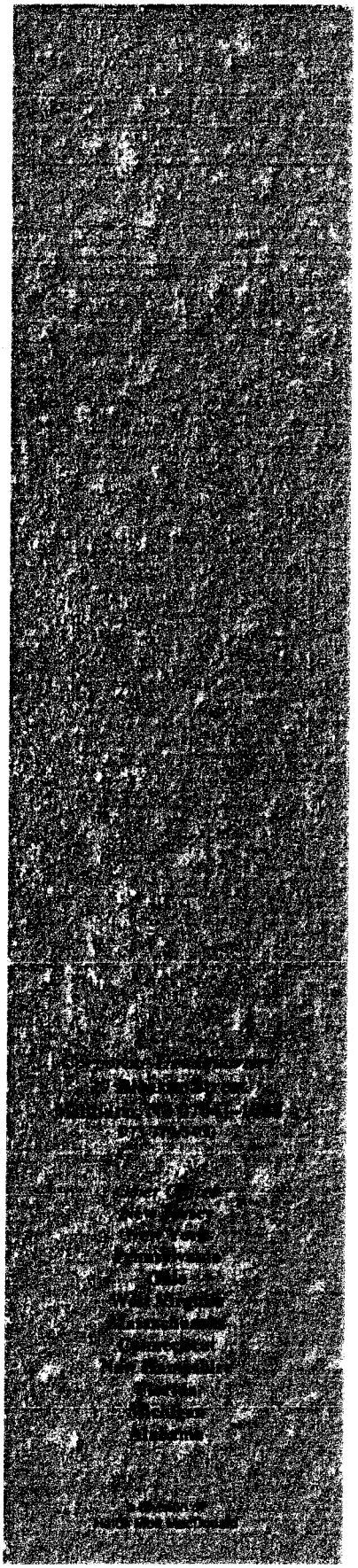
Killam



Final Report for Investigation Workplan

Universal Voltronics Facility
27 Radio Circle Drive
Mount Kisco, New York

October 2001

Prepared by:

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Gary K. Walker, CHMM
Associate

December 11, 2001

Chris Lalak
Westchester County Department of Health
145 Huguenot Street
New Rochelle, New York 10801

Re: Former Universal Voltronics Site, V-346-3, Mt. Kisco, NY
Groundwater and Surface Water: Final Report for Investigation Workplan

Dear Mr. Lalak:

Killam Associates, on behalf of UVC Realty Corp., has completed a groundwater and surface water investigation at the above referenced site. Enclosed, please find a copy of the referenced report which details our findings pertaining to the groundwater and surface water contamination found on the eastern portion of the former Universal Voltronics facility.

In summary, the data results from this investigation provide conclusive evidence that the source for the groundwater contamination on the eastern side of the stream is offsite and not the Universal Voltronics facility. This is supported by a contaminant pattern showing the highest levels of Total Volatile Organic compounds closest to Lexington Avenue. This contaminant pattern indicates that the groundwater contamination originated to the south or southeast of the site and is likely spreading along the utility corridors in Lexington Avenue. Further, the analytical data demonstrates that the source of the contamination in the stream is upstream (to the south) of the UVC Realty property. As is conclusively demonstrated in the enclosed report, neither surface water nor groundwater contamination is due to onsite sources.

Killam Associates, on behalf of UVC Realty, requests that the NYSDEC approve no further action for groundwater and surface water at the site. In addition, the NYSDEC is urged to investigate the source of the contamination, as the contaminant plume appears to be extensive.

Should you have any questions or comments please don't hesitate to contact me.

Very truly yours,

KILLAM ASSOCIATES

Gary K. Walker

Gary K. Walker

CC: Mr. John Ohm, NYSDOH (w/o enclosure)

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Certification

I certify that the investigation activities were performed in full accordance with the Investigation Work Plan for the UVC Realty site located at 27 Radio Circle Drive in Mount Kisco, New York. I believe that the information submitted in the Final Report for the UVC Realty Investigation Work Plan is true, accurate, and complete.

PRINTED NAME GARY WALKER TITLE ASSOCIATE

SIGNATURE Gary K. Walker DATE 10/19/01

1.0 Introduction

Killam Associates (Killam), on behalf of the property owner, UVC Realty Corp. (Formerly Thermo Voltek), has been performing a groundwater and surface water investigation at the former Universal Voltronics facility, 27 Radio Circle Drive in the Village/Town of Mt. Kisco, Westchester County, New York (Figure 1, Site Location) since February 1999.

The results of this investigation have been submitted to the New York State Department of Environmental Conservation (NYSDEC) in periodic reports. In response to these reports, the NYSDEC recommended in their letter dated August 22, 2000, that further investigative work be completed in the area of onsite monitoring wells MW-3, MW-5 and MW-6 (Figure 2, Site Plan). In response to the August 22, 2000 letter, Killam developed an Investigation Workplan (IW) that was designed to provide information on the contaminant concentrations and extent of the plume on the eastern side of the stream (Kisco River tributary) which flows through the site. The IW was approved in the NYSDEC letter dated November 15, 2000. The results of this investigation, the distribution of contaminants across the eastern portion of the site and within the stream are discussed in this report.

The November 15, 2000 NYSDEC letter additionally requested a submission of a Community Health and Safety Plan/Community Air Monitoring Plan (HASP/CAMP). The HASP/CAMP was submitted to the NYSDEC and the NYS Department of Health in February 2001.

2.0 Historical Information

In an effort to document the groundwater quality at the site and to determine trends for onsite contaminants, Thermo Voltek performed quarterly groundwater sampling at the site for a period of one year (August 25, 1999, November 23, 1999, February 23, 2000, and May 25, 2000). Quarterly surface water sampling events were performed in conjunction with the groundwater sampling events on February 23, 2000 and May 25, 2000 to determine the impact of the onsite groundwater contamination on the stream. An additional surface water sampling event was conducted in June 2000 in an attempt to determine upstream sources of the contamination noted in the stream. The above monitoring work was performed in accordance with the groundwater portion of the Remedial Action Workplan included in the Remedial Investigation Report (RIR) dated November 1999. The monitoring results were reported to the NYSDEC in the November 1999 RIR and the letter reports dated March 8, 2000 and July 26, 2000.

