18-Aug	10:43:06	0.048				
14	18-Aug	10:58:06	0.033				
15	18-Aug	11:13:06	0.037				
16	18-Aug	11:28:06	0.031				
17	18-Aug	11:43:06	0.028				
18	18-Aug	11:58:06	0.026				
19	18-Aug	12:13:06	0.019				
20	18-Aug	12:28:06	0.018				
21	18-Aug	12:43:06	0.017				
22	18-Aug	12:58:06	0.038				
23	18-Aug	13:13:06	0.021				
24	18-Aug	13:28:06	0.001				
25	18-Aug	13:43:06	0				
26	18-Aug	13:58:06	0.007				
27	18-Aug	14:13:06	0.004				
28	18-Aug	14:28:06	0.012				
29	18-Aug	14:43:06	0.011				

Address: 3452 Josephine
Site ID: 1188
Date: 8/18/03

pDR-1000
User ID: 4018
Tag Number: 01
Number of logged points: 35
Start time and date: 07:15:19 18-Aug
Elapsed time: 08:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.841 mg/m³
Time at maximum: 08:49:15 Aug 18
Max STEL Concentration: 0.147 mg/m³
Time at max STEL: 08:53:19 Aug 18
Overall Avg Conc: 0.023 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	18-Aug	07:30:19	0.015	30	18-Aug	14:45:19	0.014
2	18-Aug	07:45:19	0.011	31	18-Aug	15:00:19	0.008
3	18-Aug	08:00:19	0.016	32	18-Aug	15:15:19	0.006
4	18-Aug	08:15:19	0.02	33	18-Aug	15:30:19	0.008
5	18-Aug	08:30:19	0.022	34	18-Aug	15:45:19	0.019
6	18-Aug	08:45:19	0.047	35	18-Aug	16:00:19	0.013
7	18-Aug	09:00:19	0.139				
8	18-Aug	09:15:19	0.052				
9	18-Aug	09:30:19	0.039				
10	18-Aug	09:45:19	0.075				
11	18-Aug	10:00:19	0.035				
12	18-Aug	10:15:19	0.041				
13	18-Aug	10:30:19	0.025				
14	18-Aug	10:45:19	0.02				
15	18-Aug	11:00:19	0.026				
16	18-Aug	11:15:19	0.018				
17	18-Aug	11:30:19	0.027				
18	18-Aug	11:45:19	0.02				
19	18-Aug	12:00:19	0.015				
20	18-Aug	12:15:19	0.011				
21	18-Aug	12:30:19	0.009				
22	18-Aug	12:45:19	0.011				
23	18-Aug	13:00:19	0.022				
24	18-Aug	13:15:19	0.018				
25	18-Aug	13:30:19	0.02				
26	18-Aug	13:45:19	0.006				
27	18-Aug	14:00:19	0				
28	18-Aug	14:15:19	0.003				
29	18-Aug	14:30:19	0.009				

Address: 3601 York
Site ID: 837
Date: 8/18/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 32
Start time and date: 07:51:23 18-Aug
Elapsed time: 08:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 19.961 mg/m³
Time at maximum: 09:52:18 Aug 18
Max STEL Concentration: 0.273 mg/m³
Time at max STEL: 10:00:23 Aug 18
Overall Avg Conc: 0.032 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	18-Aug	08:06:23	0.03	30	18-Aug	15:21:23	0.013
2	18-Aug	08:21:23	0.035	31	18-Aug	15:36:23	0.024
3	18-Aug	08:36:23	0.032	32	18-Aug	15:51:23	0.019
4	18-Aug	08:51:23	0.033				
5	18-Aug	09:06:23	0.039				
6	18-Aug	09:21:23	0.06				
7	18-Aug	09:36:23	0.033				
8	18-Aug	09:51:23	0.043				
9	18-Aug	10:06:23	0.273				
10	18-Aug	10:21:23	0.032				
11	18-Aug	10:36:23	0.024				
12	18-Aug	10:51:23	0.015				
13	18-Aug	11:06:23	0.014				
14	18-Aug	11:21:23	0.01				
15	18-Aug	11:36:23	0.011				
16	18-Aug	11:51:23	0.014				
17	18-Aug	12:06:23	0.012				
18	18-Aug	12:21:23	0.009				
19	18-Aug	12:36:23	0.007				
20	18-Aug	12:51:23	0.012				
21	18-Aug	13:06:23	0.034				
22	18-Aug	13:21:23	0.049				
23	18-Aug	13:36:23	0.014				
24	18-Aug	13:51:23	0.011				
25	18-Aug	14:06:23	0.006				
26	18-Aug	14:21:23	0.024				
27	18-Aug	14:36:23	0.019				
28	18-Aug	14:51:23	0.045				
29	18-Aug	15:06:23	0.033				

Address: 3452 Josephine
Site ID: 1188
Date: 8/18/03

pDR-1000
User ID: 4018
Tag Number: 01
Number of logged points: 35
Start time and date: 07:15:19 18-Aug
Elapsed time: 08:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.841 mg/m³
Time at maximum: 08:49:15 Aug 18
Max STEL Concentration: 0.147 mg/m³
Time at max STEL: 08:53:19 Aug 18
Overall Avg Conc: 0.023 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	18-Aug	07:30:19	0.015	30	18-Aug	14:45:19	0.014
2	18-Aug	07:45:19	0.011	31	18-Aug	15:00:19	0.008
3	18-Aug	08:00:19	0.016	32	18-Aug	15:15:19	0.006
4	18-Aug	08:15:19	0.02	33	18-Aug	15:30:19	0.008
5	18-Aug	08:30:19	0.022	34	18-Aug	15:45:19	0.019
6	18-Aug	08:45:19	0.047	35	18-Aug	16:00:19	0.013
7	18-Aug	09:00:19	0.139				
8	18-Aug	09:15:19	0.052				
9	18-Aug	09:30:19	0.039				
10	18-Aug	09:45:19	0.075				
11	18-Aug	10:00:19	0.035				
12	18-Aug	10:15:19	0.041				
13	18-Aug	10:30:19	0.025				
14	18-Aug	10:45:19	0.02				
15	18-Aug	11:00:19	0.026				
16	18-Aug	11:15:19	0.018				
17	18-Aug	11:30:19	0.027				
18	18-Aug	11:45:19	0.02				
19	18-Aug	12:00:19	0.015				
20	18-Aug	12:15:19	0.011				
21	18-Aug	12:30:19	0.009				
22	18-Aug	12:45:19	0.011				
23	18-Aug	13:00:19	0.022				
24	18-Aug	13:15:19	0.018				
25	18-Aug	13:30:19	0.02				
26	18-Aug	13:45:19	0.006				
27	18-Aug	14:00:19	0				
28	18-Aug	14:15:19	0.003				
29	18-Aug	14:30:19	0.009				

Address: Background
Site ID:
Date: 8/18/03

pDR-1000
User ID: 2025
Tag Number: 02
Number of logged points: 23
Start time and date: 10:06:51 18-Aug
Elapsed time: 05:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.137 mg/m³
Time at maximum: 13:07:02 Aug 18
Max STEL Concentration: 0.028 mg/m³
Time at max STEL: 13:09:21 Aug 18
Overall Avg Conc: 0.013 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)
1	18-Aug	10:21:51	0.027
2	18-Aug	10:36:51	0.023
3	18-Aug	10:51:51	0.02
4	18-Aug	11:06:51	0.015
5	18-Aug	11:21:51	0.014
6	18-Aug	11:36:51	0.011
7	18-Aug	11:51:51	0.015
8	18-Aug	12:06:51	0.014
9	18-Aug	12:21:51	0.012
10	18-Aug	12:36:51	0.013
11	18-Aug	12:51:51	0.015
12	18-Aug	13:06:51	0.024
13	18-Aug	13:21:51	0.013
14	18-Aug	13:36:51	0.003
15	18-Aug	13:51:51	0.014
16	18-Aug	14:06:51	0.011
17	18-Aug	14:21:51	0.016
18	18-Aug	14:36:51	0.014
19	18-Aug	14:51:51	0.004
20	18-Aug	15:06:51	0.006
21	18-Aug	15:21:51	0.006
22	18-Aug	15:36:51	0.018
23	18-Aug	15:51:51	0.018

Address: 3601 York
Site ID: 837
Date: 08/19/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 41
Start time and date: 07:19:54 19-Aug
Elapsed time: 10:15:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.736 mg/m³
Time at maximum: 16:24:18 Aug 19
Max STEL Concentration: 0.151 mg/m³
Time at max STEL: 16:28:55 Aug 19
Overall Avg Conc: 0.040 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	19-Aug	07:34:54	0.008	30	19-Aug	14:49:54	0.045
2	19-Aug	07:49:54	0.012	31	19-Aug	15:04:54	0.033
3	19-Aug	08:04:54	0.01	32	19-Aug	15:19:54	0.053
4	19-Aug	08:19:54	0.007	33	19-Aug	15:34:54	0.068
5	19-Aug	08:34:54	0.025	34	19-Aug	15:49:54	0.026
6	19-Aug	08:49:54	0.062	35	19-Aug	16:04:54	0.04
7	19-Aug	09:04:54	0.046	36	19-Aug	16:19:54	0.1
8	19-Aug	09:19:54	0.016	37	19-Aug	16:34:54	0.111
9	19-Aug	09:34:54	0.086	38	19-Aug	16:49:54	0.028
10	19-Aug	09:49:54	0.039	39	19-Aug	17:04:54	0.016
11	19-Aug	10:04:54	0.035	40	19-Aug	17:19:54	0.016
12	19-Aug	10:19:54	0.04	41	19-Aug	17:34:54	0.018
13	19-Aug	10:34:54	0.028				
14	19-Aug	10:49:54	0.055				
15	19-Aug	11:04:54	0.07				
16	19-Aug	11:19:54	0.035				
17	19-Aug	11:34:54	0.016				
18	19-Aug	11:49:54	0.018				
19	19-Aug	12:04:54	0.011				
20	19-Aug	12:19:54	0.035				
21	19-Aug	12:34:54	0.021				
22	19-Aug	12:49:54	0.013				
23	19-Aug	13:04:54	0.025				
24	19-Aug	13:19:54	0.055				
25	19-Aug	13:34:54	0.046				
26	19-Aug	13:49:54	0.057				
27	19-Aug	14:04:54	0.08				
28	19-Aug	14:19:54	0.059				
29	19-Aug	14:34:54	0.091				

Address: 4712 Brighton Blvd.
Site ID: 2370
Date: 8/19/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 40
Start time and date: 08:00:06 19-Aug
Elapsed time: 10:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 2.110 mg/m³
Time at maximum: 18:01:59 Aug 19
Max STEL Concentration: 0.061 mg/m³
Time at max STEL: 12:56:06 Aug 19
Overall Avg Conc: 0.032 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	19-Aug	08:15:06	0.036	30	19-Aug	15:30:06	0.045
2	19-Aug	08:30:06	0.03	31	19-Aug	15:45:06	0.042
3	19-Aug	08:45:06	0.03	32	19-Aug	16:00:06	0.036
4	19-Aug	09:00:06	0.033	33	19-Aug	16:15:06	0.053
5	19-Aug	09:15:06	0.035	34	19-Aug	16:30:06	0.042
6	19-Aug	09:30:06	0.036	35	19-Aug	16:45:06	0.034
7	19-Aug	09:45:06	0.041	36	19-Aug	17:00:06	0.03
8	19-Aug	10:00:06	0.025	37	19-Aug	17:15:06	0.03
9	19-Aug	10:15:06	0.022	38	19-Aug	17:30:06	0.032
10	19-Aug	10:30:06	0.023	39	19-Aug	17:45:06	0.031
11	19-Aug	10:45:06	0.026	40	19-Aug	18:00:06	0.034
12	19-Aug	11:00:06	0.019				
13	19-Aug	11:15:06	0.017				
14	19-Aug	11:30:06	0.013				
15	19-Aug	11:45:06	0.013				
16	19-Aug	12:00:06	0.016				
17	19-Aug	12:15:06	0.011				
18	19-Aug	12:30:06	0.013				
19	19-Aug	12:45:06	0.033				
20	19-Aug	13:00:06	0.044				
21	19-Aug	13:15:06	0.029				
22	19-Aug	13:30:06	0.031				
23	19-Aug	13:45:06	0.031				
24	19-Aug	14:00:06	0.037				
25	19-Aug	14:15:06	0.039				
26	19-Aug	14:30:06	0.055				
27	19-Aug	14:45:06	0.032				
28	19-Aug	15:00:06	0.031				
29	19-Aug	15:15:06	0.036				

Address: Background
Site ID:
Date: 8/19/03

pDR-1000
User ID: 4018
Tag Number: 01
Number of logged points: 40
Start time and date: 07:35:14 19-Aug
Elapsed time: 10:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.185 mg/m³
Time at maximum: 12:18:04 Aug 19
Max STEL Concentration: 0.026 mg/m³
Time at max STEL: 14:34:45 Aug 19
Overall Avg Conc: 0.016 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	19-Aug	07:50:14	0.015	30	19-Aug	15:05:14	0.021
2	19-Aug	08:05:14	0.02	31	19-Aug	15:20:14	0.02
3	19-Aug	08:20:14	0.014	32	19-Aug	15:35:14	0.019
4	19-Aug	08:35:14	0.016	33	19-Aug	15:50:14	0.018
5	19-Aug	08:50:14	0.015	34	19-Aug	16:05:14	0.019
6	19-Aug	09:05:14	0.017	35	19-Aug	16:20:14	0.019
7	19-Aug	09:20:14	0.012	36	19-Aug	16:35:14	0.019
8	19-Aug	09:35:14	0.011	37	19-Aug	16:50:14	0.018
9	19-Aug	09:50:14	0.011	38	19-Aug	17:05:14	0.019
10	19-Aug	10:05:14	0.014	39	19-Aug	17:20:14	0.019
11	19-Aug	10:20:14	0.015	40	19-Aug	17:35:14	0.02
12	19-Aug	10:35:14	0.014				
13	19-Aug	10:50:14	0.009				
14	19-Aug	11:05:14	0.009				
15	19-Aug	11:20:14	0.008				
16	19-Aug	11:35:14	0.011				
17	19-Aug	11:50:14	0.01				
18	19-Aug	12:05:14	0.009				
19	19-Aug	12:20:14	0.015				
20	19-Aug	12:35:14	0.014				
21	19-Aug	12:50:14	0.013				
22	19-Aug	13:05:14	0.015				
23	19-Aug	13:20:14	0.016				
24	19-Aug	13:35:14	0.022				
25	19-Aug	13:50:14	0.02				
26	19-Aug	14:05:14	0.021				
27	19-Aug	14:20:14	0.02				
28	19-Aug	14:35:14	0.025				
29	19-Aug	14:50:14	0.02				

Address: 3521 Josephine
Site ID: 1236
Date: 8/19/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 41
Start time and date: 07:29:23 19-Aug
Elapsed time: 10:15:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.405 mg/m³
Time at maximum: 10:37:51 Aug 19
Max STEL Concentration: 0.172 mg/m³
Time at max STEL: 10:56:53 Aug 19
Overall Avg Conc: 0.031 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	19-Aug	07:44:23	0.019	30	19-Aug	14:59:23	0.027
2	19-Aug	07:59:23	0.025	31	19-Aug	15:14:23	0.033
3	19-Aug	08:14:23	0.021	32	19-Aug	15:29:23	0.038
4	19-Aug	08:29:23	0.018	33	19-Aug	15:44:23	0.026
5	19-Aug	08:44:23	0.018	34	19-Aug	15:59:23	0.034
6	19-Aug	08:59:23	0.023	35	19-Aug	16:14:23	0.029
7	19-Aug	09:14:23	0.017	36	19-Aug	16:29:23	0.041
8	19-Aug	09:29:23	0.018	37	19-Aug	16:44:23	0.079
9	19-Aug	09:44:23	0.016	38	19-Aug	16:59:23	0.033
10	19-Aug	09:59:23	0.018	39	19-Aug	17:14:23	0.038
11	19-Aug	10:14:23	0.022	40	19-Aug	17:29:23	0.026
12	19-Aug	10:29:23	0.04	41	19-Aug	17:44:23	0.025
13	19-Aug	10:44:23	0.047				
14	19-Aug	10:59:23	0.169				
15	19-Aug	11:14:23	0.034				
16	19-Aug	11:29:23	0.031				
17	19-Aug	11:44:23	0.032				
18	19-Aug	11:59:23	0.02				
19	19-Aug	12:14:23	0.011				
20	19-Aug	12:29:23	0.012				
21	19-Aug	12:44:23	0.015				
22	19-Aug	12:59:23	0.029				
23	19-Aug	13:14:23	0.02				
24	19-Aug	13:29:23	0.026				
25	19-Aug	13:44:23	0.022				
26	19-Aug	13:59:23	0.023				
27	19-Aug	14:14:23	0.026				
28	19-Aug	14:29:23	0.032				
29	19-Aug	14:44:23	0.029				

Address: Background
Site ID:
Date: 8/20/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 40
Start time and date: 07:48:42 20-Aug
Elapsed time: 10:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.217 mg/m³
Time at maximum: 13:43:28 Aug 20
Max STEL Concentration: 0.026 mg/m³
Time at max STEL: 13:56:43 Aug 20
Overall Avg Conc: 0.021 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	20-Aug	08:03:42	0.023	30	20-Aug	15:18:42	0.024
2	20-Aug	08:18:42	0.021	31	20-Aug	15:33:42	0.025
3	20-Aug	08:33:42	0.022	32	20-Aug	15:48:42	0.022
4	20-Aug	08:48:42	0.025	33	20-Aug	16:03:42	0.022
5	20-Aug	09:03:42	0.023	34	20-Aug	16:18:42	0.02
6	20-Aug	09:18:42	0.022	35	20-Aug	16:33:42	0.021
7	20-Aug	09:33:42	0.024	36	20-Aug	16:48:42	0.02
8	20-Aug	09:48:42	0.024	37	20-Aug	17:03:42	0.021
9	20-Aug	10:03:42	0.023	38	20-Aug	17:18:42	0.021
10	20-Aug	10:18:42	0.023	39	20-Aug	17:33:42	0.018
11	20-Aug	10:33:42	0.022	40	20-Aug	17:48:42	0.02
12	20-Aug	10:48:42	0.023				
13	20-Aug	11:03:42	0.021				
14	20-Aug	11:18:42	0.021				
15	20-Aug	11:33:42	0.018				
16	20-Aug	11:48:42	0.018				
17	20-Aug	12:03:42	0.017				
18	20-Aug	12:18:42	0.018				
19	20-Aug	12:33:42	0.019				
20	20-Aug	12:48:42	0.02				
21	20-Aug	13:03:42	0.021				
22	20-Aug	13:18:42	0.02				
23	20-Aug	13:33:42	0.021				
24	20-Aug	13:48:42	0.025				
25	20-Aug	14:03:42	0.021				
26	20-Aug	14:18:42	0.022				
27	20-Aug	14:33:42	0.02				
28	20-Aug	14:48:42	0.022				
29	20-Aug	15:03:42	0.024				

Address: 4712 Brighton Blvd.
Site ID: 2370
Date: 8/20/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 41
Start time and date: 07:22:42 20-Aug
Elapsed time: 10:15:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.178 mg/m³
Time at maximum: 08:24:05 Aug 20
Max STEL Concentration: 0.100 mg/m³
Time at max STEL: 11:26:42 Aug 20
Overall Avg Conc: 0.026 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	20-Aug	07:37:42	0.022	30	20-Aug	14:52:42	0.006
2	20-Aug	07:52:42	0.023	31	20-Aug	15:07:42	0.009
3	20-Aug	08:07:42	0.026	32	20-Aug	15:22:42	0.009
4	20-Aug	08:22:42	0.036	33	20-Aug	15:37:42	0.012
5	20-Aug	08:37:42	0.085	34	20-Aug	15:52:42	0.022
6	20-Aug	08:52:42	0.048	35	20-Aug	16:07:42	0.008
7	20-Aug	09:07:42	0.042	36	20-Aug	16:22:42	0.014
8	20-Aug	09:22:42	0.069	37	20-Aug	16:37:42	0.014
9	20-Aug	09:37:42	0.034	38	20-Aug	16:52:42	0.01
10	20-Aug	09:52:42	0.032	39	20-Aug	17:07:42	0.006
11	20-Aug	10:07:42	0.069	40	20-Aug	17:22:42	0.005
12	20-Aug	10:22:42	0.043	41	20-Aug	17:37:42	0.006
13	20-Aug	10:37:42	0.022				
14	20-Aug	10:52:42	0.049				
15	20-Aug	11:07:42	0.03				
16	20-Aug	11:22:42	0.075				
17	20-Aug	11:37:42	0.051				
18	20-Aug	11:52:42	0.028				
19	20-Aug	12:07:42	0.009				
20	20-Aug	12:22:42	0.004				
21	20-Aug	12:37:42	0.005				
22	20-Aug	12:52:42	0.003				
23	20-Aug	13:07:42	0.021				
24	20-Aug	13:22:42	0.024				
25	20-Aug	13:37:42	0.031				
26	20-Aug	13:52:42	0.007				
27	20-Aug	14:07:42	0.035				
28	20-Aug	14:22:42	0.004				
29	20-Aug	14:37:42	0.008				

Address: 3724 York
Site ID: 1336
Date: 8/20/03

pDR-1000
User ID: 4018
Tag Number: 01
Number of logged points: 41
Start time and date: 07:42:23 20-Aug
Elapsed time: 10:15:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.917 mg/m³
Time at maximum: 10:08:03 Aug 20
Max STEL Concentration: 0.051 mg/m³
Time at max STEL: 11:25:53 Aug 20
Overall Avg Conc: 0.016 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	20-Aug	07:57:23	0.013	30	20-Aug	15:12:23	0.014
2	20-Aug	08:12:23	0.013	31	20-Aug	15:27:23	0.016
3	20-Aug	08:27:23	0.016	32	20-Aug	15:42:23	0.011
4	20-Aug	08:42:23	0.015	33	20-Aug	15:57:23	0.011
5	20-Aug	08:57:23	0.018	34	20-Aug	16:12:23	0.024
6	20-Aug	09:12:23	0.015	35	20-Aug	16:27:23	0.021
7	20-Aug	09:27:23	0.019	36	20-Aug	16:42:23	0.015
8	20-Aug	09:42:23	0.02	37	20-Aug	16:57:23	0.01
9	20-Aug	09:57:23	0.015	38	20-Aug	17:12:23	0.013
10	20-Aug	10:12:23	0.037	39	20-Aug	17:27:23	0.016
11	20-Aug	10:27:23	0.02	40	20-Aug	17:42:23	0.009
12	20-Aug	10:42:23	0.028	41	20-Aug	17:57:23	0.009
13	20-Aug	10:57:23	0.016				
14	20-Aug	11:12:23	0.02				
15	20-Aug	11:27:23	0.048				
16	20-Aug	11:42:23	0.014				
17	20-Aug	11:57:23	0.006				
18	20-Aug	12:12:23	0.007				
19	20-Aug	12:27:23	0.013				
20	20-Aug	12:42:23	0.022				
21	20-Aug	12:57:23	0.008				
22	20-Aug	13:12:23	0.007				
23	20-Aug	13:27:23	0.009				
24	20-Aug	13:42:23	0.01				
25	20-Aug	13:57:23	0.009				
26	20-Aug	14:12:23	0.011				
27	20-Aug	14:27:23	0.023				
28	20-Aug	14:42:23	0.012				
29	20-Aug	14:57:23	0.011				

Address: 3521 Josephine
Site ID: 1236
Date: 8/20/03

pDR-1000
User ID: 2025a
Tag Number: 01
Number of logged points: 31
Start time and date: 08:06:43 20-Aug
Elapsed time: 07:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 3.091 mg/m³
Time at maximum: 15:20:41 Aug 20
Max STEL Concentration: 0.101 mg/m³
Time at max STEL: 13:47:43 Aug 20
Overall Avg Conc: 0.033 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	20-Aug	08:21:43	0.018	30	20-Aug	15:36:43	0.038
2	20-Aug	08:36:43	0.017	31	20-Aug	15:51:43	0.047
3	20-Aug	08:51:43	0.018				
4	20-Aug	09:06:43	0.02				
5	20-Aug	09:21:43	0.02				
6	20-Aug	09:36:43	0.019				
7	20-Aug	09:51:43	0.019				
8	20-Aug	10:06:43	0.019				
9	20-Aug	10:21:43	0.018				
10	20-Aug	10:36:43	0.018				
11	20-Aug	10:51:43	0.042				
12	20-Aug	11:06:43	0.046				
13	20-Aug	11:21:43	0.04				
14	20-Aug	11:36:43	0.031				
15	20-Aug	11:51:43	0.035				
16	20-Aug	12:06:43	0.019				
17	20-Aug	12:21:43	0.016				
18	20-Aug	12:36:43	0.018				
19	20-Aug	12:51:43	0.05				
20	20-Aug	13:06:43	0.051				
21	20-Aug	13:21:43	0.047				
22	20-Aug	13:36:43	0.04				
23	20-Aug	13:51:43	0.098				
24	20-Aug	14:06:43	0.027				
25	20-Aug	14:21:43	0.028				
26	20-Aug	14:36:43	0.033				
27	20-Aug	14:51:43	0.046				
28	20-Aug	15:06:43	0.025				
29	20-Aug	15:21:43	0.064				

Address: 3447 St Paul
Site ID: 1119
Date: 8/20/03

pDR-1000
User ID: 2025b
Tag Number: 02
Number of logged points: 7
Start time and date: 16:02:42 20-Aug
Elapsed time: 01:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.143 mg/m³
Time at maximum: 17:55:56 Aug 20
Max STEL Concentration: 0.025 mg/m³
Time at max STEL: 17:11:12 Aug 20
Overall Avg Conc: 0.024 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)
1	20-Aug	16:17:42	0.023
2	20-Aug	16:32:42	0.024
3	20-Aug	16:47:42	0.024
4	20-Aug	17:02:42	0.024
5	20-Aug	17:17:42	0.024
6	20-Aug	17:32:42	0.024
7	20-Aug	17:47:42	0.024

Address: 3724 York 3730 York
Site ID: 1336 2776
Date: 8/21/03 8/21/03

Start time and date: 07:56:55 21-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.252 mg/m³
Time at maximum: 15:08:58 Aug 21
Max STEL Concentration: 0.080 mg/m³
Time at max STEL: 08:11:55 Aug 21
Overall Avg Conc: 0.034 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	21-Aug	08:11:55	0.08	30	21-Aug	15:26:55	0.037
2	21-Aug	08:26:55	0.048	31	21-Aug	15:41:55	0.037
3	21-Aug	08:41:55	0.037	32	21-Aug	15:56:55	0.035
4	21-Aug	08:56:55	0.035	33	21-Aug	16:11:55	0.038
5	21-Aug	09:11:55	0.035	34	21-Aug	16:26:55	0.037
6	21-Aug	09:26:55	0.035	35	21-Aug	16:41:55	0.034
7	21-Aug	09:41:55	0.037	36	21-Aug	16:56:55	0.034
8	21-Aug	09:56:55	0.031	37	21-Aug	17:11:55	0.032
9	21-Aug	10:11:55	0.034	38	21-Aug	17:26:55	0.031
10	21-Aug	10:26:55	0.033	39	21-Aug	17:41:55	0.03
11	21-Aug	10:41:55	0.035	40	21-Aug	17:56:55	0.034
12	21-Aug	10:56:55	0.033	41	21-Aug	18:11:55	0.03
13	21-Aug	11:11:55	0.035	42	21-Aug	18:26:55	0.027
14	21-Aug	11:26:55	0.032				
15	21-Aug	11:41:55	0.032				
16	21-Aug	11:56:55	0.031				
17	21-Aug	12:11:55	0.029				
18	21-Aug	12:26:55	0.03				
19	21-Aug	12:41:55	0.027				
20	21-Aug	12:56:55	0.029				
21	21-Aug	13:11:55	0.034				
22	21-Aug	13:26:55	0.03				
23	21-Aug	13:41:55	0.033				
24	21-Aug	13:56:55	0.031				
25	21-Aug	14:11:55	0.031				
26	21-Aug	14:26:55	0.034				
27	21-Aug	14:41:55	0.032				
28	21-Aug	14:56:55	0.031				
29	21-Aug	15:11:55	0.041				

Address: 4909 Milwaukee
Site ID: 3865
Date: 8/21/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 42
Start time and date: 07:24:43 21-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.660 mg/m³
Time at maximum: 08:06:12 Aug 21
Max STEL Concentration: 0.082 mg/m³
Time at max STEL: 08:06:13 Aug 21
Overall Avg Conc: 0.040 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	21-Aug	07:39:43	0.05	30	21-Aug	14:54:43	0.04
2	21-Aug	07:54:43	0.073	31	21-Aug	15:09:43	0.03
3	21-Aug	08:09:43	0.079	32	21-Aug	15:24:43	0.038
4	21-Aug	08:24:43	0.045	33	21-Aug	15:39:43	0.04
5	21-Aug	08:39:43	0.044	34	21-Aug	15:54:43	0.034
6	21-Aug	08:54:43	0.046	35	21-Aug	16:09:43	0.035
7	21-Aug	09:09:43	0.043	36	21-Aug	16:24:43	0.037
8	21-Aug	09:24:43	0.057	37	21-Aug	16:39:43	0.039
9	21-Aug	09:39:43	0.055	38	21-Aug	16:54:43	0.038
10	21-Aug	09:54:43	0.053	39	21-Aug	17:09:43	0.042
11	21-Aug	10:09:43	0.051	40	21-Aug	17:24:43	0.041
12	21-Aug	10:24:43	0.035	41	21-Aug	17:39:43	0.032
13	21-Aug	10:39:43	0.036	42	21-Aug	17:54:43	0.029
14	21-Aug	10:54:43	0.045				
15	21-Aug	11:09:43	0.045				
16	21-Aug	11:24:43	0.031				
17	21-Aug	11:39:43	0.027				
18	21-Aug	11:54:43	0.029				
19	21-Aug	12:09:43	0.027				
20	21-Aug	12:24:43	0.03				
21	21-Aug	12:39:43	0.027				
22	21-Aug	12:54:43	0.035				
23	21-Aug	13:09:43	0.04				
24	21-Aug	13:24:43	0.041				
25	21-Aug	13:39:43	0.033				
26	21-Aug	13:54:43	0.029				
27	21-Aug	14:09:43	0.029				
28	21-Aug	14:24:43	0.037				
29	21-Aug	14:39:43	0.031				

Address: Background
Site ID: 1336
Date: 8/21/03

pDR-1000
User ID: 4018
Tag Number: 01
Number of logged points: 42
Start time and date: 07:48:18 21-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.272 mg/m³
Time at maximum: 08:21:50 Aug 21
Max STEL Concentration: 0.068 mg/m³
Time at max STEL: 08:19:48 Aug 21
Overall Avg Conc: 0.043 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	21-Aug	08:03:18	0.032	30	21-Aug	15:18:18	0.041
2	21-Aug	08:18:18	0.065	31	21-Aug	15:33:18	0.043
3	21-Aug	08:33:18	0.047	32	21-Aug	15:48:18	0.045
4	21-Aug	08:48:18	0.045	33	21-Aug	16:03:18	0.046
5	21-Aug	09:03:18	0.044	34	21-Aug	16:18:18	0.046
6	21-Aug	09:18:18	0.043	35	21-Aug	16:33:18	0.042
7	21-Aug	09:33:18	0.042	36	21-Aug	16:48:18	0.043
8	21-Aug	09:48:18	0.044	37	21-Aug	17:03:18	0.042
9	21-Aug	10:03:18	0.041	38	21-Aug	17:18:18	0.051
10	21-Aug	10:18:18	0.044	39	21-Aug	17:33:18	0.042
11	21-Aug	10:33:18	0.044	40	21-Aug	17:48:18	0.04
12	21-Aug	10:48:18	0.045	41	21-Aug	18:03:18	0.041
13	21-Aug	11:03:18	0.045	42	21-Aug	18:18:18	0.039
14	21-Aug	11:18:18	0.042				
15	21-Aug	11:33:18	0.042				
16	21-Aug	11:48:18	0.046				
17	21-Aug	12:03:18	0.041				
18	21-Aug	12:18:18	0.039				
19	21-Aug	12:33:18	0.038				
20	21-Aug	12:48:18	0.039				
21	21-Aug	13:03:18	0.04				
22	21-Aug	13:18:18	0.042				
23	21-Aug	13:33:18	0.043				
24	21-Aug	13:48:18	0.041				
25	21-Aug	14:03:18	0.041				
26	21-Aug	14:18:18	0.042				
27	21-Aug	14:33:18	0.039				
28	21-Aug	14:48:18	0.042				
29	21-Aug	15:03:18	0.038				

Address: 3447 St. Paul
Site ID: 1119
Date: 8/21/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 42
Start time and date: 07:44:27 21-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.190 mg/m³
Time at maximum: 07:52:45 Aug 21
Max STEL Concentration: 0.071 mg/m³
Time at max STEL: 08:21:27 Aug 21
Overall Avg Conc: 0.044 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	21-Aug	07:59:27	0.035	30	21-Aug	15:14:27	0.045
2	21-Aug	08:14:27	0.054	31	21-Aug	15:29:27	0.042
3	21-Aug	08:29:27	0.063	32	21-Aug	15:44:27	0.043
4	21-Aug	08:44:27	0.046	33	21-Aug	15:59:27	0.048
5	21-Aug	08:59:27	0.044	34	21-Aug	16:14:27	0.045
6	21-Aug	09:14:27	0.043	35	21-Aug	16:29:27	0.043
7	21-Aug	09:29:27	0.047	36	21-Aug	16:44:27	0.043
8	21-Aug	09:44:27	0.041	37	21-Aug	16:59:27	0.042
9	21-Aug	09:59:27	0.043	38	21-Aug	17:14:27	0.043
10	21-Aug	10:14:27	0.042	39	21-Aug	17:29:27	0.043
11	21-Aug	10:29:27	0.045	40	21-Aug	17:44:27	0.043
12	21-Aug	10:44:27	0.043	41	21-Aug	17:59:27	0.04
13	21-Aug	10:59:27	0.045	42	21-Aug	18:14:27	0.039
14	21-Aug	11:14:27	0.044				
15	21-Aug	11:29:27	0.043				
16	21-Aug	11:44:27	0.042				
17	21-Aug	11:59:27	0.042				
18	21-Aug	12:14:27	0.04				
19	21-Aug	12:29:27	0.04				
20	21-Aug	12:44:27	0.039				
21	21-Aug	12:59:27	0.044				
22	21-Aug	13:14:27	0.041				
23	21-Aug	13:29:27	0.042				
24	21-Aug	13:44:27	0.043				
25	21-Aug	13:59:27	0.043				
26	21-Aug	14:14:27	0.044				
27	21-Aug	14:29:27	0.046				
28	21-Aug	14:44:27	0.044				
29	21-Aug	14:59:27	0.045				

Address:	3724 York	3730 York
Site ID:	1336	2776
Date:	8/22/03	8/22/03

pDR-1000
User ID: 4211
Tag Number: 02
Number of logged points: 43
Start time and date: 07:51:25 22-Aug
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.932 mg/m³
Time at maximum: 08:15:45 Aug 22
Max STEL Concentration: 0.121 mg/m³
Time at max STEL: 08:24:25 Aug 22
Overall Avg Conc: 0.037 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	22-Aug	08:06:25	0.036	30	22-Aug	15:21:25	0.039
2	22-Aug	08:21:25	0.093	31	22-Aug	15:36:25	0.078
3	22-Aug	08:36:25	0.069	32	22-Aug	15:51:25	0.052
4	22-Aug	08:51:25	0.063	33	22-Aug	16:06:25	0.025
5	22-Aug	09:06:25	0.067	34	22-Aug	16:21:25	0.036
6	22-Aug	09:21:25	0.053	35	22-Aug	16:36:25	0.033
7	22-Aug	09:36:25	0.054	36	22-Aug	16:51:25	0.033
8	22-Aug	09:51:25	0.053	37	22-Aug	17:06:25	0.015
9	22-Aug	10:06:25	0.052	38	22-Aug	17:21:25	0.018
10	22-Aug	10:21:25	0.062	39	22-Aug	17:36:25	0.011
11	22-Aug	10:36:25	0.048	40	22-Aug	17:51:25	0.009
12	22-Aug	10:51:25	0.043	41	22-Aug	18:06:25	0.009
13	22-Aug	11:06:25	0.043	42	22-Aug	18:21:25	0.01
14	22-Aug	11:21:25	0.041	43	22-Aug	18:36:25	0.01
15	22-Aug	11:36:25	0.043				
16	22-Aug	11:51:25	0.044				
17	22-Aug	12:06:25	0.034				
18	22-Aug	12:21:25	0.03				
19	22-Aug	12:36:25	0.025				
20	22-Aug	12:51:25	0.024				
21	22-Aug	13:06:25	0.022				
22	22-Aug	13:21:25	0.02				
23	22-Aug	13:36:25	0.016				
24	22-Aug	13:51:25	0.015				
25	22-Aug	14:06:25	0.026				
26	22-Aug	14:21:25	0.082				
27	22-Aug	14:36:25	0.043				
28	22-Aug	14:51:25	0.017				
29	22-Aug	15:06:25	0.019				

Address: 3447 St Paul
Site ID: 1119
Date: 8/22/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 43
Start time and date: 07:40:30 22-Aug
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.102 mg/m³
Time at maximum: 14:19:12 Aug 22
Max STEL Concentration: 0.044 mg/m³
Time at max STEL: 09:45:30 Aug 22
Overall Avg Conc: 0.016 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	22-Aug	07:55:30	0.019	30	22-Aug	15:10:30	0.002
2	22-Aug	08:10:30	0.014	31	22-Aug	15:25:30	0.015
3	22-Aug	08:25:30	0.018	32	22-Aug	15:40:30	0.028
4	22-Aug	08:40:30	0.017	33	22-Aug	15:55:30	0.012
5	22-Aug	08:55:30	0.019	34	22-Aug	16:10:30	0.011
6	22-Aug	09:10:30	0.027	35	22-Aug	16:25:30	0.01
7	22-Aug	09:25:30	0.033	36	22-Aug	16:40:30	0.018
8	22-Aug	09:40:30	0.042	37	22-Aug	16:55:30	0.006
9	22-Aug	09:55:30	0.035	38	22-Aug	17:10:30	0.009
10	22-Aug	10:10:30	0.033	39	22-Aug	17:25:30	0.003
11	22-Aug	10:25:30	0.035	40	22-Aug	17:40:30	0.001
12	22-Aug	10:40:30	0.035	41	22-Aug	17:55:30	0
13	22-Aug	10:55:30	0.03	42	22-Aug	18:10:30	0.001
14	22-Aug	11:10:30	0.028	43	22-Aug	18:25:30	0.003
15	22-Aug	11:25:30	0.026				
16	22-Aug	11:40:30	0.025				
17	22-Aug	11:55:30	0.023				
18	22-Aug	12:10:30	0.017				
19	22-Aug	12:25:30	0.015				
20	22-Aug	12:40:30	0.011				
21	22-Aug	12:55:30	0.009				
22	22-Aug	13:10:30	0.005				
23	22-Aug	13:25:30	0.003				
24	22-Aug	13:40:30	0.002				
25	22-Aug	13:55:30	0.007				
26	22-Aug	14:10:30	0.008				
27	22-Aug	14:25:30	0.035				
28	22-Aug	14:40:30	0.029				
29	22-Aug	14:55:30	0.005				

Address: 4909 Milwaukee
Site ID: 3865
Date: 8/22/03

pDR-1000
User ID: 4018
Tag Number: 01
Number of logged points: 43
Start time and date: 07:21:45 22-Aug
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 4.686 mg/m³
Time at maximum: 08:23:57 Aug 22
Max STEL Concentration: 0.102 mg/m³
Time at max STEL: 08:33:15 Aug 22
Overall Avg Conc: 0.017 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	22-Aug	07:36:45	0.039	30	22-Aug	14:51:45	0.004
2	22-Aug	07:51:45	0.031	31	22-Aug	15:06:45	0.001
3	22-Aug	08:06:45	0.016	32	22-Aug	15:21:45	0.012
4	22-Aug	08:21:45	0.021	33	22-Aug	15:36:45	0.043
5	22-Aug	08:36:45	0.097	34	22-Aug	15:51:45	0.018
6	22-Aug	08:51:45	0.029	35	22-Aug	16:06:45	0.024
7	22-Aug	09:06:45	0.034	36	22-Aug	16:21:45	0.019
8	22-Aug	09:21:45	0.035	37	22-Aug	16:36:45	0.009
9	22-Aug	09:36:45	0.036	38	22-Aug	16:51:45	0.006
10	22-Aug	09:51:45	0.051	39	22-Aug	17:06:45	0.003
11	22-Aug	10:06:45	0.031	40	22-Aug	17:21:45	0.003
12	22-Aug	10:21:45	0.021	41	22-Aug	17:36:45	0.002
13	22-Aug	10:36:45	0.026	42	22-Aug	17:51:45	0.001
14	22-Aug	10:51:45	0.031	43	22-Aug	18:06:45	0.003
15	22-Aug	11:06:45	0.025				
16	22-Aug	11:21:45	0.026				
17	22-Aug	11:36:45	0.02				
18	22-Aug	11:51:45	0.021				
19	22-Aug	12:06:45	0.012				
20	22-Aug	12:21:45	0.011				
21	22-Aug	12:36:45	0.011				
22	22-Aug	12:51:45	0.009				
23	22-Aug	13:06:45	0.004				
24	22-Aug	13:21:45	0.002				
25	22-Aug	13:36:45	0.009				
26	22-Aug	13:51:45	0				
27	22-Aug	14:06:45	0				
28	22-Aug	14:21:45	0.001				
29	22-Aug	14:36:45	0				

Address: Background
Site ID:
Date: 8/22/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 43
Start time and date: 07:45:32 22-Aug
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.186 mg/m³
Time at maximum: 10:04:09 Aug 22
Max STEL Concentration: 0.042 mg/m³
Time at max STEL: 10:09:03 Aug 22
Overall Avg Conc: 0.017 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	22-Aug	08:00:32	0.017	30	22-Aug	15:15:32	0.01
2	22-Aug	08:15:32	0.019	31	22-Aug	15:30:32	0.024
3	22-Aug	08:30:32	0.018	32	22-Aug	15:45:32	0.016
4	22-Aug	08:45:32	0.019	33	22-Aug	16:00:32	0.011
5	22-Aug	09:00:32	0.026	34	22-Aug	16:15:32	0.008
6	22-Aug	09:15:32	0.031	35	22-Aug	16:30:32	0.008
7	22-Aug	09:30:32	0.031	36	22-Aug	16:45:32	0.005
8	22-Aug	09:45:32	0.036	37	22-Aug	17:00:32	0.003
9	22-Aug	10:00:32	0.038	38	22-Aug	17:15:32	0.002
10	22-Aug	10:15:32	0.039	39	22-Aug	17:30:32	0.001
11	22-Aug	10:30:32	0.038	40	22-Aug	17:45:32	0.001
12	22-Aug	10:45:32	0.038	41	22-Aug	18:00:32	0.001
13	22-Aug	11:00:32	0.036	42	22-Aug	18:15:32	0.001
14	22-Aug	11:15:32	0.034	43	22-Aug	18:30:32	0.001
15	22-Aug	11:30:32	0.032				
16	22-Aug	11:45:32	0.031				
17	22-Aug	12:00:32	0.027				
18	22-Aug	12:15:32	0.024				
19	22-Aug	12:30:32	0.022				
20	22-Aug	12:45:32	0.018				
21	22-Aug	13:00:32	0.017				
22	22-Aug	13:15:32	0.017				
23	22-Aug	13:30:32	0.012				
24	22-Aug	13:45:32	0.009				
25	22-Aug	14:00:32	0.007				
26	22-Aug	14:15:32	0.01				
27	22-Aug	14:30:32	0.009				
28	22-Aug	14:45:32	0.006				
29	22-Aug	15:00:32	0.008				

Address:	3724 York	3730 York
Site ID:	1336	2776
Date:	8/23/03	8/23/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 26
Start time and date: 07:44:29 23-Aug
Elapsed time: 06:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.536 mg/m³
Time at maximum: 11:29:12 Aug 23
Max STEL Concentration: 0.112 mg/m³
Time at max STEL: 11:29:29 Aug 23
Overall Avg Conc: 0.023 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)
1	23-Aug	07:59:29	0.006
2	23-Aug	08:14:29	0.006
3	23-Aug	08:29:29	0.023
4	23-Aug	08:44:29	0.03
5	23-Aug	08:59:29	0.026
6	23-Aug	09:14:29	0.041
7	23-Aug	09:29:29	0.097
8	23-Aug	09:44:29	0.023
9	23-Aug	09:59:29	0.079
10	23-Aug	10:14:29	0.027
11	23-Aug	10:29:29	0.026
12	23-Aug	10:44:29	0.034
13	23-Aug	10:59:29	0.006
14	23-Aug	11:14:29	0.013
15	23-Aug	11:29:29	0.112
16	23-Aug	11:44:29	0.008
17	23-Aug	11:59:29	0.004
18	23-Aug	12:14:29	0.004
19	23-Aug	12:29:29	0.003
20	23-Aug	12:44:29	0.003
21	23-Aug	12:59:29	0.002
22	23-Aug	13:14:29	0.005
23	23-Aug	13:29:29	0.002
24	23-Aug	13:44:29	0.01
25	23-Aug	13:59:29	0.004
26	23-Aug	14:14:29	0.019

Address: 3447 St Paul
Site ID: 1119
Date: 8/23/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 26
Start time and date: 07:32:36 23-Aug
Elapsed time: 06:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.655 mg/m³
Time at maximum: 08:06:44 Aug 23
Max STEL Concentration: 0.031 mg/m³
Time at max STEL: 08:20:06 Aug 23
Overall Avg Conc: 0.000 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)
1	23-Aug	07:47:36	0.007
2	23-Aug	08:02:36	0.016
3	23-Aug	08:17:36	0.033
4	23-Aug	08:32:36	0.015
5	23-Aug	08:47:36	0.006
6	23-Aug	09:02:36	0.002
7	23-Aug	09:17:36	0.002
8	23-Aug	09:32:36	0.001
9	23-Aug	09:47:36	0.001
10	23-Aug	10:02:36	0
11	23-Aug	10:17:36	0.001
12	23-Aug	10:32:36	0
13	23-Aug	10:47:36	0
14	23-Aug	11:02:36	0
15	23-Aug	11:17:36	0
16	23-Aug	11:32:36	0
17	23-Aug	11:47:36	0
18	23-Aug	12:02:36	0
19	23-Aug	12:17:36	0
20	23-Aug	12:32:36	0
21	23-Aug	12:47:36	0
22	23-Aug	13:02:36	0
23	23-Aug	13:17:36	0
24	23-Aug	13:32:36	0
25	23-Aug	13:47:36	0
26	23-Aug	14:02:36	0

Address: Background
Site ID:
Date: 8/23/03

pDR-1000
User ID: 4018
Tag Number: 01
Number of logged points: 26
Start time and date: 07:37:30 23-Aug
Elapsed time: 06:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.082 mg/m³
Time at maximum: 09:26:17 Aug 23
Max STEL Concentration: 0.000 mg/m³
Time at max STEL: 07:37:30 Aug 23
Overall Avg Conc: 0.000 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)
1	23-Aug	07:52:30	0.002
2	23-Aug	08:07:30	0.001
3	23-Aug	08:22:30	0
4	23-Aug	08:37:30	0
5	23-Aug	08:52:30	0
6	23-Aug	09:07:30	0.001
7	23-Aug	09:22:30	0.002
8	23-Aug	09:37:30	0.003
9	23-Aug	09:52:30	0
10	23-Aug	10:07:30	0
11	23-Aug	10:22:30	0.001
12	23-Aug	10:37:30	0
13	23-Aug	10:52:30	0.001
14	23-Aug	11:07:30	0
15	23-Aug	11:22:30	0
16	23-Aug	11:37:30	0
17	23-Aug	11:52:30	0
18	23-Aug	12:07:30	0
19	23-Aug	12:22:30	0.001
20	23-Aug	12:37:30	0.001
21	23-Aug	12:52:30	0
22	23-Aug	13:07:30	0
23	23-Aug	13:22:30	0
24	23-Aug	13:37:30	0
25	23-Aug	13:52:30	0
26	23-Aug	14:07:30	0

