Supplemental Investigation Report

Swivelier Company Site
Village of Nanuet, Clarkstown Township
Rockland County, New York

NYSDEC Site #3-44-036
Work Assignment #D002925-27.3

Prepared for:

New York State
Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

John P. Cahill
Commissioner

Prepared by:
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July 2000

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August 31, 2000

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Subject: State Superfund Standby Contract
Work Assignment #D002925-27.3
Swivelier Company site #3-44-036
Supplemental Investigation

Dear Mr. Mason:

Camp Dresser & McKee is pleased to submit three (3) copies of the Supplemental Investigation Report for the above referenced project.

If you have any questions, please do not hesitate to call

Very truly yours,

CAMP DRESSER & McKEE for

Joseph S. Gutt

Brian Farrelly, P.E.
Project Manager

cc: File 2.1.2 (w/o attachments
L. Guterman

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Contents

Contents

Figures

Tables

1 Section One

1.0 Introduction

Camp Dresser & McKee (CDM) conducted a Supplemental Investigation at the Swivelier Property to determine if there was evidence that non-aqueous phase trichloroethene had migrated from the source area into the underlying fractured rock aquifer. The investigation was conducted in response to the results of a post remediation groundwater monitoring event completed in November 1999. This monitoring event identified significant levels of TCE in the sample collected from a new bedrock monitoring well located offsite and immediately downgradient of the Site. The Supplemental Investigation consisted of a re-evaluation of the existing site data, the installation of a new exploratory boring in the source area, a new monitoring well completed in the fractured rock aquifer immediately downgradient of the source area, and the collection and analysis of samples from a selected group of monitoring wells. The investigation was conducted between April 19, 2000 and May 25, 2000.

2

Section Two

2.0 Background

CDM performed a Remedial Investigation and Feasibility Study of the Swivelier Property from 1994 through 1996. Based on the recommendations of the Feasibility Study, CDM performed "hot spot" excavation and removal activities at the source area in June 1999 (see Figure 2-1). Sections of a former discharge pipe were uncovered during excavation activities between the Swivelier Building and the former discharge point, a nearby streambed. When the pipe was unearthed, sections of it were observed to be filled with contaminated sludge. Soil was excavated to the water table in accordance with the remediation plan. However, post excavation sampling, conducted in November 1999, indicated that TCE concentrations approaching the percent-range (1,100 mg/kg) remained at the water table in a small area approximately five feet from the end of the discharge pipe. The area was estimated to be approximately 10 feet by 10 feet in size.

As part of the remedial activities, additional monitoring wells were installed to supplement the existing groundwater monitoring system established during the Remedial Investigation. The additional wells, MW-9S, MW-9DI, and MW-9D, monitored three distinct depth intervals at a location just beyond the downgradient site boundary. All of the site-related monitoring wells were sampled following the completion of the new well cluster. In general, the analytical results for the existing monitoring wells were consistent with the results of previous rounds of sampling. However, analytical data from the new bedrock well, MW-9D, indicated the presence of trichloroethene (TCE) at a concentration of 13,300 ug/l. A summary of the analytical results for the November 1999 round of sampling is presented in Table 2-1. The validated analytical results for the November 1999 sampling event are presented in Appendix A.

The TCE concentration detected in MW-9D is approximately one percent of its solubility limit in water, suggesting the likely presence of a non-aqueous phase liquid. Monitoring well MW-9D, located to the southwest of the site, is almost directly between the former discharge point and the "LA Woman" well which was found to contain a TCE groundwater concentration of 5400 ug/l in 1991 (see Figure 2-2).

In addition to the high levels of TCE found in MW-9D, TCE concentrations in deep-intermediate well (MW-8DI), located along the drainage ditch south of the source area, increased from 2 ug/l during the remedial investigation to 160 ug/l in the November 1999 sampling event. The analytical data also indicated that low levels of TCE, on the order of 20 ug/l, were migrating to the south, perhaps beneath the drainage swale in the shallow water-bearing unit.

Significant levels of BTEX and MTBE were also found in MW-5S to the west of the site. However, is appears that these gasoline-related compounds are most likely associated with the automobile junkyard that is located adjacent to the Swivelier Site.

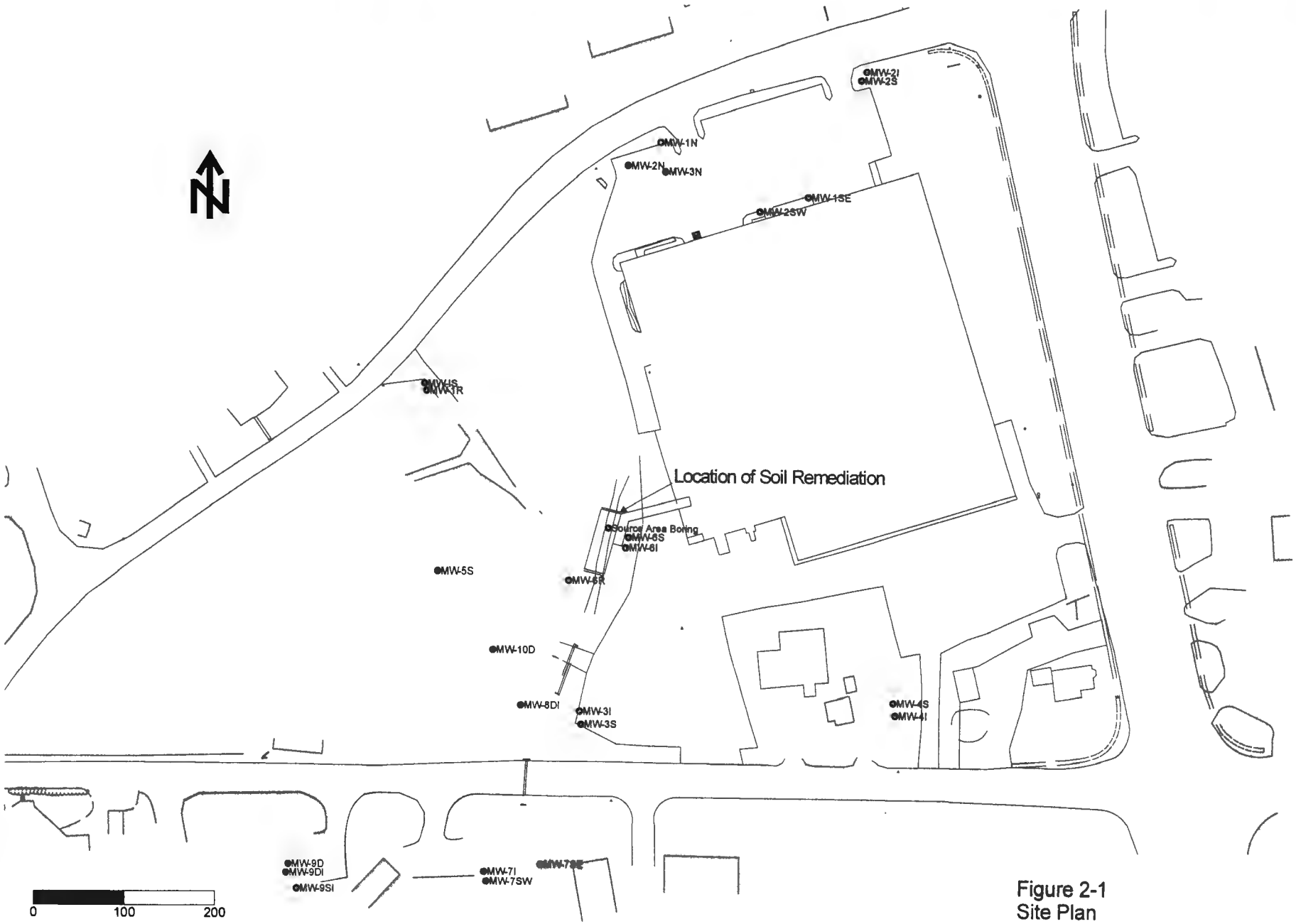


Figure 2-1
Site Plan

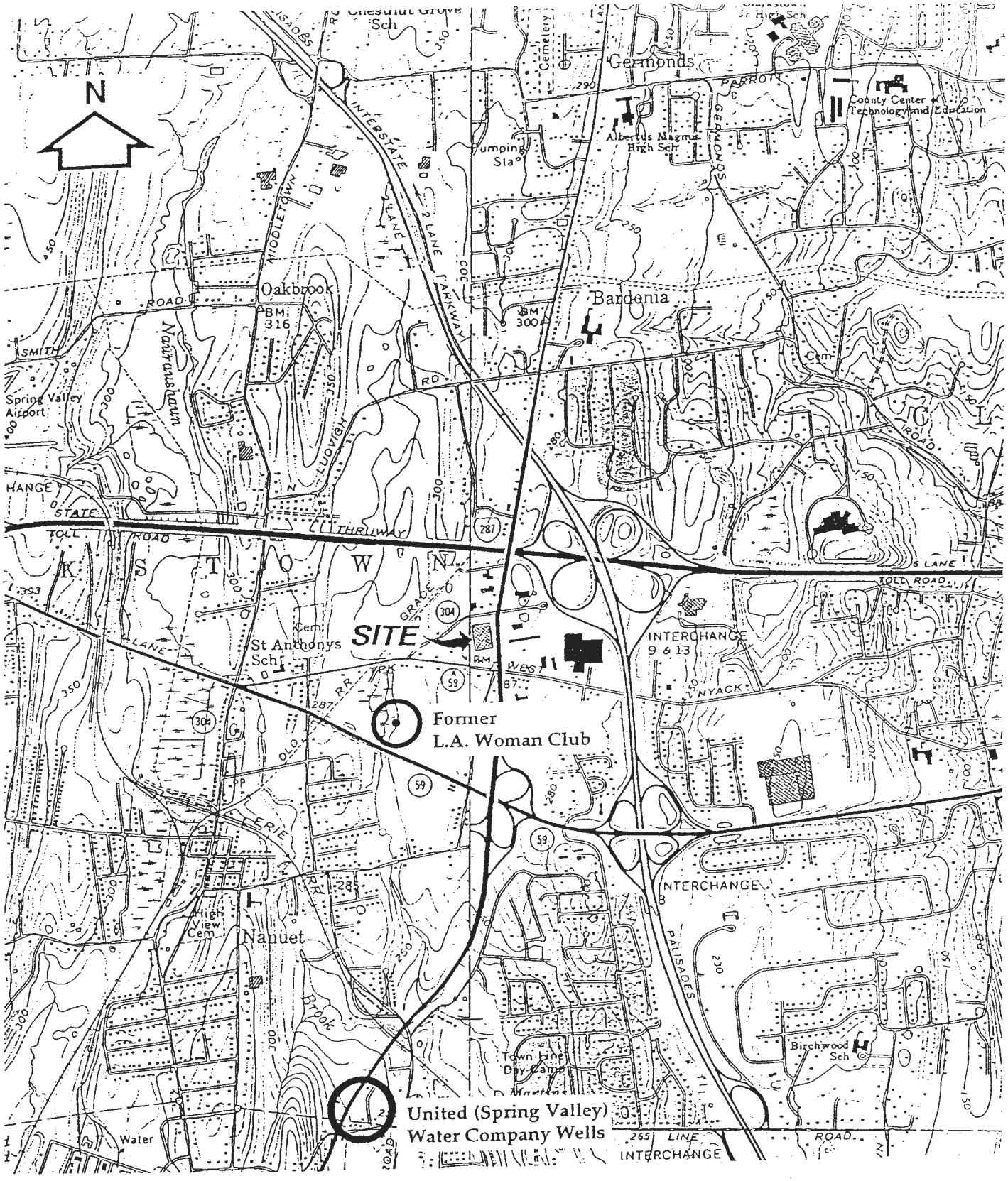
Table 2-1
Results of Monitoring Well Sampling
November 1999

Client Sample ID	NYSDEC	MW-1RI		MW-1S		MW-1SE		MW 2I		MW 2S		MW 3I		MW 3S		MW-3N		MW-4I		MW-4S		MW-5S		MW-6S		MW-6I		MW-6IDL	
Lab Sample ID	Guidance	90078		90079		90065		89847		89850		89845		89846		90066		90076		90074		90068		90073		90070		90070DL	
Sample Collection Date	Value	11/9/99		11/9/99		11/8/99		11/5/99		11/5/99		11/5/99		11/5/99		11/8/99		11/9/99		11/9/99		11/8/99		11/8/99		11/8/99		11/8/99	
Sample Receipt Date		11/9/99		11/9/99		11/9/99		11/5/99		11/5/99		11/5/99		11/5/99		11/9/99		11/9/99		11/9/99		11/9/99		11/9/99		11/9/99		11/9/99	
Units		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Dilution Factor		1		1		1		1		1		1		1		1		1		1		100		1		1		100	
		CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Acetone	50	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Vinyl Chloride	2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**180[1.]**		**1100[1.]**	D
1,1-Dichloroethene	5	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
cis-1,2-Dichloroethene	-	ND		ND		ND		ND		ND		ND		24		32		ND		ND		ND		ND		280		2,400	D
Bromodichloromethane	50	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Trichloroethene	5	ND		ND		ND		ND		ND		**18[1.]**		**22[1.]**		ND		ND		ND		ND		ND		**130[1.]**		**1000[1.]**	D
Tetrachloroethene	5	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Benzene	0.7	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Toluene	5	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**1,300[1.]**	D	ND		ND		ND	
m+ p-Xylenes	5	ND		ND		ND		ND		ND		ND		ND		**14[1.]**		ND		ND		**2,800[1.]**		ND		ND		ND	
o-xylene	5	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**1,500[1.]**		ND		ND		ND	

Client Sample ID	NYSDEC	MW-6R		MW 7SE		MW 7SW		MW-7I		MW-8DI		MW 9IS		MW 9ID		MW 9D		MW 9DDL		MW DUP		MW-DUP		MW-FB		TRIP BLANK		TRIP BLANK	
Lab Sample ID	Guidance	90067		89844		89842		89843		90077		89840		89841		89839		89839DL		89848		90069		90075		89849		90080	
Sample Collection Date	Value	11/8/99		11/5/99		11/4/99		11/5/99		11/9/99		11/4/99		11/4/99		11/4/99		11/4/99		11/5/99		11/8/99		11/9/99					
Sample Receipt Date		11/9/99		11/5/99		11/5/99		11/5/99		11/9/99		11/5/99		11/5/99		11/5/99		11/5/99		11/5/99		11/9/99		11/9/99		11/5/99		11/9/99	
Units		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Dilution Factor		1		1		1		1		1		1		1		1		100		1		1		1		1		1	
		CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Acetone	50	ND		ND		100		ND		ND		ND		ND		ND		ND		**68[1.]**		ND		ND		ND		ND	
Vinyl Chloride	2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1-Dichloroethene	5	ND		ND		ND		ND		ND		ND		ND		**10[1.]**	J	ND		ND		ND		ND		ND		ND	
cis-1,2-Dichloroethene	-	56		16		ND		ND		33		ND		ND		1,300	E	1,100	D	ND		54		ND		ND		ND	
Bromodichloromethane	50	ND		ND		ND		ND		ND		ND		ND		**80[1.]**		ND		ND		ND		ND		ND		ND	
Trichloroethene	5	200		ND		ND		ND		**160[1.]**		ND		**68[1.]**		**7,900[1.]**	E	**13,300[1.]**	D	ND		**190[1.]**		ND		ND		ND	
Tetrachloroethene	5	ND		ND		ND		ND		ND		ND		ND		**21[1.]**		ND		ND		ND		ND		ND		ND	
Benzene	0.7	**13[1.]**		ND		ND		ND		ND		ND		ND		ND		ND		ND		**13[1.]**		ND		ND		ND	
Toluene	5	**6.9[1.]**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	J	ND		ND		ND	
m+ p-Xylenes	5	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
o-xylene	5	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	

Notes:

ND - Compound not detected in sample
J - Concentration is estimated
Q - Qualifier
ug/l - Micrograms per liter
1. - Results in bold print exceed NYSDEC Guidance Value

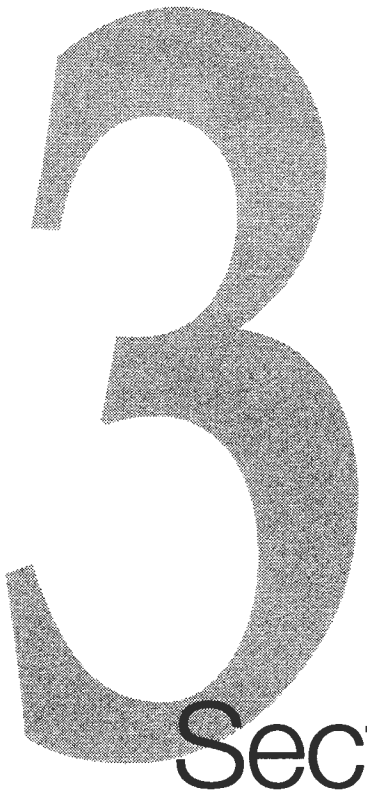


Scale: 1" = 2000'

Base Map: Nyack-Park Ridge Quadrangle
New Jersey - New York
USGS. 7.5 Minute Series (Topographic)

Figure 2-2
Offsite Wells Impacted by TCE

Based on these new data, it was concluded that a significant amount of TCE may have entered the streambed as a non-aqueous phase liquid between the years 1956 to 1980, and migrated downward through the water bearing unit by gravity flow. TCE is denser than water and when it remains in a separate phase, is referred to as a DNAPL, or dense non-aqueous phase liquid. A DNAPL will tend to migrate downward through permeable strata, driven primarily by the force of gravity, independent of the hydraulic head distribution of groundwater. Current research indicates that a DNAPL will not spread laterally to a significant degree until a physical barrier to downward migration is encountered, such as a layer of low permeability clay, lodgment till, a till with a significant percentage of clay and silt particles, or the bedrock surface. DNAPL can collect in depressions in the bedrock surface and enter the fractured rock aquifer system through vertical or high angle fractures that intersect the surface. When it reaches a barrier to downward migration, NAPL will act as a subsurface source of contamination, slowly dissolving into groundwater that comes in contact with it. Groundwater in the immediate area of a DNAPL source will typically exhibit dissolved phase concentrations on the order of one percent or more of the compound's solubility limit in water.



Section Three

3.0 Scope of Work

CDM developed a scope of work for the Supplemental Investigation in cooperation with the New York State Department of Environmental Conservation (NYSDEC). The objectives of the investigation were to determine if there was evidence that DNAPL migrated downward within a relatively limited distance from the source area, and to determine if the high levels of TCE detected in MW-9D were related to the source area identified at the Swivelier Site.

3.1 Evaluation of Existing Data

The stratigraphic data collected in the soil remediation phase was incorporated into the existing conceptual model of subsurface geologic and hydrogeology. Groundwater level contour maps were prepared from the November 1999 round of synoptic measurements. A review of the remedial investigation data was also conducted in light of the new data. Geologic cross sections were updated with the new stratigraphic information collected in the field investigations and final cross sections were developed.

3.2 Geophysical Logging

Natural gamma logs were produced for five existing wells, MW-9D, MW-6R, MW-6I, MW-8I and MW-4I; and the new monitoring well MW-10D to provide a continuous record of stratigraphy at these locations. The gamma logs were used in combination with lithologic logs, produced from direct observation of split spoon soil samples, to evaluate the stratigraphy at the site. The depth, aerial extent, and dip of potential confining layers were identified from these data. The results of this evaluation were incorporated into the existing conceptual model of stratigraphy and used to refine the location of the proposed new monitoring well at location MW-10.

Natural gamma logs are a measure of the relative levels of gamma radiation produced by the minerals that make up the subsurface soil and rock formations. Gamma radiation is primarily produced by the element Potassium-40. Potassium-40 is found in relatively high concentrations in clay minerals. Silt and sand are composed primarily of the quartz and other silicate minerals. Consequently, the log is used as a measure of the clay content of a formation, which is then correlated with the relative permeability of the formation material.

