Remedial Action Selection Report for the Wyoming County Fire Training Area Wethersfield, New York Voluntary Clean Up

Prepared For:

Wyoming County
143 North Main Street
Warsaw, New York 14569

Prepared By:

URS Corporation
77 Goodell Street
Buffalo, New York 14203

September 2005

G3800C

URS

October 12, 2005

Linda Ross
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

RE: Wyoming County Fire Training Center
Voluntary Cleanup - Remedial Action Selection Report
Engineer's Certification

Dear Ms. Ross:

As requested by the New York State Department of Environmental Conservation (NYSDEC), URS Corporation (URS), on behalf of Wyoming County, has had the "*Remedial Action Selection Report for the Wyoming County Fire Training Center*" (RAS) prepared by URS and dated June 2005 (Revised September 2005) stamped by a Professional Engineer licensed to practice in New York State.

Some portions of the text also have been slightly revised to further enhance the clarity of the discussions. Consequently, we are enclosing three copies of the revised pages of text and Table 3-4 for your use. These revised materials should be inserted into the original report submitted to the Department in June 2005 and subsequently revised in our correspondence of September 19, 2005. The text and figures replaced by the revised materials should be discarded. We also have included one complete copy of the report with all figures, tables and appendices for your use.

We trust that this submittal adequately addresses the Department's request. However, should you have any questions or require additional information, please do not hesitate to call me at (716) 923-1225.

Sincerely,

URS Corporation

Robert R. Henschel, P.G.
Project Manager

/dth

cc: D. Berwanger – Wyoming County
D. Simmons – Hancock & Estabrook
E. Dadd – Dadd & Nelson
Cameron O'Connor - NYSDOH
File: 11172991 (C-1)

URS Corporation
77 Goodell Street
Buffalo, NY 14203
Tel: 716.856.5636
Fax: 716.856.2545

REMEDIAL ACTION SELECTION REPORT

FOR THE

WYOMING COUNTY FIRE TRAINING CENTER

WETHERSFIELD, NEW YORK

VOLUNTARY CLEANUP (SITE V-00604)

PREPARED FOR:

WYOMING COUNTY

143 NORTH MAIN STREET

WARSAW, NEW YORK 14569

PREPARED BY:

URS CORPORATION

77 GOODELL STREET

BUFFALO, NEW YORK 14203

ROBERT R. HENSCHEL, P.G.

(716) 856-5636

JUNE 2005

(REVISED SEPTEMBER 2005)

ENGINEER CERTIFICATION

I certify that this remedial action selection report was prepared by qualified people working under my direct supervision. Based on the evaluation presented herein, the remedial alternative selected is appropriate and implementable for this site.

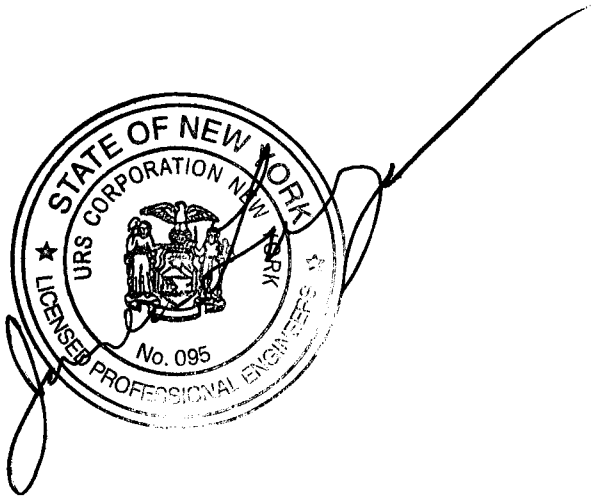


TABLE OF CONTENTS

TABLES
(Following Text)

FIGURES
(Following Tables)

APPENDICES

1.0 INTRODUCTION

1.1 General

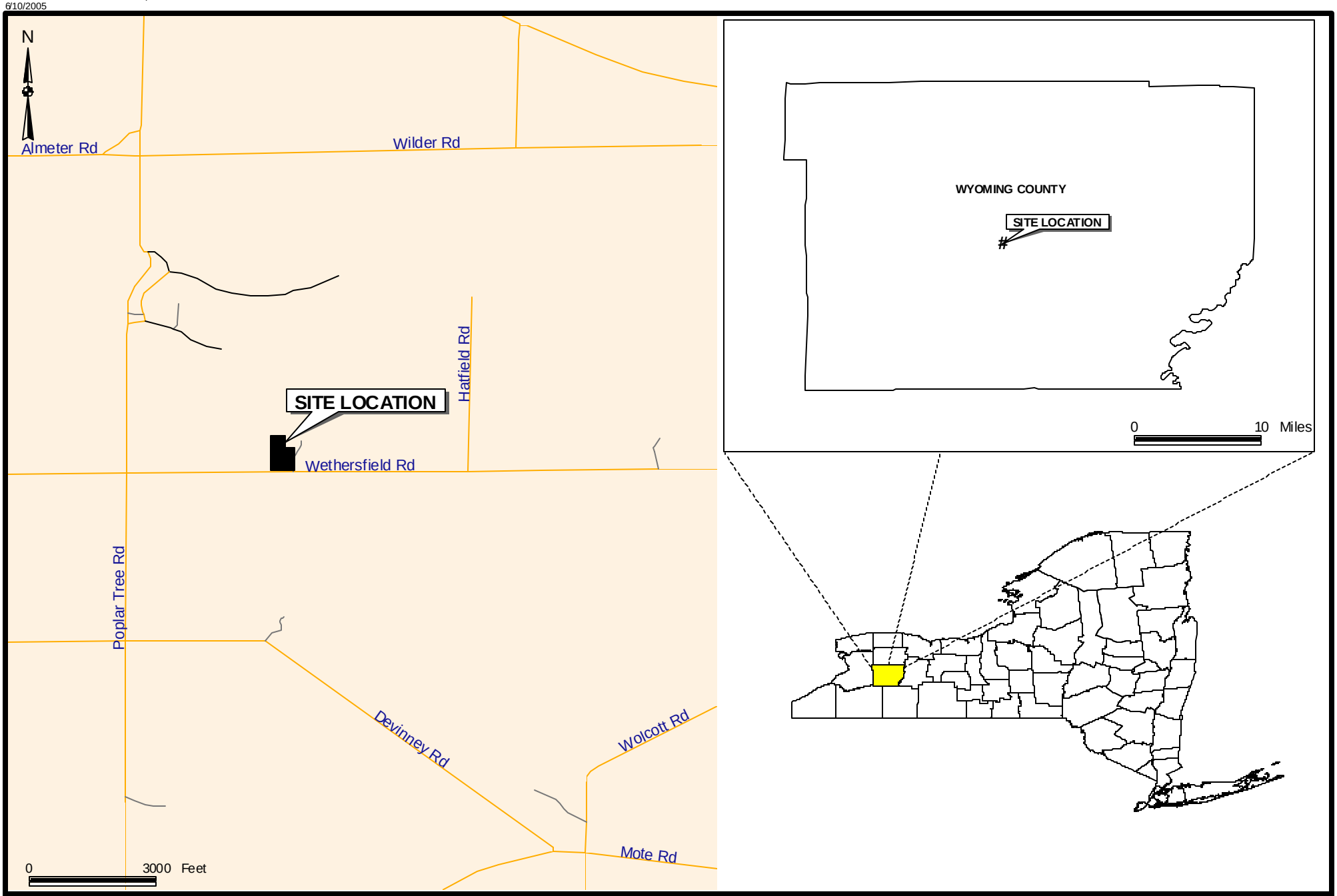
Wyoming County (County) has operated a fire training center located at 3651 Wethersfield Road in the Town of Wethersfield, New York (Figure 1-1). Remedial activities consisting of drum removal, AST removal and contaminated soil excavation were conducted at the Site in July/August of 2001. A site investigation program, conducted in September/October of 2001, identified four areas of concern (AOCs) wherein the soils were contaminated with volatile organic compounds (VOCs) consisting primarily of toluene, tetrachloroethene (PCE) and its breakdown compounds (See Section 2.2 for more details). Additionally, the data showed that groundwater at the Site and the two adjacent County-owned parcels located immediately east of the Site, had also been impacted by VOCs. These two parcels, formerly known as the Agro and Weber properties, were acquired by the County in October, 2003.

URS Corporation (URS) conducted a formal interim remedial measure (IRM) consisting of the removal of contaminated soil in the four AOCs at the Site in September – November, 2003. This IRM effectively removed the known source areas for VOCs in soils at the Site, with the exception of a limited amount of soil at depths greater than 11 feet in Area 2 under the former South Fire Pit.

URS subsequently conducted a Supplemental Hydrogeologic Investigation (SHI) from June to August 2004 to further delineate the nature and extent of groundwater contamination associated with historical operations at the Fire Training Center. The results of the SHI indicated that there were no exceedances of the standards, criteria and guidance (SGG) values for soils either on- or off-site. Slight exceedances of the SCGs for vinyl chloride and tetrachloroethene were observed in sediment and surface water, respectively in the Rear Pond.

With regards to groundwater, there were one or more exceedances of the SCGs in an approximately 200-foot wide zone oriented northwest-southeast, originating at the four AOCs. The groundwater contamination is wholly contained within what is now County owned

N:\11172991.00000\DB\Gis\site.apr SITE LOCATION
6/10/2005



URS	WYOMING COUNTY FIRE TRAINING CENTER SITE LOCATION MAP	FIGURE 1-1

properties, with the exception of one monitoring well and a spring, located just southeast of the site boundary. Generally, the VOC concentrations in the groundwater are highest in the area immediately downgradient of the four AOCs and decrease significantly further to the southeast, such that they are only slightly above the SCGs at the extreme southeastern (i.e. offsite) end of the zone. The potable water supply wells for the two neighboring downgradient residential parcels (i.e. Schell and Becker properties) have not been impacted.

1.2 Purpose

The purpose of this Remedial Action Selection (RAS) Report is to identify and evaluate the most appropriate remedial action to address the VOC-contaminated groundwater at the WCFTC site. The guideline used for preparation of the RAS is the New York State Department of Environmental Conservation (NYSDEC) "*Draft DER-10 Technical Guidance for Site Investigation and Remediation*" as it relates to Voluntary Cleanup Program (VCP) sites, dated December 25, 2002. As outlined in Section 4.0 – Remedy Selection, the action selection process consists of the following steps: 1) identification of remedial action objectives [Sections 4.1(b) and 4.1(c)]; 2) identification and evaluation of remedial action alternatives (Section 4.2 1-7); 3) selection and documentation that the selected remedy is compliant with the criteria outlined in Section 4.1(e).

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

The Wyoming County Fire Training Center (WCFTC) is located at 3651 Wethersfield Road in the Town of Wethersfield, Wyoming County, New York (Figure 1-1). The facility is on the north side of Wethersfield Road approximately one-half mile east of the intersection with Poplar Hill Road.

The overall WCFTC facility occupies approximately 6.8 acres, and includes several permanent structures/installations and is completely enclosed by a perimeter chain link fence. The main features of the operational WCFTC facility are the Training Center building and attached garage in the southwest section of the property, two smaller support buildings, a storm water retention pond and several fire training structures across the remaining portions of the property. The Site, prior to investigation and completion of interim remedial measures (IRM), included a former steel Aboveground Storage Tank (AST) used for storage of flammable liquids; two sub-grade concrete fire pits connected to the AST via underground piping and, a drum storage area utilized for storage of drums containing flammable liquids. The AST, fire pits, underground piping and drum storage area were all located on about one acre in the eastern portion of the WCFTC facility (Figure 2-1), the Site.

The county has recently acquired the neighboring Agro and Weber properties. The former Agro property, adjacent to the eastern and northern boundaries of the operational WCFTC facility (Figure 2-1), occupies approximately 41 acres. The parcel has approximately two hundred feet of frontage on Wethersfield Rd. and widens to the east and west some distance from the road. The former Weber property, 3689 Wethersfield Rd., is situated immediately to the east of the former Agro property (Figure 2-1) and occupies approximately 1 acre and has similar frontage. Both properties have been unoccupied since the County purchase (October 2003). The former Agro property included two ponds, one immediately north of the north fire pit (Rear Pond) and a larger pond in the northeast corner of the property (North Pond). The former Weber

Legend

- Residential Pumping Well
- Spring Location
- Property Line

250 0 250 Feet

WYOMING COUNTY FIRE TRAINING CENTER
SITE PLAN

URS

FIGURE 2-1

N:\11172991.00000\DB\Gis\wyoming.apr SITEPLAN (11x17L)
6/10/2005

property included a residence, which was razed by fire in May 2004 with all remnants removed and excavated to grade in June 2004.

The Schell property, 3695 Wethersfield Road, is the closest occupied residence to the WCFTC being located immediately east of the former Weber property. The Becker residence is situated on the south side of Wethersfield Road, approximately 1,000 feet to the southeast of the operational WCFTC facility.

The site topography is generally flat, with a graded bank along the eastern boundary. To the east and northeast, across the former Agro and Weber properties, the topography slopes more steeply to the northeast. Vegetative cover in the operational WCFTC facility consists primarily of turf grass. Surrounding land uses are generally agricultural and recreational with low-density residential housing distanced along Wethersfield Road.

2.2 Site History

The WCFTC was operated by the County commencing in the 1970's. Flammable liquids consisting of solvents, petroleum products, paint thinners, degreasers, etc. were brought to the Site and stored in the AST and/or in drums of various sizes in the unlined drum storage area. Liquids from the AST were conveyed to two subgrade concrete-lined fire pits (i.e. north and south pits) via an underground steel piping/valve system. Liquids from the drums were manually fed into the fire pits. The flammable liquids were ignited and subsequently extinguished during fire training exercises.

Remedial activities consisting of drum removal, AST removal and contaminated soil excavation were conducted at the Site in July/August of 2001 by Nature's Way Environmental Consultants and Contractors (NWEC&C). A site investigation program, conducted in September/October of 2001 by NWEC&C, identified four areas of concern (AOCs) wherein the soils were contaminated with volatile organic compounds (VOCs) consisting primarily of toluene, tetrachloroethene (PCE) and its breakdown compounds. These AOCs include the Former AST Area (AOC-1), the South Fire Pit (AOC-2), the North Fire Pit (AOC-3) and the Former Drum Storage Area (AOC-4) (Figure 2-1). Additionally, the data showed that groundwater at the Site

and the two adjacent County-owned parcels located immediately east of the Site, had also been impacted by VOCs.

In 2002, the County executed a Voluntary Cleanup Agreement (VCA) with the state of New York. Subsequent to signing the VCA, the County developed an IRM Work Plan to address the four AOCs in May 2003 which following approval, was implemented in September 2003. The IRM activities consisted of excavation of VOC-contaminated soils and placement of the contaminated soils in onsite soil vapor extraction (SVE) cells. Additionally, pursuant to the VCA, the County submitted a Supplemental Hydrogeologic Investigation Work Plan (SHIWP) to further delineate the nature and extent of groundwater contamination at the Site. The SHIWP was approved by the NYSDEC in May 2004. The SHI was conducted by URS in accordance with the NYSDEC approved work plan from June to August 2004.

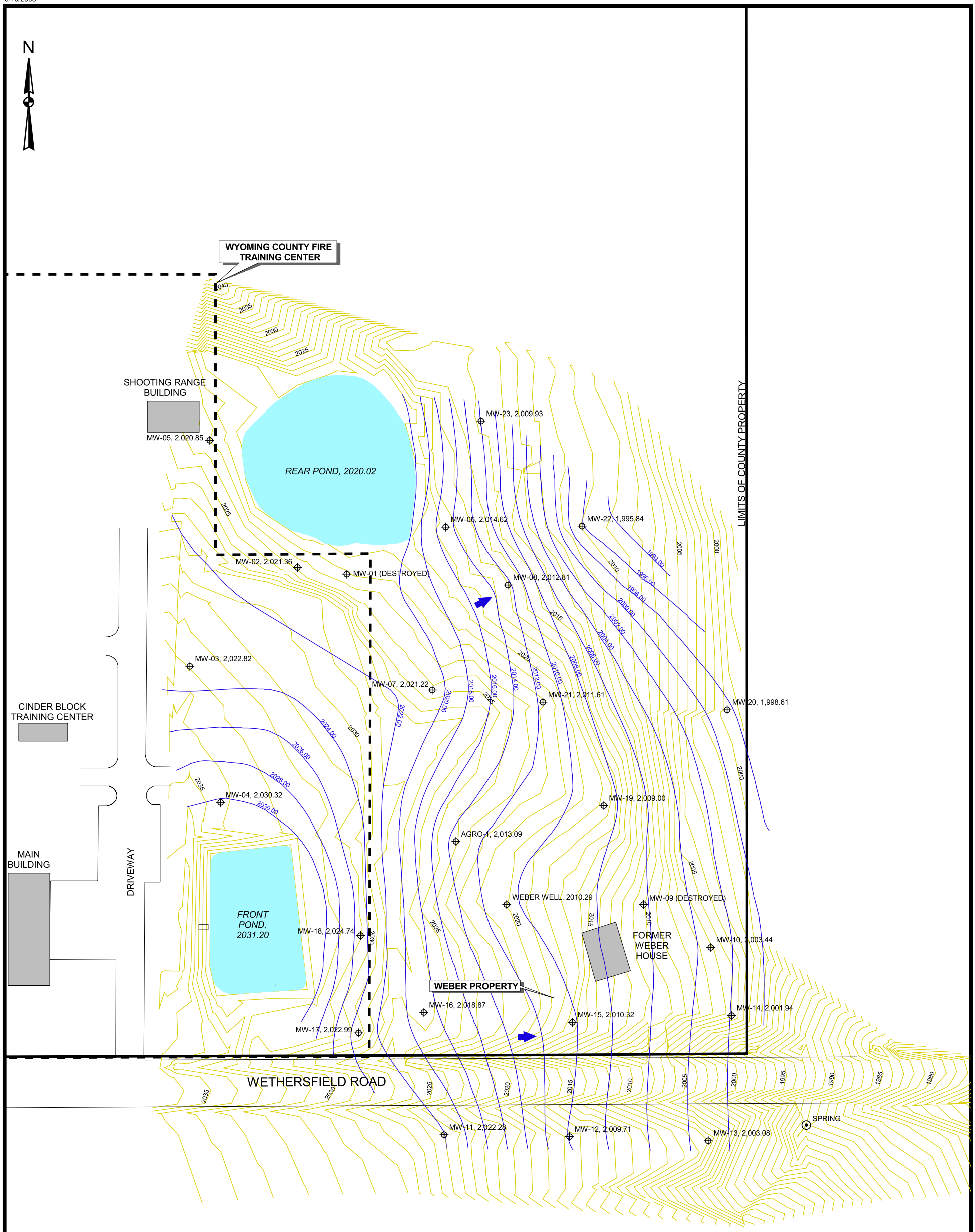
Some additional confirmatory soil sampling was performed in February 2005 at the request of the NYSDEC. At the same time, a round of groundwater elevation readings was obtained and sampling of selected groundwater monitoring wells was performed.

The results of the SHI are presented in Section 3.0.

2.3 Surrounding Land Use

Surrounding land uses are generally agricultural and recreational with low-density residential housing along Wethersfield Road. The two neighboring parcels to the east, formerly known as the Agro and Weber properties (Figure 2-1), were recently acquired by Wyoming County. As a result, the seasonal home and permanent residence located on these parcels are no longer occupied. The former Weber residence was destroyed by fire in May 2004. A mixture of vegetation is present on both the former Agro and Weber parcels, ranging from mature trees to brush and former lawn.

N:\11172991.00000\DB\Gis\wyoming.apr TOPOGRAPHIC AND GROUNDWATER ELEVATION CONTOUR MAP
6/10/2005



URS

WYOMING COUNTY FIRE TRAINING CENTER
TOPOGRAPHIC AND GROUNDWATER ELEVATION
CONTOUR MAP (08/08/04)

FIGURE 2-2

2.4 Topography and Drainage

Based on a topographic survey performed by URS, the elevation of the Site ranges between 1995 feet above mean sea level (AMSL) in the east and 2040 feet AMSL in the west (Figure 2-2), with an overall topographic slope to the east.

2.5 Geology

2.5.1 Regional Geology

Natural surface soils present in this area are classified as glacial Kame deposits as indicated on the Surficial Geologic Map of New York. The Soil Survey of Wyoming County lists a series of silt loams as the predominant surface soils in the study area, although significant grading and filling operations have obviously altered site topography and almost certainly the general soil profile.

The bedrock formation present below these unconsolidated sediments consists of Upper Devonian shales and siltstones of the Machias Formation of the Canadaway Group (as indicated on the Geologic Map of New York 1970 Niagara Sheet by the New York State Museum of Science Service Map and Chart Series #15). This formation is typically gray in color, very thinly to thinly bedded, and becomes more competent with depth, ranging from moderately soft to moderately hard.

2.5.2 Site Geology

The overburden soil material encountered in the study area consists of a thin surficial topsoil and/or fill layer underlain by glacial drift and till deposits. Much of the operational portion of the Site has been reworked and filled to present grade and appearance. Buried topsoil horizons suggestive of original grade were encountered at some boring locations. The fill layer varies in thickness from about 0.5 to 3.0 feet.

Subsurface soils, encountered below the shallow fill, consist chiefly of glacial drift possessing a predominant (Sand-Silt-Clay) texture with varying amounts of gravel. These deposits are weakly stratified in nature and extend to depths of 12.0-16.0 feet below ground surface (bgs) across the Site. The primary shallow water-bearing unit appears to be thin silty-sand layers observed in the 10 -12 foot depths. The glacial drift overlays several layers of variable glacial till with predominant textures ranging from clay to coarse silt, that extend to bedrock. The glacial till is generally very dense and has low permeability and appears to effectively isolate shallow groundwater from the underlying deeper bedrock water-bearing unit.

Based on a deep boring (Rock Well #1) completed in November 2001, natural soils extend to a depth of 36.5 feet at which point thinly bedded weathered shale bedrock is encountered. The shale unit extends to a depth of 64.0 feet and possesses iron stained vertical fractures and similar staining along bedding planes, indicative of groundwater movement.

2.6 Hydrogeology

Groundwater elevations within the shallow overburden ranged from approximately 2032 feet elev. in MW-04 to 1996 feet Elev. in MW-22 across the Site (Table 2-1). The apparent shallow groundwater flow direction across the Site is generally from west to east mimicking Site surface topography (Figure 2-2). Groundwater flow gradients are moderate and typically between 0.06 feet per feet (ft/ft) between MW-14 and MW-17 and 0.07 ft/ft between MW-04 and MW-22. The highest gradients were observed between MW-08 and MW-22, typically 0.17 ft/ft. Whereas the contaminant distribution in the monitoring wells suggests a northwest-southeast flow direction, there were no observed components of flow toward the south or southeast (i.e. toward the Becker property). There were no obvious influences from pumping from nearby residential supply wells (Schell or Becker). Comparisons of groundwater gradients and corresponding topographic slopes show very similar values with only the slightly steeper gradient between MW-08 and MW-22 being measurably different from the topographic slope. (Table 2-2)

During the month of June 2004, groundwater elevations exhibited a typical seasonal decline in all wells monitored. The August 8, 2004, groundwater elevation measurements exhibited a modest recovery, likely in response to increased seasonal precipitation.