Address: 4909 Milwaukee
Site ID: 3865
Date: 8/23/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 26
Start time and date: 07:12:57 23-Aug
Elapsed time: 06:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.864 mg/m³
Time at maximum: 10:40:27 Aug 23
Max STEL Concentration: 0.031 mg/m³
Time at max STEL: 10:42:27 Aug 23
Overall Avg Conc: 0.010 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)
1	23-Aug	07:27:57	0.015
2	23-Aug	07:42:57	0.01
3	23-Aug	07:57:57	0.013
4	23-Aug	08:12:57	0.009
5	23-Aug	08:27:57	0.008
6	23-Aug	08:42:57	0.015
7	23-Aug	08:57:57	0.012
8	23-Aug	09:12:57	0.013
9	23-Aug	09:27:57	0.01
10	23-Aug	09:42:57	0.009
11	23-Aug	09:57:57	0.007
12	23-Aug	10:12:57	0.009
13	23-Aug	10:27:57	0.007
14	23-Aug	10:42:57	0.031
15	23-Aug	10:57:57	0.009
16	23-Aug	11:12:57	0.011
17	23-Aug	11:27:57	0.013
18	23-Aug	11:42:57	0.016
19	23-Aug	11:57:57	0.007
20	23-Aug	12:12:57	0.009
21	23-Aug	12:27:57	0.007
22	23-Aug	12:42:57	0.006
23	23-Aug	12:57:57	0.005
24	23-Aug	13:12:57	0.006
25	23-Aug	13:27:57	0.007
26	23-Aug	13:42:57	0.008

Address: 4909 Milwaukee
Site ID: 3865
Date: 8/25/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 42
Start time and date: 07:19:14 25-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 6.335 mg/m³
Time at maximum: 09:19:24 Aug 25
Max STEL Concentration: 0.259 mg/m³
Time at max STEL: 09:33:44 Aug 25
Overall Avg Conc: 0.024 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	25-Aug	07:34:14	0.016	30	25-Aug	14:49:14	0.005
2	25-Aug	07:49:14	0.011	31	25-Aug	15:04:14	0.006
3	25-Aug	08:04:14	0.132	32	25-Aug	15:19:14	0.006
4	25-Aug	08:19:14	0.036	33	25-Aug	15:34:14	0.01
5	25-Aug	08:34:14	0.031	34	25-Aug	15:49:14	0.007
6	25-Aug	08:49:14	0.028	35	25-Aug	16:04:14	0.01
7	25-Aug	09:04:14	0.021	36	25-Aug	16:19:14	0.01
8	25-Aug	09:19:14	0.045	37	25-Aug	16:34:14	0.01
9	25-Aug	09:34:14	0.247	38	25-Aug	16:49:14	0.016
10	25-Aug	09:49:14	0.108	39	25-Aug	17:04:14	0.01
11	25-Aug	10:04:14	0.051	40	25-Aug	17:19:14	0.016
12	25-Aug	10:19:14	0.037	41	25-Aug	17:34:14	0.009
13	25-Aug	10:34:14	0.016	42	25-Aug	17:49:14	0.007
14	25-Aug	10:49:14	0.011				
15	25-Aug	11:04:14	0.017				
16	25-Aug	11:19:14	0.014				
17	25-Aug	11:34:14	0.006				
18	25-Aug	11:49:14	0.007				
19	25-Aug	12:04:14	0.006				
20	25-Aug	12:19:14	0.004				
21	25-Aug	12:34:14	0.006				
22	25-Aug	12:49:14	0.006				
23	25-Aug	13:04:14	0.006				
24	25-Aug	13:19:14	0.006				
25	25-Aug	13:34:14	0.006				
26	25-Aug	13:49:14	0.005				
27	25-Aug	14:04:14	0.008				
28	25-Aug	14:19:14	0.005				
29	25-Aug	14:34:14	0.009				

Address:	3724 York	3730 York
Site ID:	1336	2776
Date:	8/25/03	8/25/03

pDR-1000
User ID: 2316
Tag Number: 01
Number of logged points: 42
Start time and date: 07:42:09 25-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 4.946 mg/m³
Time at maximum: 17:07:08 Aug 25
Max STEL Concentration: 0.210 mg/m³
Time at max STEL: 16:17:08 Aug 25
Overall Avg Conc: 0.047 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	25-Aug	07:57:09	0.036	30	25-Aug	15:12:09	0.007
2	25-Aug	08:12:09	0.11	31	25-Aug	15:27:09	0.11
3	25-Aug	08:27:09	0.097	32	25-Aug	15:42:09	0.022
4	25-Aug	08:42:09	0.051	33	25-Aug	15:57:09	0.098
5	25-Aug	08:57:09	0.039	34	25-Aug	16:12:09	0.204
6	25-Aug	09:12:09	0.019	35	25-Aug	16:27:09	0.076
7	25-Aug	09:27:09	0.052	36	25-Aug	16:42:09	0.132
8	25-Aug	09:42:09	0.111	37	25-Aug	16:57:09	0.055
9	25-Aug	09:57:09	0.052	38	25-Aug	17:12:09	0.193
10	25-Aug	10:12:09	0.01	39	25-Aug	17:27:09	0.04
11	25-Aug	10:27:09	0.03	40	25-Aug	17:42:09	0.029
12	25-Aug	10:42:09	0.011	41	25-Aug	17:57:09	0.033
13	25-Aug	10:57:09	0.073	42	25-Aug	18:12:09	0.028
14	25-Aug	11:12:09	0.015				
15	25-Aug	11:27:09	0.012				
16	25-Aug	11:42:09	0.006				
17	25-Aug	11:57:09	0.007				
18	25-Aug	12:12:09	0.006				
19	25-Aug	12:27:09	0.012				
20	25-Aug	12:42:09	0.026				
21	25-Aug	12:57:09	0.008				
22	25-Aug	13:12:09	0.007				
23	25-Aug	13:27:09	0.005				
24	25-Aug	13:42:09	0.058				
25	25-Aug	13:57:09	0.036				
26	25-Aug	14:12:09	0.01				
27	25-Aug	14:27:09	0.008				
28	25-Aug	14:42:09	0.018				
29	25-Aug	14:57:09	0.026				

Address: 3447 St Paul
Site ID: 1119
Date: 8/25/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 42
Start time and date: 07:31:43 25-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 5.041 mg/m³
Time at maximum: 16:34:00 Aug 25
Max STEL Concentration: 0.251 mg/m³
Time at max STEL: 16:43:44 Aug 25
Overall Avg Conc: 0.025 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	25-Aug	07:46:43	0.009	30	25-Aug	15:01:43	0.037
2	25-Aug	08:01:43	0.013	31	25-Aug	15:16:43	0.002
3	25-Aug	08:16:43	0.045	32	25-Aug	15:31:43	0.003
4	25-Aug	08:31:43	0.064	33	25-Aug	15:46:43	0.003
5	25-Aug	08:46:43	0.039	34	25-Aug	16:01:43	0.074
6	25-Aug	09:01:43	0.062	35	25-Aug	16:16:43	0.08
7	25-Aug	09:16:43	0.071	36	25-Aug	16:31:43	0.089
8	25-Aug	09:31:43	0.026	37	25-Aug	16:46:43	0.235
9	25-Aug	09:46:43	0.021	38	25-Aug	17:01:43	0.027
10	25-Aug	10:01:43	0.02	39	25-Aug	17:16:43	0.011
11	25-Aug	10:16:43	0.017	40	25-Aug	17:31:43	0.011
12	25-Aug	10:31:43	0.006	41	25-Aug	17:46:43	0.009
13	25-Aug	10:46:43	0.019	42	25-Aug	18:01:43	0.008
14	25-Aug	11:01:43	0.016				
15	25-Aug	11:16:43	0.011				
16	25-Aug	11:31:43	0.005				
17	25-Aug	11:46:43	0.007				
18	25-Aug	12:01:43	0.003				
19	25-Aug	12:16:43	0.001				
20	25-Aug	12:31:43	0.007				
21	25-Aug	12:46:43	0.004				
22	25-Aug	13:01:43	0.002				
23	25-Aug	13:16:43	0.006				
24	25-Aug	13:31:43	0.009				
25	25-Aug	13:46:43	0.005				
26	25-Aug	14:01:43	0.002				
27	25-Aug	14:16:43	0.001				
28	25-Aug	14:31:43	0.004				
29	25-Aug	14:46:43	0.063				

Address: Background
Site ID:
Date: 8/25/03

pDR-1000
User ID: 4018
Tag Number: 01
Number of logged points: 42
Start time and date: 07:35:59 25-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.096 mg/m³
Time at maximum: 15:38:47 Aug 25
Max STEL Concentration: 0.009 mg/m³
Time at max STEL: 07:54:29 Aug 25
Overall Avg Conc: 0.001 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	25-Aug	07:50:59	0.009	30	25-Aug	15:05:59	0.001
2	25-Aug	08:05:59	0.005	31	25-Aug	15:20:59	0.001
3	25-Aug	08:20:59	0.005	32	25-Aug	15:35:59	0.003
4	25-Aug	08:35:59	0.003	33	25-Aug	15:50:59	0.002
5	25-Aug	08:50:59	0.005	34	25-Aug	16:05:59	0.002
6	25-Aug	09:05:59	0.003	35	25-Aug	16:20:59	0.001
7	25-Aug	09:20:59	0.003	36	25-Aug	16:35:59	0.001
8	25-Aug	09:35:59	0.007	37	25-Aug	16:50:59	0.001
9	25-Aug	09:50:59	0.003	38	25-Aug	17:05:59	0.002
10	25-Aug	10:05:59	0.003	39	25-Aug	17:20:59	0.003
11	25-Aug	10:20:59	0.004	40	25-Aug	17:35:59	0.002
12	25-Aug	10:35:59	0.002	41	25-Aug	17:50:59	0.001
13	25-Aug	10:50:59	0.002	42	25-Aug	18:05:59	0.001
14	25-Aug	11:05:59	0.003				
15	25-Aug	11:20:59	0.003				
16	25-Aug	11:35:59	0.002				
17	25-Aug	11:50:59	0.001				
18	25-Aug	12:05:59	0.002				
19	25-Aug	12:20:59	0.001				
20	25-Aug	12:35:59	0.001				
21	25-Aug	12:50:59	0.001				
22	25-Aug	13:05:59	0				
23	25-Aug	13:20:59	0				
24	25-Aug	13:35:59	0.001				
25	25-Aug	13:50:59	0.001				
26	25-Aug	14:05:59	0.001				
27	25-Aug	14:20:59	0.001				
28	25-Aug	14:35:59	0.001				
29	25-Aug	14:50:59	0.001				

Address: 4811 Clayton
Site ID: 3712
Date: 8/25/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 42
Start time and date: 07:11:40 25-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.196 mg/m³
Time at maximum: 17:08:45 Aug 25
Max STEL Concentration: 0.039 mg/m³
Time at max STEL: 17:10:11 Aug 25
Overall Avg Conc: 0.014 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	25-Aug	07:26:40	0.015	30	25-Aug	14:41:40	0.005
2	25-Aug	07:41:40	0.01	31	25-Aug	14:56:40	0.006
3	25-Aug	07:56:40	0.017	32	25-Aug	15:11:40	0.014
4	25-Aug	08:11:40	0.024	33	25-Aug	15:26:40	0.016
5	25-Aug	08:26:40	0.023	34	25-Aug	15:41:40	0.009
6	25-Aug	08:41:40	0.019	35	25-Aug	15:56:40	0.015
7	25-Aug	08:56:40	0.026	36	25-Aug	16:11:40	0.015
8	25-Aug	09:11:40	0.03	37	25-Aug	16:26:40	0.018
9	25-Aug	09:26:40	0.022	38	25-Aug	16:41:40	0.02
10	25-Aug	09:41:40	0.019	39	25-Aug	16:56:40	0.015
11	25-Aug	09:56:40	0.012	40	25-Aug	17:11:40	0.039
12	25-Aug	10:11:40	0.014	41	25-Aug	17:26:40	0.01
13	25-Aug	10:26:40	0.022	42	25-Aug	17:41:40	0.007
14	25-Aug	10:41:40	0.012				
15	25-Aug	10:56:40	0.014				
16	25-Aug	11:11:40	0.011				
17	25-Aug	11:26:40	0.007				
18	25-Aug	11:41:40	0.015				
19	25-Aug	11:56:40	0.007				
20	25-Aug	12:11:40	0.007				
21	25-Aug	12:26:40	0.005				
22	25-Aug	12:41:40	0.005				
23	25-Aug	12:56:40	0.005				
24	25-Aug	13:11:40	0.006				
25	25-Aug	13:26:40	0.011				
26	25-Aug	13:41:40	0.008				
27	25-Aug	13:56:40	0.009				
28	25-Aug	14:11:40	0.005				
29	25-Aug	14:26:40	0.008				

Address: 4811 Clayton
Site ID: 3712
Date: 8/26/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 43
Start time and date: 07:11:35 26-Aug
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.011 mg/m³
Time at maximum: 15:16:30 Aug 26
Max STEL Concentration: 0.045 mg/m³
Time at max STEL: 10:28:36 Aug 26
Overall Avg Conc: 0.012 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	26-Aug	07:26:35	0.02	30	26-Aug	14:41:35	0.004
2	26-Aug	07:41:35	0.014	31	26-Aug	14:56:35	0.01
3	26-Aug	07:56:35	0.014	32	26-Aug	15:11:35	0.011
4	26-Aug	08:11:35	0.023	33	26-Aug	15:26:35	0.029
5	26-Aug	08:26:35	0.016	34	26-Aug	15:41:35	0.013
6	26-Aug	08:41:35	0.029	35	26-Aug	15:56:35	0.023
7	26-Aug	08:56:35	0.027	36	26-Aug	16:11:35	0.004
8	26-Aug	09:11:35	0.009	37	26-Aug	16:26:35	0.002
9	26-Aug	09:26:35	0.015	38	26-Aug	16:41:35	0.006
10	26-Aug	09:41:35	0.012	39	26-Aug	16:56:35	0.008
11	26-Aug	09:56:35	0.011	40	26-Aug	17:11:35	0.009
12	26-Aug	10:11:35	0.007	41	26-Aug	17:26:35	0.009
13	26-Aug	10:26:35	0.028	42	26-Aug	17:41:35	0.008
14	26-Aug	10:41:35	0.032	43	26-Aug	17:56:35	0.003
15	26-Aug	10:56:35	0.013				
16	26-Aug	11:11:35	0.01				
17	26-Aug	11:26:35	0.008				
18	26-Aug	11:41:35	0.008				
19	26-Aug	11:56:35	0.017				
20	26-Aug	12:11:35	0.004				
21	26-Aug	12:26:35	0.006				
22	26-Aug	12:41:35	0.002				
23	26-Aug	12:56:35	0.009				
24	26-Aug	13:11:35	0.003				
25	26-Aug	13:26:35	0.004				
26	26-Aug	13:41:35	0.007				
27	26-Aug	13:56:35	0.007				
28	26-Aug	14:11:35	0.021				
29	26-Aug	14:26:35	0.004				

Address: Background
Site ID:
Date: 8/26/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 43
Start time and date: 07:28:56 26-Aug
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.444 mg/m³
Time at maximum: 11:41:58 Aug 26
Max STEL Concentration: 0.033 mg/m³
Time at max STEL: 11:46:27 Aug 26
Overall Avg Conc: 0.000 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	26-Aug	07:43:56	0.004	30	26-Aug	14:58:56	0
2	26-Aug	07:58:56	0.004	31	26-Aug	15:13:56	0
3	26-Aug	08:13:56	0.004	32	26-Aug	15:28:56	0
4	26-Aug	08:28:56	0.005	33	26-Aug	15:43:56	0.001
5	26-Aug	08:43:56	0.008	34	26-Aug	15:58:56	0.002
6	26-Aug	08:58:56	0.007	35	26-Aug	16:13:56	0
7	26-Aug	09:13:56	0.004	36	26-Aug	16:28:56	0
8	26-Aug	09:28:56	0.004	37	26-Aug	16:43:56	0
9	26-Aug	09:43:56	0.004	38	26-Aug	16:58:56	0
10	26-Aug	09:58:56	0.002	39	26-Aug	17:13:56	0
11	26-Aug	10:13:56	0.006	40	26-Aug	17:28:56	0.002
12	26-Aug	10:28:56	0.005	41	26-Aug	17:43:56	0
13	26-Aug	10:43:56	0.003	42	26-Aug	17:58:56	0
14	26-Aug	10:58:56	0.002	43	26-Aug	18:13:56	0.001
15	26-Aug	11:13:56	0.003				
16	26-Aug	11:28:56	0.001				
17	26-Aug	11:43:56	0.033				
18	26-Aug	11:58:56	0.002				
19	26-Aug	12:13:56	0.001				
20	26-Aug	12:28:56	0.002				
21	26-Aug	12:43:56	0.002				
22	26-Aug	12:58:56	0.001				
23	26-Aug	13:13:56	0.001				
24	26-Aug	13:28:56	0.001				
25	26-Aug	13:43:56	0				
26	26-Aug	13:58:56	0.001				
27	26-Aug	14:13:56	0.002				
28	26-Aug	14:28:56	0				
29	26-Aug	14:43:56	0				

Address: 3447 St Paul
Site ID: 1119
Date: 8/26/03

pDR-1000
User ID: 4018
Tag Number: 02
Number of logged points: 43
Start time and date: 07:24:37 26-Aug
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.910 mg/m³
Time at maximum: 10:30:20 Aug 26
Max STEL Concentration: 0.110 mg/m³
Time at max STEL: 10:38:37 Aug 26
Overall Avg Conc: 0.010 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	26-Aug	07:39:37	0.012	30	26-Aug	14:54:37	0.003
2	26-Aug	07:54:37	0.013	31	26-Aug	15:09:37	0.003
3	26-Aug	08:09:37	0.018	32	26-Aug	15:24:37	0.002
4	26-Aug	08:24:37	0.013	33	26-Aug	15:39:37	0.003
5	26-Aug	08:39:37	0.015	34	26-Aug	15:54:37	0.002
6	26-Aug	08:54:37	0.018	35	26-Aug	16:09:37	0.003
7	26-Aug	09:09:37	0.036	36	26-Aug	16:24:37	0.003
8	26-Aug	09:24:37	0.01	37	26-Aug	16:39:37	0.001
9	26-Aug	09:39:37	0.011	38	26-Aug	16:54:37	0.002
10	26-Aug	09:54:37	0.018	39	26-Aug	17:09:37	0.002
11	26-Aug	10:09:37	0.028	40	26-Aug	17:24:37	0.002
12	26-Aug	10:24:37	0.011	41	26-Aug	17:39:37	0.002
13	26-Aug	10:39:37	0.109	42	26-Aug	17:54:37	0.002
14	26-Aug	10:54:37	0.011	43	26-Aug	18:09:37	0.002
15	26-Aug	11:09:37	0.013				
16	26-Aug	11:24:37	0.012				
17	26-Aug	11:39:37	0.007				
18	26-Aug	11:54:37	0.008				
19	26-Aug	12:09:37	0.005				
20	26-Aug	12:24:37	0.004				
21	26-Aug	12:39:37	0.004				
22	26-Aug	12:54:37	0.005				
23	26-Aug	13:09:37	0.005				
24	26-Aug	13:24:37	0.005				
25	26-Aug	13:39:37	0.003				
26	26-Aug	13:54:37	0.004				
27	26-Aug	14:09:37	0.003				
28	26-Aug	14:24:37	0.003				
29	26-Aug	14:39:37	0.003				

Address:	3724 York	3730 York
Site ID:	1336	2776
Date:	8/26/03	8/26/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 43
Start time and date: 07:35:54 26-Aug
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 5.807 mg/m³
Time at maximum: 16:48:29 Aug 26
Max STEL Concentration: 0.319 mg/m³
Time at max STEL: 08:22:54 Aug 26
Overall Avg Conc: 0.052 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	26-Aug	07:50:54	0.015	30	26-Aug	15:05:54	0.032
2	26-Aug	08:05:54	0.029	31	26-Aug	15:20:54	0.051
3	26-Aug	08:20:54	0.302	32	26-Aug	15:35:54	0.024
4	26-Aug	08:35:54	0.093	33	26-Aug	15:50:54	0.026
5	26-Aug	08:50:54	0.054	34	26-Aug	16:05:54	0.037
6	26-Aug	09:05:54	0.059	35	26-Aug	16:20:54	0.041
7	26-Aug	09:20:54	0.159	36	26-Aug	16:35:54	0.062
8	26-Aug	09:35:54	0.068	37	26-Aug	16:50:54	0.183
9	26-Aug	09:50:54	0.122	38	26-Aug	17:05:54	0.074
10	26-Aug	10:05:54	0.078	39	26-Aug	17:20:54	0.015
11	26-Aug	10:20:54	0.058	40	26-Aug	17:35:54	0.015
12	26-Aug	10:35:54	0.05	41	26-Aug	17:50:54	0.017
13	26-Aug	10:50:54	0.033	42	26-Aug	18:05:54	0.014
14	26-Aug	11:05:54	0.024	43	26-Aug	18:20:54	0.015
15	26-Aug	11:20:54	0.03				
16	26-Aug	11:35:54	0.052				
17	26-Aug	11:50:54	0.041				
18	26-Aug	12:05:54	0.041				
19	26-Aug	12:20:54	0.027				
20	26-Aug	12:35:54	0.019				
21	26-Aug	12:50:54	0.015				
22	26-Aug	13:05:54	0.065				
23	26-Aug	13:20:54	0.064				
24	26-Aug	13:35:54	0.034				
25	26-Aug	13:50:54	0.018				
26	26-Aug	14:05:54	0.035				
27	26-Aug	14:20:54	0.024				
28	26-Aug	14:35:54	0.026				
29	26-Aug	14:50:54	0.035				

Address: 4680 Clayton
Site ID: 2157
Date: 8/27/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 40
Start time and date: 07:43:17 27-Aug
Elapsed time: 10:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.594 mg/m³
Time at maximum: 09:56:21 Aug 27
Max STEL Concentration: 0.067 mg/m³
Time at max STEL: 17:31:18 Aug 27
Overall Avg Conc: 0.020 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	27-Aug	07:58:17	0.018	30	27-Aug	15:13:17	0.01
2	27-Aug	08:13:17	0.02	31	27-Aug	15:28:17	0.006
3	27-Aug	08:28:17	0.02	32	27-Aug	15:43:17	0.007
4	27-Aug	08:43:17	0.026	33	27-Aug	15:58:17	0.023
5	27-Aug	08:58:17	0.026	34	27-Aug	16:13:17	0.02
6	27-Aug	09:13:17	0.021	35	27-Aug	16:28:17	0.022
7	27-Aug	09:28:17	0.022	36	27-Aug	16:43:17	0.02
8	27-Aug	09:43:17	0.015	37	27-Aug	16:58:17	0.019
9	27-Aug	09:58:17	0.025	38	27-Aug	17:13:17	0.021
10	27-Aug	10:13:17	0.031	39	27-Aug	17:28:17	0.064
11	27-Aug	10:28:17	0.026	40	27-Aug	17:43:17	0.013
12	27-Aug	10:43:17	0.028				
13	27-Aug	10:58:17	0.01				
14	27-Aug	11:13:17	0.02				
15	27-Aug	11:28:17	0.009				
16	27-Aug	11:43:17	0.019				
17	27-Aug	11:58:17	0.013				
18	27-Aug	12:13:17	0.011				
19	27-Aug	12:28:17	0.008				
20	27-Aug	12:43:17	0.011				
21	27-Aug	12:58:17	0.029				
22	27-Aug	13:13:17	0.01				
23	27-Aug	13:28:17	0.008				
24	27-Aug	13:43:17	0.015				
25	27-Aug	13:58:17	0.049				
26	27-Aug	14:13:17	0.012				
27	27-Aug	14:28:17	0.04				
28	27-Aug	14:43:17	0.021				
29	27-Aug	14:58:17	0.02				

Address: Background
Site ID:
Date: 8/27/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 43
Start time and date: 07:12:23 27-Aug
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.122 mg/m³
Time at maximum: 07:12:49 Aug 27
Max STEL Concentration: 0.036 mg/m³
Time at max STEL: 17:34:54 Aug 27
Overall Avg Conc: 0.001 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	27-Aug	07:27:23	0.005	30	27-Aug	14:42:23	0.001
2	27-Aug	07:42:23	0.009	31	27-Aug	14:57:23	0.001
3	27-Aug	07:57:23	0.012	32	27-Aug	15:12:23	0
4	27-Aug	08:12:23	0.007	33	27-Aug	15:27:23	0
5	27-Aug	08:27:23	0.006	34	27-Aug	15:42:23	0
6	27-Aug	08:42:23	0.007	35	27-Aug	15:57:23	0.001
7	27-Aug	08:57:23	0.011	36	27-Aug	16:12:23	0.009
8	27-Aug	09:12:23	0.009	37	27-Aug	16:27:23	0.006
9	27-Aug	09:27:23	0.006	38	27-Aug	16:42:23	0.004
10	27-Aug	09:42:23	0.009	39	27-Aug	16:57:23	0.004
11	27-Aug	09:57:23	0.009	40	27-Aug	17:12:23	0.003
12	27-Aug	10:12:23	0.006	41	27-Aug	17:27:23	0.022
13	27-Aug	10:27:23	0.004	42	27-Aug	17:42:23	0.023
14	27-Aug	10:42:23	0.002	43	27-Aug	17:57:23	0.002
15	27-Aug	10:57:23	0.001				
16	27-Aug	11:12:23	0.002				
17	27-Aug	11:27:23	0.001				
18	27-Aug	11:42:23	0				
19	27-Aug	11:57:23	0.001				
20	27-Aug	12:12:23	0.001				
21	27-Aug	12:27:23	0				
22	27-Aug	12:42:23	0.001				
23	27-Aug	12:57:23	0.002				
24	27-Aug	13:12:23	0				
25	27-Aug	13:27:23	0.001				
26	27-Aug	13:42:23	0.001				
27	27-Aug	13:57:23	0				
28	27-Aug	14:12:23	0				
29	27-Aug	14:27:23	0.002				

Address: 3536 Elizabeth
Site ID: 1265
Date: 8/27/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 42
Start time and date: 07:21:13 27-Aug
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.406 mg/m³
Time at maximum: 12:52:23 Aug 27
Max STEL Concentration: 0.036 mg/m³
Time at max STEL: 17:33:43 Aug 27
Overall Avg Conc: 0.010 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	27-Aug	07:36:13	0.003	30	27-Aug	14:51:13	0.021
2	27-Aug	07:51:13	0.003	31	27-Aug	15:06:13	0.016
3	27-Aug	08:06:13	0.006	32	27-Aug	15:21:13	0.005
4	27-Aug	08:21:13	0.005	33	27-Aug	15:36:13	0.005
5	27-Aug	08:36:13	0.004	34	27-Aug	15:51:13	0.004
6	27-Aug	08:51:13	0.004	35	27-Aug	16:06:13	0.011
7	27-Aug	09:06:13	0.005	36	27-Aug	16:21:13	0.017
8	27-Aug	09:21:13	0.014	37	27-Aug	16:36:13	0.011
9	27-Aug	09:36:13	0.009	38	27-Aug	16:51:13	0.006
10	27-Aug	09:51:13	0.014	39	27-Aug	17:06:13	0.006
11	27-Aug	10:06:13	0.012	40	27-Aug	17:21:13	0.031
12	27-Aug	10:21:13	0.013	41	27-Aug	17:36:13	0.031
13	27-Aug	10:36:13	0.01	42	27-Aug	17:51:13	0.009
14	27-Aug	10:51:13	0.013				
15	27-Aug	11:06:13	0.02				
16	27-Aug	11:21:13	0.01				
17	27-Aug	11:36:13	0.021				
18	27-Aug	11:51:13	0.012				
19	27-Aug	12:06:13	0.01				
20	27-Aug	12:21:13	0				
21	27-Aug	12:36:13	0.001				
22	27-Aug	12:51:13	0.004				
23	27-Aug	13:06:13	0.023				
24	27-Aug	13:21:13	0.005				
25	27-Aug	13:36:13	0.01				
26	27-Aug	13:51:13	0.007				
27	27-Aug	14:06:13	0.017				
28	27-Aug	14:21:13	0.02				
29	27-Aug	14:36:13	0.018				

Address: 3536 Elizabeth
Site ID: 1265
Date: 8/28/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 39
Start time and date: 07:23:45 28-Aug
Elapsed time: 09:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.745 mg/m³
Time at maximum: 12:41:52 Aug 28
Max STEL Concentration: 0.095 mg/m³
Time at max STEL: 11:38:46 Aug 28
Overall Avg Conc: 0.039 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	28-Aug	07:38:45	0.036	30	28-Aug	14:53:45	0.032
2	28-Aug	07:53:45	0.041	31	28-Aug	15:08:45	0.028
3	28-Aug	08:08:45	0.046	32	28-Aug	15:23:45	0.027
4	28-Aug	08:23:45	0.048	33	28-Aug	15:38:45	0.034
5	28-Aug	08:38:45	0.061	34	28-Aug	15:53:45	0.016
6	28-Aug	08:53:45	0.063	35	28-Aug	16:08:45	0.016
7	28-Aug	09:08:45	0.061	36	28-Aug	16:23:45	0.015
8	28-Aug	09:23:45	0.053	37	28-Aug	16:38:45	0.015
9	28-Aug	09:38:45	0.062	38	28-Aug	16:53:45	0.015
10	28-Aug	09:53:45	0.08	39	28-Aug	17:08:45	0.013
11	28-Aug	10:08:45	0.048				
12	28-Aug	10:23:45	0.063				
13	28-Aug	10:38:45	0.073				
14	28-Aug	10:53:45	0.035				
15	28-Aug	11:08:45	0.034				
16	28-Aug	11:23:45	0.054				
17	28-Aug	11:38:45	0.095				
18	28-Aug	11:53:45	0.039				
19	28-Aug	12:08:45	0.032				
20	28-Aug	12:23:45	0.025				
21	28-Aug	12:38:45	0.024				
22	28-Aug	12:53:45	0.054				
23	28-Aug	13:08:45	0.04				
24	28-Aug	13:23:45	0.035				
25	28-Aug	13:38:45	0.036				
26	28-Aug	13:53:45	0.025				
27	28-Aug	14:08:45	0.023				
28	28-Aug	14:23:45	0.03				
29	28-Aug	14:38:45	0.026				

Address: 4680 Clayton
Site ID: 2157
Date: 8/28/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 39
Start time and date: 07:36:46 28-Aug
Elapsed time: 09:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 2.479 mg/m³
Time at maximum: 14:06:04 Aug 28
Max STEL Concentration: 0.132 mg/m³
Time at max STEL: 15:02:47 Aug 28
Overall Avg Conc: 0.048 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	28-Aug	07:51:46	0.049	30	28-Aug	15:06:46	0.123
2	28-Aug	08:06:46	0.053	31	28-Aug	15:21:46	0.048
3	28-Aug	08:21:46	0.046	32	28-Aug	15:36:46	0.024
4	28-Aug	08:36:46	0.045	33	28-Aug	15:51:46	0.036
5	28-Aug	08:51:46	0.053	34	28-Aug	16:06:46	0.022
6	28-Aug	09:06:46	0.071	35	28-Aug	16:21:46	0.023
7	28-Aug	09:21:46	0.064	36	28-Aug	16:36:46	0.029
8	28-Aug	09:36:46	0.069	37	28-Aug	16:51:46	0.022
9	28-Aug	09:51:46	0.047	38	28-Aug	17:06:46	0.025
10	28-Aug	10:06:46	0.05	39	28-Aug	17:21:46	0.026
11	28-Aug	10:21:46	0.047				
12	28-Aug	10:36:46	0.041				
13	28-Aug	10:51:46	0.048				
14	28-Aug	11:06:46	0.039				
15	28-Aug	11:21:46	0.042				
16	28-Aug	11:36:46	0.049				
17	28-Aug	11:51:46	0.068				
18	28-Aug	12:06:46	0.036				
19	28-Aug	12:21:46	0.025				
20	28-Aug	12:36:46	0.023				
21	28-Aug	12:51:46	0.047				
22	28-Aug	13:06:46	0.049				
23	28-Aug	13:21:46	0.065				
24	28-Aug	13:36:46	0.042				
25	28-Aug	13:51:46	0.066				
26	28-Aug	14:06:46	0.093				
27	28-Aug	14:21:46	0.054				
28	28-Aug	14:36:46	0.057				
29	28-Aug	14:51:46	0.06				

Address: Background
Site ID:
Date: 8/28/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 40
Start time and date: 07:11:16 28-Aug
Elapsed time: 10:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.202 mg/m³
Time at maximum: 16:19:06 Aug 28
Max STEL Concentration: 0.042 mg/m³
Time at max STEL: 08:29:46 Aug 28
Overall Avg Conc: 0.027 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	28-Aug	07:26:16	0.034	30	28-Aug	14:41:16	0.019
2	28-Aug	07:41:16	0.034	31	28-Aug	14:56:16	0.019
3	28-Aug	07:56:16	0.036	32	28-Aug	15:11:16	0.019
4	28-Aug	08:11:16	0.035	33	28-Aug	15:26:16	0.018
5	28-Aug	08:26:16	0.04	34	28-Aug	15:41:16	0.018
6	28-Aug	08:41:16	0.038	35	28-Aug	15:56:16	0.016
7	28-Aug	08:56:16	0.037	36	28-Aug	16:11:16	0.017
8	28-Aug	09:11:16	0.034	37	28-Aug	16:26:16	0.023
9	28-Aug	09:26:16	0.034	38	28-Aug	16:41:16	0.015
10	28-Aug	09:41:16	0.034	39	28-Aug	16:56:16	0.015
11	28-Aug	09:56:16	0.034	40	28-Aug	17:11:16	0.012
12	28-Aug	10:11:16	0.034				
13	28-Aug	10:26:16	0.036				
14	28-Aug	10:41:16	0.035				
15	28-Aug	10:56:16	0.033				
16	28-Aug	11:11:16	0.033				
17	28-Aug	11:26:16	0.031				
18	28-Aug	11:41:16	0.031				
19	28-Aug	11:56:16	0.028				
20	28-Aug	12:11:16	0.028				
21	28-Aug	12:26:16	0.026				
22	28-Aug	12:41:16	0.024				
23	28-Aug	12:56:16	0.026				
24	28-Aug	13:11:16	0.02				
25	28-Aug	13:26:16	0.022				
26	28-Aug	13:41:16	0.024				
27	28-Aug	13:56:16	0.023				
28	28-Aug	14:11:16	0.016				
29	28-Aug	14:26:16	0.02				

Address: Background
Site ID:
Date: 9/2/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 17
Start time and date: 07:28:11 02-Sep
Elapsed time: 04:15:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.147 mg/m³
Time at maximum: 08:33:38 Sep 02
Max STEL Concentration: 0.033 mg/m³
Time at max STEL: 10:19:11 Sep 02
Overall Avg Conc: 0.013 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)
1	2-Sep	07:43:11	0.005
2	2-Sep	07:58:11	0.003
3	2-Sep	08:13:11	0.001
4	2-Sep	08:28:11	0.003
5	2-Sep	08:43:11	0.008
6	2-Sep	08:58:11	0.01
7	2-Sep	09:13:11	0.014
8	2-Sep	09:28:11	0.018
9	2-Sep	09:43:11	0.018
10	2-Sep	09:58:11	0.02
11	2-Sep	10:13:11	0.03
12	2-Sep	10:28:11	0.03
13	2-Sep	10:43:11	0.018
14	2-Sep	10:58:11	0.015
15	2-Sep	11:13:11	0.011
16	2-Sep	11:28:11	0.015
17	2-Sep	11:43:11	0.012

Address: Background
Site ID:
Date: 9/2/03

pDR-1000
User ID: 4211
Tag Number: 03
Number of logged points: 3
Start time and date: 15:35:34 02-Sep
Elapsed time: 00:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.036 mg/m³
Time at maximum: 15:55:21 Sep 02
Max STEL Concentration: 0.005 mg/m³
Time at max STEL: 15:58:34 Sep 02
Overall Avg Conc: 0.003 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)
1	2-Sep	15:50:34	0.003
2	2-Sep	16:05:34	0.005
3	2-Sep	16:20:34	0.002

Address: 4995 Steele
Site ID: 3821
Date: 9/2/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 43
Start time and date: 07:18:32 02-Sep
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.795 mg/m³
Time at maximum: 08:02:23 Sep 02
Max STEL Concentration: 0.128 mg/m³
Time at max STEL: 16:20:33 Sep 02
Overall Avg Conc: 0.012 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	2-Sep	07:33:32	0.03	30	2-Sep	14:48:32	0.002
2	2-Sep	07:48:32	0.016	31	2-Sep	15:03:32	0.003
3	2-Sep	08:03:32	0.041	32	2-Sep	15:18:32	0.002
4	2-Sep	08:18:32	0.017	33	2-Sep	15:33:32	0.01
5	2-Sep	08:33:32	0.021	34	2-Sep	15:48:32	0.012
6	2-Sep	08:48:32	0.021	35	2-Sep	16:03:32	0.02
7	2-Sep	09:03:32	0.024	36	2-Sep	16:18:32	0.121
8	2-Sep	09:18:32	0.038	37	2-Sep	16:33:32	0.028
9	2-Sep	09:33:32	0.028	38	2-Sep	16:48:32	0.01
10	2-Sep	09:48:32	0.025	39	2-Sep	17:03:32	0.013
11	2-Sep	10:03:32	0.017	40	2-Sep	17:18:32	0.001
12	2-Sep	10:18:32	0.015	41	2-Sep	17:33:32	0.001
13	2-Sep	10:33:32	0.013	42	2-Sep	17:48:32	0.001
14	2-Sep	10:48:32	0.011	43	2-Sep	18:03:32	0.002
15	2-Sep	11:03:32	0.011				
16	2-Sep	11:18:32	0.007				
17	2-Sep	11:33:32	0.006				
18	2-Sep	11:48:32	0.005				
19	2-Sep	12:03:32	0.004				
20	2-Sep	12:18:32	0.004				
21	2-Sep	12:33:32	0.006				
22	2-Sep	12:48:32	0.003				
23	2-Sep	13:03:32	0.003				
24	2-Sep	13:18:32	0.002				
25	2-Sep	13:33:32	0.001				
26	2-Sep	13:48:32	0.001				
27	2-Sep	14:03:32	0.003				
28	2-Sep	14:18:32	0.002				
29	2-Sep	14:33:32	0.002				

Address: Background
Site ID:
Date: 9/3/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 44
Start time and date: 07:06:48 03-Sep
Elapsed time: 11:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.148 mg/m³
Time at maximum: 17:08:37 Sep 03
Max STEL Concentration: 0.037 mg/m³
Time at max STEL: 13:37:49 Sep 03
Overall Avg Conc: 0.025 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	3-Sep	07:21:48	0	30	3-Sep	14:36:48	0.036
2	3-Sep	07:36:48	0.002	31	3-Sep	14:51:48	0.035
3	3-Sep	07:51:48	0.003	32	3-Sep	15:06:48	0.033
4	3-Sep	08:06:48	0.002	33	3-Sep	15:21:48	0.028
5	3-Sep	08:21:48	0.001	34	3-Sep	15:36:48	0.029
6	3-Sep	08:36:48	0.004	35	3-Sep	15:51:48	0.034
7	3-Sep	08:51:48	0.008	36	3-Sep	16:06:48	0.033
8	3-Sep	09:06:48	0.008	37	3-Sep	16:21:48	0.031
9	3-Sep	09:21:48	0.011	38	3-Sep	16:36:48	0.032
10	3-Sep	09:36:48	0.016	39	3-Sep	16:51:48	0.031
11	3-Sep	09:51:48	0.019	40	3-Sep	17:06:48	0.03
12	3-Sep	10:06:48	0.023	41	3-Sep	17:21:48	0.032
13	3-Sep	10:21:48	0.025	42	3-Sep	17:36:48	0.031
14	3-Sep	10:36:48	0.026	43	3-Sep	17:51:48	0.034
15	3-Sep	10:51:48	0.024	44	3-Sep	18:06:48	0.036
16	3-Sep	11:06:48	0.027				
17	3-Sep	11:21:48	0.029				
18	3-Sep	11:36:48	0.031				
19	3-Sep	11:51:48	0.028				
20	3-Sep	12:06:48	0.029				
21	3-Sep	12:21:48	0.031				
22	3-Sep	12:36:48	0.033				
23	3-Sep	12:51:48	0.034				
24	3-Sep	13:06:48	0.034				
25	3-Sep	13:21:48	0.034				
26	3-Sep	13:36:48	0.036				
27	3-Sep	13:51:48	0.035				
28	3-Sep	14:06:48	0.033				
29	3-Sep	14:21:48	0.033				

Address: 4995 Steele
Site ID: 3821
Date: 9/3/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 44
Start time and date: 07:22:29 03-Sep
Elapsed time: 11:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.762 mg/m³
Time at maximum: 15:02:21 Sep 03
Max STEL Concentration: 0.136 mg/m³
Time at max STEL: 13:46:59 Sep 03
Overall Avg Conc: 0.042 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	3-Sep	07:37:29	0.014	30	3-Sep	14:52:29	0.048
2	3-Sep	07:52:29	0.02	31	3-Sep	15:07:29	0.089
3	3-Sep	08:07:29	0.016	32	3-Sep	15:22:29	0.075
4	3-Sep	08:22:29	0.027	33	3-Sep	15:37:29	0.036
5	3-Sep	08:37:29	0.089	34	3-Sep	15:52:29	0.036
6	3-Sep	08:52:29	0.033	35	3-Sep	16:07:29	0.034
7	3-Sep	09:07:29	0.02	36	3-Sep	16:22:29	0.05
8	3-Sep	09:22:29	0.022	37	3-Sep	16:37:29	0.037
9	3-Sep	09:37:29	0.022	38	3-Sep	16:52:29	0.032
10	3-Sep	09:52:29	0.025	39	3-Sep	17:07:29	0.046
11	3-Sep	10:07:29	0.026	40	3-Sep	17:22:29	0.036
12	3-Sep	10:22:29	0.03	41	3-Sep	17:37:29	0.032
13	3-Sep	10:37:29	0.065	42	3-Sep	17:52:29	0.032
14	3-Sep	10:52:29	0.039	43	3-Sep	18:07:29	0.036
15	3-Sep	11:07:29	0.024	44	3-Sep	18:22:29	0.032
16	3-Sep	11:22:29	0.025				
17	3-Sep	11:37:29	0.068				
18	3-Sep	11:52:29	0.042				
19	3-Sep	12:07:29	0.045				
20	3-Sep	12:22:29	0.028				
21	3-Sep	12:37:29	0.025				
22	3-Sep	12:52:29	0.023				
23	3-Sep	13:07:29	0.04				
24	3-Sep	13:22:29	0.076				
25	3-Sep	13:37:29	0.132				
26	3-Sep	13:52:29	0.072				
27	3-Sep	14:07:29	0.044				
28	3-Sep	14:22:29	0.055				
29	3-Sep	14:37:29	0.047				

Address: 3705 Madison
Site ID: 1831
Date: 9/3/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 42
Start time and date: 07:44:43 03-Sep
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.369 mg/m³
Time at maximum: 15:54:29 Sep 03
Max STEL Concentration: 0.209 mg/m³
Time at max STEL: 15:40:43 Sep 03
Overall Avg Conc: 0.047 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	3-Sep	07:59:43	0.023	30	3-Sep	15:14:43	0.044
2	3-Sep	08:14:43	0.015	31	3-Sep	15:29:43	0.101
3	3-Sep	08:29:43	0.01	32	3-Sep	15:44:43	0.184
4	3-Sep	08:44:43	0.027	33	3-Sep	15:59:43	0.109
5	3-Sep	08:59:43	0.059	34	3-Sep	16:14:43	0.062
6	3-Sep	09:14:43	0.024	35	3-Sep	16:29:43	0.066
7	3-Sep	09:29:43	0.027	36	3-Sep	16:44:43	0.162
8	3-Sep	09:44:43	0.026	37	3-Sep	16:59:43	0.078
9	3-Sep	09:59:43	0.018	38	3-Sep	17:14:43	0.045
10	3-Sep	10:14:43	0.029	39	3-Sep	17:29:43	0.034
11	3-Sep	10:29:43	0.024	40	3-Sep	17:44:43	0.032
12	3-Sep	10:44:43	0.023	41	3-Sep	17:59:43	0.031
13	3-Sep	10:59:43	0.044	42	3-Sep	18:14:43	0.033
14	3-Sep	11:14:43	0.039				
15	3-Sep	11:29:43	0.025				
16	3-Sep	11:44:43	0.024				
17	3-Sep	11:59:43	0.03				
18	3-Sep	12:14:43	0.021				
19	3-Sep	12:29:43	0.021				
20	3-Sep	12:44:43	0.045				
21	3-Sep	12:59:43	0.031				
22	3-Sep	13:14:43	0.023				
23	3-Sep	13:29:43	0.03				
24	3-Sep	13:44:43	0.028				
25	3-Sep	13:59:43	0.03				
26	3-Sep	14:14:43	0.069				
27	3-Sep	14:29:43	0.039				
28	3-Sep	14:44:43	0.099				
29	3-Sep	14:59:43	0.091				

Address: 3401 Bruce Randolph
Site ID: 1571
Date: 9/4/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 43
Start time and date: 07:18:34 04-Sep
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.357 mg/m³
Time at maximum: 10:53:48 Sep 04
Max STEL Concentration: 0.077 mg/m³
Time at max STEL: 11:08:34 Sep 04
Overall Avg Conc: 0.014 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	4-Sep	07:33:34	0.004	30	4-Sep	14:48:34	0.014
2	4-Sep	07:48:34	0.001	31	4-Sep	15:03:34	0.024
3	4-Sep	08:03:34	0.001	32	4-Sep	15:18:34	0.011
4	4-Sep	08:18:34	0.001	33	4-Sep	15:33:34	0.004
5	4-Sep	08:33:34	0.004	34	4-Sep	15:48:34	0.018
6	4-Sep	08:48:34	0.002	35	4-Sep	16:03:34	0.014
7	4-Sep	09:03:34	0.003	36	4-Sep	16:18:34	0.007
8	4-Sep	09:18:34	0.001	37	4-Sep	16:33:34	0.029
9	4-Sep	09:33:34	0.01	38	4-Sep	16:48:34	0.007
10	4-Sep	09:48:34	0.023	39	4-Sep	17:03:34	0.007
11	4-Sep	10:03:34	0.012	40	4-Sep	17:18:34	0.004
12	4-Sep	10:18:34	0.02	41	4-Sep	17:33:34	0.004
13	4-Sep	10:33:34	0.027	42	4-Sep	17:48:34	0.004
14	4-Sep	10:48:34	0.006	43	4-Sep	18:03:34	0.004
15	4-Sep	11:03:34	0.065				
16	4-Sep	11:18:34	0.033				
17	4-Sep	11:33:34	0.016				
18	4-Sep	11:48:34	0.018				
19	4-Sep	12:03:34	0.007				
20	4-Sep	12:18:34	0.001				
21	4-Sep	12:33:34	0.001				
22	4-Sep	12:48:34	0.012				
23	4-Sep	13:03:34	0.008				
24	4-Sep	13:18:34	0.047				
25	4-Sep	13:33:34	0.062				
26	4-Sep	13:48:34	0.011				
27	4-Sep	14:03:34	0.04				
28	4-Sep	14:18:34	0.016				
29	4-Sep	14:33:34	0.019				

Address: 4775 Race
Site ID: 3520
Date: 9/4/03

pDR-1000
User ID: 2316
Tag Number: 01
Number of logged points: 23
Start time and date: 12:31:00 04-Sep
Elapsed time: 05:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.116 mg/m³
Time at maximum: 18:25:56 Sep 04
Max STEL Concentration: 0.000 mg/m³
Time at max STEL: 12:31:00 Sep 04
Overall Avg Conc: 0.000 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)
1	4-Sep	12:46:00	0
2	4-Sep	13:01:00	0
3	4-Sep	13:16:00	0
4	4-Sep	13:31:00	0
5	4-Sep	13:46:00	0
6	4-Sep	14:01:00	0
7	4-Sep	14:16:00	0
8	4-Sep	14:31:00	0.001
9	4-Sep	14:46:00	0
10	4-Sep	15:01:00	0
11	4-Sep	15:16:00	0.001
12	4-Sep	15:31:00	0.001
13	4-Sep	15:46:00	0
14	4-Sep	16:01:00	0
15	4-Sep	16:16:00	0.001
16	4-Sep	16:31:00	0
17	4-Sep	16:46:00	0
18	4-Sep	17:01:00	0
19	4-Sep	17:16:00	0
20	4-Sep	17:31:00	0
21	4-Sep	17:46:00	0
22	4-Sep	18:01:00	0
23	4-Sep	18:16:00	0