3.3 Test Boring Installation

CDM installed a boring in the source area to evaluate the migration of TCE from the shallow source area soils to the fractured rock aquifer. The boring was located in the stream bed at the end of the discharge pipe where post excavation activities indicated that significant levels of TCE remained in the soil below the water table. The location of the source area boring (SB-1) is shown on Figure 2-1. Split spoon samples were collected continuously from the ground surface to a depth of 82 feet, where split spoon refusal

was encountered. Samples were described by an onsite geologist and field screened with a PID and FID to record levels of total organic vapors. Screening with a hydrophobic dye was also conducted to identify the presence of NAPL.

The stream was temporarily diverted while the boring was completed using an all terrain vehicle-mounted rig to access the location. The boring was drilled by the standard rotary method to minimize the amount of soil cuttings removed from the hole and to contain organic vapors. Level B respiratory protection was used in the work zone because of the levels of vinyl chloride that were measured during soil remediation activities.

3.4 Monitoring Well Installation

CDM installed a new monitoring well (MW-10D) on the Swivelier property, at a location directly between the source area and MW-9D, as shown on Figure 2-1. Split spoon soil samples were collected at five-foot intervals to a depth of 100 feet. The boring was then cored through the transition zone between the weathered (saprolitic) rock and competent rock from 100 to 110 feet. Four-inch PVC casing was installed to a depth of 110 feet and securely grouted in place. After the casing had been securely grouted in place, the well cored to a total depth of 130 feet, and completed as an open hole rock well. Both soil and rock core samples were described by an onsite geologist and screened for VOC's and NAPL as discussed above. The well was developed by surging and interrupted overpumping using a 3-inch submersible pump. Development water was contained in 55-gallon steel drums and disposed of by the NYSDEC.

3.5 Surveying

The location and elevation of the new monitoring well (MW-10D), existing wells (MW-3S, MW-3I, MW-6S, MW-6I, MW-6R, MW-7S-E, MW-7S-W, MW-9SI, MW-9DI, and MW-9D, and the source area boring were surveyed by a New York State-licensed surveyor. The new locations were plotted on the existing site plan. A copy of the new site plan is presented in Appendix B.

3.6 Groundwater Quality and Level Monitoring

Groundwater quality samples were collected from five existing wells (MW-9D, MW-9I, MW-6R, MW-6I, MW-8I) and the new well (MW-10D) to evaluate the connection between the source area and MW-9D. The samples were collected on May 24 and 25, 2000, and analyzed for volatile organic compounds plus a library search. A blind field duplicate sample (MW-11D) was collected from MW-10D. Matrix spike and matrix spike duplicate samples were collected from MW-6I. A field blank and trip blanks, one per shipment, were also collected. The samples were analyzed under a two-week turnaround schedule by Chemtech of Edison, New Jersey. Third party data validation was performed by Chemworld Environmental, Inc. of Rockville, Maryland. Temperature, pH, dissolved oxygen, Eh, turbidity, and specific conductance were

measured in the field at the time of sample collection. Purge water from the wells was contained in 55-gallon steel drums and will be disposed of offsite by the NYSDEC.

A complete round of synoptic groundwater level measurements was collected prior to sample collection. Water levels were measured from the top of the well casing using an electronic water level recorder. Depth to water measurements were converted to elevation using the new survey.

4
Section Four

4.0 Investigation Results

4.1 Hydrogeologic Setting

4.1.1 Stratigraphy

The subsurface stratigraphy at the Site was initially characterized during the Remedial Investigation/Feasibility Study. The remedial investigation indicated that there was approximately 100 feet of unconsolidated deposits of recent alluvial and glacial origin overlying bedrock consisting of Triassic Age siltstone and sandstone of the Passaic Formation.

The Remedial Investigation characterized the unconsolidated material into distinct stratigraphic units. The uppermost layer was comprised of 5 to 10 feet of undifferentiated fill material overlying a thin layer of silty clay, possibly the floodplain deposits of local surface water bodies. Vegetative material indicating the original ground surface was observed at the surface of the clay layer. These units were not encountered in the source area boring because they were either not deposited or excavated during source area remediation. Below the clay, 10 to 15 feet of relatively permeable water-bearing sands; possibly recent alluvium or glacial outwash, was observed. This water bearing sand comprised the "shallow water bearing unit". Monitoring wells screened within this unit were given an "S" designation. A 5-foot layer of silt and clay at the base of the sands marked the lower limit of the unit.

Approximately 75 to 80 feet of till was observed between the layer of silt and clay, and the bedrock surface. The till was found to vary considerably in grain size and texture. Relatively permeable sandy units were encountered between the depths of 40 and 60 feet, and 80 to 90 feet. The unit was otherwise composed of a dense combination of sand, silt, gravel, and cobble sized material, typical of a lodgment till. This material appeared to be moist, but almost devoid of free water. Monitoring wells screened within the sandy till units were originally given an "I" designation. The till unit was differentiated in the second phase of the remedial investigation into shallow intermediate "SI", and deep intermediate "DI" monitoring zones.

The upper 10 to 20 feet of rock was found to be chemically weathered to a saprolitic texture. Competent siltstone and sandstone of the Passaic Formation was observed below the weathered zone. Bedrock monitoring wells were typically cased to a depth of 5 feet into competent rock and completed with open-hole construction. Bedrock monitoring wells were given the designations "R", or "D" depending on the phase of the investigation that they were installed. The depth of competent rock appeared to vary on the order of 25 feet throughout the Site. This resulted in the monitoring intervals of the bedrock wells ranging over this distance. Monitoring well MW-9D, where the mg/l concentrations of TCE were detected, was the shallowest of the existing wells. The top of the monitoring interval in MW-9D was more than 20 feet shallower than MW-6R, the well closest to the source area. MW-9D also encountered a water-bearing fracture at a relatively shallow depth. MW-10D, the new well installed during this investigation

encountered competent rock at a depth 10 feet shallower than MW-6R, and shallow water bearing fractures.

4.1.2 Geophysical Logging

The natural gamma logs for monitoring wells MW-1D, MW-4I, MW-6I, MW-6R, MW-8I, and MW-9D, andMW-10D, showed relatively comparable gamma signatures. The logs indicated that the shallow water bearing sand unit had variable percentages of clay, particularly near the base of the unit where it graded into a silt and clay layer. Copies of the Geophysical Logs are presented in Appendix C. The shallow sand unit appeared to have relatively higher percentages of clay near the source area, as shown on the log for MW-6I, compared to MW-8I located south of the source area.

The percentage of clay decreased in the underlying till unit below the silt and clay layer. Monitoring well MW-6I appeared to have a relatively low percentage of clay through upper section of till between 25 to 55 feet below the ground surface. The lower section of till, between the depths of 60 and 100 feet, showed relatively lower percentages of clay to the southwest of the source area as shown in the logs for MW-8I, MW-9D, and MW-10D. This indicates that a preferential pathway to depth may exist between the source area and MW-9D where the high levels of TCE were found.

The bedrock surface is difficult to identify on the gamma logs because the rock is similar in composition to the basal layers of the till. However, it appears that the surface of the weathered zone ranges in depth between 95 feet and 110 feet below the ground surface. It also appears that this surface drops in elevation between MW-6D, MW-10D, and MW-9D.

4.1.3 Groundwater Flow

Contour maps of hydraulic head measurements made in the shallow, shallow intermediate, and bedrock monitoring zones were prepared for the November 1999 and May 2000 events. A summary of location, elevation, and water levels is presented in Table 4-1. Contour maps are presented in Figures 4-1 through 4-6. The data indicate that groundwater within the shallow water bearing unit flows toward the drainage swale from both the east and west portions of the Site (see Figures 4-1 and 4-2). Groundwater within this unit flows to the southwest from the southwest corner of the Swivelier building where the drainage pipe was located. Flow is to the southeast from western side of the swale similar to the general slope of the ground surface in that area. The unit is probably responsible for base flow with in the swale where it is not separated by the shallow clay unit. The elevation of the base of the swale was 1 to 2 feet below the water

Table 4-1
Summary of Groundwater Level Measurements

WELL I.D.	Horizontal Coordinates North	Horizontal Coordinates East	Well Elevations Ground Surface	Well Elevations Top of Steel Casing	Well Elevations Top of PVC Casing	Depth to Groundwater 11/4/99	Depth to Groundwater 5/24/00	Groundwater Elevation 11/4/99	Groundwater Elevation 5/24/00
MW-IS	399773.29	592938.42			288.34	6.54	4.63	281.8	283.71
MW-1R	399765.54	592940.77			288.48	22.04	19.74	266.44	268.74
MW-2S	400109.75	593417.72			289.66	10.06	9.68	279.6	279.98
MW-2I	400119.48	593423.82			290.33	11.84	11.3	278.49	279.03
MW-3S	399400.773	593111.469	279.17	281.4	281.2	4.93	4.24	276.27	276.96
MW-3I	399414.923	593109.696	279.32	282.13	281.56	7.31	6.68	274.25	274.88
MW-4S	399426.67	593456.7			285.41	5.65	5.2	279.76	280.21
MW-4I	399413.08	593458.92			285.56	7.88	7.51	277.68	278.05
MW-5S	399567.12	592953.59			287.23	6.87	7.37	280.36	279.86
MW-6S	399605.587	593163.266	282.14	284.47	283.86	5.46	4.98	278.4	278.88
MW-6I	399594.314	593160.312	281.99	284.43	283.9	14.45	12.62	269.45	271.28
MW-6R	399558.192	593097.342	283.78	286.28	286.24	19.45	17.59	266.79	268.65
MW-7SE	399247.064	593067.149	276.85	279.05	278.85	4.69	4.54	274.16	274.31
MW-7SW	399228.066	593007.71	279.15	282.35	282.03	7.42	7.45	274.61	274.58
MW-7I	399238.883	593005.177	279.26	281.63	281.53	7.48	7.62	274.05	273.91
MW-8DI	399421.146	593044.762	278.59	282.05	281.53	15.1	12.76	266.43	268.77
MW-9SI	399218.864	592795.237	284.3	287.42	287	11.73	11.77	275.27	275.23
MW-9DI	399236.384	592783.197	284.7	288.22	287.92	23.17	20.22	264.75	267.7
MW-9D	399245.7464	592785.9688	285.06	287.83	287.5	21.91	18.9	265.59	268.6
MW-10D	399481.168	593014.053	281.28	283.59	283.59		15.05		268.54
MW-1SE	399981.52	593359.77			284.8	6.15	3.71	278.65	281.09
MW-2SW	399965.22	593306.63			283.37	5.07	4.9	278.3	278.47
MW-1N	400039.97	593196.73			285.66	7.22	6.99	278.44	278.67
MW-3N	400008.27	593202.17			280.68	2.21	3.51	278.47	277.17
MW-2N	400014.52	593160.95			282.78	4.34	4.23	278.44	278.55
Source Area Boring	399615.528	593140.825	277.49						

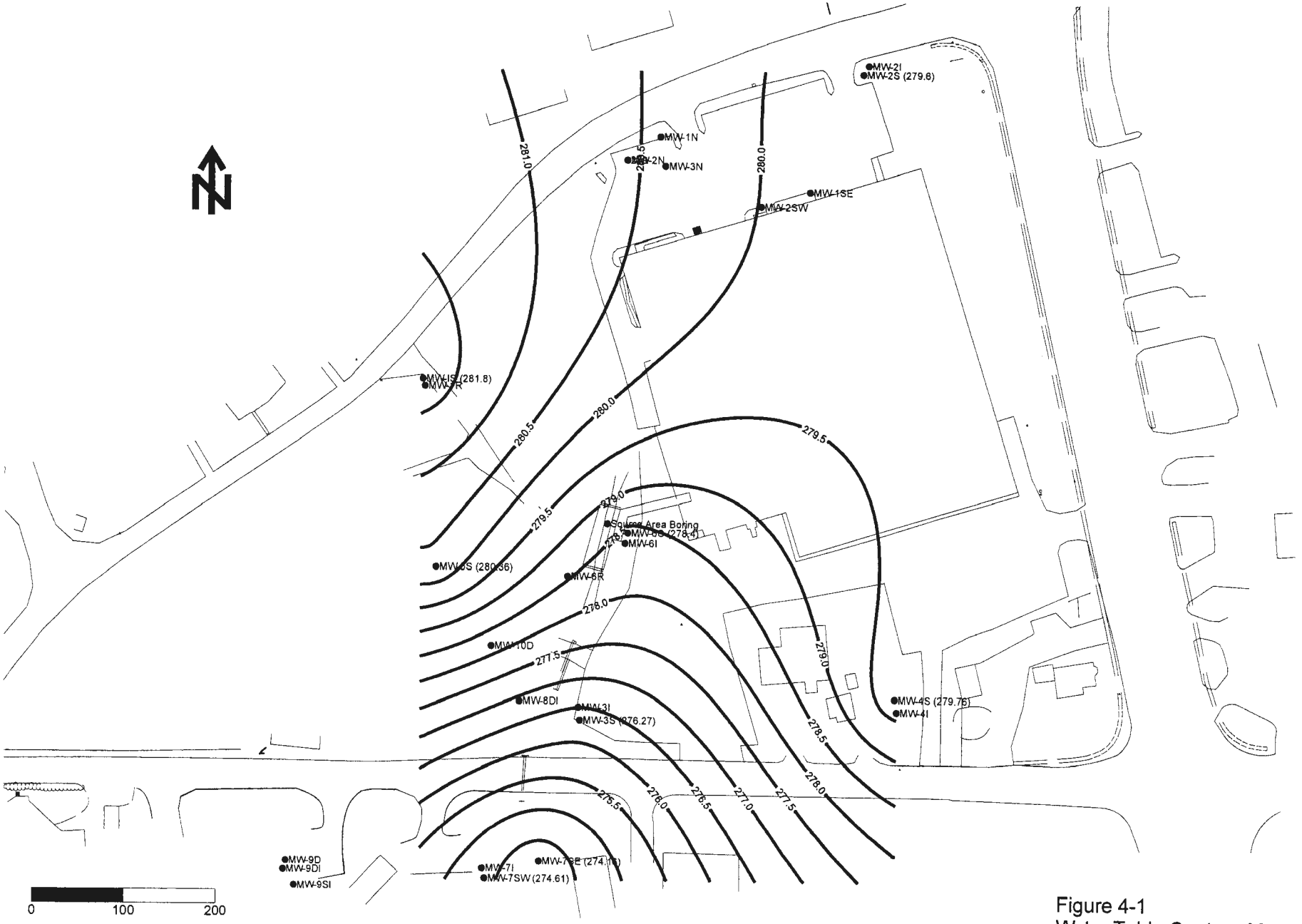


Figure 4-1
Water Table Contour Map
11-4-99

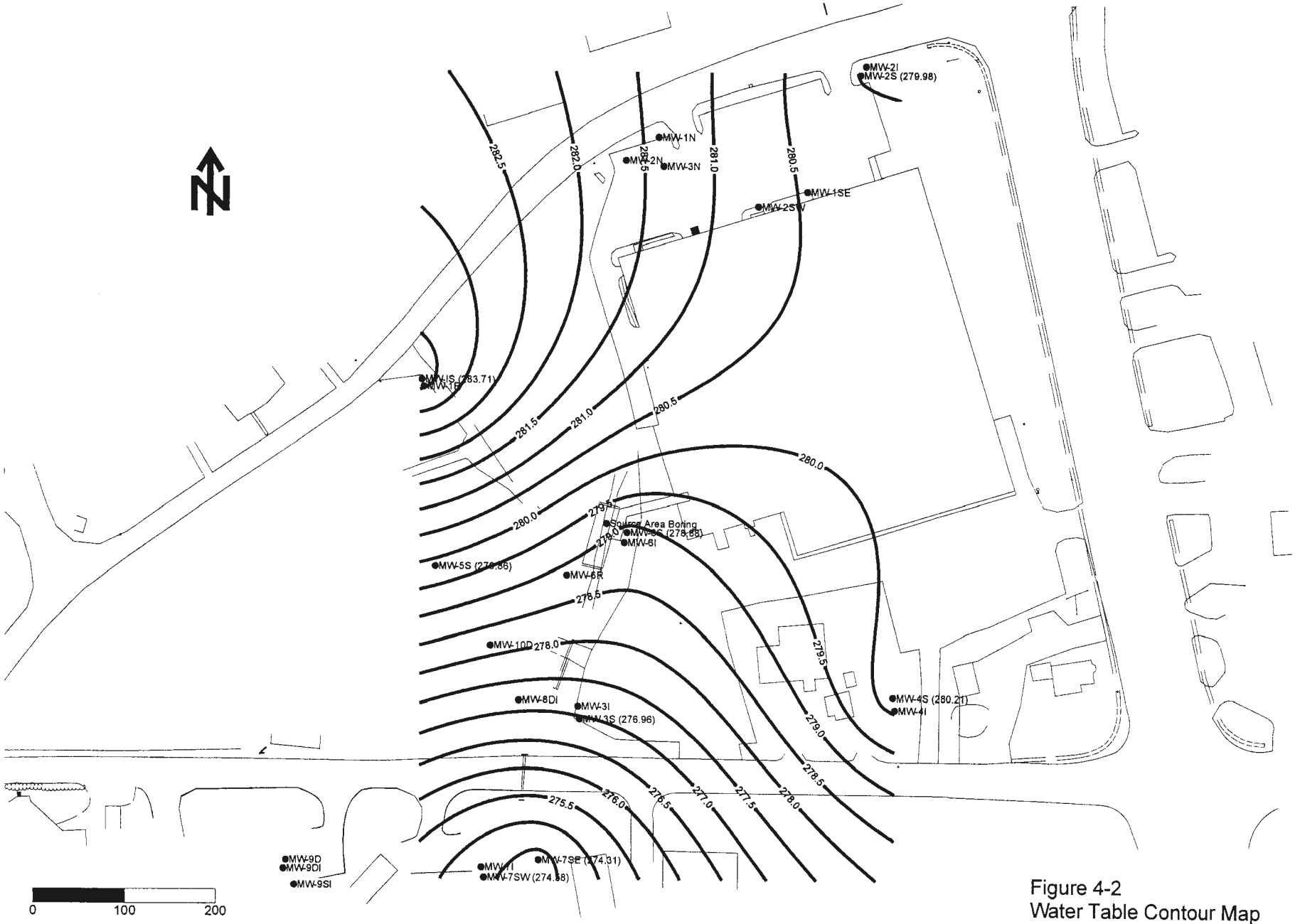


Figure 4-2
Water Table Contour Map
5-24-00

table in surrounding shallow wells during both the November 1999 and May 2000 monitoring events.

The shallow intermediate water bearing unit shows a similar flow pattern to the water table (see Figures 4-3 and 4-4). Flow within this unit is to the southwest across most of the Swivelier property. An area of lower hydraulic head appears to be centered around MW-8I, and MW-7I. The vertical hydraulic gradient between the two zones is downward, indicating that groundwater within the shallow unit recharges the shallow intermediate zone, and that the shallow intermediate zone does not discharge to the drainage swale. With no apparent connection to surface water, it is possible that heads are lower in this area because the soils are relatively higher in permeability. This distribution of hydraulic head and possible zone of higher permeability presents a potential area for the downward migration of contaminants.

There were not enough deep intermediate zone wells to triangulate and construct a contour map. The only two wells installed in that zone were MW-8DI and MW-9DI. The head measurements in these wells do, however, indicate that the downward vertical gradient observed between the two shallower monitoring zones is maintained between the shallow intermediate and deep intermediate units.