As discussed in these reports, two groundwater contaminant plumes are present at the site. The first plume consists of 1,1,1-Trichloroethane (1,1,1-TCA) and its daughter products 1,1-Dichloroethane (1,1-DCA) and 1,1-Dichloroethene (1,1-DCE) to the west of the stream. 1,1,1-TCA is the main groundwater contaminant originating from potential onsite sources. Review of the historical data for the monitoring wells potentially impacted by this contaminant (MW-1, MW-1D, MW-2, MW-4, MW-7 and MW-8)

(Figure 2, Site Plan) has shown contaminant levels only slightly above the NYS Groundwater Standards and with either steady state or decreasing trends. Further, the groundwater contamination discharging to the stream from this plume dilutes to non-detectable levels in the surface water.

The second plume consists of tetrachloroethene (PCE), trichloroethene (TCE) and vinyl chloride (VC) and is present on the east side of the stream. These contaminants impact MW-3, MW-5, MW-6, and the stream on site, with MW-5 being the most strongly affected. It was previously concluded, based upon groundwater and surface water quality data, that the PCE, TCE, and VC contamination present at the site is from an offsite source.

The NYSDEC in their letter dated August 22, 2000, requested further work to be completed on the eastern side of the onsite stream in the vicinity of MW-3, MW-5 and MW-6. The NYSDEC expected that if nearby upstream operations were responsible for the PCE, TCE, and VC contamination, then MW-6 would have had similar type and levels of contamination as MW-3 and MW-5; instead, MW-6 had significantly lower or non-detectable results. The following investigation was completed as proposed in the IW.

3.0 Groundwater Investigation

3.1 Temporary Well Installation and Ground Water Sampling

On September 5-6, 2001, Summit Drilling of Bound Brook, NJ (Summit), installed eleven (11) temporary well points using a geoprobe, under Killam's observation. The locations of the temporary well points are shown on Figure 2. Temporary wells TW-2, TW-5, TW-8 and TW-10 were proposed directly adjacent to the property line. Due to the presence of a water line along the property line, these locations were moved to the closest accessible location near the property line. The well points were generally screened across the bottom 10' and installed at a depth of approximately 14' (top of weathered bedrock without refusal). TW-5, TW-6, TW-7, and TW-8 were only screened across the bottom 5'. The well sample logs are located in Appendix A. Please note that the groundwater investigation was completed in compliance with the HASP/CAMP.

The temporary wells were allowed to stand overnight to assure the collection of the most accurate groundwater sample possible with a temporary well point. Prior to sampling, static groundwater levels were obtained, and the volume of water in each well was calculated. A minimum of three casing volumes of groundwater was purged using peristaltic pumps. A sample was then obtained using a disposable teflon bailer. In addition to obtaining groundwater samples from the temporary wells, Killam obtained samples from permanent monitoring wells MW-3, MW-5 and MW-6 using the same sampling procedure as the temporary wells. Purged water from all the temporary wells and MW-5 was passed through a carbon filter before being discharged to the ground.

The groundwater samples were submitted to Integrated Analytical Laboratories (IAL) of Randolph, NJ (NY lab certification No. 11402) to be analyzed for volatile organics plus a library search for ten tentatively identified compounds (VO+10). The data deliverable packages are included in Appendix B.

3.2 Results

The volatile organic compounds detected in groundwater to the east of the onsite stream include: PCE, TCE, 1,1-DCA, and VC. The analytical results for the temporary wells and permanent monitoring wells are summarized in Table 1 and Table 2, respectively.

A review of the analytical results indicates that PCE is the most highly concentrated contaminant detected with values of 3380 µg/L in MW-5, 5630 µg/L in TW-5, 4040 µg/L in TW-10, 2050 µg/L in TW-2, and 2760 µg/L in TW-8. These wells all border the eastern property line. Lower levels of PCE were additionally detected in MW-3 and the remaining temporary wells. MW-6 is the only location in which PCE was not detected. The highest concentrations of TCE (a daughter product of PCE) were detected in TW-10 and TW-8 at concentrations of 1160 µg/L and 790 µg/L, respectively, which are located at the southeast corner of the site. The remaining TCE concentrations were significantly lower ranging from not detected to 64.2 µg/L. VC, a daughter product of PCE and TCE, is present in MW-6, TW-1, TW-3, TW-8, and TW-10. The highest concentrations of VC are present in TW-8 and TW-10 in the southeast corner of the site.

Total Volatile Organic (TVO) compound concentrations are depicted as isoconcentration lines on Figure 2. As shown on this figure, the well locations closest to Lexington Avenue contain the highest levels of TVO concentrations. The high contaminant levels extend the entire length of the property and decrease to the west away from Lexington Avenue towards the stream onsite. This clearly demonstrates that the source of contamination is not the Universal Voltronics facility, rather the source is within the street. As the PCE contamination is fairly high along the entire length of the eastern property line, a possible source of the contamination may be utility lines which are placed within or along Lexington Avenue. The higher concentrations of the daughter products, TCE and VC, toward the southeast corner of the site indicate that the source of the contamination originates to the south of the site. As shown in Figure 2, the plume extends further into the property in the vicinity of TW-6 and MW-3. It is likely due to the open stream bed in this location which is drawing the groundwater toward the stream.

4.0 Surface Water

As requested by the NYSDEC in the August 22, 2000 letter, surface water samples were collected from the same four locations as on June 28, 2000 (as shown in Figure 3). The samples were obtained by extending a decontaminated polyethylene surface water sampler into the center of the flowing water. The water collected was then transferred directly to the sample bottles. These samples were analyzed for VO+10 by IAL. The analytical results for these samples are summarized on Table 3. The analytical data deliverables from IAL is included as Appendix B.

PCE and TCE were detected in three of the four surface water sampling locations (SW-CP, SW-1U, and SW-2D) with the highest concentration detected in SW-CP. SW-CP, which is upstream, is located south of the site, directly down gradient of a small commercial/ light industrial area along Lexington Avenue. The TVO contaminant concentrations in the stream decrease downstream from SW-CP. TVO concentrations from the surface water samples are shown on the map (Figure 3).