Address: Background
Site ID:
Date: 9/4/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 44
Start time and date: 07:10:25 04-Sep
Elapsed time: 11:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.101 mg/m³
Time at maximum: 11:25:04 Sep 04
Max STEL Concentration: 0.016 mg/m³
Time at max STEL: 08:37:55 Sep 04
Overall Avg Conc: 0.003 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	4-Sep	07:25:25	0.01	30	4-Sep	14:40:25	0.001
2	4-Sep	07:40:25	0.011	31	4-Sep	14:55:25	0.001
3	4-Sep	07:55:25	0.011	32	4-Sep	15:10:25	0
4	4-Sep	08:10:25	0.012	33	4-Sep	15:25:25	0.001
5	4-Sep	08:25:25	0.014	34	4-Sep	15:40:25	0.002
6	4-Sep	08:40:25	0.016	35	4-Sep	15:55:25	0.002
7	4-Sep	08:55:25	0.014	36	4-Sep	16:10:25	0
8	4-Sep	09:10:25	0.008	37	4-Sep	16:25:25	0.001
9	4-Sep	09:25:25	0.009	38	4-Sep	16:40:25	0
10	4-Sep	09:40:25	0.008	39	4-Sep	16:55:25	0.001
11	4-Sep	09:55:25	0.008	40	4-Sep	17:10:25	0.002
12	4-Sep	10:10:25	0.007	41	4-Sep	17:25:25	0
13	4-Sep	10:25:25	0.007	42	4-Sep	17:40:25	0.002
14	4-Sep	10:40:25	0.004	43	4-Sep	17:55:25	0.001
15	4-Sep	10:55:25	0.003	44	4-Sep	18:10:25	0.002
16	4-Sep	11:10:25	0.003				
17	4-Sep	11:25:25	0.003				
18	4-Sep	11:40:25	0.002				
19	4-Sep	11:55:25	0.002				
20	4-Sep	12:10:25	0.001				
21	4-Sep	12:25:25	0.001				
22	4-Sep	12:40:25	0.001				
23	4-Sep	12:55:25	0.001				
24	4-Sep	13:10:25	0.001				
25	4-Sep	13:25:25	0.001				
26	4-Sep	13:40:25	0.001				
27	4-Sep	13:55:25	0.001				
28	4-Sep	14:10:25	0.002				
29	4-Sep	14:25:25	0.001				

Address: 4616 Race
Site ID: 3484
Date: 9/4/03

pDR-1000
User ID: 4018
Tag Number: 01
Number of logged points: 42
Start time and date: 07:49:24 04-Sep
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 3.017 mg/m³
Time at maximum: 11:48:19 Sep 04
Max STEL Concentration: 0.318 mg/m³
Time at max STEL: 13:05:54 Sep 04
Overall Avg Conc: 0.043 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	4-Sep	08:04:24	0.049	30	4-Sep	15:19:24	0.064
2	4-Sep	08:19:24	0.068	31	4-Sep	15:34:24	0.019
3	4-Sep	08:34:24	0.088	32	4-Sep	15:49:24	0.037
4	4-Sep	08:49:24	0.062	33	4-Sep	16:04:24	0.092
5	4-Sep	09:04:24	0.045	34	4-Sep	16:19:24	0.082
6	4-Sep	09:19:24	0.037	35	4-Sep	16:34:24	0.011
7	4-Sep	09:34:24	0.025	36	4-Sep	16:49:24	0.017
8	4-Sep	09:49:24	0.035	37	4-Sep	17:04:24	0.011
9	4-Sep	10:04:24	0.014	38	4-Sep	17:19:24	0.015
10	4-Sep	10:19:24	0.014	39	4-Sep	17:34:24	0.007
11	4-Sep	10:34:24	0.117	40	4-Sep	17:49:24	0.009
12	4-Sep	10:49:24	0.035	41	4-Sep	18:04:24	0.008
13	4-Sep	11:04:24	0.023	42	4-Sep	18:19:24	0.007
14	4-Sep	11:19:24	0.016				
15	4-Sep	11:34:24	0.019				
16	4-Sep	11:49:24	0.082				
17	4-Sep	12:04:24	0.041				
18	4-Sep	12:19:24	0.038				
19	4-Sep	12:34:24	0.024				
20	4-Sep	12:49:24	0.024				
21	4-Sep	13:04:24	0.317				
22	4-Sep	13:19:24	0.059				
23	4-Sep	13:34:24	0.057				
24	4-Sep	13:49:24	0.055				
25	4-Sep	14:04:24	0.014				
26	4-Sep	14:19:24	0.009				
27	4-Sep	14:34:24	0.037				
28	4-Sep	14:49:24	0.021				
29	4-Sep	15:04:24	0.012				

Address: 3705 Madison
Site ID: 1831
Date: 9/4/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 42
Start time and date: 07:27:54 04-Sep
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 2.205 mg/m³
Time at maximum: 09:05:01 Sep 04
Max STEL Concentration: 0.116 mg/m³
Time at max STEL: 10:35:55 Sep 04
Overall Avg Conc: 0.028 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	4-Sep	07:42:54	0.009	30	4-Sep	14:57:54	0.012
2	4-Sep	07:57:54	0.007	31	4-Sep	15:12:54	0.001
3	4-Sep	08:12:54	0.035	32	4-Sep	15:27:54	0.007
4	4-Sep	08:27:54	0.008	33	4-Sep	15:42:54	0.007
5	4-Sep	08:42:54	0.029	34	4-Sep	15:57:54	0.009
6	4-Sep	08:57:54	0.049	35	4-Sep	16:12:54	0.07
7	4-Sep	09:12:54	0.051	36	4-Sep	16:27:54	0.067
8	4-Sep	09:27:54	0.088	37	4-Sep	16:42:54	0.014
9	4-Sep	09:42:54	0.062	38	4-Sep	16:57:54	0.015
10	4-Sep	09:57:54	0.087	39	4-Sep	17:12:54	0.008
11	4-Sep	10:12:54	0.083	40	4-Sep	17:27:54	0.004
12	4-Sep	10:27:54	0.061	41	4-Sep	17:42:54	0.001
13	4-Sep	10:42:54	0.102	42	4-Sep	17:57:54	0.002
14	4-Sep	10:57:54	0.006				
15	4-Sep	11:12:54	0.006				
16	4-Sep	11:27:54	0.007				
17	4-Sep	11:42:54	0.017				
18	4-Sep	11:57:54	0.021				
19	4-Sep	12:12:54	0.046				
20	4-Sep	12:27:54	0.005				
21	4-Sep	12:42:54	0.005				
22	4-Sep	12:57:54	0.006				
23	4-Sep	13:12:54	0.065				
24	4-Sep	13:27:54	0.043				
25	4-Sep	13:42:54	0.024				
26	4-Sep	13:57:54	0.038				
27	4-Sep	14:12:54	0.004				
28	4-Sep	14:27:54	0.024				
29	4-Sep	14:42:54	0.006				

Address: 3705 Madison
Site ID: 1831
Date: 9/5/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 43
Start time and date: 07:48:06 05-Sep
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.390 mg/m³
Time at maximum: 14:54:50 Sep 05
Max STEL Concentration: 0.111 mg/m³
Time at max STEL: 10:05:37 Sep 05
Overall Avg Conc: 0.020 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	5-Sep	08:03:06	0.012	30	5-Sep	15:18:06	0.008
2	5-Sep	08:18:06	0.012	31	5-Sep	15:33:06	0.01
3	5-Sep	08:33:06	0.012	32	5-Sep	15:48:06	0.01
4	5-Sep	08:48:06	0.014	33	5-Sep	16:03:06	0.018
5	5-Sep	09:03:06	0.013	34	5-Sep	16:18:06	0.011
6	5-Sep	09:18:06	0.033	35	5-Sep	16:33:06	0.014
7	5-Sep	09:33:06	0.059	36	5-Sep	16:48:06	0.016
8	5-Sep	09:48:06	0.013	37	5-Sep	17:03:06	0.012
9	5-Sep	10:03:06	0.105	38	5-Sep	17:18:06	0.013
10	5-Sep	10:18:06	0.019	39	5-Sep	17:33:06	0.012
11	5-Sep	10:33:06	0.017	40	5-Sep	17:48:06	0.015
12	5-Sep	10:48:06	0.009	41	5-Sep	18:03:06	0.017
13	5-Sep	11:03:06	0.008	42	5-Sep	18:18:06	0.016
14	5-Sep	11:18:06	0.01	43	5-Sep	18:33:06	0.022
15	5-Sep	11:33:06	0.005				
16	5-Sep	11:48:06	0.047				
17	5-Sep	12:03:06	0.017				
18	5-Sep	12:18:06	0.004				
19	5-Sep	12:33:06	0.003				
20	5-Sep	12:48:06	0.019				
21	5-Sep	13:03:06	0.007				
22	5-Sep	13:18:06	0.018				
23	5-Sep	13:33:06	0.084				
24	5-Sep	13:48:06	0.024				
25	5-Sep	14:03:06	0.016				
26	5-Sep	14:18:06	0.008				
27	5-Sep	14:33:06	0.011				
28	5-Sep	14:48:06	0.012				
29	5-Sep	15:03:06	0.045				

Address: 3401 Bruce Randolph
Site ID: 1571
Date: 9/5/03

pDR-1000
User ID: 2316
Tag Number: 01
Number of logged points: 42
Start time and date: 07:41:36 05-Sep
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 7.075 mg/m³
Time at maximum: 16:56:45 Sep 05
Max STEL Concentration: 0.232 mg/m³
Time at max STEL: 10:07:35 Sep 05
Overall Avg Conc: 0.021 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	5-Sep	07:56:36	0.013	30	5-Sep	15:11:36	0.004
2	5-Sep	08:11:36	0.001	31	5-Sep	15:26:36	0.001
3	5-Sep	08:26:36	0.034	32	5-Sep	15:41:36	0.012
4	5-Sep	08:41:36	0.014	33	5-Sep	15:56:36	0.022
5	5-Sep	08:56:36	0.008	34	5-Sep	16:11:36	0.047
6	5-Sep	09:11:36	0.001	35	5-Sep	16:26:36	0.036
7	5-Sep	09:26:36	0.016	36	5-Sep	16:41:36	0.018
8	5-Sep	09:41:36	0.127	37	5-Sep	16:56:36	0.004
9	5-Sep	09:56:36	0.067	38	5-Sep	17:11:36	0.151
10	5-Sep	10:11:36	0.184	39	5-Sep	17:26:36	0.012
11	5-Sep	10:26:36	0.034	40	5-Sep	17:41:36	0.001
12	5-Sep	10:41:36	0.034	41	5-Sep	17:56:36	0.003
13	5-Sep	10:56:36	0.023	42	5-Sep	18:11:36	0.002
14	5-Sep	11:11:36	0.034				
15	5-Sep	11:26:36	0.031				
16	5-Sep	11:41:36	0.047				
17	5-Sep	11:56:36	0.007				
18	5-Sep	12:11:36	0				
19	5-Sep	12:26:36	0.002				
20	5-Sep	12:41:36	0				
21	5-Sep	12:56:36	0.037				
22	5-Sep	13:11:36	0.032				
23	5-Sep	13:26:36	0.007				
24	5-Sep	13:41:36	0.004				
25	5-Sep	13:56:36	0.001				
26	5-Sep	14:11:36	0				
27	5-Sep	14:26:36	0				
28	5-Sep	14:41:36	0.007				
29	5-Sep	14:56:36	0.011				

Address: 4616 Race
Site ID: 3484
Date: 9/5/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 43
Start time and date: 07:15:00 05-Sep
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 6.526 mg/m³
Time at maximum: 09:12:56 Sep 05
Max STEL Concentration: 0.557 mg/m³
Time at max STEL: 09:22:30 Sep 05
Overall Avg Conc: 0.048 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	5-Sep	07:30:00	0.016	30	5-Sep	14:45:00	0.015
2	5-Sep	07:45:00	0.021	31	5-Sep	15:00:00	0.018
3	5-Sep	08:00:00	0.085	32	5-Sep	15:15:00	0.018
4	5-Sep	08:15:00	0.037	33	5-Sep	15:30:00	0.014
5	5-Sep	08:30:00	0.043	34	5-Sep	15:45:00	0.014
6	5-Sep	08:45:00	0.035	35	5-Sep	16:00:00	0.016
7	5-Sep	09:00:00	0.044	36	5-Sep	16:15:00	0.018
8	5-Sep	09:15:00	0.445	37	5-Sep	16:30:00	0.021
9	5-Sep	09:30:00	0.166	38	5-Sep	16:45:00	0.017
10	5-Sep	09:45:00	0.167	39	5-Sep	17:00:00	0.019
11	5-Sep	10:00:00	0.197	40	5-Sep	17:15:00	0.021
12	5-Sep	10:15:00	0.066	41	5-Sep	17:30:00	0.021
13	5-Sep	10:30:00	0.031	42	5-Sep	17:45:00	0.021
14	5-Sep	10:45:00	0.105	43	5-Sep	18:00:00	0.025
15	5-Sep	11:00:00	0.051				
16	5-Sep	11:15:00	0.029				
17	5-Sep	11:30:00	0.037				
18	5-Sep	11:45:00	0.036				
19	5-Sep	12:00:00	0.02				
20	5-Sep	12:15:00	0.014				
21	5-Sep	12:30:00	0.015				
22	5-Sep	12:45:00	0.019				
23	5-Sep	13:00:00	0.013				
24	5-Sep	13:15:00	0.018				
25	5-Sep	13:30:00	0.016				
26	5-Sep	13:45:00	0.019				
27	5-Sep	14:00:00	0.018				
28	5-Sep	14:15:00	0.017				
29	5-Sep	14:30:00	0.013				

Address: 4775 Race
Site ID: 3520
Date: 9/5/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 43
Start time and date: 07:19:54 05-Sep
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 1.394 mg/m³
Time at maximum: 09:06:49 Sep 05
Max STEL Concentration: 0.095 mg/m³
Time at max STEL: 07:52:54 Sep 05
Overall Avg Conc: 0.021 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	5-Sep	07:34:54	0.014	30	5-Sep	14:49:54	0.021
2	5-Sep	07:49:54	0.051	31	5-Sep	15:04:54	0.012
3	5-Sep	08:04:54	0.066	32	5-Sep	15:19:54	0.049
4	5-Sep	08:19:54	0.02	33	5-Sep	15:34:54	0.024
5	5-Sep	08:34:54	0.017	34	5-Sep	15:49:54	0.032
6	5-Sep	08:49:54	0.013	35	5-Sep	16:04:54	0.04
7	5-Sep	09:04:54	0.023	36	5-Sep	16:19:54	0.027
8	5-Sep	09:19:54	0.083	37	5-Sep	16:34:54	0.012
9	5-Sep	09:34:54	0.018	38	5-Sep	16:49:54	0.027
10	5-Sep	09:49:54	0.032	39	5-Sep	17:04:54	0.016
11	5-Sep	10:04:54	0.04	40	5-Sep	17:19:54	0.015
12	5-Sep	10:19:54	0.023	41	5-Sep	17:34:54	0.015
13	5-Sep	10:34:54	0.016	42	5-Sep	17:49:54	0.016
14	5-Sep	10:49:54	0.015	43	5-Sep	18:04:54	0.015
15	5-Sep	11:04:54	0.015				
16	5-Sep	11:19:54	0.007				
17	5-Sep	11:34:54	0.013				
18	5-Sep	11:49:54	0.021				
19	5-Sep	12:04:54	0.005				
20	5-Sep	12:19:54	0.005				
21	5-Sep	12:34:54	0.003				
22	5-Sep	12:49:54	0.006				
23	5-Sep	13:04:54	0.006				
24	5-Sep	13:19:54	0.01				
25	5-Sep	13:34:54	0.014				
26	5-Sep	13:49:54	0.017				
27	5-Sep	14:04:54	0.009				
28	5-Sep	14:19:54	0.013				
29	5-Sep	14:34:54	0.008				

Address: Background
Site ID:
Date: 9/5/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 43
Start time and date: 07:29:56 05-Sep
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.114 mg/m³
Time at maximum: 15:56:27 Sep 05
Max STEL Concentration: 0.008 mg/m³
Time at max STEL: 18:07:26 Sep 05
Overall Avg Conc: 0.001 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	5-Sep	07:44:56	0.002	30	5-Sep	14:59:56	0.001
2	5-Sep	07:59:56	0.004	31	5-Sep	15:14:56	0.001
3	5-Sep	08:14:56	0.004	32	5-Sep	15:29:56	0.002
4	5-Sep	08:29:56	0.003	33	5-Sep	15:44:56	0.001
5	5-Sep	08:44:56	0.004	34	5-Sep	15:59:56	0.002
6	5-Sep	08:59:56	0.003	35	5-Sep	16:14:56	0.002
7	5-Sep	09:14:56	0.004	36	5-Sep	16:29:56	0.002
8	5-Sep	09:29:56	0.003	37	5-Sep	16:44:56	0.002
9	5-Sep	09:44:56	0.002	38	5-Sep	16:59:56	0.003
10	5-Sep	09:59:56	0.002	39	5-Sep	17:14:56	0.002
11	5-Sep	10:14:56	0.003	40	5-Sep	17:29:56	0.003
12	5-Sep	10:29:56	0.002	41	5-Sep	17:44:56	0.004
13	5-Sep	10:44:56	0.001	42	5-Sep	17:59:56	0.006
14	5-Sep	10:59:56	0.001	43	5-Sep	18:14:56	0.007
15	5-Sep	11:14:56	0.003				
16	5-Sep	11:29:56	0.001				
17	5-Sep	11:44:56	0.001				
18	5-Sep	11:59:56	0				
19	5-Sep	12:14:56	0				
20	5-Sep	12:29:56	0				
21	5-Sep	12:44:56	0.001				
22	5-Sep	12:59:56	0				
23	5-Sep	13:14:56	0.001				
24	5-Sep	13:29:56	0.002				
25	5-Sep	13:44:56	0.001				
26	5-Sep	13:59:56	0.001				
27	5-Sep	14:14:56	0.001				
28	5-Sep	14:29:56	0				
29	5-Sep	14:44:56	0.001				

Address: 3401 Bruce Randolph
Site ID: 1571
Date: 9/6/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 42
Start time and date: 07:34:58 06-Sep
Elapsed time: 10:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 13.767 mg/m³
Time at maximum: 08:53:03 Sep 06
Max STEL Concentration: 0.418 mg/m³
Time at max STEL: 08:58:29 Sep 06
Overall Avg Conc: 0.048 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	6-Sep	07:49:58	0.005	30	6-Sep	15:04:58	0.053
2	6-Sep	08:04:58	0.003	31	6-Sep	15:19:58	0.029
3	6-Sep	08:19:58	0.025	32	6-Sep	15:34:58	0.062
4	6-Sep	08:34:58	0.123	33	6-Sep	15:49:58	0.164
5	6-Sep	08:49:58	0.218	34	6-Sep	16:04:58	0.046
6	6-Sep	09:04:58	0.245	35	6-Sep	16:19:58	0.091
7	6-Sep	09:19:58	0.068	36	6-Sep	16:34:58	0.082
8	6-Sep	09:34:58	0.11	37	6-Sep	16:49:58	0.031
9	6-Sep	09:49:58	0.063	38	6-Sep	17:04:58	0.003
10	6-Sep	10:04:58	0.04	39	6-Sep	17:19:58	0.001
11	6-Sep	10:19:58	0.082	40	6-Sep	17:34:58	0.001
12	6-Sep	10:34:58	0.128	41	6-Sep	17:49:58	0.003
13	6-Sep	10:49:58	0.051	42	6-Sep	18:04:58	0.004
14	6-Sep	11:04:58	0.016				
15	6-Sep	11:19:58	0.006				
16	6-Sep	11:34:58	0.002				
17	6-Sep	11:49:58	0.046				
18	6-Sep	12:04:58	0.005				
19	6-Sep	12:19:58	0.027				
20	6-Sep	12:34:58	0.005				
21	6-Sep	12:49:58	0.004				
22	6-Sep	13:04:58	0.004				
23	6-Sep	13:19:58	0.017				
24	6-Sep	13:34:58	0.089				
25	6-Sep	13:49:58	0.069				
26	6-Sep	14:04:58	0.032				
27	6-Sep	14:19:58	0.015				
28	6-Sep	14:34:58	0.001				
29	6-Sep	14:49:58	0.003				

Address: Background
Site ID:
Date: 9/6/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 43
Start time and date: 07:29:59 06-Sep
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.141 mg/m³
Time at maximum: 13:25:32 Sep 06
Max STEL Concentration: 0.028 mg/m³
Time at max STEL: 07:44:59 Sep 06
Overall Avg Conc: 0.010 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	6-Sep	07:44:59	0.028	30	6-Sep	14:59:59	0.004
2	6-Sep	07:59:59	0.02	31	6-Sep	15:14:59	0.005
3	6-Sep	08:14:59	0.013	32	6-Sep	15:29:59	0.008
4	6-Sep	08:29:59	0.013	33	6-Sep	15:44:59	0.009
5	6-Sep	08:44:59	0.018	34	6-Sep	15:59:59	0.012
6	6-Sep	08:59:59	0.013	35	6-Sep	16:14:59	0.007
7	6-Sep	09:14:59	0.012	36	6-Sep	16:29:59	0.008
8	6-Sep	09:29:59	0.014	37	6-Sep	16:44:59	0.006
9	6-Sep	09:44:59	0.011	38	6-Sep	16:59:59	0.006
10	6-Sep	09:59:59	0.013	39	6-Sep	17:14:59	0.008
11	6-Sep	10:14:59	0.011	40	6-Sep	17:29:59	0.006
12	6-Sep	10:29:59	0.014	41	6-Sep	17:44:59	0.007
13	6-Sep	10:44:59	0.01	42	6-Sep	17:59:59	0.005
14	6-Sep	10:59:59	0.009	43	6-Sep	18:14:59	0.005
15	6-Sep	11:14:59	0.011				
16	6-Sep	11:29:59	0.014				
17	6-Sep	11:44:59	0.013				
18	6-Sep	11:59:59	0.012				
19	6-Sep	12:14:59	0.012				
20	6-Sep	12:29:59	0.009				
21	6-Sep	12:44:59	0.009				
22	6-Sep	12:59:59	0.007				
23	6-Sep	13:14:59	0.008				
24	6-Sep	13:29:59	0.007				
25	6-Sep	13:44:59	0.007				
26	6-Sep	13:59:59	0.005				
27	6-Sep	14:14:59	0.005				
28	6-Sep	14:29:59	0.006				
29	6-Sep	14:44:59	0.004				

Address: 4775 Race
Site ID: 3520
Date: 9/6/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 46
Start time and date: 07:00:59 06-Sep
Elapsed time: 11:30:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 2.008 mg/m³
Time at maximum: 13:10:35 Sep 06
Max STEL Concentration: 0.141 mg/m³
Time at max STEL: 08:16:29 Sep 06
Overall Avg Conc: 0.028 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	6-Sep	07:15:59	0.019	30	6-Sep	14:30:59	0.012
2	6-Sep	07:30:59	0.018	31	6-Sep	14:45:59	0.02
3	6-Sep	07:45:59	0.074	32	6-Sep	15:00:59	0.011
4	6-Sep	08:00:59	0.097	33	6-Sep	15:15:59	0.016
5	6-Sep	08:15:59	0.14	34	6-Sep	15:30:59	0.025
6	6-Sep	08:30:59	0.022	35	6-Sep	15:45:59	0.019
7	6-Sep	08:45:59	0.023	36	6-Sep	16:00:59	0.021
8	6-Sep	09:00:59	0.03	37	6-Sep	16:15:59	0.044
9	6-Sep	09:15:59	0.013	38	6-Sep	16:30:59	0.035
10	6-Sep	09:30:59	0.02	39	6-Sep	16:45:59	0.025
11	6-Sep	09:45:59	0.039	40	6-Sep	17:00:59	0.072
12	6-Sep	10:00:59	0.022	41	6-Sep	17:15:59	0.012
13	6-Sep	10:15:59	0.041	42	6-Sep	17:30:59	0.009
14	6-Sep	10:30:59	0.035	43	6-Sep	17:45:59	0.013
15	6-Sep	10:45:59	0.024	44	6-Sep	18:00:59	0.01
16	6-Sep	11:00:59	0.023	45	6-Sep	18:15:59	0.009
17	6-Sep	11:15:59	0.028	46	6-Sep	18:30:59	0.012
18	6-Sep	11:30:59	0.017				
19	6-Sep	11:45:59	0.013				
20	6-Sep	12:00:59	0.012				
21	6-Sep	12:15:59	0.013				
22	6-Sep	12:30:59	0.018				
23	6-Sep	12:45:59	0.011				
24	6-Sep	13:00:59	0.012				
25	6-Sep	13:15:59	0.081				
26	6-Sep	13:30:59	0.019				
27	6-Sep	13:45:59	0.023				
28	6-Sep	14:00:59	0.038				
29	6-Sep	14:15:59	0.007				

Address: 3786 Gilpin
Site ID: 3407
Date: 9/8/03

pDR-1000
User ID: 4211
Tag Number: 01
Number of logged points: 44
Start time and date: 07:39:17 08-Sep
Elapsed time: 11:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 8.291 mg/m³
Time at maximum: 16:39:50 Sep 08
Max STEL Concentration: 0.385 mg/m³
Time at max STEL: 16:40:18 Sep 08
Overall Avg Conc: 0.035 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	8-Sep	07:54:17	0.004	30	8-Sep	15:09:17	0.043
2	8-Sep	08:09:17	0.007	31	8-Sep	15:24:17	0.027
3	8-Sep	08:24:17	0.017	32	8-Sep	15:39:17	0.015
4	8-Sep	08:39:17	0.025	33	8-Sep	15:54:17	0.024
5	8-Sep	08:54:17	0.021	34	8-Sep	16:09:17	0.014
6	8-Sep	09:09:17	0.016	35	8-Sep	16:24:17	0.196
7	8-Sep	09:24:17	0.011	36	8-Sep	16:39:17	0.268
8	8-Sep	09:39:17	0.012	37	8-Sep	16:54:17	0.185
9	8-Sep	09:54:17	0.016	38	8-Sep	17:09:17	0.024
10	8-Sep	10:09:17	0.018	39	8-Sep	17:24:17	0.022
11	8-Sep	10:24:17	0.008	40	8-Sep	17:39:17	0.027
12	8-Sep	10:39:17	0.005	41	8-Sep	17:54:17	0.021
13	8-Sep	10:54:17	0.005	42	8-Sep	18:09:17	0.02
14	8-Sep	11:09:17	0.004	43	8-Sep	18:24:17	0.024
15	8-Sep	11:24:17	0.036	44	8-Sep	18:39:17	0.019
16	8-Sep	11:39:17	0.039				
17	8-Sep	11:54:17	0.111				
18	8-Sep	12:09:17	0.024				
19	8-Sep	12:24:17	0.001				
20	8-Sep	12:39:17	0.001				
21	8-Sep	12:54:17	0.002				
22	8-Sep	13:09:17	0.019				
23	8-Sep	13:24:17	0.025				
24	8-Sep	13:39:17	0.02				
25	8-Sep	13:54:17	0.057				
26	8-Sep	14:09:17	0.03				
27	8-Sep	14:24:17	0.048				
28	8-Sep	14:39:17	0.021				
29	8-Sep	14:54:17	0.028				

Address: 4775 Race
Site ID: 3520
Date: 9/8/03

pDR-1000
User ID: 2317
Tag Number: 01
Number of logged points: 43
Start time and date: 07:27:11 08-Sep
Elapsed time: 10:45:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 2.273 mg/m³
Time at maximum: 17:59:44 Sep 08
Max STEL Concentration: 0.205 mg/m³
Time at max STEL: 18:02:41 Sep 08
Overall Avg Conc: 0.011 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	8-Sep	07:42:11	0.02	30	8-Sep	14:57:11	0.005
2	8-Sep	07:57:11	0.027	31	8-Sep	15:12:11	0.002
3	8-Sep	08:12:11	0.022	32	8-Sep	15:27:11	0.005
4	8-Sep	08:27:11	0.027	33	8-Sep	15:42:11	0
5	8-Sep	08:42:11	0.031	34	8-Sep	15:57:11	0.003
6	8-Sep	08:57:11	0.022	35	8-Sep	16:12:11	0.002
7	8-Sep	09:12:11	0.024	36	8-Sep	16:27:11	0.002
8	8-Sep	09:27:11	0.022	37	8-Sep	16:42:11	0.001
9	8-Sep	09:42:11	0.019	38	8-Sep	16:57:11	0.002
10	8-Sep	09:57:11	0.018	39	8-Sep	17:12:11	0.001
11	8-Sep	10:12:11	0.019	40	8-Sep	17:27:11	0.002
12	8-Sep	10:27:11	0.007	41	8-Sep	17:42:11	0.026
13	8-Sep	10:42:11	0.005	42	8-Sep	17:57:11	0.09
14	8-Sep	10:57:11	0.009	43	8-Sep	18:12:11	0.167
15	8-Sep	11:12:11	0.006				
16	8-Sep	11:27:11	0.005				
17	8-Sep	11:42:11	0.004				
18	8-Sep	11:57:11	0.002				
19	8-Sep	12:12:11	0.003				
20	8-Sep	12:27:11	0.003				
21	8-Sep	12:42:11	0.002				
22	8-Sep	12:57:11	0.001				
23	8-Sep	13:12:11	0.003				
24	8-Sep	13:27:11	0.001				
25	8-Sep	13:42:11	0				
26	8-Sep	13:57:11	0.001				
27	8-Sep	14:12:11	0				
28	8-Sep	14:27:11	0				
29	8-Sep	14:42:11	0.002				

Address: 4785 Claude
Site ID: 3581
Date: 9/8/03

pDR-1000
User ID:4018
Tag Number: 01
Number of logged points: 44
Start time and date: 07:14:39 08-Sep
Elapsed time: 11:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 2.739 mg/m³
Time at maximum: 16:44:16 Sep 08
Max STEL Concentration: 0.110 mg/m³
Time at max STEL: 09:08:09 Sep 08
Overall Avg Conc: 0.025 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	8-Sep	07:29:39	0.016	30	8-Sep	14:44:39	0.029
2	8-Sep	07:44:39	0.019	31	8-Sep	14:59:39	0.028
3	8-Sep	07:59:39	0.023	32	8-Sep	15:14:39	0.015
4	8-Sep	08:14:39	0.026	33	8-Sep	15:29:39	0.019
5	8-Sep	08:29:39	0.028	34	8-Sep	15:44:39	0.028
6	8-Sep	08:44:39	0.032	35	8-Sep	15:59:39	0.017
7	8-Sep	08:59:39	0.049	36	8-Sep	16:14:39	0.014
8	8-Sep	09:14:39	0.089	37	8-Sep	16:29:39	0.031
9	8-Sep	09:29:39	0.022	38	8-Sep	16:44:39	0.065
10	8-Sep	09:44:39	0.027	39	8-Sep	16:59:39	0.037
11	8-Sep	09:59:39	0.034	40	8-Sep	17:14:39	0.036
12	8-Sep	10:14:39	0.027	41	8-Sep	17:29:39	0.017
13	8-Sep	10:29:39	0.033	42	8-Sep	17:44:39	0.025
14	8-Sep	10:44:39	0.019	43	8-Sep	17:59:39	0.014
15	8-Sep	10:59:39	0.028	44	8-Sep	18:14:39	0.017
16	8-Sep	11:14:39	0.012				
17	8-Sep	11:29:39	0.017				
18	8-Sep	11:44:39	0.013				
19	8-Sep	11:59:39	0.015				
20	8-Sep	12:14:39	0.008				
21	8-Sep	12:29:39	0.007				
22	8-Sep	12:44:39	0.008				
23	8-Sep	12:59:39	0.018				
24	8-Sep	13:14:39	0.015				
25	8-Sep	13:29:39	0.033				
26	8-Sep	13:44:39	0.018				
27	8-Sep	13:59:39	0.045				
28	8-Sep	14:14:39	0.01				
29	8-Sep	14:29:39	0.024				

Address: Background
Site ID:
Date: 9/8/03

pDR-1000
User ID: 2025
Tag Number: 01
Number of logged points: 44
Start time and date: 07:46:35 08-Sep
Elapsed time: 11:00:00
Logging period (sec): 900
Calibration Factor (%): 100
Max Display Concentration: 0.119 mg/m³
Time at maximum: 07:52:54 Sep 08
Max STEL Concentration: 0.023 mg/m³
Time at max STEL: 08:01:35 Sep 08
Overall Avg Conc: 0.006 mg/m³
Logged Data:

Point	Date	Time	Avg.(mg/m³)	Point	Date	Time	Avg.(mg/m³)
1	8-Sep	08:01:35	0.022	30	8-Sep	15:16:35	0.002
2	8-Sep	08:16:35	0.02	31	8-Sep	15:31:35	0.002
3	8-Sep	08:31:35	0.017	32	8-Sep	15:46:35	0.001
4	8-Sep	08:46:35	0.017	33	8-Sep	16:01:35	0.001
5	8-Sep	09:01:35	0.017	34	8-Sep	16:16:35	0.002
6	8-Sep	09:16:35	0.019	35	8-Sep	16:31:35	0.003
7	8-Sep	09:31:35	0.016	36	8-Sep	16:46:35	0.001
8	8-Sep	09:46:35	0.014	37	8-Sep	17:01:35	0.001
9	8-Sep	10:01:35	0.011	38	8-Sep	17:16:35	0.002
10	8-Sep	10:16:35	0.008	39	8-Sep	17:31:35	0.003
11	8-Sep	10:31:35	0.008	40	8-Sep	17:46:35	0.002
12	8-Sep	10:46:35	0.006	41	8-Sep	18:01:35	0.003
13	8-Sep	11:01:35	0.007	42	8-Sep	18:16:35	0.005
14	8-Sep	11:16:35	0.004	43	8-Sep	18:31:35	0.003
15	8-Sep	11:31:35	0.004	44	8-Sep	18:46:35	0.003
16	8-Sep	11:46:35	0.004				
17	8-Sep	12:01:35	0.003				
18	8-Sep	12:16:35	0.002				
19	8-Sep	12:31:35	0.003				
20	8-Sep	12:46:35	0.003				
21	8-Sep	13:01:35	0.003				
22	8-Sep	13:16:35	0.002				
23	8-Sep	13:31:35	0.002				
24	8-Sep	13:46:35	0.003				
25	8-Sep	14:01:35	0.002				
26	8-Sep	14:16:35	0.002				
27	8-Sep	14:31:35	0.002				
28	8-Sep	14:46:35	0.002				
29	8-Sep	15:01:35	0.002				

APPENDIX 3

Statistical Analysis

TSP Correlation

The equation describing the line for PM_{10}

$$PM_{10} = 19.81 + 0.21\ TSP$$

has an R-squared of 0.58. Confidence intervals were calculated for the y-intercept and the slope parameter using the upper 95% limit of these intervals: a new model was created as follows:

$$PM_{10} = 32.15 + 0.30\ TSP$$

With this conservative model, a PM_{10} Action Level for the TSP was back calculatedusing the National Ambient Air Quality Standard (NAAQS) for PM_{10} of 150 ug/m^3 in the following equation.

$$TSP_{PM10\ Action\ Level} = (150 - 32.15) / 0.30 \text{ or } TSP_{PM10\ Action\ Level} = 393\ ug/m^3.$$

The equation describing the line for $PM_{2.5}$

$$PM_{2.5} = 13.17 + 0.078\ TSP$$

has an R-squared of 0.33. Confidence intervals were calculated for the y-intercept and the slope parameter using the upper 95% limit of these intervals; a new model was created as follows:

$$PM_{2.5} = 20.82 + 0.13\ TSP$$

Back calculating a $PM_{2.5}$ Action Level for the TSP using the National Ambient Air Quality Standard for $PM_{2.5}$ of 65 ug/m^3 in the following equation.

$$TSP_{PM2.5\ Action\ Level} = (65 - 20.82) / 0.13 \text{ or } TSP_{PM2.5\ Action\ Level} = 340\ ug/m^3.$$

PDR Correlation

The equation describing the line for PM_{10}

$$PM_{10} = 22.53 + 1.01\ PDR$$

has an R-squared of 0.56. Confidence intervals were calculated for the y-intercept and the slope parameter using the upper 95% limit of these intervals: a new model was created as follows:

$$PM_{10} = 34.44 + 1.46\ PDR$$

With this conservative model, a PM_{10} Action Level for the PDR was back calculated using the NAAQS for PM_{10} of 150 ug/m^3 in the following equation.

$$PDR_{PM10\ Action\ Level} = (150 - 34.44) / 1.46 \text{ or } PDR_{PM10\ Action\ Level} = 79\ ug/m^3$$

The equation describing the line for $PM_{2.5}$

$$PM_{2.5} = 13.75 + 0.39\ PDR$$

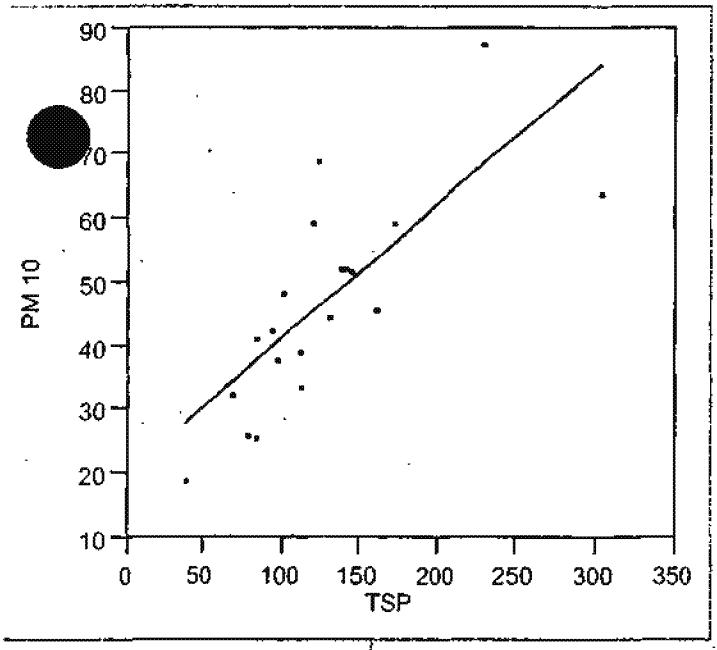
has an R-squared of 0.35. Confidence intervals were calculated for the y-intercept and the slope parameter using the upper 95% limit of these intervals; a new model was created as follows:

$$PM_{2.5} = 20.80 + 0.66\ PDR$$

Back calculating a $PM_{2.5}$ Action Level for the PDR using the NAAQS for $PM_{2.5}$ of 65 ug/m^3 in the following equation.

$$PDR_{PM2.5\ Action\ Level} = (65 - 20.80) / 0.66 \text{ or } PDR_{PM2.5\ Action\ Level} = 67\ ug/m^3.$$

PM 10 By TSP



—— Linear Fit

Linear Fit

PM 10 = 19.8067 + 0.21172 TSP

Summary of Fit

RSquare	0.58482
RSquare Adj	0.561755
Mean Square Error	10.81619
of Response	46.7595
Observations (or Sum Wgts)	20

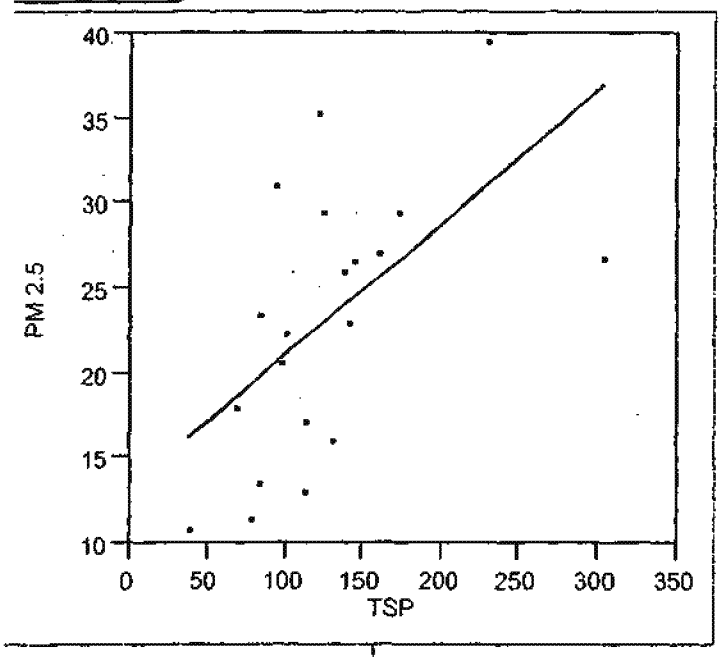
Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	2967.3450	2967.34	25.3547
Error	18	2106.5981	117.03	Prob>F
C Total	19	5073.9431		<.0001

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|	Lower 95%	Upper 95%
Intercept	19.806748	5.873939	3.37	0.0034	7.4661407	32.147355
TSP	0.2117154	0.042046	5.04	<.0001	0.123381	0.3000499

PM 2.5 By TSP



Linear Fit

Linear Fit

PM 2.5 = 13.1738 + 0.07793 TSP

Summary of Fit

RSquare	0.331938
RSquare Adj	0.294824
Root Mean Square Error	6.704514
Mean of Response	23.0945
Observations (or Sum Wgts)	20

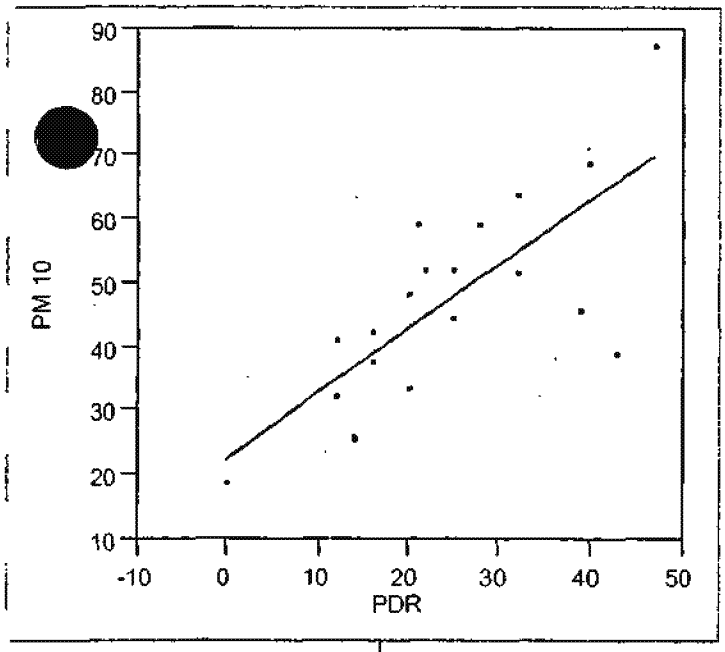
Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	402.0201	402.020	8.9436
Error	18	809.1092	44.951	Prob>F
C Total	19	1211.1293		0.0078

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|	Lower 95%	Upper 95%
Intercept	13.173785	3.640342	3.62	0.0020	5.5257606	20.821809
TSP	0.0779278	0.026058	2.99	0.0078	0.023183	0.1326726

PM 10 By PDR



Linear Fit

Linear Fit

PM 10 = 22.5352 + 1.01357 PDR

Summary of Fit

RSquare	0.557563
RSquare Adj	0.532984
Mean Square Error	11.16766
of Response	46.7595
Observations (or Sum Wgts)	20

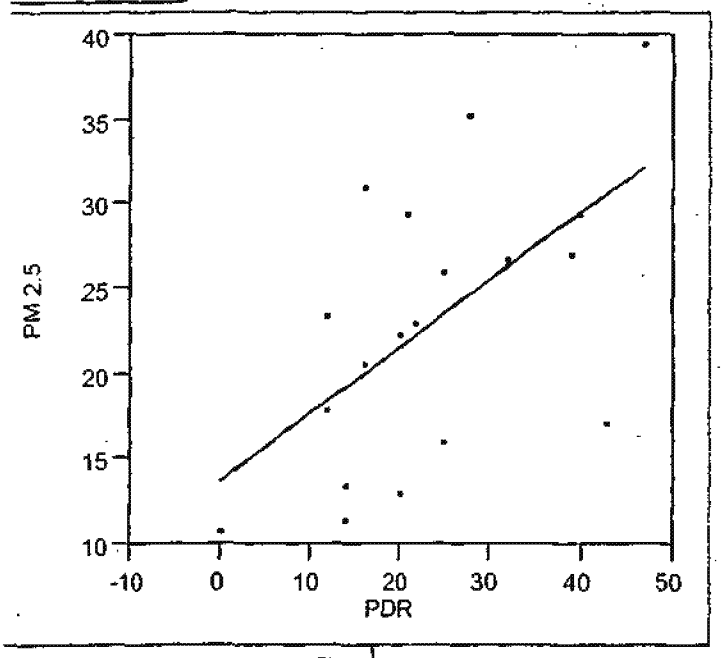
Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	2829.0451	2829.05	22.6838
Error	18	2244.8980	124.72	Prob>F
C Total	19	5073.9431		0.0002

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|	Lower 95%	Upper 95%
Intercept	22.535178	5.666154	3.98	0.0009	10.631109	34.439246
PDR	1.01357	0.212812	4.76	0.0002	0.5664718	1.4606682

PM 2.5 By PDR



—— Linear Fit

Linear Fit

PM 2.5 = 13.7468 + 0.39112 PDR

Summary of Fit

RSquare	0.347821
RSquare Adj	0.311589
Root Mean Square Error	6.624336
Mean of Response	23.0945
Observations (or Sum Wgts)	20

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	421.2565	421.256	9.5998
Error	18	789.8728	43.882	Prob>F
C Total	19	1211.1293		0.0062

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|	Lower 95%	Upper 95%
Intercept	13.746795	3.361001	4.09	0.0007	6.6856409	20.807949
PDR	0.3911174	0.126234	3.10	0.0062	0.1259115	0.6563233

APPENDIX 4

Field Notes

Wednesday 13 August 2003 PROPERTY I.D. 1697 001

63[illegible] C. Nolan & R. Burton at base site trailers ~~at 3515 Harrison~~ RB

[illegible]33 PDR 4018 calibrated
[illegible]35 PDR 2317 calibrated

HARRISON PROP. I.D. 1697

656 Arrived on worksite at 3515 Jackson CW; winds gentle out of the SE ≈ 1 MPH
1013 mmHg, 25° C

[illegible]710 CALIBRATING 3262 - 1.45 IN WC
0.34 KPA

[illegible]711 3262 (2.5) started, filter # 03-T8203

[illegible]713 Calibrating 3263 (10) - 1.38 inWC → 0.33 KPA
[illegible]714 st 3265 started; filter ID# 03-T8204

[illegible]716 Calibrating 3265 (TSP/Pb,As) - 1.43 inWC → 0.34 KPA
[illegible]718 3265 started; filter ID # 03-T8205

[illegible]719 PDR-4018 started

0731 3266 (background) - 1.35 inWC → 0.32 KPA
0[illegible] 3266 started; Filter ID# 03-T8206 Hung at police station ≈ 3515 Colorado Blvd

0744 PDR 2317 started

0825 C. Nolan, R. Burton off-site

0940 R. Burton onsite; D. Uffelfilge already on-site
Minivol 62, 63, 65 running; wind from south 0-1 mph; PDR TWA 0.023 mg/m³; 22° C

0945 Background minivol (66) running; PDR TWA 0.017 mg/m³

1230 LOADING FILTERS FOR TOMORROW

03-T8207	3262
208	3263
209	3265
210	3266 WILL BE ANOTHER BACKGROUND
211	3267 2ND DAY AT 3515 HARRISON
03-T8212	BLANK

1228 3 minivols operating; PDR T.W.A. 0.023 mg/m³; Ø wind
1233 background minivol operating; PDR TWA 0.017 mg/m³; Ø wind

[illegible]24 background minivol operating; PDR TWA 0.015 mg/m³; wind 3 MPH from SE
[illegible]6 3 minivols operating; PDR TWA 0.022 mg/m³

13 August 2003 (cont.)

1695 earthwork stopped
1710 C. Nolan, R. Burton on site

1757 3262 - 1.33 inWC
3263 - 1.43 in WC
3265 - 1.42 in WC
PDR #4018 TWA: 0.020 mg/m³

1802 PDR 4018 off

1805 3262 off
1806 3263 off
3265 off

1815 3266 - 1.41 in WC
PDR 2317 TWA: 0.003 mg/m³

1816 3266 off
PDR 2317 off

1822 C. Nolan, R. Burton off-site

1900 Unable to download PDRs due to technical difficulties. Tomorrow will start Tag #2.
Filters removed and prepared for shipping.