The potentiometric surface maps for the shallow bedrock zone vary significantly between the November 1999 and May 2000 monitoring events as a result of the additional well control afforded by the new monitoring well MW-10D (see Figures 4-5 and 4-6). The November map shows flow in a general southwesterly direction from the source area near MW-6S and MW-6I to the MW-9 well cluster. In May, with the addition of monitoring well MW-10D, a zone of low hydraulic head is apparent in the same general area as the shallow intermediate surface. Pumping records from well development and purging indicated that the shallow bedrock in the area of MW-10D is much more permeable than in the area of MW-9D. Vertical hydraulic head measurements in both of the monitoring rounds indicated that the head in the shallow bedrock well at location MW-9D was higher than the deep intermediate zone. A comparison of the head in MW-10D to the level in MW-8DI, the closest well to MW-10D indicate that downward head conditions may exist between the deep intermediate zone and the shallow bedrock, further supporting the possibility that this area provides a potential pathway between the source of the TCE and the bedrock.

4.2 Source Area Boring SB-1

The source area boring was installed to a total depth of 82 feet. The boring was terminated at that depth, because there was not sufficient recovery of split spoon samples to observe and screen the soils encountered during drilling. Coring the lower section of till was attempted, however it appeared that the circulation of drilling fluid through the core barrel was flushing any sign of contamination from the sample.

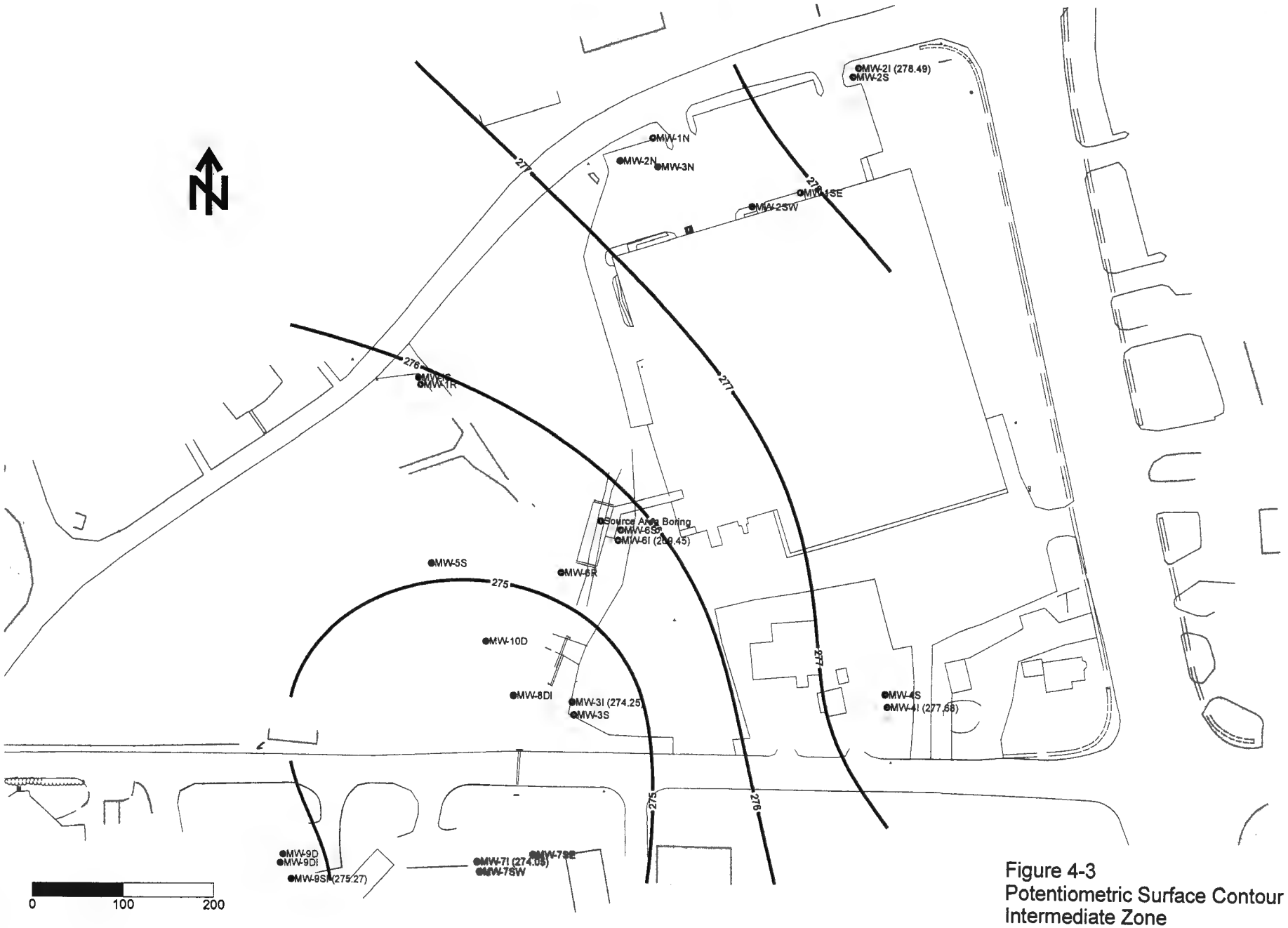


Figure 4-3
Potentiometric Surface Contour Map
Intermediate Zone
11-4-99

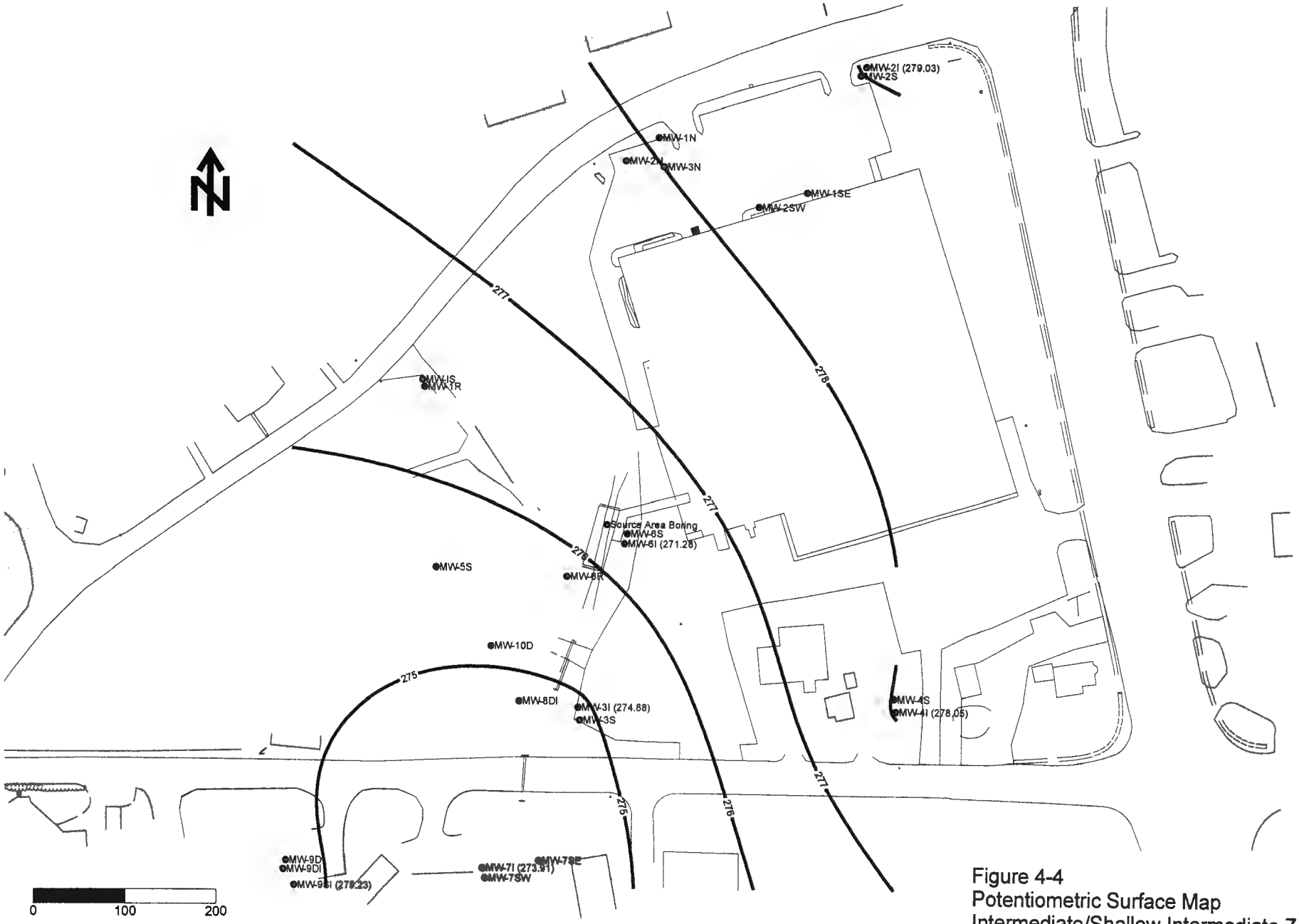


Figure 4-4
Potentiometric Surface Map
Intermediate/Shallow Intermediate Zone
5-24-00

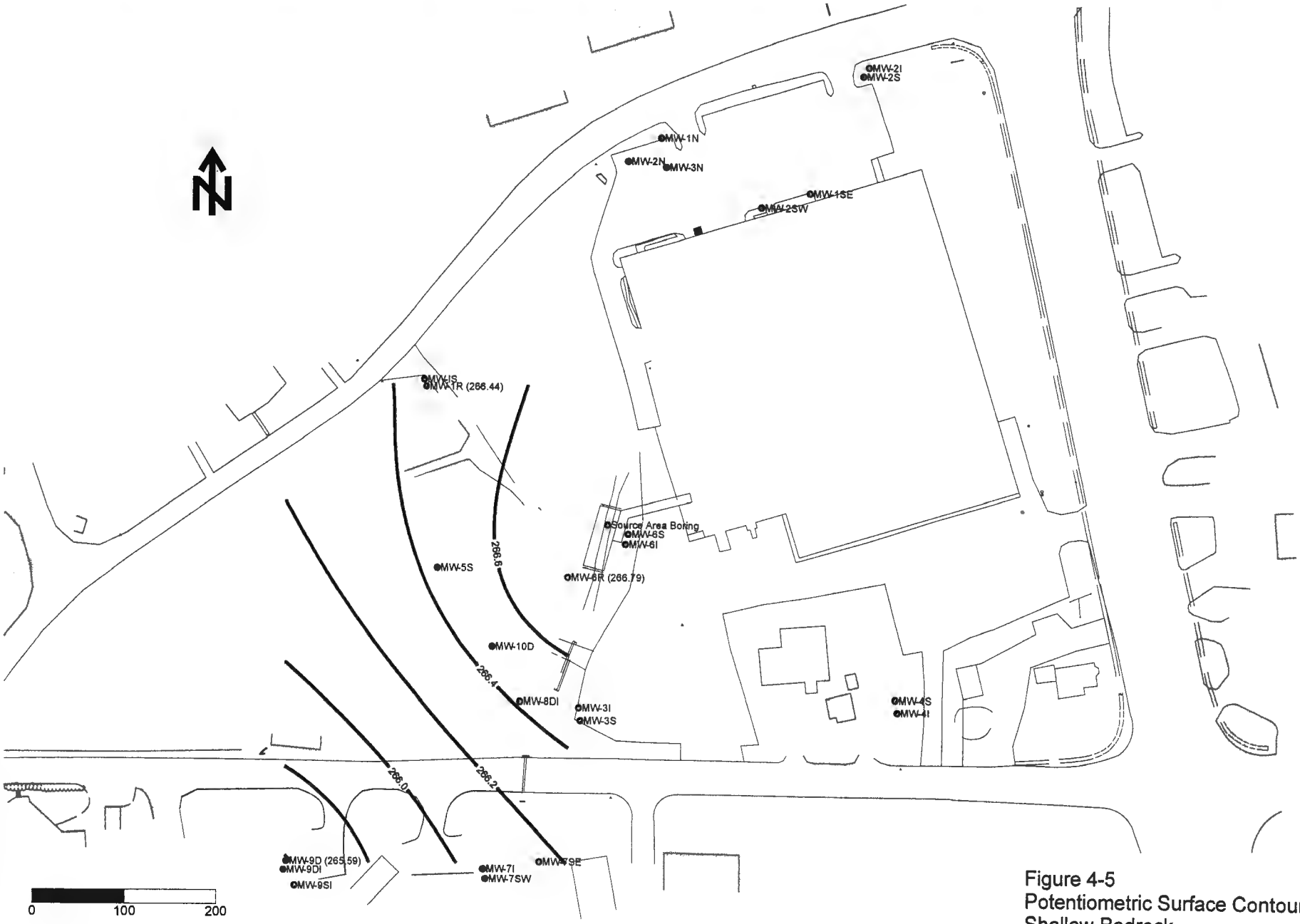


Figure 4-5
Potentiometric Surface Contour Map
Shallow Bedrock
11-4-99

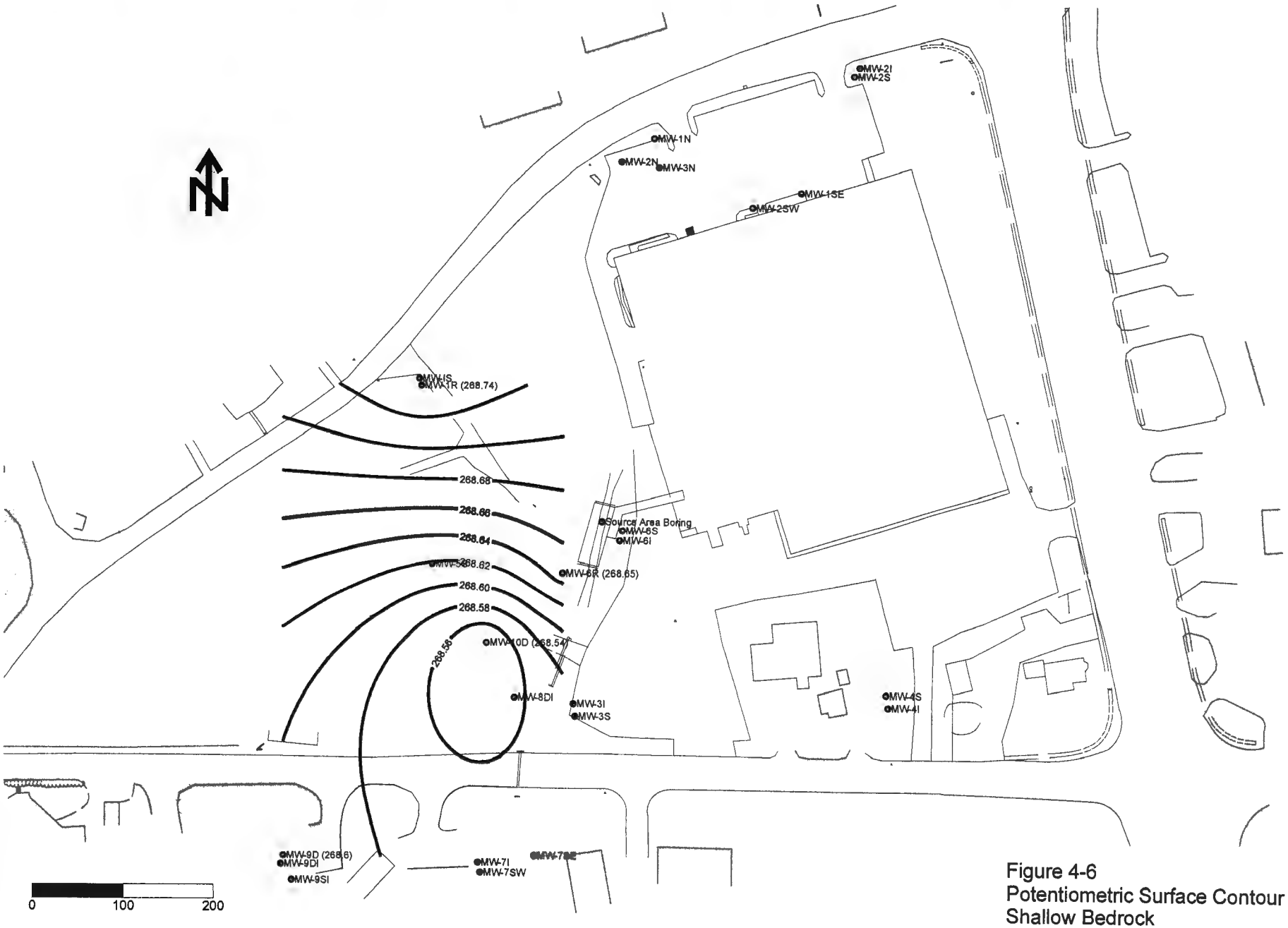


Figure 4-6
Potentiometric Surface Contour Map
Shallow Bedrock
5-24-00

The stratigraphy at this location was consistent with the conceptual model presented in the RI/FS. The shallow water bearing unit was encountered between the depths of four and 14 feet, and consisted of silty fine to medium sand as shown on the boring log presented in Appendix A. Total organic vapor levels were slightly above background levels, ranging from 1 to 10 ppm. Table 4-2 summarizes the results of sample screening for total organic vapors with a PID. Boring Logs are presented in Appendix D.

The shallow intermediate zone was encountered between the depths of 43 and 60 feet, and consisted of a loose medium sand. Total organic vapors were recorded at levels between one and 127 ppm, with the highest levels in the interval between 50 and 60 feet. The formation material became very dense and difficult to sample below 60 feet in depth. Samples were not collected for laboratory analysis from this boring, however, the level of total organic vapors indicated the presence of significant levels of volatile organic compounds in the shallow intermediate zone.

Upon completing drilling and sampling activities, the boring was sealed with cement bentonite grout from its total depth to the ground surface and abandoned. The cuttings and water generated during installation of the boring were placed in 55-gallon steel drums and will be disposed of by the NYSDEC as hazardous waste.

4.3 Monitoring Well MW-10D

Monitoring well MW-10D was sited directly between the source area and well cluster MW-9, on the Swivelier property. Split spoon sampling indicated that shallow water bearing sand unit contained a significant percentage of silt throughout most of its section (see Appendix D). However, a thin gravel layer was found between 15 and 16 feet. The shallow intermediate zone also had a significant percentage of silt. Total organic vapor screening recorded only background levels between the ground surface and a depth of 90 feet as shown on Table 4-2. Total organic vapor levels increased to 12 ppm between the depths of 90 and 95 feet where the surface of weathered bedrock was encountered.

The driller reported that sections of competent rock were encountered between the depths of 97 and 105 feet in depth. The core from 105 feet to 110 feet recovered 2 feet of weathered incompetent siltstone. The casing was set at a depth of 110 feet and securely grouted in place. Drilling was suspended until the following day to allow the grout to set for a minimum of 12 hours.

The well was then advanced to a depth of 130 feet using an NX core barrel with a nominal outside diameter of 3.6 inches. The core indicated that the section from 110 to 130 feet was highly fractured. Vertical or high angle fractures were encountered at the depths of 112 feet, 117 feet, and between 125 and 128 feet. The presence of vertical fractures is significant in the area of MW-10D, where the hydraulic head is downward, and the contour maps indicated a potential zone for contaminants to migrate from the source area to the bedrock surface.