A review of the analytical results from these surface water samples (Table 3) indicate that the source of the contamination in the stream is between sample locations SW-NCD and SW-CP which conclusively demonstrating that the source of the stream contamination is not the Universal Voltronics facility.

5.0 Conclusions

The data results from this investigation provide conclusive evidence that the source for the contamination on the eastern side of the stream is offsite and not from the Universal Voltronics facility. The temporary wells that were installed closest to Lexington Avenue contained the highest levels of TVOs, primarily consisting of PCE, TCE, and VC. The TVO concentrations decrease toward the stream on the UVC Realty site. This contaminant pattern indicates that the groundwater contamination originated to the south or southeast of the site and is likely spreading along the utility corridors in Lexington Avenue. The analytical data demonstrates that the source of the noted contamination in the stream is upstream of the UVC Realty property. As it has been conclusively demonstrated that neither the surface water nor groundwater contamination on the eastern portion of the site is due to onsite sources, UVC Realty requests that the NYSDEC approve no further action for groundwater and surface water at the site. UVC Realty urges the NYSDEC to investigate the source of the PCE contamination, as the contaminant plume appears to be extensive. The groundwater and surface water plume are likely impacting numerous properties in Mount Kisco as well as the downgradient surface water bodies.

Table 1
Temporary Well - Groundwater Sampling Results
Volatile Organic
Universal Voltronics Facility

Client ID:	NYSDEC	TW-1	TW-2	TW-3	TW-4	TW-5	TW-6
Date Sampled:	GROUNDWATER	9/7/01	9/7/01	9/7/01	9/7/01	9/7/01	9/7/01
Matrix:	STANDARDS	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
Volatiles (ppb)							
Chloromethane	NS	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	1.7	ND	**16.8**	ND	ND	ND
Bromomethane	NS	ND	ND	ND	ND	ND	ND
Chloroethane	50	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	NS	ND	ND	ND	ND	ND	ND
Acrolein	NS	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND	ND
Acrylonitrile	NS	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	1.36
Chloroform	7	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane(EDC)	5	ND	ND	ND	ND	ND	ND
Benzene	0.7	ND	ND	ND	ND	ND	ND
Trichloroethene	5	0.592	**51.6**	**19.5**	**21**	ND	ND
1,2-Dichloropropane	NS	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NS	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl Ether	NS	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NS	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	0.861	**2050**	**159**	**556**	**5630**	**15.3**
Dibromochloromethane	50	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND
Total Xylenes	5	ND	ND	ND	ND	ND	ND
Bromoform	NS	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	4.7	ND	ND	ND	ND	ND	ND
TOTAL VO's:	NS	3.153	2101.6	195.3	577	5630	16.66
TOTAL TIC's:	NS	ND	ND	37.8	ND	ND	ND
TOTAL VO's & TIC's:	NS	3.153	2101.6	233.1	577	5630	16.66

ND = Analyzed for but Not Detected at the MDL

NS = No Standard

All exceedences of the NYSDEC GW Standards are in **Boldface**

Table 1
Temporary Well - Groundwater Sampling Results
Volatile Organic
Universal Voltronics Facility

Client ID:	NYSDEC	TW-7	TW-8	TW-9	TW-10	TW-11	FB-MDB
Date Sampled:	GROUNDWATER	9/7/01	9/7/01	9/7/01	9/7/01	9/7/01	9/7/01
Matrix:	STANDARDS	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
Volatiles (ppb)							
Chloromethane	NS	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	ND	**79.5**	ND	**132**	ND	ND
Bromomethane	NS	ND	ND	ND	ND	ND	ND
Chloroethane	50	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	NS	ND	ND	ND	ND	ND	ND
Acrolein	NS	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND	ND
Acrylonitrile	NS	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane(EDC)	5	ND	ND	ND	ND	ND	ND
Benzene	0.7	ND	ND	ND	ND	ND	ND
Trichloroethene	5	**15.4**	**790**	ND	**1160**	ND	ND
1,2-Dichloropropane	NS	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NS	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl Ether	NS	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NS	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	**197**	**2760**	**7.81**	**4040**	0.321	ND
Dibromochloromethane	50	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND
Total Xylenes	5	ND	ND	ND	ND	ND	ND
Bromoform	NS	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	4.7	ND	ND	ND	ND	ND	ND
TOTAL VO's:	NS	212.4	3629.5	7.81	5332	0.321	ND
TOTAL TIC's:	NS	65.5	410	ND	825	ND	ND
TOTAL VO's & TIC's:	NS	277.9	4039.5	7.81	6157	0.321	ND

ND = Analyzed for but Not Detected at the MDL

NS = No Standard

All exceedences of the NYSDEC GW Standards are in **Boldface**

Table 2
Monitoring Well - Groundwater Sampling Results
Volatile Organic
Universal Voltronics

Client ID:	NYSDEC	MW-3	MW-5	MW-6	FB-LDB	TB
Date Sampled:	GROUNDWATER	9/6/01	9/6/01	9/7/01	9/7/01	9/6/01
Matrix:	STANDARDS	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
Volatiles (ppb)						
Chloromethane	NS	ND	ND	ND	ND	ND
Vinyl Chloride	2	ND	ND	**4.93**	ND	ND
Bromomethane	NS	ND	ND	ND	ND	ND
Chloroethane	50	ND	ND	ND	ND	ND
Trichlorofluoromethane	NS	ND	ND	ND	ND	ND
Acrolein	NS	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND
Acrylonitrile	NS	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	1.31	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	ND	ND	ND	ND	ND
1,2-Dichloroethane(EDC)	5	ND	ND	ND	ND	ND
Benzene	0.7	ND	ND	ND	ND	ND
Trichloroethene	5	ND	**64.2**	ND	ND	ND
1,2-Dichloropropane	NS	ND	ND	ND	ND	ND
Bromodichloromethane	NS	ND	ND	ND	ND	ND
2-Chloroethylvinyl Ether	NS	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NS	ND	ND	ND	ND	ND
Tetrachloroethene	5	**17**	**3380**	ND	ND	ND
Dibromochloromethane	50	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND
Total Xylenes	5	ND	ND	ND	ND	ND
Bromoform	NS	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	4.7	ND	ND	ND	ND	ND
TOTAL VO's:	NS	18.31	3444.2	4.93	ND	ND
TOTAL TIC's:	NS	ND	ND	ND	ND	ND
TOTAL VO's & TIC's:	NS	18.31	3444.2	4.93	ND	ND