TABLE 2-1
GROUNDWATER LEVEL MEASUREMENTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
AGRO-1	978645.9631	592479.2423	2024.22	NA	2024.22	A						
MNW							6/4/2004 0000	NM	-	0.00	-	
MNW							6/7/2004 0000	NM	-	0.00	-	
MNW							6/11/2004 0000	10.65	2013.57	0.00	2,013.57	
MNW							6/25/2004 0000	NM	-	0.00	-	
MNW							8/8/2004 0821	11.13	2013.09	0.00	2,013.09	
MW-02	978931.2427	592314.1629	2023.95	NA	2025.64	A						
MNW							6/4/2004 1621	2.75	2022.89	0.00	2,022.89	
MNW							6/7/2004 1150	3.96	2021.68	0.00	2,021.68	
MNW							6/14/2004 0830	4.43	2021.21	0.00	2,021.21	
MNW							6/14/2004 1558	4.51	2021.13	0.00	2,021.13	
MNW							6/25/2004 0839	4.66	2020.98	0.00	2,020.98	
MNW							8/8/2004 0853	4.28	2021.36	0.00	2,021.36	
MNW							2/9/2005 0000	2.66	2022.98	0.00	2,022.98	
MW-03	978828.2168	592202.3606	2032.93	NA	2035.79	A						
MNW							11/6/2001 0000	14.84	2020.95	0.00	2,020.95	
MNW							6/4/2004 1618	11.96	2023.83	0.00	2,023.83	
MNW							6/7/2004 1145	12.63	2023.16	0.00	2,023.16	
MNW							6/11/2004 1500	12.78	2023.01	0.00	2,023.01	
MNW							6/14/2004 1556	13.03	2022.76	0.00	2,022.76	
MNW							6/25/2004 0837	13.38	2022.41	0.00	2,022.41	
MNW							8/8/2004 0855	12.97	2022.82	0.00	2,022.82	
MNW							2/9/2005 0000	NM	-	NM	-	Obstruction at 2.85'
MW-04	978686.2916	592234.1593	2034.25	NA	2036.40	A						
MNW							11/6/2001 0000	9.93	2026.47	0.00	2,026.47	
MNW							6/4/2004 1615	4.23	2032.17	0.00	2,032.17	
MNW							6/7/2004 1144	5.22	2031.18	0.00	2,031.18	

NM - No Measurement

Type:
MNW Monitoring Well

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

TABLE 2-1
GROUNDWATER LEVEL MEASUREMENTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MNW							6/14/2004 0800	5.98	2030.42	0.00	2,030.42	
MNW							6/14/2004 1554	5.97	2030.43	0.00	2,030.43	
MNW							6/25/2004 0835	6.78	2029.62	0.00	2,029.62	
MNW							8/8/2004 0851	6.08	2030.32	0.00	2,030.32	
MNW							2/9/2005 0000	4.11	2032.29	0.00	2,032.29	
MW-05	979063.4391	592223.0659	2023.11	NA	2026.00	A						
MNW							11/6/2001 0000	5.53	2020.47	0.00	2,020.47	
MNW							6/4/2004 1626	4.87	2021.13	0.00	2,021.13	
MNW							6/7/2004 1148	5.16	2020.84	0.00	2,020.84	
MNW							6/11/2004 1430	5.31	2020.69	0.00	2,020.69	
MNW							6/14/2004 1600	5.27	2020.73	0.00	2,020.73	
MNW							6/25/2004 0841	5.42	2020.58	0.00	2,020.58	
MNW							8/8/2004 0853	5.15	2020.85	0.00	2,020.85	
MNW							2/9/2005 0000	4.53	2021.47	0.00	2,021.47	
MW-06	978973.2045	592468.4489	2018.62	NA	2020.28	A						
MNW							11/7/2001 0000	5.14	2015.14	0.00	2,015.14	
MNW							6/4/2004 1453	4.35	2015.93	0.00	2,015.93	
MNW							6/7/2004 1102	5.08	2015.20	0.00	2,015.20	
MNW							6/14/2004 0930	6.03	2014.25	0.00	2,014.25	
MNW							6/14/2004 1511	6.11	2014.17	0.00	2,014.17	
MNW							6/25/2004 0729	6.54	2013.74	0.00	2,013.74	
MNW							8/8/2004 0818	5.66	2014.62	0.00	2,014.62	
MNW							2/9/2005 0000	2.35	2017.93	0.00	2,017.93	
MW-07	978803.3993	592454.4238	2024.24	NA	2026.14	A						
MNW							11/7/2001 0000	5.58	2020.56	0.00	2,020.56	
MNW							6/4/2004 1459	4.27	2021.87	0.00	2,021.87	
MNW							6/7/2004 1104	4.68	2021.46	0.00	2,021.46	

NM - No Measurement

Type:
MNW Monitoring Well

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

TABLE 2-1
GROUNDWATER LEVEL MEASUREMENTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MNW							6/14/2004 1100	4.98	2021.16	0.00	2,021.16	
MNW							6/14/2004 1512	4.98	2021.16	0.00	2,021.16	
MNW							6/25/2004 0732	5.22	2020.92	0.00	2,020.92	
MNW							8/8/2004 0820	4.92	2021.22	0.00	2,021.22	
MNW							2/9/2005 0000	4.07	2022.07	0.00	2,022.07	
MW-08	978912.8311	592533.1998	2017.14	NA	2018.28	A						
MNW							11/7/2001 0000	5.70	2012.58	0.00	2,012.58	
MNW							6/4/2004 1455	4.37	2013.91	0.00	2,013.91	
MNW							6/7/2004 1105	4.98	2013.30	0.00	2,013.30	
MNW							6/14/2004 1015	5.65	2012.63	0.00	2,012.63	
MNW							6/14/2004 1509	5.66	2012.62	0.00	2,012.62	
MNW							6/25/2004 0731	6.90	2011.38	0.00	2,011.38	
MNW							8/8/2004 0816	5.47	2012.81	0.00	2,012.81	
MNW							2/9/2005 0000	3.62	2014.66	0.00	2,014.66	
MW-10	978535.9216	592744.4241	2006.26	NA	2007.95	A						
MNW							6/4/2004 1547	2.82	2005.13	0.00	2,005.13	
MNW							6/7/2004 1154	3.80	2004.15	0.00	2,004.15	
MNW							6/14/2004 1145	5.19	2002.76	0.00	2,002.76	
MNW							6/14/2004 1521	6.65	2001.30	0.00	2,001.30	
MNW							6/25/2004 0807	6.24	2001.71	0.00	2,001.71	
MNW							8/8/2004 0832	4.51	2003.44	0.00	2,003.44	
MNW							2/9/2005 0000	1.72	2006.23	0.00	2,006.23	
MW-11	978340.5964	592466.9970	2024.01	2027.08	2026.92	A						
MNW							6/4/2004 1559	3.51	2023.41	0.00	2,023.41	
MNW							6/7/2004 1132	4.09	2022.83	0.00	2,022.83	
MNW							6/10/2004 1000	4.65	2022.27	0.00	2,022.27	
MNW							6/14/2004 1529	5.12	2021.80	0.00	2,021.80	

NM - No Measurement

Type:
MNW Monitoring Well

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

TABLE 2-1
GROUNDWATER LEVEL MEASUREMENTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MNW							6/25/2004 0820	5.68	2021.24	0.00	2,021.24	
MNW							8/8/2004 0840	4.64	2022.28	0.00	2,022.28	
MNW							2/9/2005 0000	3.07	2023.85	0.00	2,023.85	
MW-12	978338.5912	592597.3441	2015.67	2018.84	2018.68	A						
MNW							6/4/2004 1602	6.86	2011.82	0.00	2,011.82	
MNW							6/7/2004 1134	8.01	2010.67	0.00	2,010.67	
MNW							6/10/2004 0900	8.27	2010.41	0.00	2,010.41	
MNW							6/14/2004 1543	8.84	2009.84	0.00	2,009.84	
MNW							6/25/2004 0816	9.31	2009.37	0.00	2,009.37	
MNW							8/8/2004 0842	8.97	2009.71	0.00	2,009.71	
MNW							2/9/2005 0000	6.75	2011.93	0.00	2,011.93	
MW-13	978334.5807	592741.7286	2007.13	2010.23	2010.06	A						
MNW							6/4/2004 1604	6.57	2003.49	0.00	2,003.49	
MNW							6/7/2004 1136	6.76	2003.30	0.00	2,003.30	
MNW							6/9/2004 0800	6.75	2003.31	0.00	2,003.31	
MNW							6/14/2004 1545	7.10	2002.96	0.00	2,002.96	
MNW							6/25/2004 0812	7.32	2002.74	0.00	2,002.74	
MNW							8/8/2004 0846	6.98	2003.08	0.00	2,003.08	
MNW							2/9/2005 0000	4.92	2005.14	0.00	2,005.14	
MW-14	978464.9225	592765.7927	2005.22	2008.34	2008.16	A						
MNW							6/4/2004 1550	4.81	2003.35	0.00	2,003.35	
MNW							6/7/2004 1117	5.44	2002.72	0.00	2,002.72	
MNW							6/10/2004 0950	5.85	2002.31	0.00	2,002.31	
MNW							6/14/2004 1523	6.80	2001.36	0.00	2,001.36	
MNW							6/25/2004 0804	8.23	1999.93	0.00	1,999.93	
MNW							8/8/2004 0834	6.22	2001.94	0.00	2,001.94	
MNW							2/9/2005 0000	3.35	2004.81	0.00	2,004.81	

NM - No Measurement

Type:
MNW Monitoring Well

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

TABLE 2-1
GROUNDWATER LEVEL MEASUREMENTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MW-15	978457.9041	592600.3521	2016.62	2019.75	2019.59	A						
MNW							6/4/2004 1553	7.85	2011.74	0.00	2,011.74	
MNW							6/7/2004 1119	8.32	2011.27	0.00	2,011.27	
MNW							6/10/2004 1215	8.54	2011.05	0.00	2,011.05	
MNW							6/14/2004 1525	9.09	2010.50	0.00	2,010.50	
MNW							6/25/2004 0800	9.57	2010.02	0.00	2,010.02	
MNW							8/8/2004 0836	9.27	2010.32	0.00	2,010.32	
MNW							2/9/2005 0000	6.86	2012.73	0.00	2,012.73	
MW-16	978467.9303	592445.9410	2026.75	2029.83	2029.66	A						
MNW							6/4/2004 1556	8.11	2021.55	0.00	2,021.55	
MNW							6/7/2004 1121	8.73	2020.93	0.00	2,020.93	
MNW							6/10/2004 1420	9.08	2020.58	0.00	2,020.58	
MNW							6/14/2004 1522	10.17	2019.49	0.00	2,019.49	
MNW							6/25/2004 0755	10.86	2018.80	0.00	2,018.80	
MNW							8/8/2004 0838	10.79	2018.87	0.00	2,018.87	
MNW							2/9/2005 0000	7.41	2022.25	0.00	2,022.25	
MW-17	978446.8751	592377.7594	2029.76	2032.83	2032.67	A						
MNW							6/4/2004 1610	8.30	2024.37	0.00	2,024.37	
MNW							6/7/2004 1140	9.13	2023.54	0.00	2,023.54	
MNW							6/11/2004 1240	9.92	2022.75	0.00	2,022.75	
MNW							6/14/2004 1552	9.51	2023.16	0.00	2,023.16	
MNW							6/25/2004 0827	10.61	2022.06	0.00	2,022.06	
MNW							8/8/2004 0842	9.68	2022.99	0.00	2,022.99	
MNW							2/9/2005 0000	4.30	2028.37	0.00	2,028.37	
MW-18	978548.1407	592379.7648	2031.86	2034.93	2034.81	A						
MNW							6/4/2004 1612	7.91	2026.90	0.00	2,026.90	
MNW							6/7/2004 1142	9.20	2025.61	0.00	2,025.61	

NM - No Measurement

Type:
MNW Monitoring Well

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

TABLE 2-1
GROUNDWATER LEVEL MEASUREMENTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MNW							6/11/2004 1325	10.02	2024.79	0.00	2,024.79	
MNW							6/14/2004 1550	10.76	2024.05	0.00	2,024.05	
MNW							6/25/2004 0833	12.09	2022.72	0.00	2,022.72	
MNW							8/8/2004 0850	10.07	2024.74	0.00	2,024.74	
MNW							2/9/2005 0000	5.50	2029.31	0.00	2,029.31	
MW-19	978683.0834	592632.8136	2018.78	2021.78	2021.63	A						
MNW							6/4/2004 0000	NM	-	0.00	-	
MNW							6/7/2004 1114	10.31	2011.32	0.00	2,011.32	
MNW							6/8/2004 1330	10.34	2011.29	0.00	2,011.29	
MNW							6/14/2004 1539	11.49	2010.14	0.00	2,010.14	
MNW							6/25/2004 0750	12.84	2008.79	0.00	2,008.79	
MNW							8/8/2004 0823	12.63	2009.00	0.00	2,009.00	
MNW							2/9/2005 0000	11.27	2010.36	0.00	2,010.36	
MW-20	978782.8374	592761.2151	1999.67	2002.65	2002.47	A						
MNW							6/4/2004 1507	3.08	1999.39	0.00	1,999.39	
MNW							6/7/2004 1111	3.14	1999.33	0.00	1,999.33	
MNW							6/11/2004 1155	3.12	1999.35	0.00	1,999.35	
MNW							6/14/2004 1516	3.30	1999.17	0.00	1,999.17	
MNW							6/25/2004 0742	3.63	1998.84	0.00	1,998.84	
MNW							8/8/2004 0826	3.86	1998.61	0.00	1,998.61	
MNW							2/9/2005 0000	3.15	1999.32	0.00	1,999.32	
MW-21	978790.7387	592569.6006	2022.22	2025.21	2025.10	A						
MNW							6/4/2004 1502	13.20	2011.90	0.00	2,011.90	
MNW							6/7/2004 1108	13.53	2011.57	0.00	2,011.57	
MNW							6/8/2004 1450	13.65	2011.45	0.00	2,011.45	
MNW							6/14/2004 1517	13.87	2011.23	0.00	2,011.23	
MNW							6/25/2004 0737	14.05	2011.05	0.00	2,011.05	

NM - No Measurement

Type:
MNW Monitoring Well

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

TABLE 2-1
GROUNDWATER LEVEL MEASUREMENTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MNW							8/8/2004 0824	13.49	2011.61	0.00	2,011.61	
MNW							2/9/2005 0000	13.87	2011.23	0.00	2,011.23	
MW-22	978974.0795	592610.2009	2009.99	2013.08	2012.96	A						
MNW							6/4/2004 1450	16.91	1996.05	0.00	1,996.05	
MNW							6/7/2004 1101	16.97	1995.99	0.00	1,995.99	
MNW							6/11/2004 1055	17.03	1995.93	0.00	1,995.93	
MNW							6/14/2004 1508	17.11	1995.85	0.00	1,995.85	
MNW							6/25/2004 0726	17.15	1995.81	0.00	1,995.81	
MNW							8/8/2004 0830	17.12	1995.84	0.00	1,995.84	
MNW							2/9/2005 0000	16.65	1996.31	0.00	1,996.31	
MW-23	979083.4516	592505.1994	2014.78	2017.75	2017.57	A						
MNW							6/4/2004 1445	5.40	2012.17	0.00	2,012.17	
MNW							6/7/2004 1439	5.89	2011.68	0.00	2,011.68	
MNW							6/14/2004 1505	7.61	2009.96	0.00	2,009.96	
MNW							6/25/2004 0718	10.86	2006.71	0.00	2,006.71	
MNW							8/8/2004 0811	7.64	2009.93	0.00	2,009.93	
MNW							2/9/2005 0000	3.82	2013.75	0.00	2,013.75	
WEBER WELL	978580.3664	592532.0678			2018.52	A						
MNW							8/8/2004 0830	8.23	2010.29	0.00		

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Type:
MNW Monitoring Well

TABLE 2-2

COMPARISION OF SELECTED GROUNDWATER GRADIENTS AND TOPOGRAPHIC SLOPES
WYOMING COUNTY FIRE TRAINING CENTER

Date	Groundwater Gradients		
	MW-04 to MW-22	MW-08 to MW-22	MW-17 to MW-14
06/04/04	0.08	0.18	0.05
06/07/04	0.07	0.17	0.05
06/14/04	0.07	0.17	0.06
06/25/04	0.07	0.16	0.06
08/08/04	0.07	0.17	0.05
Average Gradient	0.07	0.17	0.06
Topographic Slope	0.05	0.07	0.06

3.0 SUMMARY OF SUPPLEMENTAL SITE INVESTIGATIONS

As indicated, the SHI was conducted in June to August 2004. The objective of the SHI was to further delineate the nature and extent of VOC contamination identified in groundwater during the initial site investigations. Additionally, the SHI was designed to provide sufficient information to evaluate whether or not the IRM (contaminated soil removal) was successful in reducing and/or eliminating source contaminants, to provide data to allow for an evaluation of the need for additional investigation, and to develop potential remedial alternatives, as necessary.

The results of the IRM and SHI are presented in, "*Interim Remedial Measures and Supplemental Hydrogeologic Investigation Report of the Wyoming County Fire Training Area, Wethersfield, New York*" dated November 2004 (Revised January 2005).

Following completion of the SHI and review of the data, the NYSDEC requested that some additional confirmatory sampling be performed in the vicinity of the four AOCs. The County also determined that an additional round of groundwater levels and sampling of selected wells for VOCs would be useful in developing this RAS. This work was performed in February 2005.

The results of the SHI and supplemental sampling activities are summarized below. The sampling locations are shown on Figures 3-1 and 3-5.

3.1 Applicable Standards, Criteria, and Guidance

The analytical data obtained from soils, sediment, and groundwater were compared to appropriate New York State standards, criteria, and guidance (SCG) values. For soils, the NYSDEC Technical Administrative Guidance Memorandum (TAGM) 4046: *Determination of Soil Cleanup Objectives and Cleanup Levels*, January 1994/January 2000 (TAGM 4046) were utilized.

N

NORTH POND

WYOMING COUNTY FIRE TRAINING CENTER

LIMITS OF COUNTY PROPERTY

SHOOTING RANGE BUILDING

MW-05

REAR POND

MW-23

ROCK WELL2

SED-01/SW-01

MW-06

MW-22

MW-02

MW-08

MW-01 (DESTROYED)

FORMER AGRO PROPERTY

CINDER BLOCK TRAINING CENTER

SB-03

SB-02

SB-04

SB-01

MW-03

MW-07

MW-21

MW-20

MW-04

MW-19

ARGO-1

FORMER WEBER PROPERTY

MAIN BUILDING

DRIVEWAY

FRONT POND

MW-18

WEBER WELL

ROCK WELL1

MW-09 (DESTROYED)

RESW-01

MW-10

SCHELL HOUSE

FORMER WEBER HOUSE

MW-16

MW-14

MW-17

MW-15

WETHERSFIELD ROAD

MW-11

MW-12

MW-13

SPRING

BASEMENT SEEP

BECKER RESIDENCE

UNDERGROUND PIPE

FORMER SUPPLY WELL

BECKER WELL

SED-02/SW-02

SCHELL POND

BECKER POND

BECKER POND

Legend

- Existing Monitoring Well
- Spring Location
- Existing Water Supply Well
- Surface Water/Sediment Sample Location
- Soil Boring Location

250 0 250 Feet

WYOMING COUNTY FIRE TRAINING CENTER
SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION
SAMPLING LOCATIONS

URS

FIGURE 3-1

N:\11172991.00000\DB\Gis\wyoming.apr MONITORING WELL/SURFACE WATER SAMPLING LOCATIONS
6/10/2005

Sediment results were compared to NYSDEC Division of Fish, Wildlife and Marine Resources *"Technical Guidance for Screening Contaminated Sediments"*, 1993, updated on January 25, 1999 (TGSCS). Criteria for the protection of human health bioaccumulation were selected for sediment screening using an assumed total organic concentration (TOC) of 1% by weight (i.e. 10 grams per kilogram).

NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1) *"Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*" (TOGS) were the agreed SCGs for groundwater and surface water.

3.2 Supplemental Site Investigation (June – August 2004)

3.2.1 Soil/Sediment Analytical Results

Sediment Samples

Analytical results of the three sediment samples collected during the SHI (Table 3-1) indicate detectable concentrations solely of vinyl chloride at a single location (Rear Pond) at a concentration of 28 µg/kg in SED-01, which exceeds the SCG criteria of 0.7µg/kg. However, the presence of only vinyl chloride at this low concentration in the absence of parent (tetrachloroethene and trichloroethene) and transitional (1,1,1,2-tetrachloroethane and 1,2-dichloroethene) compounds is strong evidence for the end-stage of natural attenuation in contaminated sediment and the absence of contaminant replenishment from source areas.

Sub-Surface Soil Samples

Analytical results for the sub-surface soil samples collected during the SHI (Table 3-2 and Figure 3-2) indicate barely detectable concentrations of three VOCs in three of the seventeen borings. In the MW-15 sample, 1,1,1-trichlorethane and 1,2-dichloroethene (*cis*) were detected with estimated concentrations of 5 and 6 µg/kg, respectively. In the SB-03 sample, 1,1,1-trichloroethane was estimated at 2 µg/kg and in SB-04 dichlorodifluoromethane was estimated at

TABLE 3-1
SEDIMENT ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			BECKER POND	SED-01	SED-02
Sample ID			Sediment Pond Inlet	SED-01 REAR POND	SED-02 SCHEL PD
Matrix			Sediment	Sediment	Sediment
Depth Interval (ft)			-	-	-
Date Sampled			02/25/04	06/04/04	06/04/04
Parameter	**Units**	**Criteria***			
Volatile Organic Compounds					
1,1-Dichloroethane	UG/KG	-		3 J	
1,2-Dichloroethene (trans)	UG/KG	-		4 J	
Toluene	UG/KG	-		3 J	
Vinyl chloride	UG/KG	0.7		28	
Total Volatile Organic Compounds	UG/KG	-	ND	38	ND

*Criteria- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 25, 1999. Criteria are based on an assumed Total Organic Carbon (TOC) content of 1%.

Flags assigned during chemistry validation are shown.

( ) Concentration Exceeds Criteria

NOTES: (1) The laboratory data sheet calls SED-01, MIDDLE POND not REAR POND

Criteria for the protection of human health bioaccumulation were selected for sediment screening using an assumed total organic carbon (TOC) of 1% by weight (I.e. 10 grams per kilogram).

Only Detected Results Reported.

TABLE 3-2
SUBSURFACE SOIL ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			MW-11	MW-12	MW-13	MW-14	MW-15
Sample ID			MW-11 9.0-10.0	MW-12 10.0-11.0	MW-13 12.0-12.5	MW-14 9.5-10.0	MW-15 12.0-13.0
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			9.0-10.0	10.0-11.0	12.0-12.5	9.5-10.0	12.0-13.0
Date Sampled			06/03/04	06/03/04	06/02/04	06/02/04	06/02/04
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/KG	800					5 J
1,2-Dichloroethene (cis)	UG/KG	300					6 J
Dichlorodifluoromethane	UG/KG	-					
Total Volatile Organic Compounds	UG/KG	-	ND	ND	ND	ND	11

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 3-2
SUBSURFACE SOIL ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			MW-16	MW-17	MW-18	MW-19	MW-20
Sample ID			MW-16 8.5-9.5	MW-17 12.5-13.5	MW-18 12.5-13.0	MW-19 8.5-9.5	MW-20
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			8.5-9.5	12.5-13.5	12.5-13.0	8.5-9.5	8.0-9.0
Date Sampled			06/03/04	06/03/04	06/03/04	06/02/04	06/04/04
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/KG	800					
1,2-Dichloroethene (cis)	UG/KG	300					
Dichlorodifluoromethane	UG/KG	-					
Total Volatile Organic Compounds	UG/KG	-	ND	ND	ND	ND	ND

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 3-2
SUBSURFACE SOIL ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			MW-21	MW-22	MW-23	SB-01	SB-02
Sample ID			MW-21 9.0-9.5	MW-22 14.25-.75	MW-23 13.5-14.0	SB-01	SB-02
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			9.0-9.5	14.3-14.8	13.5-14.0	9.0-10.0	13.0-14.0
Date Sampled			06/01/04	06/01/04	06/02/04	06/03/04	06/03/04
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/KG	800					
1,2-Dichloroethene (cis)	UG/KG	300					
Dichlorodifluoromethane	UG/KG	-					
Total Volatile Organic Compounds	UG/KG	-	ND	ND	ND	ND	ND

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

Only Detected Results Reported.

Advanced Selection: SO - June 2004
N:\11172991.00000\DB\Program\Program\Program.mde
Printed: 6/9/2005 3:47:34 PM
[MATRIX] = 'SO' AND [LOGDATE] > #1/1/2004#

TABLE 3-2
SUBSURFACE SOIL ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			SB-03	SB-04
Sample ID			SB-03	SB-04
Matrix			Soil	Soil
Depth Interval (ft)			9.5-10.5	5.0-6.0
Date Sampled			06/03/04	06/03/04
Parameter	**Units**	**Criteria***		
Volatile Organic Compounds				
1,1,1-Trichloroethane	UG/KG	800	2 J	
1,2-Dichloroethene (cis)	UG/KG	300		
Dichlorodifluoromethane	UG/KG	-		9 J
Total Volatile Organic Compounds	UG/KG	-	2	9

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

Only Detected Results Reported.

N:\11172991.00000\DB\Gis\wyoming.apr JUNE 2004 SOIL EXCEEDANCES
6/10/2005

N

WYOMING COUNTY FIRE TRAINING CENTER

SHOOTING RANGE BUILDING

MW-05

REAR POND

MW-23

MW-06

MW-22

MW-02

MW-01 (DESTROYED)

MW-08

LIMITS OF COUNTY PROPERTY

NORTH FIRE PIT

MW-03

DRUM STORAGE AREA

CINDER BLOCK TRAINING CENTER

SB-03

SB-02

SB-04

SB-01

AIRPLANE FUSELAGE

SOUTH FIRE PIT

MW-07

MW-21

MW-20

MW-04

FORMER AST

MW-19

AGRO-1

MAIN BUILDING

DRIVEWAY

FRONT POND

MW-18

MW-09 (DESTROYED)

FORMER WEBER HOUSE

MW-10

MW-16

MW-15

MW-14

MW-17

WETHERSFIELD ROAD

MW-11

MW-12

MW-13

Legend

- Monitoring Well (Not Sampled)
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

100 0 100 Feet

URS

WYOMING COUNTY FIRE TRAINING CENTER
SOIL VOCs ANALYTICAL RESULTS (JUNE 2004)

FIGURE 3-2

9 µg/kg. These concentrations are just slightly above detection limits and well below the applicable SCGs. These data indicate that the extent of soil contamination is limited to those areas previously identified during the initial site investigations (NWEC&C, 2001). Of specific interest, there were no exceedances in the vicinity of the fire training building as indicated by results from SB-01 through SB-04. Additionally, there were no detectable compounds in any of the off-site sampling locations (i.e. Schell and Becker properties), which demonstrates that VOC contamination in soil at concentrations that exceed the SCGs does not extend beyond the boundaries of the operational areas of the WCFTC.

3.2.2 Surface Water/Groundwater Analytical Results

Surface Water Samples

Results from the three surface water analytical samples (Table 3-3) indicate no detectable VOCs in the two off-site ponds (i.e. Schell and Becker ponds) and only three VOCs at detectable concentrations in the Rear Pond. Only a single compound (tetrachloroethene at 12 µg/L) slightly exceeded the SCG criteria of 5 µg/L in the Rear Pond. This result indicates that migration of VOC contamination to site surface water is very minimal. Inasmuch as the source of the VOCs was removed during the IRM, minimal or no additional migration of VOCs to surface water in the Rear Pond is anticipated.

Shallow/Overburden Groundwater Samples

As part of SHI program, groundwater samples were collected from the existing and new groundwater monitoring wells, former/existing residential supply wells, springs and groundwater seeps and submitted for TCL VOC analysis. Results of the groundwater analytical testing for all sampling events are summarized in Table 3-4. Results from the September/November 2001 sampling event are presented in Figure 3-3. The February/June 2004 sampling event results are presented in Figure 3-4.