Table 4-2
Summary of Total Organic Vapor Measurements

Depth (ft)	Source Area Boring (ppm)	MW-10D Boring (ppm)
0		
	0	
	0	
	0.3	0
	4	
10	0	0
	13	
	0	0
	0.1	
	9	
20	NR	0
	3.9	
	5	0
	9.7	
	0.1	
30	0.5	0
	NR	
	0.1	0
	0.1	
	NR	
40	0	0
	0	
	0	0
	0.6	
	0	
50	10	0
	127	
	77	0
	113	
	30	
60	50	0
	2	
	0	0
	0	
	0.3	
70	0	0
	0	
	0	0
	0	
	NR	
80	NR	23
	total depth of boring	
		4
90		4
		12
100		NR
		split spoon refusal
		top of competent rock
110		

The rock was encountered at MW-10D was composed of siltstone between 110 and 121.5 feet at which point it graded into a sandstone with thin zones of conglomerate (see Appendix C). The fractures within the sandstone were filled with decomposed rock and silt in many cases. Screening of the core with a PID did not detect the presence of organic vapors. Water generated during the installation of MW-10D will be disposed of by the NYSDEC as hazardous waste along with purge water from monitoring well sampling activities. Cuttings collected during the installation of MW-10D were sampled and the analysis indicated that they were clean. Under the direction of the NYSDEC, CDM emptied the cuttings onto the ground surface at the wellhead.

4.4 Groundwater Quality and Level Monitoring

The select group of monitoring wells, located between the source area and the MW-9 well cluster, were sampled on May 24 and May 25, 2000. The analytical results are presented in Appendix E. A summary of the compounds detected is presented in Table 4-3.

The analytical results for MW-9D, where high concentrations of TCE were detected in the November 1999 results, indicated that TCE concentrations were 5,300 ug/l. This concentration is approximately 40 percent of the level found in the November 1999 monitoring event. However, at a level of approximately 0.4 percent of its solubility limit in water, the concentration still suggests the presence of residual saturation levels in the area of the well. The compound cis-1,2-dichlorethene (DCE), which is produced by the microbial breakdown of TCE, was also found at 750 ug/l, or approximately 70 percent of the concentration measured in the November 1999 monitoring event.

Microgram per liter concentrations TCE and DCE were detected in the other wells sampled during the May 2000 monitoring event, MW-8I, MW-6I, and MW-6R. The chlorinated solvent concentrations increased slightly in MW-8I, dropped by approximately 50 percent in MW-6I, and dropped by a factor of 8 in MW-6R. The presence of petroleum related target and tentatively identified compounds were also found in the intermediate wells, MW-9DI, and MW-8I. The November 1999 monitoring event indicated that the source of petroleum related compounds was to the west in the area of MW-5S.

The new shallow bedrock monitoring well MW-10D installed on the Swivelier property showed mg/l concentrations of TCE and DCE. The concentrations were slightly less than those measured in the sample from MW-9D, however it should be noted that MW-10D encountered fractures with a significantly higher permeability than MW-9D. Prior to sample collection, monitoring well MW-9D was purged to dryness at a rate of 0.5 gallons per minute (gpm). Monitoring well MW-10D was capable of sustaining over 3 gpm with a drawdown of only 10 feet. The difference in permeability suggests that the local source of contamination could be similar in strength, and that greater dilution in the area of MW-10D may be responsible for the difference in contaminant concentrations at the two wells.

FIGURE 4-3

RESULTS OF MONITORING WELL SAMPLING

Well No. Dillution Factor Units	NYSDEC Guidance Value	MW-6I 1 ug/l Conc. Q	MW-6R ug/l Conc. Q	MW-8I 1 ug/l Conc. Q	MW-9DI 1 ug/l Conc. Q	MW-9D 1 ug/l Conc. Q	MW-9D 100 ug/l Conc. Q	MW-10D 1 ug/l Conc. Q	MW-10D 100 ug/l Conc. Q	MW-11D[1] 1 ug/l Conc. Q	MW-11D[1] 100 ug/l Conc. Q	FB052400 1 ug/l Conc. Q	TB-5/24/00 1 ug/l Conc. Q	TB-5/25/00 1 ug/l Conc. Q
Parameter														
vinyl chloride	2	**29**[1]	ND	ND	ND	ND	ND	**7.1**[1] J	ND	**7.1**[1] J	ND	ND	ND	ND
acetone	50	ND	ND	**100**[1]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	-	ND	ND	ND	ND	2.2 J	ND	3.3 J	ND	3.4 J	ND	ND	ND	ND
cis-1,2-dichloroethene	-	130	8.1 J	51	ND	460 E	750 J	700 E	1,200 D	720 E	1,200 D	ND	ND	ND
trichloroethene	5	**56**[1]	**25**[1]	**200**[1]	**33**[1]	**1,200**[1] E	**5,300**[1] D	**1,000**[1] E	**3,100**[1] D	**1,100**[1] E	**3,100**[1] D	ND	ND	ND
benzene	0.7	ND	**2.4**[1] J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	5	ND	ND	ND	ND	**10**[1]	ND	**11**[1]	ND	**11**[1]	ND	ND	ND	ND
toluene	5	ND	ND	ND	ND	ND	ND	5 J	ND	5 J	ND	ND	ND	ND
m&p xylenes	5	ND	ND	ND	ND	1 J	ND	3 J	ND	3 J	ND	ND	ND	ND
Tentatively Identified Compounds[2]														
1,1,2-trichloro-1,2-ethane	-	19 R	27 R	26 R	28 R	28 R	2,100 R	ND	1,700 R	ND	1,600 R	30 R	35 R	37 R
methyl tert-butyl ether	10	ND	ND	ND	8.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichlorobenzene	4.7	ND	ND	ND	**8.6**[1] J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-dichlorobenzene	5	ND	ND	**41**[1] J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-dichlorobenzene	4.7	ND	ND	**440**[1] J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-methoxy-2-methyl-propane	-	ND	18 J	36 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Parameters														
temperature (°C)	-	15	15.1	13.7	13.3	15.5	NA	13	NA	NA	NA	NA	NA	NA
pH (S.U.)	-	6.98	8.19	8.86	7.94	12.27	NA	8.19	NA	NA	NA	NA	NA	NA
specific conductance (uS/cm)	-	1.15	0.338	0.312	0.846	5.34	NA	0.405	NA	NA	NA	NA	NA	NA
dissolved oxygen (mg/l)	-	1.71	2.2	1.27	1.24	2.22	NA	1.41	NA	NA	NA	NA	NA	NA
Eh (mV)	-	-109	24	48	40.1	-136.3	NA	54	NA	NA	NA	NA	NA	NA
turbidity (NTU)	-	9	33	11	50	104	NA	39	NA	NA	NA	NA	NA	NA

Notes:
1. Sample MW-11D is the field duplicate of MW-10D
2. TIC concentrations are estimated only
J - Qualifier indicates that concentration is estimated
D - Qualifier indicates that sample was diluted to bring concentration into calibration range
R - Qualifier indicates that result was rejected by the data validator
ND - Compound not detected
NA - Not analyzed

5

Section Five

5.0 Conclusions

The results of the supplemental investigation at the Swivelier Site indicated that there is a potential pathway for the migration of non-aqueous phase TCE from the source area soils to the shallow bedrock zone. Evidence of this potential pathway was observed on both the geophysical logs obtained from existing monitoring wells, and from a comparison of contour maps of the potentiometric surface in the intermediate and shallow bedrock monitoring zones.

The natural gamma logs indicated that the zone from approximately 60 feet to 100 feet had a relatively low percentage of clay. Although the zone appeared to be relatively dense, the lower viscosity and lower surface tension of TCE may have allowed the solvent to move through the material more easily than water. Groundwater contour maps indicated an area of lower hydraulic head near monitoring wells MW-8I and MW-3I approximately 200 feet southwest of the source area, which can be the result of a zone of relatively higher permeability.

The observations made at the source area boring indicated that significant levels of volatile organic compounds had migrated to depths of 50 to 60 feet. Based on these data, and the data indicating a potential pathway to depth southwest of the source area, a new shallow bedrock monitoring well was installed approximately 200 feet southwest of the source area boring. The new monitoring well MW-10D encountered a series of vertical fractures in the interval just below the surface of competent rock. The shallow portions of the rock were observed to be relatively permeable. Laboratory analysis of the groundwater sample from MW-10D detected significant levels of TCE and its breakdown product cis-1,2-dichloroethene. Based on these results and the levels of TCE contamination found in the soils in the source area during remedial activities, it appears that the Swivelier Site is the source of the mg/l concentrations of TCE detected in MW-9D during the November 1999 monitoring event.

It appears that soil remediation activities resulted in a limited release of contaminants to the groundwater. However, concentrations measured immediately following remedial activities had reduced over the six-month period between the November 1999 and May 2000 monitoring events.

It appears that low levels of TCE contamination, on the order of 20 ug/l, are migrating to the south in the shallow water-bearing unit. The dissolve phase contamination will likely discharge to the drainage swale where it is not separated from the shallow unit by a clay layer, or another surface water body further down gradient.

Lastly, it appears that trace levels of gasoline and petroleum related compounds, migrating toward the drainage swale from the west, as shown in samples from MW-5S, are also reaching the shallow bedrock. This contamination is most likely following the same path to depth as the TCE from the Swivelier Site.

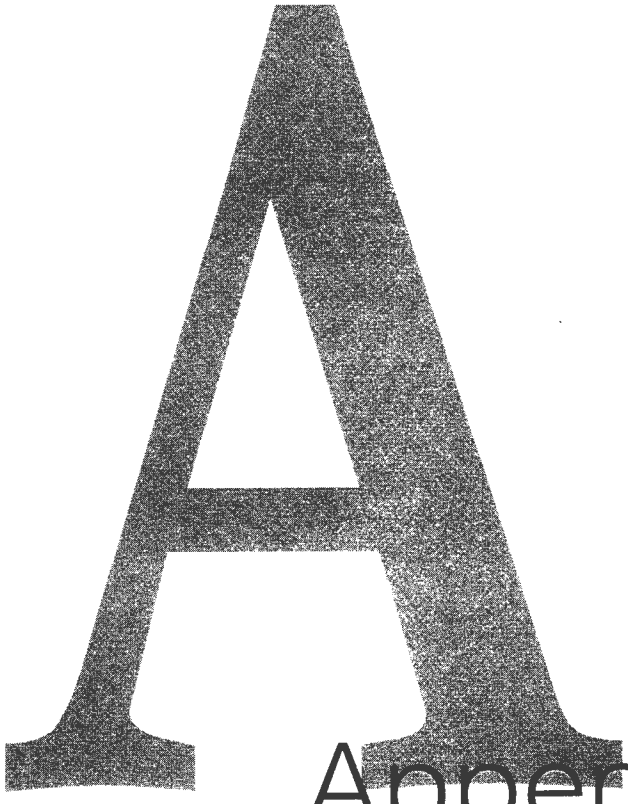
6

Section Six

6.0 Recommendations

Based on the results of the Supplemental Investigation, it is recommended that an investigation be conducted to characterize the extent of TCE contamination in the bedrock aquifer, and its potential affect on community and non-community water supply wells in the vicinity of the Swivelier Site.

Appendices



Appendix A

Appendix A

Analytical Results November 1999

DATA VALIDATION REPORT

VOLATILE ORGANIC ANALYSES

Swievlier Project

Lab Project # 14002LP and 13985LP

Sampling Dates of November 4 - 9, 1999

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March 2000

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Swievlier Project
Data Validation Report: Volatile Organic Analyses

Table of Contents **Page**

Appendices

DATA VALIDATION SUMMARY: VOLATILE ORGANIC ANALYSES

Swievlier Project
Lab Project # 14002LP and 13985LP
Sampling Dates of November 4 – 9, 1999

INTRODUCTION

This Data Validation Summary Report for Volatile Organic analyses was generated for 26 water samples and the associated quality control samples for the Laboratory Project Nos. noted above. Sampling activities were conducted in support of the field investigation for the Swievlier Project. The analytical laboratory work was performed by ChemTech Laboratory.

Analytical testing was performed utilizing United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) protocols for Volatile Organic analyses by Gas Chromatography/Mass Spectroscopy (GC/MS). The analytical work was performed utilizing **New York State Department of Environmental Conservation (NYSDEC) Analytical Service Protocols (ASP), October 1995.**

This report provides a summary of data acceptability and deviations in accordance with the **USEPA Region II Organic Data Validation Checklists/Guidelines (June 1996)**; and the appropriate methods from the **NYSDEC ASP (October 1995),** where applicable and relevant.

1.0 VOLATILE ORGANICS BY GC/MS

The following items/criteria were reviewed:

- Holding Times
- System Monitoring (Surrogate) Compound Recovery
- Matrix Spikes (MS) and Matrix Spike Duplicates (MSD)
- Initial and Continuing Calibration
- Blanks (Method and Field)
- GC/MS Instrument Performance Check
- Tentatively Identified Compounds (TICs)
- Internal Standards
- Compound Identification
- Compound Quantitation and Reported Detection Limits
- System Performance

All items above were generated within acceptable Quality Control (QC) specifications with deviations detailed as follows. All data reviewed is considered to be valid and usable with the appropriate qualifiers, as noted on the data summary forms in Appendix A and within the following text.

1.1 Holding Times

All NYSDEC ASP holding times were met within the acceptable time frame. The Holding Time is 7 days from Verified Time of Sample Receipt (VTSR) at the laboratory for the water samples.

1.2 **System Monitoring (Surrogate) Compound Recovery**

All system monitoring compound percent recovery (%R) was found to be generated within acceptable limits for the three surrogate compounds.

1.3 **Matrix Spike/Matrix Spike Duplicates (MS/MSD)**

Site-specific MS/MSD sample sets and Matrix Spike Blanks (MSBs) were analyzed for the samples. Acceptable accuracy (percent recovery) and precision (relative percent difference) were generated for the QC samples.

1.4 **Calibration**

All initial and continuing calibration was performed within acceptable limits for average Relative Response Factors (RRF), Percent Relative Standard Deviation (% RSD), Relative Response Factors (RRF), and Percent Difference (% D), with the following exceptions.

1.4.1 Lab Project # 14002LP

Continuing Calibration:

The Percent Difference (%D) for the compounds acetone, 4-methyl-2-pentanone, 2-Hexanone, 2-Butanone and 1,1,2,2-Tetrachloroethane were found to exceed the 25% limit for the calibrations on 11/14/99 and 11/15/99. The associated sample results for these compounds were qualified as 'UJ', estimated, for the non-detectable results. Positive results were not detected for the compounds affected.

1.5 **Blanks**

1.5.1 **Field Blanks**

Two trip blanks and one field blank were collected and analyzed for Volatiles. Volatile Organics were not detected in these blanks.

1.5.2 **Method Blanks**

Three water method blanks were analyzed for the samples. Volatile Organics were not detected in the method blanks.

1.6 **GC/MS Instrument Performance Check**

Instrument performance was generated within acceptable limits and frequency for Bromofluorobenzene (BFB).

1.7 **Tentatively Identified Compounds (TICs)**

Copies of the TIC Form I data sheets, including the appropriate qualifiers, are included in Appendix B.

1.8 **Internal Standards**

All internal standards were generated within acceptable specifications for area counts and retention time variation.

1.9 **Compound Identification**

GC/MS qualitative analyses are considered to be acceptable for the data set. Retention times and mass spectra were generated within appropriate quality control specifications.

1.10 **Compound Quantitation and Reported Detection Limits**

GC/MS quantitative analyses are considered to be acceptable. Sample dilutions, internal standards, and response factors were found to be within acceptable limits.

1.11 **System Performance**

Acceptable system performance was maintained throughout the analyses of the water samples. This was exhibited through good resolution and consistent chromatographic performance.

APPENDIX A

DATA SUMMARY TABLES

VOLATILE ORGANICS

Swievlier Project

	Client Sample ID		MW-1RI			MW-1S			MW-1SE			MW-3N			MW-4I			MW-4S			MW-5S			MW-6I		
	Lab Sample ID		90078			90079			90065			90066			90076			90074			90068			90070		
	Sample Collection Date		11/09/1999			11/09/1999			11/08/1999			11/08/1999			11/09/1999			11/09/1999			11/08/1999			11/08/1999		
	Sample Receipt Date		11/09/1999			11/09/1999			11/09/1999			11/09/1999			11/09/1999			11/09/1999			11/09/1999			11/09/1999		
	Sample Matrix		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
	Units		ug/L			ug/L			ug/L			ug/L			ug/L			ug/L			ug/L			ug/L		
		MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
74-87-3	Chloromethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
74-83-9	Bromomethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
75-01-4	Vinyl Chloride	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
75-00-3	Chloroethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	180	
75-09-2	Methylene Chloride	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
67-64-1	Acetone	10	ND	E	10	ND	E	10	ND	E	10	ND	E	10	ND	E	10	ND	E	1000	ND	E	10	ND	E
75-15-0	Carbon Disulfide	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
75-35-4	1,1-Dichloroethene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
75-34-3	1,1-Dichloroethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
156-60-5	trans-1,2-Dichloroethene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
156-59-4	cis-1,2-Dichloroethene	10	ND		10	ND		10	ND		10	32		10	ND		10	ND		1000	ND		10	280	E
67-66-3	Chloroform	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
107-06-2	1,2-Dichloroethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
78-93-3	2-Butanone	10	ND	E	10	ND	E	10	ND		10	ND		10	ND	E	10	ND	E	1000	ND		10	ND	
71-55-6	1,1,1-Trichloroethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
56-23-5	Carbon Tetrachloride	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
75-27-4	Bromodichloromethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
78-87-5	1,2-Dichloropropane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
10061-01-5	cis-1,3-Dichloropropene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
79-01-6	Trichloroethene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
124-48-1	Dibromochloromethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	130	
79-00-5	1,1,2-Trichloroethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
71-43-2	Benzene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
10061-02-6	trans-1,3-Dichloropropene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
75-25-2	Bromoform	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
108-10-1	4-Methyl-2-Pentanone	10	ND	E	10	ND	E	10	ND	E	10	ND	E	10	ND	E	10	ND	E	1000	ND	E	10	ND	E
591-78-6	2-Hexanone	10	ND		10	ND		10	ND	E	10	ND	E	10	ND		10	ND		1000	ND	E	10	ND	E
127-18-4	Tetrachloroethene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
79-34-5	1,1,2,2-Tetrachloroethane	10	ND	E	10	ND	E	10	ND		10	ND		10	ND	E	10	ND	E	1000	ND		10	ND	
108-88-3	Toluene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	1300	D	10	ND	
108-90-7	Chlorobenzene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
100-41-4	Ethylbenzene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
100-42-5	Styrene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		1000	ND		10	ND	
1330-20-7	m+ p-Xylenes	10	ND		10	ND		10	ND		10	14		10	ND		10	ND		10	2800		10	ND	
95-47-6	o-xylene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	1500		10	ND	