ND = Analyzed for but Not Detected at the MDL

NS = No Standard

All exceedences of the NYSDEC GW Standards are in **Boldface**

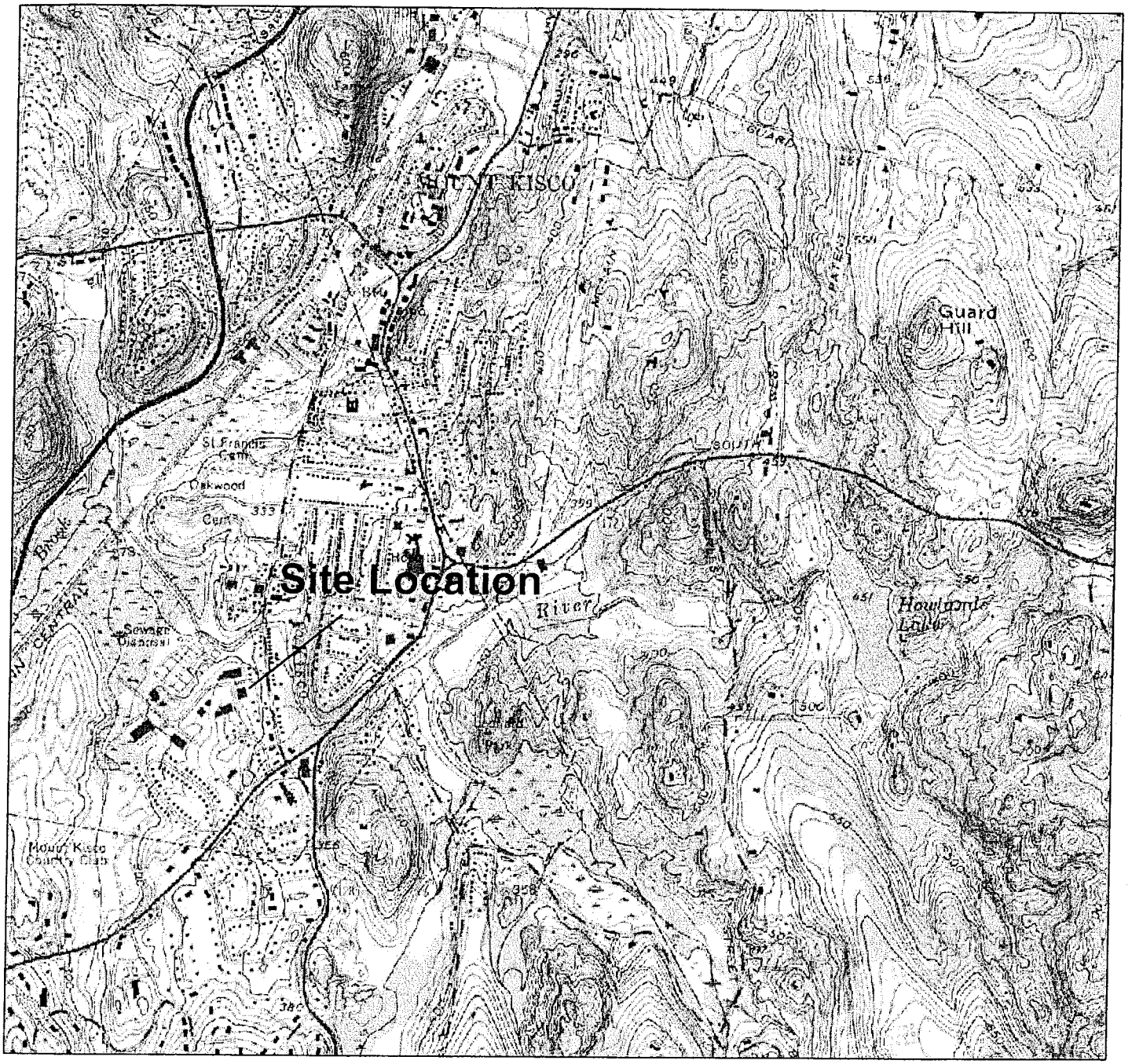
Table 3
Surface Water Sampling Results
Volatile Organic
Universal Voltronics

Client ID:	NYSDEC	SW-NCD	SW-CP	SW-1U	SW-2D	FB
Date Sampled:	GROUNDWATER	9/7/01	9/7/01	9/7/01	9/7/01	9/7/01
Matrix:	STANDARDS	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
Volatiles (ppb)						
Chloromethane	NS	ND	ND	ND	ND	ND
Vinyl Chloride	2	ND	**20.5**	**7**	ND	ND
Bromomethane	NS	ND	ND	ND	ND	ND
Chloroethane	50	ND	ND	ND	ND	ND
Trichlorofluoromethane	NS	ND	ND	ND	ND	ND
Acrolein	NS	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND
Acrylonitrile	NS	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	ND	ND	ND	ND	ND
1,2-Dichloroethane(EDC)	5	ND	ND	ND	ND	ND
Benzene	0.7	ND	ND	ND	ND	ND
Trichloroethene	5	ND	**131**	**53.4**	**37.3**	ND
1,2-Dichloropropane	NS	ND	ND	ND	ND	ND
Bromodichloromethane	NS	ND	ND	ND	ND	ND
2-Chloroethylvinyl Ether	NS	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NS	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	**1060**	**413**	**281**	ND
Dibromochloromethane	50	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND
Total Xylenes	5	ND	ND	ND	ND	ND
Bromoform	NS	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	4.7	ND	ND	ND	ND	ND
TOTAL VO's:	NS	ND	1211.5	473.4	318.3	ND
TOTAL TIC's:	NS	ND	120	60.5	49	ND
TOTAL VO's & TIC's:	NS	ND	1331.5	533.9	367.3	ND