1915 R. Burton & C. Nolan off-site

14 August 2003, Thursday

0628 C. Nolan, R. Burton on-site to collect minicals from trailer
0633 PDR 2025 zeroed
0637 PDR 4018 zeroed
0639 PDR 2317 zeroed

0653 C. Nolan, R. Burton at 4935 Adams for set-up

T 22°C BAR 30.34 NO REAL WIND
WILL ADJUST FLOW ON ALL TO FLOW FOR SAMPLERS TO GET IT TO ~ 5 l/m
SPOKE TO OWNER + NEIGHBOR ABOUT MOTOR PLACEMENT - NORTH SIDE, BACK YARD.
3268 - PM 2.5 1.63 IN WATER ON 0711 Filter ID# 03-T8207
3263 - PM 10 1.64 " ON 0712 Filter ID# 03-T8208
3265 - TSP, As, Pb 1.66 ON 0712 Filter ID# 03-T8209

PDR - 4018 START 0713 tag #2

1-August 2003 (cont.)

002

0725 C. Nolan, R. Burton arrive at Police station on Colorado Blvd to set up background station
0726 3266 started; pressure at 1.67 in WC; baro: 30.38; temp: 24°C; Ø wind
0729 PDR 2317 started Tag #2 filter #03-T8210

0730 R. Burton, C. Nolan on-site at 3515 Harrison
0736 3267 Minivol started; 1.67 in WC filter ID# 03-T3211
0737 PDR 2025 started
0945 R. Burton on-site @ 4935 Adams - TWA 0.028 mg/m³; 3 miniVols running; Ø wind
1002 R. Burton on-site @ 3515 Harrison - TWA 0.035 mg/m³; minivol running; Ø wind
1015 Background check - TWA 0.030 mg/m³; miniVol running; Ø wind
1215 R. Burton on-site @ 4935 Adams - TWA 0.033 mg/m³; 3 miniVols running; Ø wind
1230 R. Burton on-site @ 3515 Harrison - TWA 0.034 mg/m³; minivol running
1239 Background TWA 0.027 mg/m³; miniVol running
1540 R. Burton on-site 4935 Adams - TWA 0.029 mg/m³; 3 miniVols running; Ø wind
1547 R. Burton on-site @ Background - TWA 0.022 mg/m³; miniVol running
1356 R. Burton on-site @ 3515 Harrison - TWA 0.049 mg/m³; miniVol running

1650 Work stopped at 3515 Harrison
1705 Work stopped at 4935 Adams
1744 PDR 2317 stopped; C. Nolan, R. Burton on-site at background;
1744 MiniVol 3266 stopped; 1.71 in WC rotometer pressure
1749 C. Nolan R. Burton on-site @ 3515 Harrison
1750 PDR 2025 off; TWA 0.045 mg/m³
1751 MiniVol 3267 off; 1.63 in WC ~~final reading~~ [illegible]
1758 C. Nolan, R. Burton on-site @ 4935 Adams
1805 PDR 4010 off - TWA 0.022
1805 3269 off - 1.63 in WC
1807 3263 off - 1.65 in WC
1809 3265 off - 1.61 in WC; 32°C; 30.26

Total Time (min) 3268 - 654
3263 - 655
3265 - 657
3266 - ~~624~~ 613
3267 - 615

1907 PDRs downloaded & filters prepared for shipping

1923 C. Nolan, R. Burton off-base-site

15 August 2005 Friday — 3609 HIGH ST. (429)

0625 C. Nolan, R. Burton at base SUNNY, NO WIND
0630 MiniVol Prep, PDR'S BEING ZEROED
0633 4018 ZEROED
0635 2317 ZEROED
0637 2025 ZEROED
0637 DAVE UFFERFILGE ONSITE TO PUT PERSONAL PUMPS ON 3 EPA EMPLOYEES
0650 ONSITE 3609 HIGH ST. SMALL BACKYARD W/ DOG, BIG TREE, LAWN, PLACING METERS FRONT NORTH.
CALIBRATION MINIVOLS
3268 1.62 in w.c. PM 2.5
3263 1.66 in w.c. PM 10
3265 1.65 in. TSP Pb As
0704 3268, 3263, 3265 Started
0705 2317 (PDR) Started BARO 30.38 T 20°C WIND 0 mph

0720 Arrived at Adams; using minivol 3266 & PDR 4018
0721 PDR 4018 started
3266 calibrated 1.67
0723 3266 started
0733 PLACED BACKGROUND PDR AT FOCUS STATION AGAIN
0735 AT HARRISON PLACING MINIVOL 3267 for PM 0
0740 CALIBRATED 3267 - 1.67 in WC
0749 3267 started
0921 4211 arrived via FedEx; zeroed
0949 on-site @ 3609 High, PDR reading 0.023 mg/m³, wind 3 mph from E
Sharon said minivol 3265 was cutting out, so we tested it (1.67)
We will keep an eye on it

1001 PDR 4211 started @ 3515 Harrison
Minivol running; it is covered with a thin layer of dust
0944 4934 Adams, PDR 4018 TWA 0.027 mg/m³; minivol running
(relayed by D. Ufferfilge)
1223 on-site @ 3609 High; PDR 2317 TWA 0.025 mg/m³; wind 2 mph from east
2 minivols running, one is shut off (3265)
1234 Mini Vol 3265 restarted
1240 on-site @ 3515 Harrison; PDR 4211 TWA 0.238 mg/m³; minivol running; Ø wind
1245 PDR 2025 TWA 0.021 mg/m³; BACKGROUND
1255 on-site @ 4935 Adams, PDR 4018 TWA 0.026 mg/m³, wind 3 mph from E
minivol running
1454 on-site @ 3609 High PDR 2317 TWA 0.070 mg/m³; Ø wind; 3 minivols running
work on Harrison finished @ 1430;
1509 on-site @ BACKGROUND PDR 2025 TWA 0.018 mg/m³; Ø wind
1511 on-site @ 3515 Harrison; PDR 4211 TWA 0.231 mg/m³ Ø wind, minivol Running
1522 on-site @ 4935 Adams; PDR 4018 TWA 0.035 mg/m³, Ø wind, minivol Running
1533 PDR 4211 off; MV 3267 off; - 1.61 in WC; 30.34 in Hg; 33°C

15 August 2002, cont.

003

[illegible] H# 3609 High activity stopped
[illegible] 4935 Adams activity stopped
1750 on-site at 3609 High
1802 PDR 2317 TWA 0.022 mg/m³; off

3268 - 1.58 inWC 34°C
3263 - 1.62 inWC 30.26 inHg
3265 - 1.55 inWC 5 MPH S

1810 3268, 3263, 3265 off
1817 on-site at 4935 Adams
1821 PDR 4018 TWA 0.034 mg/m³, off
3266 - 1.67 inWC
1824 3266 off
1902 2025 off
1920 4018 Downloaded
2015 R. Burton, D. Ufferfilge off-site

16 August 2003, Saturday

[illegible]25 R. Burton on-site at base
0644 4211 zeroed
0646 4018 zeroed
0647 2317 zeroed
0649 2025 zeroed
0710 on-site at high street
0713 3267 (23.5) started 1.65 inWC 30.28 inHg, 21°C, Ø wind
0716 2317 pDR started
0721 on-site at 3452 Josephine
0731 3262 (13.4) 1.60 filter # 03-T8218
3263 (32.5) 1.60 03-T8218
3266 (34.3) 1.60 03-T8220
0736 4818 PDR started
0749 Background PDR started 2025 @ 3452 Josephine in the backyard
0753 on-site at 4935 Adams
0800 H# 4211 Started
0928 2025 4211 TWA 0.024 mg/m³; on-site at 4935 Adams, Ø wind
0938 2317 TWA 0.032 mg/m³; on-site at 3609 High, Ø wind [illegible] Vol running
It was discovered that radio communication within 3-5 feet of the mini Vol interfers with the circuitry & can shut it off. That is possibly what happened yesterday at 3609 High. Ron said he would advise the workers not to use the radios in the vacinity of the monitors
0950 4018 TWA 0.025 mg/m³; on-site at 3452 Josephine; Ø wind
2025 TWA 0.018 mg/m³ - BACKGROUND

filter # 03-T8221

16 August 2003 (cont.)

1218 4211 TWA 0.018 mg/m³; Ø wind; on-site at 4935 Adams
1227 2317 TWA 0.028 mg/m³; Ø wind; on-site at 3609 High; miniVol running
1232 2025 TWA 0.016 mg/m³; Ø wind; BACKGROUND
4018 TWA 0.019 mg/m³; Ø wind; on-site at Josephine; miniVol 3262 stopped; restarted; other two running
15 4211 TWA 0.011 mg/m³; Ø wind; on-site at 4935 Adams
PDR off
1540 2317 TWA 0.042 mg/m³; Ø wind; on-site at 3609 High; miniVol running
work near completion
1547 2025 TWA 0.014 mg/m³; Ø wind; on-site at 3452 Josephine; BACKGROUND
4018 TWA 0.018 mg/m³; Ø wind; miniVols running
1655 Met with Carlton and Michelle to discuss the high PDR readings from yesterday at 3515 Harrison. All the "hits" over the limit of 150 µg/m³ occurred during the backfilling of operations. Backfilling will be scrutinized by Carlton next week.
Quit Times:
ADAM - 1330
JOSEPHINE - 1730
HIGH - 1700

1753 3267 1.52 inWC; off 30.00 inHg 37° C Ø wind
1751 2317 TWA 0.037 mg/m³; off
1758 2025 TWA 0.013 mg/m³; Ø; off
1805 4018 TWA 0.029 mg/m³; Ø wind; off

3266 - 1.85 inWC
3262 - 1.72 inWC
3263 - 1.82 inWC
1823 3266, 3262, 3263 off

18 August 2003, Monday

0615 R. Burton on-site
0630 D. Offerfilge on-site
0640 4018 zeroed ≠ All PDRs set to alarm at 0.100 mg/m³
0643 2025 zeroed
0644 4211 zeroed
0647 2317 zeroed

0709 3267 started 1.61 inWC; 23°C; 30.31 inHg; on-site at 3452 Jo (34.1 hrs)
0715 4018 Started; Ø wind

0726 3266 Started; 1.61 inWC; 23°C; on-site at 3524 Josephine (45.4 hrs)
0729 4211 Started; Ø wind

0736 3262 Started; 1.60 inWC; 23°C; on-site at 3601 York (22.3 hrs)
0739 3263 Started; 1.60 inWC; on-site at 3601 York (46.4 hrs)

0745 3265; 1.61 in WC; on-site at 3601 York (33.2 hrs)
0751 2317 Started Ø wind. York
0817 2025 Started; background; unit was used for an alarm demonstration in the morning safety meeting before it started logging
0950 2317 TWA 0.066 mg/m³; Ø wind; PDR moved to the backyard to be closer to the excavation; workers very conscientious of the water; 3601 York
1002 4211 TWA 0.028 mg/m³; Ø wind; on-site at 3521 Josephine; minivol running
1007 2025 (background) restarted - tag #2; Ø wind; hanging in backyard at 3451 Josephine
1011 4018 TWA 0.0083 mg/m³; Ø wind; on-site at 3452 Josephine; minivol running
1238 2317 TWA 0.038 mg/m³; wind 5 mph W; on-site at 3601 York; minivols running
1242 4211 TWA 0.030 mg/m³; wind 3 mph W; on-site at 3521 Josephine; minivol running
1246 2025 TWA 0.016 mg/m³; Background
1278 4018 TWA 0.031 mg/m³; 5 mph winds W; on-site @ 3452 Josephine; minivol running
1600 2317 TWA 0.032 mg/m³; 7 mph winds W; PDR off; 3601 York; minivols running
* PDRs will be discontinued for the day due to rain
1605 2025 TWA 0.013 mg/m³; BACKGROUND; off
1609 4018 TWA 0.023 mg/m³; 5 MPH wind W; PDR off; 3452 Josephine; minivol running
1613 4211 TWA 0.025 mg/m³; 3 MPH wind W; PDR off; 3521 Josephine; minivol running
1740 PDRs downloaded
* Work stopped at 1715

3262 - 1.47 in WC
3263 - 1.60 in WC 30.27 in Hg
3264 - 22°C
3265 - 1.68 in WC
3266 - 1.60 in WC
3267 - 1.59 in WC
1820 all off on minivols
1800 R. Burton off-site

19 August 2003, Tuesday

0630 R. Burton on-site; sunny, ground moist from recent precipitation
0648 2025 PDR zeroed
0652 4211 PDR zeroed
0654 4018 PDR zeroed
0656 2317 PDR zeroed
0718 3267 started (45.4); 1.62 in WC; 18°C; 30.16 in Hg; on-site at 3601 York
0720 4211 Started; Ø wind
0721 3266 started (56.3); 1.59 in WC; on-site at 3521 Josephine
0729 2025 started; Ø wind
0735 4018 Started; BACKGROUND; on-site at 3451 Josephine
0755 3262 Started (32.9); 1.60 in WC; on-site at 4712 Brighton Blvd
3263 Started (57.0); 1.62 in WC;
3265 started (43.8); 1.63 in WC;
0800 2317 Started; 5 MPH wind W; 4712 Brighton Blvd
1014 2317 TWA 0.032 mg/m³; wind 5 MPH W; minivols running; on-site at 4812 Brighton Blvd

19 August 2003, cont.

1029 4211 TWA 0.052 mg/m³, wind 2 MPH S; miniVol running; on-site at 3601 York
1033 4018 TWA 0.015 mg/m³, BACKGROUND
1037 2025 TWA 0.023 mg/m³; wind 1 MPH S; miniVol running, on-site at 3521 Joseph
* MiniVol moved to the North side of the driveway (12 feet)
1214 2317 TWA 0.025 mg/m³, wind 2 MPH SSE, miniVol running, on-site at 4712 Bri
1221 4211 TWA 0.032 mg/m³, Ø wind, miniVol running, on-site at 3601 York
1225 4018 TWA 0.013 mg/m³, Ø wind, BACKGROUND
1228 2025 TWA 0.031 mg/m³ Ø wind, miniVol was stopped 3266, restarted, on-site at 3521 Josephine
1505 4211 TWA 0.038 mg/m³, wind 3 MPH SE, miniVol running, on-site at 3601 York
1513 4018 TWA 0.015 mg/m³ BACKGROUND
1515 3521 TWA 0.029 mg/m³, Ø wind, miniVol running, on-site at 3521 Josephine
1525 2317 TWA 0.029 mg/m³, Ø wind, miniVols running, on-site at 4712 Brighton Bl.
1710 Work stopped on all sites
1744 4211 TWA 0.40, Ø wind, off
1750 4018 TWA 0.016, off
1754 2025 TWA 0.031, Ø wind, off
1803 2317 TWA 0.037, Ø wind, off

3262 - 1.73
3263 - 1.72 33°C 30.17 in Hg
3265 - 1.70
3266 - 1.70
3267 - 1.64
1810 All miniVols off
1915 R. Burton off site

20 August 2003, Wednesday

0640 R. Burton on-site
0656 2317 zeroed
0657 2025 zeroed
0659 4018 zeroed
0700 4211 zeroed
0719 3266 started (66.0); 1.60 in WC; 20°C; 30.19 in Hg; on-site at 4712 Brighton
0723 2317 started 2 mph wind SE
0739 3262 started (43.2) 1.66 on-site at 3724 York
3263 started (54.1) 1.65 in WC
3265 started (67.2) 1.65 in WC
0743 4018 started; wind 3 MPH S;
0749 4211 started; Background
0757 3268 started (24.4); 1.62 in WC; on-site at 3521 Josephine
0805 3267 started (56.3); 1.62 in WC; on-site at 3447 St. Paul
0807 2025 started; wind 2 MPH SE
1017 2317 TWA 0.044 mg/m³; Ø wind; miniVol running; on-site at 4712 Brig
1026 4018 TWA 0.018 mg/m³; Ø wind; miniVol running; on-site at 3724 York

20 August 2003, cont.

1030 4211 TWA 0.023; BACKGROUND
PDR ~~Moved to~~ 2025 TWA 0.020; Ø wind; minivol running; on-site at 3521 Josephine
* PDR just moved to this location from 3447 St. Paul
1043 Minivol running at ~~St. Paul~~ 3447 St. Paul; no activity
1237 2317 TWA 0.038 mg/m³; wind 1 MPH S; minivols running; on-site at 4712 Brighton
~~1300~~
1315 4211 TWA 0.021 mg/m³; Background
1317 2025 TWA 0.024; minivol running; Ø wind; on site at 3521 Josephine
1322 4018 TWA 0.018 mg/m³; minivols running; Ø wind; on-site at 3724 York
1335 2317 TWA 0.029 mg/m³; minivol running; Ø wind; Brighton 4712
1340 Minivol running on 3447 St. Paul
1549 4211 TWA 0.022; BACKGROUND
1551 2025 TWA 0.033 mg/m³; minivols running; wind 5 mph E; 3521 Josephine
1554 2025 off
1557 4018 TWA 0.016 mg/m³; minivols running; wind 4 mph E; 3724 York
1602 2025 restarted; tag #2; 3447 St. Paul; Ø wind
1715 Work Stopped
1745 2317 stopped; TWA 0.023 mg/m³; Ø wind
1757 2025 stopped; TWA 0.024 mg/m³; Ø wind
1802 4211 stopped; TWA 0.021 mg/m³
1808 4018 stopped; TWA 0.006 mg/m³; Ø wind

3262 - 1.66 34°C
3263 - 1.63 30.15 in Hg
3265 - 1.60
3266 - 1.59
3262 - 1.62
3263 - 1.63

1818 All minivols off
1915 R. Burton off site

21 August 2003, Thursday

0630 R. Burton on-site
0644 2025 zeroed
0646 4211 zeroed
0648 4018 zeroed
0651 2317 zeroed
0722 3262 started (53.8) - 1.63 in WC 21°C 30.32 in Hg
3263 started (77.9) - 1.64 in WC
3265 started (64.8) - 1.65 in WC } on-site at 4909 ~~W~~ RS Milwaukee
0725 2713 started; Ø wind;
0742 3267 started (66.5) - 1.61 in WC; 3447 ~~Josephine~~ St. Paul
0744 2025 started; Ø wind; * 0748 4018 started RP
0755 3266 started (73.0) - 1.62 in WC 3724/3730 York
0757 4211 started; Ø wind

21 August 2003, cont

0944 2317 TWA 0.054 mg/m³; Ø wind; minivols running; 4909 Milwaukee
0952 2025 TWA 0.046 mg/m³; wind 2 MPH S; minivol running; 3447 St. Paul
0957 4018 TWA 0.045 mg/m³; Background
1002 4211 TWA 0.042 mg/m³; wind 2 mph SW; minivol running; 3724/3730 York
1213 2317 TWA 0.046 mg/m³; wind <1 mph NE; minivol running; 4909 Milwaukee
1223 2025 TWA 0.044 mg/m³; Ø wind; minivol running; 3447 St. Paul
1227 4018 TWA 0.044 mg/m³; BACKGROUND
1232 4211 TWA 0.037 mg/m³; wind 3 MPH N; minivol running
1500 2317 TWA 0.041 mg/m³; Ø wind; minivol running; 4909 Milwaukee
1507 2025 TWA 0.044 mg/m³; Ø wind; minivol running; 3447 St. Paul
1512 4018 TWA 0.043 mg/m³; BACKGROUND
1516 4211 TWA 0.035 mg/m³; 2 MPH Wind E; minivol running; 3724/3730 York
1805 2317 TWA 0.040 mg/m³; Ø Wind; off
1808 3262 - off; 1.49 in WC
3263 - off; 1.57 in WC 31°C 30.28 in Hg
3265 - off; 1.57 in WC
1824 2025 off; TWA 0.044; Ø wind; 3267 off; 1.21 in WC
1830 4018 off; TWA 0.043; BACKGROUND
1835 4211 off; TWA 0.034; Ø wind
1836 3266 off; 1.[illegible] in WC; 31°; 30.28 in Hg
1915 R Burton off site

22 August 2003, Friday

0630 R. Burton on-site
0655 4018 zeroed
0656 4211 zeroed
0658 2317 zeroed
0700 2025 zeroed
0720 3266 started (87.7); 1.65 in WC; 22°C; 30.29 in Hg; 4909 Milwaukee
0727 4018 started; Ø wind
0735 3262 started (64.6); 1.60 in WC;
3263 started (88.7); 1.62 in WC; 22°C; 30.29 in Hg; 3447 St. Paul
3265 started (75.6); 1.67 in WC;
0740 2317 started
0745 2025 started; BACKGROUND; on a farm in the background at 3451 Tamplin
0750 3267 started; (77.3); 1.60 in WC; 22°C; 30.29 in Hg; 3724/3730 York
0752 4211 Started (tag#2); 2 MPH wind S; York
0947 4018 TWA 0.039 mg/m³; Ø Wind; minivol running; 4909 Milwaukee
0955 2317 TWA 0.025 mg/m³; Ø wind; minivol running; 3447 St. Paul
1012 2025 TWA 0.027 mg/m³; BACKGROUND
1016 4211 TWA 0.060 mg/m³; Ø wind; minivol; 3724/3730 York
1229 4018 TWA 0.030 mg/m³; Ø wind; minivol running; 4909 Milwaukee
1236 2317 TWA 0.025 mg/m³; Ø wind; minivols running; 3447 St. Paul
1240 2025 TWA 0.029 mg/m³; BACKGROUND
1244 4211 TWA 0.050 mg/m³; Ø wind; minivol running; 3724/3730 York

15:48 ~~3266~~ 4018 TWA 0.020 mg/m3; 6mph wind South; minivol running
4909 Milwaukee
15:57 2317 TWA 0.019 mg/m3; 10mph wind gusts; 3 minivols running
3447 St. Paul
16:03 BACKGROUND 0.022 mg/m3 3451 Joesephine
16:05 TWA 0.043 mg/m3; mini vol running; 7mph J. wind 4211
3724/3730 York Ron called regarding wind gusts
18:13 4018 0.017 mg/m3, (off); Ø wind; 4909 Milwaukee
18:16 2.09 in WC 3266
18:17 3266 off
18:26 2317 off 0.016 TWA; Ø wind
18:33 3262 1.49 in WC; 30°C, Ø wind 29°C, 30.12 in Hg off
18:33 3263 1.68 in WC; off
18:33 3265 1.68 in WC; off
18:38 2025 0.017 TWA Background off
18:42 4211 0.037 TWA (off)
18:47 3267 3mph South; 1.59 in WC;
1900 PDRs downloaded
1930 D. Ufferfilge & R. Burton off site

23 August 2003, Saturday

0[illegible] R. Burton on-site
0650 4018 zeroed
0652 4211 zeroed
0654 2317 zeroed
0656 2025 zeroed
0711 3266 started; 1.65 in WC; 21°C; 30.27 in Hg; 4909 Milwaukee
0713 2025 Started; Ø wind; 4909 Milwaukee
0728 3262 started (75.9); 1.62 in WC 3447 St. Paul
3263 started (99.9); 1.63 in WC 21°C; 30.27 in Hg
3264 started (86.8); 1.62 in WC
0733 2317 started; Ø wind
0738 4018 Started; Ø wind; BACKGROUND - background of 3451 Josephine
0743 3268 Started; 1.65 in WC; 21°C; 30.27 in Hg; 3724/3730 York
0745 4211 started; Ø wind
0949 2025 TWA 0.011 mg/m3; Ø wind; miniVol running; 4909 Milwaukee
0956 2317 TWA 0.00 mg/m3; Ø wind; miniVol running; 3447 St. Paul
1001 4018 TWA 0.00 mg/m3; BACKGROUND
1005 4211 TWA 0.037 mg/m3; Ø wind; miniVol running; 3724/3730 York
1202 2025 TWA 0.012 mg/m3; Ø wind; miniVol running; 4909 Milwaukee
1210 2317 TWA 0.000 mg/m3; Ø wind; miniVols running; 3447 St. Paul
1215 4018 TWA 0.000 mg/m3; Ø wind; BACKGROUND
[illegible] 4211 TWA 0.031 mg/m3; Ø wind; mini-Vol running; 3724/3730 York
1353 2025 TWA 0.010 mg/m3; Ø wind; off 4909 Milwaukee
1355 3266 off; 1.96 in WC; 4909 Milwaukee;

23 August 2003, cont

1405 PDR 2317 TWA 0.00 mg/m³; off; ø wind
1410 3262 off; 1.68 in H_2O
3263 off; 1.87 in WC 32°C; 30.21 in Hg } 3447 St. Paul
3265 off; 1.68 in WC
1416 4018 TWA 0.000 mg/m³; off; BACKGROUND
1422 4211 TWA 0.023 mg/m³; wind 7 MPH NW; off
1424 3267 off; 1.80 in WC
1515 R. Burton off-site

25 August 2003, cont

0630 C. Nolan & R. Burton on-site
0642 2317 zeroed
0644 4211 zeroed
0646 4018 zeroed
0647 2025 zeroed
0649 2316 zeroed
0712 3262 started (86.2) 1.68 22°C 30.27 in Hg; 4811 Clayton
3263 started (106.7) 1.67
3265 start (93.5) 1.68
0712 2025 started; ø wind; 4811 Clayton
0719 3266 started; (105.4); 22°C; 30.27 in Hg; 4909 Milwaukee
0720 4211 started; ø wind 1.67 in WC
0731 3267 started (107.0); 1.66 in WC; 22°C; 30.27 in Hg; 3447 St. Paul
0732 2317 started; ø wind
0737 4018 started; BACKGROUND
0741 3268 started; (34.9); 1.67 in WC; 3724/3730 York
0742 2316 started; ø wind
1001 2520 TWA 0.020 mg/m³; ø wind; miniVols running; 4811 Clayton
1004 4211 TWA 0.066 mg/m³; ø wind; miniVols running; 4909 Milwaukee
15-minute (STEL) is 0.259; workers were notified of this, and asked to spray water. Activity is primarily raking clean fill.
1012 2317 TWA 0.035 mg/m³; ø wind; miniVol running; 3447 St. Paul
1017 4018 TWA 0.004; ø wind; BACKGROUND
1020 2316 TWA 0.056; ø wind; miniVol running; 3724/3730 York
1312 2025 TWA 0.014 mg/m³; ø wind; miniVols running; 4811 Clayton
1315 4211 TWA 0.036 mg/m³; ø wind; miniVol running; 4909 Milwaukee
1322 2317 TWA 0.017 mg/m³; ø wind; miniVol running; 3447 St. Paul
1348 4018 TWA 0.002 mg/m³; ø wind; BACKGROUND
1352 2316 TWA 0.036 mg/m³; ø wind; miniVol running; 3724/3730 York
1400 Filter impactors cleaned and impacted as per instructions by C. Nolan
~~1554~~ 1549 2025 TWA 0.013 mg/m³; wind 3 MPH NW; miniVols running; 4811 Clayton
1551 4211 TWA 0.027 mg/m³; ø wind; miniVol running; 4909 Milwaukee
1558 2317 TWA 0.017 mg/m³; wind 5 MPH NW; miniVol running; 3447 St. Paul
1602 4018 TWA 0.001; BACKGROUND
1605 2316 TWA 0.037; wind 5 MPH NW; miniVol running; 3724/3730 YORK

25 August 2003, cont

007

[illegible] 2025 TWA 0.014 mg/m³; Ø wind; off
[illegible] 4211 TWA 0.024 mg/m³; Ø wind; off
1806 2317 TWA 0.025 mg/m³; Ø wind; off
1811 4018 TWA 0.001 mg/m³; Ø wind; off
1815 2316 TWA 0.047 mg/m³; Ø wind; off

1821 3262 - 1.65 in WC; off
3263 - 1.80 in WC; off
~~3264 - 1.69 in WC; off~~ RB 29°C 30.21 in Hg
3265 - 1.67 in WC; off
3266 - 1.68 in WC; off
3267 1.66 in WC; off
3268 - 1.69 in WC; off

1915 R. Burton off-site

26 August 2003, Tuesday

0630 R. Burton on-site
0644 2317 zeroed
0645 4211 zeroed
[illegible] 4018 zeroed
0649 2025 zeroed
0700 3262 (93.3) - 1.61 in WC 4811 Clayton 29°C 30.29 in Hg
3263 (117.9) - 1.62 in WC
3265 (104.7) - 1.68 in WC
0712 4211 started; Ø wind
0723 3266 (116.6) - 1.68 in WC; 3447 St. Paul
0725 4018 started; Ø wind
0729 2317 started; Background
0733 3267 (117.8) - 1.59 in WC; 3724/3330 York
0736 2025 started; Ø wind
0920 4211 TWA 0.014 mg/m³; Ø wind; minivols running; 4811 Clayton
0930 4018 TWA 0.005 mg/m³; Ø wind; minivol running; 3447 St. Paul
0935 2317 TWA 0.003 mg/m³; Ø wind; BACKGROUND
0938 2025 TWA 0.102 mg/m³; Ø wind; minivol running; 3724 York
workers told that the levels were high above the STEL limit
Ron advised as well
1239 4211 TWA 0.015 mg/m³; Ø wind; minivols running; 4811 Clayton
1246 4018 TWA 0.018 mg/m³; Ø wind; minivol running; 3447 Clayton St. Paul; no more activity today
1249 2317 TWA 0.001 mg/m³; BACKGROUND
1253 2025 TWA 0.065 mg/m³; Ø wind; minivol running; 3724/3330 York
[illegible] 4211 TWA 0.013 mg/m³; Ø wind; minivols running; 4811 Clayton
1535 4018 TWA 0.013 mg/m³; Ø wind; minivol running; 3447 St. Paul
1540 2317 TWA 0.000 mg/m³; Ø wind; BACKGROUND
1545 2025 TWA 0.055 mg/m³; Ø wind; minivol

26 August 2003, cont.

1807 4211 TWA 0.012 mg/m³; off; Ø wind
1810 3262 off 1.73 in WC
3263 off - 1.99 in WC 32°; 30.18 in Hg
3265 off - 1.84 in WC
1820 4018 TWA 0.010 mg/m³; off; Ø wind
1823 3266 off - 1.76 in WC
1826 2317 TWA 0.000 mg/m³; off; BACKGROUND
1832 2025 TWA 0.052 mg/m³; off
1834 3267 off - 1.63 in WC
1910 PDR info emailed to K. Wheeler
1930 R. Burton off site

27 August 2003, Wednesday

~~0630~~
0630 R. Burton on site; sunny, calm
0646 2317 zeroed
0648 4018 zeroed
0650 4211 zeroed
0651 2025 zeroed
0713 2317 started; BACKGROUND; backyard of 3521 Joplin
0719 3266 Started (127.5); 1.68 in WC; 22 °C; 30.17 in Hg; 3536 Elizabeth
0721 2025 started; Ø wind
0739 3262 started (104.9) - 1.67 in WC
3263 started (128.9) - 1.66 in WC
3265 started (115.7) - 1.67 in WC } 4680 Clayton 22°C 30.17 in Hg
0744 4211 started; Ø wind
0936 2317 TWA 0.008 mg/m³; BACKGROUND
0940 2025 TWA 0.006 mg/m³; Ø wind; mini Vol running; 3536 Elizabeth
0950 4211 TWA 0.021 mg/m³; Ø wind; mini Vols running; 4680 Clayton
1211 4211 TWA 0.020 mg/m³; Ø wind; mini Vols running; 4680 Clayton
1218 2317 TWA 0.003 mg/m³; Ø wind; BACKGROUND
1221 2025 TWA 0.009 mg/m³; Ø wind; mini vol running; 3536 Elizabeth
1503 4211 TWA 0.020 mg/m³; wind 3 MPH SE; mini Vols running; 4680 Clayton
1511 2317 TWA 0.000 mg/m³; BACKGROUND
1530 2025 TWA 0.010 mg/m³; Ø wind; mini Vol running; 3536 Elizabeth
1800 2317 TWA 0.001 mg/m³; BACKGROUND; OFF
1806 2025 TWA 0.010 mg/m³; Ø wind; rain; OFF
1809 3266 OFF - 1.69 in WC; 27°; 30.06 in Hg
1818 4211 ALREADY OFF !?!
1824 3262 OFF - 1.76 in WC;
3263 OFF - 1.79 in WC;
3265 OFF - 1.73 in WC;
1900 R. Burton off site; overcast; calm

28 August 2003, Thursday

0630 R. Burton on-site; overcast, some overnight rain, calm
2317 zeroed
0651 4211 zeroed
0653 2025 zeroed
0711 2025 started; BACKGROUND; backyard of 3451 Joseph
0720 3262 started (115.7) - 1.62 in WC; 22°C; 30.23 in Hg; 3536 Elizabeth
3263 started (139.7) - 1.66 in WC
3265 started (176.5) - 1.65 in WC
0724 4211 started; Ø wind; 3536 Elizabeth
0735 3266 started (138.4) - 1.67 in WC; 22°; 30.23 in Hg; FRB 4680 Clayton
0737 2317 started; Ø wind; 4680 Clayton
0805 opposite 2.5 & 10 collectors & impactors cleaned as per protocol
0942 2025 TWA 0.036 mg/m³; Ø wind; BACKGROUND
0946 4211 TWA 0.053 mg/m³; Ø wind, miniVols running; 3536 Elizabeth
0954 2317 TWA 0.055 mg/m³; Ø wind; miniVol running; 4680 Clayton
1223 2317 TWA 0.049 mg/m³; Ø wind; miniVol running; 4680 Clayton
1230 2025 TWA 0.033 mg/m³; BACKGROUND
1234 4211 TWA 0.051 mg/m³; Ø wind; miniVols running; 3536 ~~Clayton~~ FRB Elizabeth
1513 2025 TWA 0.029 mg/m³; Ø wind; BACKGROUND
1518 4211 TWA 0.045 mg/m³; Ø wind; miniVols running; work finished for the day;
3536 Elizabeth
1526 2317 TWA 0.054 mg/m³; Ø wind; miniVol running; 4680 Clayton
Work finished for the day. Monitors will be picked up in an hour
1714 2025 TWA 0.027 mg/m³; BACKGROUND; OFF
1719 4211 TWA 0.039 mg/m³; Ø wind; OFF
1727 3262 OFF; 1.68 in WC;
3263 OFF; 1.75 in WC; 32°C; 30.15 in WC
3265 OFF; 1.69 in WC;
1735 2317 TWA 0.048 mg/m³; OFF
1737 3266 OFF; 1.71 in WC; 35°C; 30.15 in Hg
1845 R. Burton off-site

2 September 2003, Tuesday

0630 R. Burton on-site; weather is clear & calm, some precipitation over the weekend
0647 2317 zeroed
0649 4211 zeroed
0715 3262 started (125.8) - 1.65 30.35 in Hg, 17°, 4995 Steele
3263 started (149.8) - 1.67
3265 started (136.6) - 1.67
0719 2317 started; Ø wind
0723 4211 started; background; backyard of 3451 Joseph
0946 4211 TWA 0.008 mg/m³; BACKGROUND
[illegible]8 2317 TWA 0.076 mg/m³; Ø wind; miniVols running; 4995 Steele
1203 4211 TWA 0.005 mg/m³; BACKGROUND; PDR had stopped; started bag #2
1214 2317 TWA 0.018 mg/m³; Ø wind; miniVols running; 4995 Steele

2 September 2003, cont.

1537 4211 ~~on~~ off again, start tag#3 TWA 0.003 mg/m³
1597 2317 TWA 0.011 mg/m³; Ø wind; minivols running; 4995 Steele
1806 - 4211 already off - three tags today
1814 2317 TWA 0.012 mg/m³; Ø wind; OFF; 4995 Steele
1820 3262 off - 1.55 inWC
3263 off - 1.67 inWC 32° 30.29 inHg ; 4995 Steele
3265 off - 1.64 inWC
~~1900~~
1900 R. Burton off-site

3 September 2003, Wednesday

0630 R. Burton on-site
0642 4211 zeroed
0643 2317 zeroed
0645 2025 zeroed
0708 4211 started; BACKGROUND; backyard of 3451 Tompkins
0720 3266 started (148.4) - 1.59 inWC; 20°C ; 30.34
0723 2317 started; Ø wind; 4995 Steele street
0740 3262 started (136.9) - 1.63 inWC; 20°C; 30.34 inHg; 3705 Madison
3263 started (161.0) - 1.61 inWC
3265 started (144.4) - 1.63 inWC;
0745 2025 started; Ø wind; 3705 Madison
0949 4211 TWA 0.005 mg/m³; BACKGROUND
0954 2025 TWA 0.026 mg/m³; Ø wind; minivols running; 3705 Madison
1001 2317 TWA 0.029 mg/m³; Ø wind; minivol running; 4995 Steele
1220 4211 TWA 0.016 mg/m³; BACKGROUND
1226 2025 TWA 0.027 mg/m³; Ø wind; minivols running; 3705 Madison
1234 2317 TWA 0.034 mg/m³; wind 2 MPH SE; minivol running; 4995 Steele
1521 4211 TWA 0.022 mg/m³; BACKGROUND
1527 2025 TWA 0.036 mg/m³; Ø wind; minivols running; 3705 Madison
1537 2317 TWA 0.044 mg/m³; Ø wind; minivol running; 4995 Steele
1810 4211 TWA 0.025 mg/m³; BACKGROUND; OFF
1816 2025 TWA 0.047 mg/m³; Ø wind; OFF
1821 3262 OFF - 1.59 inWC;
3263 OFF - 1.64 inWC; 25°C; 30.33 inHg ; 3705 Madison
3265 OFF - 1.61 inWC
1830 2317 TWA 0.042 mg/m³; OFF; Ø wind
1834 3266 OFF - 1.66 inWC
1900 R. Burton off-site

14 September 2003, Thursday

009

0630 R. Burton on-site; clear & calm
0645 4211 zeroed
06[illegible] 2317 zeroed
06[illegible] 2025 zeroed
0650 4018 zeroed
0711 2317 started; BACKGROUND; backyard of 3451 Josephine
0718 3266 started (159.6) - 1.63 in WC; 3401 Bruce Randolph
0720 4211 started; wind 3 mph SE; 3401 Bruce Randolph
0728 2025 started; Ø wind; 3705 Madison
0746 3262 started (147.6) - 1.65 in WC
3263 started (171.6) - 1.65 in WC 17°C, 30.41 in Hg; 4616 Race
3265 started (155.1) - 1.67 in WC
0751 4018 started; Ø wind; 4616 Race
* Filters did not arrive via FedEx! I called Chester Lab Net; they forgot to ship them. Filters will be sent via Delta Dash for pick-up tonight. No minivol available for monitoring 4775 Race.
1003 4018 TWA 0.044 mg/m³; Ø wind; minivols running; 4616 Race
1012 2317 TWA 0.011 mg/m³; BACKGROUND
1016 4211 TWA 0.006 mg/m³; Ø wind; minivol running; 3401 Bruce Randolph
1020 2025 TWA 0.046 mg/m³; Ø wind; backfill only; 3705 Madison
1130 Daily report turned in
1208 2316 zeroed
1218 4018 TWA 0.045 mg/m³; Ø wind; minivols running; 4616 Race
12[illegible] 2316 started; Ø wind; 4775 Race
MiniVols 3262, 3263, 3264 moved from 4616 Race (excavation complete) to 4775 Race where excavation will begin after lunch, as per Carlton's request.
240 2317 TWA 0.007 mg/m³; BACKGROUND
244 4211 TWA 0.012 mg/m³; Ø wind; minivol running; 3401 Bruce Randolph
248 2025 TWA 0.037 mg/m³; Ø wind; 3705 Madison
515 4018 TWA 0.050 mg/m³; Ø wind; 4616 Race
518 2316 TWA 0.000 mg/m³; Ø wind; minivols running; *FB 4775 Race
525 2317 TWA 0.004 mg/m³; BACKGROUND
529 4211 TWA 0.016 mg/m³; Ø wind; minivol running; 3401 Bruce Randolph
534 2025 TWA 0.031 mg/m³; Ø wind; 3705 Madison
805 2025 TWA 0.028 mg/m³; Ø wind; OFF
809 4211 TWA 0.014 mg/m³; Ø wind; OFF
811 3266 OFF - 1.72 in WC
816 2317 TWA 0.003 mg/m³; Ø wind; OFF
824 4018 TWA 0.043 mg/m³; Ø wind; OFF
830 2316 TWA 0.000 mg/m³; Ø wind; OFF
833 3262 off - 1.69 in WC
3263 off - 1.69 in WC 29°C; 30.27 in Hg
3265 off - 1.65 in WC
00[illegible] R. Burton off-site

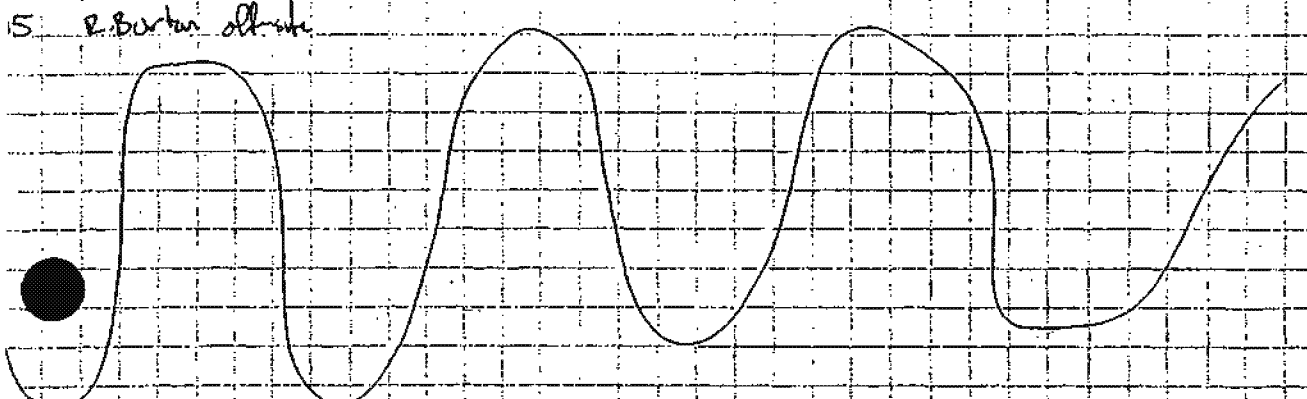
5 September 2003, Friday

0630 R.Burton on-site. Weather is clear & calm. I left for the airport at 5AM to pick-up filters. No tampering evident.
0648 2025 zeroed
0650 2317 zeroed
0651 4211 zeroed
0653 4018 zeroed
0656 2316 zeroed
0715 2317 started; Ø wind; 4616 Race St.
0720 3266 Started (170.5) - 1.61 inWC; 4775 Race
0721 4018 started; Ø wind; 4775 Race St.
0730 2025 started; BACKGROUND; backyard of 3451 Josephine
0739 3262 Started (165.9) - 1.67 in WC
3263 Started (182.5) - 1.67 inWC; 19°C; 30.19 in Hg; 3401 Bruce Randolph
3264 Started (158.5) - 1.67 inWC;
0742 2316 started; Ø wind; 3401 Bruce Randolph
0749 4211 started; Ø wind; 3705 Madison
0940 Daily Report turned in
0955 2317 TWA 0.114 mg/m³; Ø wind; 4616 Race
0958 4018 TWA 0.033 mg/m³; Ø wind; miniVol running; 4775 Race
1008 2025 TWA 0.003 mg/m³; BACKGROUND
1013 2316 TWA 0.043 mg/m³; Ø wind; miniVols running; 3401 Bruce Randolph
1019 4211 TWA 0.030 mg/m³; Ø wind; 3705 Madison
1250 2317 TWA 0.035 mg/m³; Ø wind; 4616 Race
1253 4018 TWA 0.023 mg/m³; Ø wind; miniVol running; 4775 Race
1257 2025 TWA 0.001 mg/m³; BACKGROUND
1301 2316 TWA 0.030 mg/m³; MiniVols running; Ø wind; 3401 Bruce Randolph
1304 4211 TWA 0.021 mg/m³; Ø wind; 3705 Madison
1527 2317 TWA 0.057 mg/m³; Ø wind; work completed; 4616 Race
1530 4018 TWA 0.021 mg/m³; Ø wind; miniVol running; 4775 Race
1538 2025 TWA 0.000 mg/m³; BACKGROUND
1542 2316 TWA 0.020 mg/m³; Ø wind; miniVols
1546 4211 TWA 0.021 mg/m³; Ø wind; 3705 Madison
1806 2317 TWA mg/m³; Ø wind; OFF
1810 4018 TWA 0.021 mg/m³; Ø wind; OFF
1812 3266 OFF - 1.73 inWC
1818 2025 TWA 0.001 mg/m³; BACKGROUND; OFF
1827 2316 TWA 0.021 mg/m³; Ø wind; OFF
1830 3262 OFF - 1.63 inWC
3263 OFF - 1.70 inWC 28°C; 30.06 in Hg
3265 OFF - 1.67 in WC
1835 4211 TWA 0.020 mg/m³; Ø wind; OFF
1915 R.Burton off-site

September 2003, Saturday

010

0 R. Burton on-site; overcast, calm
12 [illegible]25 zeroed
13 4018 zeroed
5 2317 zeroed
16 4211 zeroed
1 3267 started (120.3) - 1.68 in WC; 4775 Race
2025 started; ∅ wind; 4775 Race
0 3262 started (169.3) - 1.71 in WC
3263 started (193.3) - 1.64 in WC 20°C; 30.21 in Hg; 3786 Gilpin
3265 started (176.8) - 1.65 in WC
3 4018 started; ∅ wind; 3786 Gilpin
0 2317 started; background; background of 3451 Jonelle
5 3266 started (181.4) - 1.65 in WC; 3401 Bruce Randolph
6 4211 started; ∅ wind; 3401 Bruce Randolph
Daily report turned in
5 2025 TWA 0.044 mg/m³; ∅ wind; miniVol running; 4775 Race
11 4018 TWA 0.014 mg/m³; ∅ wind; miniVols running; 3786 Gilpin
6 2317 TWA 0.015 mg/m³; BACKGROUND
0 4211 TWA 0.088 mg/m³; ∅ wind; miniVol running; 3401 Bruce Randolph
9 2025 TWA 0.034 mg/m³; ∅ wind; miniVol running; 4775 Race
57 4018 TWA 0.016 mg/m³; ∅ wind; miniVols running; 3786 Gilpin
11 2317 TWA 0.013 mg/m³; BACKGROUND
5 4211 TWA 0.061 mg/m³; ∅ wind; miniVol running; 3401 Bruce Randolph
2 2025 TWA 0.030 mg/m³; ∅ wind; miniVol running; 4775 Race
11 4018 TWA 0.013 mg/m³; ∅ wind; miniVols running; 3786 Gilpin
15 2317 TWA 0.011 mg/m³; BACKGROUND
9 4211 TWA 0.050 mg/m³; ∅ wind; miniVol
1 3266 OFF - 1.61 in WC
2 4211 TWA 0.048 mg/m³; ∅ wind; OFF
6 2317 TWA 0.010 mg/m³; OFF
9 3262 OFF - 1.71 in WC;
3263 OFF - 1.60 in WC; 24°C; 30.15 in Hg
3265 OFF - 1.56 in WC;
4018 TWA ALREADY OFF!
4 2025 TWA 0.048 mg/m³; OFF; ∅ wind
3 3267 OFF - 1.71 in WC
15 R. Burton off-site