TABLE 3-3
SURFACE WATER ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			BECKER POND	SW-01	SW-02
Sample ID			Pond Inlet	SW-01 REAR POND	SW-02 SCHELL PD
Matrix			Surface Water	Surface Water	Surface Water
Depth Interval (ft)			-	-	-
Date Sampled			02/25/04	06/04/04	06/04/04
Parameter	**Units**	**Criteria***			
Volatile Organic Compounds					
1,1,1-Trichloroethane	UG/L	5		2 J	
1,2-Dichloroethene (cis)	UG/L	5		3 J	
Tetrachloroethene	UG/L	5		12	
Total Volatile Organic Compounds	UG/L	-	ND	17	ND

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 3-4
GROUND WATER ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			AGRO-1	AGRO-1	BAUMGERT_WELL	BECKER BASEMENT	BECKER SUPPLY
Sample ID			Argo-1 Dug Well	ARGO	BAUMGERT_WELL	Basement	Former Supply Well West
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			11/08/01	06/14/04	10/06/03	02/25/04	02/25/04
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/L	5	247.8	96			16
1,1,2-Trichloroethane	UG/L	1					
1,1-Dichloroethane	UG/L	5	67.4	110			1.7
1,1-Dichloroethene	UG/L	5		4 J			
1,2,4-Trimethylbenzene	UG/L	-		NA			
1,2-Dichloroethane	UG/L	0.6					
1,2-Dichloroethene (cis)	UG/L	5	46.8	160			5.2
Acetone	UG/L	50			NA	NA	NA
Benzene	UG/L	1					
Chloroethane	UG/L	5		22 J			
Dibromochloromethane	UG/L	50					
Ethylbenzene	UG/L	5					
m&p-Xylene	UG/L	-		NA	NA	NA	NA
Methyl tert-butyl ether	UG/L	10	5.0	5 J			
Methylene chloride	UG/L	5					
sec-Butylbenzene	UG/L	-		NA			
Tetrachloroethene	UG/L	5	148.9	100			0.7
Trichloroethene	UG/L	5		10			
Vinyl chloride	UG/L	2					
Total Volatile Organic Compounds	UG/L	-	515.9	507	ND	ND	23.6

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

[MATRIX] = 'WG' AND [FLDSAMPID] <> 'BAKER TANK' AND [FLDSAMPID] <> 'POST CARB FILT' AND [FLDSAMPID] <> 'TRIP BLANK' AND [FLDSAMPID] <> 'AREA3-36-WATER' AND [FLDSAMPID] <> 'AREA3-BEL F PIT' AND [PRCCODE] NOT LIKE 'M*'

TABLE 3-4
GROUND WATER ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			BECKER WELL	BECKER WELL	MW-01	MW-02	MW-02
Sample ID			BECKER WELL	Tap Water In House	MW-01	MW-02	MW-02
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/03	02/25/04	09/28/01	09/28/01	06/14/04
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/L	5			378.6	45.3	9 J
1,1,2-Trichloroethane	UG/L	1			95.9		
1,1-Dichloroethane	UG/L	5			37.4	11.3	2 J
1,1-Dichloroethene	UG/L	5			23.3		
1,2,4-Trimethylbenzene	UG/L	-					NA
1,2-Dichloroethane	UG/L	0.6					
1,2-Dichloroethene (cis)	UG/L	5			1,296.2	273.9	23
Acetone	UG/L	50	NA	NA			
Benzene	UG/L	1					
Chloroethane	UG/L	5					
Dibromochloromethane	UG/L	50					
Ethylbenzene	UG/L	5					
m&p-Xylene	UG/L	-	NA	NA			NA
Methyl tert-butyl ether	UG/L	10					
Methylene chloride	UG/L	5					
sec-Butylbenzene	UG/L	-					NA
Tetrachloroethene	UG/L	5			4,069.1	371.0	15
Trichloroethene	UG/L	5			21.3	76.6	2 J
Vinyl chloride	UG/L	2					3 J
Total Volatile Organic Compounds	UG/L	-	ND	ND	5,921.8	778.1	54

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-4
GROUND WATER ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			MW-03	MW-03	MW-04	MW-04	MW-05
Sample ID			MW-03	MW-03	MW-04	MW-04	MW-05
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			11/06/01	06/11/04	11/06/01	06/14/04	11/06/01
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/L	5					
1,1,2-Trichloroethane	UG/L	1					
1,1-Dichloroethane	UG/L	5					
1,1-Dichloroethene	UG/L	5					
1,2,4-Trimethylbenzene	UG/L	-		NA		NA	
1,2-Dichloroethane	UG/L	0.6					
1,2-Dichloroethene (cis)	UG/L	5					
Acetone	UG/L	50					
Benzene	UG/L	1					
Chloroethane	UG/L	5					
Dibromochloromethane	UG/L	50					
Ethylbenzene	UG/L	5					
m&p-Xylene	UG/L	-		NA		NA	
Methyl tert-butyl ether	UG/L	10					
Methylene chloride	UG/L	5					
sec-Butylbenzene	UG/L	-		NA		NA	
Tetrachloroethene	UG/L	5					
Trichloroethene	UG/L	5					
Vinyl chloride	UG/L	2					
Total Volatile Organic Compounds	UG/L	-	ND	ND	ND	ND	ND

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-4
GROUND WATER ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			MW-05	MW-06	MW-06	MW-07	MW-07
Sample ID			MW-05	MW-06	MW-06	MW-07	MW-07
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/11/04	11/07/01	06/14/04	11/07/01	06/14/04
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/L	5		27.7		1,252.1	1,300 D
1,1,2-Trichloroethane	UG/L	1					
1,1-Dichloroethane	UG/L	5			2 J	155.2	69
1,1-Dichloroethene	UG/L	5					14
1,2,4-Trimethylbenzene	UG/L	-	NA		NA		NA
1,2-Dichloroethane	UG/L	0.6					
1,2-Dichloroethene (cis)	UG/L	5		21.4	4 J	2,132.9	730 D
Acetone	UG/L	50					
Benzene	UG/L	1				2.1	
Chloroethane	UG/L	5					23 J
Dibromochloromethane	UG/L	50					
Ethylbenzene	UG/L	5					
m&p-Xylene	UG/L	-	NA		NA		NA
Methyl tert-butyl ether	UG/L	10				2.9	
Methylene chloride	UG/L	5					
sec-Butylbenzene	UG/L	-	NA		NA		NA
Tetrachloroethene	UG/L	5		68.0		7,414.6	1,800 D
Trichloroethene	UG/L	5				148.7	49
Vinyl chloride	UG/L	2				5.1	12
Total Volatile Organic Compounds	UG/L	-	ND	117.1	6	11,113.6	3,997

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-4
GROUND WATER ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			MW-07	MW-08	MW-08	MW-09	MW-10
Sample ID			MW-07	MW-08	MW-08	MW-09	MW-10
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			02/09/05	11/07/01	06/14/04	11/07/01	11/08/01
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/L	5	1,000				
1,1,2-Trichloroethane	UG/L	1					
1,1-Dichloroethane	UG/L	5	66 J				
1,1-Dichloroethene	UG/L	5					
1,2,4-Trimethylbenzene	UG/L	-	NA		NA		
1,2-Dichloroethane	UG/L	0.6					
1,2-Dichloroethene (cis)	UG/L	5	1,100				
Acetone	UG/L	50					
Benzene	UG/L	1					
Chloroethane	UG/L	5					
Dibromochloromethane	UG/L	50					
Ethylbenzene	UG/L	5					
m&p-Xylene	UG/L	-			NA		
Methyl tert-butyl ether	UG/L	10					
Methylene chloride	UG/L	5	51 BJ				
sec-Butylbenzene	UG/L	-	NA		NA		
Tetrachloroethene	UG/L	5	2,200 E				
Trichloroethene	UG/L	5	65 J				
Vinyl chloride	UG/L	2					
Total Volatile Organic Compounds	UG/L	-	4,482	ND	ND	ND	ND

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

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(oval) Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-4
GROUND WATER ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			MW-10	MW-10	MW-11	MW-12	MW-12
Sample ID			MW-10	MW-10	MW-11	MW-12	MW-12
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/14/04	02/09/05	06/10/04	06/10/04	02/09/05
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/L	5	8 J			31	34
1,1,2-Trichloroethane	UG/L	1					
1,1-Dichloroethane	UG/L	5				4 J	
1,1-Dichloroethene	UG/L	5					
1,2,4-Trimethylbenzene	UG/L	-	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6					
1,2-Dichloroethene (cis)	UG/L	5	6 J			20	18
Acetone	UG/L	50					
Benzene	UG/L	1					
Chloroethane	UG/L	5					
Dibromochloromethane	UG/L	50					
Ethylbenzene	UG/L	5					
m&p-Xylene	UG/L	-	NA		NA	NA	
Methyl tert-butyl ether	UG/L	10					
Methylene chloride	UG/L	5					
sec-Butylbenzene	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5	57			8 J	9 J
Trichloroethene	UG/L	5					
Vinyl chloride	UG/L	2					
Total Volatile Organic Compounds	UG/L	-	71	ND	ND	63	61

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

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(oval) Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

D - Result reported from a secondary dilution analysis.

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Only Detected Results Reported.

TABLE 3-4
GROUND WATER ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			MW-13	MW-13	MW-14	MW-15	MW-15
Sample ID			MW-13	MW-13	MW-14	MW-15	MW-15
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/09/04	02/09/05	06/11/04	06/10/04	02/09/05
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/L	5	4 J			210 D	150
1,1,2-Trichloroethane	UG/L	1					
1,1-Dichloroethane	UG/L	5				22	17
1,1-Dichloroethene	UG/L	5				2 J	
1,2,4-Trimethylbenzene	UG/L	-	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6					
1,2-Dichloroethene (cis)	UG/L	5	5 J			150	93
Acetone	UG/L	50					
Benzene	UG/L	1					
Chloroethane	UG/L	5				7 J	
Dibromochloromethane	UG/L	50					
Ethylbenzene	UG/L	5					
m&p-Xylene	UG/L	-	NA		NA	NA	
Methyl tert-butyl ether	UG/L	10					
Methylene chloride	UG/L	5					
sec-Butylbenzene	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5				100	84
Trichloroethene	UG/L	5				7 J	6 J
Vinyl chloride	UG/L	2					
Total Volatile Organic Compounds	UG/L	-	9	ND	ND	498	350

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-4
GROUND WATER ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			MW-16	MW-17	MW-18	MW-19	MW-19
Sample ID			MW-16	MW-17	MW-18	MW-19	MW-19
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/10/04	06/11/04	06/11/04	06/08/04	02/09/05
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/L	5	2 NJ			15	18
1,1,2-Trichloroethane	UG/L	1					
1,1-Dichloroethane	UG/L	5					
1,1-Dichloroethene	UG/L	5					
1,2,4-Trimethylbenzene	UG/L	-	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6					
1,2-Dichloroethene (cis)	UG/L	5	2 J			8 J	10 J
Acetone	UG/L	50		9 J	9 J		
Benzene	UG/L	1					
Chloroethane	UG/L	5					
Dibromochloromethane	UG/L	50					
Ethylbenzene	UG/L	5					
m&p-Xylene	UG/L	-	NA	NA	NA	NA	
Methyl tert-butyl ether	UG/L	10				8 J	
Methylene chloride	UG/L	5					
sec-Butylbenzene	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5				6 J	9 J
Trichloroethene	UG/L	5					
Vinyl chloride	UG/L	2					
Total Volatile Organic Compounds	UG/L	-	4	9	9	37	37

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

D - Result reported from a secondary dilution analysis.

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Only Detected Results Reported.

TABLE 3-4
GROUND WATER ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			MW-20	MW-21	MW-22	MW-23	RESW-01
Sample ID			MW-20	MW-21	MW-22	MW-23	RESW-01 SCHELL
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/11/04	06/08/04	06/11/04	06/08/04	06/04/04
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/L	5		4 J			
1,1,2-Trichloroethane	UG/L	1					
1,1-Dichloroethane	UG/L	5					
1,1-Dichloroethene	UG/L	5					
1,2,4-Trimethylbenzene	UG/L	-	NA	NA	NA	NA	NA
1,2-Dichloroethane	UG/L	0.6					
1,2-Dichloroethene (cis)	UG/L	5		3 J			
Acetone	UG/L	50					
Benzene	UG/L	1					
Chloroethane	UG/L	5					
Dibromochloromethane	UG/L	50					
Ethylbenzene	UG/L	5					
m&p-Xylene	UG/L	-	NA	NA	NA	NA	NA
Methyl tert-butyl ether	UG/L	10					
Methylene chloride	UG/L	5					
sec-Butylbenzene	UG/L	-	NA	NA	NA	NA	NA
Tetrachloroethene	UG/L	5					
Trichloroethene	UG/L	5					
Vinyl chloride	UG/L	2					
Total Volatile Organic Compounds	UG/L	-	ND	7	ND	ND	ND

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

[MATRIX] = 'WG' AND [FLDSAMPID] <> 'BAKER TANK' AND [FLDSAMPID] <> 'POST CARB FILT' AND [FLDSAMPID] <> 'TRIP BLANK' AND [FLDSAMPID] <> 'AREA3-36-WATER' AND [FLDSAMPID] <> 'AREA3-BEL F PIT' AND [PRCCODE] NOT LIKE 'M'

TABLE 3-4
GROUND WATER ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			SPRING	SPRING	SPRING	SPRING	SPRING
Sample ID			POND SPRING	SPRING	SPRING	SPRING	SPRING
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/06/03	10/06/03	11/18/03	02/26/04	02/09/05
Parameter	Units	Criteria*	(2-1)				
Volatile Organic Compounds							
1,1,1-Trichloroethane	UG/L	5		13	58 D	16	45
1,1,2-Trichloroethane	UG/L	1					
1,1-Dichloroethane	UG/L	5		9	7.6	1.7 U	8 J
1,1-Dichloroethene	UG/L	5		3.9	1.0		
1,2,4-Trimethylbenzene	UG/L	-			NA		NA
1,2-Dichloroethane	UG/L	0.6		0.5			
1,2-Dichloroethene (cis)	UG/L	5		39	40 D	5.2	
Acetone	UG/L	50	NA	NA		NA	
Benzene	UG/L	1					
Chloroethane	UG/L	5		2.7	1.9		
Dibromochloromethane	UG/L	50					
Ethylbenzene	UG/L	5					
m&p-Xylene	UG/L	-	NA	NA	NA		
Methyl tert-butyl ether	UG/L	10		0.5			
Methylene chloride	UG/L	5					6 BJ
sec-Butylbenzene	UG/L	-			NA		NA
Tetrachloroethene	UG/L	5		9.3	5.8 D	0.7	9 J
Trichloroethene	UG/L	5		1.9	1.0		
Vinyl chloride	UG/L	2					
Total Volatile Organic Compounds	UG/L	-	ND	79.8	115.3	23.6	68

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-4
GROUND WATER ANALYTICAL RESULTS
WYOMING COUNTY FIRE TRAINING CENTER

Location ID			WEBER WELL	WEBER WELL	WEBER WELL
Sample ID			Weber House	Weber Test Well	WEBER
Matrix			Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-
Date Sampled			09/28/01	11/16/01	06/14/04
Parameter	**Units**	**Criteria***			
Volatile Organic Compounds					
1,1,1-Trichloroethane	UG/L	5	576.3		3 NJ
1,1,2-Trichloroethane	UG/L	1			
1,1-Dichloroethane	UG/L	5	27.7		
1,1-Dichloroethene	UG/L	5			
1,2,4-Trimethylbenzene	UG/L	-	1.0		NA
1,2-Dichloroethane	UG/L	0.6			
1,2-Dichloroethene (cis)	UG/L	5	313.6		
Acetone	UG/L	50			
Benzene	UG/L	1	0.7		
Chloroethane	UG/L	5			
Dibromochloromethane	UG/L	50	6.2		
Ethylbenzene	UG/L	5	1.5		
m&p-Xylene	UG/L	-	8.4		NA
Methyl tert-butyl ether	UG/L	10			
Methylene chloride	UG/L	5			
sec-Butylbenzene	UG/L	-	1.0		NA
Tetrachloroethene	UG/L	5	1,525.9		9 NJ
Trichloroethene	UG/L	5	72.3		
Vinyl chloride	UG/L	2			
Total Volatile Organic Compounds	UG/L	-	2,534.6	ND	12

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit.

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value.

Only Detected Results Reported.

Advanced Selection: TABLE 3-4
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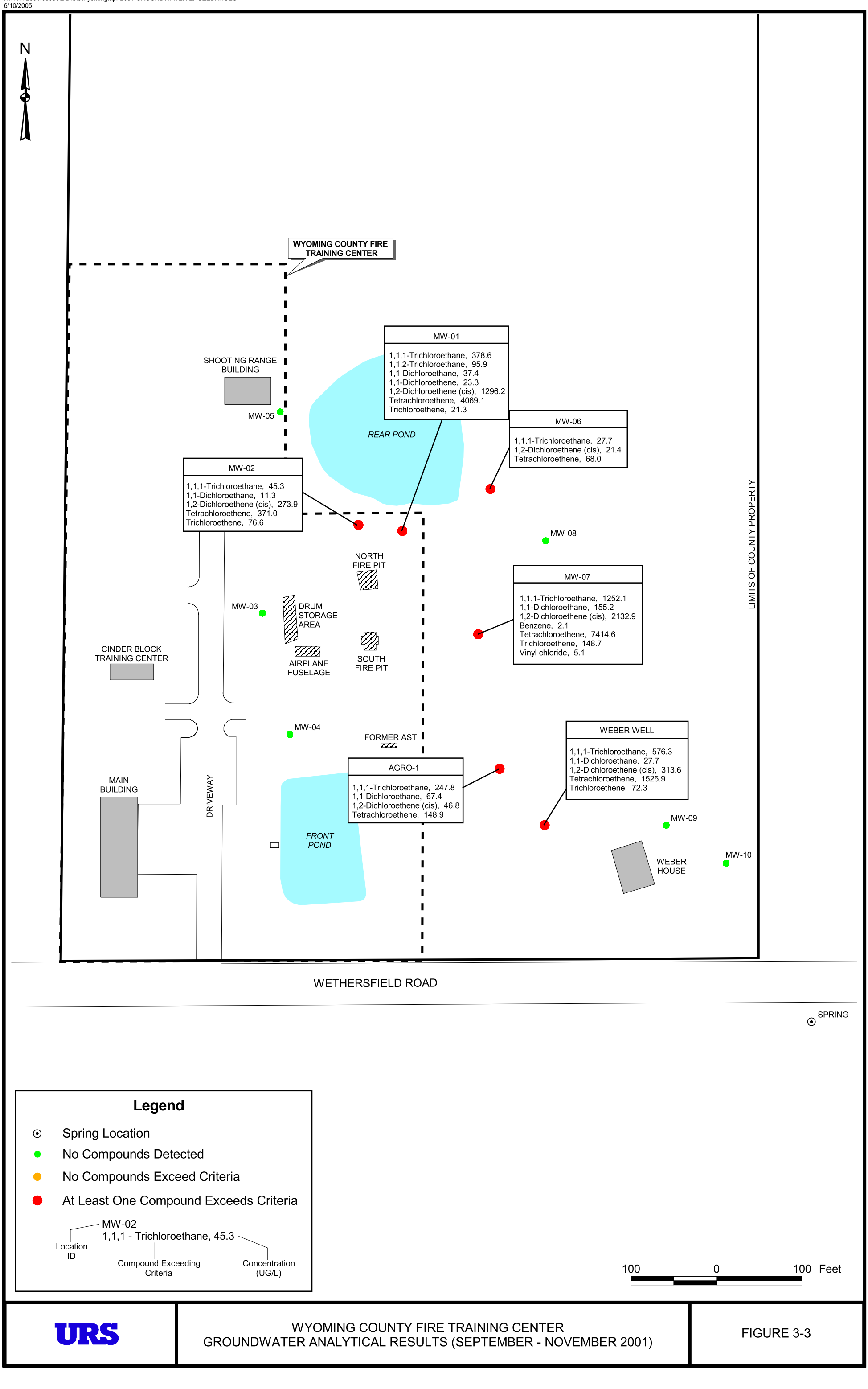
[MATRIX] = 'WG' AND [FLDSAMPID] <> 'BAKER TANK' AND [FLDSAMPID] <> 'POST CARB FILT' AND [FLDSAMPID] <> 'TRIP BLANK' AND [FLDSAMPID] <> 'AREA3-36-WATER' AND [FLDSAMPID] <> 'AREA3-BEL F PIT' AND [PRCCODE] NOT LIKE 'M'

As indicated in Table 3-4 and Figure 3-4, no detectable concentrations of VOCs were noted in the February/June 2004 samples collected from the Schell and Becker residential wells (RESW–01 and Becker Well, respectively) and monitoring wells MW-03, -04, -05, -08, -11, -14, -20, -22 and –23. Detectable concentrations of VOCs were observed in monitoring wells MW-06, -13, -16, -17, -18 and -21. However, the concentrations were well below the applicable SCGs. In the remaining samples collected from the dug well (AGRO-1), the former Weber residential well (Weber Well), monitoring wells MW-02, -07, -10, -12, -15, and –19, and the spring located west of the Becker residence (Spring, Former Becker Supply Well), various individual VOC concentrations exceeded the SCGs criteria. Additionally, total VOC concentrations in these nine wells ranged from 12 to 3,951 μg/L (Table 3-4). As discussed, the "Former Becker Supply Well" is not an actual well, as it is directly connected to the spring located about 450' to the west via a buried steel pipe. Therefore the data for the Former Becker Supply Well is in fact indicative of the water quality at the spring, and the results are interchangeable.

There were only one or more exceedances of the SCGs in the spring and eight of the twenty six groundwater wells located in an approximately 200' wide zone oriented northwest-southeast, originating at the four AOCs. The groundwater contamination is wholly contained within what is now County owned properties, with the exception of monitoring well MW-12 and the Becker spring. Generally, the VOC concentrations in the groundwater are highest in the area immediately downgradient of the operational area of the WCFTC (i.e. MW-07 and AGRO-1) and decrease significantly further to the southeast, such that they are only slightly above the SCGs at the extreme southeastern end of the zone (i.e. MW-12 and Spring). The only exception is MW-15, wherein the VOC concentrations are comparable to those observed in the AGRO-1 well which is located upgradient of MW-15.

Comparisons of analytical results from monitoring wells sampled during both the 2001 and 2004 sampling events (i.e. MW-02, -03, -04, -05, -06, -07 and -08) indicate that there were significant reductions in the number and/or concentration of VOCs identified in the groundwater in 2004 as compared to 2001 (Table 3-4 and Figures 3-3 and 3-4). Typically, the total VOC concentrations observed in 2004 were 1 to 2 orders of magnitude lower than the concentrations observed in 2001 (e.g. 778 μg/L to 54 μg/L in MW-02, 177 μg/L to 6 μg/L in MW-06 and 11,114

N:\11172991.00000\DB\Gis\wyoming.apr 2001 GROUNDWATER EXCEEDANCES
6/10/2005



Legend

- Spring Location
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-02
1,1,1 - Trichloroethane, 45.3

Location ID
Compound Exceeding Criteria
Concentration (UG/L)

100 0 100 Feet

URS

WYOMING COUNTY FIRE TRAINING CENTER
GROUNDWATER ANALYTICAL RESULTS (SEPTEMBER - NOVEMBER 2001)

FIGURE 3-3

N

WYOMING COUNTY FIRE TRAINING CENTER

SHOOTING RANGE BUILDING

MW-05

MW-23

REAR POND

MW-02

1,1,1-Trichloroethane, 9
1,2-Dichloroethene (cis), 23
Tetrachloroethene, 15
Vinyl chloride, 3

MW-06

MW-22

MW-01 (DESTROYED)

MW-08

LIMITS OF COUNTY PROPERTY

SCHELL POND

MW-07

1,1,1-Trichloroethane, 1300
1,1-Dichloroethane, 71
1,1-Dichloroethene, 14
1,2-Dichloroethene (cis), 730
Chloroethane, 23
Tetrachloroethene, 1800
Trichloroethene, 50
Vinyl chloride, 12

MW-03

MW-21

MW-20

CINDER BLOCK TRAINING CENTER

AGRO-1

1,1,1-Trichloroethane, 96
1,1-Dichloroethane, 110
1,2-Dichloroethene (cis), 160
Chloroethane, 22
Tetrachloroethene, 100
Trichloroethene, 10

MW-19

1,1,1-Trichloroethane, 15
1,2-Dichloroethene (cis), 8
Tetrachloroethene, 6

MW-04

MAIN BUILDING

DRIVEWAY

FRONT POND

WEBER WELL

Tetrachloroethene, 9

MW-09 (DESTROYED)

MW-10

1,1,1-Trichloroethane, 8
1,2-Dichloroethene (cis), 6
Tetrachloroethene, 57

RESW-01

SCHELL HOUSE

MW-18

WEBER HOUSE

MW-16

MW-14

MW-17

MW-15

1,1,1-Trichloroethane, 210
1,1-Dichloroethane, 22
1,2-Dichloroethene (cis), 150
Chloroethane, 7
Tetrachloroethene, 100
Trichloroethene, 7

SPRING

1,1,1-Trichloroethane, 16
1,2-Dichloroethene (cis), 5.2

WETHERSFIELD ROAD

MW-11

MW-13

MW-12

1,1,1-Trichloroethane, 31
1,2-Dichloroethene (cis), 20
Tetrachloroethene, 8

FORMER BECKER SUPPLY WELL

1,2-Dichloroethene (cis), 5.2

UNDERGROUND PIPE

BASEMENT SEEP

BECKER HOUSE

BECKER WELL

Legend

- Monitoring Well (Not Sampled)
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-12
Tetrachloroethene, 8

Location ID

Compound Exceeding Criteria

Concentration (UG/L)

Note:
(1) SPRING, RESW-01, BECKER SUPPLY WELL detections are from 02/04; the rest of the well detections are from 06/04.
(2) Spring Location was sampled on 10/03, 11/03, and 02/04.

125 0 125 Feet

WYOMING COUNTY FIRE TRAINING CENTER GROUNDWATER ANALYTICAL RESULTS (JUNE 2004)

URS

FIGURE 3-4

N:\11172991.00000\DB\Gis\wyoming.apr GROUNDWATER ANALYTICAL RESULTS (2004)
6/10/2005

µg/L to 3,951 µg/L in MW-07). This indicates that the IRM was successful in significantly reducing the source of VOC contamination in the four AOCs.