ND = Analyzed for but Not Detected at the MDL

NS = No Standard

All exceedences of the NYSDEC GW Standards are in **Boldface**



Source: Mount Kisco, NY 1975
USGS Topographic Quadrangle

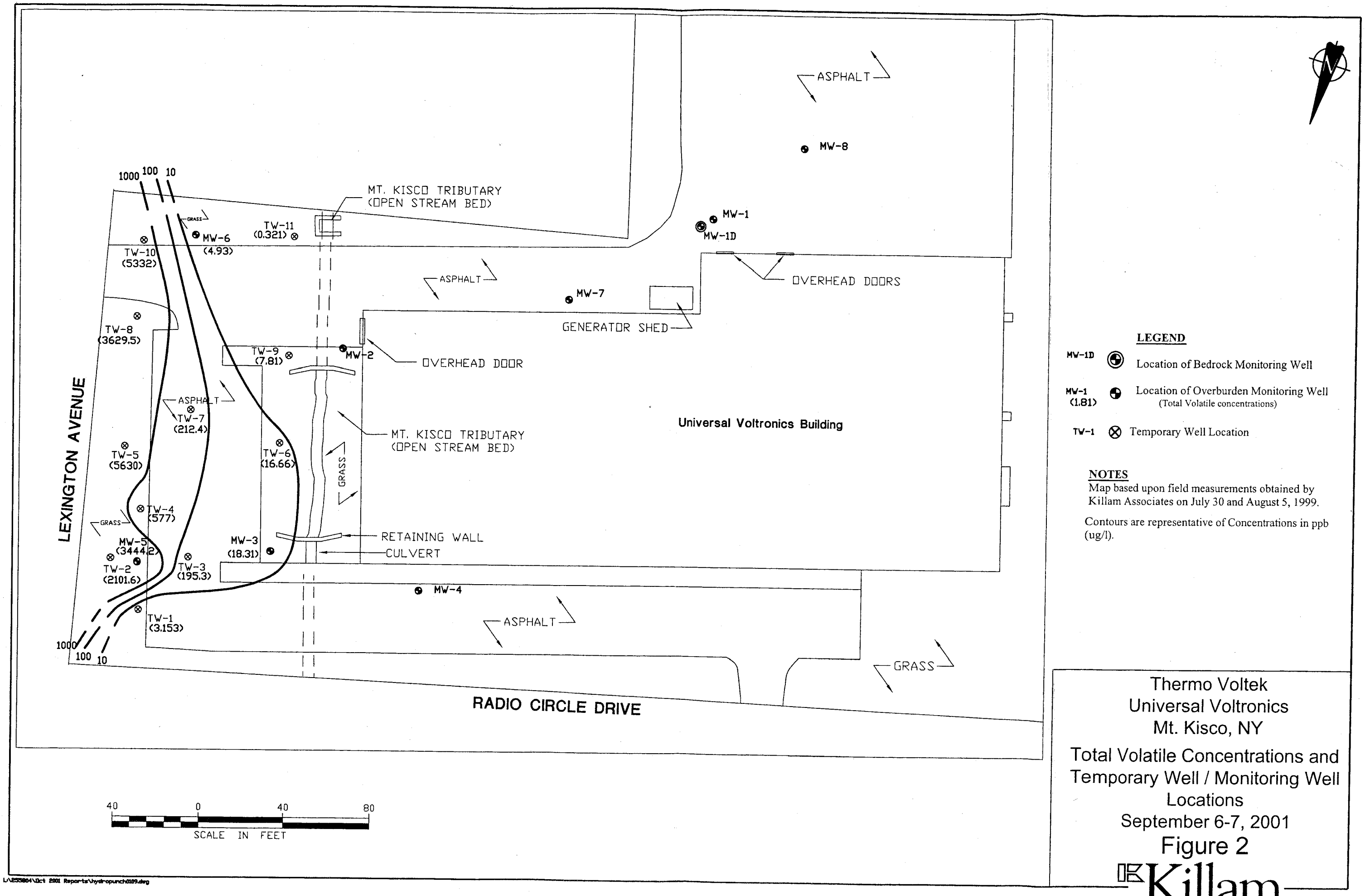
Scale 1" = 2,000'

Figure 1

Site Location

27 Radio Circle Drive
Mount Kisco, NY

Killam
Associates ▫ Consulting Engineers



LEGEND

MW-1D — Location of Bedrock Monitoring Well

MW-1 (1.81) — Location of Overburden Monitoring Well (Total Volatile concentrations)

TW-1 — Temporary Well Location

NOTES

Map based upon field measurements obtained by Killam Associates on July 30 and August 5, 1999.

Contours are representative of Concentrations in ppb (ug/l).

Thermo Voltek
Universal Voltronics
Mt. Kisco, NY

Total Volatile Concentrations and Temporary Well / Monitoring Well Locations
September 6-7, 2001

Figure 2

Killam
Associates ▫ Consulting Engineers

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Lexington Avenue

Lindy Street

Cottage Place

SW-1U
(473.4)

SW-CP
(1211.5)

SW-2D
(318.3)

Universal
Voltronics
Facility

SW-NCD
(ND)

New Castle Drive

I/C

R

80 0 80 160
SCALE IN FEET

LEGEND

I/C Industrial or
Commercial Facility

R Residential Unit

SW-CP (1211.5) ● Surface-water Sample Location
(Total Targeted Volatile Concentration (ppb))

Stream and Flow Direction

NOTES

Scanned from copy of Village Map as orginially done by Badey & Watson; Coldspring, New York.