18 September 2005, Monday

0630 R. Burton on-site; clear & calm
0642 2025 Zeroed
0644 2317 zeroed
0646 4018 zeroed
0648 4211 zeroed
0712 3262 Started (204.5) - 1.65 inWC; 15°C; 30.05 inHg; 4785 Claude
3263 Started (180.5) - 1.62 inWC
3265 Started (188.0) - 1.62 inWC
0716 4018 Started; Ø wind; 4785 Claude
0725 3266 Started (192.0) - 1.64 inWC; 4775 Race
0728 2317 Started; Ø wind; 4775 Race
0738 3267 Started (140.6); 1.68 inWC; 3786 Gilpin
0741 4211 Started; Ø wind; 3786 Gilpin
0747 2025 Started; BACKGROUND
1032 2317 TWA 0.021 mg/m³; Ø wind; minivol running; 4775 Race
1036 4018 TWA 0.033 mg/m³; Ø wind; minivols running; 4785 Claude
1043 4211 TWA 0.013 mg/m³; Ø wind; minivol running; 3786 Gilpin
1048 2025 TWA 0.015 mg/m³; BACKGROUND
1217 2317 TWA 0.014 mg/m³; Ø wind; minivol running; 4775 Race
1221 4018 TWA 0.027 mg/m³; Ø wind; minivols running; 4785 Claude
1233 4211 TWA 0.019 mg/m³; Ø wind; minivol running; 3786 Gilpin
1237 2025 TWA 0.010 mg/m³; BACKGROUND
1543 2317 TWA 0.007 mg/m³; Ø wind; minivol running; 4775 Race
1547 4018 TWA 0.025 mg/m³; wind 2 MPH SE; minivols running; 4785 Claude
1552 4211 TWA 0.022 mg/m³; Ø wind; minivol running; 3786 Gilpin
1556 2025 TWA 0.007 mg/m³; BACKGROUND
1824 2317 TWA 0.011 mg/m³; Ø wind; OFF
1826 3266 OFF - 1.79 inWC
1830 4018 TWA 0.025 mg/m³; Ø wind; OFF
1839 3262 OFF - 1.72 inWC;
3263 OFF 1.66 inWC; 27°C; 29.81 inHg
3265 OFF 1.62 inWC;
1851 4211 TWA 0.035 mg/m³; OFF; Ø wind
1853 3267 OFF - 1.68 inWC
1858 2025 TWA 0.006 mg/m³; OFF
1930 R. Burton off-site

09 September 2003, Tuesday

0630 R. Burton on-site
[illegible]49 4211 Zeroed
[illegible]650 2025 zeroed
0652 2317 zeroed
0654 4018 zeroed
0656 2316 zeroed
0710 3265 started (199.6) -1.62 in WC; 19°C; 30.07 in Hg; 4620 Race
0918 4018 Started; Ø wind; miniVol running; ~~4620~~ 4620 Race (No activity yet)
0921 2317 started; Ø wind; 4785 Claude
0928 2025 started; Ø wind; 3786 Gilpin
0932 2316 Started; BACKGROUND; Backyard of 3451 Josephine
0936 4211 Started; Ø wind; 3750 York
1247 4018 TWA 0.016 mg/m³; Ø wind; miniVol running; 4620 Race (No activity yet)
1250 2317 TWA 0.020 mg/m³; Ø wind; 4785 Claude
1257 2025 TWA 0.051 mg/m³; Ø wind; 3786 Gilpin
1302 2316 TWA 0.005 mg/m³; BACKGROUND
1305 4211 TWA 0.028 mg/m³; Ø wind; 3750 York
1535 4018 TWA 0.017 mg/m³; wind 3 MPH SE; miniVol running; 4620 Race
1541 2317 TWA 0.035 mg/m³; wind 5 MPH SE; 4785 Claude
1549 2025 TWA 0.045 mg/m³; Ø wind; 3786 Gilpin
1554 2316 TWA 0.005 mg/m³; BACKGROUND
1557 4211 TWA 0.057 mg/m³; Ø wind; 3750 York
[illegible]23 4018 TWA 0.019 mg/m³; wind 2 MPH SE; OFF
[illegible]826 3265 OFF - 1.64 in WC; 26°C; 29.87 in Hg
1829 2317 TWA 0.029 mg/m³; Wind 5 MPH SE; OFF
1836 2025 TWA 0.035 mg/m³; Ø wind; OFF
1840 2316 TWA 0.005 mg/m³; OFF
1843 4211 TWA 0.052 mg/m³; Ø wind; OFF
1915 R. Burton off-site

10 September 2003, Wednesday

0630 R. Burton on-site, weather is clear & calm
0640 4211 zeroed
0642 2025 zeroed
0644 2317 zeroed
0646 4018 zeroed
0648 2316 zeroed
0704 2025 started; Ø wind; 4620 Race
0709 4211 started; Ø wind; 4351 Race
0714 4018 started; Ø wind; 3750 York
0717 2316 started; BACKGROUND; backyard of 3451 Josephine
0724 2317 started; Ø wind; 3346 Gilpin
0727 3265 started (210.8) - 1.65 inWC; 16°C; 29.87 inHg; 326 RB 3346 Gilpin
3266 started (203.1) - 1.68 inWC
0804 Package with filters 03-T8325-34 RB 03-483 opened, no evidence of tampering
1023 2025 TWA 0.018 mg/m³; Ø wind; 4260 Race
1029 4211 TWA 0.000 mg/m³; Ø wind; 4351 Race (No activity yet)
1032 4018 TWA 0.039 mg/m³; Ø wind; 3750 York
1035 2316 TWA 0.005 mg/m³; BACKGROUND
1038 2317 TWA 0.019 mg/m³; Ø wind; minimal running; 3346 Gilpin
1255 2025 TWA 0.015 mg/m³; Ø wind; 4620 Race
1300 4211 TWA 0.000 mg/m³; Ø wind; 4351 Race (Activity beginning)
1303 4018 TWA 0.032 mg/m³; Ø wind; 3750 York
1306 2316 TWA 0.005 mg/m³; BACKGROUND
1311 2317 TWA 0.004 mg/m³; Ø wind; minimal running; 3346 Gilpin
1535 2025 TWA 0.014 mg/m³; Ø wind; 4620 Race
1540 4211 TWA 0.010 mg/m³; wind 7 MPH NW; 4351 Race
1546 2317 TWA 0.004 mg/m³; minimal running; Ø wind; 3346 Gilpin
1554 2316 TWA 0.004 mg/m³; BACKGROUND
1557 4018 TWA 0.025 mg/m³; 8 MPH N; 3750 York
1800 2025 TWA 0.014 mg/m³; wind 5 MPH N; 4620 Race; OFF
1807 4211 TWA 0.007 mg/m³; wind 7 MPH N; OFF
1817 2317 TWA 0.000 mg/m³; wind 5 MPH N; OFF
1822 3265 OFF - 1.68 inWC; 29.98 inHg; 21°C
3266 OFF 1.76 inWC;
1827 2316 TWA 0.005 mg/m³; OFF
1830 4018 TWA 0.024 mg/m³; wind 5 MPH N; OFF
1900 R. Burton off-site

0630 R. Burton on-site
0644 2316 zeroed
0646 2317 zeroed
0648 4211 zeroed
0649 4018 zeroed
0651 2025 zeroed
0711 4018 started; Ø wind; 4620 Rae
0716 4211 started; Ø wind; 4351 Rae
0721 2317 started; Ø wind; 3750 York
0724 2316 started; BACKGROUND; backyard of 3451 Josephine
0731 2025 started; Ø wind; 3350/3346 Gilpin
0733 3265 started (221.7) - 1.70 in WC; 18°C; 30.26; 3350/3346 Gilpin
1027 4018 TWA 0.046 mg/m³; Ø wind; 4620 Rae
1033 4211 TWA 0.043 mg/m³; Ø wind; 4351 Rae
1033 2317 TWA 0.012 mg/m³; Ø wind; 3750 Rae/York
1042 2316 TWA 0.002 mg/m³; BACKGROUND
1046 2025 TWA 0.003 mg/m³; Ø wind; mini Vol running; 3346/3350 ~~York~~ RR Gilpin
1239 4018 TWA 0.044 mg/m³; Ø wind; 4620 Rae
1248 4211 TWA 0.051 mg/m³; Ø wind; 4351 Rae
1255 2025 TWA 0.006 mg/m³; Ø wind; mini Vol running; 3346/3350 ~~York~~ RR Gilpin
1258 2316 TWA 0.002 mg/m³; BACKGROUND
1301 2317 TWA 0.010 mg/m³; Ø wind; 3750 York
1516 4018 TWA 0.035 mg/m³; 2 MPH NE; 4620 Rae
1521 4211 TWA 0.056 mg/m³; Ø wind; 4351 Rae
1527 2025 TWA 0.009 mg/m³; Ø wind; mini Vol running; 3346/3350 Gilpin
1531 2316 TWA 0.003 mg/m³; BACKGROUND
1535 2317 TWA 0.003 mg/m³; Ø wind; 3750 York
1820 4018 TWA 0.027 mg/m³; Ø wind; OFF
1824 4211 TWA 0.053 mg/m³; Ø wind; OFF
1828 2317 TWA 0.008 mg/m³; Ø wind; OFF
1830 2316 TWA 0.002 mg/m³; OFF
1835 2025 TWA 0.008 mg/m³; Ø wind; OFF
1837 3265 OFF - 1.67 in WC; 22°C; 30.15 in Hg
1915 R. Burton off-site

R September 2003 Friday

0630 R. Burton on-site; clear & calm
0649 2025 zeroed
0650 2317 zeroed
0652 4018 zeroed
0653 4211 zeroed
0655 2316 zeroed
0709 2025 started; Ø wind; 4830 Clayton
0714 2317 started; Ø wind; 4351 Race
0722 4018 Started; Ø wind; 3781 Gilpin
0725 3265 Started (232.8) - 1.67 in WC; 14°C; 30.11 in Hg; 3784 Gilpin
0728 4211 started; Ø wind - 3784 Gilpin
0734 2316 Started; Ø wind - BACKGROUND; backyard of 3451 Josephine
1043 2025 TWA 0.000 mg/m³; Ø wind; 4830 Clayton
1048 2317 TWA 0.008 mg/m³; Ø wind; 4351 Race
1056 4018 TWA 0.013 mg/m³; Ø wind; 3781 Gilpin } no activity yet
1057 4211 TWA 0.009 mg/m³; Ø wind; miniVol running; 3784 Gilpin
1100 2316 TWA 0.004 mg/m³; BACKGROUND
1309 2025 TWA 0.000 mg/m³; Ø wind; 4830 Clayton
1316 2317 TWA 0.000 mg/m³; Ø wind; 4351 Gilpin RS Race
1323 4018 TWA 0.011 mg/m³; Ø wind; 3781 Gilpin
1324 4211 TWA 0.008 mg/m³; Ø wind; miniVol running; 3784 Gilpin
1328 2316 TWA 0.003 mg/m³; BACKGROUND
1509 2025 TWA 0.001 mg/m³; Ø wind; 4830 Clayton
1514 2317 TWA 0.000 mg/m³; Ø wind; 4351 Race
1524 4018 TWA 0.011 mg/m³; Ø wind; 3781 Gilpin
1525 4211 TWA 0.010 mg/m³; Ø wind; miniVol running; 3784 Gilpin
1530 2316 TWA 0.003 mg/m³; BACKGROUND
1813 2025 TWA 0.001 mg/m³; Ø wind; OFF
1817 2317 TWA 0.000 mg/m³; wind 4 MPH N; OFF
1822 2316 TWA 0.005 mg/m³; OFF
1828 4018 TWA 0.014 mg/m³; Ø wind; OFF
1831 4211 TWA 0.010 mg/m³; Ø wind; OFF
1834 3265 OFF - 1.64 in WC; 27°C; 29.88 in Hg; 3784 Gilpin
1900 R. Burton OFF-SITE; BREEZY

13 September 2003, Saturday

0630 R. Burton on-site; overcast, light precipitation; PDRs will no be set-up until the weather clears up.
[illegible]3 3265 started (243.3) - 1.66 inWC; 13°C; 30.33 inHg; 3781 Gilpin
[illegible]0 MiniVol 3265 is running. due to intermitant sprinkling & overcast sky the PDRs are still not set-up. The minivol was monitoring 3781 Gilpin. However, there is no excavation, only minimal backfilling and finish work. I called Ron for permission to move it to 3765 Gilpin. He said ok. I called Michelle to see if the plan allowed. She said to go ahead with moving it. MiniVol 3265 is now running on the SE corner of 3765 Gilpin. Wind is 2 MPH NW.
1306 MiniVol Running at 3765 Gilpin. PDRs will not go up today. The rain has continued intermittently, and the work day will end at 1530.
1619 3265 OFF - 1.62 inWC; 18°C; 30.35 inHg; 3735 Gilpin
R. Burton off site

15 September 2003, Monday

0640 R. Burton on-site
0652 2025 zeroed
0653 4018 zeroed
0655 4211 zeroed
0657 2317 zeroed
0659 2316 zeroed
0722 4211 started; Ø wind; 4830 Clayton
[illegible]5 4018 started; Ø wind; 4932 Stark
[illegible]2 2317 started; Ø wind; 3765 Gilpin
0737 3265 started (253.2) - 1.64 inWC
0739 2025 started; wind 2 MPH S; ~~3842~~ 3838 Gilpin; 12°C; 30.23 inHg
0945 2316 started; BACKGROUND; backyard of 3451 Josephine
0950 4211 TWA 0.007 mg/m³; wind 4 MPH SSE; 4830 Clayton
0953 4018 TWA 0.021 mg/m³; wind 5 MPH SSE; 4932 Stark
1002 2317 TWA 0.026 mg/m³; Ø wind; 3765 Gilpin
1004 2025 TWA 0.005 mg/m³; Ø wind; minivol running; ~~3842~~ 3838 Gilpin
1008 2316 TWA 0.003 mg/m³; BACKGROUND
1209 4211 TWA 0.006 mg/m³; Ø wind; 4830 Clayton
1212 4018 TWA 0.023 mg/m³; Ø wind; 4932 Stark
1220 2317 TWA 0.018 mg/m³; Ø wind; 3765 Gilpin
1221 2025 TWA 0.003 mg/m³; Ø wind; minivol running; ~~3842~~ 3838 Gilpin
1228 2316 TWA 0.002 mg/m³; BACKGROUND
1552 4018 TWA 0.027 mg/m³; Ø wind; ~~RB~~ 4932 Stark
1555 4211 TWA 0.008 mg/m³; Ø wind; 4830 Clayton
1606 2317 TWA 0.018 mg/m³; Ø wind; 3765 ~~Clayton~~ RB Gilpin
1608 2025 TWA 0.002 mg/m³; Ø wind; ~~3842~~ 3838 Gilpin; minivol running
1618 2316 TWA 0.001 mg/m³; BACKGROUND
1831 4211 TWA 0.012 mg/m³; Ø wind; OFF
[illegible]4 4018 TWA 0.025 mg/m³; Ø wind; OFF
[illegible]3 2317 TWA 0.018 mg/m³; Ø wind; OFF

15 September 2002, cont'd

1847 2825 TWA 0.002 mg/m³; OFF
1850 3265 OFF - 1.60 inWC; 27°; 30.08 inHg
1855 2316 TWA 0.002 mg/m³; OFF
1930 R. Burton off-site

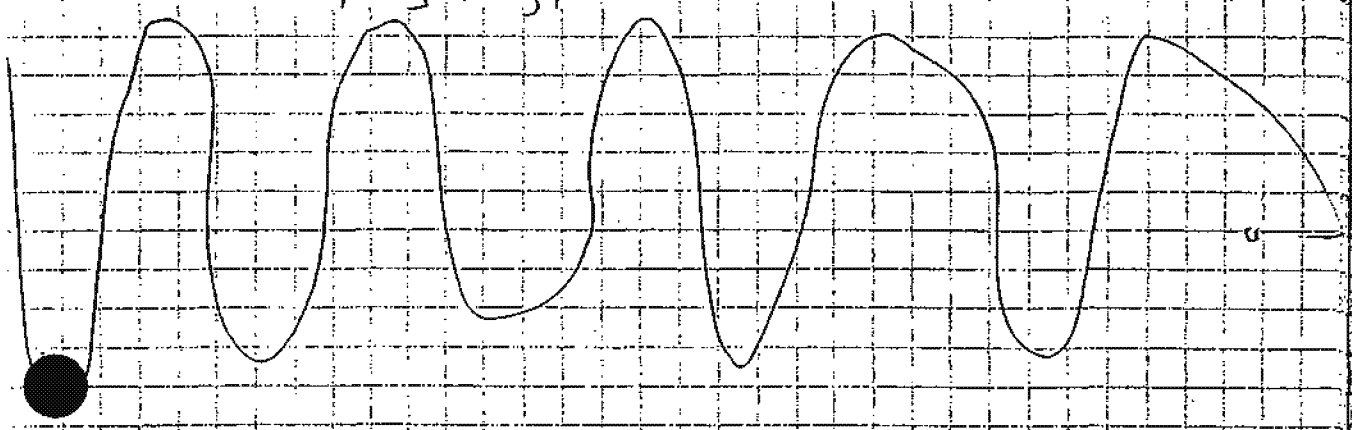
16 September 2002, Tuesday

0630 R. Burton on-site; clear & calm
0646 2316 zeroed
0648 2317 zeroed
0650 4584 zeroed
0651 4018 zeroed
0653 2025 zeroed
0655 4211 zeroed - (not used!)
0722 3265 started (264.4) - 1.65 inWC; 15°C; 30.10 inHg; 4809 Milwaukee
0724 2317 started; Ø wind; 4809 Milwaukee
0735 4584 started; Ø wind; 3557 Gaylord
0740 2025 started; Ø wind; 3765 Gilpin
0743 2316 started; wind 1 MPH S; 3838/3842 Gilpin
0743 4018 started; BACKGROUND; backyard of 3467 Josephine
0950 2317 TWA 0.023 mg/m³; wind 2 MPH S; 4809 Milwaukee; miniVol running
1002 4584 TWA 0.013 mg/m³; Ø wind; 3557 Gaylord
1006 2025 TWA 0.015 mg/m³; Ø wind; 3765 Gilpin
1008 2316 TWA 0.016 mg/m³; Ø wind; 3838/3842 Gilpin
1013 4018 TWA 0.006 mg/m³; BACKGROUND
1231 2317 TWA 0.013 mg/m³; Ø wind; miniVol running; 4809 Milwaukee
1243 2025 TWA 0.011 mg/m³; Ø wind; 3765 Gilpin
1246 2316 TWA 0.008 mg/m³; Ø wind; 3838/3842 Gilpin
1250 4584 TWA 0.017 mg/m³; Ø wind; 3557 Gaylord
1253 4018 TWA 0.005 mg/m³; BACKGROUND
1512 2317 TWA 0.010 mg/m³; Ø wind; miniVol running; 4809 Milwaukee
1522 ~~2316~~ 2025 TWA 0.019 mg/m³; Ø wind; 3765 Gilpin
1524 ~~3838/3842~~ RB 2316 TWA 0.010 mg/m³; Ø wind; 3838/3842 Gilpin
1528 4584 TWA 0.018 mg/m³; Ø wind; 3557 Gaylord
1532 4018 TWA 0.004 mg/m³; BACKGROUND
1817 3265 OFF - 1.65 inWC; 30°C; 29.85 inHg
1818 2317 TWA - 0.006 mg/m³; Ø wind; OFF
1826 2025 TWA 0.024 mg/m³; Ø wind; OFF
1829 2316 TWA 0.010 mg/m³; Ø wind; OFF
1833 4584 already OFF! Ø wind
1836 4018 TWA 0.004 mg/m³; BACKGROUND
1915 R. Burton off-site

17. September 2003, Wednesday

014

630 R. Burton on-site; 20% Cloudy, calm
653 4018 zeroed
65[illegible] 2316 zeroed
658 4584 zeroed
658 2025 zeroed
659 2317 zeroed
714 3265 started (275.4); 1.63 in WC; 18°C; 29.82 in Hg; 4965 St. Paul
717 2317 started, wind 2 mph S; 4965 St. Paul
722 4018 started; Ø wind; 4809 Milwaukee
731 4584 started; Ø wind; 3838/3842 Gilpin
736 2025 started; Ø wind; 3557 Gaylord
739 2316 started; BACKGROUND; backyard of 3451 Josephine
015 2317 TWA 0.031 mg/m³; Ø wind; 4965 St. Paul; no activity yet
020 4018 TWA 0.019 mg/m³; Ø wind; 4809 Milwaukee
037 ~~4584 Gilpin~~ RB
4584 TWA 0.021 mg/m³; wind 1 mph S; 3838/3842 Gilpin
042 2025 TWA 0.002 mg/m³; wind 2 mph S; 3557 Gaylord
0[illegible]6 2316 TWA 0.010 mg/m³; Ø wind; BACKGROUND
221 2317 TWA 0.018 mg/m³ wind 2 mph S; MinVol Running; 4965 St. Paul; no activity yet
224 4018 TWA 0.040 mg/m³; Ø wind; 4809 Milwaukee
235 4584 TWA 0.015 mg/m³; Ø wind; 3838/3842 Gilpin
240 2025 TWA 0.000 mg/m³; Ø wind; 3557 Gaylord
243 2316 TWA 0.006 mg/m³; BACKGROUND
5[illegible] 2317 TWA 0.016 mg/m³; wind 7 mph N; MinVol running; 4965 St. Paul
51[illegible] 4018 TWA 0.032 mg/m³; wind 3 mph N; 4809 Milwaukee
526 4584 TWA 0.019 mg/m³; winds 7 mph NE; 3838/3842 Gilpin
531 2025 TWA 0.005 mg/m³; winds 2 mph N; 3557 Gaylord
535 2316 TWA 0.009 mg/m³; BACKGROUND
321 4584 TWA 0.036 mg/m³; coming; OFF; wind 10 N
326 2025 TWA 0.021 mg/m³; OFF; wind 11 mph N
329 2316 TWA 0.024 mg/m³; OFF
337 4018 TWA 0.040 mg/m³; OFF; wind 8 mph N
341 2317 TWA 0.036 mg/m³; OFF; wind 6 mph N
843 3265 OFF 1.66 in WC; 19°C; 30.03 in Hg
915 R. Burton off-site; very windy; has been for 2 hours



18 September 2003, Thursday

0630 R. Burton on-site; calm, cloudy
0646 4018 zeroed
0648 2317 zeroed
0649 2316 zeroed
0651 4584 zeroed
0710 3265 started (286.8) - 1.66 inWC;
0713 2317 Started; Ø wind; 4965 St. Paul; 11°C; 30.35 inHg; 4935 St. Paul
0717 4018 started; Ø wind; 4809 Milwaukee
0725 4584 started; Ø wind; 3557 Gaylord
0729 2316 started BACKGROUND; backyard of 3451 Dolphin
1018 2317 TWA 0.020 mg/m³; Ø wind; 4965 St. Paul
1021 4018 TWA 0.009 mg/m³; Ø wind; 4809 Milwaukee
1029 4584 TWA 0.014 mg/m³; Ø wind; 3557 Gaylord
1043 2316 TWA 0.010 mg/m³; BACKGROUND
1222 2317 TWA 0.035 mg/m³; Ø wind; 4965 St. Paul
1225 4018 TWA 0.010 mg/m³; Ø wind; 4809 Milwaukee
1232 4584 TWA 0.017 mg/m³; Ø wind; 3557 Gaylord
1236 2316 TWA 0.011 mg/m³; Ø wind; BACKGROUND
1504 2317 TWA 0.025 mg/m³; Ø wind; 4965 St. Paul
1509 4018 TWA 0.012 mg/m³; Ø wind; 4809 Milwaukee
1517 4584 TWA 0.015 mg/m³; Ø wind; 3557 Gaylord
1521 2316 TWA 0.010 mg/m³; Ø wind; BACKGROUND
1828 2317 TWA 0.029 mg/m³; Ø wind; OFF
1829 3265 OFF - 1.66 inWC; 18°C; 30.33 inHg
1833 4018 TWA — mg/m³; Ø wind; OFF Already off
1844 4584 TWA 0.013 mg/m³; Ø wind; 3557 Gaylord; OFF
1847 2316 TWA 0.008 mg/m³; OFF
1915 R. Burton off-site

15 R. Burton on site
57 4584 zeroed
59 2317 zeroed
[illegible] 2316 zeroed
28 3265 started (298.2) - 1.68; 10°C; 30.25 in Hg; 4318 St. Paul
32 2317 started; ϕ wind; 4318 St. Paul
41 2316 started; ϕ wind; 4965 St. Paul
44 4584 started; BACKGROUND; St. Paul & Milwaukee
0 2316 TWA 0.051 mg/m³; ϕ wind; 4965 St. Paul
25 4584 TWA 0.010 mg/m³; BACKGROUND
37 2317 TWA 0.096 mg/m³; ϕ wind; 4318 St. Paul
3265 OFF - top pt separated from the battery & cord broke
42 3266 started (214.0) - 1.68 in WC
battery & filter switched from 3265 to 3266
06 2316 TWA 0.031 mg/m³; ϕ wind; 4965 St. Paul
09 4584 TWA 0.010 mg/m³; BACKGROUND
16 2317 TWA 0.009 mg/m³; ϕ wind; minivol running; 4318 St. Paul
30 2316 TWA 0.022 mg/m³; ϕ wind; 4965 St. Paul
13 4584 TWA 0.008 mg/m³; ϕ wind; BACKGROUND
0 2317 TWA 0.003 mg/m³; ϕ wind; minivol running; 4316 St. Paul
00 2316 TWA 0.037 mg/m³; ϕ wind; OFF
02 4584 TWA 0.006 mg/m³; ϕ wind; OFF
58 2317 TWA 0.002 mg/m³; ϕ wind; OFF
10 3265 OFF - 1.75 in WC; 26°C; 30.13 in Hg
0 Daily report for 9-19 turned in
115 R. Burton off site

28 October 2003, Tuesday

0630 R. Burton on-site to begin the three days of october monitoring; cloud
0656 4584 zeroed
0658 3922 zeroed
0720 3266 started (222.5) - 1.69 inWC; 10°C; 30.06 inHg; 3450 St. Paul
0720 3267 started (151.9) - 1.67 inWC; " (Duplicate)
0725 4584 started; ∅ wind, 3450 St. Paul
0730 3922 started; background; near the corner of 35th & St. Paul
0940 4584 TWA 0.007 mg/m³; ∅ wind; MiniVols running
0945 3922 TWA 0.004 mg/m³; BACKGROUND
1204 4584 TWA 0.014 mg/m³; ∅ wind; miniVols running
1207 3922 TWA 0.006 mg/m³; BACKGROUND
1535 4584 TWA 0.015 mg/m³; ∅ wind; miniVols running
1538 3922 TWA 0.009 mg/m³; BACKGROUND
1814 3922 TWA 0.012 mg/m³; OFF
1816 4584 TWA 0.022 mg/m³; OFF
1819 3266 off - 1.65 inWC; 16°C; 29.71 inHg
3267 off - 1.61 inWC;
1845 Returned to the base, but couldn't get in. The gate was locked with a new lock that I couldn't open.

29 October 2003, Wednesday

0630 R. Burton on-site
0643 ~~[illegible]~~ 3922 zeroed
0651 4584 zeroed
0717 3266 started (233.5) - 1.66 inWC; 17°C; 29.54 inHg; 3450 St. Paul
0720 4584 started; ∅ wind; 3450 St. Paul
0722 3922 started; BACKGROUND; near the corner of St. Paul and 35th Ave
1003 4584 TWA 0.013 mg/m³; ∅ wind; miniVol running; 3450 St. Paul
1006 3922 TWA 0.005 mg/m³; Background
1130 Wind at base site gusting to 26 MPH. If gusts reach 30 MPH, excavation will be suspended.
1212 4584 TWA 0.031 mg/m³; wind 511 MPH W; miniVol running; excavation near finish
1215 3922 TWA 0.014 mg/m³; BACKGROUND
1415 Wind gusts to 40 MPH - I talked to Ron & he said he is shutting down the excavation
1515 3922 TWA 0.015 mg/m³; BACKGROUND
1517 4584 TWA 0.041 mg/m³; ∅ wind; miniVol running; excavation was continued after the died down.
1530 Stayed on-site @ 3450 St. Paul to monitor wind. Max was 6 MPH SW
1833 3922 TWA 0.012 mg/m³; OFF
1835 4584 TWA 0.038 mg/m³; OFF
1838 3266 off - 1.77 inWC; 18°C; 29.38 inHg
1915 R. Burton off-site

[illegible], Wednesday]

0630 R. Burton on-site; snowy & cold - no PDRs this morning. They will be set up if precipitation stops
0704 3266 started (244.3); 1.66 in WC; 3°C; 29.83 in Hg
0[illegible] 3450 St. Paul - MiniVol running; Ø wind; light precipitation
1202 3450 St. Paul - MiniVol running; Ø wind; light precipitation
1511 3450 St. Paul - MiniVol running; Ø wind; light precipitation; work finished
1600 3266 off - 1.63 in WC; 7°; 29.83 in Hg
1640 R. Burton off-site

3 November 2002, Monday

0630 R. Burton on-site It is raing this morning for the fourth day in a row. The PDRs will not be setup unless that precipitation stops.
702 3266 Started (253.7) - 1.67 in WC; 7°C; 29.94 in Hg; 4781 Race
950 Still raining (lightly), miniVol running; 4781 Race; Michelle Smith (PEI) notified that I'm not running PDRs due to weather
210 Still raining, miniVol running; 4781 Race
511 Still raining; miniVol running; 4781 Race
815 3266 off - 1.66 in WC; 7°C; 29.83 in Hg; still raining lightly
845 R. Burton off-site

[illegible] November 2003, Tuesday

0630 R. Burton on-site; clear & cold
0633 4584 zeroed
0635 3322 zeroed
0652 3266 started (265.0) - 1.68 in WC, 4°C; 29.93 in Hg; 4315 Steele
0656 4584 started; Ø wind; 4315 Steele
0700 3322 started; BACKGROUND - on fence near 43rd & Steele
0902 4584 TWA 0.000 mg/m³; Ø wind; miniVol Running; 4315 Steele; excavation has not yet begun, crew not on site
0905 3322 TWA 0.012 mg/m³; BACKGROUND
1202 4584 TWA 0.000 mg/m³; Ø wind; miniVol Running; 4315 Steele; no work yet
1205 3322 TWA 0.005 mg/m³; BACKGROUND
1504 4584 TWA 0.000 mg/m³; Ø wind; miniVol Running; 4315 Steele
1508 3322 TWA 0.002 mg/m³; BACKGROUND
1833 4584 TWA 0.000 mg/m³; OFF
1835 3322 TWA 0.001 mg/m³; OFF
1838 3266 OFF - 1.64 in WC; 8°C; 29.93 in Hg
1915 R. Burton off-site

5 November 2003 Wednesday

0630	R. Burton on-site; cold & overcast
0638	4584 zeroed
0641	3922 zeroed
0706	3266 started (276.7) - 1.77 inWC; 1°C; 30.12 inHg; 4315 Steele
0710	4584 started; wind 7 mph SE; 4315 Steele
0712	3922 started; BACKGROUND; on [illegible] 43rd & Steele
0944	4584 TWA 0.093 mg/m³; Ø wind; minivol running; 4315 Steele
0946	3922 TWA 0.068 mg/m³; BACKGROUND
1237	4584 TWA 0.083 mg/m³; Ø wind; minivol running; 4315 Steele
1240	3922 TWA 0.065 mg/m³; BACKGROUND
1503	4584 TWA OFF mg/m³; Ø wind; minivol running; 4315 Steele
1508	3922 TWA 0.062 mg/m³; BACKGROUND
1510	Start Tag # 2 on 4584
1823	Both PDRs already off
1827	3266 OFF - 1.60 inWC; 2°C; 30.19 inHg
1900	R. Burton off-site

FILTER TRACKING

FILTER I.D.	ANALYSIS	SAMPLER I.D	DATE USED	LOCATION	PURPOSE
03-T8203	PM 2.5	3262	3515 HARRISON - 1697		MONITORING
03-T8204	PM 10	3263	8/13/03	"	"
03-T8205	TSP, As, Pb	3265	8/13/03	"	"
03-T8206	TSP, As, Pb	3266	8/13/03	POLICE STATION	BACKGROUND
03-T8207	PM2.5	3268	8/14/03	4935 ADAMS - 3776	
03-T8208	PM 10	3263	8/14/03		
03-T8209	TSP As Pb	3265	8/14/03		
03-T8210	TSP As Pb	3266	8/14/03	POLICE STATION 3676	BACKGROUND
03-T8211	TSP As Pb	3267	8/14/03	3515 HARRISON 1697	MONITORING
03-T8212	TSP As Pb	NONE	8/14/03	NONE	FILTER BLANK
03-T8213	PM 2.5	3268	8/15/03	429	excavation
03-T8214	PM 10	3263	8/15/03	429	"
03-T8215	TSP: As, Pb	3265	8/15/03	429	"
03-T8216	TSP: As, Pb	3266	8/15/03	3676	excavation/backfill
03-T8217	TSP: As, Pb	3267	8/15/03	1697	backfill
03-T8218	PM 2.5	3262	8/16/03	3452 Josephine (1188)	excavation
03-T8219	PM 10	3263			
03-T8220	TSP, As, Pb	3266			
03-T8221	TSP, As, Pb	3267		3609 High (429)	excav./backf
03-T8222	PM 2.5	3262	8/18/03	3601 York (837)	excavation
03-T8223	PM 10	3263			
03-T8224	TSP, As, Pb	3265			
03-T8225	TSP, As, Pb	3266		3521 Josephine (1236)	
03-T8226	TSP, As, Pb	3267		3452 Josephine (1188)	excavation/back
03-T8227	PM 2.5	3262	8/19/03	4712 Brighton Blvd (2370)	excavation
03-T8228	PM 10	3263			
03-T8229	TSP, As, Pb	3265			
03-T8230	TSP, As, Pb	3266		3521 Josephine (1236)	excavation/bac
03-T8231	TSP, As, Pb	3267		3601 York (837)	
03-T8232	PM 2.5	3262	8/20/03	3724 York (1336)	monitoring
03-T8275	PM 10	3263			
03-T8276	TSP, As, Pb	3265			
03-T8277	TSP, As, Pb	3266		4712 Brighton/~~4303 Milwaukee (3865)~~	
03-T8278	TSP, As Pb	3267		3447 St. Paul (1119)	
03-T8279	TSP, As, Pb	3268		3521 Josephine (1236)	

Filter ID	Analysis	Sampler	Date Used	Location
03T-T8280	PM 2.5	3262	21 Aug 03	4909 Milwaukee (3865)
03T-T8281	PM 10	3263		
03T-T8282	TSP, As, Pb	3265		
03T-T8283	TSP, As, Pb	3266		3724/3730 York (1336/2776)
03T-T8284	TSP, As, Pb	3267		3474 St. Paul ~~(1265)~~ 1119
03-T8285	PM 2.5	3262	22 Aug 03	3474 St. Paul ~~(1265)~~ 1119
03-T8286	PM 10	3263		~~4909 Milwaukee (3865)~~ RB
03-T8287	TSP, As, Pb	3265		~~3724/3730 York (1336/2776)~~ RB
03-T8288	TSP, As, Pb	3266		4909 Milwaukee (3865)
03-T8289	TSP, As, Pb	3267		3724/3730 York (1336/2776)
03-T8290	PM 2.5	3262	23 Aug 03	~~4811 Clayton (3712)~~ 3724/3730 York
03-T8291	PM 10	3263		~~4811 Clayton (3712)~~ (1336/2776)
03-T8292	TSP, As, Pb	3265		~~4811 Clayton (3712)~~
03-T8293	TSP, As, Pb	3266		4909 Milwaukee (3865)
03-T8294	TSP, As, Pb	3267		3474 St. Paul ~~(1265)~~ 1119
~~03-T8295~~	~~TSP, As, Pb~~	~~3268~~		~~3724/3730 York (1336/2776)~~
03-T8295	PM 2.5	3262	25 Aug 03	4811 Clayton (3712)
03-T8296	PM 10	3263		
03-T8297	TSP, As, Pb	3265		
03-T8298	TSP, As, Pb	3266		4909 Milwaukee (3865)
03-T8299	TSP, As, Pb	3267		3447 St. Paul ~~(1265)~~ 1119
03-T8300	TSP, As, Pb	3268		3724/3730 York (1336/2776)
03-T8301	PM 2.5	3262	26 Aug 03	4811 Clayton (3712)
03-T8302	PM 10	3263		3
03-T8303	TSP, As, Pb	3265		
03-T8304	TSP, As, Pb	3266		3447 St. Paul ~~(1265)~~ 1119
03-T8305	TSP, As, Pb	3267		3724/3730 York (1336/2776)
03-T8306	P.M. 2.5	3262	27 Aug 03	3536 Elizabeth (1265)
03-T8307	PM. 10	3263		
03-T8308	TSP, As, Pb	3265		
03-T8309	TSP, As, Pb	3266		4680 Clayton (2157)
03-T8310	PM 2.5	3262	28 Aug 03	3536 Elizabeth (1265)
03-T8311	PM 10	3263		
03-T8312	TSP, As, Pb	3265		
03-T8313	TSP, As, Pb	3266		4680 Clayton (2157)
03-T8314	P.M. 2.5	~~3262~~ 3262	2 Sept 03	4995 Steele (3821)
03-T8315	PM 10	3263		
03-T8316	TSP, As, Pb	3265		

Filter ID#	Analysis	Sampler	Date Used	Location
03-T8317	PM 2.5	3262	3 Sept 03	3705 Madison (1831)
03-T8318	PM 10	3263		
03-T8319	TSP, Pb, As	3265		
03-T8320	TSP, Pb, As	3266		4995 Steele (3821)
03-T8321	PM 2.5	3262	4 Sept 03	4616 Race (3484)/4775 Race
03-T8322	PM 10	3263		
03-T8323	TSP, As, Pb	3265		
03-T8324	TSP, As, Pb	3266		3401 Bruce Randolph Ave. (1571)
03-T8147	PM 2.5	3262	5 Sept 03	3401 Bruce Randolph Ave (1571)
03-T8148	PM 10	3263		
03-T8149	TSP, As, Pb	3265		
03-T8150	TSP, As, Pb	3266		4775 Race (3520)
03-T8151	PM 2.5	3262	6 Sept 03	3786 Gilpin (3407)
03-T8152	PM 10	3263		
03-T8153	TSP, As, Pb	3265		
03-T8154	TSP, As, Pb	3266		3401 Bruce Randolph (1571)
03-T8155	TSP, As, Pb	3267		4775 Race (3520)
03-T8156	PM 2.5	3262	8 Sept 03	4785 Claude (3581)
03-T8157	PM 10	3263		
03-T8158	TSP, As, Pb	3265		
03-T8159	TSP, As, Pb	3266		4775 Race (3520)
03-T8160	TSP, As, Pb	3267		3786 Gilpin (3407)
03-T8161	Field Blank			
03-T8162	TSP, As, Pb	3265	9 Sept 03	4620 Race (2341)
03-T8163	TSP, As, Pb	3265	10 Sept 03	3346 Gilpin (171)
03-T8164	TSP, As, Pb	3266		
03-T8165	TSP, As, Pb	3265	11 Sept 03	3350/3346 gilpin (187/171)
03-T8166	TSP, As, Pb	3265	12 Sept 03	3784 gilpin (2235)
03-T8325	TSP, As, Pb	3265	13 Sept 03	3765 ~~3781~~ RD Gilpin ~~32~~ (2256)
03-T8326	TSP, As, Pb	3265	15 Sept 03	3842 Gilpin (3414)
03-T8327			16 Sept 03	4809 Milwaukee
03-T8328			17 Sept 03	4965 St. Paul
03-T8329			18 Sept 03	4965 St. Paul
03-T8330			19 Sept 03	4316 St. Paul
03-T8331	TSP, As, Pb	~~3263~~ 3266	28 Oct 03	3450 St. Paul

03-T8334	TSP, As, Pb	3266	21 oct 03	3450 St. Paul (1609)
03-T8335	TSP, As, Pb	3266	30 oct 03	3450 St. Paul (1609)
03-T8336	TSP, As, Pb	3266	3 Nov 03	4781 Rice (2573)
03-T8337	TSP, As, Pb	3266	4 Nov 03	4315 Steele (3070)
03-T8338	TSP, As, Pb	3266	5 Nov 03	4315 Steele (3070)

ATTACHMENT F
AIR MONITORING DATA REPORTS AND SUMMARY TABLE
VB I-70/VASQUEZ BOULEVARD

IHI

ENVIRONMENTAL

August 24, 2005

Ms. Michelle Smith
Project Resources Inc.
6820 North Broadway, Suite I
Denver, CO 80221

RE: Air Monitoring Data Reports and Summary Table
VB-I-70/Vasquez Boulevard
IHI Project No. 04E-7040

Dear Michelle,

I am attaching copies of the Chester Laboratory data reports and a summary table from the 2004 air monitoring data and the first 2 quarterly air monitoring events from 2005. As you recall, the monitoring from February 2004 through June 2004 was conducted monthly. Based on the favorable air monitoring results, quarterly sampling began in September 2004.

The results indicate that arsenic and lead concentrations in air are at least an order of magnitude below the project action levels. Total Suspended Particulate (TSP) levels did exceed the action limit of 150 ug/m^3 on 10 occasions. A corresponding increase in arsenic and lead concentrations on these days was not observed. Generally, elevated TSP measurements were detected in real time, using the DataRAMs or visual observations, and corrective action, such as additional dust control using water trucks, was implemented.

Chester Laboratory met all project quality control/quality assurance (QA/QC) protocols for the sample analysis. QA/QC reports are included with the laboratory reports.

If you have any questions or comments on this request, please feel free to call me at (801) 466-2223.

Sincerely,

Christopher J. Nolan
Senior Geologist

Attachments: Results Table
Analytical Reports

640 EAST WILMINGTON AVENUE SALT LAKE CITY, UT 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616 E-MAIL: ihi@ihi-env.com

SALT LAKE CITY EMERYVILLE PHOENIX DENVER SEATTLE

Analytical Results of Air Monitoring
VB I-70/Vasquez Boulevard
Denver, Colorado
(Results in ug/m^3)

Date	Site ID	Sample #	Address	TSP	Arsenic	Lead
2/25/04	645/646	03-T8339	3250/3244 Vine	121.7	< MDL	0.1741
2/26/04	645/646	03-T8341	3250/3244 Vine	259.9	0.1271	0.1679
2/27/04	683	03-T8342	3315 Race	68.16	< MDL	0.1269
3/1/04	663	03-T8343	3328 Race	32.98	< MDL	0.1245
3/2/04	662/663	03-T8344	3332/3328 Race	86.46	< MDL	0.1486
3/3/04	723	04-T168	3315 Gaylord	60.75	< MDL	0.2664
3/3/04	723D	04-T169	3315 Gaylord	48.75	< MDL	0.1141
4/28/04	3448	04-T170	3919 Humbolt	0.10	< MDL	0.0002
4/29/04	3730	04-T171	4837 Steele	0.03	< MDL	0.0003
4/30/04	3801	04-T172	5060 St. Paul	0.03	< MDL	0.0002
5/1/04	3913	04-T173	4959 Adams	0.14	< MDL	0.0002
5/4/04	3413	04-T175	3846 Gilpin	0.06	< MDL	0.0002
5/5/04	3434	04-T177	3805 Gilpin	0.10	< MDL	0.0002
5/5/04	3434D	04-T178	3805 Gilpin	0.09	< MDL	0.0002
6/25/04	738	04-T7007	3405 Race	109.0	< MDL	0.1707
6/29/04	754	04-T7008	3437 Gaylord	105.9	< MDL	0.1483
6/30/04	2532	04-T7009	5016 Fillmore	627.9	< MDL	0.4245
9/20/04	1345	04-T7010	3629 Josephine	538.4	< MDL	0.2230
9/20/04	1345D	04-T7011	3629 Josephine	777.5	< MDL	0.2725
9/21/04	1187	04-T7012	3455 Josephine	74.36	< MDL	0.1483
9/22/04	3271	04-T7013	4741 Thompson Ct.	82.15	< MDL	0.1688
12/6/04	2363	04-T7014	4660 Baldwin Ct.	61.40	< MDL	0.2310
12/7/04	2656	04-T7015	3533 Marion	68.53	< MDL	0.1553
12/8/04	333	04-T7016	3526 Marion	141.3	< MDL	0.1610
4/18/05	2923	04-T7018	4033 Adams	90.95	< MDL	0.1955
4/19/05	1479	04-T7019	3265 Madison	265.3	< MDL	0.1441
4/20/05	1479	04-T7020	3265 Madison	229.1	< MDL	0.1279
4/20/05	1479D	04-T7021	3265 Madison	273.4	< MDL	0.1392
7/18/05	2107	04-T7022	4431 Fillmore	160	< MDL	0.1582
7/19/05	2107	04-T7023	4431 Fillmore	400.6	< MDL	0.1817
7/21/05	3319	04-T7024	4725 St. Paul Ct.	203.3	< MDL	< MDL

D – Duplicate Sample. MDL – Method detection limit shown in laboratory report.

IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 04-040

SUBMITTED BY:
CHESTER LABNET
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: March 12, 2004

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	04-040
Sample Description:	47mm Teflon Filters
Sample Numbers:	03-T8339 through 03-T8344, 04-T168, 04-T169

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul D. 3/12/04

Project Manager Date
Paul Duda

CASE NARRATIVE SUMMARY

LABORATORY: Chester LabNet
PROJECT #: 1005

REPORT # 04-040

I SAMPLE RECEIPT

A DATE 3-5-04
B NO. OF SAMPLES 8
C SAMPLE TYPE 47mm Teflon
D ANALYSIS REQUESTED As, Pb by ICP

E SHIPPING PROBLEMS/CORRECTIVE ACTIONS none/none

F DOCUMENTATION PROBLEMS/CORRECTIVE ACTIONS none/none

II SAMPLE PREPARATION

A DIGESTION PROBLEMS/CORRECTIVE ACTIONS none/none

B DEVIATIONS FROM SOP(S) none

III SAMPLE ANALYSIS

A INSTRUMENT PROBLEMS/CORRECTIVE ACTIONS none/none

B ICV RECOVERIES/FLAGGING within control/none

C ICB RESULTS/FLAGGING within control/none

D METHOD BLANK RESULTS/FLAGGING As within control Pb result <2x IDL, but above IDL. No flagging performed

E LCS RECOVERIES/FLAGGING within control/none

F POST DIGESTION SPIKE RECOVERIES/FLAGGING within control/none

IV OTHER PROBLEMS/COMMENTS

none

[signature] 3.15.04
Laboratory Director Date

08/03

Client: I005 - IHI Environmental
Report Number: 04-040

Lab ID: 03-T8339
Client ID: VB/I70-022504-T8339
Site: 3250/3244 Vine (645/646)
Sample Date: 2/25/04
Filter Lot #: 25737
Volume: 3.008 +- 0.301 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	366.		121.7	
ICP				
As	< MDL	0.320	< MDL	0.1064
Pb	0.524	0.200	0.1741	0.0665

Lab ID: 03-T8340
Client ID: VB/I70-022604-T8340
Site: 10E. 55th (000)
Sample Date: 2/26/04
Filter Lot #: 25737
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL
Gravimetry		
Net Mass	-9.	
ICP		
As	< MDL	0.320
Pb	0.290	0.200

Lab ID: 03-T8341
Client ID: VB/I70-022604-T8341
Site: 3250/3244 Vine (645/646)
Sample Date: 2/26/04
Filter Lot #: 25737
Volume: 3.047 +- 0.305 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	792.		259.9	
ICP				
As	0.387	0.320	0.1271	0.1050
Pb	0.512	0.200	0.1679	0.0656

Client: I005 - IHI Environmental
Report Number: 04-040

Lab ID: 03-T8342
Client ID: VB/I70-022704-T8342
Site: 3315 Race (683)
Sample Date: 2/27/04
Filter Lot #: 25737
Volume: 3.125 +- 0.312 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	213.		68.16	
ICP				
As	< MDL	0.320	< MDL	0.1024
Pb	0.396	0.200	0.1269	0.0640

Lab ID: 03-T8343
Client ID: VB/I70-030104-T8343
Site: 3328 Race (663)
Sample Date: 3/ 1/04
Filter Lot #: 25737
Volume: 3.032 +- 0.303 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	100.		32.98	
ICP				
As	< MDL	0.320	< MDL	0.1055
Pb	0.377	0.200	0.1245	0.0660

Lab ID: 03-T8344
Client ID: VB/I70-030204-T8344
Site: 3332/3328 Race (662/663)
Sample Date: 3/ 2/04
Filter Lot #: 25737
Volume: 2.637 +- 0.264 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	228.		86.46	
ICP				
As	< MDL	0.320	< MDL	0.1214
Pb	0.392	0.200	0.1486	0.0758

Client: I005 - IHI Environmental
Report Number: 04-040

Lab ID: 04-T168
Client ID: VB/I70-030304-T168
Site: 3315 Gaylord (723)
Sample Date: 3/ 3/04
Filter Lot #: 33956
Volume: 2.996 +- 0.300 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	182.		60.75	
ICP				
As	< MDL	0.320	< MDL	0.1068
Pb	0.798	0.200	0.2664	0.0668

Lab ID: 04-T169
Client ID: VB/I70-030304-T169
Site: 3315 Gaylord (723)
Sample Date: 3/ 3/04
Filter Lot #: 33956
Volume: 2.913 +- 0.291 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	142.		48.75	
ICP				
As	< MDL	0.320	< MDL	0.1099
Pb	0.332	0.200	0.1141	0.0687

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 04-040

==========

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	5.00
Pb	Prep_Blk	< MDL	5.00
Pb	Meth_Blk	9.12	5.00
Pb	CCB	< MDL	5.00
Pb	CCB	< MDL	5.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	1040	104.4
As	CCV	1000	1020	102.2
As	CCV	1000	999.	99.9
Pb	ICV	1000	1000	100.5
Pb	CCV	1000	994.	99.4
Pb	CCV	1000	996.	99.6

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	03-T8339	< 8	< 8	N/C #
Pb	03-T8339	13.1	12.1	7.53 #

RPD = {(sample-replicate)/[(sample+replicate)/2]}x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	980.	1000	98.0
As	03-T8340	< 8	3840	4000	95.9
Pb	LCS	9.12	970.	1000	96.1
Pb	03-T8340	5.80	3810	4000	95.1

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 04-040

Serial Dilution Data

Analyte	Sample ID	Sample Conc. µg/L	Ser. Dil. Conc. µg/L	RPD
As	04-T8341	9.683	< 40	N/C
Pb	04-T8341	12.79	< 25	N/C

RPD = {(sample-duplicate)/((sample + duplicate)/2)}x100
N/C: RPD is not calculated when sample or serial dilution is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample concentration is less than 10x the detection limit

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

Company Name		
IHI Environmental		
Contact: Chris Nolan / Rob Burton	Phone: 801-466-2223	
E-Mail Address: nolan@ihi-env.com	Fax: 801-466-9616	
Report Address: 640 E. Wilmington Avenue		
City: Salt Lake City	State: Utah	Zip: 84106
Billing Address: same		
City	State	Zip
P.O./Project #: 04E-7037		

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Turn Around Time
☐ Standard
☒ Rush 5 Day (Specify)

LabNet ID	Field Sample ID	Site	Sample Date	Volume ~~(m³)~~ liters	Particle Size	TSP	Pb by 6010B	As by 6010B								Remarks
03-T8339	VB/I70-022504-T8339		25 Feb 04	3008		✓	✓	✓								3250/3244 Vine (645/646)
03-T8340	VB/I70-022604-T8340		26 Feb 04	—		✓	✓	✓								10E. 55th (000)
03-T8341	VB/I70-022604-T8341		26 Feb 04	3047		✓	✓	✓								3250/3244 Vine (645/646)
03-T8342	VB/I70-022704-T8342		27 Feb 04	3125		✓	✓	✓								3315 Race (683)
03-T8343	VB/I70-030104-T8343		1 Mar 04	3032		✓	✓	✓								3328 Race (663)
03-T8344	VB/I70-030204-T8344		2 March 04	2637		✓	✓	✓								3332/3328 Race (662/663)
04-T168	VB/I70-~~030204~~ 030304-T168		3 Mar 04	2996		✓	✓	✓								3315 Gaylord (723)
04-T169	VB/I70-~~030204~~ 030304-T169		3 Mar 04	2913		✓	✓	✓								3315 Gaylord (723)

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	Notes:
Robert S. Burton 4 MAR 04 1519	[signature] 3/5/04 11:30	Via Fed ex #6513 5328 4453
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	

02/25/2004 09:39 503-624-2653 Lisa Ball PAGE 1/1

RAW DATA

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IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 04-098

SUBMITTED BY:
CHESTER LABNET
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: May 19, 2004

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	04-098
Sample Description:	47mm Teflon Filters
Sample Numbers:	04-T170 through 04-T175, 04-T177, 04-T178

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul Duda 5/19/04

Project Manager — Date
Paul Duda

Client: I005 - IHI Environmental
Report Number: 04-098

Lab ID: 04-T170
Client ID: VB/I70-042804-T170
Site: 3919 Humbolt (3448)
Sample Date: 4/28/04
Filter Lot #: 33956
Volume: 2973. +- 297.3 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	289.		0.10	
ICP				
As	< MDL	0.320	< MDL	0.0001
Pb	0.672	0.200	0.0002	0.0001

Lab ID: 04-T171
Client ID: VB/I70-042804-T171
Site: 4857 Steele (3730)
Sample Date: 4/28/04
Filter Lot #: 33956
Volume: 1681. +- 168.1 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	55.		0.03	
ICP				
As	< MDL	0.320	< MDL	0.0002
Pb	0.520	0.200	0.0003	0.0001

Lab ID: 04-T172
Client ID: VB/I70-043004-T172
Site: 5060 St. Paul (3801)
Sample Date: 4/30/04
Filter Lot #: 33956
Volume: 2213. +- 221.3 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	72.		0.03	
ICP				
As	< MDL	0.320	< MDL	0.0001
Pb	0.439	0.200	0.0002	0.0001

Client: I005 - IHI Environmental
Report Number: 04-098

Lab ID: 04-T173
Client ID: VB/I70-050104-T173
Site: 4959 Adams (3913)
Sample Date: 5/ 1/04
Filter Lot #: 33956
Volume: 2916. +- 291.6 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	416.		0.14	
ICP				
As	< MDL	0.320	< MDL	0.0001
Pb	0.465	0.200	0.0002	0.0001

Lab ID: 04-T174
Client ID: VB/I70-050104-T174
Site: 55th Ave 10th (000)
Sample Date: 5/ 1/04
Filter Lot #: 33956
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL
Gravimetry		
Net Mass	-4.	
ICP		
As	< MDL	0.320
Pb	0.510	0.200

Lab ID: 04-T175
Client ID: VB/I70-050404-T175
Site: 3846 Gilpin (3413)
Sample Date: 5/ 4/04
Filter Lot #: 33956
Volume: 3026. +- 302.6 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	177.		0.06	
ICP				
As	< MDL	0.320	< MDL	0.0001
Pb	0.490	0.200	0.0002	0.0001

Client: I005 - IHI Environmental
Report Number: 04-098

Lab ID: 04-T177
Client ID: VB/I70-050504-T177
Site: 3805 Gilpin (3434)
Sample Date: 5/ 5/04
Filter Lot #: 33956
Volume: 3007. +- 300.7 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	MDL	µg/m³ Conc.	MDL
Gravimetry				
Net Mass	289.		0.10	
ICP				
As	< MDL	0.320	< MDL	0.0001
Pb	0.486	0.200	0.0002	0.0001

Lab ID: 04-T178
Client ID: VB/I70-050504-T178
Site: 3805 Gilpin (3434)
Sample Date: 5/ 5/04
Filter Lot #: 33956
Volume: 2952. +- 295.2 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	MDL	µg/m³ Conc.	MDL
Gravimetry				
Net Mass	278.		0.09	
ICP				
As	< MDL	0.320	< MDL	0.0001
Pb	0.502	0.200	0.0002	0.0001

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 04-098

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	5.00
Pb	Prep_Blk	< MDL	5.00
Pb	Meth_Blk	< MDL	5.00
Pb	CCB	< MDL	5.00
Pb	CCB	< MDL	5.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	1030	102.8
As	CCV	1000	991.	99.1
As	CCV	1000	988.	98.8
Pb	ICV	1000	980.	98.0
Pb	CCV	1000	956.	95.6
Pb	CCV	1000	973.	97.3

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	04-T170	< 8	< 8	N/C #
Pb	04-T170	16.8	15.9	5.50 #

RPD = ((sample-replicate)/[(sample+replicate)/2])x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	965.	1000	96.5
As	04-T171	< 8	195.	200.	97.3
Pb	LCS	< 5	956.	1000	95.6
Pb	04-T171	10.4	196.	200.	92.9

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

Company Name: IHI Environmental		
Contact: R. Burton, C. Nolan	Phone: 801-466-8223	
E-Mail Address: nolan@ihi-env.com	Fax: 801-466-9616	
Report Address: 640 E. Wilmington Ave.		
City: Salt Lake City	State: Utah	Zip: 84106
Billing Address: Same		
City	State	Zip
P.O./Project #: 04E-7040		

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Turn Around Time
☒ Standard
☐ Rush _____ Specify

LabNet ID	Field Sample ID	~~Site~~	Sample Date	Volume ~~(m³)~~ liters	Particle Size	TSP	Pb by 6010B	As by 6010B								Remarks
04-T170	VB/I70-042804	-T170	28 Apr. 04	2973		x	x	x								3919 Humboldt (3448)
04-T171	VB/I70-042904	-T171	29 Apr. 04	1681		x	x	x								4857 Steele (3730)
04-T172	VB/I70-043004	-T172	30 April 04	2213		x	x	x								5060 St. Paul (3801)
04-T173	VB/I70-050104	-T173	1 May 04	2916		x	x	x								4959 Adams (3913)
04-T174	VB/I70-050104	-T174	1 May 04	—		x	x	x								55th Ave 10th (000)
04-T175	VB/I70-050404	-T175	4 May 04	3026		x	x	x								3846 Gilpin (3413)
04-T177	VB/I70-050504	-T177	5 May 04	3007		x	x	x								3805 Gilpin (3434)
04-T178	VB/I70-050504	-T178	5 May 04	2952		x	x	x								3805 Gilpin (3434)

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time
[signature] 5/5/04 1747	[signature] 5/6/04 [illegible]
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time

Notes: 04-T173 was torn after sampling.
Sent via FedEx # 845014993315

RAW DATA

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IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 04-151

SUBMITTED BY:
CHESTER LABNET
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: July 12, 2004

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	04-151
Sample Description:	47mm Teflon Filters
Sample Numbers:	04-T7007 through 04-T7009

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul Duda 7/12/04

Project Manager Date
Paul Duda

Client: I005 - IHI Environmental
Report Number: 04-151

Lab ID: 04-T7007
Client ID: VB/I70-062504-T7007
Site: 3404 Race St (738)
Sample Date: 6/25/04
Filter Lot #: 34547
Volume: 2.880 +- 0.288 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP

Analyte	µg/filter Conc.	MDL	µg/m³ Conc.	MDL
Gravimetry				
Net Mass	314.		109.0	
ICP				
As	< MDL	0.320	< MDL	0.1111
Pb	0.492	0.200	0.1707	0.0694

Lab ID: 04-T7008
Client ID: VB/I70-062904-T7008
Site: 3437 Gaylord (754)
Sample Date: 6/29/04
Filter Lot #: 34547
Volume: 2.833 +- 0.283 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP

Analyte	µg/filter Conc.	MDL	µg/m³ Conc.	MDL
Gravimetry				
Net Mass	300.		105.9	
ICP				
As	< MDL	0.320	< MDL	0.1130
Pb	0.420	0.200	0.1483	0.0706

Lab ID: 04-T7009
Client ID: VB/I70-063004-T7009
Site: 5016 Fillmore (2532)
Sample Date: 6/30/04
Filter Lot #: 34547
Volume: 2.940 +- 0.294 m³
Deposit Area: 11.3 cm²
Size Fraction: TSP

Analyte	µg/filter Conc.	MDL	µg/m³ Conc.	MDL
Gravimetry				
Net Mass	1,846.		627.9	
ICP				
As	< MDL	0.320	< MDL	0.1088
Pb	1.25	0.200	0.4245	0.0680

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 04-151

==========

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	5.00
Pb	Prep_Blk	< MDL	5.00
Pb	Meth_Blk	< MDL	5.00
Pb	CCB	< MDL	5.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	1020	102.5
As	CCV	1000	996.	99.6
Pb	ICV	1000	1000	100.3
Pb	CCV	1000	988.	98.8

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	04-T7007	< 8	< 8	N/C #
Pb	04-T7007	12.3	11.6	5.60 #

RPD = {(sample-replicate)/[(sample+replicate)/2]}x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	943.	1000	94.3
As	04-T7008	< 8	180.	200.	90.2
Pb	LCS	< 5	952.	1000	95.2
Pb	04-T7008	8.40	200.	200.	95.9

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

VT-151

Company Name: IHI Environmental	
Contact: R. Burton, C. Nolan	Phone: 801-466-8223
E-Mail Address: nolan@ihi-env.com	Fax: 801-466-9616
Report Address: 640 E. Wilmington Ave.	
City: Salt Lake City	State: Utah / Zip: 84106
Billing Address: Same	
City:	State: / Zip:
P.O./Project #: 04E-7040	

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Turn Around Time
☒ Standard
☐ Rush _____ Specify

LabNet ID	Field Sample ID	Site	Sample Date	Volume ~~(m³)~~ liters	Particle Size	TSP	Pb by 6010b	As by 6010b								Remarks
04-T7007	VB/I70-062504	-T7007	06/25/04	2880		x	x	x								~~3404~~ 3404 Race St. (738)
04-T7008	VB/I70-062904	-T7008	06/29/04	2833		x	x	x								3437 Gay lord (754)
04-T7009	VB/I70-063004	-T7009	06/30/04	2940		X	X	X								5016 Fillmore (2532)

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time [signature] 7/1/04
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time

Notes: Sent via fed ex # 847858113434

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IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 04-229

SUBMITTED BY:
CHESTER LABNET
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: October 5, 2004

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	04-229
Sample Description:	47mm Teflon Filters
Sample Numbers:	04-T7010 through 04-T7013

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul Duda 10/5/04

Project Manager Date
Paul Duda

CASE NARRATIVE SUMMARY

LABORATORY: Chester LabNet
PROJECT #: I005

REPORT # 04-229

I SAMPLE RECEIPT

A DATE 9.24.04
B NO. OF SAMPLES 9
C SAMPLE TYPE 47mm Teflon
D ANALYSIS REQUESTED As, Pb by ICP

E SHIPPING PROBLEMS/CORRECTIVE ACTIONS none/none

F DOCUMENTATION PROBLEMS/CORRECTIVE ACTIONS none/none

II SAMPLE PREPARATION

A DIGESTION PROBLEMS/CORRECTIVE ACTIONS none/none

B DEVIATIONS FROM SOP(S) none

III SAMPLE ANALYSIS

A INSTRUMENT PROBLEMS/CORRECTIVE ACTIONS none/none

B ICV RECOVERIES/FLAGGING within control/none

C ICB RESULTS/FLAGGING within control/none

D METHOD BLANK RESULTS/FLAGGING within control/none

E LCS RECOVERIES/FLAGGING within control/none

F POST DIGESTION SPIKE RECOVERIES/FLAGGING within control/none

IV OTHER PROBLEMS/COMMENTS

none

Laboratory Director

10.4.04
Date

08/03

Client: I005 - IHI Environmental
Report Number: 04-229

Lab ID: 04-T7010
Client ID: VB/I-70-092004t-7010
Site: 3629 Josephine (1345)
Sample Date: 9/20/04
Filter Lot #: 34547
Volume: 2.751 +- 0.275 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	1,481.		538.4	
ICP				
As	< MDL	0.320	< MDL	0.1163
Pb	0.614	0.200	0.2230	0.0727

Lab ID: 04-T7011
Client ID: VB/I70-092004T-7011
Site: 3629 Josephine (1345)
Sample Date: 9/20/04
Filter Lot #: 34547
Volume: 2.566 +- 0.257 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	1,995.		777.5	
ICP				
As	< MDL	0.320	< MDL	0.1247
Pb	0.699	0.200	0.2725	0.0779

Lab ID: 04-T7012
Client ID: VB/I70-092104T-7012
Site: 3455 Josephine (1187)
Sample Date: 9/21/04
Filter Lot #: 34547
Volume: 2.555 +- 0.256 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	190.		74.36	
ICP				
As	< MDL	0.320	< MDL	0.1252
Pb	0.379	0.200	0.1483	0.0783

Client: I005 - IHI Environmental
Report Number: 04-229

Lab ID: 04-T7013
Client ID: VB/I70-092004T-7013
Site: 4741 Thompson Ct. (3271)
Sample Date: 9/22/04
Filter Lot #: 34547
Volume: 2.398 +- 0.240 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	197.		82.15	
ICP				
As	< MDL	0.320	< MDL	0.1334
Pb	0.405	0.200	0.1688	0.0834

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 04-229

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	5.00
Pb	Prep_Blk	< MDL	5.00
Pb	Meth_Blk	< MDL	5.00
Pb	CCB	< MDL	5.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	1030	102.7
As	CCV	1000	1010	100.9
Pb	ICV	1000	1000	100.5
Pb	CCV	1000	989.	98.9

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	04-T7010	< 8	< 8	N/C #
Pb	04-T7010	15.3	14.3	7.16 #

RPD = {(sample-replicate)/[(sample+replicate)/2]}x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	965.	1000	96.5
As	04-T7011	< 8	183.	200.	91.4
Pb	LCS	< 5	969.	1000	96.9
Pb	04-T7011	14.0	204.	200.	94.9

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 04-229

Serial Dilution Data

Analyte	Sample ID	Sample Conc. µg/L	Ser. Dil. Conc. µg/L	RPD
As	04-T7012	< 8	< 40	N/C
Pb	04-T7012	9.47	< 25	N/C

RPD = {(sample-duplicate)/[(sample + duplicate)/2]}x100
N/C: RPD is not calculated when sample or serial dilution is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample concentration is less than 10x the detection limit

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

Company Name: IHI Environmental	
Contact: R. Burton, C. Nolan	Phone: 801-466-8223
E-Mail Address: nolan@ihi-env.com	Fax: 801-466-9616
Report Address: 640 E. Wilmington Ave.	
City: Salt Lake City / State: Utah	Zip: 84106
Billing Address: Same	
City: / State:	Zip:
P.O./Project #: 04E-7040	

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

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LabNet ID	Field Sample ID	Site	Sample Date	Volume ~~(m³)~~ liters	Particle Size	TSP	Pb by 6010B	As by 6010B							Remarks
04T-7010	VB/I-70-092004T	-7010	20 Sept 04	2751		✓	✓	✓							3629 Josephine (1345)
04T-7011	VB/I-70-092004T	-7011	20 Sept 04	2566		✓	✓	✓							3623 Josephine (1345)
04T-7012	VB/I-70-092104T	-7012	21 Sept 04	2555		✓	✓	✓							3455 Josephine (1187)
04T-7013	VB/I-70-092204T	-7013	22 Sept 04	2338		✓	✓	✓							4741 Thompson Ct. (3271)

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	Notes:
[signature] 9/23/04 1042	[signature] 9/24/04 10:00	shipped via FedEx # 7920 9651 8940
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	

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IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 04-292

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CHESTER LABNET
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: December 17, 2004

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	04-292
Sample Description:	47mm Teflon Filters
Sample Numbers:	04-T7014 through 04-T7017

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul Duda 12/17/04

Project Manager Date
Paul Duda

Client: I005 - IHI Environmental
Report Number: 04-292

Lab ID: 04-T7014
Client ID: VB/I-70-120604-T7014
Site: 4660 Baldwin Ct. (2363)
Sample Date: 12/ 6/04
Filter Lot #: 34547
Volume: 2.736 +- 0.274 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	168.		61.40	
ICP				
As	< MDL	0.320	< MDL	0.1170
Pb	0.632	0.200	0.2310	0.0731

Lab ID: 04-T7015
Client ID: VB/I-70-120704-T7015
Site: 3533 Marion (2656)
Sample Date: 12/ 7/07
Filter Lot #: 34547
Volume: 2.787 +- 0.279 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	191.		68.53	
ICP				
As	< MDL	0.320	< MDL	0.1148
Pb	0.433	0.200	0.1553	0.0718

Lab ID: 04-T7016
Client ID: VB/I-70-120804-T7016
Site: 3526 Marion (333)
Sample Date: 12/ 8/04
Filter Lot #: 34547
Volume: 2.455 +- 0.246 m³
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	347.		141.3	
ICP				
As	< MDL	0.320	< MDL	0.1303
Pb	0.395	0.200	0.1610	0.0815

Client: I005 - IHI Environmental
Report Number: 04-292

Lab ID: 04-T7017
Client ID: VB/I70-120804-T7017
Site: Field Blank
Sample Date: 12/ 8/04
Filter Lot #: 34547
Deposit Area: 11.3 cm^2

Analyte	µg/filter Conc.	MDL
Gravimetry		
Net Mass	-5.	
ICP		
As	< MDL	0.320
Pb	0.451	0.200

Client: I005 - IHI Environmental
Report Number: 04-292

Lab ID: Method (Filter) Blank
Sample Type: 47mm Teflon
Filter Lot #: 34547
Deposit Area: 11.3 cm^2

Analyte	µg/filter Conc.	MDL
ICP		
As	< MDL	0.320
Pb	0.319	0.200

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 04-292

==========

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	5.00
Pb	Prep_Blk	< MDL	5.00
Pb	Meth_Blk	7.98	5.00
Pb	CCB	< MDL	5.00
Pb	CCB	< MDL	5.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	1020	102.3
As	CCV	1000	1000	100.1
As	CCV	1000	999.	99.9
Pb	ICV	1000	1000	100.3
Pb	CCV	1000	990.	99.0
Pb	CCV	1000	998.	99.8

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	04-T7014	< 8	< 8	N/C #
Pb	04-T7014	15.8	14.8	6.54 #

RPD = {(sample-replicate)/[(sample+replicate)/2]}x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	928.	1000	92.8
As	04-T7015	< 8	180.	200.	89.8
Pb	LCS	7.98	948.	1000	94.1
Pb	04-T7015	8.66	196.	200.	93.6

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 04-292

Serial Dilution Data

Analyte	Sample ID	Sample Conc. µg/L	Ser. Dil. Conc. µg/L	RPD
As	04-T7016	< 8	< 40	N/C
Pb	04-T7016	9.88	< 25	N/C

RPD = {(sample-duplicate)/[(sample + duplicate)/2]}x100
N/C: RPD is not calculated when sample or serial dilution is below detection limit
‡: per EPA CLP protocol, control limits do not apply if sample concentration is less than 10x the detection limit

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

Company Name: IHI Environmental	
Contact: R. Burton, C. Nolan	Phone: 801-466-8223
E-Mail Address: nolan@ihi-env.com	Fax: 801-466-9616
Report Address: 640 E. Wilmington Ave.	
City: Salt Lake City / State: Utah	Zip: 84106
Billing Address: Same	
City: / State:	Zip:
P.O./Project #: 04E-7040	

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
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Page 1 of 1

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Analysis Requested

LabNet ID	Field Sample ID	Site	Sample Date	Volume ~~(m³)~~ liters	Particle Size	TSP	Pb by GOLOB	As by GOLOB							Remarks
04-T7014	VB/I-70-120604-T7014		6 DEC 04	2736		x	x	x							4660 Baldwin Ct. (2363)
04-T7015	VB/I-70-120704-T7015		7 DEC 04	2787		x	x	x							3533 Marion ~~(333)~~ RB (2654)
04-T7016	VB/I-70-120804-T7016		8 DEC 04	2455		x	x	x							3526 Marion (333)
04-T7017	VB/I-70-120804-T7017		8 DEC 04	—		x	x	x							Field Blank

Relinquished By: (Signature) Date/Time: [signature] 12/8/04 1615	Received By: (Signature) Date/Time: [signature] 12/13/04
Relinquished By: (Signature) Date/Time:	Received By: (Signature) Date/Time:

Notes: Sent via FedEx # 847977637591

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IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 05-096

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12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: May 2, 2005

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	05-096
Sample Description:	47mm Teflon Filters
Sample Numbers:	05-T7018 through 04-T7021

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul Duda 5/2/05

Project Manager Date
Paul Duda

Client: I005 - IHI Environmental
Report Number: 05-096

Lab ID: 04-T7018
Client ID: VB/I70-041805-04-T7018
Site: 4033 Adams (2923)
Sample Date: 4/18/05
Filter Lot #: 34547
Volume: 2.001
Deposit Area: 11.9 cm²

Analyte	µg/filter Conc.	MDL	µg/m³ Conc.	MDL
Gravimetry				
Net Mass	182.		90.95	
ICP				
As	< MDL	0.320	< MDL	0.1599
Pb	0.391	0.200	0.1955	0.1000

Lab ID: 04-T7019
Client ID: VB/I70-041905-04-T7019
Site: 3265 Madison (1479)
Sample Date: 4/19/05
Filter Lot #: 34547
Volume: 2.914
Deposit Area: 11.9 cm²

Analyte	µg/filter Conc.	MDL	µg/m³ Conc.	MDL
Gravimetry				
Net Mass	773.		265.3	
ICP				
As	< MDL	0.320	< MDL	0.1098
Pb	0.420	0.200	0.1441	0.0686

Lab ID: 04-T7020
Client ID: VB/I70-042005-04-T7020
Site: 3265 Madison (1479)
Sample Date: 4/20/05
Filter Lot #: 34547
Volume: 2.680
Deposit Area: 11.9 cm²

Analyte	µg/filter Conc.	MDL	µg/m³ Conc.	MDL
Gravimetry				
Net Mass	614.		229.1	
ICP				
As	< MDL	0.320	< MDL	0.1194
Pb	0.343	0.200	0.1279	0.0746

Client: I005 - IHI Environmental
Report Number: 05-096

Lab ID: 04-T7021
Client ID: VB/I70-042005-04-T7021
Site: 3265 Madison (1479)
Sample Date: 4/20/05
Filter Lot #: 34547
Volume: 2.630
Deposit Area: 11.9 cm^2

Analyte	µg/filter Conc.	µg/filter MDL	µg/m³ Conc.	µg/m³ MDL
Gravimetry				
Net Mass	719.		273.4	
ICP				
As	< MDL	0.320	< MDL	0.1217
Pb	0.366	0.200	0.1392	0.0760

Client: I005 - IHI Environmental
Report Number: 05-096

Lab ID: Method (Filter) Blank
Sample Type: 47mm Teflon
Filter Lot #: 34547
Deposit Area: 11.9 cm^2

Analyte	µg/filter Conc.	MDL
ICP		
As	< MDL	0.320
Pb	0.215	0.200

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 05-096

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Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	Meth_Blk	< MDL	8.00
As	CCB	< MDL	8.00
Pb	ICB	< MDL	5.00
Pb	Prep_Blk	< MDL	5.00
Pb	Meth_Blk	5.36	5.00
Pb	CCB	< MDL	5.00

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	977.	97.7
As	CCV	1000	944.	94.4
Pb	ICV	1000	961.	96.1
Pb	CCV	1000	929.	92.9

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	04-T7018	< 8	< 8	N/C #
Pb	04-T7018	9.78	8.88	9.64 #

RPD = {(sample-replicate)/[(sample+replicate)/2]}x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replitate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	971.	1000	97.1
As	04-T7019	< 8	170.	200.	84.8
Pb	LCS	5.36	1000	1000	99.7
Pb	04-T7019	8.40	186.	200.	89.0

+: Sample concentration adjusted to account for dilution by spiking solution
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 05-096

==========

Serial Dilution Data

Analyte	Sample ID	Sample Conc. µg/L	Ser. Dil. Conc. µg/L	RPD
As	04-T7020	< 8	< 40	N/C
Pb	04-T7020	8.566	< 25	N/C

RPD = {(sample-duplicate)/[(sample + duplicate)/2]}x100
N/C: RPD is not calculated when sample or serial dilution is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample concentration is less than 10x the detection limit

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

Company Name	IHI Environmental
Contact	R. Burton, C. Nolan
Phone	801-466-4223
E-Mail Address	nolan@ihi-env.com
Fax	801-466-9616
Report Address	640 E. Wilmington Ave.
City	Salt Lake City
State	Utah
Zip	84106
Billing Address	Same
City	
State	
Zip	
P.O./Project #	04E-7040

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

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LabNet ID	Field Sample ID	~~Site~~	Sample Date	Volume ~~(m²)~~ liters	Particle Size	Pb by 6010	As by 6010									Remarks
04-T7018	VB/I70-041805-	04-T7018	18 April 05	2001		X	X									4033 Adams (2923)
04-T7019	VB/I70-041805-04	-T7019	18 April 05	2914		X	X									3265 Madison (1479)
~~04-T7020~~																
04-T7020	VB/I70-042005-04-	T7020	20 April 05	2680		X	X									~~3264 Madison~~ 3265 Madison (1479)
04-T7021	VB/I70-042005-04	T7021	20 April 05	2630		X	X									3265 Madison (D)(1479)

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time

Notes:

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IHI ENVIRONMENTAL

CLIENT # I005
REPORT # 05-204

SUBMITTED BY:
CHESTER LABNET
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet
12242 SW Garden Place ✧ Tigard, OR 97223-8246 ✧ USA
Telephone 503-624-2183 ✧ Fax 503-624-2653 ✧ www.chesterlab.net

Case Narrative

Date: August 4, 2005

General Information

Client:	IHI Environmental
Client Number:	I005
Report Number:	05-204
Sample Description:	47mm Teflon Filters
Sample Numbers:	05-T7022 through 04-T7025

Analysis

Analytes:	Particulate Weight, As, Pb
Analytical Protocols:	EPA Methods IO-3.1, 3050, 6010
Analytical Notes:	No problems were encountered during the analyses.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.

Paul Duda 8/4/05
Project Manager Date
Paul Duda

Client: I005 - IHI Environmental
Report Number: 05-204

Lab ID: 04-T7022
Site: 2107 4431 Fillmore St.
Sample Date: 7/18/05
Filter Lot #: 34547
Volume: 2.688
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	MDL	µg/m³ Conc.	MDL
Gravimetry				
Net Mass	430.		160.0	
ICP				
As	< MDL	0.320	< MDL	0.1190
Pb	0.425	0.200	0.1582	0.0744

Lab ID: 04-T7023
Site: 2107 4431 Fillmore St
Sample Date: 7/19/05
Filter Lot #: 34547
Volume: 2.651
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	MDL	µg/m³ Conc.	MDL
Gravimetry				
Net Mass	1,062.		400.6	
ICP				
As	< MDL	0.320	< MDL	0.1207
Pb	0.482	0.200	0.1817	0.0754

Lab ID: 04-T7024
Site: 3319 4725 St. Paul Ct
Sample Date: 7/21/05
Filter Lot #: 34547
Volume: 2.518
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	MDL	µg/m³ Conc.	MDL
Gravimetry				
Net Mass	512.		203.3	
ICP				
As	< MDL	0.320	< MDL	0.1271
Pb	< MDL	0.200	< MDL	0.0794

Lab ID: 04-T7025
Site: 3319 2725 St. Paul Ct
Sample Date: 7/21/05
Filter Lot #: 34547
Deposit Area: 11.3 cm²

Analyte	µg/filter Conc.	MDL
Gravimetry		
Net Mass	-15.	
ICP		
As	< MDL	0.320
Pb	< MDL	0.200

QA/QC Report

Client Name: IHI Environmental
Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 05-204

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	MDL Conc. µg/L
As	ICB	< MDL	8.00
As	Prep_Blk	< MDL	8.00
As	*Meth_Blk**	*< MDL*	*0.320*
As	CCB	< MDL	8.00
Pb	ICB	< MDL	5.00
Pb	Prep_Blk	< MDL	5.00
Pb	*Meth_Blk**	*< MDL*	*0.200*
Pb	CCB	< MDL	5.00

*: Method Blank concentration in µg/filter

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
As	ICV	1000	1010	101.4
As	CCV	1000	944.	94.4
Pb	ICV	1000	963.	96.3
Pb	CCV	1000	932.	93.2

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. µg/L	RPD
As	04-T7022	< 8	< 8	N/C #
Pb	04-T7022	10.6	9.94	6.74 #

RPD = {(sample-replicate)/[(sample+replicate)/2]}x100
N/C: RPD is not calculated when sample or replicate is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample ID	+Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
As	LCS	< 8	928.	1000	92.8
As	04-T7023	< 8	181.	200.	90.6
Pb	LCS	< 5	960.	1000	96.0
Pb	04-T7023	9.63	201.	200.	95.6

+: Sample concentration adjusted to account for dilution by spiking solution
#: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

QA/QC Limits

ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: ± 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

Project Number: I005
Analytical Technique: ICP - Optima 2000
Sample Description: 47mm Teflon
Report Number: 05-204

Serial Dilution Data

Analyte	Sample ID	Sample Conc. µg/L	Ser. Dil. Conc. µg/L	RPD
As	04-T7024	< 8	< 40	N/C
Pb	04-T7024	< 5	< 25	N/C

RPD = {(sample-duplicate)/[(sample + duplicate)/2]}x100
N/C: RPD is not calculated when sample or serial dilution is below detection limit
#: per EPA CLP protocol, control limits do not apply if sample concentration is less than 10x the detection limit

QA/QC Limits
ICV: ± 5% CCV: ± 10% LCS: ± 20%
Replicates: 15% RPD Post Spikes: ± 15% Serial Dilution: 10% RPD

Company Name: IHI Environmental	
Contact: Michael Blumer / Dave Uff	Phone: 303-980-8749
E-Mail Address: ufferfilge@ihi-env.com	Fax: 303-989-2716
Report Address: 3000 Youngfield St., Ste. 285	
City: Lakewood	State: CO / Zip: 80215
Billing Address: Same	
City:	State: / Zip:
P.O./Project #: 04E-7040	

Chester LabNet
12242 SW Garden Place
Tigard, OR 97223
(503) 624-2183
Fax (503) 624-2653
CLN@ChesterLab.Net

CHAIN-OF-CUSTODY RECORD

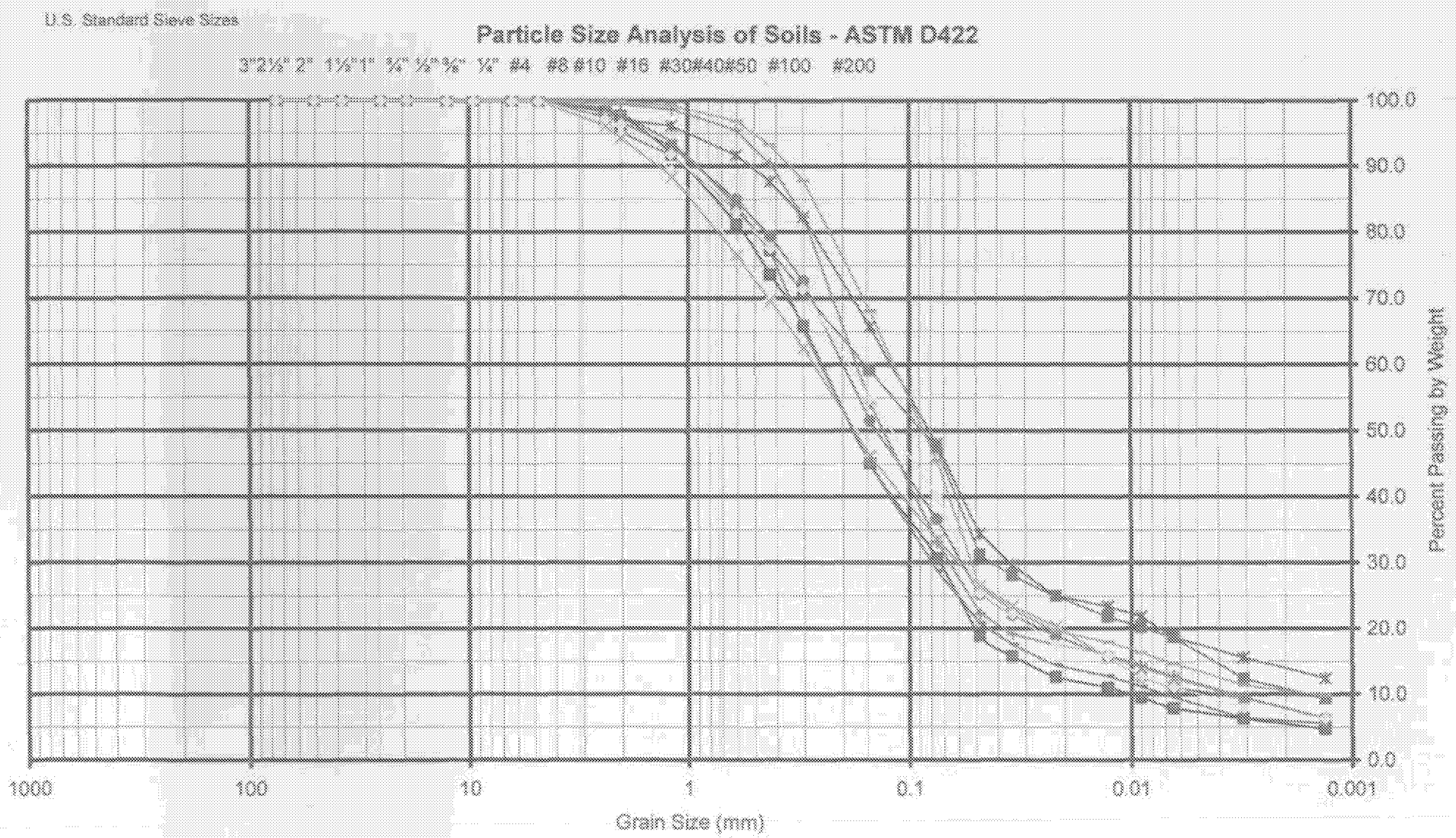
Page 1 of 1

Turn Around Time
☒ Standard
☐ Rush _____ Specify

LabNet ID	Field Sample ID	Site	Sample Date	Volume (m³)	Particle Size	TSP	As	Pb								Remarks
	04-T7022	2107	07/18/05	2.688		x	x	x								4431 Fillmore St.
	04-T7023	2107	07/19/05	2.651		x	x	x								4431 Fillmore St.
	04-T7024	3319	07/21/05	2.518		x	x	x								4725 St. Paul CT.
	04-T7025	3319	07/21/05	0.0		x	x	x								4725 St. Paul Ct.

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	Notes:
David Uff 7/22/05 11:00 AM	[illegible] 7/25/05 10:00	IHI to (Utah, Salt Lake City) Client # is 1025
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time	

ATTACHMENT G
PARTICLE SIZE ANALYSIS OF SOILS



Soil Composition Test Summary

	Test #	Percent			
		Gravel	Sand	Silt	Clay
1	150428	0%	69.3%	25.3%	5.3%
2	150429	0%	52.4%	37.0%	10.6%
3	150430	0%	65.8%	26.8%	7.4%
4	150431	0%	66.4%	26.2%	7.4%
5	150432	0%	51.9%	34.3%	13.8%
6	150433	0%	63.3%	29.2%	7.5%
7	150434	0%	66.8%	25.6%	7.6%
8	150474	0%	71.1%	22.9%	5.9%
9	150475	0%	54.4%	35.1%	10.5%
10	150476	0%	59.9%	33.1%	7.0%
	Average	0%	62%	30%	8%
	Std Dev	+/- 0%	+/- 7%	+/- 5%	+/- 3%

USDA SOIL TEXTURE -- SANDY LOAM

		1	2	3	4	5	6	7	8	9	10
		150428	150429	150430	150431	150432	150433	150434	150474	150475	150476
3"	75.000	100.0	100.0	100	100	100	100	100	100	100	100
2"	50.000	100.0	100.0	100	100	100	100	100	100	100	100
1½"	37.500	100.0	100.0	100	100	100	100	100	100	100	100
1"	25.000	100.0	100.0	100	100	100	100	100	100	100	100
3/4"	19.000	100.0	100.0	100	100	100	100	100	100	100	100
1/2"	12.500	100.0	100.0	100	100	100	100	100	100	100	100
3/8"	9.500	100.0	100.0	100	100	100	100	100	100	100	100
1/4"	6.300	100.0	100.0	100	100	100	100	100	100	100	100
#4	4.750	100.0	100.0	100	100	100	100	100	100	100	100
#8	2.360	98.3	96.8	96.86764	96.26199	98.46892	97.67492	99.66705	98.98108	99.88536	97.24763
#10	2.000	97.7	95.2	95.27374	94.35991	97.18438	96.8492	99.51401	98.01442	99.77788	96.3971
#16	1.180	92.0	91.8	89.39405	88.5088	96.22226	93.1749	98.72738	93.91175	99.37476	91.91561
#30	0.600	81.2	83.4	77.44501	76.61783	91.79652	85.05277	95.58086	84.14347	96.95605	83.14748
#40	0.425	73.6	77.3	70.42732	69.63425	87.75563	79.44463	90.46777	77.11032	93.32797	77.69175
#50	0.300	65.8	71.0	63.40963	62.65067	82.36777	72.67618	82.40481	65.38839	87.88586	71.45664
#100	0.150	45.0	59.2	46.90857	46.22982	65.81935	51.59732	54.2828	44.87501	68.133	54.89462
#200	0.075	30.7	47.6	34.20086	33.58387	48.11638	36.70674	33.24045	28.85504	45.55831	40.08622
	0.048	18.91	31.23	26.72436	26.66492	34.4017	25.29414	22.39874	20.88014	26.23373	25.43763
	0.034	15.76	28.10	23.58031	23.52787	29.71056	22.13237	19.19892	17.66781	22.95452	22.25792
	0.022	12.61	24.98	20.43627	20.39082	25.01942	18.97061	17.59901	14.45548	19.6753	17.48837
	0.013	11.03	21.86	15.72021	15.68525	23.4557	15.80884	15.9991	12.84932	18.03569	15.89852
	0.009	9.46	20.30	14.14819	14.11672	21.89199	12.64707	14.39919	11.24315	16.39608	12.71881
	0.006	7.88	18.74	12.57617	12.5482	18.76456	11.06619	12.79928	9.636986	14.75648	11.12896
	0.003	6.30	12.49	9.432125	9.411147	15.63714	9.485303	9.599461	6.424658	11.47726	7.949259
	0.001	4.73	9.37	6.288084	6.274098	12.50971	6.323535	6.399641	5.621575	9.83765	6.359407

PARTICLE SIZE ANALYSIS OF SOILS - HYDROMETER

ASTM D-422

CLIENT:	**Project Resources**	SAMPLED BY:	**Client**	DATE:	**7/28/2003**
PROJECT:	**VB/I-70 Superfund Site**	SUBMITTED BY:	**FedEx**	DATE:	**8/1/2003**
PROJECT NO:	**030977LA**	TESTED BY:	**CG**	DATE:	**8/4/2003**
MATERIAL:	**Silty Sand**	REVIEWED BY:	**DR**	DATE:	**8/6/2003**
SAMPLE SOURCE:	**3712-001C**			LAB NO:	**150428**

DISPERSION SAMPLE

Air Dry Wt., gms	50.46
Specific Gravity of Soil	2.603
Specific Gravity of Liquid	1.000

HYGROSCOPIC MOISTURE SAMPLE

Wt. of Container + Air Dry Sample, gms	68.51
Wt. of Container + Oven Dry Sample, gms	68.37
Wt. Container (tare), gms	22.88
Hygroscopic Moisture Content, %	0.31%

HYDROMETER CALCULATIONS

Wt. Soil Dispersed, gms	50.31
Oven Dry Mass - Total Sample, gms	51.51
% Gravel	0.0
% Sand	69.3
% Silt	25.3
% Clay	5.3

SIEVE ANALYSIS

Sieve Size	Percent Passing
3"	100.0
2"	100.0
1½"	100.0
1"	100.0
3/4"	100.0
1/2"	100.0
3/8"	100.0
1/4"	100.0
#4	100.0
#8	98.3
#10	97.7
#16	92.0
#30	81.2
#40	73.6
#50	65.8
#100	45.0
#200	30.7
.02 mm	12.3
.002 mm	5.3
.001 mm	4.4

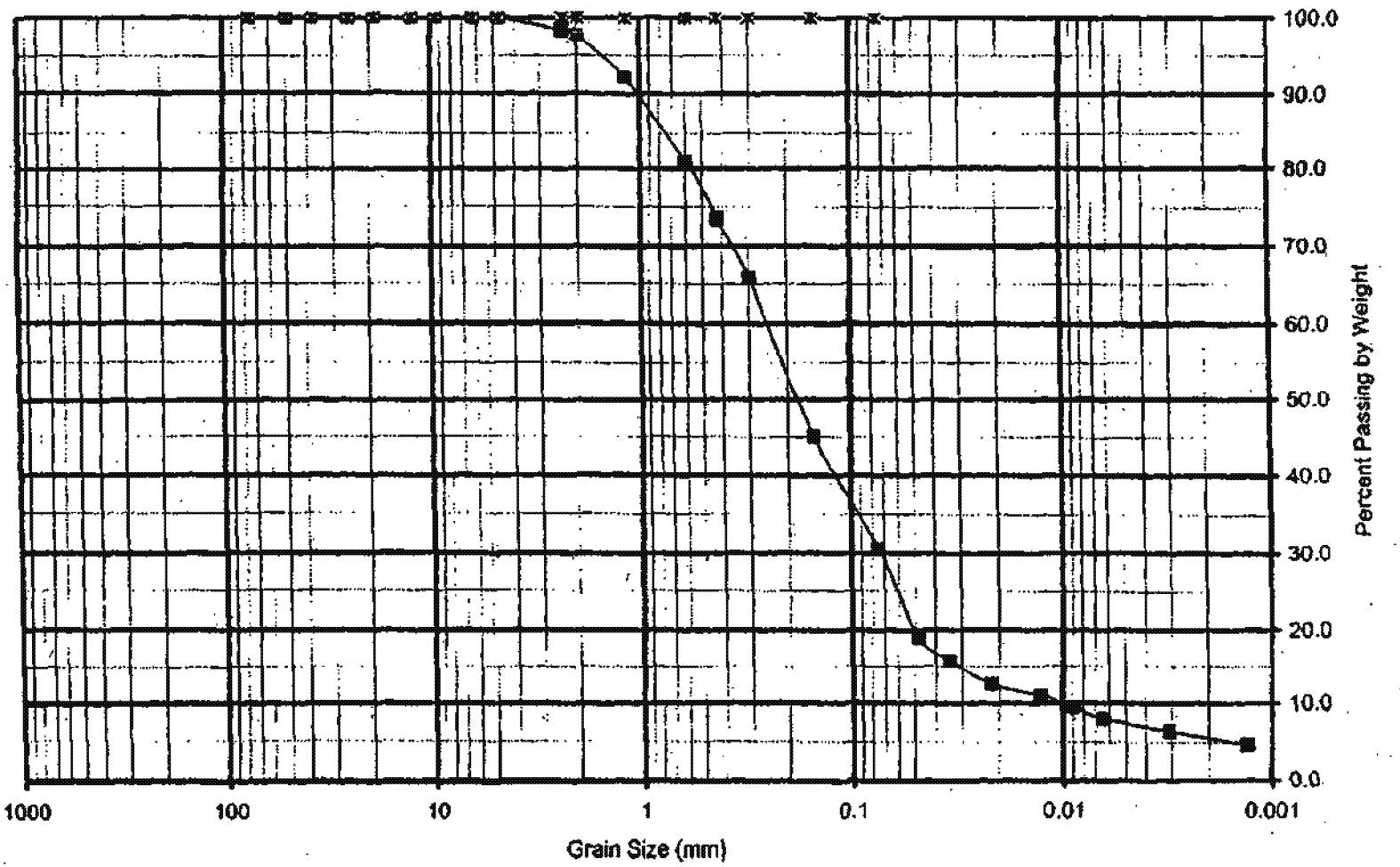
Elapsed Time, (minutes)	Temp °C	Hydrometer Reading	Correction	R - Corr	% Pass	Effective Depth (L), (cm)	Constant (K)	Particle Diameter, (mm)
1	27.4	1.0080	0.0020	1.0060	18.9	14.2	0.0127583	0.0480769
2	27.4	1.0070	0.0020	1.0050	15.8	14.4	0.0127583	0.0342341
5	27.2	1.0060	0.0020	1.0040	12.6	14.7	0.0127583	0.0218759
15	27.2	1.0055	0.0020	1.0035	11.0	15.0	0.0127583	0.0127583
30	27.1	1.0050	0.0020	1.0030	9.5	15.0	0.0127583	0.0090215
60	27.3	1.0045	0.0020	1.0025	7.9	15.2	0.0127583	0.0064215
250	28.7	1.0040	0.0020	1.0020	6.3	15.2	0.0125530	0.0030953
1440	27.7	1.0035	0.0020	1.0015	4.7	15.5	0.0126930	0.0013169

150428-Hyd.xls

U.S. Standard Sieve Sizes

Particle Size Analysis of Soils - ASTM D422

3" 2½" 2" 1½" 1" ¾" ½" ⅜" ¼" #4 #8 #10 #16 #30 #40 #50 #100 #200



150428-Hyd.xls

PARTICLE SIZE ANALYSIS OF SOILS - HYDROMETER

ASTM D-422

CLIENT:	Project Resources	SAMPLED BY:	Client	DATE:	7/28/2003
PROJECT:	VB/I-70 Superfund Site	SUBMITTED BY:	FedEx	DATE:	8/1/2003
PROJECT NO:	030977LA	TESTED BY:	CG	DATE:	8/4/2003
MATERIAL:	Silty Sand	REVIEWED BY:	DR	DATE:	8/6/2003
SAMPLE SOURCE:	429-001C			LAB NO:	150429