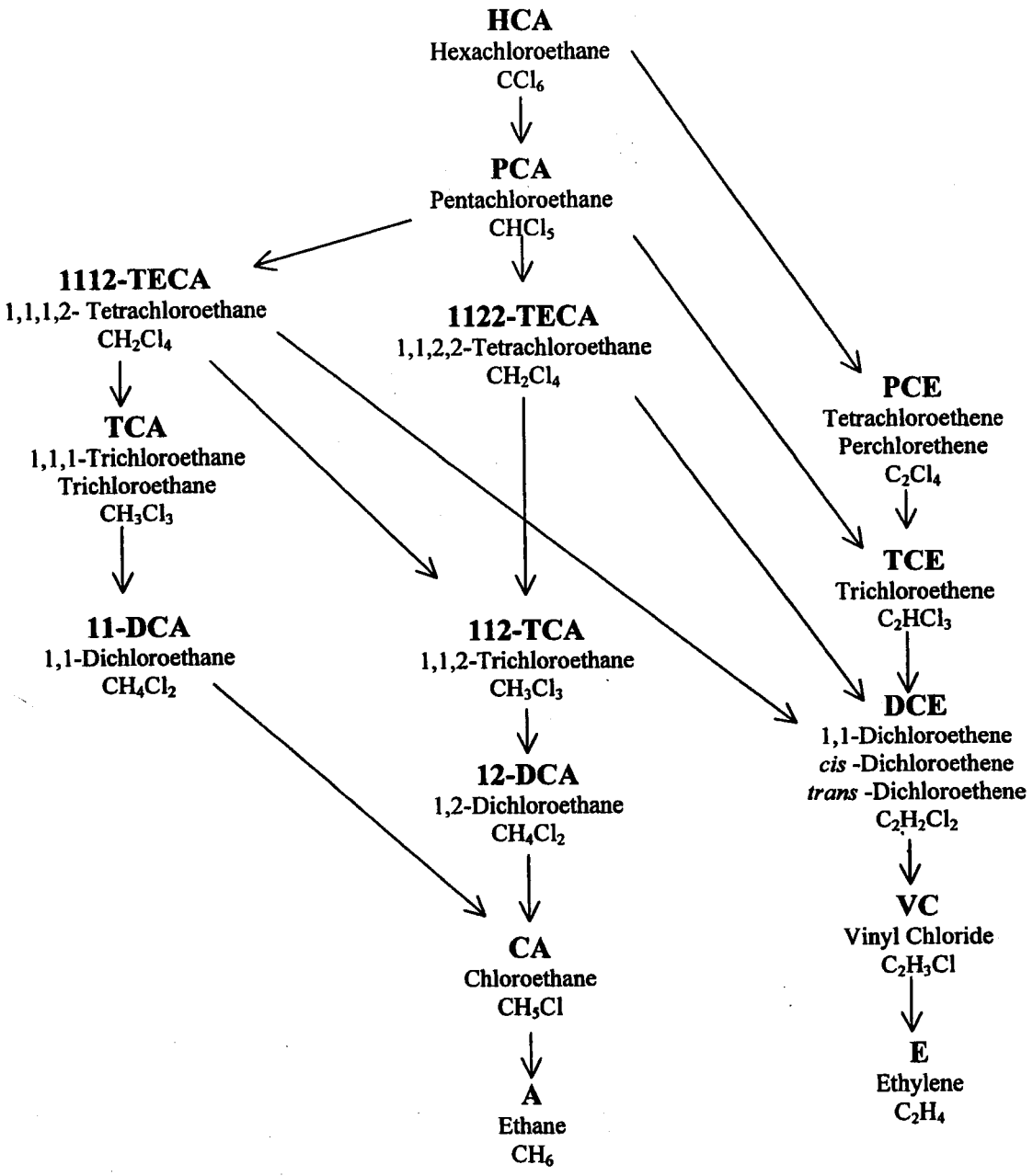
Increases in the concentrations of chloroethane in the dug well (AGRO-1) and MW-07 and vinyl chloride in MW-02 and MW-07 in the 2004 data as compared to the 2001 data, indicate that degradation of VOC contamination is in progress (Table 3-5).

The only onsite or offsite receptor currently impacted by VOC-contaminated groundwater is the spring on the Becker property; which is directly connected via a pipe to a spigot located west of the Becker residence. Therefore the water quality data for the Former Becker Supply Well and the spring are interchangeable. A new well installed near the residence currently supplies potable water to the Becker residence. The county has offered the Becker Estate to install an additional pipe from the new well to the west spigot. The groundwater data for samples collected from the spring (Table 3-4) indicate that the number and/or concentrations of VOCs detected decreased significantly from October 2003 to February 2004. No detectable VOCs were reported in a sample collected from the new supply well.

The extent of groundwater contamination has been delineated along the north, west and northeast perimeter of the Site. Contamination detected in samples collected from MW-12, MW-10 and the spring are only slightly above the SCGs. It is likely that the groundwater contamination does not extend much beyond these locations.

The contamination detected at MW-10 is likely the result of contaminant migration under the influence of normal groundwater flow conditions at the Site. However, the presence of contamination at MW-12, MW-15, and the Becker spring due south/southeast of the former Weber house, is inconsistent with the existing hydrogeologic data. Whereas the contaminant distribution observed in the monitoring wells suggests a northwest-southeast groundwater flow direction, an overlay of surface topography and typical groundwater contours (Figure 2-2) indicate that groundwater and surface water flow at the Site are predominantly to the east, with some minor components to the northeast in the area between and east of the Front Pond and Rear Pond. There is no known historical source located hydraulically up gradient (i.e. west) of these wells that would be a source of the contamination at the measured concentrations. Regardless of

Table 3-5
Pathways of Chlorinated VOC Reduction



Modified from: Fetter, C.W., 1993, *Contaminant Hydrogeology*, R.A. McConnin Ed., New York: Macmillan Publishers.

source issues Wyoming County as Volunteer is addressing Becker related conditions in the Recommended Remedial Alternatives.

Deep Bedrock Aquifer

The analytical data showed that there were no VOCs detected in the deeper bedrock aquifer (NWEC&C, 2001), indicating that it has not been impacted by historical activities at the Site.

3.3 Supplemental Field Activities (February 2005)

Based on the results of the IRM and SHI, the NYSDEC requested that some supplemental field activities be undertaken prior to preparation of the RAS report. These included the following:

One confirmatory sample on the west side of Area 4 – Drum Storage Area indicated total VOC concentrations (i.e. 72 ppm) that exceeded the approved cleanup goal of 10 ppm. Consequently, it was agreed to conduct additional sampling in this area to determine if the limits of excavation were adequate.

During the IRM, petroleum contaminated soils were encountered during soil excavation in the northern portion of Area 3 – North Fire Pit. Whereas the contaminated soils were removed and disposed offsite, no confirmatory samples were collected and analyzed for SVOCs to verify that all the petroleum contaminated soils had been removed. Consequently, samples were to be collected from this area.

In addition to the NYSDEC requests, it was determined by the County that it would be beneficial to collect an additional round of groundwater samples from those wells that had exhibited exceedances of the SCGs during the SHI. These samples were to be analyzed for VOCs and natural attenuation parameters.

3.3.1 Soil Sampling

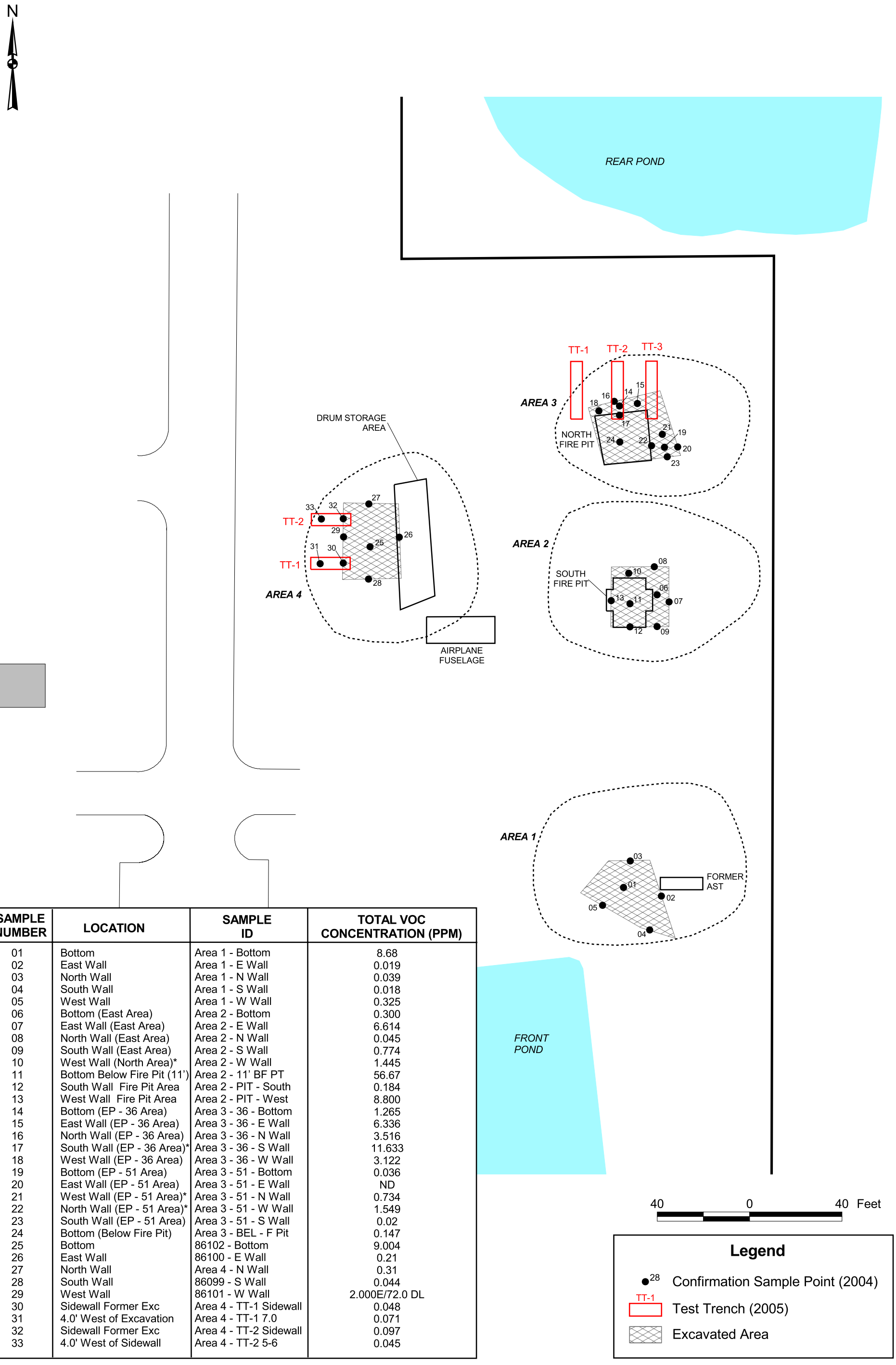
On February 9, 2005, representatives of URS and the NYSDEC met on site to conduct the additional soil sampling. NWEC&C provided a small trackhoe and operator to excavate two test trenches on the west side of Area 4 (where the confirmatory sample exceeded the cleanup criteria) at the approximate locations shown on Figure 3-5. The excavation was started inside the former excavation area and continued to the west about 10 feet beyond the former western sidewall. The excavation was extended to a depth of approximately 7 feet (bottom of previous excavation). PID readings in both trenches showed some VOCs (i.e. maximum of 25 - 75 ppm) in the first one-foot of soil, immediately west of the former excavation at depths of 4 - 7 feet. The readings dropped to background or 1-2 ppm as the trench was extended further to the west. The test pit logs are contained in Appendix A.

Two samples were collected from each trench (total of four samples). One from the soils within one foot of the former excavation and one from about 4 feet west of the former sidewall. Based on the field observations, it was discussed and agreed with the NYSDEC that the VOC contamination did not appear to extend any significant distance to the west beyond the original sidewall of the excavation and, therefore it was not likely that any further excavation and/or treatment of soils would be required in this area. Consequently, the trenches were backfilled with the excavated soil.

The analytical results (Appendix B) from the four samples collected in the test trenches, immediately west of the former Area 4 excavation, indicated that the total and individual VOC concentrations were well below the 10 ppm cleanup criteria and the individual TAGM 4046 criteria. This confirmed that no additional excavation was required in this area.

On the north side of Area 3 - North Fire Pit, in the vicinity of the 4-inch corrugated pipe, three test trenches were excavated at the approximate locations shown on Figure 3-5. These trenches were started on the outside slope (north of the pit) and excavated in a southerly direction until they intersected the former excavation associated with the fire pit. As indicated in the test pit logs (Appendix A), there was no visible or olfactory evidence of petroleum contamination in any of the three test trenches. In the easternmost trench a short section of the 4-inch corrugated

N:\11172991.00000\DB\Gis\wyoming.apr SUPPLEMENTAL SOIL SAMPLING LOCATIONS/RESULTS
7/1/2005



SAMPLE NUMBER	LOCATION	SAMPLE ID	TOTAL VOC CONCENTRATION (PPM)
01	Bottom	Area 1 - Bottom	8.68
02	East Wall	Area 1 - E Wall	0.019
03	North Wall	Area 1 - N Wall	0.039
04	South Wall	Area 1 - S Wall	0.018
05	West Wall	Area 1 - W Wall	0.325
06	Bottom (East Area)	Area 2 - Bottom	0.300
07	East Wall (East Area)	Area 2 - E Wall	6.614
08	North Wall (East Area)	Area 2 - N Wall	0.045
09	South Wall (East Area)	Area 2 - S Wall	0.774
10	West Wall (North Area)*	Area 2 - W Wall	1.445
11	Bottom Below Fire Pit (11')	Area 2 - 11' BF PT	56.67
12	South Wall Fire Pit Area	Area 2 - PIT - South	0.184
13	West Wall Fire Pit Area	Area 2 - PIT - West	8.800
14	Bottom (EP - 36 Area)	Area 3 - 36 - Bottom	1.265
15	East Wall (EP - 36 Area)	Area 3 - 36 - E Wall	6.336
16	North Wall (EP - 36 Area)	Area 3 - 36 - N Wall	3.516
17	South Wall (EP - 36 Area)*	Area 3 - 36 - S Wall	11.633
18	West Wall (EP - 36 Area)	Area 3 - 36 - W Wall	3.122
19	Bottom (EP - 51 Area)	Area 3 - 51 - Bottom	0.036
20	East Wall (EP - 51 Area)	Area 3 - 51 - E Wall	ND
21	West Wall (EP - 51 Area)*	Area 3 - 51 - N Wall	0.734
22	North Wall (EP - 51 Area)*	Area 3 - 51 - W Wall	1.549
23	South Wall (EP - 51 Area)	Area 3 - 51 - S Wall	0.02
24	Bottom (Below Fire Pit)	Area 3 - BEL - F Pit	0.147
25	Bottom	86102 - Bottom	9.004
26	East Wall	86100 - E Wall	0.21
27	North Wall	Area 4 - N Wall	0.31
28	South Wall	86099 - S Wall	0.044
29	West Wall	86101 - W Wall	2.000E/72.0 DL
30	Sidewall Former Exc	Area 4 - TT-1 Sidewall	0.048
31	4.0' West of Excavation	Area 4 - TT-1 7.0	0.071
32	Sidewall Former Exc	Area 4 - TT-2 Sidewall	0.097
33	4.0' West of Sidewall	Area 4 - TT-2 5-6	0.045

URS

WYOMING COUNTY FIRE TRAINING CENTER
IRM - CONTAMINATED SOIL REMOVAL
SUPPLEMENTAL SOIL SAMPLING LOCATIONS/RESULTS

FIGURE 3-5

pipe was encountered. There was no visible product observed inside or outside of this pipe. When the former excavation was intersected, water trapped in the gravel backfill flowed into the trench. There was a very slight sheen observed on the surface of the water that collected in the trench. Two soil samples were collected in the trenches at the point closest to the former fire pit excavation. The intent was to analyze these samples for SVOCs. However, it was agreed with the NYSDEC field representatives that based on the lack of visual and/or olfactory evidence, the soils exposed in the trenches, north of the former fire pit excavation, were deemed to be 'clean' and the samples did not need to be analyzed.

3.3.2 Groundwater Sampling

Initially, groundwater level measurements were collected in all the existing monitoring wells. The groundwater levels were utilized to produce a groundwater contour map (Figure 3-6). As indicated on this figure, the general groundwater flow pattern is from west to east across the Site and the adjacent property to the east, as noted on previous groundwater contour maps. There was no indication of any component of flow from the Site to the southeast toward the spring.

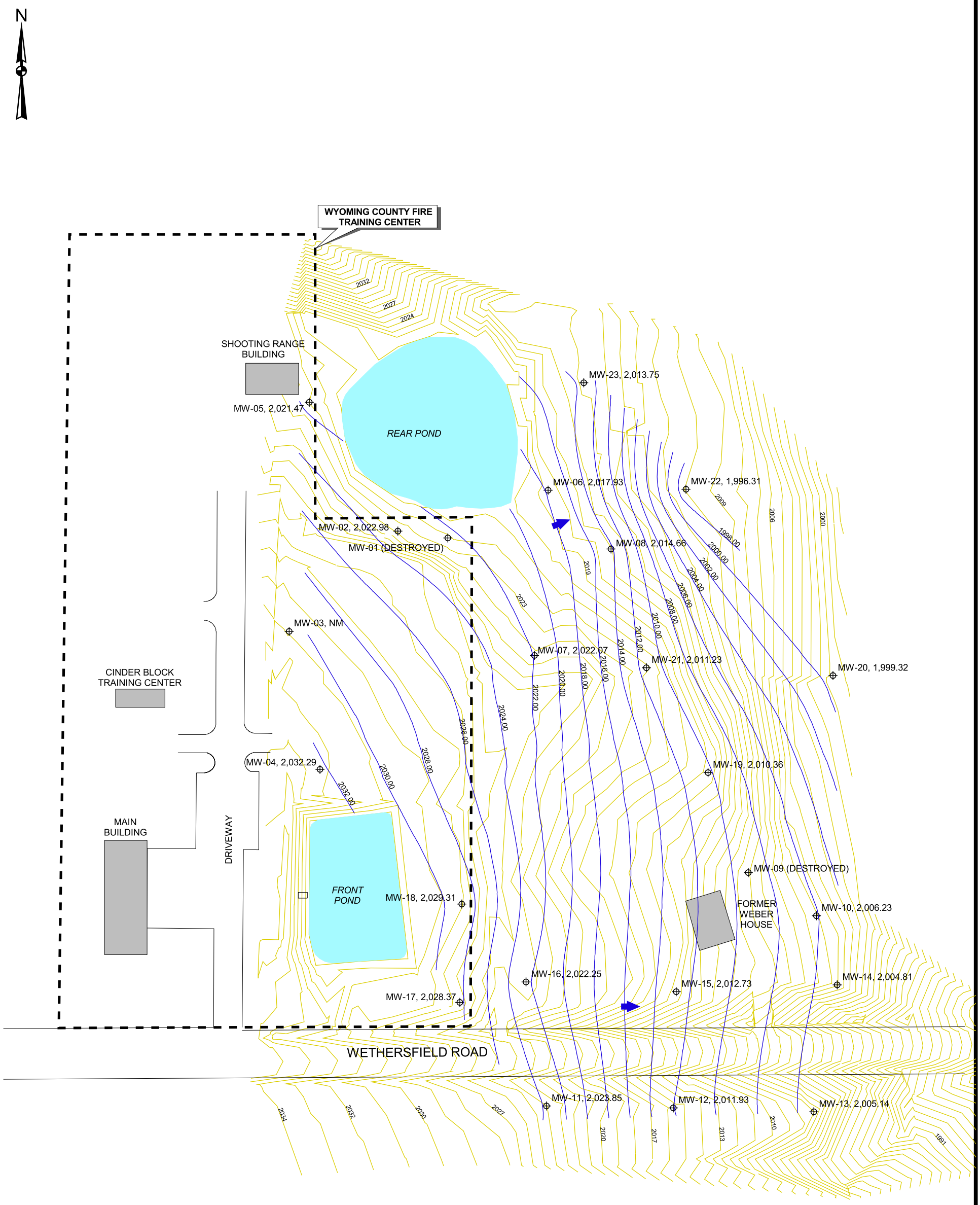
Groundwater samples were collected from MW-07, -10, -12, -13, -15, -19 and the spring. These were submitted for analysis of VOCs and Natural Attenuation indicator parameters. As agreed with the NYSDEC, no MS/MSD samples were required and only Category 'A' deliverables were prepared by the lab.

The analytical results are contained in Appendix B and summarized below. The well development and purging logs are contained in Appendix C.

The VOC data for the selected monitoring wells (Figure 3-7) was compared with the previous data from the June 2004 sampling event (Figure 3-4):

- MW-07 -showed a very slight increase in concentrations
- MW-19 (east property line) – showed no change in concentrations

N:\11172991.00000\DB\Gis\wyoming.apr FEBRUARY 09, 2005 WATER ELEVATION CONTOURS
7/1/2005



Legend

- Monitoring Well
- 2010.00 Groundwater Elevation Contour
- 2000 Topographic Elevation Contour
- Groundwater Flow Direction
- MW-10, 2006.23 (Well Location; Groundwater Elevation (ft))

NOTE:
- NM - Not Measured

100 0 100 Feet

URS

WYOMING COUNTY FIRE TRAINING CENTER
GROUNDWATER ELEVATION CONTOUR MAP (02/09/05)

FIGURE 3-6

N

WYOMING COUNTY FIRE TRAINING CENTER

SHOOTING RANGE BUILDING

MW-05

REAR POND

MW-23

ROCK WELL2

SW-01

MW-06

MW-22

MW-02

MW-01 (DESTROYED)

MW-08

MW-07

1,1,1-Trichloroethane, 1000
1,2-Dichloroethene (cis), 1100
1,1-Dichloroethane, 66
Methylene chloride, 51
Tetrachloroethene, 2200
Trichloroethene, 65

LIMITS OF COUNTY PROPERTY

SCHELL POND

MW-03

CINDER BLOCK TRAINING CENTER

MW-21

MW-20

MW-19

1,1,1-Trichloroethane, 18
1,2-Dichloroethene (cis), 10
Tetrachloroethene, 9

MW-04

AGRO-1

MAIN BUILDING

DRIVEWAY

FRONT POND

WEBER WELL

ROCK WELL1

MW-09 (DESTROYED)

RESW-01

SCHELL HOUSE

MW-18

WEBER HOUSE

MW-10

MW-16

MW-14

MW-17

MW-15

Tetrachloroethene, 84
1,1-Dichloroethane, 17
1,2-Dichloroethene (cis), 93
Trichloroethene, 6
1,1,1-Trichloroethane, 150

SPRING

Tetrachloroethene, 9
Methylene chloride, 6
1,1,1-Trichloroethane, 45
1,1-Dichloroethane, 8

WETHERSFIELD ROAD

MW-11

MW-13

MW-12

Tetrachloroethene, 9
1,1,1-Trichloroethane, 34
1,2-Dichloroethene (cis), 18

UNDERGROUND PIPE

FORMER BECKER SUPPLY WELL

BECKER HOUSE

BECKER WELL

Legend

- Monitoring Well (Not Sampled)
- No Compounds Detected
- No Compounds Exceed Criteria
- At Least One Compound Exceeds Criteria

MW-12
Tetrachloroethene, 9

Location ID

Compound Exceeding Criteria

Concentration (UG/L)

125 0 125 Feet

WYOMING COUNTY FIRE TRAINING CENTER GROUNDWATER ANALYTICAL RESULTS (FEBRUARY 2005)

URS

FIGURE 3-7

N:\11172991.00000\DBG\s\wyoming.apr FEBRUARY 2005 GROUNDWATER EXCEEDANCES
7/1/2005

- MW-10 and MW-15 (southeast corner of former Weber property) - both showed a substantial decrease in concentrations. MW-10 was ND, and MW-15 concentrations were about one-third lower.

- MW-12 and MW-13 (across road to south) - no change

- The spring (across road to southeast) - the concentrations were somewhat higher than those observed in February 2004, but are about one-half the total VOC concentration measured in November 2003, which may be due to sampling locations (the spigot near Becker House driveway at the end of underground pipe as opposed to directly at the Spring outlet).

In general the data indicates that contamination in the southeast corner of the property, and immediately offsite, is unchanged or decreasing near the property boundaries.

Based on the SHI, and preliminary discussions with NYSDEC, three areas are to be addressed:

- The soils below the former South Fire Pit and the area around MW-07 wherein the VOC concentrations significantly exceed the SCGs in soil and groundwater, respectively.

- The area around MW-12 and the spring, just offsite to the southeast, where the VOC concentrations just slightly exceed the SCGs.

- The sediment in the Rear Pond which exhibited one VOC (i.e. vinyl chloride) at a concentration slightly exceeding the SCGs.

4.0 REMEDIAL GOALS AND REMEDIAL OBJECTIVES

As a Voluntary Cleanup Program site, the remedial goal outlined in DER-10 is to be protective of public health and the environment, given the intended future use of the Site. Regardless of presumed risk or intended use of the Site, ongoing sources of contamination at the site should be removed or eliminated, to the extent feasible. Remedial Action Objectives (RAOs) are medium specific or site-specific objectives for the protection of public health and the environment and are developed based on contaminant-specific SCGs.