Thermo Voltek
Universal Voltronics
Mt. Kisco, NY
Surface-Water Sampling Locations
and Total Volatile Concentrations
September 7, 2001
Figure 3

Killam
Associates ▫ Consulting Engineers

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Appendix A

Ground Water Sampling Logs

Sampling Log

Owner's Well No. : MW-3

Client: Thermo Electron - Universal Voltronics
Site Location: Mt. Kisco, NY
Date: 9/6/01
ETKA No: 255804.0001

Well Type: Monitoring Well 4" - PVC
Geologic Formation: Overburden

Elevations

Top of Casing: 98.36 ft
Ground Surface: 98.73 ft

Total Well Depth from Top of Casing: 14.5 ft
Depth to Screen from Top of Casing: 4 ft

Purge Information

Depth to Water from Top of Casing: 3.59 feet
Organic Vapor Readings: 1 ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Centrifugal Pump
Start time: 1416 hrs

One Well Volume: 7.12 Gal
Total Purge Volume: 22 Gal
DTW after Purging: 6.80 ft
End time: 1543 hrs
Purge Rate: 0.25 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	21.5	7.11	3.3	0.17
after	21.3	7.61	2.1	60 (mS)

Sampling Information

Sample Number: MW-3
Sample Method: Teflon Bailer
Sample Start Time: 1630 hrs

DTW before Sampling: 3.71 ft
DTW after Sampling: 3.92 ft
Sample Analysis: VO+10

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
21.2	7.75	5.3	58 (mS)

Field Personnel: A. Zolnowski, S. Ike

Comments: None.

Sampling Log

Owner's Well No. : MW-5

Client: Thermo Electron - Universal Voltronics
Site Location: Mt. Kisco, NY
Date: 9/6/01
ETKA No: 255804.0001

Well Type: Monitoring Well 4" - PVC
Geologic Formation: Overburden

Elevations

Top of Casing: 97.86 ft
Ground Surface: 98.19 ft

Total Well Depth from Top of Casing: 14.5 ft
Depth to Screen from Top of Casing: 4 ft

Purge Information

Depth to Water from Top of Casing: 3.47 feet
Organic Vapor Readings: 114 ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Centrifugal Pump
Start time: 1254

One Well Volume: 7.20 Gal
Total Purge Volume: 22 Gal
DTW after Purging: 4.49 ft
End time: 1402
Purge Rate: 0.32 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	20.1	6.73	3.8	0.16
after	26.1	6.98	3.7	78 (mS)

Sampling Information

Sample Number: MW-5
Sample Method: Teflon Bailer
Sample Start Time: 1510 hrs

DTW before Sampling: 3.57 ft
DTW after Sampling: 3.71 ft
Sample Analysis: VO+10

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
22.8	6.74	2.5	0.14

Field Personnel: A. Zolnowski, S. Ike

Comments: None.

Sampling Log

Owner's Well No. : MW-6

Client: Thermo Electron - Universal Voltronics
Site Location: Mt. Kisco, NY
Date: 9/7/01
ETKA No: 255804.0001

Well Type: Monitoring Well 4" - PVC
Geologic Formation: Overburden

Elevations

Top of Casing: 100.02 ft
Ground Surface: 100.42 ft

Total Well Depth from Top of Casing: 14.5 ft
Depth to Screen from Top of Casing: 4 ft

Purge Information

Depth to Water from Top of Casing: 3.65 feet
Organic Vapor Readings: ND ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Centrifugal Pump
Start time: 0826 hrs

One Well Volume: 7.08 Gal
Total Purge Volume: 22 Gal
DTW after Purging: 6.20 ft
End time: 0903 hrs
Purge Rate: 0.59 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	18.7	7.22	2.1	83 (mS)
after	21.7	6.78	3.3	0.26

Sampling Information

Sample Number: MW-6
Sample Method: Teflon Bailer
Sample Start Time: 0935 hrs

DTW before Sampling: 3.85 ft
DTW after Sampling: 4.11 ft
Sample Analysis: VO+10

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
20.4	6.86	1.7	0.22

Field Personnel: A. Zolnowski, S. Ike

Comments: None.

Sampling Log

Owner's Well No. : TW-1

Client: Thermo Electron - Universal Voltronics
Site Location: Mt. Kisco, NY
Date: 9/7/01
ETKA No: 255804.0001

Well Type: Temporary Well 1" - PVC
Geologic Formation: Overburden

Elevations

Top of Casing: NA
Ground Surface: NA

Total Well Depth from Top of Casing: 15.0 ft
Depth to Screen from Top of Casing: 5 ft

Purge Information

Depth to Water from Top of Casing: 4.91 feet*
Organic Vapor Readings: ND ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Peristaltic Pump
Start time: 0834 hrs

One Well Volume: 0.413 Gal
Total Purge Volume: 2.5 Gal
DTW after Purging: 5.35 ft
End time: 0904 hrs
Purge Rate: 0.083 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	19.2	7.49	1.8	46 (mS)
after	19.4	6.87	3.4	96 (mS)

Sampling Information

Sample Number: TW-1
Sample Start Time: 1045 hrs
Sample Method: Teflon Bailer

DTW before Sampling: 4.97 ft
DTW after Sampling: 5.21 ft
Sample Analysis: VO+10

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
20.9	7.03	2.0	77 (mS)

Field Personnel: A. Zolnowski, S. Ike

Comments: * Initial depth to water was from the top of 15 ft. PVC.

Sampling Log

Owner's Well No. : TW-2

Client: Thermo Electron - Universal Voltronics
Site Location: Mt. Kisco, NY
Date: 9/7/01
ETKA No: 255804.0001

Well Type: Temporary Well 1" - PVC
Geologic Formation: Overburden

Elevations

Top of Casing: NA
Ground Surface: NA

Total Well Depth from Top of Casing: 15.0 ft
Depth to Screen from Top of Casing: 5 ft

Purge Information

Depth to Water from Top of Casing: 3.95 feet*
Organic Vapor Readings: 1 ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Peristaltic Pump
Start time: 0911 hrs

One Well Volume: 0.453 Gal
Total Purge Volume: 2.5 Gal
DTW after Purging: 5.01
End time: 1015 hrs
Purge Rate: 0.039 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	20.0	7.47	2.8	54 (mS)
after	21.2	6.81	1.7	0.12

Sampling Information

Sample Number: TW-2
Sample Method: Teflon Bailer
Sample Start Time: 1055 hrs

DTW before Sampling: 4.10 ft
DTW after Sampling: 4.90 ft
Sample Analysis: VO+10

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
21.5	6.86	5.6	0.11

Field Personnel: A. Zolnowski, S. Ike

Comments: * Initial depth to water was from the top of 15 ft. PVC.