DISPERSION SAMPLE

Air Dry Wt., gms	50.37
Specific Gravity of Soil	2.568
Specific Gravity of Liquid	1.000

HYGROSCOPIC MOISTURE SAMPLE

Wt. of Container + Air Dry Sample, gms	51.68
Wt. of Container + Oven Dry Sample, gms	51.43
Wt. Container (tare), gms	21.61
Hygroscopic Moisture Content, %	0.84%

HYDROMETER CALCULATIONS

Wt. Soil Dispersed, gms	49.95
Oven Dry Mass - Total Sample, gms	52.45
% Gravel	0.0
% Sand	52.4
% Silt	37.0
% Clay	10.6

SIEVE ANALYSIS

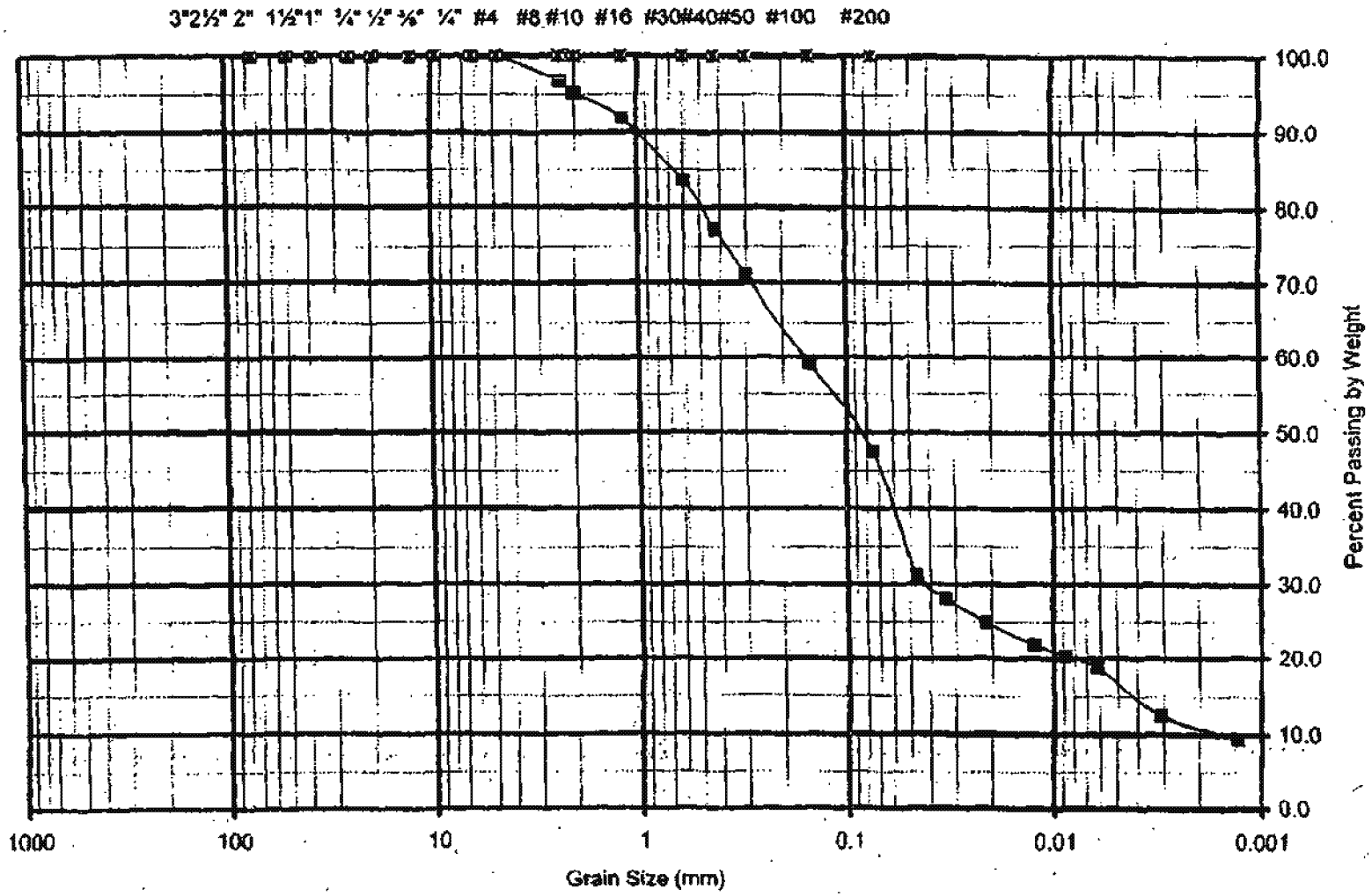
Sieve Size	Percent Passing
3"	100.0
2"	100.0
1½"	100.0
1"	100.0
3/4"	100.0
1/2"	100.0
3/8"	100.0
1/4"	100.0
#4	100.0
#8	96.8
#10	95.2
#16	91.8
#30	83.4
#40	77.3
#50	71.0
#100	59.2
#200	47.6
.02 mm	24.5
.002 mm	10.6
.001 mm	8.8

Elapsed Time, (minutes)	Temp °C	Hydrometer Reading	Correction	R - Corr	% Pass	Effective Depth (L), (cm)	Constant (K)	Particle Diameter, (mm)
1	27.4	1.0120	0.0020	1.0100	31.2	13.1	0.0128989	0.0466861
2	27.4	1.0110	0.0020	1.0090	28.1	13.4	0.0128989	0.0333880
5	27.2	1.0100	0.0020	1.0080	25.0	13.7	0.0128989	0.0213515
15	27.4	1.0090	0.0020	1.0070	21.9	13.9	0.0128989	0.0124169
30	27.2	1.0085	0.0020	1.0065	20.3	14.2	0.0128989	0.0088743
60	27.2	1.0080	0.0020	1.0060	18.7	14.2	0.0128989	0.0062751
250	28.2	1.0060	0.0020	1.0040	12.5	14.7	0.0127624	0.0030947
1440	27.6	1.0050	0.0020	1.0030	9.4	15.0	0.0128307	0.0013095

150429-Hyd.xls

U.S. Standard Sieve Sizes

Particle Size Analysis of Soils - ASTM D422



150429-Hyd.xls

PARTICLE SIZE ANALYSIS OF SOILS - HYDROMETER

ASTM D-422

CLIENT:	Project Resources	SAMPLED BY:	Client	DATE:	7/28/2003
PROJECT:	VB/I-70 Superfund Site	SUBMITTED BY:	FedEx	DATE:	8/1/2003
PROJECT NO:	030977LA	TESTED BY:	CG	DATE:	8/4/2003
MATERIAL:	Silty Sand	REVIEWED BY:	DR	DATE:	8/6/2003
SAMPLE SOURCE:	2660-001C			LAB NO:	150430

DISPERSION SAMPLE

Air Dry Wt., grms	50.48
Specific Gravity of Soil	2.521
Specific Gravity of Liquid	1.000

HYGROSCOPIC MOISTURE SAMPLE

Wt. of Container + Air Dry Sample, grms	49.73
Wt. of Container + Oven Dry Sample, grms	49.59
Wt. Container (tare), grms	21.23
Hygroscopic Moisture Content, %	0.49%

HYDROMETER CALCULATIONS

Wt. Soil Dispersed, grms	50.23
Oven Dry Mass - Total Sample, grms	52.72
% Gravel	0.0
% Sand	65.8
% Silt	26.8
% Clay	7.4

SIEVE ANALYSIS

Sieve Size	Percent Passing
3"	100.0
2"	100.0
1½"	100.0
1"	100.0
3/4"	100.0
1/2"	100.0
3/8"	100.0
1/4"	100.0
#4	100.0
#8	96.9
#10	95.3
#16	89.4
#30	77.4
#40	70.4
#50	63.4
#100	46.9
#200	34.2
.02 mm	19.4
.002 mm	7.4
.001 mm	5.7

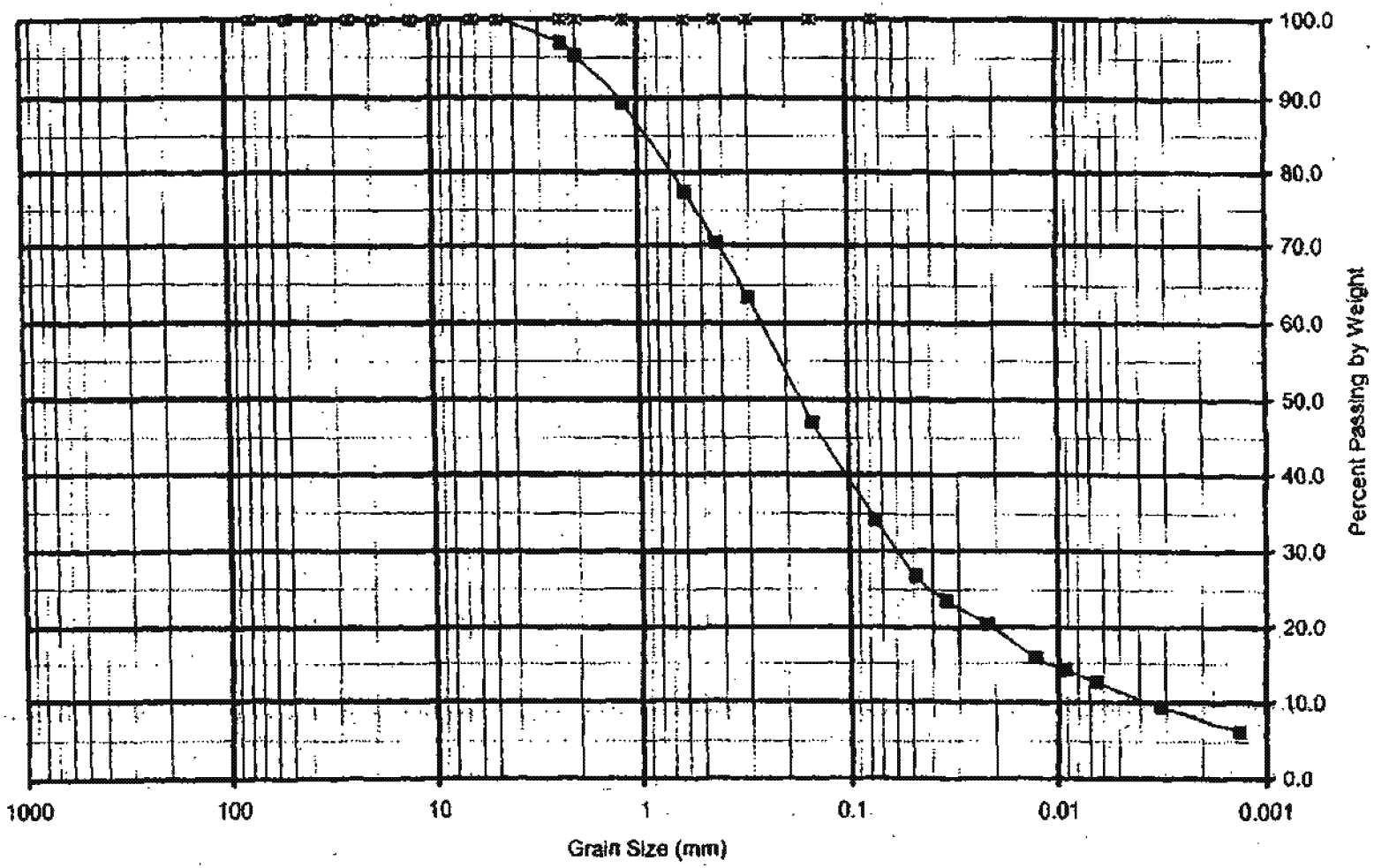
Elapsed Time, (minutes)	Temp °C	Hydrometer Reading	Correction	R - Corr	% Pass	Effective Depth (L), (cm)	Constant (K)	Particle Diameter, (mm)
1	27.3	1.0105	0.0020	1.0085	26.7	13.7	0.0130996	0.0484863
2	27.3	1.0095	0.0020	1.0075	23.6	13.9	0.0130996	0.0345344
5	27.4	1.0085	0.0020	1.0065	20.4	14.2	0.0130996	0.0220759
15	27.1	1.0070	0.0020	1.0050	15.7	14.4	0.0130996	0.0128350
30	27.1	1.0065	0.0020	1.0045	14.1	14.7	0.0130996	0.0091697
60	27.3	1.0060	0.0020	1.0040	12.6	14.7	0.0130996	0.0064840
250	28.4	1.0050	0.0020	1.0030	9.4	15.0	0.0129537	0.0031730
1440	27.6	1.0040	0.0020	1.0020	6.3	15.2	0.0130267	0.0013384

150430-Hyd.xls

U.S. Standard Sieve Sizes

Particle Size Analysis of Soils - ASTM D422

3" 2½" 2" 1½" 1" ¾" ½" ⅜" ¼" #4 #8 #10 #16 #30 #40 #50 #100 #200



150430-Hyd.xls

PARTICLE SIZE ANALYSIS OF SOILS - HYDROMETER

ASTM D-422

CLIENT:	**Project Resources**	SAMPLED BY:	**Client**	DATE:	**7/28/2003**
PROJECT:	**VB/I-70 Superfund Site**	SUBMITTED BY:	**FedEx**	DATE:	**8/1/2003**
PROJECT NO:	**030977LA**	TESTED BY:	**CG**	DATE:	**8/4/2003**
MATERIAL:	**Silty Sand**	REVIEWED BY:	**DR**	DATE:	**8/6/2003**
SAMPLE SOURCE:	**3865-001C**			LAB NO:	**150431**

DISPERSION SAMPLE

Air Dry Wt., gms	50.24
Specific Gravity of Soil	2.510
Specific Gravity of Liquid	1.000

HYGROSCOPIC MOISTURE SAMPLE

Wt. of Container + Air Dry Sample, gms	49.73
Wt. of Container + Oven Dry Sample, gms	49.59
Wt. Container (tare), gms	21.23
Hygroscopic Moisture Content, %	0.49%

HYDROMETER CALCULATIONS

Wt. Soil Dispersed, gms	49.99
Oven Dry Mass - Total Sample, gms	52.98
% Gravel	0.0
% Sand	66.4
% Silt	26.2
% Clay	7.4

SIEVE ANALYSIS

Sieve Size	Percent Passing
3"	100.0
2"	100.0
1½"	100.0
1"	100.0
3/4"	100.0
1/2"	100.0
3/8"	100.0
1/4"	100.0
#4	100.0
#8	96.3
#10	94.4
#16	88.5
#30	76.6
#40	69.6
#50	62.7
#100	46.2
#200	33.6
.02 mm	19.3
.002 mm	7.4
.001 mm	5.7

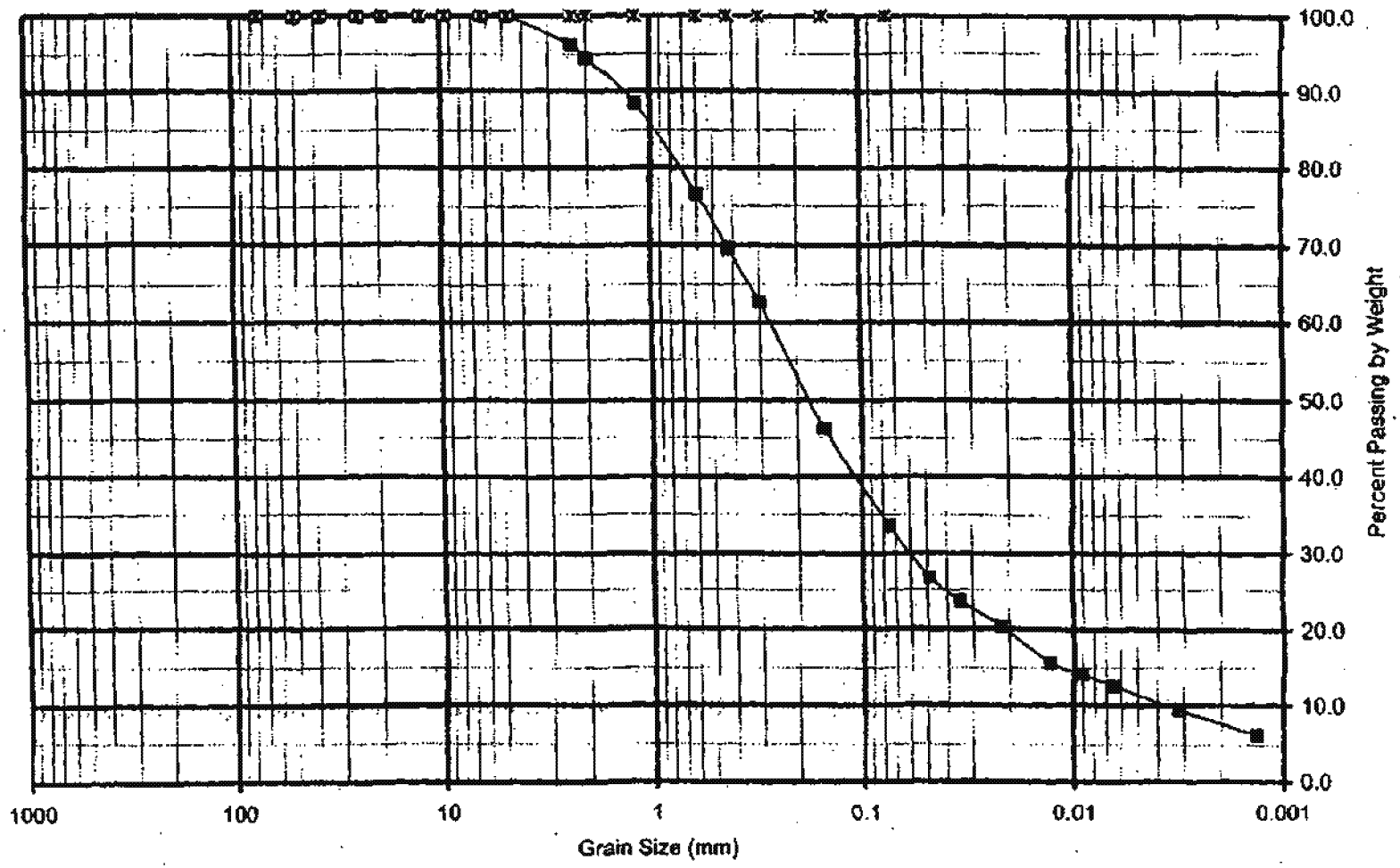
Elapsed Time, (minutes)	Temp °C	Hydrometer Reading	Correction	R - Corr	% Pass	Effective Depth (L), (cm)	Constant (K)	Particle Diameter, (mm)
1	27.3	1.0105	0.0020	1.0085	26.7	13.7	0.0131440	0.0486506
2	27.3	1.0095	0.0020	1.0075	23.5	13.9	0.0131440	0.0346513
5	27.4	1.0085	0.0020	1.0065	20.4	14.2	0.0131440	0.0221507
15	27.1	1.0070	0.0020	1.0050	15.7	14.4	0.0131440	0.0128784
30	27.1	1.0065	0.0020	1.0045	14.1	14.7	0.0131440	0.0092008
60	27.3	1.0060	0.0020	1.0040	12.5	14.7	0.0131440	0.0065059
250	28.4	1.0050	0.0020	1.0030	9.4	15.0	0.0129961	0.0031834
1440	27.6	1.0040	0.0020	1.0020	6.3	15.2	0.0130700	0.0013428

150431-Hyd.xls

U.S. Standard Sieve Sizes

Particle Size Analysis of Soils - ASTM D422

3" 2½" 2" 1½" 1" ¾" ½" ⅜" ¼" #4 #8 #10 #16 #30 #40 #50 #100 #200



150431-Hyd.xls

PARTICLE SIZE ANALYSIS OF SOILS - HYDROMETER

ASTM D-422

CLIENT:	**Project Resources**	SAMPLED BY:	**Client**	DATE:	**7/28/2003**
PROJECT:	**VB/I-70 Superfund Site**	SUBMITTED BY:	**FedEx**	DATE:	**8/1/2003**
PROJECT NO:	**030977LA**	TESTED BY:	**CG**	DATE:	**8/4/2003**
MATERIAL:	**Silty Sand**	REVIEWED BY:	**DR**	DATE:	**8/6/2003**
SAMPLE SOURCE:	**1188-001C**			LAB NO:	**150432**

DISPERSION SAMPLE

Air Dry Wt., gms	50.70
Specific Gravity of Soil	2.599
Specific Gravity of Liquid	1.000

HYGROSCOPIC MOISTURE SAMPLE

Wt. of Container + Air Dry Sample, gms	62.18
Wt. of Container + Oven Dry Sample, gms	62.05
Wt. Container (tare), gms	28.30
Hygroscopic Moisture Content, %	0.39%

HYDROMETER CALCULATIONS

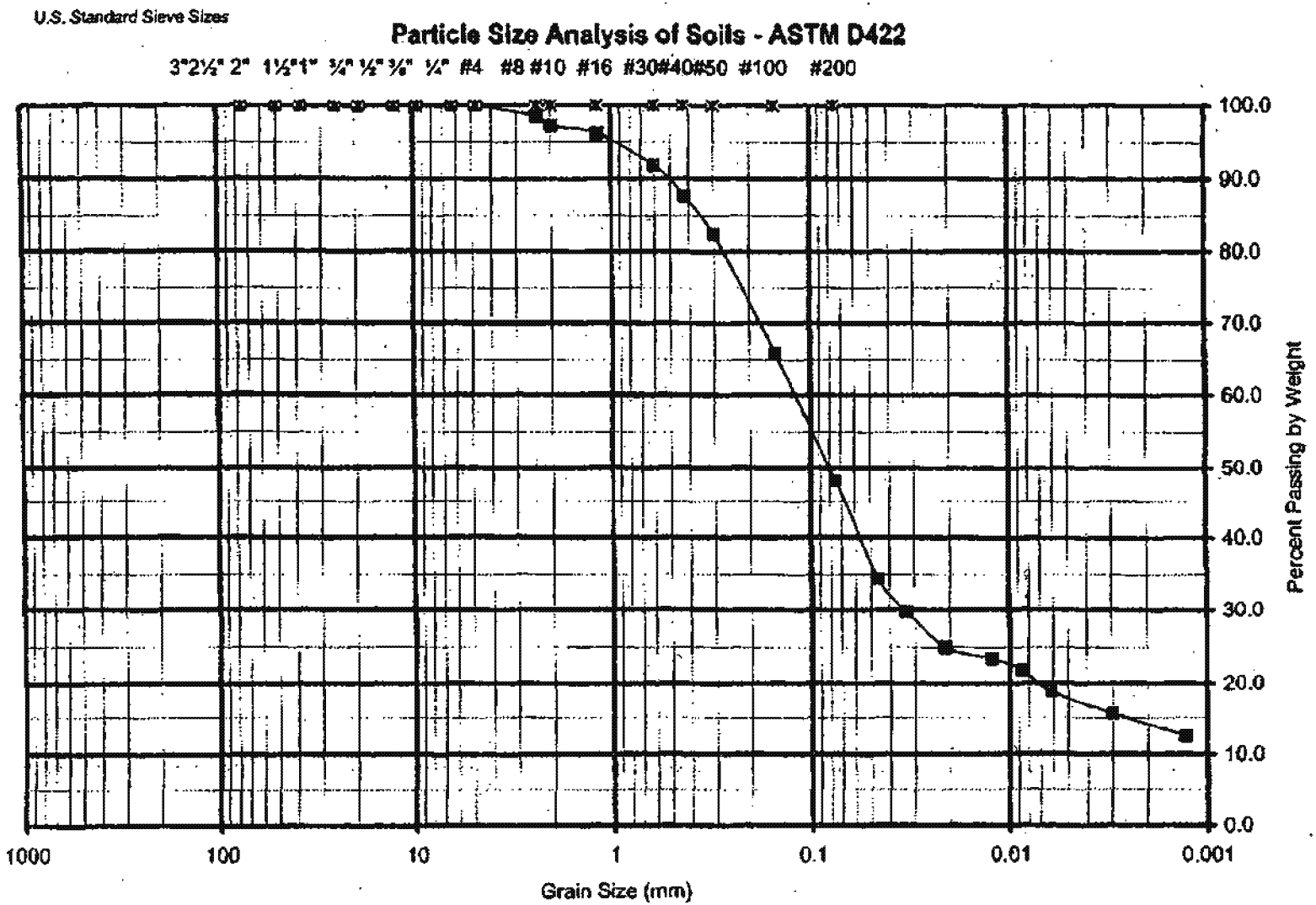
Wt. Soil Dispersed, gms	50.51
Oven Dry Mass - Total Sample, gms	51.97
% Gravel	0.0
% Sand	51.9
% Silt	34.3
% Clay	13.8

SIEVE ANALYSIS

Sieve Size	Percent Passing
3"	100.0
2"	100.0
1½"	100.0
1"	100.0
3/4"	100.0
1/2"	100.0
3/8"	100.0
1/4"	100.0
#4	100.0
#8	98.5
#10	97.2
#16	96.2
#30	91.8
#40	87.8
#50	82.4
#100	65.8
#200	48.1
.02 mm	24.8
.002 mm	13.8
.001 mm	12.0

Elapsed Time, (minutes)	Temp °C	Hydrometer Reading	Correction	R - Corr	% Pass	Effective Depth (L), (cm)	Constant (K)	Particle Diameter, (mm)
1	27.4	1.0130	0.0020	1.0110	34.4	12.9	0.0127729	0.0458759
2	27.4	1.0115	0.0020	1.0095	29.7	13.4	0.0127729	0.0330618
5	27.3	1.0100	0.0020	1.0080	25.0	13.7	0.0127729	0.0211429
15	27.3	1.0095	0.0020	1.0075	23.5	13.9	0.0127729	0.0122956
30	27.3	1.0090	0.0020	1.0070	21.9	13.9	0.0127729	0.0086943
60	27.8	1.0080	0.0020	1.0060	18.8	14.2	0.0127078	0.0061822
250	28.6	1.0070	0.0020	1.0050	15.6	14.4	0.0125678	0.0030163
1440	27.6	1.0060	0.0020	1.0040	12.5	14.7	0.0127078	0.0012840

150432-Hyd.xls



150432-Hyd.xls

PARTICLE SIZE ANALYSIS OF SOILS - HYDROMETER

ASTM D-422

CLIENT:	**Project Resources**	SAMPLED BY:	**Client**	DATE:	**7/28/2003**
PROJECT:	**VB/I-70 Superfund Site**	SUBMITTED BY:	**FedEx**	DATE:	**8/1/2003**
PROJECT NO:	**030977LA**	TESTED BY:	**CG**	DATE:	**8/4/2003**
MATERIAL:	**Silty Sand**	REVIEWED BY:	**DR**	DATE:	**8/6/2003**
SAMPLE SOURCE:	**3297-001C**			LAB NO:	**150433**

DISPERSION SAMPLE

Air Dry Wt., gms	50.24
Specific Gravity of Soil	2.575
Specific Gravity of Liquid	1.000

HYGROSCOPIC MOISTURE SAMPLE

Wt. of Container + Air Dry Sample, gms	54.23
Wt. of Container + Oven Dry Sample, gms	54.13
Wt. Container (tare), gms	22.58
Hygroscopic Moisture Content, %	0.32%

HYDROMETER CALCULATIONS

Wt. Soil Dispersed, gms	50.08
Oven Dry Mass - Total Sample, gms	51.71
% Gravel	0.0
% Sand	63.3
% Silt	29.2
% Clay	7.5

SIEVE ANALYSIS

Sieve Size	Percent Passing
3"	100.0
2"	100.0
1½"	100.0
1"	100.0
3/4"	100.0
1/2"	100.0
3/8"	100.0
1/4"	100.0
#4	100.0
#8	97.7
#10	96.8
#16	93.2
#30	85.1
#40	79.4
#50	72.7
#100	51.6
#200	36.7
.02 mm	18.4
.002 mm	7.5
.001 mm	5.8

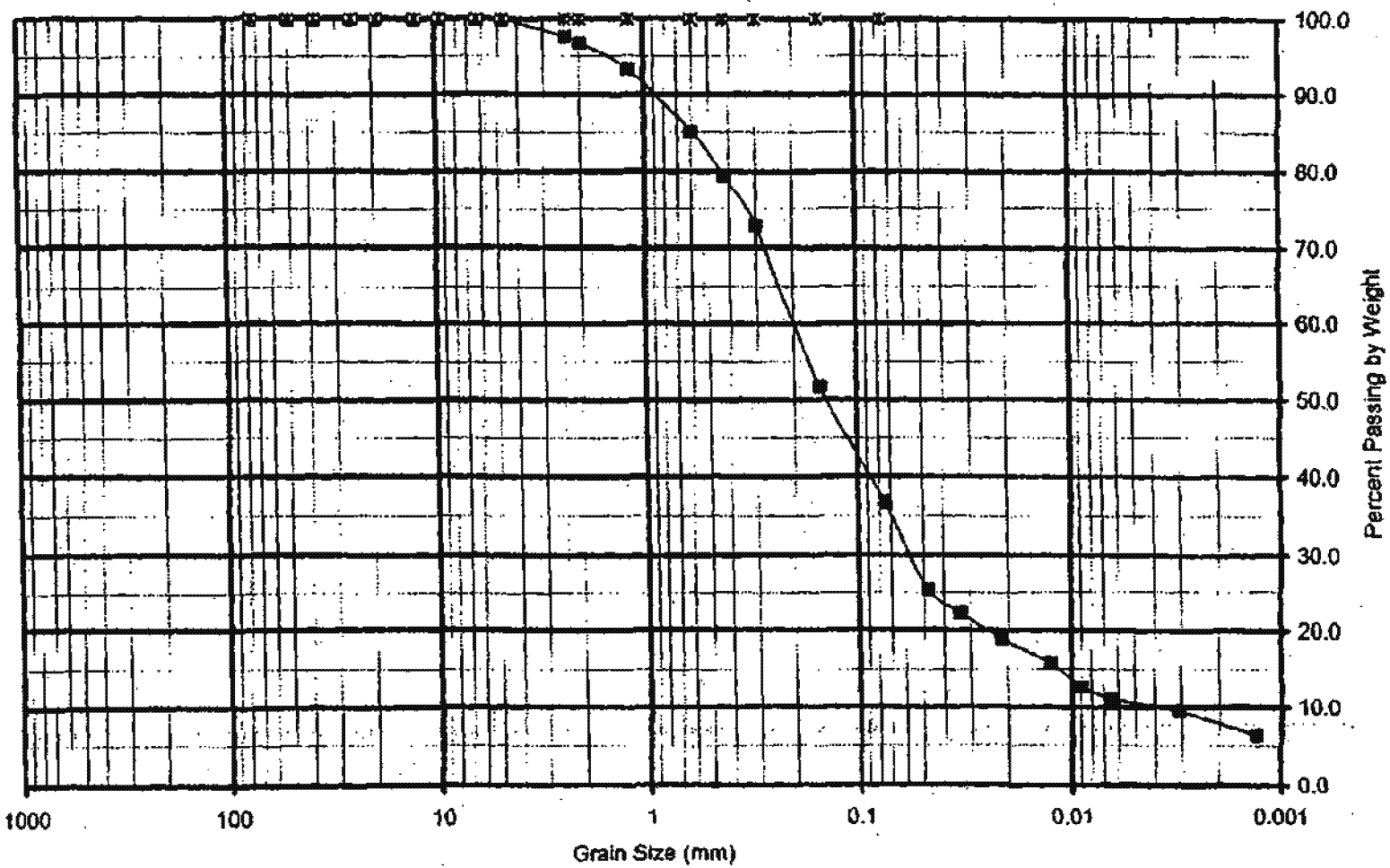
Elapsed Time, (minutes)	Temp °C	Hydrometer Reading	Correction	R - Corr	% Pass	Effective Depth (L), (cm)	Constant (K)	Particle Diameter, (mm)
1	27.6	1.0100	0.0020	1.0080	25.3	13.7	0.0128030	0.0473882
2	27.6	1.0090	0.0020	1.0070	22.1	13.9	0.0128030	0.0337522
5	27.4	1.0080	0.0020	1.0060	19.0	14.2	0.0128705	0.0216897
15	27.5	1.0070	0.0020	1.0050	15.8	14.4	0.0128030	0.0125443
30	27.5	1.0060	0.0020	1.0040	12.6	14.7	0.0128030	0.0089621
60	27.7	1.0055	0.0020	1.0035	11.1	15.0	0.0128030	0.0064015
250	28.5	1.0050	0.0020	1.0030	9.5	15.0	0.0126630	0.0031018
1440	27.8	1.0040	0.0020	1.0020	6.3	15.2	0.0128030	0.0013154

150433-Hyd.xls

U.S. Standard Sieve Sizes

Particle Size Analysis of Soils - ASTM D422

3" 2½" 2" 1½" 1" ¾" ½" ⅜" ¼" #4 #8 #10 #16 #30 #40 #50 #100 #200



150433-Hyd.xls

PARTICLE SIZE ANALYSIS OF SOILS - HYDROMETER

ASTM D-422

CLIENT:	**Project Resources**	SAMPLED BY:	**Client**	DATE:	**7/28/2003**
PROJECT:	**VB/I-70 Superfund Site**	SUBMITTED BY:	**FedEx**	DATE:	**8/1/2003**
PROJECT NO:	**030977LA**	TESTED BY:	**CG**	DATE:	**8/4/2003**
MATERIAL:	**Silty Sand**	REVIEWED BY:	**DR**	DATE:	**8/6/2003**
SAMPLE SOURCE:	**1199-001C**			LAB NO:	**150434**

DISPERSION SAMPLE

Air Dry Wt., gms	50.70
Specific Gravity of Soil	2.595
Specific Gravity of Liquid	1.000

HYGROSCOPIC MOISTURE SAMPLE

Wt. of Container + Air Dry Sample, gms	54.20
Wt. of Container + Oven Dry Sample, gms	54.14
Wt. Container (tare), gms	22.93
Hygroscopic Moisture Content, %	0.19%

HYDROMETER CALCULATIONS

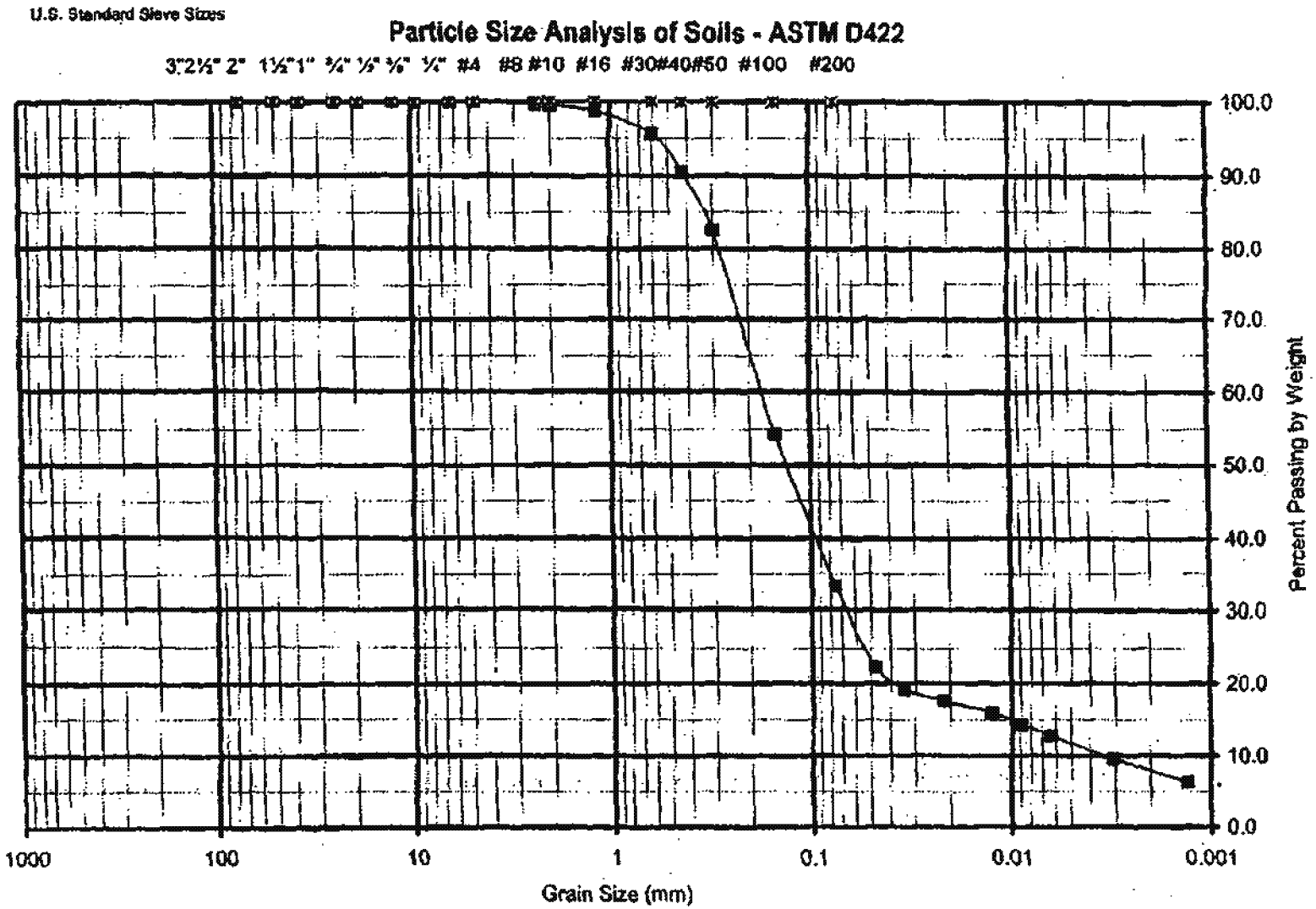
Wt. Soil Dispersed, gms	50.60
Oven Dry Mass - Total Sample, gms	50.85
% Gravel	0.0
% Sand	66.8
% Silt	25.6
% Clay	7.6

SIEVE ANALYSIS

Sieve Size	Percent Passing
3"	100.0
2"	100.0
1½"	100.0
1"	100.0
3/4"	100.0
1/2"	100.0
3/8"	100.0
1/4"	100.0
#4	100.0
#8	99.7
#10	99.5
#16	98.7
#30	95.6
#40	90.5
#50	82.4
#100	54.3
#200	33.2
.02 mm	17.3
.002 mm	7.6
.001 mm	5.8

Elapsed Time, (minutes)	Temp °C	Hydrometer Reading	Correction	R - Corr	% Pass	Effective Depth (L), (cm)	Constant (K)	Particle Diameter, (mm)
1	27.3	1.0090	0.0020	1.0070	22.4	13.9	0.0127915	0.0476901
2	27.3	1.0080	0.0020	1.0060	19.2	14.2	0.0127915	0.0340839
5	27.2	1.0075	0.0020	1.0055	17.6	14.4	0.0127915	0.0217078
15	27.3	1.0070	0.0020	1.0050	16.0	14.4	0.0127915	0.0125330
30	27.4	1.0065	0.0020	1.0045	14.4	14.7	0.0127915	0.0089540
60	27.6	1.0060	0.0020	1.0040	12.8	14.7	0.0127259	0.0062990
250	28.5	1.0050	0.0020	1.0030	9.6	15.0	0.0125859	0.0030829
1440	27.7	1.0040	0.0020	1.0020	6.4	15.2	0.0127259	0.0013075

150434-Hyd.xls



150434-Hyd.xls

PARTICLE SIZE ANALYSIS OF SOILS - HYDROMETER

ASTM D-422

CLIENT:	Project Resources	SAMPLED BY:	Client	DATE:	8/1/2003
PROJECT:	VB/I-70 Superfund Site	SUBMITTED BY:	FedEx	DATE:	8/2/2003
PROJECT NO:	030977LA	TESTED BY:	CG	DATE:	8/5/2003
MATERIAL:	Silty Sand	REVIEWED BY:	DR	DATE:	8/7/2003
SAMPLE SOURCE:	3429-001C			LAB NO:	150474

DISPERSION SAMPLE

Air Dry Wt., gms	50.90
Specific Gravity of Soil	2.552
Specific Gravity of Liquid	1.000

HYGROSCOPIC MOISTURE SAMPLE

Wt. of Container + Air Dry Sample, gms	52.52
Wt. of Container + Oven Dry Sample, gms	52.08
Wt. Container (tare), gms	21.85
Hygroscopic Moisture Content, %	1.46%

HYDROMETER CALCULATIONS

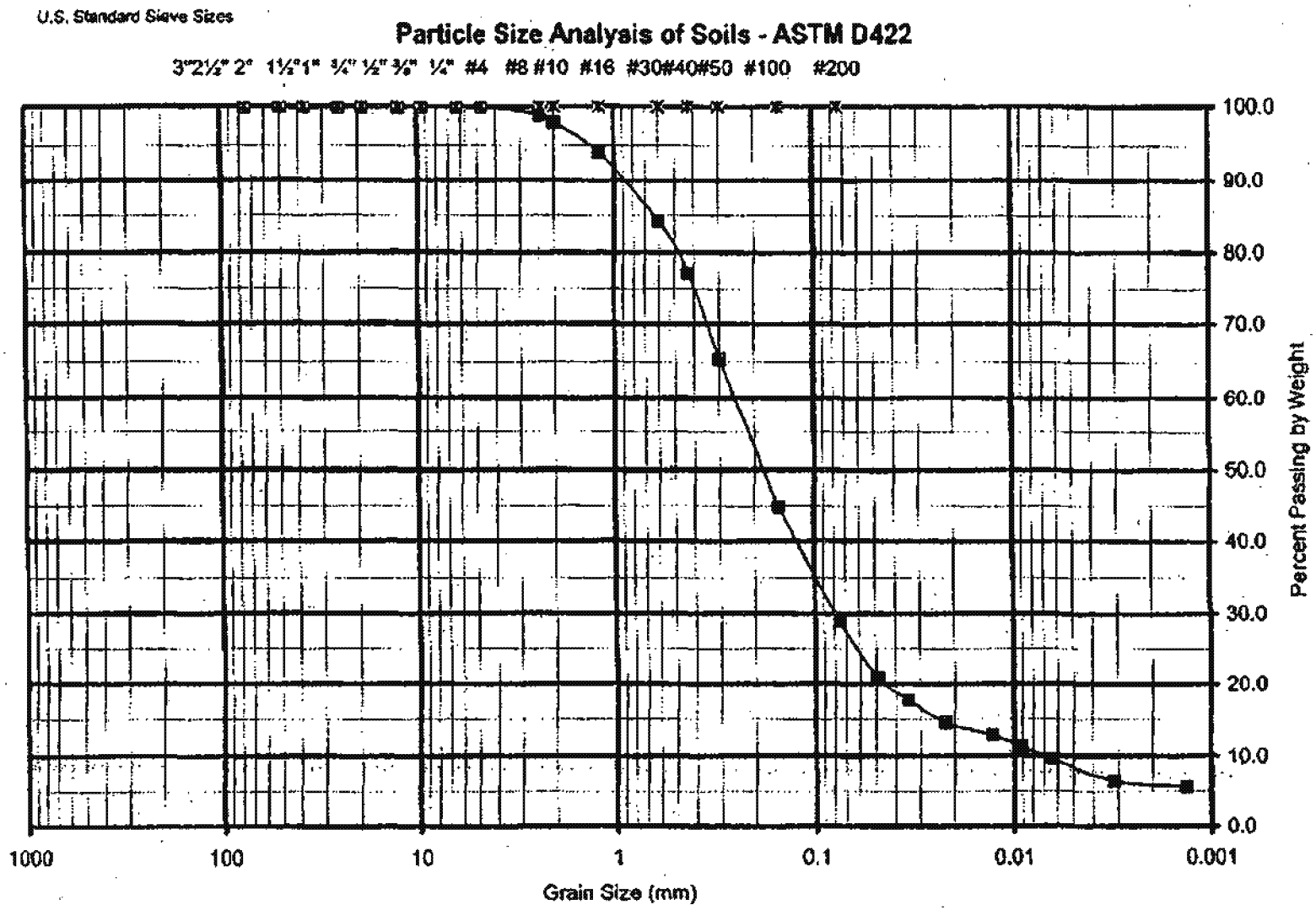
Wt. Soil Dispersed, gms	50.17
Oven Dry Mass - Total Sample, gms	51.19
% Gravel	0.0
% Sand	71.1
% Silt	22.9
% Clay	5.9

SIEVE ANALYSIS

Sieve Size	Percent Passing
3"	100.0
2"	100.0
1½"	100.0
1"	100.0
3/4"	100.0
1/2"	100.0
3/8"	100.0
1/4"	100.0
#4	100.0
#8	99.0
#10	98.0
#16	93.9
#30	84.1
#40	77.1
#50	65.4
#100	44.9
#200	28.9
.02 mm	14.1
.002 mm	5.9
.001 mm	5.5

Elapsed Time, (minutes)	Temp °C	Hydrometer Reading	Correction	R - Corr	% Pass	Effective Depth (L), (cm)	Constant (K)	Particle Diameter, (mm)
1	27.4	1.0085	0.0020	1.0065	20.9	14.2	0.0129614	0.0488423
2	27.3	1.0075	0.0020	1.0055	17.7	14.4	0.0129614	0.0347791
5	27.4	1.0065	0.0020	1.0045	14.5	14.7	0.0129614	0.0222241
15	27.3	1.0060	0.0020	1.0040	12.8	14.7	0.0129614	0.0128311
30	27.5	1.0055	0.0020	1.0035	11.2	15.0	0.0128916	0.0091157
60	27.5	1.0050	0.0020	1.0030	9.6	15.0	0.0128916	0.0064458
250	28.7	1.0040	0.0020	1.0020	6.4	15.2	0.0127516	0.0031442
1440	27.6	1.0038	0.0020	1.0018	5.6	15.5	0.0128916	0.0013375

150474-Hyd.xls



150474-Hyd.xls

PARTICLE SIZE ANALYSIS OF SOILS - HYDROMETER

ASTM D-422

CLIENT:	**Project Resources**	SAMPLED BY:	**Client**	DATE:	**8/1/2003**
PROJECT:	**VB/I-70 Superfund Site**	SUBMITTED BY:	**FedEx**	DATE:	**8/2/2003**
PROJECT NO:	**030977LA**	TESTED BY:	**CG**	DATE:	**8/5/2003**
MATERIAL:	**Silty Sand**	REVIEWED BY:	**DR**	DATE:	**8/7/2003**
SAMPLE SOURCE:	**1697-001C**			LAB NO:	**150475**

DISPERSION SAMPLE

Air Dry Wt., gms	50.30
Specific Gravity of Soil	2.595
Specific Gravity of Liquid	1.000

HYGROSCOPIC MOISTURE SAMPLE

Wt. of Container + Air Dry Sample, gms	52.29
Wt. of Container + Oven Dry Sample, gms	51.80
Wt. Container (tare), gms	21.37
Hygroscopic Moisture Content, %	1.61%

HYDROMETER CALCULATIONS

Wt. Soil Dispersed, gms	49.50
Oven Dry Mass - Total Sample, gms	49.61
% Gravel	0.0
% Sand	54.4
% Silt	35.1
% Clay	10.5

SIEVE ANALYSIS

Sieve Size	Percent Passing
3"	100.0
2"	100.0
1½"	100.0
1"	100.0
3/4"	100.0
1/2"	100.0
3/8"	100.0
1/4"	100.0
#4	100.0
#8	99.9
#10	99.8
#16	99.4
#30	97.0
#40	93.3
#50	87.9
#100	68.1
#200	45.6
.02 mm	19.4
.002 mm	10.5
.001 mm	9.6