14002

Swievlier Project

Client Sample ID		MW-8IDL			MW-6R			MW-6S			MW-8DI			MW-DUP			MW-FB			TRIP BLANK		
Lab Sample ID		900700L			90067			90073			90077			90069			90075			90080		
Sample Collection Date		11/08/1999			11/08/1999			11/08/1999			11/09/1999			11/08/1999			11/09/1999			11/09/1999		
Sample Receipt Date		11/09/1999			11/09/1999			11/09/1999			11/09/1999			11/09/1999			11/09/1999					
Sample Matrix		WATER			WATER			WATER			WATER			WATER			WATER			WATER		
Units		ug/L			ug/L			ug/L			ug/L			ug/L			ug/L			ug/L		
		MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
74-87-3	Chloromethane	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
74-83-9	Bromomethane	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-01-4	Vinyl Chloride	100	110	D	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-00-3	Chloroethane	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-09-2	Methylene Chloride	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
67-64-1	Acetone	100	ND	UJ	10	ND	UJ	10	ND	UJ	10	ND	UJ	10	ND	UJ	10	ND	UJ	10	ND	UJ
75-15-0	Carbon Disulfide	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-35-4	1,1-Dichloroethene	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-34-3	1,1-Dichloroethane	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
156-60-5	trans-1,2-Dichloroethene	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
156-59-4	cis-1,2-Dichloroethene	100	240	D	10	56		10	ND		10	33		10	54		10	ND		10	ND	
67-66-3	Chloroform	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
107-06-2	1,2-Dichloroethane	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
78-93-3	2-Butanone	100	ND	UJ	10	ND		10	ND	UJ	10	ND	UJ	10	ND		10	ND		10	ND	
71-55-6	1,1,1-Trichloroethane	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND	UJ	10	ND	
56-23-5	Carbon Tetrachloride	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-27-4	Bromodichloromethane	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
78-87-5	1,2-Dichloropropane	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
10061-01-5	cis-1,3-Dichloropropene	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
79-01-6	Trichloroethene	100	100	D	10	200		10	ND		10	160		10	190		10	ND		10	ND	
124-48-1	Dibromochloromethane	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
79-00-5	1,1,2-Trichloroethane	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
71-43-2	Benzene	100	ND		10	13		10	ND		10	ND		10	13		10	ND		10	ND	
10061-02-6	trans-1,3-Dichloropropene	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-25-2	Bromoform	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
108-10-1	4-Methyl-2-Pentanone	100	ND	UJ	10	ND	UJ	10	ND	UJ	10	ND	UJ	10	ND	UJ	10	ND	UJ	10	ND	UJ
591-78-6	2-Hexanone	100	ND		10	ND	UJ	10	ND		10	ND		10	ND	UJ	10	ND		10	ND	UJ
127-18-4	Tetrachloroethene	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
79-34-5	1,1,2,2-Tetrachloroethane	100	ND	UJ	10	ND		10	ND	UJ	10	ND	UJ	10	ND		10	ND	UJ	10	ND	
108-88-3	Toluene	100	ND		10	6.9	J	10	ND		10	ND		10	6.9	J	10	ND		10	ND	
108-90-7	Chlorobenzene	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
100-41-4	Ethylbenzene	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
100-42-5	Styrene	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
1330-20-7	m+ p-Xylenes	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
95-47-6	o-xylene	100	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	

14002

Swievlier Project

	Client Sample ID		MW 2I		MW 2S		MW 3I		MW 3S		MW 7I		MW 7SE		MW 7SW	
	Lab Sample ID		89847		89850		89845		89846		89843		89844		89842	
	Sample Collection Date		11/05/1999		11/05/1999		11/05/1999		11/05/1999		11/05/1999		11/05/1999		11/04/1999	
	Sample Receipt Date		11/05/1999		11/05/1999		11/05/1999		11/05/1999		11/05/1999		11/05/1999		11/05/1999	
	Sample Matrix		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
	Units		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
		MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
74-87-3	Chloromethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
74-83-9	Bromomethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-01-4	Vinyl Chloride	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-00-3	Chloroethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-09-2	Methylene Chloride	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
67-64-1	Acetone	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-15-0	Carbon Disulfide	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	100	
75-35-4	1,1-Dichloroethene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-34-3	1,1-Dichloroethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
156-60-5	trans-1,2-Dichloroethene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
156-59-4	cis-1,2-Dichloroethene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
67-66-3	Chloroform	10	ND		10	ND		10	ND		10	24		10	ND		10	18		10	ND	
107-06-2	1,2-Dichloroethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
78-93-3	2-Butanone	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
71-55-6	1,1,1-Trichloroethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
56-23-5	Carbon Tetrachloride	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-27-4	Bromodichloromethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
78-87-5	1,2-Dichloropropane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
10061-01-5	cis-1,3-Dichloropropene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
79-01-6	Trichloroethene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
124-48-1	Dibromochloromethane	10	ND		10	ND		10	18		10	22		10	ND		10	ND		10	ND	
79-00-5	1,1,2-Trichloroethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
71-43-2	Benzene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
10061-02-6	trans-1,3-Dichloropropene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
75-25-2	Bromoform	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
108-10-1	4-Methyl-2-Pentanone	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
591-78-6	2-Hexanone	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
127-18-4	Tetrachloroethene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
79-34-5	1,1,2,2-Tetrachloroethane	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
108-88-3	Toluene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
108-90-7	Chlorobenzene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
100-41-4	Ethylbenzene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
100-42-5	Styrene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
1330-20-7	m+ p-Xylenes	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	
95-47-6	o-xylene	10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND	

13985

Swievlier Project

	Client Sample ID		MW 9D			MW 9DDL			MW 9ID			MW 9IS			MW DUP			TRIP BLANK	
	Lab Sample ID		89839			89839DL			89841			89840			89848			89849	
	Sample Collection Date		11/04/1999			11/04/1999			11/04/1999			11/04/1999			11/05/1999			11/05/1999	
	Sample Receipt Date		11/05/1999			11/05/1999			11/05/1999			11/05/1999			11/05/1999				
	Sample Matrix		WATER			WATER			WATER			WATER			WATER			WATER	
	Units		ug/L			ug/L			ug/L			ug/L			ug/L			ug/L	
		MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q	MDL	CONC	Q
74-87-3	Chloromethane	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
74-83-9	Bromomethane	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
75-01-4	Vinyl Chloride	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
75-00-3	Chloroethane	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
75-09-2	Methylene Chloride	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
67-64-1	Acetone	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
75-15-0	Carbon Disulfide	10	ND		1000	ND		10	ND		10	ND		10	68		10	ND	
75-35-4	1,1-Dichloroethene	10	10	J	1000	ND		10	ND		10	ND		10	ND		10	ND	
75-34-3	1,1-Dichloroethane	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
156-60-5	trans-1,2-Dichloroethene	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
156-59-4	cis-1,2-Dichloroethene	10	1300	E	10	1100	D	10	ND		10	ND		10	ND		10	ND	
67-66-3	Chloroform	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
107-06-2	1,2-Dichloroethane	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
78-93-3	2-Butanone	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
71-55-6	1,1,1-Trichloroethane	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
56-23-5	Carbon Tetrachloride	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
75-27-4	Bromodichloromethane	10	80		1000	ND		10	ND		10	ND		10	ND		10	ND	
78-87-5	1,2-Dichloropropane	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
10061-01-5	cis-1,3-Dichloropropene	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
79-01-6	Trichloroethene	10	7900	E	10	13300	D	10	68		10	ND		10	ND		10	ND	
124-48-1	Dibromochloromethane	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
79-00-5	1,1,2-Trichloroethane	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
71-43-2	Benzene	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
10061-02-6	trans-1,3-Dichloropropene	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
75-25-2	Bromoform	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
108-10-1	4-Methyl-2-Pentanone	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
591-78-6	2-Hexanone	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
127-18-4	Tetrachloroethene	10	21		1000	ND		10	ND		10	ND		10	ND		10	ND	
79-34-5	1,1,2,2-Tetrachloroethane	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
108-88-3	Toluene	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
108-90-7	Chlorobenzene	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
100-41-4	Ethylbenzene	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
100-42-5	Styrene	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
1330-20-7	m+ p-Xylenes	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	
95-47-6	o-xylene	10	ND		1000	ND		10	ND		10	ND		10	ND		10	ND	

13985

APPENDIX B

DATA SUMMARY FORMS

TENTATIVELY IDENTIFIED COMPOUNDS

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW-3N

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: Location: SWIENIER Group:

Matrix: (soil/water) WATER Lab Sample ID: O90066

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13792.D

Level: (low/med) Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/14/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 10 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	7.90	77	J
2.	Unknown	8.56	55	J
3.	Unknown	12.23	56	J
4.	Unknown	12.41	38	J
5. 540-84-1	Pentane, 2,2,4-trimethyl-	12.80	100	JN
6. 565-75-3	Pentane, 2,3,4-trimethyl-	15.44	30	JN
7. 589-34-4	Hexane, 3-methyl-	15.74	46	JN
8. 622-96-8	Benzene, 1-ethyl-4-methyl-	23.42	38	JN
9. 108-67-8	Benzene, 1,3,5-trimethyl-	24.25	77	JN
10. 933-98-2	Benzene, 1-ethyl-2,3-dimethy	26.38	32	JN
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-5S

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: Location: SWIENIER Group:

Matrix: (soil/water) WATER Lab Sample ID: O90068

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13798.D

Level: (low/med) Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/15/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 100.0

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

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 620-14-4	Benzene, 1-ethyl-3-methyl-	23.40	1300	JN
2. 622-96-8	Benzene, 1-ethyl-4-methyl-	24.26	1800	JN
3.				
4.				
5.				
6.				
7.				
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23.				
24.				
25.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW 7SW

Lab Name: CHEMTECH Contract: CAMP,DRESSER & MCKEE

Project No. 1398 Site: Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89842

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13745.D

Level: (low/med) Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/11/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	~~MTBE~~	~~8.74~~	~~167~~	~~J~~
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not detected as a TIC.

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW 7SE

Lab Name: CHEMTECH Contract: CAMP,DRESSER & MCKEE

Project No. 1398 Site: Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89844

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13747.D

Level: (low/med) Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/11/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	~~MTBE~~	~~8.74~~	~~134~~	~~J~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW 3S

Lab Name: CHEMTECH Contract: CAMP,DRESSER & MCKEE

Project No. 1398 Site: Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89846

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13749.D

Level: (low/med) Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/11/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	~~MTBE~~	~~8.77~~	~~11~~	~~J~~
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e not detected as a TIC.

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW-1SE

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: O90065

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13791.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/14/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-6R

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: O90067

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13793.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/14/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-DUP

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: O90069

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13794.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/14/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-6I

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: O90070

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13795.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/15/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW-6IDL

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: O90070DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13804.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/15/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 100.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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SAMPLE NO.

MW-6S

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: O90073

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13805.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/15/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-4S

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: O90074

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13806.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/15/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-FB

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: O90075

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13803.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/15/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-4I

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: O90076

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13807.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/15/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW-8DI

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 090077

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13808.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/15/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW-1RI

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 090078

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13809.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/15/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-1S

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: O90079

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13810.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/15/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

TRIP BLANK

Lab Name: CHEMTECH Contract: CAMP, DRESSER, & MCKEE

Project No. 1400 Site: _____ Location: SWIENIER Group: _____

Matrix: (soil/water) WATER Lab Sample ID: O90080

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13790.D

Level: (low/med) _____ Date Received: 11/9/99

% Moisture: not dec. 100 Date Analyzed: 11/14/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW 9D

Lab Name: CHEMTECH Contract: CAMP,DRESSER & MCKEE

Project No. 1398 Site: _____ Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89839

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13742.D

Level: (low/med) _____ Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/11/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW 9DDL

Lab Name: CHEMTECH Contract: CAMP,DRESSER & MCKEE

Project No. 1398 Site: Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89839DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13753.D

Level: (low/med) Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/11/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 100.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW 9IS

Lab Name: CHEMTECH Contract: CAMP,DRESSER & MCKEE

Project No. 1398 Site: _____ Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89840

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13743.D

Level: (low/med) _____ Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/11/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW 9ID

Lab Name: CHEMTECH Contract: CAMP,DRESSER & MCKEE

Project No. 1398 Site: Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89841

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13744.D

Level: (low/med) Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/11/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW 7I

Lab Name: CHEMTECH Contract: CAMP,DRESSER & MCKEE

Project No. 1398 Site: Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89843

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13746.D

Level: (low/med) Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/11/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW 3I

Lab Name: CHEMTECH Contract: CAMP,DRESSER & MCKEE

Project No. 1398 Site: Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89845

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13748.D

Level: (low/med) Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/11/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
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1E

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW 2I

Lab Name: CHEMTECH Contract: CAMP,DRESSER & MCKEE

Project No. 1398 Site: _____ Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89847

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13750.D

Level: (low/med) _____ Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/11/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW DUP

Lab Name: CHEMTECH Contract: CAMP,DRESSER & MCKEE

Project No. 1398 Site: Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89848

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13751.D

Level: (low/med) Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/11/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
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1E

SAMPLE NO.

TRIP BLANK

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CHEMTECH Contract: CAMP,DRESSER & MCKEE

Project No. 1398 Site: Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89849

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13741.D

Level: (low/med) Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/10/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
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3.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW 2S

Lab Name: CHEMTECH Contract: CAMP, DRESSER & MCKEE

Project No. 1398 Site: _____ Location: NANUET, NY Group: MW-9D

Matrix: (soil/water) WATER Lab Sample ID: O89850

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: M13752.D

Level: (low/med) _____ Date Received: 11/5/99

% Moisture: not dec. 100 Date Analyzed: 11/11/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
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APPENDIX C

DATA QUALIFIERS

ORGANIC DATA QUALIFIERS

U - Indicates that the compound was analyzed for, but not detected at or above the Contract Required Quantitation Limit (CRQL), or the compound is not detected due to qualification through the method or field blank.

J - The associated numerical value is an estimated quantity.

JN - Tentatively identified with approximated concentrations (Volatile and Semi-Volatile Organics). Presumptively present at an approximated quantity (Pesticides/PCBs).

UJ - The compound was analyzed for, but not detected. The sample quantitation limit is an estimated quantity due to variance from quality control limits.

C - Applies to Pesticide results where the identification has been confirmed by GC/MS.

E - Reported value is estimated due to quantitation above the calibration range.

D - Reported result taken from diluted sample analysis.

A - Aldol condensation product.

R - Reported value is unusable and rejected due to variance from quality control limits.

NA - Not Analyzed.

APPENDIX D

CASE NARRATIVES

CHEMTECH

LABORATORY REPORT

CASE NARRATIVE-VOLATILES

Camp Dresser & McKee, INC.
Project Name: NYDEC/ Swievlier
Project # 0897
Chemtech Project # 14002LP

A. Number of Samples and Date of Receipt
12 Aqueous Samples, 1 Trip Blank, A Field Blank plus a MS/MSD were delivered to the laboratory intact on 11/09/99.

B. Parameters
Tests requested on the Chain of Custody were Volatile Organics. This data package contains results for Volatile Organics.

C. Analytical Techniques:
Samples were analyzed for Volatile Organics according to CLP Methodology. The analyses were performed on instruments VOA5 , using GC column RTX624 which is 75 meters, 0.53mm ID, 3.0mm df (crossbond 6% cyanopropylphenyl-94%) dimethylpolysiloxane. The Purge Trap was supplied by Supelco, VO CARB 3000, Tekmar 3000.

D. QA/ QC Samples:
The Surrogate Recoveries for each sample are found in Form II-A. Initial Calibration of Single Component Analytes results are found on Form 6 D & E. The Matrix Spike and Matrix Spike Duplicate were analyzed and are reported on Form 3F.

System Monitoring Compound recoveries were acceptable. MS/MSD recoveries and RPDs met requireemnts. Tuning Checks met requirements. Internal Standard Areas and Retention Times met criteria. Calibrations met requirements. Blank analyses did not indicate the presence of contamination.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature _____ Name: Divyajit Mehta

Date: 11/22/99 Title: Lab Manager

000001

☐ 110 Route 4
Englewood, New Jersey 07631
Phone: 201.567.6868 Fax: 201.567.1333

☐ 205 Campus Plaza 1
Edison, NJ 08837
Phone: 732.225.4111 Fax: 732.225.4110

CHEMTECH
NYSDOH Certification No. 10624
NJDEP Certification No. 02548

ANALAB-ICM Division
NYSDOH Certification No. 11376
NJDEP Certification No. 12531

CHEMTECH

COVER PAGE

Lab Name: Chemtech Consulting Group Client: CAMP, DRESSER, & McKEE

Lab Code: CHEM Project No.: 14002ASP

Client Sample No.	Lab Sample ID
MW-1SE	90065
MW-3N	90066
MW-6R	90067
MW-5S	90068
MW-DUP	90069
MW-6I	90070
MW-6IMSD	90071
MW-6IMSDS	90072
MW-6S	90073
MW-4S	90074
MW-PB	90075
MW-4I	90076
MW-8DI	90077
MW-1R	90078
MW-1S	90079

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designed, as verified by the following signature.

Signature: _____ Name: DIVYAJIT MEHTA

Date : 11/22/94 Title: LAB DIRECTOR

CHEMTECH

LABORATORY REPORT

CASE NARRATIVE-VOLATILES

Camp Dresser & McKee, INC.
Project Name: NYDEC/ Swievlier
Project # 0897
Chemtech Project # 13985LP

A. Number of Samples and Date of Receipt
11 Aqueous Sample Plus 1 Trip Blank were delivered to the laboratory intact on 11/05/99.

B. Parameters
Tests requested on the Chain of Custody were Volatile Organics. This data package contains results for Volatile Organics.

C. Analytical Techniques:
Samples were analyzed for Volatile Organics according to 95-1 CLP Methodology. The analyses were performed on instruments VOA5 , using GC column RTX624 which is 75 meters, 0.53mm ID, 3.0mm df (crossbond 6% cyanopropylphenyl-94%) dimethylpolysiloxane. The Purge Trap was supplied by Supelco, VO CARB 3000, Tekmar 3000.

D. QA/ QC Samples:
The Surrogate Recoveries for each sample are found in Form II-A. Initial Calibration of Single Component Analytes results are found on Form 6 D & E. The Matrix Spike and Matrix Spike Duplicate were analyzed and are reported on Form 3F.

System Monitoring Compound recoveries were acceptable. Matrix Spike recovery of Toluene did not meet requireemnts. RPDs met requirements. Tuning Checks met requirements. Internal Standard Areas and Retention Times met criteria. Calibrations met requirements. Blank analyses did not indicate the presence of contamination.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature (Divyajit Mehta) Name: Divyajit Mehta

Date: 11/19/99 Title: Lab Manager

000001

☐ 110 Route 4
Englewood, New Jersey 07631
Phone: 201.567.6868 Fax: 201.567.1333

☐ 205 Campus Plaza 1
Edison, NJ 08837
Phone: 732.225.4111 Fax: 732.225.411C

CHEMTECH
NYSDOH Certification No. 10624
NJDEP Certification No. 02548

ANALAB-ICM Division
NYSDOH Certification No. 11376
NJDEP Certification No. 12531

CHEMTECH

LABORATORY REPORT

COVER PAGE

Lab Name: Chemtech Consulting Group   Client: CAMP, DRESSER, & McKEE

Lab Code: CHEM   Project No.: 13985ASP

Client Sample No.	Lab Sample ID
MW-9D	89839
MW-9IS	89840
MW-9ID	89841
MW-7SW	89842
MW-7I	89843
MW-7SE	89844
MW-3I	89845
MW-3S	89846
MW-2I	89847
MW-DUP	89848
TRIP BLANK	89849
MW-2S	89850

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designed, as verified by the following signature.