Sampling Log

Owner's Well No. : TW-3

Client: Thermo Electron - Universal Voltronics
Site Location: Mt. Kisco, NY
Date: 9/7/01
ETKA No: 255804.0001

Well Type: Temporary Well 1" - PVC
Geologic Formation: Overburden

Elevations

Top of Casing: NA
Ground Surface: NA

Total Well Depth from Top of Casing: 15..0 ft
Depth to Screen from Top of Casing: 5 ft

Purge Information

Depth to Water from Top of Casing: 3.89 feet*
Organic Vapor Readings: ND ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Peristaltic Pump
Start time: 1020 hrs

One Well Volume: 0.455 Gal
Total Purge Volume: 2.5 Gal
DTW after Purging: 4.97 ft
End time: 1124 hrs
Purge Rate: 0.039 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	23.9	7.60	4.5	52 (mS)
after	25.6	7.37	6.4	0.09

Sampling Information

Sample Number: TW-3
Sample Method: Teflon Bailer
Sample Start Time: 1310 hrs

DTW before Sampling: 4.13 ft
DTW after Sampling: 5.10 ft
Sample Analysis: VO+10

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
24.9	6.96	1.8	83 (mS)

Field Personnel: A. Zolnowski, S. Ike

Comments: * Initial depth to water was from the top of 15 ft. PVC.

Sampling Log

Owner's Well No. : TW-4

Client: Thermo Electron - Universal Voltronics
Site Location: Mt. Kisco, NY
Date: 9/7/01
ETKA No: 255804.0001

Well Type: Temporary Well 1" - PVC
Geologic Formation: Overburden

Elevations

Top of Casing: NA
Ground Surface: NA

Total Well Depth from Top of Casing: 15.0 ft
Depth to Screen from Top of Casing: 5 ft

Purge Information

Depth to Water from Top of Casing: 4.82 feet*
Organic Vapor Readings: ND ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Peristaltic Pump
Start time: 1027 hrs

One Well Volume: 0.417 Gal
Total Purge Volume: 2.5 Gal
DTW after Purging: 5.37 ft
End time: 1123 hrs
Purge Rate: 0.044 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	22.3	7.12	2.6	74 (mS)
after	22.6	6.74	3.1	0.14

Sampling Information

Sample Number: TW-4
Sample Method: Teflon Bailer
Sample Start Time: 1320 hrs

DTW before Sampling: 5.11 ft
DTW after Sampling: 5.53 ft
Sample Analysis: VO+10

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
22.7	6.93	3.1	0.12

Field Personnel: A. Zolnowski, S. Ike

Comments: * Initial depth to water was from the top of 15 ft. PVC.

Sampling Log

Owner's Well No. : TW-5

Client: Thermo Electron - Universal Voltronics
Site Location: Mt. Kisco, NY
Date: 9/7/01
ETKA No: 255804.0001

Well Type: Temporary Well 1" - PVC
Geologic Formation: Overburden

Elevations

Top of Casing: NA
Ground Surface: NA

Total Well Depth from Top of Casing: 15.0 ft
Depth to Screen from Top of Casing: 10 ft

Purge Information

Depth to Water from Top of Casing: 4.09 feet*
Organic Vapor Readings: 0.6 ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Peristaltic Pump
Start time: 1135 hrs

One Well Volume: 0.447 Gal
Total Purge Volume: 1 Gal
DTW after Purging: 9.64 ft
End time: 1220 hrs
Purge Rate: 0.022 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	22.0	7.69	3.1	67 (mS)
after	19.9	8.03	1.2	55 (mS)

Sampling Information

Sample Number: TW-5
Sample Method: Teflon Bailer
Sample Start Time: 1420 hrs

DTW before Sampling: 4.28 ft
DTW after Sampling: 7.63 ft
Sample Analysis: VO+10

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
21.7	8.05	2.4	58 (mS)

Field Personnel: A. Zolnowski, S. Ike

Comments: * Initial depth to water was from the top of 15 ft. PVC.

Sampling Log

Owner's Well No. : TW-6

Client: Thermo Electron - Universal Voltronics **Date:** 9/7/01
Site Location: Mt. Kisco, NY **ETKA No:** 255804.0001

Well Type: Temporary Well 1" - PVC **Geologic Formation:** Overburden

Elevations

Top of Casing: NA **Ground Surface:** NA

Total Well Depth from Top of Casing: 15.0 ft
Depth to Screen from Top of Casing: 10 ft

Purge Information

Depth to Water from Top of Casing: 4.21 feet*
Organic Vapor Readings: ND ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Peristaltic Pump **Start time:** 1153 hrs

One Well Volume: 0.442 Gal **End time:** 1217 hrs
Total Purge Volume: 1 Gal
DTW after Purging: 9.72 ft **Purge Rate:** 0.041 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	23.1	7.90	7.4	69 (mS)
after	22.1	8.21	9.0	64 (mS)

Sampling Information

Sample Number: TW-6 **Sample Start Time:** 1402 hrs
Sample Method: Teflon Bailer

DTW before Sampling: 4.55 ft **Sample Analysis:** VO+10
DTW after Sampling: 6.43 ft

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
22.1	7.93	2.5	67 (mS)

Field Personnel: A. Zolnowski, S. Ike

Comments: * Initial depth to water was from the top of 15 ft. PVC.

Sampling Log

Owner's Well No. : TW-7

Client: Thermo Electron - Universal Voltronics **Date:** 9/7/01
Site Location: Mt. Kisco, NY **ETKA No:** 255804.0001

Well Type: Temporary Well 1" - PVC **Geologic Formation:** Overburden

Elevations

Top of Casing: NA **Ground Surface:** NA

Total Well Depth from Top of Casing: 15.0 ft
Depth to Screen from Top of Casing: 10 ft

Purge Information

Depth to Water from Top of Casing: 3.69 feet*
Organic Vapor Readings: ND ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Peristaltic Pump **Start time:** 1250 hrs

One Well Volume: 0.463 Gal **End time:** 1340 hrs
Total Purge Volume: 1 Gal
DTW after Purging: 4.85 ft **Purge Rate:** 0.02 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	22.7	7.32	6.4	0.12
after	24.2	7.01	2.2	98 (mS)

Sampling Information

Sample Number: TW-7 **Sample Start Time:** 1530 hrs
Sample Method: Teflon Bailer

DTW before Sampling: 4.06 ft **Sample Analysis:** VO+10
DTW after Sampling: 6.07 ft

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
23.9	7.12	4.5	0.12

Field Personnel: A. Zolnowski, S. Ike

Comments: * Initial depth to water was from the top of 15 ft. PVC.