At present, the primary contaminants of concern are VOCs in the soil (below South Fire Pit), groundwater and sediment that exceed the SCGs. These include Tetrachloroethene (PCE), cis 1,2-Dichloroethene (cis 1,2-DCE), 1,1,1-Trichloroethane (1,1,1-TCA), toluene, and xylene in soil below the former South Fire Pit, PCE, Trichloroethene (TCE), Chloroethane, vinyl chloride, 1,1,1-TCA, 1,1- Dichloroethane (1,1-DCA), 1,1-Dichloroethene (1,1-DCE), cis 1,2-DCE in the groundwater and vinyl chloride in the sediment in the Rear Pond.

In as much as there are no active potable water supply wells onsite/offsite that are withdrawing groundwater from the VOC-contaminated groundwater zones, there is no significant risk posed to public health or the environment due to the presence of VOCs in groundwater at the WCFTC site. In addition, there appears to be no significant future risk to human health given the limited potential for future potable use of the aquifer underlying the Site. The only potential future risk is plume migration to the point where it impacts these potable water supply wells.

Similarly, the Rear Pond is wholly contained within the County property and is not utilized as a source of potable water or for recreational purposes (i.e. swimming, fishing, etc.). Consequently, there is no significant risk posed to public health and only minimal to no risk posed to the environment due to the presence of the single VOC in the sediment. Additionally, there appears to be no significant future risk to human health given the proposed restricted future use of the Site to industrial/commercial uses. The only potential risk is to animals living in the sediment and/or fish that eat these animals.

The following RAOs are established for the Site:

- Reduce the maximum concentrations of VOCs in soils and/or groundwater in those areas of the Site that arguably could serve as potential ongoing sources of contamination (i.e., soil at depth greater than 11 feet below the former South Fire Pit and in the vicinity of MW-07).

- Reduce the maximum concentrations of VOCs in groundwater in offsite locations (i.e. MW-12 and the spring) to levels at or below their respective New York State groundwater standard, which is 5 µg/L for each compound.

- Reduce the concentration of vinyl chloride in the sediments in the Rear Pond to levels at or below its respective New York State sediment standard, which is 0.7 µg/kg.

5.0 IDENTIFICATION AND EVALUATION OF REMEDIAL ACTION ALTERNATIVES

Based on the site conditions, the RAOs established for the Site, our experience with similar sites and on-going discussions with the Department, an appropriate set of presumptive remedies was developed for site remediation. The following technologies were evaluated, all of which would be protective to health and the environment:

- natural attenuation and monitoring
- excavation
- groundwater collection with aboveground treatment.
- injection of organic substrates
- in-situ chemical oxidation
- installation of a subsurface permeable reactive wall(s)

5.1 Description of Preliminary Technologies

Monitored Natural Attenuation: This technology consists of tracking the levels of VOCs by monitoring as natural attenuation occurs. Groundwater monitoring would be used to verify that the site contaminants do not spread from the Site and that they decrease with time, as natural biodegradation processes consume the contaminant. A series of monitoring wells would be sampled once per year. Offsite groundwater monitoring would be performed until the groundwater standards (5 µg/L) are achieved. Onsite monitoring would continue until it is shown that the concentrations of VOCs have been significantly reduced and no longer constitute a potential source of ongoing contamination.

Excavate and Remove Subsurface Soil Below the Water Table: Groundwater contamination could be reduced if contaminated soils (onto which the site contaminants of

concern are adhering below the water table) are excavated and removed. To implement this technology, more sampling would be required to verify the relation between soil and groundwater contamination and the extent and maximum depth of contamination. The contaminated soils would then be excavated, removed off-site, and replaced with contaminant-free soils. Dewatering would be necessary to excavate below the water table. Inasmuch as the IRM conducted at the site has already effectively removed the primary sources of contaminated soil, with the exception of soil at depth greater than 11 feet below the former South Fire Pit, this alternative is expected to have limited applicability and/or effectiveness. Overall, this technology would be expensive and impractical at the site.

Groundwater Collection and Aboveground Treatment: This technology consists of collecting the contaminated groundwater via extraction wells and treating the collected water using air stripping. The contaminants of concern stripped from the water would be collected by activated carbon. This technology is also known as "pump and treat." Application of pump and treat would reduce VOCs to levels approaching groundwater standards and human health and the environment would be protected. However, this is a long-term remedial technology and the capital and operations and maintenance costs are high when compared to effectiveness of the remedy.

Injection of Organic Substrates: This is an in-situ technology that offers a passive, reasonable cost approach to remediate groundwater contaminated with chlorinated hydrocarbons. It consists of the introduction of soluble (lactate or molasses) or insoluble (soybean oil) substrates that degrade in the aquifer to produce hydrogen, which in turn promotes anaerobic biodegradation. This technology would be effective in reducing the contaminants of concern at the WCFTC Site to levels approaching groundwater standards and would be protective of human health and the environment. This technology is less expensive and generally more effective than "pump and treat" technologies. Based on the site stratigraphy and hydrogeology multiple injections over long time periods may be required. Three organic substrates are evaluated for this RAS, Hydrogen Release Compound (HRC™), emulsified soybean oil (EOS™), and high purity sodium lactate (WILCLEAR™).

- Hydrogen Release Compound (HRC™): HRC™ is a patented, polymerized polylactate ester that when hydrated slowly releases lactic acid and glycerol in a multi-step process. According to the manufacturer, (Regenesis Bioremediation Products, Inc.) HRC™ will reside within the soil matrix fueling reductive dechlorination for up to 18 months through the slow release of lactic acid.

- Emulsified Soybean Oil (EOSTM): EOSTM is a proprietary mixture of emulsified food-grade oil, lactate, and yeast extract. The product is factory-prepared as a micro-emulsion that is completely miscible with water. After injection, the emulsified oil will adhere to soil particle surfaces as the product is distributed in the aquifer by injection of a chase solution (such as water or sodium lactate). The manufacturer (EOS Remediation, Inc.) claims that the oil will remain in the aquifer for several years where it will ferment to produce acetic acid and hydrogen.

- Sodium Lactate (WILCLEAR™): WILCLEAR™ High Purity Sodium Lactate Concentrate is a commercially-prepared, pharmaceutical grade product that is formulated to stimulate in-situ reductive dechlorination. The manufacturer (JRW Bioremediation, LLC) claims that single injections of the product have been shown to enhance biological activity for at least two months.

In-Situ Chemical Oxidation (ISO): This is an in-situ remedial technology that involves injection of strong oxidants into the contaminated subsurface, in some cases with other chemicals that function as catalysts. The oxidants chemically breakdown VOCs upon contact to inert materials such as carbon dioxide, sodium or calcium chloride and water. The potential benefits from ISO include in situ contaminant destruction, relatively low cost, reliability, simplicity (as compared to in situ biological treatment) and rapid treatment. Oxidation is dependent on achieving adequate contact between the oxidants and the contaminants, and subsurface heterogeneities, preferential flow paths, and poor mixing in the subsurface can result in pockets of untreated contaminants. Further, the reagents can be consumed by other oxidizable substrates (e.g., natural organic compounds or dissolved iron), limiting the efficiency of ISO treatment.

Subsurface Permeable Reactive Walls: This technology consists of installing a permeable reactive wall (PRW) across the flow path of contaminated groundwater. The wall

allows groundwater to pass through and impedes the movement of contaminants by either degrading or retaining them. There are several types of reactive barriers that could be utilized, iron being the most common. An iron treatment wall consists of iron minerals for the treatment of chlorinated contaminants. As the groundwater flows through the wall, iron is oxidized and supplies electrons for the reductive dechlorination of contaminants. The process slowly dissolves iron and, therefore, this treatment method is expected to remain effective for many years, possibly even decades.

More recently, low cost permeable reactive barriers have been constructed using compost/mulch as the reactive agent. In these cases the compost or mulch is incorporated to provide a source of nitrogen for microbial growth and as a source of more readily degraded organic carbon. Degradation of the substrate by microbial processes in the subsurface provides a number of breakdown products, including metabolic and humic acids, which act as secondary fermentable substrates.

Subsurface PRWs would be effective in treating groundwater contamination at the WCFTC site in that they generally rely on chemical reactions to degrade the VOCs as opposed to biological activity. Consequently, these PRWs are more effective in areas with lower contaminant concentrations than other in-situ methods. Additionally, in that the contaminated groundwater zone to be treated is relatively shallow (i.e. on the order of 3 to15 feet), construction should be relatively straight forward and cost-effective.

5.2 Selection of Technologies for the Remedial Alternative Evaluation

In order to determine suitability for inclusion in the overall remedial alternative for the site, each remedial technology was assessed with respect to the following criteria:

- The primary concern of the Department is to reduce the concentrations of VOCs in soil and/or groundwater in those areas of the site that may potentially act as an ongoing source of VOCs (i.e., soil at depth greater than 11 feet below the former South Fire Pit and in the vicinity of MW-07). This reduction in concentrations should be achieved in the shortest possible time to minimize further migration of the

contaminants and, should not require multiple or long-term ongoing activities to achieve RAOs (should be one-time or short-term event).

- Offsite contamination (MW-12 and spring southeast of site) should be reduced to below applicable SCGs in a cost effective and timely manner. Additionally, the remedy should provide ongoing degradation of contaminants over the long-term.

- The technology should reduce VOCs (vinyl chloride) in sediment in the Rear Pond to at, or below, SCGs.

- The technologies should be cost-effective and easy to implement

Based on an assessment of the individual technologies, in situ chemical oxidation (ISO) was considered the most applicable well-developed and cost-effective technology for treating VOCs in soil and groundwater in the primary source area under the former South Fire Pit and around MW-07. Because this technology relies on chemical reactions rather than biological processes to degrade the VOCs, it should produce the most substantial reduction in VOC concentrations in the shortest possible time as compared to the other technologies.

Permeable reactive walls were considered for remediating the offsite contamination (MW-12 and the spring). Because this technology relies on chemical reactions, rather than biological processes, to degrade the VOCs, it should begin working immediately following installation and should be more effective than the other technologies in remediating the very low concentrations in the offsite area. This technology also remains effective for several years which will provide long-term remediation of any residual contaminants.

Monitored natural attenuation was considered the most appropriate technology for remediation of the sediment contamination identified in the Rear Pond.

5.3 Description of the Proposed Remedial Alternative

As discussed above, the proposed Remedial Alternative for the WCFTC will consist of in situ chemical oxidation (ISO) in the area below the former South Fire Pit and around MW-07 and

installation of a permeable reactive wall in the area of the offsite contamination. Long-term monitoring would be utilized to gauge the effectiveness of the approach in reducing the residual VOC concentrations in these two areas and the Rear Pond.

For the VOC-contaminated soil below the former South Fire Pit, chemical oxidizing reagents will be injected into the granular backfill that was placed in the excavation following removal of the contaminated soils. The reagents will be injected via the 12-inch diameter corrugated, perforated polyethylene pipe that was installed vertically in the center of the excavation prior to backfilling. This pipe extends to the bottom of the excavation (i.e. about 11 feet).

In the area directly east of the former South Fire Pit and around MW-07 (Figure 5-1), chemical oxidizing reagents would be injected into the contaminated groundwater plume via about 30 injection points, installed in a 20 X 20 foot grid pattern to a maximum depth of 15 feet. The oxidizing reagent (hydrogen peroxide) would be injected in the zone from about 7 to 12 feet below ground surface (BGS). This zone extends from about the top of groundwater surface to the base of the contaminated soils identified in the borings and IRM excavations.

In the southeast portion of the site, a permeable reactive wall (PRW) approximately 150 feet long would be installed beginning about 25 feet southwest of MW-15 and extending east parallel to Wethersfield Road. A second segment of the PRW, approximately 70 feet long, would be installed offsite about 50 feet east of MW-13 oriented perpendicular to Wethersfield Road. These locations are shown on Figure 5-1. The PRW would consist of a roughly one-foot wide trench excavated to a depth of about 10 feet bgs., backfilled with a mixture of zero valent iron and sand in the bottom six feet. The excess excavated soils would be used to cap the trenches or remain on site for future use.

N:\11172991.00000\DB\Gis\wyoming.apr PROPOSED REMEDIAL ALTERNATIVE
8/17/2005

N

WYOMING COUNTY FIRE TRAINING CENTER

SHOOTING RANGE BUILDING

MW-05, 2,020.85

REAR POND, 2020.02

MW-23, 2,009.93

LIMITS OF COUNTY PROPERTY

MW-06, 2,014.62

MW-22, 1,995.84

MW-02, 2,021.36

MW-01 (DESTROYED)

MW-08, 2,012.81

NORTH FIRE PIT

MW-03, 2,022.82

DRUM STORAGE AREA

(See Note 1)

CINDER BLOCK TRAINING CENTER

AIRPLANE FUSELAGE

SOUTH FIRE PIT

MW-21, 2,011.61

MW-20, 1,998.61

MW-07, 2,021.22

MW-04, 2,030.32

FORMER AST

MW-19, 2,009.00

AGRO-1, 2,013.09

MAIN BUILDING

DRIVEWAY

FRONT POND, 2031.20

WEBER WELL, 2010.29

MW-09 (DESTROYED)

MW-18, 2,024.74

FORMER WEBER HOUSE

MW-10, 2,003.44

MW-16, 2,018.87

MW-15, 2,010.32

MW-14, 2,001.94

MW-17, 2,022.99

(See Note 2)

WETHERSFIELD ROAD

SPRING

MW-11, 2,022.28

MW-12, 2,009.71

MW-13, 2,003.08

Legend

- Monitoring Well
- Spring Location
- Permeable Reactive Wall Location
- Limit of In-Situ Chemical Oxidation
- 2010 Topographic Elevation Contour

Notes:
1) Injection points to be spaced on 20' x 20' centers to depth of 15 feet.
2) One foot wide trench to be excavated to approximate depth of 10 feet, mixture of sand and zero valent iron to be placed from 4 - 10 feet depth.

100 0 100 Feet

URS

WYOMING COUNTY FIRE TRAINING CENTER
PROPOSED REMEDIAL ALTERNATIVE

FIGURE 5-1

6.0 DETAILED ANALYSIS OF ALTERNATIVE

6.1 Description of Evaluation Criteria

As required by Section 4.3(d) of DER-10 and as applicable to VCP Sites, the proposed remedial alternative developed for the WCFTC Site is analyzed with respect to the following seven evaluation criteria.

Overall Protection of Human Health and the Environment: This criterion serves as a final check to assess whether each alternative meets the requirements that are protective of human health and the environment. The overall assessment of protection is based on a composite of factors assessed under other evaluation criteria, including: long-term effectiveness and permanence, short-term effectiveness, and compliance with New York State Standards, Criteria and Guidelines (SCGs). This evaluation focuses on how each alternative achieves protection over time and how site risks are reduced.

Compliance with SCGs: This evaluation criterion is used to determine how each alternative complies with applicable or relevant and appropriate New York State Standards, Criteria and Guidelines. Standards and criteria are cleanup standards, standards of control and other substantive environmental protection requirements, criteria or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstance. Guidelines include non-promulgated criteria and guidance that are not legal requirements, but should be considered in terms of applicability to the site, based on professional judgment. The actual determination of which requirements are applicable or relevant and appropriate is made by the NYSDEC in consultation with the NYSDOH.

SCGs are classified as chemical-specific, action-specific or location-specific. Chemical-specific SCGs apply to the nature of the contaminants, irrespective of the remedial actions considered to address them. Action-specific SCGs, on the other hand, represent requirements that correspond to specific remedial activities. Location-specific SCGs are similar to action-specific

SCGs, and address requirements or limitation that may be necessary for certain remedial activities due to the presence of nearby features, such as (for example) points of historical interest, or habitat for endangered species.

The following list contains the principal chemical- and action-specific SCGs that have been identified for the WCFTC Site. No location-specific SCGs have been identified.

Chemical-Specific SCGs:

- 6 NYCCR Parts 700-706, Water Quality Regulations for Surface Water and Groundwater
- NYSDEC Division of Water, Technical and Operations Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance values and Groundwater Effluent Limitations
- 40 Code of Federal Regulations (CFR) 141, Safe Drinking Water Act Maximum Contaminant Levels
- 40 CFR 131, Clean Water Act, Water Quality Standards

Action-Specific SCGs:

- 40 CFR 400-469, Clean Water Act

Short-Term Impacts and Effectiveness: This evaluation criterion assesses the effects of the alternative during the construction and implementation phase. Alternatives are evaluated with respect to their effects on human health and the environment during the implementation of the remedial action. The factors considered under this criterion include: protection of the community during remedial actions; environmental impacts as a direct result of remedial actions; time until the remedial response objectives are achieved; and protection of workers during the remedial actions.

Long-Term Effectiveness and Permanence: This evaluation criterion addresses the results of a remedial action in terms of its permanence and quantity/nature of waste or residual remaining at the site after response objectives have been met. The primary focus of this criterion is the extent and effectiveness of the controls that may be required to manage the waste or residuals remaining at the site, and the operating system necessary for the remedy to remain effective. The factors considered under this criterion include: magnitude of remaining risk; adequacy of controls used to manage residual waste; and reliability of controls used to manage residual waste.

Reduction of Toxicity, Mobility and Volume: This evaluation criterion assesses each remedial alternative's use of technologies that provide a permanent and significant onsite reduction of toxicity, mobility or volume of hazardous wastes. It considers: the amount of hazardous materials that will be destroyed or treated; the degree of expected reduction in toxicity, mobility or volume; the degree to which the treatment will be irreversible; and the type and quantity of residuals that will remain following treatment.

Implementability: This criterion addresses the technical and administrative feasibility of implementing an alternative and the availability of various services and materials required during its implementation. The evaluation includes: feasibility of construction and operation; the reliability of the technology; the ease of undertaking additional remedial action; monitoring considerations; activities needed to coordinate with other offices or agencies; availability of adequate off-site treatment, storage and disposal services; availability of equipment; and the availability of services and materials.

Cost: This criterion addresses the cost of each alternative, expressed in terms of capital costs (direct and indirect), annual operation and maintenance (O&M) costs, and total present worth.

In addition to the above seven evaluation criteria, community acceptance will also be considered prior to the selection of a final remedy for the Site.

6.2 Detailed Analysis of Alternative

In this section, the Remedial Alternative developed in Section 5.0 for the WCFTC Site (i.e. ISO, PRW and Natural Attenuation) is analyzed in terms of the seven evaluation criteria identified in Section 6.1. Each subsection below provides an assessment of how the alternative "measures up" to each of the seven evaluation criteria.

Overall Protection of Human Health and the Environment: Whereas there is minimal risk to human health and the environment posed by soils beneath the former South Fire Pit and groundwater in the vicinity of MW-07 and offsite under present conditions, this alternative would result in a reduction of the residual VOCs in both areas, thereby reducing the risk still further. Monitoring will provide ongoing information regarding contaminants at the site and provide warning if conditions change. This alternative does not preclude implementation of other remedial approaches in the future should they be warranted.

Compliance with SCGs: This alternative would potentially eliminate, or significantly reduce, the most significant SCG exceedances at the site in the vicinity of the former South Fire Pit and MW-07. It also should reduce the VOC concentrations in the offsite areas to SCGs, or below if the Site is the source of the VOCs.

Short-Term Impacts and Effectiveness: The injection of chemical oxidizing reagents into soils around the former South Fire Pit and MW-07 would not be expected to pose any significant short-term risks to the community, environment or onsite workers as all of the contaminated soils will be left in place. Potential risks associated with contamination being brought to the surface by the drilling/injection equipment would be minimal and could be controlled by implementation of a HASP and proper decontamination procedures.

Likewise, excavation and construction of the PRW would not be expected to pose any significant short-term risks to the community, environment or onsite workers as the potential risks associated with excavated soils being brought to the surface are expected to be minimal and could be controlled by implementation of a HASP and proper soils management practices.

The short-term effectiveness of this alternative is highly probable. Inasmuch as both processes rely on chemical reactions to degrade the VOCs and not biological processes, they will begin to degrade the contaminants as soon as they come in contact with each other. Effectiveness of the ISO will be dependent on the nature and extent of the contamination and the distribution of the chemical oxidizing agents achieved by the injections. Similarly, the effectiveness of the PRW will be consistent with the placement of the wall relative to the location and flow direction of the contaminant plume (contaminated groundwater flow through the treatment wall).

Long-Term Effectiveness and Permanence: The degradation of VOCs in soils/groundwater in the vicinity of the former South Fire Pit and MW-07 and offsite by ISO and PRW, respectively, would be effective in the long-term and permanent. It is anticipated based on site conditions that a single phase of injection around the former South Fire Pit and MW-07 should achieve the RAO. With regard to the PRW, the timeframe to achieve the RAO may be somewhat longer, in that the contaminated groundwater has to flow through the wall to be treated. Monitoring will provide necessary data to evaluate time frames for effectiveness.

Reduction of Toxicity, Mobility and Volume (TMD): This alternative would provide a significant reduction of TMV of contaminants at the site. ISO of soils/groundwater around the former South Fire Pit and MW-07 would eliminate, or significantly reduce, the volume of the most highly contaminated area remaining on the site. Likewise, the PRW would reduce, or eliminate, the VOCs in the offsite area to the extent the source is onsite.

Implementability: This alternative is easily implemented. There is ample availability and capacity of equipment, materials and contractors necessary for the implementation of this measure. The chemical reagents and injection/placement equipment/methods necessary are proven and reliable, with results dependent on geologic conditions. Agency coordination and approvals are not expected to be an issue.

Cost: Based upon the above-described scenario, the currently estimated cost for this remedial alternative ranges from $50,000 to $75,000. This does not include the significant amounts of money already expended by the County for the Site investigations and the IRM as discussed in Section 2.2.

6.3 Monitoring Program

The monitoring program would commence during the first quarter following remedy implementation in conjunction with the remedial alternative to monitor the progress and effectiveness of the alternative in achieving the RAOs. The monitoring program would consist of the following:

- Semi-annual sampling of the existing monitoring wells, surface water/sediment in the Rear Pond and the spring for VOCs.
- Quarterly collection of groundwater and surface water elevations with preparation of groundwater contour maps and O&M reporting.
- Quarterly sampling of the Schell and Becker groundwater supply wells for VOCs (USEPA method 502.2).

Subsequent sample results will be compared to the baseline result for each sampling location (see Tables 3-1, 3-3 and 3-4). If the concentrations of all detected compounds are reported below SCG criteria for two consecutive sampling rounds then groundwater sampling would be reduced to one sampling event per year. When sampling results exhibit concentrations below SCG's, then a final comprehensive round of samples will be collected to verify site wide or area conditions.

7.0 COMPLETION OF IRM ACTIVITIES

7.1 SVE Treatment Cell Operation and Confirmatory Sampling

Operation of the three onsite SVE Treatment Cells that were constructed during the IRM to treat the VOC-contaminated soils excavated from the four AOCs would be continued as would monthly monitoring of the influent air to evaluate VOC concentrations in soils. Consistent with the Department-approved Work Plan, soil samples will be collected and analyzed when influent air OVA readings indicate that remediation of the soils under treatment may be complete (less than 5.0 ppm above background). A round of soil samples collected and analyzed during the summer of 2005 will be compared to NYSDEC TAGM 4046 guidance values. Soils remediation will be deemed complete when the total VOC concentration is less than 10 ppm, or otherwise approved by the Department. Options for both onsite and offsite disposal of the treated soils based on the results of analyses will be considered with appropriate Department approvals.

7.2 Corrugated Plastic Pipe

Although it is not anticipated that any significant quantity of oil still remains in the corrugated pipe that was identified during the IRM, considering the shallow depth of the pipe and limited length of the contaminated portion (i.e. 80 feet), the pipe will be excavated and disposed offsite when the SVE Cells are decommissioned.

8.0 SUMMARY AND CONCLUSIONS

8.1 Summary

The following section presents a summary of the results of the IRM, SHI and this RAS and the selected remedial alternative for the WCFTC site:

- The results of the SHI indicated that there were no exceedances of the standards, criteria and guidance (SGG) values for soils either on- or off-site. The only exception is in soils located immediately below the former South Fire Pit at depths greater than 11 feet.

- Slight exceedances of the SCGs for vinyl chloride and tetrachloroethene were observed in sediment and surface water, respectively in the Rear Pond.

- With regards to groundwater, there were one or more exceedances of the SCGs in an approximately 200-foot wide zone oriented northwest-southeast, originating at the four AOCs. The groundwater contamination is wholly contained within what is now County owned properties, with the exception of one monitoring well and a spring, located just southeast of the site boundary. Generally, the VOC concentrations in the groundwater are highest in the area immediately downgradient of the operational area of the WCFTC and decrease significantly further to the southeast, such that they are only slightly above the SCGs at the extreme southeastern (i.e. offsite) end of the zone. The potable water supply wells for the two neighboring downgradient residential parcels (i.e. Schell and Becker properties) have not been impacted.

- At present, the primary contaminants of concern associated with the site are VOCs in the soil, groundwater and sediment that exceed the SCGs. These include Tetrachloroethene (PCE), cis-1,2-Dichloroethene (1,2-DCE), 1,1,1-Trichloroethane (1,1,1-TCA), toluene and xylene in soils below the former South Fire Pit, PCE, Trichloroethene (TCE), Chloroethane, vinyl chloride, 1,1,1-TCA, 1,1-Dichloroethane (1,1-DCA), 1,1-Dichloroethene (1,1-DCE), cis 1,2-DCE in the groundwater and vinyl chloride in the sediment in the Rear Pond.

- The following RAOs are established for the site:

    - Reduce the maximum concentrations of VOCs in soil and groundwater in those areas of the site that arguably could serve as potential ongoing sources of contamination (i.e., soil at depth greater than 11 feet below the former South Fire Pit and in the vicinity of MW-07).

    - Reduce the maximum concentrations of VOCs in groundwater in offsite locations (i.e. MW-12 and the spring) to levels at or below their respective New York State groundwater standard, which is 5 µg/L for each compound.

    - Reduce the concentration of vinyl chloride in the sediments in the Rear Pond to levels at or below its respective New York State sediment standard, which is 0.7 µg/kg.