Signature: Rwa (Sign for Div)   Name: DIVYAJIT MEHTA

Date: 11/19/99   Title: LAB DIRECTOR

000002

☐ 110 Route 4
Englewood, New Jersey 07631
Phone: 201.567.6868 Fax: 201.567.1333

☐ 205 Campus Plaza 1
Edison, NJ 08837
Phone: 732.225.4111 Fax: 732.225.4110

APPENDIX E

CHAIN-OF-CUSTODY FORMS

STL - Envirotech
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): BRIAN FARLEY	Samplers Name (Printed): J.GROVE, D. AIELY	Site/Project Identification: SWIEVICH
Company: CAMP DRESSER & MCKEE	P.O. #: 0997 - SWIEVICH	State (Location of site): NJ: ☐ NY: ☒ Other:
Address: 1 RARITAN PLAZA	Analysis Turnaround Time: Standard ☒	Regulatory Program: NYDEC SUPERFUND CATAGORY 4 RCRA
City: EDISON State: N.J.	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	LAB USE ONLY: Project No: / Job No:
Phone: (732) 225-7000 Fax: (732) 225-7851		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	VOA + 10	Sample Numbers
MW-1SE	11/8/99	1020	AQ	2	X	
MW-3N		1245			X	
MW-6R		1430			X	
MW-5S		1353			X	
MW-DUP		—			X	
MW-6I		1630			X	
MW-6I MSD		1630			X	
MW-6I MSDS		1630			X	
MW-6S	↓	1645			X	
MW-4S	11/9/99	0915	Y	Y	X	
MW-FB	11/9/99	1610				

Preservation Used: (1 = ICE) 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH — Soil:
6 = Other _____, 7 = Other _____ — Water:

Special Instructions: MW-5S MAY HAVE READING GREATER THAN 30 PPM — Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) Jenni Grove	CDM	11/9/99 1600	1) [signature] 11/9/99 16:00	Chemtech
2)			2)	
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

000226

STL - Envirotech
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE ___ OF ___

Name (for report and invoice): BRIAN FARLEY	Samplers Name (Printed): D.GROUP, D.RICLY	Site/Project Identification: SWIEVLICER
Company: CAMP DRESSER + McKEE	P.O. # : 0597-SWIEVLICER	State (Location of site): NJ: ☐ NY: ☒ Other:
Address: 1 RARITAN PLAZA	Analysis Turnaround Time: Standard ☒	Regulatory Program: NYSDEC SUPERFUND CATAGORY REPORTING
City: EDISON State: N.J. 08818	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone: (732) 225-7000 Fax: (732) 225-7851		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No:

Sample Identification	Date	Time	Matrix	No. of Cont.	VOA 7 10	Sample Numbers
MW-4I	11/9/99	0950	AQ	2	X	
MW-8DI		1115		2	X	
MW-1R		1515		2	X	
MW-1S		1353		2	X	
D.G. TRIP BLANK		—		2	X	

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____
Soil:
Water:

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) Dennis Group	CDM	11/9/99 1600	1) Mubey 11/9/99 1600	Chemtech Consulting Grp
Relinquished by 2)	Company	Date / Time	Received by 2)	Company
Relinquished by 3)	Company	Date / Time	Received by 3)	Company
Relinquished by 4)	Company	Date / Time	Received by 4)	Company

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

000227

[redacted]

[redacted]wood, [redacted]531
(201) 567-6868
Fax (201) 567-1333

[redacted], NJ [redacted]
(732) 225-4111
Fax (732) 225-4110

Bal[redacted], NJ [redacted]
(609) 698-0199
Fax (609) 698-0910

CHAIN OF CUSTODY RECORD

CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: CAMP DRESSER & McKEE

ADDRESS: 1 RARITAN PLAZA

CITY: Edison STATE: N.J. ZIP: 08818

ATTENTION: BRIAN FARELLY

(732) PHONE: 225-7000 (732) FAX: 225-7851

PROJECT INFORMATION

PROJECT NAME: NYDEC / SOUTHLICK

PROJECT NO.: 0897

PROJECT MANAGER: BRIAN FARELLY

LOCATION: WAWAYANDA, N.Y.

(732) PHONE: 225-7000 (732) FAX: 225-7851

BILLING INFORMATION

BILL TO: SAME AS CLIENT PO #: 000172

ADDRESS:

CITY: STATE: ZIP:

ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: _____ DAYS *

HARD COPY: _____ DAYS *

EDD: _____ DAYS *

* TO BE APPROVED BY CHEMTECH

** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY ☐ USEPA CLP

☐ RESULTS + QC ☐ NYS ASP "B"

☐ NJ REDUCED ☐ NYS ASP "A"

☐ NJ CLP NYSDEC ☐ EDD

☐ EDD FORMAT: SUPERFUND CATEGORY REPORTING

ANALYSIS

1 VOA + TCL 2 3 4 5 6 7 8 9 45-1

CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1.	MW-9D	AQ		X	11/4/99	1230	2	X									
2.	MW-9IS			X		1345	2	X									
3.	MW-9IO			X		1355	2	X									
4.	MW-7SW			X		1436	2	X									
5.	MW-7I			X	11/5/99	0955	2	X									
6.	MW-7SE			X		1010	2	X									
7.	MW-3I			X		1140	2	X									
8.	MW-3S			X		1130	2	X									

← Specify Preservatives
A – HCl B – HNO_3
C – H_2SO_4 D – NaOH
E – ICE F – Other

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER: 1.	DATE/TIME: 11/5/99 1530	RECEIVED BY:
RELINQUISHED BY: 2.	DATE/TIME:	RECEIVED BY: 2.
RELINQUISHED BY: 3.	DATE/TIME: 11/5/99 1530	RECEIVED FOR LAB BY:

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☐ Temp. of Cooler 4c

Comments:

Page _____ of _____

Shipment Complete: Yes _____ No _____

er. 9-99 WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY PINK – SAMPLER COPY

27735

CHEMTECH

CHAIN OF CUSTODY RECORD

☐ 110 Route 4
Englewood, NJ 07631
(201) 567-6868
Fax (201) 567-1333

☐ 205 Campus Plaza 1
Edison, NJ 08837
(732) 225-4111
Fax (732) 225-4110

☐ 515 Route 9 South
Barnegat, NJ 08005
(609) 698-0199
Fax (609) 698-0910

CHEMTECH JOB NO.:

CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: CAMP DRESSER + MCKEE

ADDRESS: 1 RARITAN PLAZA

CITY: EDISON STATE: N.J. ZIP: 08818

ATTENTION: BRIAN FARELLY

PHONE: (732) 225-7000 FAX: (732) 225-7951

PROJECT INFORMATION

PROJECT NAME: NYDEC / SILVERLICK

PROJECT NO.: 0897

PROJECT MANAGER: BRIAN FARELLY

LOCATION: NANUET, N.Y.

PHONE: (732) 225-7000 FAX: (732) 225

BILLING INFORMATION

SAME AS

BILL TO: CLIENT PO #:

ADDRESS:

CITY: STATE: ZIP:

ATTENTION: PHONE:

000173

DATA TURNAROUND INFORMATION

FAX: _____ DAYS *

HARD COPY: _____ DAYS *

EDD: _____ DAYS *

* TO BE APPROVED BY CHEMTECH

** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY ☐ USEPA CLP

☐ RESULTS + QC ☐ NYS ASP "B"

☐ NJ REDUCED NYSDEC ☐ NYS ASP "A"

☐ NJ CLP ☐ EDD

~~☐ EDD FORMAT:~~ SUPER FUND CATEGORY REPORTING

ANALYSIS

TCL VOA + 10 45-1

CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1.	MW-2I	AQ		X	11/5/99	1420	2	X									
2.	MW-2S			X	11/5/99	1405	2	X									
3.	MW-DUP			X	11/5/99	—	2	X									
4.	TRIP BLANK	↓		X	—	—	2	X									
5.																	
6.																	
7.																	
8.																	

← Specify Preservati
A – HCl B – HN
C – H_2SO_4 D – Na
E – ICE F – Ot

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. [signature]	11/5/99 1530	[signature]
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:
2.		2.
RELINQUISHED BY:	DATE/TIME:	RECEIVED FOR LAB BY:
3.	11/5/99 1530	[signature]

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☐ Temp. of Cooler ____

Comments:

Page ____ of ____

Shipment Complete: Yes ____ No ____

Ver. 9-99

WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY PINK – SAMPLER COPY

Appendix B

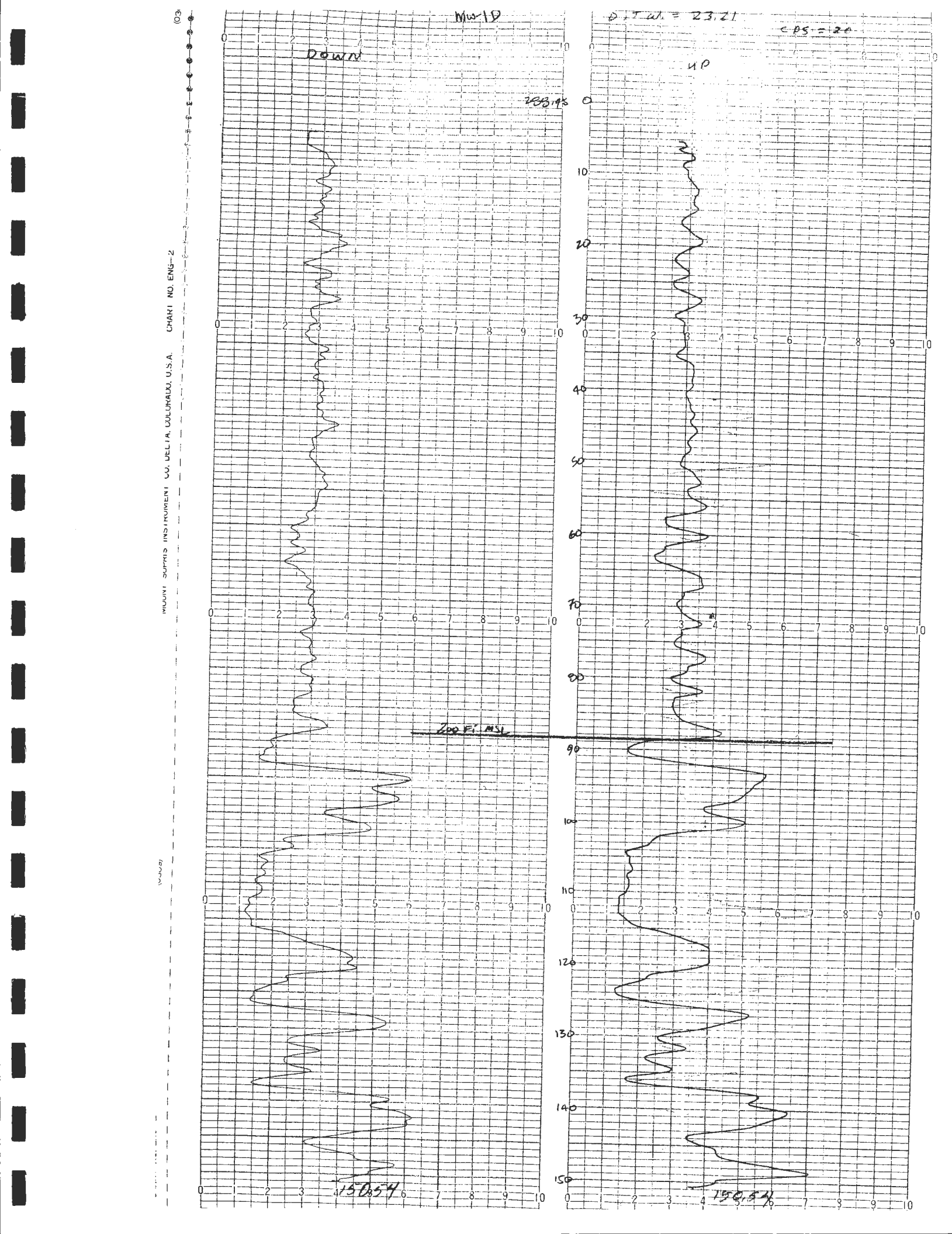
Appendix B

Site Plan

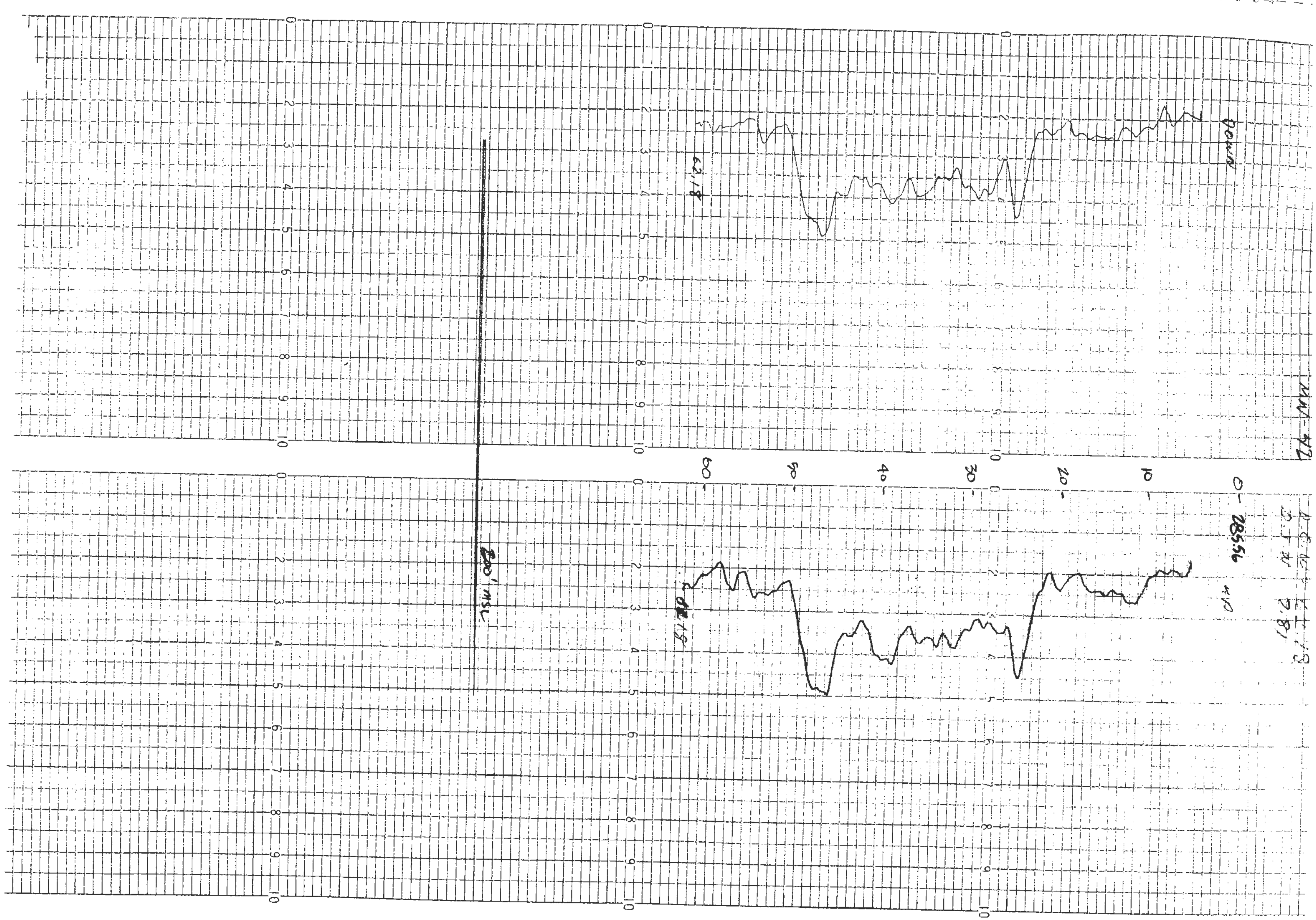
Appendix C

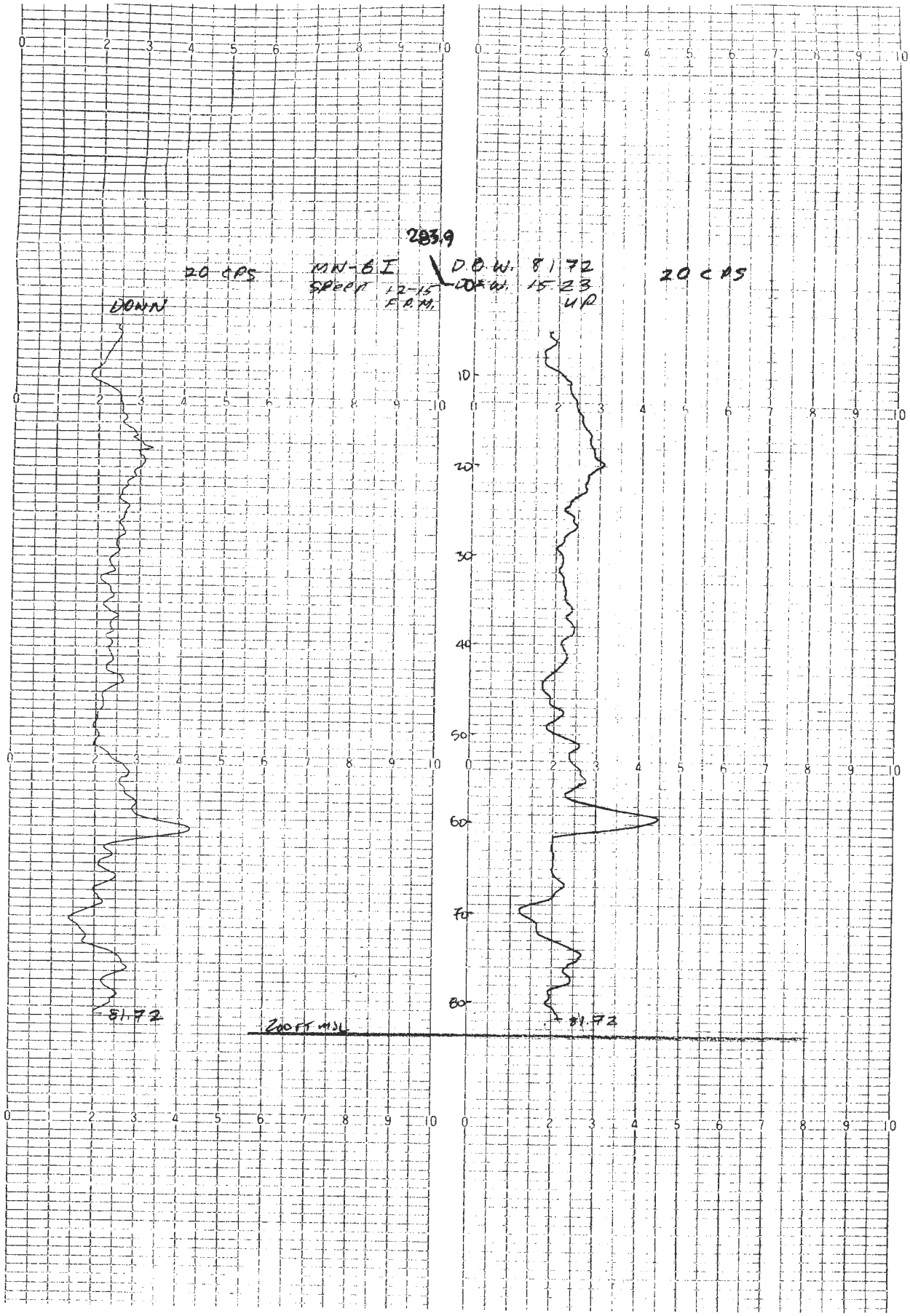
Appendix C

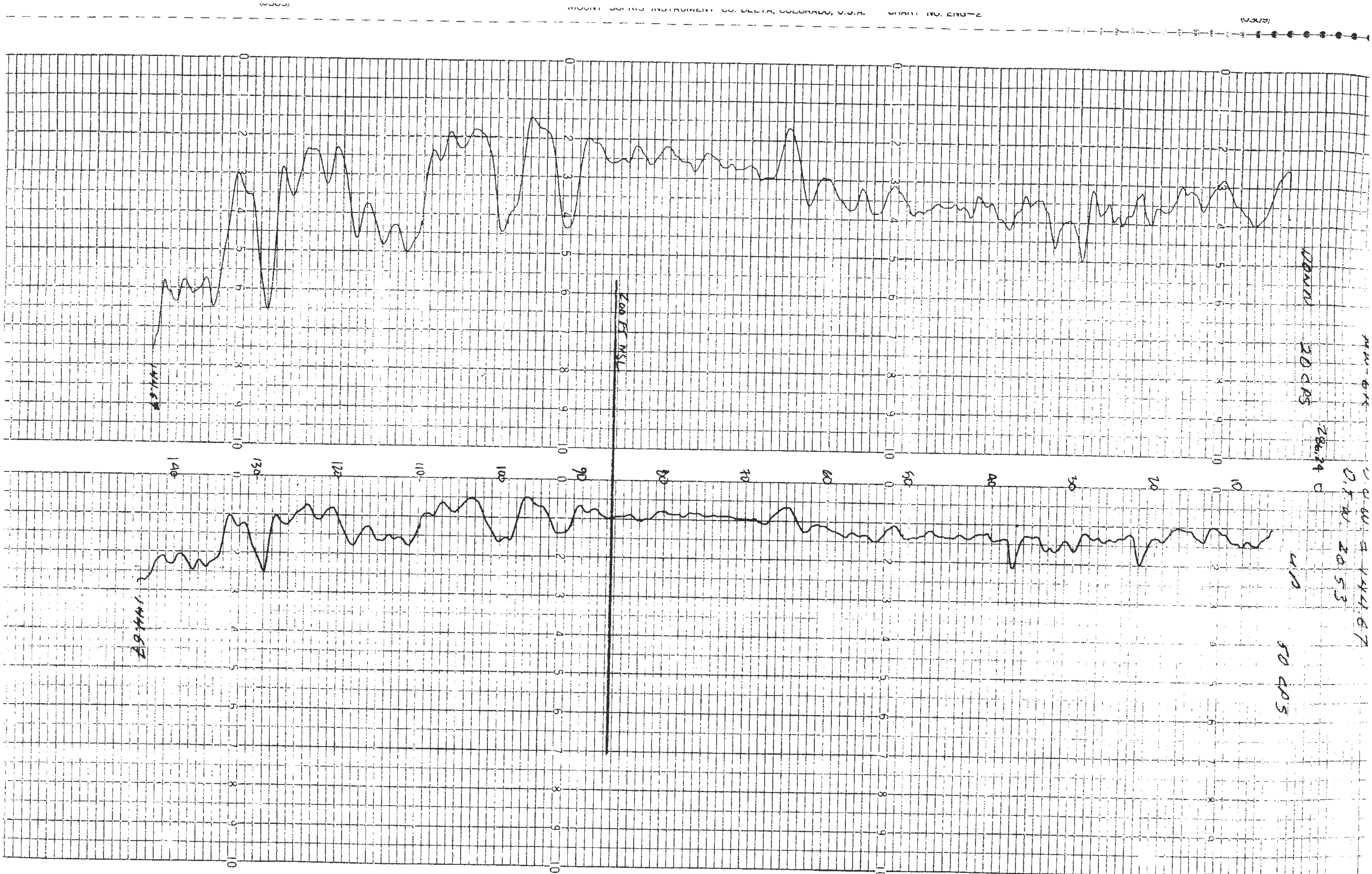
Geophysical Logs

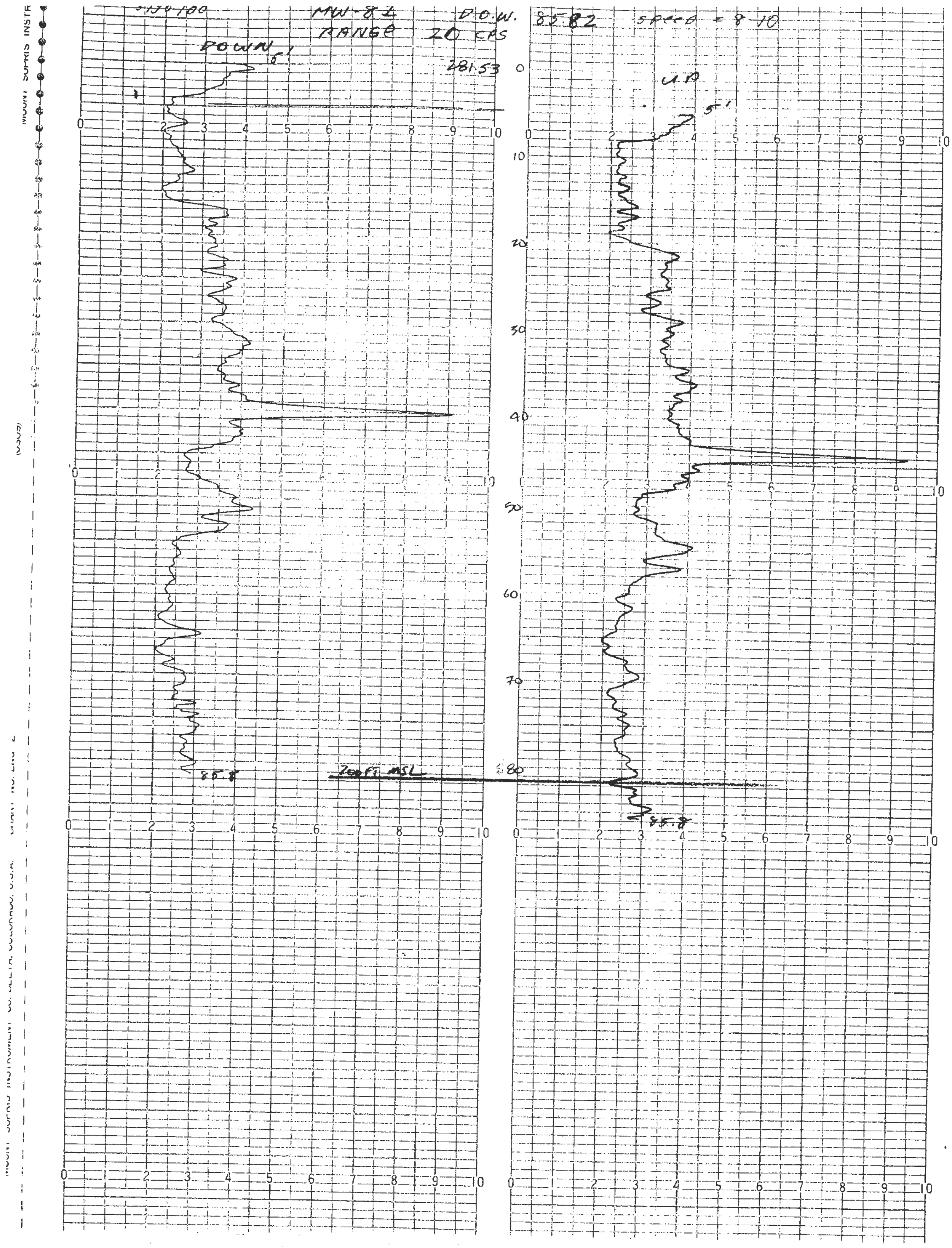

MW-1D
DOWN
UP
D.T.W. = 23.21
CPS = 20
200 FT. MSL
15054
15054

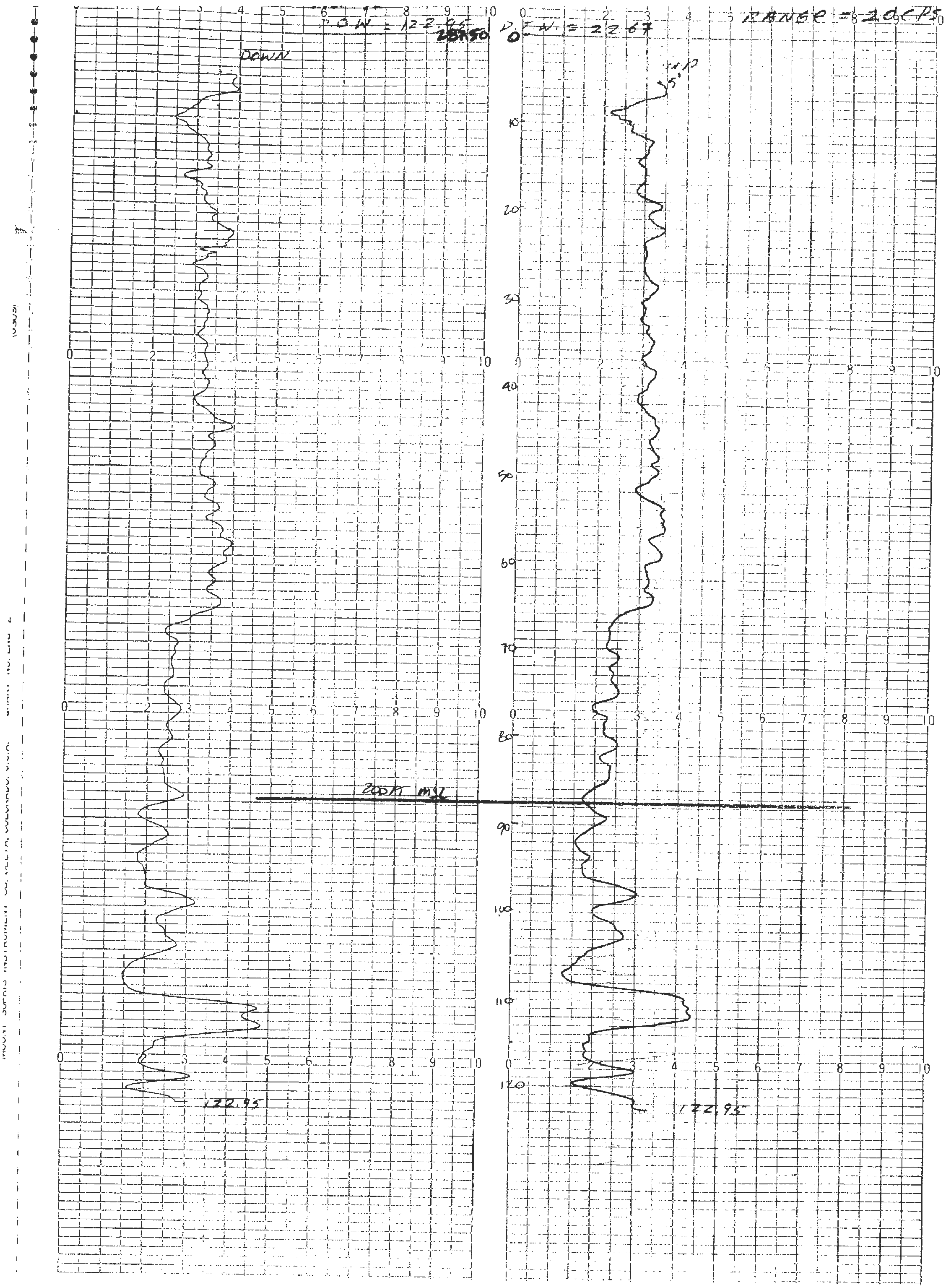
MOUNT SOPRIS INSTRUMENT CO. DELTA, COLORADO, U.S.A. CHART NO. ENG-2 (0309)

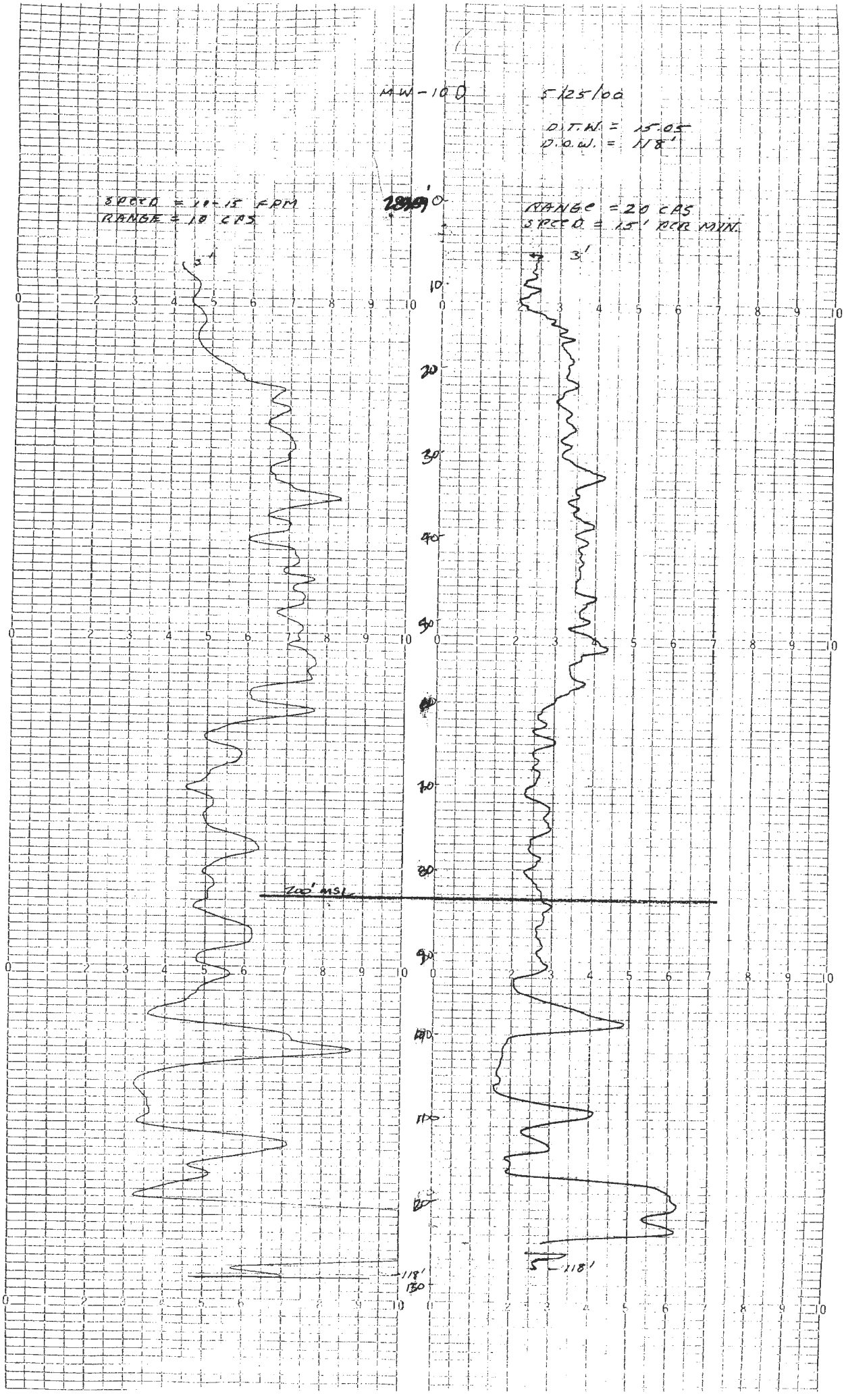



2839
20 cps
MN-6I
SPEED 12-15 F.P.M.
D.B.W. 8/72
20 cps
DOWN
10
20
30
40
50
60
70
80
-51.72
+51.72
200 FT MSL


200 FT MSL
DOWN
UP


MW-84
D.O.W. 85.82
RANGE 20 CPS
Speed = 8-10
DOWN
UP
281.53
85.8
200 ft MSL


DOW = 122.95
DTW = 22.67
RANGE = 20 CPS
DOWN
UP
200 Ft MSL
122.95
122.95


MW-100
5/25/00
D.T.W. = 15.05
D.O.W. = N/A'
SPEED = 10-15 FPM
RANGE = 10 CAS
RANGE = 20 CAS
SPEED = 15' PER MIN.
1'
3'
200' MSL
118'
118'
MOUNT SOPRIS INSTRUMENT CO. DENVER, COLORADO, U.S.A. SMART ENG-4

Appendix D

Appendix D

Boring Logs and Well Construction Diagrams

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LOG OF BORING

BORING SB-1
Page 1 of 4
Permit #: NA
Job #: 0897-22804

Project Swivelier
Date Drilled 4/19/00
Total Depth 82 feet
Inspector Cattafe/Robinson

Location Drainage Swale
Drilling Co.: SJB Drilling
Method Used: Hollow Stem Auger/Mud Rotary
Organic Vapor Inst: PID/FID
Water Depth

Depth (feet)	Sample No.	Depth (feet)	Blows per 6 inches	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Remarks (time)
0	1	0-2	2 3 5 6	2.0 0.2	0	Stone Dust	
2	2	2-4	13 8 9 14	2.0 0.2	0	Stone Dust	1.3 ppm top of Auger
4	3	4-6	11 9 10 9	2.0 0.1	0/0.3	no recovery	
6	4	6-8	30 23 10 14	2.0 0.2	0.1/4	Fine to medium sand trace silt, gravel to 1" Red-Brown 0.1	13 ppm top of Auger
8	5	8-10	6 8 11 11	2.0 0.75	0	fine sand trace silt some fine gravel	3.8 ppm top of Auger
10	6	10-12		2.0 0.8	3 13	0.2-0.5 fine sand some silt 0.5-0.8 medium sand trace silt gray/black	
14	7	14-16	17 19 20 22	2.0 1.4	0	Grey brown fine-v. fine sand grading to Grey brown fine sand and silt, little clay, damp, stiff	
16	8	16-18	16 18 18 32	2.0 0.6	0.1	Grey brown fine sand and silt, little clay, little gravel medium sandy @ 0.5 black stain 0.5	
18	9	18-20	27 48 63 39	2.0 1.6	9	1.4' D.O. 1.4-1.6' increased % of v. fine sand	
20	10	20-22	10 12 100 0.3	2.0 0		No Recovery	
22	11	22-24	19 32 15 20	2.0 0.5	3.9	gray sandy silt w/thin laminae of medium sand	
24	12	24-26	46 42 62 40	2.0 1.6	5	gray brown sandy silt w/gravel, stiff	

o/internationalpaint/swivelierwellsbook2.xls

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BORING SB-1
Page 2 of 4
Permit #: NA
Job #: 0897-22804

LOG OF BORING

Project Swivelier Location Drainage Swale

Depth (feet)	Sample No.	Sample Inter. (feet)	Blows per 6 inches	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Remarks (time)
26			41				
			36	2.0			
	13	26-28	30	0.4	9.7	D.O.	
			32				
28			6				
			14	2.0			
	14	28-30	30	0.3	0.1	D.O.	
			14				
30			42				
			93	2.0	0.5	brown sandy silt w/thin lam. of medium to coarse	
	15	30-31	52	0.9		sand @ 0.8'	
			33				
32			13				
			16			No Recovery	23 ppm meas.
	16	32-34	100/0				in empty spoon
34			94				
			23	2.0	0.1	Silt, little fine to v. fine sand, little clay, brown, dry	
	17	34-36	22	0.8			
			32				
36			26				
			37	2.0		D.O.	
	18	36-38	94	0.9			
			63				
38			100/0.2				
						No Recovery	1 ppm @ top
	19	38-40					of auger
40			62				
			38	2.0	0	D.O., slightly less clay, damp	
	20	40-42	28	1.0			
			31				
42			47				
			40	2.0	0	D.O.	
	21	42-44	49	0.5			
			51				
44			47				
			46	2.0	0	D.O., moist	
	22	44-46	49	0.5			
			51				
46			61				
			22	2.0	0.6	0-1.3' Sand, M-C, loose, wet, grading to silt	
	23	46-48	18	2.0		and VF sand	
			15			1.3-2.0' D.O. w/trace clay	
48			15				
			16	2.0	0	0-0.5' D.O. w/silt and F-VF sand	
	24	48-50	28	1.0		0.5-1' Sand, fine, little silt	
			35				

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BORING SB-1
Page 3 of 4
Permit #: NA
Job #: 0897-22804

LOG OF BORING

Project Swivelier Location Drainage Swale

Depth (feet)	Sample No.	Sample Inter. (feet)	Blows per 6 inches	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Remarks (time)
50	26	50-52	29 25 28 41	2.0 1.5	0 10	0.5-1.7 fine sand little silt 1.7-2.0 F-M sand, trace silt, wet, loose	headspace 75 PID 28 FID
52	27	52-54	32 30 40 44	2.0 1.4	72 127	Sand, M, little coarse, little fine, loose, wet	headspace 196 PID
54	27	54-56		2.0 2.0	25 77	0-1.5' D.O. no coarse sand 1.5-2.0 D.O.	headspace 226 PID
56	28	56-58	28 26 34 52	2.0 1.5	113 80	0.5-1.9 D.O. 1.9-2.0 Sand, VF and silt, trace clay, red-brown	headspace 274 PID
58	29	58-60	28 26 34 52	2.0 2.0	15 30	0-1.4' Sand, fine, little medium, trace silt, brown 1.4-2.0' Sand, fine, trace silt, brown	
60	30	60-62	32 36 61 60	2.0 0.7	50	Sand, VF, and silt, trace C-F gravel, stiff	
62	31	62-64	47 56 62 49	2.0 2.0	2	wash	driller reports 6-7' of sand in augers
64	32	64-66	100/2	2.0 1.2	0	Sand, VF, and silt, trace gravel,red, stiff	
66	33	66-68	40 41 78 82	2.0 1.2	0	D.O.	
68	34	68-70	100/3	2.0 0.9	0.3	D.O., broken cobble and gravel	
70	35	70-72	86 75 63 58	2.0 0.4	0	D.O.	
72	36	72-74	67 79 82 100/4	2.0 0.9	0	D.O.	