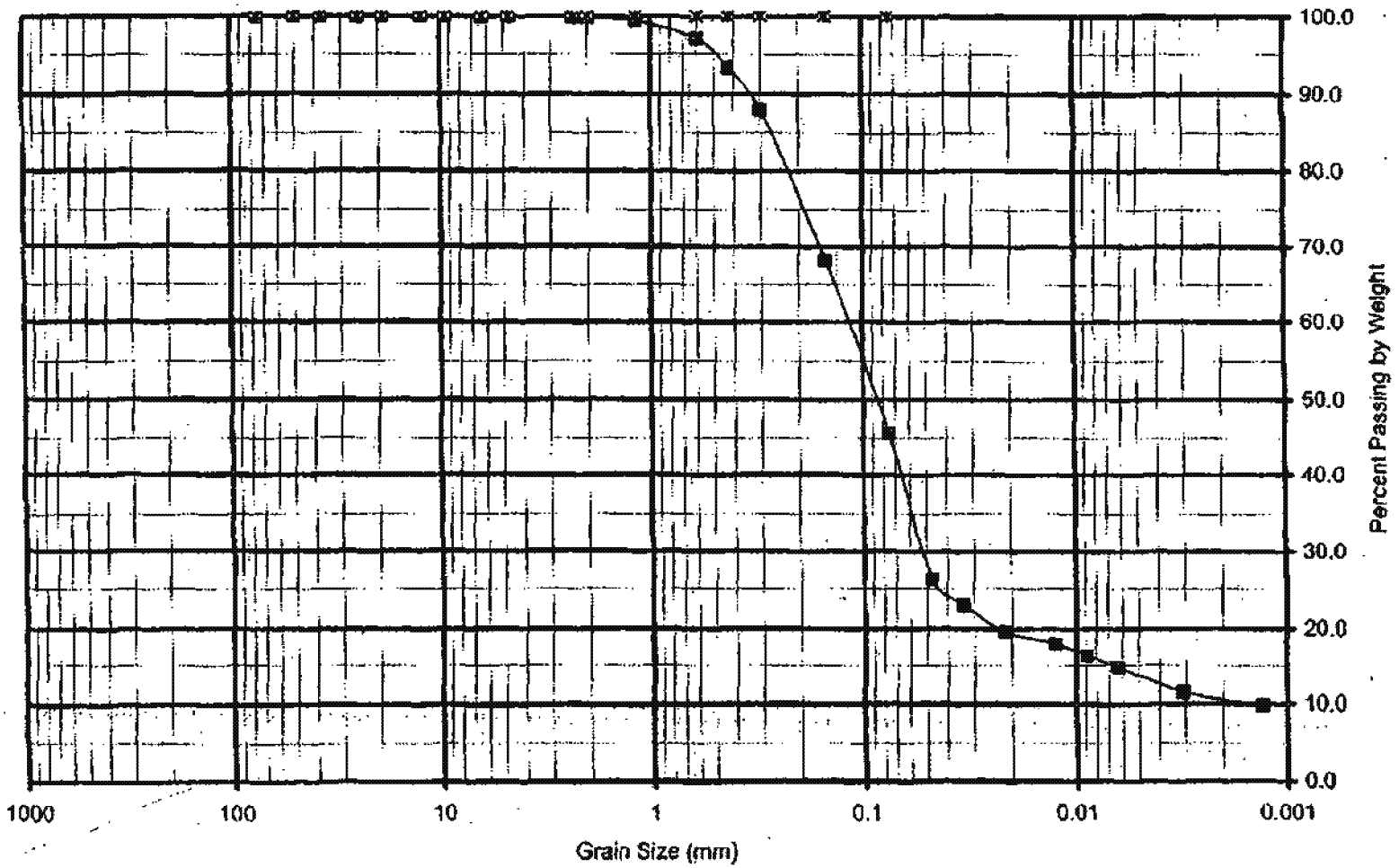
Elapsed Time, (minutes)	Temp °C	Hydrometer Reading	Correction	R - Corr	% Pass	Effective Depth (L), (cm)	Constant (K)	Particle Diameter, (mm)
1	27.3	1.0100	0.0020	1.0080	26.2	13.7	0.0127896	0.0473388
2	27.3	1.0090	0.0020	1.0070	23.0	13.9	0.0127896	0.0337170
5	27.3	1.0080	0.0020	1.0060	19.7	14.2	0.0127896	0.0215534
15	27.3	1.0075	0.0020	1.0055	18.0	14.4	0.0127896	0.0125312
30	27.3	1.0070	0.0020	1.0050	16.4	14.4	0.0127896	0.0088609
60	27.4	1.0065	0.0020	1.0045	14.8	14.7	0.0127896	0.0063305
250	28.6	1.0055	0.0020	1.0035	11.5	15.0	0.0125841	0.0030825
1440	27.3	1.0050	0.0020	1.0030	9.8	15.0	0.0127896	0.0013053

150475-Hyd.xls

U.S. Standard Sieve Sizes

Particle Size Analysis of Soils - ASTM D422

3"2½" 2" 1½"1" ¾" ½" ⅜" ¼" #4 #8 #10 #16 #30#40#50 #100 #200



150475-Hyd.xls

PARTICLE SIZE ANALYSIS OF SOILS - HYDROMETER

ASTM D-422

CLIENT:	**Project Resources**	SAMPLED BY:	**Client**	DATE:	**8/1/2003**
PROJECT:	**VB/I-70 Superfund Site**	SUBMITTED BY:	**FedEx**	DATE:	**8/2/2003**
PROJECT NO:	**030977LA**	TESTED BY:	**CG**	DATE:	**8/5/2003**
MATERIAL:	**Silty Sand**	REVIEWED BY:	**DR**	DATE:	**8/7/2003**
SAMPLE SOURCE:	**2370-001C**			LAB NO:	**150476**

DISPERSION SAMPLE

Air Dry Wt., gms	50.27
Specific Gravity of Soil	2.583
Specific Gravity of Liquid	1.000

HYGROSCOPIC MOISTURE SAMPLE

Wt. of Container + Air Dry Sample, gms	51.16
Wt. of Container + Oven Dry Sample, gms	50.69
Wt. Container (tare), gms	21.51
Hygroscopic Moisture Content, %	1.61%

HYDROMETER CALCULATIONS

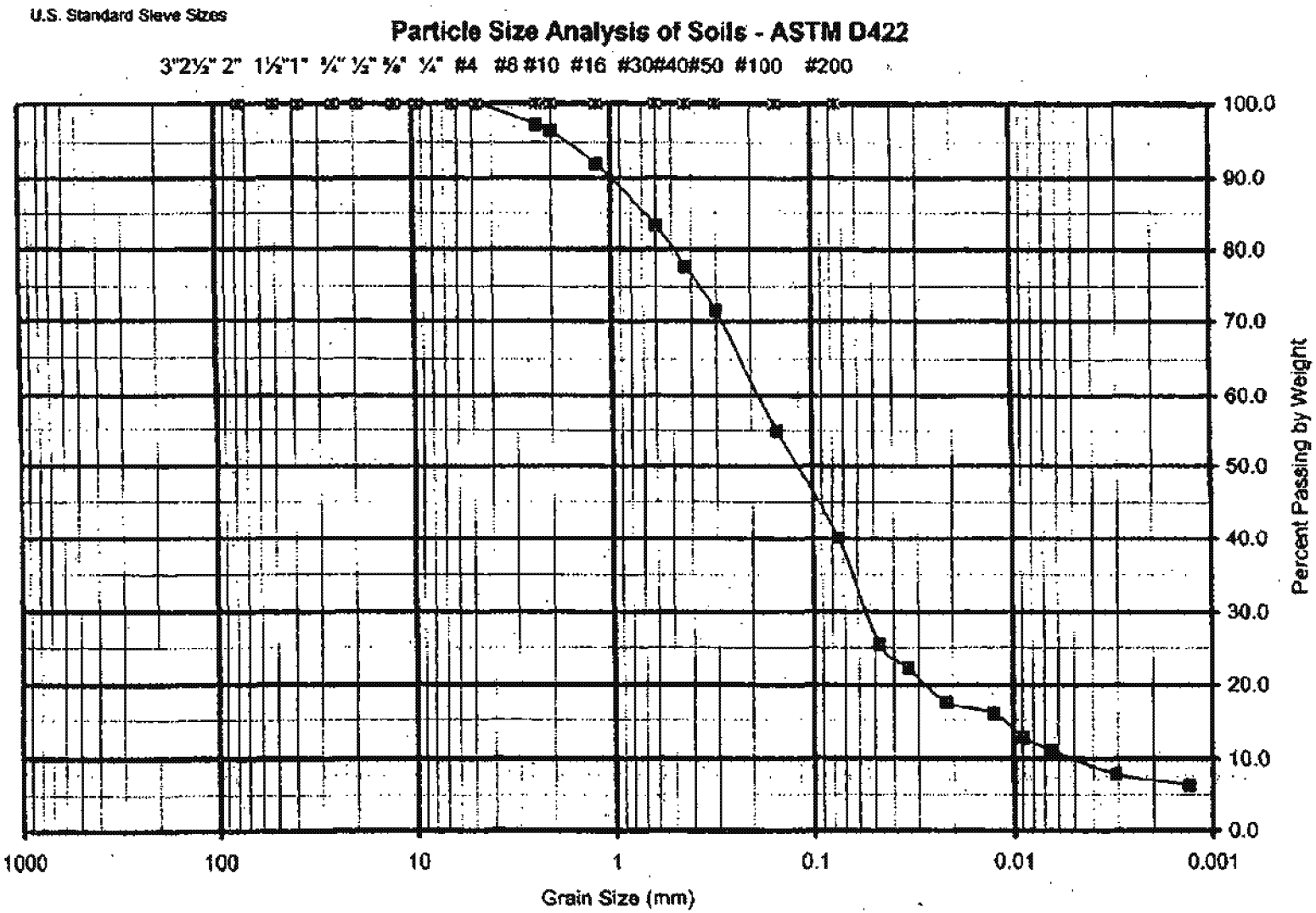
Wt. Soil Dispersed, gms	49.47
Oven Dry Mass - Total Sample, gms	51.32
% Gravel	0.0
% Sand	59.9
% Silt	33.1
% Clay	7.0

SIEVE ANALYSIS

Sieve Size	Percent Passing
3"	100.0
2"	100.0
1½"	100.0
1"	100.0
3/4"	100.0
1/2"	100.0
3/8"	100.0
1/4"	100.0
#4	100.0
#8	97.2
#10	96.4
#16	91.9
#30	83.1
#40	77.7
#50	71.5
#100	54.9
#200	40.1
.02 mm	17.2
.002 mm	7.0
.001 mm	6.1

Elapsed Time, (minutes)	Temp °C	Hydrometer Reading	Correction	R - Corr	% Pass	Effective Depth (L), (cm)	Constant (K)	Particle Diameter, (mm)
1	27.4	1.0100	0.0020	1.0080	25.4	13.7	0.0128398	0.0475247
2	27.3	1.0090	0.0020	1.0070	22.3	13.9	0.0128398	0.0338495
5	27.3	1.0075	0.0020	1.0055	17.5	14.4	0.0128398	0.0217899
15	27.4	1.0070	0.0020	1.0050	15.9	14.4	0.0128398	0.0125804
30	27.4	1.0060	0.0020	1.0040	12.7	14.7	0.0128398	0.0089879
60	27.3	1.0055	0.0020	1.0035	11.1	15.0	0.0128398	0.0064199
250	28.6	1.0045	0.0020	1.0025	7.9	15.2	0.0126331	0.0031150
1440	27.3	1.0040	0.0020	1.0020	6.4	15.2	0.0128398	0.0013192

150476-Hyd.xls



150476-Hyd.xls

ATTACHMENT H
ANALYTICAL RESULTS FOR BACKFILL SOILS

Summary Of Results For Backfill Soils Using Analytical Method SW8081A - Organochlorine Pesticides by GC/ECD - Pests

Sample #	Combs-001			Yard-001			Yard-002			Combs-2001			Combs-2002			Combs-2003			M001-SGP			M002-SGP			M003-SGP			M004-SGP		
Date	8/12/2003			8/26/2003			8/26/2003			8/26/2003			8/26/2003			8/26/2003			9/26/2003			10/27/2003			11/19/2003			2/25/2004		
Analyte	Result	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL
4,4'-DDD	ND	4	0.52	1.4	3.1	0.41	ND	3.9	0.51	ND	3.3	0.42	ND	3.1	0.41	1.1	3.1	0.4	ND	3.9	0.51	ND	3.2	0.41	ND	3.3	0.42	2	4	0.52
4,4'-DDE	1.5	24	0.67	1.3	1.9	0.53	1.3	2.4	0.66	0.97	2	0.55	0.61	1.9	0.53	1.2	1.9	0.52	1.3	2.4	0.66	ND	1.9	0.53	0.97	2	0.55	1.7	2.4	0.68
4,4'-DDT	0.98	2.8	0.52	2.7	2.2	0.41	1.8	2.8	0.51	0.72	2.3	0.42	0.46	2.2	0.41	1.5	2.2	0.4	1.8	2.8	0.51	ND	2.3	0.41	0.72	2.3	0.42	1.1	2.9	0.52
Aldrin	ND	3.6	0.53	ND	2.8	0.42	ND	3.5	0.52	ND	2.9	0.43	ND	2.8	0.42	0.48	2.8	0.41	ND	3.5	0.52	ND	2.8	0.42	ND	2.9	0.43	ND	3.6	0.54
alpha-BHC	ND	2.6	0.73	ND	2.1	0.57	ND	2.6	0.72	ND	2.1	0.6	ND	2.1	0.58	ND	2	0.56	ND	2.6	0.72	ND	2.1	0.58	ND	2.1	0.6	ND	2.6	0.74
alpha-Chlordane	1.1	2.8	0.33	1.1	2.2	0.26	0.82	2.8	0.32	ND	2.3	0.27	0.38	2.2	0.26	0.82	2.2	0.25	0.82	2.8	0.32	ND	2.3	0.26	ND	2.3	0.27	ND	2.9	0.33
beta-BHC	ND	5.2	1	ND	4.1	0.79	ND	5.2	0.99	ND	4.3	0.82	ND	4.1	0.79	ND	4	0.78	ND	5.2	0.99	ND	4.2	0.8	ND	4.3	0.82	2.8	5.3	1
delta-BHC	ND	4.2	0.69	ND	3.3	0.54	ND	4.1	0.68	ND	3.4	0.57	ND	3.3	0.55	ND	3.2	0.53	ND	4.1	0.68	ND	3.3	0.55	ND	3.4	0.57	2.7	4.2	0.7
Dieldrin	7.3	2.6	0.65	3.6	2.1	0.51	5.9	2.6	0.64	3.8	2.1	0.53	2.2	2.1	0.51	5.7	2	0.5	5.9	2.6	0.64	7.4	2.1	0.52	3.8	2.1	0.53	ND	2.6	0.65
Endosulfan I	ND	2.2	0.35	ND	1.7	0.27	ND	2.2	0.34	ND	1.8	0.28	ND	1.7	0.27	ND	1.7	0.27	ND	2.2	0.34	ND	1.8	0.28	ND	1.8	0.28	ND	2.2	0.35
Endosulfan II	ND	3.5	0.48	ND	2.7	0.38	2.5	3.4	0.47	ND	2.8	0.39	ND	2.7	0.38	ND	2.7	0.37	2.5	3.4	0.47	ND	2.8	0.38	ND	2.8	0.39	ND	3.5	0.48
Endosulfan Sulfate	ND	1.9	0.43	ND	1.5	0.34	ND	1.9	0.43		1.5	0.35	ND	1.5	0.34	ND	1.5	0.33	ND	1.9	0.43	ND	1.5	0.34	ND	1.5	0.35	ND	1.9	0.44
Endrin	ND	5.8	0.67	ND	4.5	0.53	ND	5.7	0.66	ND	4.7	0.55	ND	4.5	0.53	ND	4.5	0.52	ND	5.7	0.66	ND	4.6	0.53	ND	4.7	0.55	ND	5.8	0.68
Endrin Aldehyde	ND	9	2.6	ND	7.1	2.1	ND	8.9	2.6	ND	7.4	2.1	ND	7.1	2.1	30	7	2	ND	8.9	2.6	ND	7.2	2.1	ND	7.4	2.1	ND	9.1	0.26
Endrin Ketone	1.1	1.6	0.51	0.79	1.2	0.4	ND	1.6	0.5	ND	1.3	0.41	0.46	1.2	0.4	ND	1.2	0.39	ND	1.6	0.5	ND	1.3	0.41	ND	1.3	0.41	ND	1.6	0.51
gamma-BHC (Lindane)	0.87	6.8	0.74	ND	5.4	0.58	ND	6.7	0.73	ND	5.6	0.6	ND	5.4	0.58	0.58	5.3	0.57	ND	6.7	0.73	ND	5.4	0.59	ND	5.6	0.6	ND	6.9	0.74
gamma-Chlordane	ND	4.4	0.34	0.63	3.5	0.27	ND	4.3	0.34	0.48	3.6	0.28	ND	3.5	0.27	0.56	3.4	0.26	ND	4.3	0.34	ND	3.5	0.27	0.48	3.6	0.28	0.56	4.4	0.35
Heptachlor	ND	10	0.65	ND	8.1	0.51	ND	10	0.65	ND	8.4	0.53	ND	8.1	0.52	ND	7.9	0.51	ND	10	0.65	ND	8.2	0.52	ND	8.4	0.53	ND	10	0.66
Heptachlor Epoxide	0.37	5.8	0.37	ND	4.5	0.29	0.4	5.7	0.36	ND	4.7	0.3	ND	4.5	0.29	ND	4.5	0.28	0.4	5.7	0.36	ND	4.6	0.29	ND	4.7	0.3	0.45	5.8	0.37
Isodrin	0.58	3.6	0.47	ND	2.8	0.37	0.68	3.5	0.46	ND	2.9	0.38	ND	2.8	0.37	ND	2.8	0.36	0.68	3.5	0.46	ND	2.8	0.37	ND	2.9	0.38	1.1	3.6	0.47
Methoxychlor	ND	13	1.6	ND	9.9	1.2	ND	12	1.6	1.8	10	1.3	ND	9.9	1.2	ND	9.7	1.2	ND	12	1.6	ND	10	1.3	1.8	10	1.3	ND	13	1.6
Toxaphene	120	21	6.5	65	16	5.1	67	17	5.2	160	81	25	49	17	5.1	52	16	5	ND	100	32	20	17	5.2	110	17	5.3	230	210	66

Units For Analytical Results = micrograms per Kilogram (ug/Kg)

Summary Of Results For Backfill Soils Using Analytical Method SW8082- PCBs by GC/ECD - PCB

Sample #	Combs-001			M001-SGP			M002-SGP			M003-SGP			M004-SGP		
Date	8/12/2003			9/26/2003			10/27/2003			11/19/2003			2/25/2004		
Analyte	Result	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL
Aroclor-1016	ND	13	4.2	ND	13	4.1	ND	13	4.2	ND	11	3.4	ND	13	4.2
Aroclor-1221	ND	13	3.5	ND	13	3.5	ND	13	3.5	ND	11	2.9	ND	13	3.5
Aroclor-1232	ND	13	3.5	ND	13	3.5	ND	13	3.5	ND	11	2.9	ND	13	3.5
Aroclor-1242	ND	13	3.5	ND	13	3.5	ND	13	3.5	ND	11	2.9	ND	13	3.5
Aroclor-1248	ND	13	3.5	ND	13	3.5	ND	13	3.5	ND	11	2.9	ND	13	3.5
Aroclor-1254	ND	13	3.5	ND	13	3.5	ND	13	3.5	ND	11	2.9	ND	13	3.5
Aroclor-1260	ND	13	3.6	ND	13	3.6	ND	13	3.6	ND	11	3	ND	13	3.7

Units For Analytical Results = micrograms per Kilogram (ug/Kg)

Summary Of Results For Backfill Soils Using Analytical Method SW8270C- Semivolatile Organics by GC/MS-Std

Sample #	Combs-001			M001-SGP			M002-SGP			M003-SGP			M004-SGP		
Date	8/12/2003			9/26/2003			10/27/2003			11/19/2003			2/25/2004		
Analyte	Result	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL
1,2,4-Trichlorobenzene	ND	190	20	ND	190	20	ND	190	20	ND	190	21	ND	190	20
1,2-Dichlorobenzene	ND	210	24	ND	210	24	ND	210	24	ND	210	25	ND	210	24
1,3-Dichlorobenzene	ND	210	22	ND	210	22	ND	210	22	ND	210	22	ND	210	22
2,4,5-Trichlorophenol	ND	170	24	ND	170	24	ND	170	24	ND	180	24	ND	180	24
2,4,6-Trichlorophenol	ND	170	32	ND	170	32	ND	170	32	ND	180	33	ND	180	33
2,4-Dichlorophenol	ND	170	22	ND	170	21	ND	170	21	ND	180	22	ND	180	22
2,4-Dimethylphenol	ND	170	38	ND	170	38	ND	170	38	ND	180	39	ND	180	39
2,4-Dinitrophenol	ND	1,100	24	ND	1,100	24	ND	1,100	24	ND	1,200	24	ND	1,200	24
2,4-Dinitrotoluene	ND	170	32	ND	170	32	ND	170	32	ND	180	33	ND	180	32
2,6-Dinitrotoluene	ND	170	30	ND	170	30	ND	170	30	ND	180	31	ND	180	31
2-Chloronaphthalene	ND	170	23	ND	170	23	ND	170	23	ND	180	24	ND	180	24
2-Chlorophenol	ND	170	22	ND	170	22	ND	170	22	ND	180	23	ND	180	23
2-Methylnaphthalene	ND	170	20	ND	170	19	ND	170	20	ND	180	20	ND	180	20
2-Methylphenol	ND	170	25	ND	170	25	ND	170	25	ND	180	26	ND	180	25
2-Nitroaniline	ND	170	32	ND	170	32	ND	170	32	ND	180	33	ND	180	32
2-Nitrophenol	ND	170	31	ND	170	30	ND	170	31	ND	180	31	ND	180	31
3&4-Methylphenol	ND	170	27	ND	170	26	ND	170	27	ND	180	27	ND	180	27
3,3'-Dichlorobenzidine	ND	170	16	ND	170	16	ND	170	16	ND	180	17	ND	180	17
3-Nitroaniline	ND	170	32	ND	170	32	ND	170	32	ND	180	33	ND	180	32
4,6-Dinitro-2-Methylphenol	ND	170	16	ND	170	16	ND	170	16	ND	180	17	ND	180	16
4-Bromophenyl-Phenylether	ND	170	27	ND	170	27	ND	170	27	ND	180	28	ND	180	28
4-Chloro-3-Methylphenol	ND	170	24	ND	170	23	ND	170	24	ND	180	24	ND	180	24
4-Chloroaniline	ND	280	22	ND	280	22	ND	280	22	ND	290	23	ND	290	23
4-Chlorophenyl methylsulfone	ND	170	23	ND	170	23	ND	170	23	ND	180	24	ND	180	24
4-Chlorophenyl-Phenylether	ND	170	25	ND	170	25	ND	170	25	ND	180	26	ND	180	25
4-Nitroaniline	ND	170	27	ND	170	26	ND	170	26	ND	180	27	ND	180	27
4-Nitrophenol	ND	170	30	ND	170	29	ND	170	30	ND	180	31	ND	180	30
Acenaphthene	ND	170	27	ND	170	26	ND	170	27	ND	180	27	ND	180	27
Acenaphthylene	ND	170	29	ND	170	29	ND	170	29	ND	180	30	ND	180	29

Summary Of Results For Backfill Soils Using Analytical Method SW8270C- Semivolatile Organics by GC/MS-Std

Sample #	Combs-001			M001-SGP			M002-SGP			M003-SGP			M004-SGP		
Date	8/12/2003			9/26/2003			10/27/2003			11/19/2003			2/25/2004		
Anthracene	ND	170	27	ND	170	27	ND	170	27	ND	180	28	ND	180	27
Benzo(a)anthracene	ND	170	17	ND	170	17	ND	170	17	ND	180	18	61	180	18
Benzo(a)pyrene	ND	170	20	ND	170	19	ND	170	20	ND	180	20	62	180	20
Benzo(b)fluoranthene	ND	170	24	ND	170	23	ND	170	24	ND	180	24	54	180	24
Benzo(g,h,i)perylene	ND	170	53	ND	170	52	ND	170	52	ND	180	54	72	180	53
Benzo(k)fluoranthene	ND	170	40	ND	170	40	ND	170	40	ND	180	41	ND	180	41
Benzoic Acid	ND	1400	15	ND	1300	15	ND	1400	15	ND	1400	16	ND	1400	16
Benzyl Alcohol	ND	170	27	ND	170	27	ND	170	27	ND	180	28	ND	180	27
Bis (2-Chloroethoxy) Methane	ND	200	24	ND	200	24	ND	200	24	ND	200	25	ND	200	25
Bis (2-chloroisopropyl) ether	ND	230	15	ND	230	15	ND	230	15	ND	230	15	ND	230	15
Bis (2-Chloroethyl) Ether	ND	210	23	ND	210	23	ND	210	23	ND	210	24	ND	210	24
Bis (2-Ethylhexyl) Phthalate	ND	170	23	ND	170	23	ND	170	23	ND	180	23	ND	180	23
Butylbenzylphthalate	ND	170	24	ND	170	24	ND	170	24	ND	180	25	ND	180	25
Chrysene	ND	170	19	ND	170	19	ND	170	19	ND	180	19	61	180	19
Dibenzo(a,h)anthracene	ND	170	53	ND	170	53	ND	170	53	ND	180	54	ND	180	54
Dibenzofuran	ND	170	28	ND	170	28	ND	170	28	ND	180	29	ND	180	28
Diethylphthalate	ND	170	23	ND	170	23	ND	170	23	ND	180	23	ND	180	23
Dimethylphthalate	ND	170	28	ND	170	28	ND	170	28	ND	180	29	ND	180	28
Di-n-Butylphthalate	ND	170	44	81	170	44	ND	170	44	ND	180	45	150	180	45
Di-n-Octylphthalate	ND	170	19	ND	170	19	ND	170	19	ND	180	20	ND	180	20
Fluoranthene	ND	170	22	ND	170	21	ND	170	22	ND	180	22	64	180	22
Fluorene	ND	170	26	ND	170	25	ND	170	26	ND	180	26	ND	180	26
Hexachlorobenzene	ND	170	22	ND	170	21	ND	170	21	ND	180	22	ND	180	22
Hexachlorobutadiene	ND	210	28	ND	210	27	ND	210	28	ND	210	28	ND	210	28
Hexachlorocyclopentadiene	ND	170	53	ND	170	52	ND	170	53	ND	180	54	ND	180	54
Hexachloroethane	ND	190	23	ND	190	23	ND	190	23	ND	190	24	ND	190	23
Indeno(1,2,3-cd)pyrene	ND	170	48	ND	170	48	ND	170	48	ND	180	49	ND	180	49
Isophorone	ND	170	23	ND	170	23	ND	170	23	ND	180	24	ND	180	24
Naphthalene	ND	170	21	ND	170	20	ND	170	21	ND	180	21	ND	180	21

Summary Of Results For Backfill Soils Using Analytical Method SW8270C- Semivolatile Organics by GC/MS-Std

Sample #	Combs-001			M001-SGP			M002-SGP			M003-SGP			M004-SGP		
Date	8/12/2003			9/26/2003			10/27/2003			11/19/2003			2/25/2004		
Nitrobenzene	ND	170	18	ND	170	18	ND	170	18	ND	180	19	ND	180	19
N-Nitroso-Di-N-Propylamine	ND	170	27	ND	170	27	ND	170	27	ND	180	28	ND	180	27
N-Nitrosodiphenylamine	ND	270	49	ND	270	49	ND	270	49	ND	280	50	ND	270	50
Pentachlorophenol	ND	170	25	ND	170	24	ND	170	24	ND	180	25	ND	180	25
Phenanthrene	ND	170	20	ND	170	20	ND	170	20	ND	180	21	ND	180	21
Phenol	ND	170	29	ND	170	28	ND	170	29	ND	180	29	ND	180	29
Pyrene	ND	170	29	ND	170	28	ND	170	28	ND	180	29	110	180	29

Units For Analytical Results = micrograms per Kilogram (ug/Kg)

Summary Of Results For Backfill Soils Using Analytical Method SW8260B -VOCs by GC/MS-5030 prep

Sample #	Combs-001			M001-SGP			M002-SGP			M003-SGP			M004-SGP		
Date	8/12/2003			9/26/2003			10/27/2003			11/19/2003			2/25/2004		
Analyte	Result	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL
1,1,1,2-Tetrachloroethane	ND	2.1	0.5	ND	2.1	0.5				ND	2.1	0.51	ND	2.1	0.51
1,1,1-Trichloroethane	ND	2.1	0.63	ND	2.1	0.63				ND	2.1	0.65	ND	2.1	0.64
1,1,2,2-Tetrachloroethane	ND	2.1	0.43	ND	2.1	0.43				ND	2.1	0.44	ND	2.1	0.44
1,1,2-Trichloroethane	ND	2.1	0.5	ND	2.1	0.5				ND	2.1	0.52	ND	2.1	0.51
1,1-Dichloroethane	ND	2.1	0.56	ND	2.1	0.55				ND	2.1	0.57	ND	2.1	0.56
1,1-Dichloroethene	ND	2.1	0.6	ND	2.1	0.59				ND	2.1	0.61	ND	2.1	0.61
1,1-Dichloropropene	ND	2.1	0.31	ND	2.1	0.31				ND	2.1	0.32	ND	2.1	0.32
1,2,3-Trichlorobenzene	ND	2.1	0.33	ND	2.1	0.32				ND	2.1	0.33	ND	2.1	0.33
1,2,3-Trichloropropane	ND	2.1	0.69	ND	2.1	0.68				ND	2.1	0.71	ND	2.1	0.7
1,2,4-Trichlorobenzene	ND	2.1	0.41	ND	2.1	0.41				ND	2.1	0.42	ND	2.1	0.42
1,2,4-Trimethylbenzene	ND	2.1	0.52	ND	2.1	0.51				1.8	2.1	0.53	1.6	2.1	0.52
1,2-Dibromo-3-Chloropropane	ND	10	0.75	ND	10	0.74				ND	11	0.77	ND	11	0.76
1,2-Dibromoethane	ND	2.1	0.64	ND	2.1	0.63				ND	2.1	0.65	ND	2.1	0.65
1,2-Dichlorobenzene	ND	2.1	0.45	ND	2.1	0.44				ND	2.1	0.46	ND	2.1	0.45
1,2-Dichloroethane	ND	2.1	0.54	ND	2.1	0.53				ND	2.1	0.55	ND	2.1	0.55
1,2-Dichloropropane	ND	2.1	0.42	ND	2.1	0.41				ND	2.1	0.43	ND	2.1	0.42
1,3,5-Trimethylbenzene	ND	2.1	0.45	ND	2.1	0.45				ND	2.1	0.46	0.49	2.1	0.46
1,3-Dichlorobenzene	ND	2.1	0.57	ND	2.1	0.56				ND	2.1	0.58	ND	2.1	0.58
1,3-Dichloropropane	ND	2.1	0.51	ND	2.1	0.51				ND	2.1	0.52	ND	2.1	0.52
1,4-Dichlorobenzene	ND	2.1	0.53	ND	2.1	0.53				ND	2.1	0.55	ND	2.1	0.54
2,2-Diochloropropane	ND	2.1	0.61	ND	2.1	0.6				ND	2.1	0.62	ND	2.1	0.62
2-Butanone	ND	52	0.66	ND	52	0.65				ND	54	0.68	ND	53	0.67
2-Chloroethyl Vinyl Ether	ND	10	0.56	ND	10	0.55				ND	11	0.57	ND	11	0.57
2-Chlorotoluene	ND	2.1	0.18	ND	2.1	0.18				ND	2.1	0.18	ND	2.1	0.18
2-Hexanone	ND	21	0.4	ND	21	0.39				ND	21	0.41	ND	21	0.4
4-Chlorotoluene	ND	2.1	0.19	ND	2.1	0.19				ND	2.1	0.19	ND	2.1	0.19
4-Isopropyltoluene	ND	2.1	0.6	ND	2.1	0.6				ND	2.1	0.62	ND	2.1	0.61

Summary Of Results For Backfill Soils Using Analytical Method SW8260B -VOCs by GC/MS-5030 prep

Sample #	Combs-001			M001-SGP			M002-SGP			M003-SGP			M004-SGP		
Date	8/12/2003			9/26/2003			10/27/2003			11/19/2003			2/25/2004		
[illegible]ethyl-2-Pentanone	ND	21	0.91	ND	21	0.89				ND	21	0.93	ND	21	0.92
Acetone	ND	52	4.2	12	52	4.2				120	54	4.3	6.7	53	4.3
Acrylonitrile	ND	10	0.69	ND	10	0.68				ND	11	0.71	ND	11	0.7
Benzene	ND	2.1	0.52	ND	2.1	0.52				ND	2.1	0.53	ND	2.1	0.53
Bromobenzene	ND	2.1	0.42	ND	2.1	0.42				ND	2.1	0.43	ND	2.1	0.43
Bromochloromethane	ND	2.1	0.23	ND	2.1	0.23				ND	2.1	0.24	ND	2.1	0.23
Bromodichloromethane	ND	2.1	0.52	ND	2.1	0.52				ND	2.1	0.53	ND	2.1	0.53
Bromoform	ND	2.1	0.53	ND	2.1	0.52				ND	2.1	0.54	ND	2.1	0.53
Bromomethane	ND	5.2	1.6	ND	5.2	1.6				ND	5.4	1.7	ND	5.3	1.6
Carbon Disulfide	ND	2.1	0.64	ND	2.1	0.63				ND	2.1	0.66	ND	2.1	0.65
Carbon Tetrachloride	ND	2.1	0.23	ND	2.1	0.23				ND	2.1	0.24	ND	2.1	0.23
Chlorobenzene	ND	2.1	0.5	ND	2.1	0.5				ND	2.1	0.52	ND	2.1	0.51
Chloroethane	ND	5.2	0.53	ND	5.2	0.52				ND	5.4	0.54	ND	5.3	0.53
Chloroform	ND	2.1	0.47	ND	2.1	0.46				ND	2.1	0.48	ND	2.1	0.47
Chloromethane	ND	5.2	0.7	ND	5.2	0.69				ND	5.4	0.72	ND	5.3	0.71
Cis-1,2-Dichloroethene	ND	2.1	0.19	ND	2.1	0.19				ND	2.1	0.19	ND	2.1	0.19
Cis-1,3-Dichloropropene	ND	2.1	0.45	ND	2.1	0.44				ND	2.1	0.46	ND	2.1	0.45
Dibromochloromethane	ND	2.1	0.44	ND	2.1	0.43				ND	2.1	0.44	ND	2.1	0.44
Dibromomethane	ND	2.1	0.63	ND	2.1	0.62				ND	2.1	0.64	ND	2.1	0.63
Dichlorodifluoromethane	ND	5.2	0.58	ND	5.2	0.57				ND	5.4	0.59	ND	5.3	0.58
Ethylbenzene	ND	2.1	0.58	ND	2.1	0.58				ND	2.1	0.6	ND	2.1	0.59
Hexachlorobutadiene	ND	2.1	0.36	ND	2.1	0.35				ND	2.1	0.36	ND	2.1	0.36
Iodomethane	ND	5.2	0.86	ND	5.2	0.85				ND	5.4	0.87	ND	5.3	0.87
Isopropylbenzene	ND	2.1	0.61	ND	2.1	0.6				ND	2.1	0.62	ND	2.1	0.61
m&p Xylenes	ND	2.1	0.31	ND	2.1	0.31				ND	2.1	0.32	1.5	2.1	0.32
Methylene Chloride	1.3	5.2	0.65	7.3	5.2	0.64				3.9	5.4	0.66	ND	8.9	3
Naphthalene	ND	2.1	0.68	ND	2.1	0.67				ND	2.1	0.69	1.1	2.1	0.69
n-Butylbenzene	ND	2.1	0.64	ND	2.1	0.63				ND	2.1	0.65	ND	2.1	0.65

Summary Of Results For Backfill Soils Using Analytical Method SW8260B -VOCs by GC/MS-5030 prep

Sample #	Combs-001			M001-SGP			M002-SGP			M003-SGP			M004-SGP		
Date	8/12/2003			9/26/2003			10/27/2003			11/19/2003			2/25/2004		
-Propylbenzene	ND	2.1	0.6	ND	2.1	0.59				ND	2.1	0.61	ND	2.1	0.61
O-Xylene	ND	2.1	0.54	ND	2.1	0.53				ND	2.1	0.55	ND	2.1	0.55
sec-Butylbenzene	ND	2.1	0.58	ND	2.1	0.57				ND	2.1	0.59	ND	2.1	0.58
Styrene	ND	2.1	0.47	ND	2.1	0.47				ND	2.1	0.48	ND	2.1	0.48
tert-Butyl Methyl Ether	ND	2.1	0.38	ND	2.1	0.37				ND	2.1	0.38	ND	2.1	0.38
tert-Butylbenzene	ND	2.1	0.61	ND	2.1	0.6				ND	2.1	0.62	ND	2.1	0.61
Tetrachloroethene	ND	2.1	0.25	ND	2.1	0.25				ND	2.1	0.26	ND	2.1	0.25
Toluene	0.77	2.1	0.55	ND	2.1	0.55				ND	2.1	0.56	0.59	2.1	0.56
trans-1,2-Dichloroethene	ND	2.1	0.26	ND	2.1	0.26				ND	2.1	0.27	ND	2.1	0.27
trans-1,3-Dichloropropene	ND	2.1	0.63	ND	2.1	0.63				ND	2.1	0.65	ND	2.1	0.64
trans-1,4-Dichloro-2-Buten	ND	10	2.8	ND	10	2.8				ND	11	2.9	ND	11	2.9
Trichloroethene	ND	2.1	0.5	ND	2.1	0.49				ND	2.1	0.51	ND	2.1	0.5
Trichlorofluoromethane	ND	2.1	1.7	ND	2.1	1.7				ND	2.1	1.7	ND	2.1	1.7
Trichlorotrifluoroethane	ND	2.1	0.66	ND	2.1	0.65				ND	2.1	0.67	ND	2.1	0.67
Vinyl Acetate	ND	5.2	0.2	ND	5.2	0.2				ND	5.4	0.2	ND	5.3	0.2
Vinyl Chloride	ND	2.1	0.56	ND	2.1	0.55				ND	2.1	0.57	ND	2.1	0.57

Units For Analytical Results = micrograms per Kilogram (ug/Kg)

Summary Of Results For Backfill Soils Using Analytical Method SW6010B-ICP-RCRA

Sample #	Combs-001			M001-SGP			M002-SGP			M003-SGP			M004-SGP		
Date	8/12/2003			9/26/2003			10/27/2003			11/19/2003			2/25/2004		
Analyte	Result	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL
Arsenic	ND	11	1.5	ND	7.9	1.1	ND	13	1.8	ND	9.4	1.3	ND	11	1.5
Barium	120	0.33	0.025	100	0.24	0.018	110	0.41	0.03	92	0.29	0.021	92	0.33	0.025
Cadmium	ND	0.67	0.048	ND	0.49	0.035	ND	0.81	0.059	ND	0.58	0.041	1.2	0.67	0.048
Chromium	14	1.7	0.25	11	1.2	0.18	12	2	0.3	10	1.4	0.21	11	1.7	0.25
Lead	13	5	0.87	9.7	3.7	0.64	11	6.1	1.1	12	4.3	0.76	79	5	0.87
Selenium	ND	8.3	2.1	ND	6.1	1.5	ND	10	2.5	ND	7.2	1.8	ND	8.3	2.1
Silver	ND	1.2	0.13	ND	0.91	0.093	ND	1.5	0.16	ND	1.1	0.11	ND	1.2	0.13

Units For Analytical Results = milligrams per Kilogram (mg/Kg)

Summary Of Results For Backfill Soils Using Analytical Method SW7471A-Mercury in Solid or Semisolid Waste by CVAA-Total

Sample #	Combs-001			M001-SGP			M002-SGP			M003-SGP			M004-SGP		
Date	8/12/2003			9/26/2003			10/27/2003			11/19/2003			2/25/2004		
Analyte	Result	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL	Results	PQL	MDL
Mercury	ND	0.045	0.0017	ND	0.042	0.0016	ND	0.052	0.002	ND	0.047	0.017	0.295	0.007	0.0042

Units For Analytical Results = milligrams per Kilogram (mg/Kg)

ATTACHMENT I
ANALYTICAL RESULTS FOR DRIVEWAY GRAVEL

Summary Of Analytical Results For Driveway Gr[illegible] Using Analytical Method 7470A / TCLP 1311 Hg

Sample #	D001-SGP			D001-SGP			D002-SGP			D003-SGP			D004-SGP			D005-SGP		
Date	3/4/2004			12/5/2003			12/5/2003			12/5/2003			12/5/2003			12/5/2003		
Analyte	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL
Mercury	ND	0.002	0.0009	ND	0.002	0.0009	ND	0.002	0.0009	ND	0.002	0.0009	ND	0.002	0.0009	ND	0.002	0.0009

Units For Analytical Results = milligrams per Liter (mg/L)

Summary Of Results For Driveway Gr[illegible] Using Analytical Method 8081A / 1311

Sample #	D001-SGP			D001-SGP			D002-SGP			D003-SGP			D004-SGP			D005-SGP		
Date	3/4/2004			12/5/2003			12/5/2003			12/5/2003			12/5/2003			12/5/2003		
Analyte	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL
Endrin	ND	0.05	0.0074	ND	0.05	0.0074	ND	0.05	0.0074	ND	0.05	0.0074	ND	0.05	0.0074	ND	0.05	0.0074
gamma-BHC (Lindane)	ND	0.025	0.0067	ND	0.025	0.0067	ND	0.025	0.0067	ND	0.025	0.0067	0.03	0.025	0.0067	ND	0.025	0.0067
Heptachlor	ND	0.046	0.015	ND	0.046	0.015	ND	0.046	0.015	ND	0.046	0.015	ND	0.046	0.015	ND	0.046	0.015
Heptachlor Epoxide	ND	0.021	0.007	0.071	0.021	0.007	0.1	0.021	0.007	0.079	0.021	0.007	0.088	0.021	0.007	0.039	0.021	0.007
Methoxychlor	ND	0.12	0.01	ND	0.13	0.01	ND	0.13	0.01	ND	0.13	0.01	ND	0.13	0.01	ND	0.13	0.01
Technical Chlordane	ND	2.5	2.5	ND	2.5	2.5	ND	2.5	2.5	ND	2.5	2.5	ND	2.5	2.5	ND	2.5	2.5
Toxaphene	ND	1.3	0.24	ND	1.3	0.24	ND	1.3	0.24	ND	1.3	0.24	ND	1.3	0.24	ND	1.3	0.24

Units For Analytical Results = micrograms per Liter (ug/L)

Summary Of Results For Driveway Gravel Using Analytical Method 8260B

Sample #	D001-SGP			D001-SGP			D002-SGP			D003-SGP			D004-SGP			D005-SGP		
Date	3/4/2004			12/5/2003			12/5/2003			12/5/2003			12/5/2003			12/5/2003		
Analyte	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL
1,1-Dichloroethene	ND	10	1.7	ND	10	1.7	ND	10	1.7	ND	10	1.7	ND	10	1.7	ND	10	1.7
1,2-Dichloroethane	ND	10	1.8	ND	10	1.8	ND	10	1.8	ND	10	1.8	ND	10	1.8	ND	10	1.8
2-Butanone	10	250	2.6	ND	250	2.6	ND	250	2.6	ND	250	2.6	ND	250	2.6	ND	250	2.6
Benzene	ND	10	0.88	ND	10	0.88	ND	10	0.88	ND	10	0.88	ND	10	0.88	ND	10	0.88
Carbon Tetrachloride	ND	10	0.85	ND	10	0.85	ND	10	0.85	ND	10	0.85	ND	10	0.85	ND	10	0.85
Chlorobenzene	ND	10	0.55	ND	10	0.55	ND	10	0.55	ND	10	0.55	ND	10	0.55	ND	10	0.55
Chloroform	ND	10	1.3	ND	10	1.3	ND	10	1.3	ND	10	1.3	ND	10	1.3	ND	10	1.3
Tetrachloroethene	ND	10	0.58	ND	10	0.58	ND	10	0.58	ND	10	0.58	ND	10	0.58	ND	10	0.58
Trichloroethene	ND	10	1.3	ND	10	1.3	ND	10	1.3	ND	10	1.3	ND	10	1.3	ND	10	1.3
Vinyl Chloride	ND	10	1.6	ND	10	1.6	ND	10	1.6	ND	10	1.6	ND	10	1.6	ND	10	1.6

Units For Analytical Results = micrograms per Liter (ug/L)

Summary Of Results For Driveway Gravel Using Analytical Method 8270C / 1311

Sample #	D001-SGP			D001-SGP			D002-SGP			D003-SGP			D004-SGP			D005-SGP		
Date	3/4/2004			12/5/2003			12/5/2003			12/5/2003			12/5/2003			12/5/2003		
Analyte	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL
2,4,5-Trichlorophenol	ND	25	1.4	ND	25	1.4	ND	25	1.4	ND	25	1.4	ND	25	1.4	ND	25	1.4
2,4,6-Trichlorophenol	ND	25	2.1	ND	25	2.1	ND	25	2.1	ND	25	2.1	ND	25	2.1	ND	25	2.1
2,4-Dinitrotoluene	ND	25	1.4	ND	25	1.4	ND	25	1.4	ND	25	1.4	ND	25	1.4	ND	25	1.4
2-Methylphenol	ND	25	2.1	ND	25	2.1	ND	25	2.1	ND	25	2.1	ND	25	2.1	ND	25	2.1
3&4-Methylphenol	ND	25	2.8	ND	25	2.8	ND	25	2.8	ND	25	2.8	ND	25	2.8	ND	25	2.8
Hexachlorobenzene	ND	25	1.4	ND	25	1.4	ND	25	1.4	ND	25	1.4	ND	25	1.4	ND	25	1.4
Hexachlorobutadiene	ND	25	2.9	ND	25	2.9	ND	25	2.9	ND	25	2.9	ND	25	2.9	ND	25	2.9
Hexachloroethane	ND	25	2.6	ND	25	2.6	ND	25	2.6	ND	25	2.6	ND	25	2.6	ND	25	2.6
Nitrobenzene	ND	25	2.2	ND	25	2.2	ND	25	2.2	ND	25	2.2	ND	25	2.2	ND	25	2.2
Pentachlorophenol	ND	25	2.8	ND	25	2.8	ND	25	2.8	ND	25	2.8	ND	25	2.8	ND	25	2.8
Pyridine	ND	25	1.9	ND	25	1.9	ND	25	1.9	ND	25	1.9	ND	25	1.9	ND	25	1.9

Units For Analytical Results = micrograms per Liter (ug/L)

Summary Of Results For Driveway Gravel [illegible]ing Analytical Method 6010B / 1311-metals

Sample #	D001-SGP			D001-SGP			D002-SGP			D003-SGP			D004-SGP			D005-SGP		
Date	3/4/2004			12/5/2003			12/5/2003			12/5/2003			12/5/2003			12/5/2003		
Analyte	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL
Arsenic	ND	0.5	0.077	ND	0.5	0.077	ND	0.5	0.077	ND	0.5	0.077	ND	0.5	0.077	ND	0.5	0.077
Barium	0.88	0.05	0.0008	1.1	0.05	0.0008	1.1	0.05	0.0008	1.9	0.05	0.0008	2.9	0.05	0.0008	2.5	0.05	0.0008
Cadmium	ND	0.03	0.0026	0.056	0.03	0.0026	0.032	0.03	0.0026	0.12	0.03	0.0026	0.21	0.03	0.0026	0.62	0.03	0.0026
Chromium	ND	0.05	0.009	ND	0.05	0.009	ND	0.05	0.009	ND	0.05	0.009	ND	0.05	0.009	ND	0.05	0.009
Lead	ND	0.25	0.054	0.72	0.25	0.054	0.47	0.25	0.054	2	0.25	0.054	1.9	0.25	0.054	1.8	0.25	0.054
Selenium	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
Silver	ND	0.075	0.0033	ND	0.075	0.0033	ND	0.075	0.0033	ND	0.075	0.0033	ND	0.075	0.0033	ND	0.075	0.0033

Units For Analytical Results = milligrams per Liter (mg/L)

ATTACHMENT J
ANALYTICAL RESULTS FOR DISPOSAL SOILS

Summary Of Results For Disposal Soils Using Analytical Method 6010B / 1311-metals

Sample #	CDS-001			CDS-002			CDS-003			CDS-004			CDS-005		
Date	8/21/2003			8/21/2003			8/21/2003			8/21/2003			8/21/2003		
Analyte	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL	Result	PQL	MDL
Arsenic	65	9.3	1.3	95	8.9	1.2	24	12	1.7	63	12	1.6	40	12	1.6
Lead	140	4.3	0.75	160	4.1	0.72	400	5.7	1	98	5.6	0.98	400	5.4	0.94

Units For Analytical Results = milligrams per Kilogram (mg/Kg)

Summary Of Results For Personal Protective Equipment (PPE) Using Analytical Method SW6010B-ICP-Total

Sample #	PPE-00P		
Date	3/4/2004		
Analyte	Result	PQL	MDL
Arsenic	ND	13	1.7
Lead	35	6	1

Units For Analytical Results = milligrams per Kilogram (mg/Kg)