- The proposed Remedial Alternative for the WCFTC will consist of in situ chemical oxidation (ISO) in the soil at depth greater than 11 feet below the former South Fire Pit and the area around MW-07 and installation of a permeable reactive wall in the area of the offsite contamination. Long-term monitoring would be utilized to gauge the effectiveness of the approach in reducing the residual VOC concentrations in these two areas and the Rear Pond.

8.2 Conclusions

Based on this RAS it was concluded that:

- The selected remedial alternative will provide a cost-effective remedy for the site that will be protective of public health and the environment.

- Concentrations of VOCs in soil and groundwater should be significantly reduced below the former South Fire Pit and in the vicinity of MW-07, respectively.

- VOCs in the offsite areas should be reduced to SCGs, or below. Both ISO and PRW rely on chemical reactions to degrade the VOCs.

Monitoring will provide ongoing information regarding contaminants in the sediment, surface water and groundwater and provide data for revisitation of remedial actions and Site closure.

Additionally, based on discussions with the NYSDOH, if any structures are to be constructed on the WCFTC site or adjoining County-owned properties (i.e. former Weber and Agro properties) in areas overlying the groundwater plume, it is recommended that a vapor intrusion study be conducted prior to design/construction of the structure.

APPENDIX A

TEST PIT LOGS

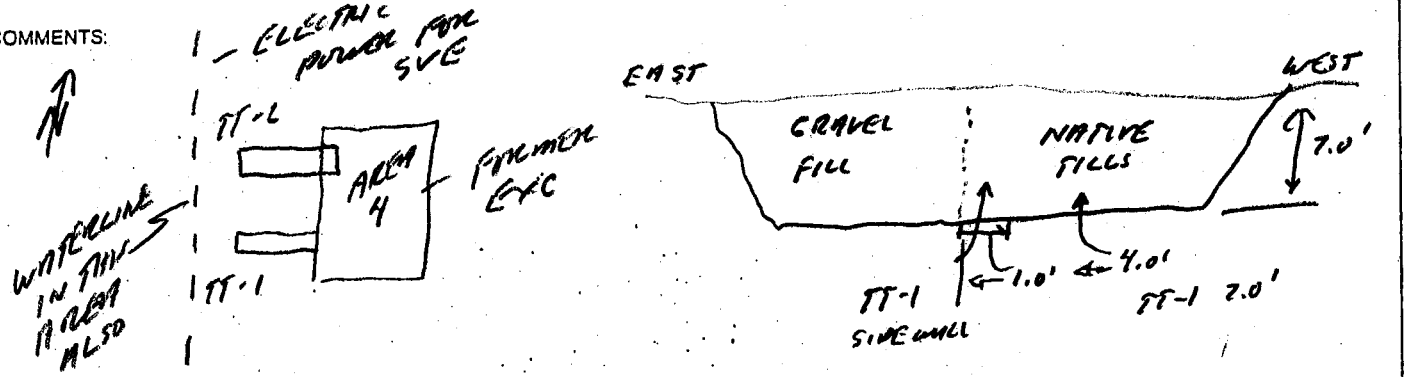
TEST PIT LOG

URS CONSULTANTS, INC.

PROJECT:	WYOMING CTY FIRE TRAINING CTR	SHEET: 1 OF 1	
CLIENT:	WYOMING CTY	JOB NUMBER:	11172991
CONTRACTOR:	NATURE'S WAY	LOCATION:	AREA 4 - WEST SIDE
DATE STARTED:	2/9/05	GROUND ELEVATION:	
DATE COMPLETED:	2/9/05	OPERATOR:	KEVIN DONNELLY
PIT NUMBER:	AREA 4 - TT-1	GEOLOGIST:	R. HEINSCHEL
		GROUND WATER:	

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	DESCRIPTION
1–12			YELLOW-BROWN SILTY-SANDY-GRAVEL ALL MED DENSE, MOIST - NO PID READINGS, EXCEPT IN 1.0' ZONE CLOSEST TO FORMER EXCAVATION. PID MAX 21 ppm - NO ODORS OR ANY VISIBLE SIGN OF STAINING TOOK BAGGIE SAMPS #1 - 7' FROM EXC @ 4.0' PID 7.3 ppm (ALL ALLOWED #2 - 4' " " @ 7.0' PID 5.6 ppm TO WARM #3 - 0-1' " " @ 5-6' PID 3.7 ppm IN TRUCK) BOTTOM OF EXCAVATION SAMPLE AREA 4 - TT-1 7.0 ~4' WEST OF SIDEWALL SAMPLE AREA 4 - TT-1 SIDEWALL @ ~7' DEPTH * GW IN GRAVEL IN FORMER EXCAVATION @ ABOUT 4.5'. TILL WAS MOIST, BUT NO GW INFLOW

COMMENTS:



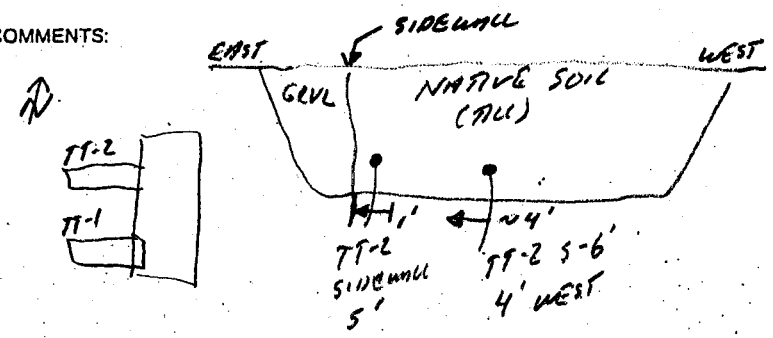
TEST PIT LOG

URS
CONSULTANTS, INC.

PROJECT: WYOMING CTY. FIRE TRAINING CTR.		SHEET: 1 OF 1
CLIENT: WYOMING CITY	JOB NUMBER: 11172991	
CONTRACTOR: NATURE'S WAY	LOCATION: WCFTC - AREA 4	
DATE STARTED: 2/9/05	GROUND ELEVATION:	
DATE COMPLETED: 2/9/05	OPERATOR: KEVIN DONNELLY	
PIT NUMBER: AREA 4 - TT-2	GEOLOGIST: R. HENSCHEL	
	GROUND WATER.	

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	DESCRIPTION
1–12			YELLOW-BROWN SILTY-SANDY-GRAVELLY TILL MED DENSE TO DENSE, DAMP TO MOIST NO ODORS OR ANY SIGN OF STAINING HEADSPACE BOTTOM OF TRENCH #1 TT-2 SIDEWALL 4' PID 14.9 ppm #2 TT-2 SIDEWALL 5' PID 16.7 ppm * GW LEVEL IN GRVL AQU @ ~ 4.5' #3 TT-2 4' WEST OF SIDEWALL - 4-5' PID 3.6 ppm PID @ 4' 3-5 ppm IN PID 60-75 ppm @ 5'-6' IN SIDEWALL AREA 4' WEST OF SIDEWALL @ 5-6' PID 9.2 ppm

COMMENTS:



SAMPLE TT-2 SIDEWALL @ 5-6'

SAMPLE TT-2 5-6' @ 3-4' WEST OF SIDEWALL

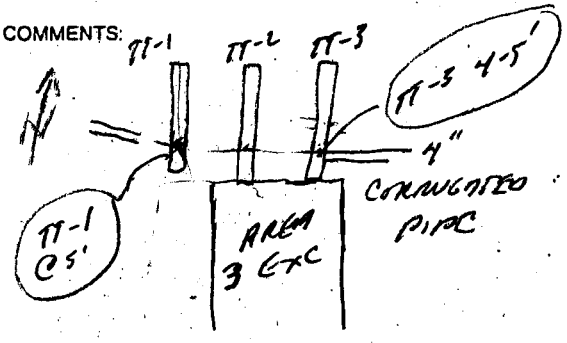
TEST PIT LOG

URS CONSULTANTS, INC.

PROJECT: WYOMING CITY FIRE TRAINING CTR		SHEET: 1 OF 1
CLIENT: WYOMING CITY	JOB NUMBER: 11172991	
CONTRACTOR: NATURES WAY	LOCATION: WCFTC - AREA 3	
DATE STARTED: 2/2/05	GROUND ELEVATION:	
DATE COMPLETED: 2/9	OPERATOR: KEVIN DONNELLY	
PIT NUMBER: AREA 3 - TT-1, TT-2, TT-3	GEOLOGIST: R. HENSCHEL	
	GROUND WATER.	

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	DESCRIPTION
1			FILL MATERIAL MED TO DK BROWN, SAND, SILT CLAY AND GRAVEL MIX. MED DENSE, DAMP TO MOIST PID - BKGRND
2			
3			
4			
5			NATIVE SOIL - V. THIN ORGANIC LAYER @ CONTACT (ORIGINAL GRND SURFACE) - MED GRAY CLAYEY-SILT, WITH SOME SAND AND GRAVEL DENSE TO V. DENSE, DAMP TO MOIST PID = BKGRND
6			
7			
8			
9			- NO ODOR OR VISIBLE SIGNS OF PETROLEUM CONTAMINATION.
10			- ENCOUNTERED 4" CORRUGATED PIPE IN S END OF TT-3 (NO EVIDENCE OF ANY PETROLEUM INSIDE PIPE.)
11			- GW INFLOW FROM GRAVEL BACKFILL INTO TT-2 AND TT-3 OCCURRED. A VERY SLIGHT SHEEN WAS NOTED ON WATER SURFACE COLLECTED IN TT-3.
12			

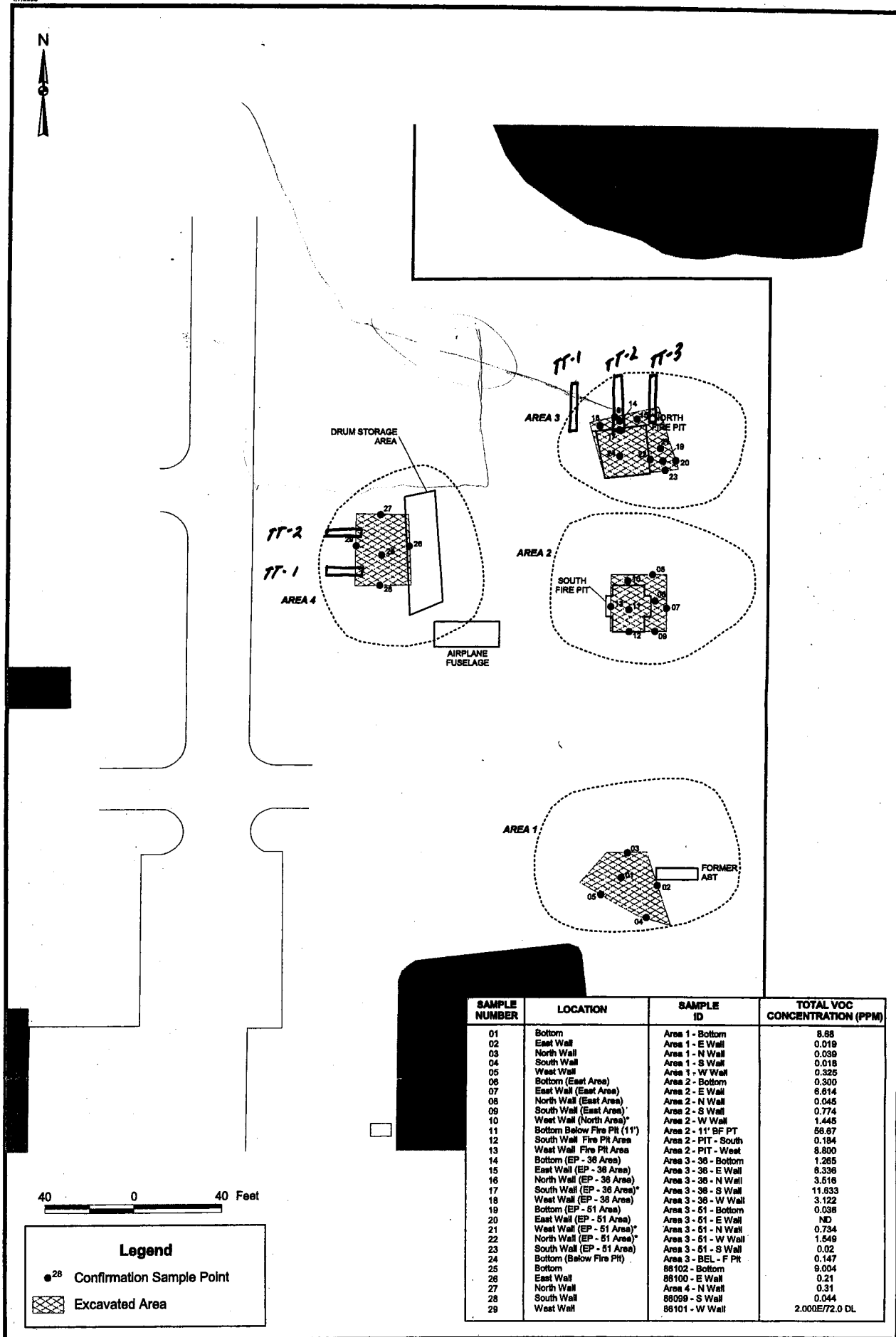
COMMENTS:



#1 SAMPLE AREA 3 TT-1 5' (AT END CLOSEST TO AREA 3 EXC. AT UPPER SURFACE OF NATIVE SOIL LAYER

#2 SAMPLE AREA 3 TT-3 4-5' (AT END CLOSEST TO AREA 3 EXC IN FILL JUST ABOVE CONTACT W/ NATIVE SOILS

N:\11172991.00000\DBG\elwyoming.spr CONFIRMATORY SAMPLE RESULTS
1/7/2005



SAMPLE NUMBER	LOCATION	SAMPLE ID	TOTAL VOC CONCENTRATION (PPM)
01	Bottom	Area 1 - Bottom	8.68
02	East Wall	Area 1 - E Wall	0.019
03	North Wall	Area 1 - N Wall	0.039
04	South Wall	Area 1 - S Wall	0.018
05	West Wall	Area 1 - W Wall	0.325
06	Bottom (East Area)	Area 2 - Bottom	0.300
07	East Wall (East Area)	Area 2 - E Wall	6.614
08	North Wall (East Area)	Area 2 - N Wall	0.045
09	South Wall (East Area)	Area 2 - S Wall	0.774
10	West Wall (North Area)*	Area 2 - W Wall	1.445
11	Bottom Below Fire Pit (11')	Area 2 - 11' BF PT	56.67
12	South Wall Fire Pit Area	Area 2 - PIT - South	0.184
13	West Wall Fire Pit Area	Area 2 - PIT - West	8.800
14	Bottom (EP - 36 Area)	Area 3 - 36 - Bottom	1.265
15	East Wall (EP - 36 Area)	Area 3 - 36 - E Wall	6.336
16	North Wall (EP - 36 Area)	Area 3 - 36 - N Wall	3.516
17	South Wall (EP - 36 Area)*	Area 3 - 36 - S Wall	11.633
18	West Wall (EP - 36 Area)	Area 3 - 36 - W Wall	3.122
19	Bottom (EP - 51 Area)	Area 3 - 51 - Bottom	0.036
20	East Wall (EP - 51 Area)	Area 3 - 51 - E Wall	ND
21	West Wall (EP - 51 Area)*	Area 3 - 51 - N Wall	0.734
22	North Wall (EP - 51 Area)*	Area 3 - 51 - W Wall	1.549
23	South Wall (EP - 51 Area)	Area 3 - 51 - S Wall	0.02
24	Bottom (Below Fire Pit)	Area 3 - BEL - F Pit	0.147
25	Bottom	86102 - Bottom	9.004
26	East Wall	86100 - E Wall	0.21
27	North Wall	Area 4 - N Wall	0.31
28	South Wall	86099 - S Wall	0.044
29	West Wall	86101 - W Wall	2.000E/72.0 DL

URS

WYOMING COUNTY FIRE TRAINING CENTER
IRM - CONTAMINATED SOIL REMOVAL
CONFIRMATORY SAMPLE RESULTS

FIGURE 2-5

Adirondack Environmental Services, Inc.®
314 North Pearl Street
Albany, New York 12207
518-434-4546/434-0891 FAX

CHAIN OF CUSTODY RECORD

A full service analytical research laboratory offering solutions to environmental concerns

Client Name:	Address:	
URS	77 GOODELL ST. BUFFALO, NY 14203	
Send Report To:	**Project Name (Location)**	**Samplers: (Names)**
BOB HENSCHEL	WCFTC	R. HENSCHEL
Client Phone No: 716-923-1225	**PO Number:**	**Samplers: (Signature)**
Client Fax No: 716 856-2545		

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.	Sample Type Matrix	Comp	Grab	Number of Cont's	Analysis Required
	AREA 4-TT-1 7.0'	2/9/05	9:00 (A) P	SOIL		X	1	VOCs
	AREA 4-TT-1 SIDEWALL	2/9/05	9:15 (A) P	SOIL		X	1	VOCs
	AREA 4-TT-2 SIDEWALL	2/9/05	9:30 (A) P	SOIL		X	1	VOCs
	AREA 4-TT-2 5-6'	2/9/05	9:45 (A) P	SOIL		X	1	VOCs
	~~AREA 4-TT-3~~		A P					
	AREA 3-TT-1 5'	2/9/05	1215 A (P)	SOIL		X	1	SVOCs *
	AREA 3-TT-3 4-5'	2/9/05	1205 A (P)	SOIL		X	1	SVOCs *
			A P					
			A P					
			A P					
			A P					
			A P					
			A P					
			A P					

Turnaround Time Request:

☐ 1 Day ☐ 3 Day ☒ Normal

☐ 2 Day ☐ 5 Day

CC Report To:

Special Instructions/Remarks

NO MS/MSD SAMPLES REQUIRED
CATEGORY 'A' DELIVERABLES
ELECTRONIC DATA PKG.
* HOLD SVOC SMPLS TILL NOTIFIED (DO NOT ANALYZE)

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Robert A Henschel		
Relinquished by: (Signature)	**Received for Laboratory by:**	**Date/Time**

Temperature	Properly Preserved	Received Within Holding Times
Ambient or Chilled	Y N	Y N
Notes:	Notes:	Notes:

WHITE - Lab Copy YELLOW - Sampler Copy PINK - Generator Copy

APPENDIX B

ANALYTICAL TEST RESULTS

Adirondack Environmental Services, Inc.
Experience is the solution
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Case Narrative

Client: URS Consultants, Inc - WCFTC

Case: URS 0501

SDG: Area 4-TT-1 7.0

Sample ID	Laboratory Sample ID	Date Received	VTSR	Matrix
Area 4-TT-1 7.0	050210026-001	02/10/05	10:38	Soil
Area 4-TT-1 Sidewall	050210026-002	02/10/05	10:38	Soil
Area 4-TT-2 Sidewall	050210026-003	02/10/05	10:38	Soil
Area 4-TT-2 5-6	050210026-004	02/10/05	10:38	Soil
MW-12	050210027-001	02/10/05	10:38	Water
MW-13	050210027-002	02/10/05	10:38	Water
MW-15	050210027-003	02/10/05	10:38	Water
MW-19	050210027-004	02/10/05	10:38	Water
MW-07	050210027-005	02/10/05	10:38	Water
Spring	050210027-006	02/10/05	10:38	Water
MW-10	050210027-007	02/10/05	10:38	Water
Trip Blank	050210027-008	02/10/05	10:38	Water

Volatile Organics

1) The samples were analyzed following the criteria for NYSDEC ASP 2000-1.

2) The samples received on 2/10/05 had a temperature of 3 °C.

3) The water samples were **not** preserved with HCl to a pH of less than 2. All samples were analyzed within the required holding times.

4) The %RSD for the compound Tetrachloroethene in the initial calibration analyzed on 2/16/05 was outside the criteria established by the method. The %RSD for this compound was 22.6 %. According to the protocol, two volatile organic compounds may exceed the %RSD limit of 20.5 % as long as the %RSD is less than 40 % and the RRF is above 0.010. The %RSD was less than 40 % and the RRF was greater than 0.010 for this compound.

5) The %D for the compound Bromomethane in the continuing calibration analyzed on 2/14/05 was outside the criteria established by the method. The %D for this compound was 26.1 %. According to the protocol, two volatile organic compounds may exceed the %D limit of 25.0 % as long as the %D is less than 40 % and the RRF is above 0.010. The %D was below 40 % and the RRF was greater than 0.010 for this compound.

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6) The %D for the compound Bromomethane in the continuing calibration analyzed on 2/15/05 was outside the criteria established by the method. The %D for this compound was 25.5 %. According to the protocol, two volatile organic compounds may exceed the %D limit of 25.0 % as long as the %D is less than 40 % and the RRF is above 0.010. The %D was below 40 % and the RRF was greater than 0.010 for this compound.

7) At the request of the client no matrix spike and the matrix spike duplicate analysis was performed.

8) Sample MW-07 (AES sample number 050210027-005) was diluted 1:10 due to the high level of compounds present. The result for Tetrachloroethene on sample MW-07 was just above the upper calibration level. The detector was not saturated from the level of this compound.

9) The compound Methylene Chloride was present in the method blanks analyzed each day. The levels of this compound were within the protocol specified limits.

10) The column used in Instrument D for analysis was an RTX-502.2, 60 meters long with an internal diameter of 0.32 mm. The trap used for this instrument is a VOCARB 4000 with Carbopack C&B / Carboxen 1000 & 1001.

"I certify that this data package is in compliance with the terms and conditions of the protocol, both technically and for completeness, to the best of my knowledge, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Laboratory Manager

Date: 3/14/05

000004

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AREA 4-TT-1 7.0

Lab Name: AES, Inc. Contract:

Lab Code: AES Case No.: URS0501 SAS No.: SDG No.: AREA 4-TT-1 7.0

Matrix: (soil/water) SOIL Lab Sample ID: AREA 4-TT-1 7.0

Sample wt/vol: 5.000 (g/mL) G Lab File ID: D0320

Level: (low/med) LOW Date Received: 02/10/05

% Moisture: not dec. 11. Date Analyzed: 02/16/05

GC Column: RTX502.2 ID: .32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	8.	J
67-64-1	Acetone	11.	U
75-15-0	Carbon Disulfide	11.	U
75-35-4	1,1-Dichloroethene	11.	U
75-34-3	1,1-Dichloroethane	11.	U
156-60-5	1,2-Dichloroethene-trans	11.	U
156-59-2	1,2-Dichloroethene-cis	11.	U
67-66-3	Chloroform	11.	U
107-06-2	1,2-Dichloroethane	11.	U
78-93-3	2-Butanone	11.	U
71-55-6	1,1,1-Trichloroethane	11.	U
56-23-5	Carbon Tetrachloride	11.	U
75-27-4	Bromodichloromethane	11.	U
78-87-5	1,2-Dichloropropane	11.	U
10061-01-5	cis-1,3-Dichloropropene	11.	U
79-01-6	Trichloroethene	11.	U
124-48-1	Dibromochloromethane	11.	U
79-00-5	1,1,2-Trichloroethane	11.	U
71-43-2	Benzene	11.	U
10061-02-6	trans-1,3-Dichloropropene	11.	U
75-25-2	Bromoform	11.	U
108-10-1	4-Methyl-2-Pentanone	11.	U
591-78-6	2-Hexanone	11.	U
127-18-4	Tetrachloroethene	63.	
79-34-5	1,1,2,2-Tetrachloroethane	11.	U
108-88-3	Toluene	11.	U
108-90-7	Chlorobenzene	11.	U
100-41-4	Ethylbenzene	11.	U
100-42-5	Styrene	11.	U
1330-20-7	m,p-Xylenes	11.	U
95-47-6	o-Xylene	11.	U
1634-04-4	Methyl t-butyl ether	11.	U
75-71-8	Dichlorodifluoromethane	11.	U
79-20-9	Methyl Acetate	11.	U
76-13-1	Freon 113	11.	U
75-69-4	Trichlorofluoromethane	11.	U
110-82-7	Cyclohexane	11.	U
108-87-2	Methylcyclohexane	11.	U
106-93-4	1,2-Dibromoethane	11.	U
541-73-1	1,3-Dichlorobenzene	11.	U
98-82-8	Isopropylbenzene	11.	U
106-46-7	1,4-Dichlorobenzene	11.	U
95-50-1	1,2-Dichlorobenzene	11.	U
96-12-8	1,2-dibromo-3-chloro-Propane	11.	U
120-82-1	1,2,4-Trichlorobenzene	11.	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AREA 4-TT-1 SW

Lab Name: AES, Inc. Contract:

Lab Code: AES Case No.: URS0501 SAS No.: SDG No.: AREA 4-TT-1 7.0

Matrix: (soil/water) SOIL Lab Sample ID: AREA 4-TT-1 SW

Sample wt/vol: 5.000 (g/mL) G Lab File ID: D0321

Level: (low/med) LOW Date Received: 02/10/05

% Moisture: not dec. 12. Date Analyzed: 02/16/05

GC Column: RTX502.2 ID: .32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	11.	U
67-64-1	Acetone	11.	U
75-15-0	Carbon Disulfide	11.	U
75-35-4	1,1-Dichloroethene	11.	U
75-34-3	1,1-Dichloroethane	11.	U
156-60-5	1,2-Dichloroethene-trans	11.	U
156-59-2	1,2-Dichloroethene-cis	11.	U
67-66-3	Chloroform	11.	U
107-06-2	1,2-Dichloroethane	11.	U
78-93-3	2-Butanone	11.	U
71-55-6	1,1,1-Trichloroethane	11.	U
56-23-5	Carbon Tetrachloride	11.	U
75-27-4	Bromodichloromethane	11.	U
78-87-5	1,2-Dichloropropane	11.	U
10061-01-5	cis-1,3-Dichloropropene	11.	U
79-01-6	Trichloroethene	11.	U
124-48-1	Dibromochloromethane	11.	U
79-00-5	1,1,2-Trichloroethane	11.	U
71-43-2	Benzene	11.	U
10061-02-6	trans-1,3-Dichloropropene	11.	U
75-25-2	Bromoform	11.	U
108-10-1	4-Methyl-2-Pentanone	11.	U
591-78-6	2-Hexanone	11.	U
127-18-4	Tetrachloroethene	48.	
79-34-5	1,1,2,2-Tetrachloroethane	11.	U
108-88-3	Toluene	11.	U
108-90-7	Chlorobenzene	11.	U
100-41-4	Ethylbenzene	11.	U
100-42-5	Styrene	11.	U
1330-20-7	m,p-Xylenes	11.	U
95-47-6	o-Xylene	11.	U
1634-04-4	Methyl t-butyl ether	11.	U
75-71-8	Dichlorodifluoromethane	11.	U
79-20-9	Methyl Acetate	11.	U
76-13-1	Freon 113	11.	U
75-69-4	Trichlorofluoromethane	11.	U
110-82-7	Cyclohexane	11.	U
108-87-2	Methylcyclohexane	11.	U
106-93-4	1,2-Dibromoethane	11.	U
541-73-1	1,3-Dichlorobenzene	11.	U
98-82-8	Isopropylbenzene	11.	U
106-46-7	1,4-Dichlorobenzene	11.	U
95-50-1	1,2-Dichlorobenzene	11.	U
96-12-8	1,2-dibromo-3-chloro-Propane	11.	U
120-82-1	1,2,4-Trichlorobenzene	11.	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AREA 4-TT-2 SW