Sampling Log

Owner's Well No. : TW-8

Client: Thermo Electron - Universal Voltronics
Site Location: Mt. Kisco, NY
Date: 9/7/01
ETKA No: 255804.0001

Well Type: Temporary Well 1" - PVC
Geologic Formation: Overburden

Elevations

Top of Casing: NA
Ground Surface: NA

Total Well Depth from Top of Casing: 15.0 ft
Depth to Screen from Top of Casing: 10 ft

Purge Information

Depth to Water from Top of Casing: 6.01 feet*
Organic Vapor Readings: 0.3 ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Peristaltic Pump
Start time: 1237 hrs

One Well Volume: 0.369 Gal
Total Purge Volume: 1 Gal
DTW after Purging: 7.45 ft
End time: 1335 hrs
Purge Rate: 0.017 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	23.4	7.08	3.2	0.30
after	NR	NR	NR	NR

Sampling Information

Sample Number: TW-8
Sample Method: Teflon Bailer
Sample Start Time: 1520 hrs

DTW before Sampling: 6.15 ft
DTW after Sampling: 7.21 ft
Sample Analysis: VO+10

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
21.8	6.90	4.1	0.39

Field Personnel: A. Zolnowski, S. Ike

Comments: * Initial depth to water was from the top of 15 ft. PVC.
NR = reading not obtained due to field sampler error.

Sampling Log

Owner's Well No. : TW-9

Client: Thermo Electron - Universal Voltronics
Site Location: Mt. Kisco, NY
Date: 9/7/01
ETKA No: 255804.0001

Well Type: Temporary Well 1" - PVC
Geologic Formation: Overburden

Elevations

Top of Casing: NA
Ground Surface: NA

Total Well Depth from Top of Casing: 15.0 ft
Depth to Screen from Top of Casing: 5 ft

Purge Information

Depth to Water from Top of Casing: 5.66 feet*
Organic Vapor Readings: ND ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Peristaltic Pump
Start time: 1438 hrs

One Well Volume: 0.383 Gal
Total Purge Volume: 3 Gal
DTW after Purging: 6.00 ft
End time: 1540 hrs
Purge Rate: 0.048 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	22.7	7.88	5.4	48 (mS)
after	22.0	7.94	8..0	49 (mS)

Sampling Information

Sample Number: TW-9
Sample Method: Teflon Bailer
Sample Start Time: 1630 hrs

DTW before Sampling: 5.90 ft
DTW after Sampling: 6.49 ft
Sample Analysis: VO+10

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
21.0	7.98	2.9	48 (mS)

Field Personnel: A. Zolnowski, S. Ike

Comments: * Initial depth to water was from the top of 15 ft. PVC.

Sampling Log

Owner's Well No. : TW-10

Client: Thermo Electron - Universal Voltronics
Site Location: Mt. Kisco, NY
Date: 9/10/01
ETKA No: 255804.0001

Well Type: Temporary Well 1" - PVC
Geologic Formation: Overburden

Elevations

Top of Casing: NA
Ground Surface: NA

Total Well Depth from Top of Casing: 15.0 ft
Depth to Screen from Top of Casing: 5 ft

Purge Information

Depth to Water from Top of Casing: 5.17 feet*
Organic Vapor Readings: 0.4 ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Peristaltic Pump
Start time: 0845 hrs

One Well Volume: 0.403 Gal
Total Purge Volume: 2.5 Gal
DTW after Purging: 5.52
End time: 0950 hrs
Purge Rate: 0.055 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	NR	NR	NR	NR
after	NR	NR	NR	NR

Sampling Information

Sample Number: TW-10
Sample Start Time: 1035 hrs
Sample Method: Teflon Bailer

DTW before Sampling: 5.37 ft
DTW after Sampling: 5.36 ft
Sample Analysis: VO+10

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
NR	NR	NR	NR

Field Personnel: A. Zolnowski, M. Smith

Comments: * Initial depth to water was from the top of 15 ft. PVC.
NR = reading not obtained due to field sampler error.

Sampling Log

Owner's Well No. : TW-11

Client: Thermo Electron - Universal Voltronics
Site Location: Mt. Kisco, NY
Date: 9/10/01
ETKA No: 255804.0001

Well Type: Temporary Well 1" - PVC
Geologic Formation: Overburden

Elevations

Top of Casing: NA
Ground Surface: NA

Total Well Depth from Top of Casing: 15.0 ft
Depth to Screen from Top of Casing: 10 ft

Purge Information

Depth to Water from Top of Casing: 4.93 feet*
Organic Vapor Readings: ND ppm
Depth to Free product: NA feet
Free product thickness: 0 feet

Purging Method: Peristaltic Pump
Start time: 0758 hrs

One Well Volume: 0.403 Gal
Total Purge Volume: 2.5 Gal
DTW after Purging: 5.41 ft
End time: 0837 hrs
Purge Rate: 0.064 GPM

Purge Chemistries

	Temperature (°C)	pH	DO	Cond (S)
before	NR	NR	NR	NR
after	NR	NR	NR	NR

Sampling Information

Sample Number: TW-11
Sample Method: Teflon Bailer
Sample Start Time: 0930 hrs

DTW before Sampling: 5.22 ft
DTW after Sampling: 5.26 ft
Sample Analysis: VO+10

Sample Chemistries

Temperature (°C)	pH	DO	Cond (S)
NR	NR	NR	NR

Field Personnel: A. Zolnowski, M. Smith

Comments: * Initial depth to water was from the top of 15 ft. PVC.
NR = reading not obtained due to field sampler error.

Appendix B

Laboratory Analytical Data Deliverables

(NYSDEC & and NYSDOH copies only)