Lab Name: AES, Inc. Contract:

Lab Code: AES Case No.: URS0501 SAS No.: SDG No.:AREA 4-TT-1 7.0

Matrix: (soil/water) SOIL Lab Sample ID: AREA 4-TT-2 SW

Sample wt/vol: 5.000 (g/mL) G Lab File ID: D0322

Level: (low/med) LOW Date Received: 02/10/05

% Moisture: not dec. 15. Date Analyzed: 02/16/05

GC Column: RTX502.2 ID: .32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12.	U
74-83-9	Bromomethane	12.	U
75-01-4	Vinyl Chloride	12.	U
75-00-3	Chloroethane	12.	U
75-09-2	Methylene Chloride	12.	U
67-64-1	Acetone	12.	U
75-15-0	Carbon Disulfide	12.	U
75-35-4	1,1-Dichloroethene	12.	U
75-34-3	1,1-Dichloroethane	12.	U
156-60-5	1,2-Dichloroethene-trans	12.	U
156-59-2	1,2-Dichloroethene-cis	12.	U
67-66-3	Chloroform	12.	U
107-06-2	1,2-Dichloroethane	12.	U
78-93-3	2-Butanone	12.	U
71-55-6	1,1,1-Trichloroethane	12.	U
56-23-5	Carbon Tetrachloride	12.	U
75-27-4	Bromodichloromethane	12.	U
78-87-5	1,2-Dichloropropane	12.	U
10061-01-5	cis-1,3-Dichloropropene	12.	U
79-01-6	Trichloroethene	12.	U
124-48-1	Dibromochloromethane	12.	U
79-00-5	1,1,2-Trichloroethane	12.	U
71-43-2	Benzene	12.	U
10061-02-6	trans-1,3-Dichloropropene	12.	U
75-25-2	Bromoform	12.	U
108-10-1	4-Methyl-2-Pentanone	12.	U
591-78-6	2-Hexanone	12.	U
127-18-4	Tetrachloroethene	97.	
79-34-5	1,1,2,2-Tetrachloroethane	12.	U
108-88-3	Toluene	12.	U
108-90-7	Chlorobenzene	12.	U
100-41-4	Ethylbenzene	12.	U
100-42-5	Styrene	12.	U
1330-20-7	m,p-Xylenes	12.	U
95-47-6	o-Xylene	12.	U
1634-04-4	Methyl t-butyl ether	12.	U
75-71-8	Dichlorodifluoromethane	12.	U
79-20-9	Methyl Acetate	12.	U
76-13-1	Freon 113	12.	U
75-69-4	Trichlorofluoromethane	12.	U
110-82-7	Cyclohexane	12.	U
108-87-2	Methylcyclohexane	12.	U
106-93-4	1,2-Dibromoethane	12.	U
541-73-1	1,3-Dichlorobenzene	12.	U
98-82-8	Isopropylbenzene	12.	U
106-46-7	1,4-Dichlorobenzene	12.	U
95-50-1	1,2-Dichlorobenzene	12.	U
96-12-8	1,2-dibromo-3-chloro-Propane	12.	U
120-82-1	1,2,4-Trichlorobenzene	12.	U

000007

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AREA 4-TT-2 5-6

Lab Name: AES, Inc. Contract:

Lab Code: AES Case No.: URS0501 SAS No.: SDG No.:AREA 4-TT-1 7.0

Matrix: (soil/water) SOIL Lab Sample ID: AREA 4-TT-2 5-6

Sample wt/vol: 5.000 (g/mL) G Lab File ID: D0323

Level: (low/med) LOW Date Received: 02/10/05

% Moisture: not dec. 13. Date Analyzed: 02/16/05

GC Column: RTX502.2 ID: .32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	11.	U
67-64-1	Acetone	11.	U
75-15-0	Carbon Disulfide	11.	U
75-35-4	1,1-Dichloroethene	11.	U
75-34-3	1,1-Dichloroethane	11.	U
156-60-5	1,2-Dichloroethene-trans	11.	U
156-59-2	1,2-Dichloroethene-cis	11.	U
67-66-3	Chloroform	11.	U
107-06-2	1,2-Dichloroethane	11.	U
78-93-3	2-Butanone	11.	U
71-55-6	1,1,1-Trichloroethane	11.	U
56-23-5	Carbon Tetrachloride	11.	U
75-27-4	Bromodichloromethane	11.	U
78-87-5	1,2-Dichloropropane	11.	U
10061-01-5	cis-1,3-Dichloropropene	11.	U
79-01-6	Trichloroethene	11.	U
124-48-1	Dibromochloromethane	11.	U
79-00-5	1,1,2-Trichloroethane	11.	U
71-43-2	Benzene	11.	U
10061-02-6	trans-1,3-Dichloropropene	11.	U
75-25-2	Bromoform	11.	U
108-10-1	4-Methyl-2-Pentanone	11.	U
591-78-6	2-Hexanone	11.	U
127-18-4	Tetrachloroethene	45.	
79-34-5	1,1,2,2-Tetrachloroethane	11.	U
108-88-3	Toluene	11.	U
108-90-7	Chlorobenzene	11.	U
100-41-4	Ethylbenzene	11.	U
100-42-5	Styrene	11.	U
1330-20-7	m,p-Xylenes	11.	U
95-47-6	o-Xylene	11.	U
1634-04-4	Methyl t-butyl ether	11.	U
75-71-8	Dichlorodifluoromethane	11.	U
79-20-9	Methyl Acetate	11.	U
76-13-1	Freon 113	11.	U
75-69-4	Trichlorofluoromethane	11.	U
110-82-7	Cyclohexane	11.	U
108-87-2	Methylcyclohexane	11.	U
106-93-4	1,2-Dibromoethane	11.	U
541-73-1	1,3-Dichlorobenzene	11.	U
98-82-8	Isopropylbenzene	11.	U
106-46-7	1,4-Dichlorobenzene	11.	U
95-50-1	1,2-Dichlorobenzene	11.	U
96-12-8	1,2-dibromo-3-chloro-Propane	11.	U
120-82-1	1,2,4-Trichlorobenzene	11.	U

000008

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-07

Lab Name: AES, Inc. Contract:

Lab Code: AES Case No.: URS0501 SAS No.: SDG No.:AREA 4-TT-1 7.0

Matrix: (soil/water) WATER Lab Sample ID: MW-07

Sample wt/vol: .500 (g/mL) ML Lab File ID: D0304

Level: (low/med) LOW Date Received: 02/10/05

% Moisture: not dec._____ Date Analyzed: 02/15/05

GC Column: RTX502.2 ID: .32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	100.	U
74-83-9	Bromomethane	100.	U
75-01-4	Vinyl Chloride	100.	U
75-00-3	Chloroethane	100.	U
75-09-2	Methylene Chloride	51.	BJ
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	100.	U
75-35-4	1,1-Dichloroethene	100.	U
75-34-3	1,1-Dichloroethane	66.	J
156-60-5	1,2-Dichloroethene-trans	100.	U
156-59-2	1,2-Dichloroethene-cis	1100.	
67-66-3	Chloroform	100.	U
107-06-2	1,2-Dichloroethane	100.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	1000.	
56-23-5	Carbon Tetrachloride	100.	U
75-27-4	Bromodichloromethane	100.	U
78-87-5	1,2-Dichloropropane	100.	U
10061-01-5	cis-1,3-Dichloropropene	100.	U
79-01-6	Trichloroethene	65.	J
124-48-1	Dibromochloromethane	100.	U
79-00-5	1,1,2-Trichloroethane	100.	U
71-43-2	Benzene	100.	U
10061-02-6	trans-1,3-Dichloropropene	100.	U
75-25-2	Bromoform	100.	U
108-10-1	4-Methyl-2-Pentanone	100.	U
591-78-6	2-Hexanone	100.	U
127-18-4	Tetrachloroethene	2200.	E
79-34-5	1,1,2,2-Tetrachloroethane	100.	U
108-88-3	Toluene	100.	U
108-90-7	Chlorobenzene	100.	U
100-41-4	Ethylbenzene	100.	U
100-42-5	Styrene	100.	U
1330-20-7	m,p-Xylenes	100.	U
95-47-6	o-Xylene	100.	U
1634-04-4	Methyl t-butyl ether	100.	U
75-71-8	Dichlorodifluoromethane	100.	U
79-20-9	Methyl Acetate	100.	U
76-13-1	Freon 113	100.	U
75-69-4	Trichlorofluoromethane	100.	U
110-82-7	Cyclohexane	100.	U
108-87-2	Methylcyclohexane	100.	U
106-93-4	1,2-Dibromoethane	100.	U
541-73-1	1,3-Dichlorobenzene	100.	U
98-82-8	Isopropylbenzene	100.	U
106-46-7	1,4-Dichlorobenzene	100.	U
95-50-1	1,2-Dichlorobenzene	100.	U
96-12-8	1,2-dibromo-3-chloro-Propane	100.	U
120-82-1	1,2,4-Trichlorobenzene	100.	U

000009

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-10

Lab Name: AES, Inc. Contract:
Lab Code: AES Case No.: URS0501 SAS No.: SDG No.:AREA 4-TT-1 7.0
Matrix: (soil/water) WATER Lab Sample ID: MW-10
Sample wt/vol: 5.000 (g/mL) ML Lab File ID: D0296
Level: (low/med) LOW Date Received: 02/10/05
% Moisture: not dec._____ Date Analyzed: 02/14/05
GC Column: RTX502.2 ID: .32 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	10.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	10.	U
75-35-4	1,1-Dichloroethene	10.	U
75-34-3	1,1-Dichloroethane	10.	U
156-60-5	1,2-Dichloroethene-trans	10.	U
156-59-2	1,2-Dichloroethene-cis	10.	U
67-66-3	Chloroform	10.	U
107-06-2	1,2-Dichloroethane	10.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	10.	U
56-23-5	Carbon Tetrachloride	10.	U
75-27-4	Bromodichloromethane	10.	U
78-87-5	1,2-Dichloropropane	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U
79-01-6	Trichloroethene	10.	U
124-48-1	Dibromochloromethane	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U
71-43-2	Benzene	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U
75-25-2	Bromoform	10.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U
108-88-3	Toluene	10.	U
108-90-7	Chlorobenzene	10.	U
100-41-4	Ethylbenzene	10.	U
100-42-5	Styrene	10.	U
1330-20-7	m,p-Xylenes	10.	U
95-47-6	o-Xylene	10.	U
1634-04-4	Methyl t-butyl ether	10.	U
75-71-8	Dichlorodifluoromethane	10.	U
79-20-9	Methyl Acetate	10.	U
76-13-1	Freon 113	10.	U
75-69-4	Trichlorofluoromethane	10.	U
110-82-7	Cyclohexane	10.	U
108-87-2	Methylcyclohexane	10.	U
106-93-4	1,2-Dibromoethane	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
98-82-8	Isopropylbenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
96-12-8	1,2-dibromo-3-chloro-Propane	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U

000010

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-12

Lab Name: AES, Inc. Contract:

Lab Code: AES Case No.: URS0501 SAS No.: SDG No.:AREA 4-TT-1 7.0

Matrix: (soil/water) WATER Lab Sample ID: MW-12

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: D0290

Level: (low/med) LOW Date Received: 02/10/05

% Moisture: not dec._____ Date Analyzed: 02/14/05

GC Column: RTX502.2 ID: .32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	10.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	10.	U
75-35-4	1,1-Dichloroethene	10.	U
75-34-3	1,1-Dichloroethane	10.	U
156-60-5	1,2-Dichloroethene-trans	10.	U
156-59-2	1,2-Dichloroethene-cis	18.	
67-66-3	Chloroform	10.	U
107-06-2	1,2-Dichloroethane	10.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	34.	
56-23-5	Carbon Tetrachloride	10.	U
75-27-4	Bromodichloromethane	10.	U
78-87-5	1,2-Dichloropropane	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U
79-01-6	Trichloroethene	10.	U
124-48-1	Dibromochloromethane	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U
71-43-2	Benzene	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U
75-25-2	Bromoform	10.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	9.	J
79-34-5	1,1,2,2-Tetrachloroethane	10.	U
108-88-3	Toluene	10.	U
108-90-7	Chlorobenzene	10.	U
100-41-4	Ethylbenzene	10.	U
100-42-5	Styrene	10.	U
1330-20-7	m,p-Xylenes	10.	U
95-47-6	o-Xylene	10.	U
1634-04-4	Methyl t-butyl ether	10.	U
75-71-8	Dichlorodifluoromethane	10.	U
79-20-9	Methyl Acetate	10.	U
76-13-1	Freon 113	10.	U
75-69-4	Trichlorofluoromethane	10.	U
110-82-7	Cyclohexane	10.	U
108-87-2	Methylcyclohexane	10.	U
106-93-4	1,2-Dibromoethane	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
98-82-8	Isopropylbenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
96-12-8	1,2-dibromo-3-chloro-Propane	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-13

Lab Name: AES, Inc. Contract:

Lab Code: AES Case No.: URS0501 SAS No.: SDG No.:AREA 4-TT-1 7.0

Matrix: (soil/water) WATER Lab Sample ID: MW-13

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: D0291

Level: (low/med) LOW Date Received: 02/10/05

% Moisture: not dec._____ Date Analyzed: 02/14/05

GC Column: RTX502.2 ID: .32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	10.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	10.	U
75-35-4	1,1-Dichloroethene	10.	U
75-34-3	1,1-Dichloroethane	10.	U
156-60-5	1,2-Dichloroethene-trans	10.	U
156-59-2	1,2-Dichloroethene-cis	10.	U
67-66-3	Chloroform	10.	U
107-06-2	1,2-Dichloroethane	10.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	10.	U
56-23-5	Carbon Tetrachloride	10.	U
75-27-4	Bromodichloromethane	10.	U
78-87-5	1,2-Dichloropropane	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U
79-01-6	Trichloroethene	10.	U
124-48-1	Dibromochloromethane	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U
71-43-2	Benzene	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U
75-25-2	Bromoform	10.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U
108-88-3	Toluene	10.	U
108-90-7	Chlorobenzene	10.	U
100-41-4	Ethylbenzene	10.	U
100-42-5	Styrene	10.	U
1330-20-7	m,p-Xylenes	10.	U
95-47-6	o-Xylene	10.	U
1634-04-4	Methyl t-butyl ether	10.	U
75-71-8	Dichlorodifluoromethane	10.	U
79-20-9	Methyl Acetate	10.	U
76-13-1	Freon 113	10.	U
75-69-4	Trichlorofluoromethane	10.	U
110-82-7	Cyclohexane	10.	U
108-87-2	Methylcyclohexane	10.	U
106-93-4	1,2-Dibromoethane	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
98-82-8	Isopropylbenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
96-12-8	1,2-dibromo-3-chloro-Propane	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-15

Lab Name: AES, Inc. Contract:

Lab Code: AES Case No.: URS0501 SAS No.: SDG No.:AREA 4-TT-1 7.0

Matrix: (soil/water) WATER Lab Sample ID: MW-15

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: D0292

Level: (low/med) LOW Date Received: 02/10/05

% Moisture: not dec._____ Date Analyzed: 02/14/05

GC Column: RTX502.2 ID: .32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	10.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	10.	U
75-35-4	1,1-Dichloroethene	10.	U
75-34-3	1,1-Dichloroethane	17.	
156-60-5	1,2-Dichloroethene-trans	10.	U
156-59-2	1,2-Dichloroethene-cis	93.	
67-66-3	Chloroform	10.	U
107-06-2	1,2-Dichloroethane	10.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	150.	
56-23-5	Carbon Tetrachloride	10.	U
75-27-4	Bromodichloromethane	10.	U
78-87-5	1,2-Dichloropropane	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U
79-01-6	Trichloroethene	6.	J
124-48-1	Dibromochloromethane	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U
71-43-2	Benzene	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U
75-25-2	Bromoform	10.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	84.	
79-34-5	1,1,2,2-Tetrachloroethane	10.	U
108-88-3	Toluene	10.	U
108-90-7	Chlorobenzene	10.	U
100-41-4	Ethylbenzene	10.	U
100-42-5	Styrene	10.	U
1330-20-7	m,p-Xylenes	10.	U
95-47-6	o-Xylene	10.	U
1634-04-4	Methyl t-butyl ether	10.	U
75-71-8	Dichlorodifluoromethane	10.	U
79-20-9	Methyl Acetate	10.	U
76-13-1	Freon 113	10.	U
75-69-4	Trichlorofluoromethane	10.	U
110-82-7	Cyclohexane	10.	U
108-87-2	Methylcyclohexane	10.	U
106-93-4	1,2-Dibromoethane	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
98-82-8	Isopropylbenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
96-12-8	1,2-dibromo-3-chloro-Propane	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-19

Lab Name: AES, Inc. Contract:

Lab Code: AES Case No.: URS0501 SAS No.: SDG No.:AREA 4-TT-1 7.0

Matrix: (soil/water) WATER Lab Sample ID: MW-19

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: D0293

Level: (low/med) LOW Date Received: 02/10/05

% Moisture: not dec._____ Date Analyzed: 02/14/05

GC Column: RTX502.2 ID: .32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	10.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	10.	U
75-35-4	1,1-Dichloroethene	10.	U
75-34-3	1,1-Dichloroethane	10.	U
156-60-5	1,2-Dichloroethene-trans	10.	U
156-59-2	1,2-Dichloroethene-cis	10.	J
67-66-3	Chloroform	10.	U
107-06-2	1,2-Dichloroethane	10.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	18.	
56-23-5	Carbon Tetrachloride	10.	U
75-27-4	Bromodichloromethane	10.	U
78-87-5	1,2-Dichloropropane	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U
79-01-6	Trichloroethene	10.	U
124-48-1	Dibromochloromethane	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U
71-43-2	Benzene	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U
75-25-2	Bromoform	10.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	9.	J
79-34-5	1,1,2,2-Tetrachloroethane	10.	U
108-88-3	Toluene	10.	U
108-90-7	Chlorobenzene	10.	U
100-41-4	Ethylbenzene	10.	U
100-42-5	Styrene	10.	U
1330-20-7	m,p-Xylenes	10.	U
95-47-6	o-Xylene	10.	U
1634-04-4	Methyl t-butyl ether	10.	U
75-71-8	Dichlorodifluoromethane	10.	U
79-20-9	Methyl Acetate	10.	U
76-13-1	Freon 113	10.	U
75-69-4	Trichlorofluoromethane	10.	U
110-82-7	Cyclohexane	10.	U
108-87-2	Methylcyclohexane	10.	U
106-93-4	1,2-Dibromoethane	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
98-82-8	Isopropylbenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
96-12-8	1,2-dibromo-3-chloro-Propane	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U

000014

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Spring

Lab Name: AES, Inc. Contract:

Lab Code: AES Case No.: URS0501 SAS No.: SDG No.:AREA 4-TT-1 7.0

Matrix: (soil/water) WATER Lab Sample ID: Spring

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: D0303

Level: (low/med) LOW Date Received: 02/10/05

% Moisture: not dec._____ Date Analyzed: 02/15/05

GC Column: RTX502.2 ID: .32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	6.	BJ
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	10.	U
75-35-4	1,1-Dichloroethene	10.	U
75-34-3	1,1-Dichloroethane	8.	J
156-60-5	1,2-Dichloroethene-trans	10.	U
156-59-2	1,2-Dichloroethene-cis	10.	U
67-66-3	Chloroform	10.	U
107-06-2	1,2-Dichloroethane	10.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	45.	
56-23-5	Carbon Tetrachloride	10.	U
75-27-4	Bromodichloromethane	10.	U
78-87-5	1,2-Dichloropropane	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U
79-01-6	Trichloroethene	10.	U
124-48-1	Dibromochloromethane	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U
71-43-2	Benzene	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U
75-25-2	Bromoform	10.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	9.	J
79-34-5	1,1,2,2-Tetrachloroethane	10.	U
108-88-3	Toluene	10.	U
108-90-7	Chlorobenzene	10.	U
100-41-4	Ethylbenzene	10.	U
100-42-5	Styrene	10.	U
1330-20-7	m,p-Xylenes	10.	U
95-47-6	o-Xylene	10.	U
1634-04-4	Methyl t-butyl ether	10.	U
75-71-8	Dichlorodifluoromethane	10.	U
79-20-9	Methyl Acetate	10.	U
76-13-1	Freon 113	10.	U
75-69-4	Trichlorofluoromethane	10.	U
110-82-7	Cyclohexane	10.	U
108-87-2	Methylcyclohexane	10.	U
106-93-4	1,2-Dibromoethane	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
98-82-8	Isopropylbenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
96-12-8	1,2-dibromo-3-chloro-Propane	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U

000015

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIP BLANK

Lab Name: AES, Inc. Contract:

Lab Code: AES Case No.: URS0501 SAS No.: SDG No.:AREA 4-TT-1 7.0

Matrix: (soil/water) WATER Lab Sample ID: TRIP BLANK

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: D0297

Level: (low/med) LOW Date Received: 02/10/05

% Moisture: not dec._____ Date Analyzed: 02/14/05

GC Column: RTX502.2 ID: .32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	10.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	10.	U
75-35-4	1,1-Dichloroethene	10.	U
75-34-3	1,1-Dichloroethane	10.	U
156-60-5	1,2-Dichloroethene-trans	10.	U
156-59-2	1,2-Dichloroethene-cis	10.	U
67-66-3	Chloroform	10.	U
107-06-2	1,2-Dichloroethane	10.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	10.	U
56-23-5	Carbon Tetrachloride	10.	U
75-27-4	Bromodichloromethane	10.	U
78-87-5	1,2-Dichloropropane	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U
79-01-6	Trichloroethene	10.	U
124-48-1	Dibromochloromethane	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U
71-43-2	Benzene	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U
75-25-2	Bromoform	10.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U
108-88-3	Toluene	10.	U
108-90-7	Chlorobenzene	10.	U
100-41-4	Ethylbenzene	10.	U
100-42-5	Styrene	10.	U
1330-20-7	m,p-Xylenes	10.	U
95-47-6	o-Xylene	10.	U
1634-04-4	Methyl t-butyl ether	10.	U
75-71-8	Dichlorodifluoromethane	10.	U
79-20-9	Methyl Acetate	10.	U
76-13-1	Freon 113	10.	U
75-69-4	Trichlorofluoromethane	10.	U
110-82-7	Cyclohexane	10.	U
108-87-2	Methylcyclohexane	10.	U
106-93-4	1,2-Dibromoethane	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
98-82-8	Isopropylbenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
96-12-8	1,2-dibromo-3-chloro-Propane	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U

000016

Adirondack Environmental Services, Inc.
314 North Pearl Street
Albany, New York 12207
518-434-4546/434-0891 FAX

CHAIN OF CUSTODY RECORD

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: URS -	**Address:** 77 GOODELL ST. BUFFALO, NY 14203	
Send Report To: BOB HENSCHEL	**Project Name (Location)** WCFTC	**Samplers: (Names)** R. HENSCHEL
Client Phone No: 716-923-1225	**PO Number:**	**Samplers: (Signature)** R Henschel
Client Fax No: 716 856-2545		

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.	Sample Type Matrix	Comp	Grab	Number of Cont's	Analysis Required
001	AREA 4 - TT-1 7.0'	2/9/05	9:00 (A) P	SOIL		X	1	VOCs
002	AREA 4 - TT-1 SIDEWALL	2/9/05	9:15 (A) P	SOIL		X	1	VOCs
003	AREA 4 - TT-2 SIDEWALL	2/9/05	9:30 (A) P	SOIL		X	1	VOCs
004	AREA 4 - TT-2 5-6'	2/9/05	9:45 (A) P	SOIL		X	1	VOCs
	~~AREA 4 - TT-2~~		A P					
005	AREA 3 - TT-1 5'	2/9/05	1215 A (P)	SOIL		X	1	SVOCs * ~~Hold~~
006	AREA 3 - TT-3 4-5'	2/9/05	1205 A (P)	SOIL		X	1	SVOCs * CANCELLED
			A P					
			A P					
			A P					
	05021002G		A P					CANCELLED per Kathy Wagner 2/11/05 1435
			A P					
			A P					
			A P					

Turnaround Time Request:
☐ 1 Day ☐ 3 Day ☒ Normal
☐ 2 Day ☐ 5 Day

CC Report To:

Special Instructions/Remarks
NO MS/MSD SAMPLES REQUIRED
CATEGORY 'A' DELIVERABLES
ELECTRONIC DATA PKG. (X)
* HOLD SVOC SMPLS TILL NOTIFIED (DO NOT ANALYZE)

Relinquished by: (Signature) Robert A Henschel	**Received by: (Signature)**	**Date/Time**
Relinquished by: (Signature)	**Received for Laboratory by:**	**Date/Time** 2/10/05 1038

TEMPERATURE Ambient or (Chilled) 3°C
Notes:

PROPERLY PRESERVED (Y) N
Notes:

RECEIVED WITHIN HOLDING TIMES (Y) N
Notes:

WHITE - Lab Copy YELLOW - Sampler Copy PINK - Generator Copy

000031

CHAIN OF CUSTODY RECORD

URS

PROJECT NO. 11172991.00000 | SITE NAME WCFTC

SAMPLERS (PRINT/SIGNATURE) Tom Urban / Tom Urban

LAB AES

COOLER 1 of 1

PAGE 1 of 1

DELIVERY SERVICE: Velocity AIRBILL NO.:

	LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO.# OF CONTAINERS	TESTS: Nitrate/Nitrite Chloride Sulfate	TESTS: TOC	TESTS: VOA	TESTS: Diss. Gases	BOTTLE TYPE AND PRESERVATIVE: 1 L poly	BOTTLE TYPE AND PRESERVATIVE: 250 mL NaOH poly	BOTTLE TYPE AND PRESERVATIVE: 40 mL H_3PO_4	BOTTLE TYPE AND PRESERVATIVE: 40 mL	BOTTLE TYPE AND PRESERVATIVE: 40 mL	REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO. # (ERPIMS)
001	MW-12	2/9/05	0910	G	MW-12	WG	7					1	1	1	2	2		N	—	—	—
002	MW-13	2/9/05	0955	G	MW-13	WG	7					1	1	1	2	2		N	—	—	—
003	MW-15	2/9/05	1050	G	MW-15	WG	7					1	1	1	2	2		N	—	—	—
004	MW-19	2/9/05	1225	G	MW-19	WG	7					1	1	1	2	2		N	—	—	—
005	MW-07	2/9/05	1310	G	MW-07	WG	7					1	1	1	2	2		N	—	—	—
006	Spring	2/9/05	1335	G	Spring	WG	7					1	1	1	2	2		N	—	—	—
007	MW-10	2/9/05	1445	G	MW-10	WG	7					1	1	1	2	2		N	—	—	—
008	TB-1	2/9/05	—	—	20050209-TB1	WA	1								1		Trip Blank	TB	—	—	—
					LOT # 100																

0000363

05021 0027

MATRIX CODES: AA - AMBIENT AIR; SE - SEDIMENT; SH - HAZARDOUS SOLID WASTE; SL - SLUDGE; WP - DRINKING WATER; WW - WASTE WATER; WG - GROUND WATER; SO - SOIL; DC - DRILL CUTTINGS; WL - LEACHATE; GS - SOIL GAS; WC - DRILLING WATER; WO - OCEAN WATER; WS - SURFACE WATER; WQ - WATER FIELD QC; LH - HAZARDOUS LIQUID WASTE; LF - FLOATING/FREE PRODUCT ON GW TABLE

SAMPLE TYPE CODES: TB# - TRIP BLANK; SD# - MATRIX SPIKE DUPLICATE; RB# - RINSE BLANK; FR# - FIELD REPLICATE; N# - NORMAL ENVIRONMENTAL SAMPLE; MS# - MATRIX SPIKE; (# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME
Tom Urban	2/9/05	1700			

SPECIAL INSTRUCTIONS: Send report to Bob Henschel 716-856-5636

3 cc

Distribution: Original accompanies shipment, copy to coordinator field files (1). Aml 2/10/05 10:38

URSF-075C/1 OF 1/ColCR/GCM

Adirondack Environmental Services Inc.

Experience is the solution

314 North Pearl Street ♦ Albany, New York 12207
(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

March 14, 2005

Bob Henschel
URS Consultants Inc.
77 Goodell Street
Buffalo, NY 14203

TEL: (716) 856-5636
FAX: (716) 856-2545

Work Order No: 050210027

Project# : 11172991.00000

RE: Groundwater Analysis
WCFTC

Dear Bob Henschel:

Adirondack Environmental Services, Inc received 8 samples on 2/10/2005 for the analyses presented in the following report.

There were no problems with the analyses and all associated QC met EPA or laboratory specifications, except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

ELAP#: 10709
AIHA#: 100307

Christopher Hess
QA Manager

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quanititation limits	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	

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Experience is the solution
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R - RPD outside accepted recovery limits
E - Value above quantitation range

Adirondack Environmental Services, Inc

Date: *14-Mar-05*

CLIENT: URS Consultants Inc.
Work Order: 050210027
Project: Groundwater Analysis
PO#:
Project# : 11172991.00000

Client Sample ID: MW-12
Collection Date: 2/9/2005
Lab Sample ID: 050210027-001
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED GASES SW8015B						Analyst: **TN**
Ethane	< 1.0	1.0		mg/L	1	2/10/2005
Ethene	< 1.0	1.0		mg/L	1	2/10/2005
Methane	< 1.0	1.0		mg/L	1	2/10/2005
CHLORIDE E300						Analyst: **SH**
Chloride	86	1		mg/L	1	2/11/2005
NITRATE E300						Analyst: **SH**
Nitrate, Nitrogen (As N)	0.21	0.02		mg/L	1	2/10/2005
SULFATE E300						Analyst: **SH**
Sulfate	13.0	2.0		mg/L	1	2/10/2005
NITRITE E354.1						Analyst: **JL**
Nitrogen, Nitrite	< 0.02	0.02		mg/L	1	2/10/2005
SULFIDE E376.2						Analyst: **RC**
Sulfide	< 0.10	0.10		mg/L	1	2/15/2005
TOTAL ORGANIC CARBON SM 5310C						Analyst: **LS**
Total Organic Carbon	< 1.0	1.0		mg/L	1	2/18/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Adirondack Environmental Services, Inc

Date: *14-Mar-05*

CLIENT: URS Consultants Inc.
Work Order: 050210027
Project: Groundwater Analysis
PO#:
Project# : 11172991.00000

Client Sample ID: MW-13
Collection Date: 2/9/2005
Lab Sample ID: 050210027-002
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED GASES SW8015B						Analyst: **TN**
Ethane	< 1.0	1.0		mg/L	1	2/10/2005
Ethene	< 1.0	1.0		mg/L	1	2/10/2005
Methane	< 1.0	1.0		mg/L	1	2/10/2005
CHLORIDE E300						Analyst: **SH**
Chloride	6	1		mg/L	1	2/10/2005
NITRATE E300						Analyst: **SH**
Nitrate, Nitrogen (As N)	0.03	0.02		mg/L	1	2/10/2005
NITRITE E300						Analyst: **SH**
Nitrogen, Nitrite	< 0.02	0.02		mg/L	1	2/10/2005
SULFATE E300						Analyst: **SH**
Sulfate	5.6	2.0		mg/L	1	2/10/2005
SULFIDE E376.2						Analyst: **RC**
Sulfide	< 0.10	0.10		mg/L	1	2/15/2005
TOTAL ORGANIC CARBON SM 5310C						Analyst: **LS**
Total Organic Carbon	2.5	1.0		mg/L	1	2/18/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Adirondack Environmental Services, Inc

Date: *14-Mar-05*

CLIENT: URS Consultants Inc.
Work Order: 050210027
Project: Groundwater Analysis
PO#:
Project# : 11172991.00000

Client Sample ID: MW-15
Collection Date: 2/9/2005
Lab Sample ID: 050210027-003
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED GASES SW8015B						Analyst: **TN**
Ethane	< 1.0	1.0		mg/L	1	2/10/2005
Ethene	< 1.0	1.0		mg/L	1	2/10/2005
Methane	< 1.0	1.0		mg/L	1	2/10/2005
CHLORIDE E300						Analyst: **SH**
Chloride	15	1		mg/L	1	2/10/2005
NITRATE E300						Analyst: **SH**
Nitrate, Nitrogen (As N)	0.12	0.02		mg/L	1	2/10/2005
NITRITE E300						Analyst: **SH**
Nitrogen, Nitrite	< 0.02	0.02		mg/L	1	2/10/2005
SULFATE E300						Analyst: **SH**
Sulfate	11.0	2.0		mg/L	1	2/10/2005
SULFIDE E376.2						Analyst: **RC**
Sulfide	< 0.10	0.10		mg/L	1	2/15/2005
TOTAL ORGANIC CARBON SM 5310C						Analyst: **LS**
Total Organic Carbon	< 1.0	1.0		mg/L	1	2/18/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Adirondack Environmental Services, Inc

Date: *14-Mar-05*

CLIENT: URS Consultants Inc.
Work Order: 050210027
Project: Groundwater Analysis
PO#:
Project# : 11172991.00000

Client Sample ID: MW-19
Collection Date: 2/9/2005
Lab Sample ID: 050210027-004
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED GASES SW8015B						Analyst: **TN**
Ethane	< 1.0	1.0		mg/L	1	2/10/2005
Ethene	< 1.0	1.0		mg/L	1	2/10/2005
Methane	< 1.0	1.0		mg/L	1	2/10/2005
CHLORIDE E300						Analyst: **SH**
Chloride	4	1		mg/L	1	2/10/2005
NITRATE E300						Analyst: **SH**
Nitrate, Nitrogen (As N)	1.20	0.02		mg/L	1	2/10/2005
NITRITE E300						Analyst: **SH**
Nitrogen, Nitrite	< 0.02	0.02		mg/L	1	2/10/2005
SULFATE E300						Analyst: **SH**
Sulfate	8.4	2.0		mg/L	1	2/10/2005
SULFIDE E376.2						Analyst: **RC**
Sulfide	< 0.10	0.10		mg/L	1	2/15/2005
TOTAL ORGANIC CARBON SM 5310C						Analyst: **LS**
Total Organic Carbon	< 1.0	1.0		mg/L	1	2/18/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Adirondack Environmental Services, Inc

Date: *14-Mar-05*

CLIENT: URS Consultants Inc.
Work Order: 050210027
Project: Groundwater Analysis
PO#:
Project# : 11172991.00000

Client Sample ID: MW-07
Collection Date: 2/9/2005
Lab Sample ID: 050210027-005
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED GASES SW8015B						Analyst: **TN**
Ethane	< 1.0	1.0		mg/L	1	2/10/2005
Ethene	< 1.0	1.0		mg/L	1	2/10/2005
Methane	< 1.0	1.0		mg/L	1	2/10/2005
CHLORIDE E300						Analyst: **SH**
Chloride	36	1		mg/L	1	2/10/2005
NITRATE E300						Analyst: **SH**
Nitrate, Nitrogen (As N)	0.04	0.02		mg/L	1	2/10/2005
NITRITE E300						Analyst: **SH**
Nitrogen, Nitrite	< 0.02	0.02		mg/L	1	2/10/2005
SULFATE E300						Analyst: **SH**
Sulfate	12.0	2.0		mg/L	1	2/10/2005
SULFIDE E376.2						Analyst: **RC**
Sulfide	< 0.10	0.10		mg/L	1	2/15/2005
TOTAL ORGANIC CARBON SM 5310C						Analyst: **LS**
Total Organic Carbon	1.9	1.0		mg/L	1	2/18/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Adirondack Environmental Services, Inc

Date: *14-Mar-05*

CLIENT: URS Consultants Inc.
Work Order: 050210027
Project: Groundwater Analysis
PO#:
Project# : 11172991.00000

Client Sample ID: Spring
Collection Date: 2/9/2005
Lab Sample ID: 050210027-006
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED GASES SW8015B						Analyst: **TN**
Ethane	< 1.0	1.0		mg/L	1	2/10/2005
Ethene	< 1.0	1.0		mg/L	1	2/10/2005
Methane	< 1.0	1.0		mg/L	1	2/10/2005
CHLORIDE E300						Analyst: **SH**
Chloride	246	1		mg/L	1	2/11/2005
NITRATE E300						Analyst: **SH**
Nitrate, Nitrogen (As N)	0.33	0.02		mg/L	1	2/10/2005
SULFATE E300						Analyst: **SH**
Sulfate	17.0	2.0		mg/L	1	2/10/2005
NITRITE E354.1						Analyst: **JL**
Nitrogen, Nitrite	< 0.02	0.02		mg/L	1	2/10/2005
SULFIDE E376.2						Analyst: **RC**
Sulfide	< 0.10	0.10		mg/L	1	2/15/2005
TOTAL ORGANIC CARBON SM 5310C						Analyst: **LS**
Total Organic Carbon	< 1.0	1.0		mg/L	1	2/18/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Adirondack Environmental Services, Inc

Date: *14-Mar-05*

CLIENT: URS Consultants Inc.
Work Order: 050210027
Project: Groundwater Analysis
PO#:
Project# : 11172991.00000

Client Sample ID: MW-10
Collection Date: 2/9/2005
Lab Sample ID: 050210027-007
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED GASES SW8015B						Analyst: **TN**
Ethane	< 1.0	1.0		mg/L	1	2/10/2005
Ethene	< 1.0	1.0		mg/L	1	2/10/2005
Methane	< 1.0	1.0		mg/L	1	2/10/2005
CHLORIDE E300						Analyst: **SH**
Chloride	13	1		mg/L	1	2/10/2005
NITRATE E300						Analyst: **SH**
Nitrate, Nitrogen (As N)	0.39	0.02		mg/L	1	2/10/2005
NITRITE E300						Analyst: **SH**
Nitrogen, Nitrite	< 0.02	0.02		mg/L	1	2/10/2005
SULFATE E300						Analyst: **SH**
Sulfate	102	2.0		mg/L	1	2/11/2005
SULFIDE E376.2						Analyst: **RC**
Sulfide	< 0.10	0.10		mg/L	1	2/15/2005
TOTAL ORGANIC CARBON SM 5310C						Analyst: **LS**
Total Organic Carbon	< 1.0	1.0		mg/L	1	2/18/2005

Qualifiers:

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B - Analyte detected in the associated Method Blank
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CHAIN OF CUSTODY RECORD

URS

PROJECT NO. 11172991.00000 | SITE NAME WCFTC

SAMPLERS (PRINT/SIGNATURE) Tom Urban / Tom Urban

LAB AES

COOLER 1 of 1

PAGE 1 of 1

DELIVERY SERVICE: Velocity AIRBILL NO.:

	LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO.# OF CONTAINERS	TESTS: Nitrate/Nitrite Chloride Sulfide	TESTS: SVOC	TESTS: TOC	TESTS: VOA	TESTS: Diss. Gases	BOTTLE TYPE AND PRESERVATIVE: 1 L poly	250 mL NaOH poly	40 mL H_3PO_4 poly	40 mL	40 mL	REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO. # (ERPIMS)
001	MW-12	2/9/05	0910	G	MW-12	WG	7						1	1	1	2	2		N	—	—	—
002	MW-13	2/9/05	0955	G	MW-13	WG	7						1	1	1	2	2		N	—	—	—
003	MW-15	2/9/05	1050	G	MW-15	WG	7						1	1	1	2	2		N	—	—	—
004	MW-19	2/9/05	1225	G	MW-19	WG	7						1	1	1	2	2		N	—	—	—
005	MW-07	2/9/05	1310	G	MW-07	WG	7						1	1	1	2	2		N	—	—	—
006	Spring	2/9/05	1335	G	Spring	WG	7						1	1	1	2	2		N	—	—	—
007	MW-10	2/9/05	1445	G	MW-10	WG	7						1	1	1	2	2		N	—	—	—
008	TB-1	2/9/05	—	—	20050209-TB1	VOA	1									1		Trip Blank	TB	—	—	—
					LOT # 100																	
					0502100 27																	

MATRIX CODES	AA - AMBIENT AIR SE - SEDIMENT SH - HAZARDOUS SOLID WASTE	SL - SLUDGE WP - DRINKING WATER WW - WASTE WATER	WG - GROUND WATER SO - SOIL DC - DRILL CUTTINGS	WL - LEACHATE GS - SOIL GAS WC - DRILLING WATER	WO - OCEAN WATER WS - SURFACE WATER WQ - WATER FIELD QC	LH - HAZARDOUS LIQUID WASTE LF - FLOATING/FREE PRODUCT ON GW TABLE
SAMPLE TYPE CODES	TB# - TRIP BLANK SD# - MATRIX SPIKE DUPLICATE	RB# - RINSE BLANK FR# - FIELD REPLICATE	N# - NORMAL ENVIRONMENTAL SAMPLE MS# - MATRIX SPIKE	(# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)		

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME
Tom Urban	2/9/05	1700			

SPECIAL INSTRUCTIONS: Send report to Bob Henschel 716-856-5636

3 oc

Distribution: Original accompanies shipment, copy to coordinator field files (1). Avl 2/10/05 1038

URSF-075C/1 OF 1/CofCR/GCM

APPENDIX C

WELL DEVELOPMENT AND PURGE LOGS

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Wyoming Cty Fire Train- Site: Wethersfield, NY Well #: MW-07

Sampling Personnel: Thomas Urban Date: 2/9 Company: URS Corporation

Purging/ Sampling Device: Low Flow Peristaltic Pump (GeoPump 2) Tubing Type: HDPE and Silicone Tubing Inlet: Midpoint of Saturated Portion of Screen

Measuring Point: Top of Riser Initial Depth to Water (feet): 4.07 Depth to Well Bottom (feet): 13.42 Well Diameter (inches): 1" Screen Length (feet):

Casing Type: PVC Volume in 1 Well Casing (liters): 1.4 Estimated Purge Volume (liters): 10

Sample ID: MW-07 Sample Time: 1310 QA/QC: -

Sample Parameters: VOCs; MNA (nitrate/nitrite, TOC, chloride, sulfate, sulfite, methane, ethane, ethene)

Comments:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (feet btor)
1245	6.58	6.84	0.652	5.86	361	-99	530	4.95
1250	6.97	7.30	0.718	0.72	37.8	-257	500	4.97
1253	7.00	7.32	0.718	0.33	21.6	-284	500	4.91
1256	7.02	7.35	0.722	0.13	14.1	-308	510	4.95
1259	7.04	7.36	0.729	0.05	12.9	-329	510	4.94
1302	7.05	7.41	0.731	0.00	12.8	-345	480	4.96
1305	7.05	7.42	0.732	0.00	12.0	-348	500	4.95
1308	7.05	7.41	0.734	0.00	11.8	-351	500	4.99
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Wyoming Cty Fire Train. Site: Wethersfield, NY Well #: MW - 10

Sampling Personnel: Thomas Urban Date: 8/9 Company: URS Corporation

Purging/ Sampling Device: Low Flow Peristaltic Pump (GeoPump 2) Tubing Type: HDPE and Silicone Tubing Inlet: Midpoint of Saturated Portion of Screen

Measuring Point: Top of Riser Initial Depth to Water (feet): 1.72 Depth to Well Bottom (feet): 14.43 Well Diameter (inches): 1" Screen Length (feet):

Casing Type: PVC Volume in 1 Well Casing (liters): 1.96 Estimated Purge Volume (liters): 10

Sample ID: MW-10 Sample Time: 14:45 QA/QC: —

Sample Parameters: VOCs; MNA (nitrate/nitrite, TOC, chloride, sulfate, sulfite, methane, ethane, ethene)

Comments:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (feet btor)
1352	7.24	4.53	0.420	5.02	339	-197	250	3.05
1355	7.06	4.37	0.391	4.56	225	-218	300	6.60
1358	6.86	4.20	0.396	4.51	194	-233	200	8.35
1401	6.81	4.42	0.387	4.44	74	-238	250	9.90
1404	6.87	4.96	0.410	4.71	>1000	-235	250	10.05
1407	6.89	5.19	0.415	4.98	79000	-231	250	10.75
1410	dry							
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Wyoming Cty Fire Train Site: Weathersfield, NY Well #: MW-12

Sampling Personnel: Thomas Urban Date: 2/9/05 Company: URS Corporation

Purging/ Sampling Device: Low Flow Peristaltic Pump (GeoPump 2) Tubing Type: HDPE and Silicone Tubing Inlet: Midpoint of Saturated Portion of Screen

Measuring Point: Top of Riser Initial Depth to Water (feet): 6.75 Depth to Well Bottom (feet): 17.51 Well Diameter (inches): 1" Screen Length (feet):

Casing Type: PVC Volume in 1 Well Casing (liters): 1.7 Estimated Purge Volume (liters): 16

Sample ID: MW-12 Sample Time: 0910 QA/QC: none

Sample Parameters: VOCs; MNA (nitrate/nitrite, TOC, chloride, sulfate, sulfite, methane, ethane, ethene)

Comments:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (feet btor)
0840	5.75	4.83	0.430	6.30	196	-110	350	6.83
0845	6.18	5.86	0.448	2.61	158	-185	325	6.83
0848	6.41	6.84	0.496	1.81	121	-229	600	6.90
0851	6.70	7.16	0.544	1.46	102	-266	620	6.90
0855	6.83	7.23	0.558	1.28	87.5	-281	630	6.89
0858	6.87	7.25	0.566	1.22	83.0	-285	600	6.91
0901	6.94	7.28	0.573	1.19	76.3	-295	600	6.91
0904	6.98	7.34	0.582	1.07	65.5	-301	630	6.91
0907	7.02	7.37	0.585	0.99	56.2	-305	620	6.90
0910	7.04	7.39	0.589	0.98	53.6	-307	620	6.90
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Wyoming County Fire Training Site: Wethersfield, NY Well #: MW-13

Sampling Personnel: Thomas Urban Date: 2/9/05 Company: URS Corporation

Purging/ Sampling Device: Low Flow Peristaltic Pump (GeoPump 2) Tubing Type: HDPE and Silicone Tubing Inlet: Midpoint of Saturated Portion of Screen

Measuring Point: Top of Riser Initial Depth to Water (feet): 4.92' Depth to Well Bottom (feet): 15.85' Well Diameter (inches): 1" Screen Length (feet):

Casing Type: PVC Volume in 1 Well Casing (liters): 1.7 Estimated Purge Volume (liters): 10

Sample ID: MW-13 Sample Time: 0955 QA/QC: none

Sample Parameters: VOCs; MNA (nitrate/nitrite, TOC, chloride, sulfate, sulfite, methane, ethane, ethene)

Comments:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (feet btor)
0927	7.61	3.57	0.113	11.04	261	-148	440	5.70
0933	6.54	3.89	0.106	8.50	210	-196	440	5.71
0936	6.39	3.89	0.105	8.45	133	-202	440	5.77
0939	6.27	3.89	0.103	8.42	102	-206	410	5.81
0942	6.24	3.92	0.103	8.39	86.4	-208	410	5.80
0945	6.22	3.93	0.103	8.36	73.3	-210	420	5.85
0948	6.20	3.94	0.103	8.38	72.1	-210	420	5.87
0951	6.20	3.95	0.102	8.35	70.5	-211	410	5.89
0955	6.19	3.95	0.102	8.33	69.7	-211	420	5.90
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Wyoming County Fire Training Site: Wethersfield, NY Well #: MW-15

Sampling Personnel: Thomas Urban Date: 2/4/05 Company: URS Corporation

Purging/ Sampling Device: Low Flow Peristaltic Pump (GeoPump 2) Tubing Type: HDPE and Silicone Tubing Inlet: Midpoint of Saturated Portion of Screen

Measuring Point: Top of Riser Initial Depth to Water (feet): 6.86' Depth to Well Bottom (feet): 16.40' Well Diameter (inches): 1" Screen Length (feet):

Casing Type: PVC Volume in 1 Well Casing (liters): 1.5 Estimated Purge Volume (liters): 15

Sample ID: MW-15 Sample Time: 1050 QA/QC: none

Sample Parameters: VOCs; MNA (nitrate/nitrite, TOC, chloride, sulfate, sulfite, methane, ethane, ethene)

Comments:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (feet btor)
1020	6.36	5.14	1.37	8.67	>1000	-123	610	6.91
1025	6.69	5.70	0.207	7.32	523	-180	530	6.93
1028	6.94	5.92	0.238	6.69	349	-209	520	6.95
1031	7.06	6.02	0.257	6.47	292	-217	510	6.95
1034	7.18	6.09	0.274	6.22	250	-222	510	6.95
1038	7.25	6.16	0.295	5.94	224	-225	510	6.95
1041	7.30	6.21	0.303	5.79	180	-226	390	6.94
1044	7.33	6.10	0.311	5.63	127	-225	360	6.93
1047	7.35	6.02	0.316	5.62	130	-230	390	6.94
1050	7.36	6.04	0.316	5.60	128	-232	400	6.92
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: Wyoming Cty Fire Train Site: wethersfield, NY Well #: MW-19

Sampling Personnel: Thomas Urban Date: 2/9/05 Company: URS Corporation

Purging/ Sampling Device: Low Flow Peristaltic Pump (GeoPump 2) Tubing Type: HDPE and Silicone Tubing Inlet: Midpoint of Saturated Portion of Screen

Measuring Point: Top of Riser Initial Depth to Water (feet): 11.27' Depth to Well Bottom (feet): 17.62' Well Diameter (inches): 1" Screen Length (feet):

Casing Type: PVC Volume in 1 Well Casing (liters): 1 Liter Estimated Purge Volume (liters): 10

Sample ID: MW-19 \ Sample Time: 1225 QA/QC: —

Sample Parameters: VOCs; MNA (nitrate/nitrite, TOC, chloride, sulfate, sulfite, methane, ethane, ethene)

Comments:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (feet btor)
1200	7.29	6.99	0.[illegible]	[illegible]	21.4	-102	410	11.60
1205	6.17	7.30	0.090	7.90	57.6	-181	400	11.58
1210	6.12	7.33	0.090	7.90	42.0	-139	400	11.60
1213	5.97	7.36	0.090	7.54	31.2	-170	400	11.60
1216	5.94	7.38	0.090	7.95	23.5	-177	450	11.61
1219	5.92	7.39	0.090	7.92	20.4	-182	450	11.62
1222	5.91	7.43	0.090	7.98	21.2	-184	450	11.62
1225	5.91	7.43	0.090	7.98	22.3	-186	450	11.61
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)