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BORING SB-1
Page 4 of 4
Permit #: NA
Job #: 0897-22804

LOG OF BORING

Project Swivelier Location Drainage Swale

Depth (feet)	Sample No.	Sample Inter. (feet)	Blows per 6 inches	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Remarks (time)
	37	74-76	144 80 107 119	2.0 0.2	0	D.O.	
76	38	74-76	100/3	0.25 0.2		D.O	
78	39	76-78	100/1	1.0 0.4	0	D.O., softer and wet	
80	40	78-80	150/3	0.25 0.2		1/2' to 3/4' gravel in red fine sandy silt matrix	14 ppm @ top of auger
82	41	80-82	100/1	1.0 0		No Recovery	11 ppm @ top of auger
84	42	82-84	100/0	0		No Recovery	

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LOG OF BORING

Project Swivelier
ate Drilled 4/27/00
otal Depth 130 feet
Inspector F. Robinson

Location Nanuet, NY
Drilling Co.: SJB Drilling
Method Used: Mud Rotary/NX core barrel
Organic Vapor Inst: PID/FID

BORING MW 10D
Page 1 of 1
Permit #: NA
Job #: 0897-22804

Depth (feet)	Sample No.	Depth (feet)	Blows per 6 inches	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Remarks (time)
5	1	5-7	33 29 31 16	2.0 0.55	0	0-0.3 brown organic soil 0.3-0.55 damp reddish-brown sandy silt w/ gravel	
10	2	10-12	5 3 12 6	2.0 0.5	0	D.O.	
15	3	15-17		2.0 0.55	0	0.25' cobble layer 0.25-0.55 D.O.	
20	4	20-22		2.0 1.0	0	top 0.08' cobble 0.08-1' greenish brown silt w/gravel	
25	5	25-27	11 75 102 100/2	1.6 0.9	0	brown very hard sandy silt w/gravel	
30	6	30-32	11 17 100/2	1.5 0.25	0	greenish gray silty sand w/gravel, damp	
35	7	35-37	21 38 100/2	1.2 0.3	0	D.O.	
40	8	40-42	95 85 88 100/2	1.6 1.6	0	brown very hard sandy silt w/gravel	
45	9	45-47	78 45 44 67	2.0 1.9	0	D.O.	
50	10	50-52	25 27 56 65	2.0 1.9	0	D.O.	
55	11	55-57	35 44 53 60	2.0 1.9	0	hard reddish-brown sandy silt w/gravel	
60	12	60-62	42 39 47 50	2.0 1.0	0	D.O.	

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BORING #:
Page 2 of 2
Permit #: NA
Job #: 0897-22804

LOG OF BORING

Project Swivelier Location Nanuet, NY

Depth (feet)	Sample No.	Sample Inter. (feet)	Blows per 6 inches	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Remarks (time)
62	13	62-64	22 27 40 41	2.0 1.0	0	D.O.	
65	14	65-67	32 40 42 40	2.0 1.6	0	0-0.75' D.O. 0.75-1.6' wet reddish-brown silty F-M sand, little gravel	
67	15	67-69	19 18 27 40	2.0 1.75	0	0-1.4' D.O. 1.4-1.75' hard reddish-brown sandy silt w/gravel	
70	16	70-72	33 150 100/0	1.0 0.83	0	D.O.	
75	17	75-77	45 48 70 69	2.0 1.4	0	0-1.0' same as above 1.0-1.4' reddish-brown silty fine sand little gravel	
80	18	80-82	52 67 95 100/0	1.5 1.16	23	D.O., harder and coarser	PID headspace 32 ppm
85	19	85-87	30 20 25 22	2.0 1.5	4	red-brown silty, M-C sand w/gravel, wet	PID headspace 28 ppm
90	20	90-92	47 106 100/2	1.16 1.0	4	wet dark reddish brown silty fine sand to hard silty coarse sand	PID headspace 55 ppm
95	21	95-97	77 100/1	0.6 0.6	12	brick red silty clay	PID headspace 18 ppm
100	22	100-102	100/1			No Recovery	

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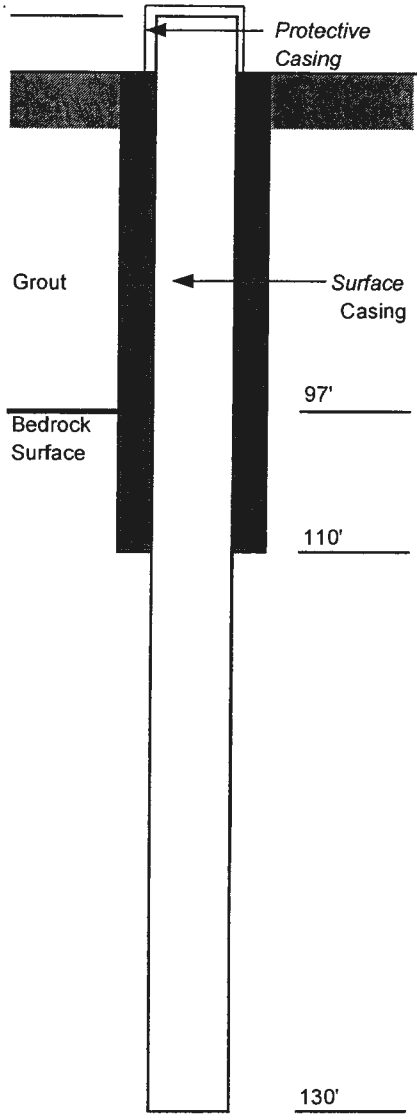
WELL CONSTRUCTION SUMMARY

Project: Swivelier Location: Nanuet, NY Well No.: MW-10D
Permit No.: NA

TOC elev.: _____



Type: Steel

DRILLING SUMMARY

Drilling Company: SJB Drilling Drillers: _____
Drill Rig/Model: Speedstar 275
Borehole Diameters: _____ Drilling Fluid: Water(casing)/Air(hole)
Bits/Depths: 8 inch(110feet). NX core barrel 3.65 inch(130 feet)
Total Depth: 130 feet Depth To Water: 21 feet
Supervisor Geologist: F. Robinson

WELL DESIGN

Casing Material:	Schedule 40 PVC	Diameter:	4-inch
Screen Size:	NA	Diameter:	NA
Slot Size:	NA	Setting:	NA
Filter Material:	NA	Setting:	NA
Seals Material:	NA	Setting:	NA
Grout:	Cement/Bentonite	Setting:	Surface to 110 feet
Surface Casing Material:	Steel	Setting:	+2 feet

TIME LOG

	Started	Completed
Drilling:	4/27/00	5/8/00
Installation:	5/5/00	5/5/00
Development:	5/9/00	5/9/00

WELL DEVELOPMENT

Method: interrupted ovepumping
Static Depth to Water: 21.38
Pumping Depth To Water: 48
Pumping Rate: 6.8 gpm Spec. Capacity: 0.25 gpm/ft
Volume Pumped: 485 gallons

Appendix E

Appendix E

Analytical Results May 2000

DATA VALIDATION REPORT

VOLATILE ORGANIC ANALYSES

Swievlier Project

Lab Project # L8519ASP and L8541ASP

Sampling Dates of May 24 – 25, 2000

PREPARED FOR:

Camp Dresser & McKee, Inc.
Raritan Plaza I
Raritan Center
Edison, New Jersey 08818

July 2000

PREPARED BY:

ChemWorld Environmental, Inc.
14 Orchard Way North
Rockville, Maryland 20854

(301) 294 - 6144

Swievlier Project
Data Validation Report: Volatile Organic Analyses

Table of Contents

DATA VALIDATION SUMMARY: VOLATILE ORGANIC ANALYSES

Swievlier Project
Lab Project # L8519ASP and L8541ASP
Sampling Dates of May 24 – 25, 2000

INTRODUCTION

This Data Validation Summary Report for Volatile Organic analyses was generated for 10 water samples and the associated quality control samples for the Laboratory Project Nos. noted above. Sampling activities were conducted in support of the field investigation for the Swievlier Project. The analytical laboratory work was performed by ChemTech Laboratory.

Analytical testing was performed utilizing United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) protocols for Volatile Organic analyses by Gas Chromatography/Mass Spectroscopy (GC/MS). The analytical work was performed utilizing **New York State Department of Environmental Conservation (NYSDEC) Analytical Service Protocols (ASP), October 1995.**

This report provides a summary of data acceptability and deviations in accordance with the **USEPA Region II Organic Data Validation Checklists/Guidelines (June 1996)**; and the appropriate methods from the **NYSDEC ASP (October 1995)**, where applicable and relevant.

1.0 VOLATILE ORGANICS BY GC/MS

The following items/criteria were reviewed:

- Holding Times
- System Monitoring (Surrogate) Compound Recovery
- Matrix Spikes (MS) and Matrix Spike Duplicates (MSD)
- Initial and Continuing Calibration
- Blanks (Method and Field)
- GC/MS Instrument Performance Check
- Tentatively Identified Compounds (TICs)
- Internal Standards
- Compound Identification
- Compound Quantitation and Reported Detection Limits
- System Performance

All items above were generated within acceptable Quality Control (QC) specifications with deviations detailed as follows. Various TIC results were qualified as 'R', unusable, in accordance with USEPA Region II guidelines. The remaining data reviewed is considered to be valid and usable with the appropriate qualifiers, as noted on the data summary forms in Appendix A and within the following text.

1.1 Holding Times

All NYSDEC ASP holding times were met within the acceptable time frame. The Holding Time is 7 days from Verified Time of Sample Receipt (VTSR) at the laboratory for the water samples.

1.2 **System Monitoring (Surrogate) Compound Recovery**

All system monitoring compound percent recovery (%R) was found to be generated within acceptable limits for the three surrogate compounds.

1.3 **Matrix Spike/Matrix Spike Duplicates (MS/MSD)**

Site-specific MS/MSD sample sets and Matrix Spike Blanks (MSBs) were analyzed for the samples. Acceptable accuracy (percent recovery) and precision (relative percent difference) were generated for the QC samples.

1.4 **Calibration**

All initial and continuing calibration was performed within acceptable limits for average Relative Response Factors (RRF), Percent Relative Standard Deviation (% RSD), Relative Response Factors (RRF), and Percent Difference (% D), with the following exceptions.

1.4.1 Lab Project # L8519ASP and L8541ASP

Initial Calibration: Acetone and 2-Butanone generated Percent Relative Standard Deviations (%RSDs) of greater than 30% for the 5/15/2000 initial calibration. The positive results, only, for these compounds were qualified as 'J', estimated.

1.4.2 Lab Project # L8519ASP and L8541ASP

Continuing Calibration:

The Percent Difference (%D) for the compounds acetone, 4-methyl-2-pentanone, 2-Hexanone and 2-Butanone were found to exceed the 25% limit for the continuing calibrations on 5/31/2000 at 13:13 and 6/01/2000 at 15:35. The associated sample results for these compounds were qualified as 'J', estimated, for the positive results and 'UJ', estimated, for the non-detectable results.

1.5 **Blanks**

1.5.1 **Field Blanks**

Two trip blanks and one field blank were collected and analyzed for Volatiles. Volatile Organics were not detected in these blanks, with the exception of TICs (See Section 1.7).

1.5.2 **Method Blanks**

Four water method blanks were analyzed for the samples. Volatile Organics were not detected in the method blanks.

1.6 **GC/MS Instrument Performance Check**

Instrument performance was generated within acceptable limits and frequency for Bromofluorobenzene (BFB).

1.7 **Tentatively Identified Compounds (TICs)**

Copies of the TIC Form I data sheets, including the appropriate qualifiers, are included in Appendix B. Various TIC results were qualified as 'R', unusable, in accordance with USEPA Region II guidelines, due

to their presence in the field and trip blanks. The compound 1,1,2-trichloro-1,2-ethane was detected in these blanks as a TIC.

1.8 **Internal Standards**

All internal standards were generated within acceptable specifications for area counts and retention time variation.

1.9 **Compound Identification**

GC/MS qualitative analyses are considered to be acceptable for the data set. Retention times and mass spectra were generated within appropriate quality control specifications.

1.10 **Compound Quantitation and Reported Detection Limits**

GC/MS quantitative analyses are considered to be acceptable. Sample dilutions, internal standards, and response factors were found to be within acceptable limits.

1.11 **System Performance**

Acceptable system performance was maintained throughout the analyses of the water samples. This was exhibited through good resolution and consistent chromatographic performance.

APPENDIX A

DATA SUMMARY FORMS

VOLATILE ORGANICS

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-8I

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22888

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00812.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		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	100	J
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	trans-1,2-Dichloroethene	10	U
156-59-4	cis-1,2-Dichloroethene	51	
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	200	
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	Ethyl Benzene	10	U
100-42-5	Styrene	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-8I

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22888

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00812.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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
1330-20-7	m&p-Xylenes	10	U
95-47-6	o-Xylene	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-10D

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22889

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00813.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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	7.1	J
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U J
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	trans-1,2-Dichloroethene	3.3	J
156-59-4	cis-1,2-Dichloroethene	700	E
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	1000	E
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	11	
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	4.8	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethyl Benzene	10	U
100-42-5	Styrene	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-10D

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22889

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00813.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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
1330-20-7	m&p-Xylenes	2.8	J
95-47-6	o-Xylene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-10DDL

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22889DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00825.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 6/1/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 100.0

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	1000	UD
74-83-9	Bromomethane	1000	UD
75-01-4	Vinyl Chloride	1000	UD
75-00-3	Chloroethane	1000	UD
75-09-2	Methylene Chloride	1000	UD
67-64-1	Acetone	1000	UDJ
75-15-0	Carbon Disulfide	1000	UD
75-35-4	1,1-Dichloroethene	1000	UD
75-34-3	1,1-Dichloroethane	1000	UD
156-60-5	trans-1,2-Dichloroethene	1000	UD
156-59-4	cis-1,2-Dichloroethene	1200	D
67-66-3	Chloroform	1000	UD
107-06-2	1,2-Dichloroethane	1000	UD
78-93-3	2-Butanone	1000	UDJ
71-55-6	1,1,1-Trichloroethane	1000	UD
56-23-5	Carbon Tetrachloride	1000	UD
75-27-4	Bromodichloromethane	1000	UD
78-87-5	1,2-Dichloropropane	1000	UD
10061-01-5	cis-1,3-Dichloropropene	1000	UD
79-01-6	Trichloroethene	3100	D
124-48-1	Dibromochloromethane	1000	UD
79-00-5	1,1,2-Trichloroethane	1000	UD
71-43-2	Benzene	1000	UD
10061-02-6	trans-1,3-Dichloropropene	1000	UD
75-25-2	Bromoform	1000	UD
108-10-1	4-Methyl-2-Pentanone	1000	UDJ
591-78-6	2-Hexanone	1000	UDJ
127-18-4	Tetrachloroethene	1000	UD
79-34-5	1,1,2,2-Tetrachloroethane	1000	UD
108-88-3	Toluene	1000	UD
108-90-7	Chlorobenzene	1000	UD
100-41-4	Ethyl Benzene	1000	UD
100-42-5	Styrene	1000	UD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-10DDL

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22889DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00825.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 6/1/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 100.0

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

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
1330-20-7	m&p-Xylenes	1000	UD
95-47-6	o-Xylene	1000	UD

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-11D

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22890

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00814.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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	7.1	J
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U J
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	trans-1,2-Dichloroethene	3.4	J
156-59-4	cis-1,2-Dichloroethene	720	E
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	1100	E
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	11	
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	4.7	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethyl Benzene	10	U
100-42-5	Styrene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-11D

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22890

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00814.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg) ug/L	Q
1330-20-7	m&p-Xylenes	2.8	J
95-47-6	o-Xylene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-11DDL

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22890DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00826.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 6/1/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 100.0

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	1000	UD
74-83-9	Bromomethane	1000	UD
75-01-4	Vinyl Chloride	1000	UD
75-00-3	Chloroethane	1000	UD
75-09-2	Methylene Chloride	1000	UD
67-64-1	Acetone	1000	UDJ
75-15-0	Carbon Disulfide	1000	UD
75-35-4	1,1-Dichloroethene	1000	UD
75-34-3	1,1-Dichloroethane	1000	UD
156-60-5	trans-1,2-Dichloroethene	1000	UD
156-59-4	cis-1,2-Dichloroethene	1200	D
67-66-3	Chloroform	1000	UD
107-06-2	1,2-Dichloroethane	1000	UD
78-93-3	2-Butanone	1000	UDJ
71-55-6	1,1,1-Trichloroethane	1000	UD
56-23-5	Carbon Tetrachloride	1000	UD
75-27-4	Bromodichloromethane	1000	UD
78-87-5	1,2-Dichloropropane	1000	UD
10061-01-5	cis-1,3-Dichloropropene	1000	UD
79-01-6	Trichloroethene	3100	D
124-48-1	Dibromochloromethane	1000	UD
79-00-5	1,1,2-Trichloroethane	1000	UD
71-43-2	Benzene	1000	UD
10061-02-6	trans-1,3-Dichloropropene	1000	UD
75-25-2	Bromoform	1000	UD
108-10-1	4-Methyl-2-Pentanone	1000	UDJ
591-78-6	2-Hexanone	1000	UDJ
127-18-4	Tetrachloroethene	1000	UD
79-34-5	1,1,2,2-Tetrachloroethane	1000	UD
108-88-3	Toluene	1000	UD
108-90-7	Chlorobenzene	1000	UD
100-41-4	Ethyl Benzene	1000	UD
100-42-5	Styrene	1000	UD

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-11DDL

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22890DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00826.D

Level: (low/med) _____ Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 6/1/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 100.0

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

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
1330-20-7	m&p-Xylenes	1000	UD
95-47-6	o-Xylene	1000	UD

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-6I

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22891

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00815.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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	29	
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U J
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	trans-1,2-Dichloroethene	10	U
156-59-4	cis-1,2-Dichloroethene	130	
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	56	
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	Ethyl Benzene	10	U
100-42-5	Styrene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-6I

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22891

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00815.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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
1330-20-7	m&p-Xylenes	10	U
95-47-6	o-Xylene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
FB052400_FIELDBLA

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22894

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00809.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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 J
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	trans-1,2-Dichloroethene	10	U
156-59-4	cis-1,2-Dichloroethene	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	Ethyl Benzene	10	U
100-42-5	Styrene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

FB052400_FIELDBLA

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22894

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00809.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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
1330-20-7	m&p-Xylenes	10	U
95-47-6	o-Xylene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-6R

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22895

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00816.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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 J
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	trans-1,2-Dichloroethene	10	U
156-59-4	cis-1,2-Dichloroethene	8.1	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	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	25	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	2.4	J
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	Ethyl Benzene	10	U
100-42-5	Styrene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-6R

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22895

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00816.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
1330-20-7	m&p-Xylenes	10	U
95-47-6	o-Xylene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

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Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22896

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00808.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		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	UJ
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	trans-1,2-Dichloroethene	10	U
156-59-4	cis-1,2-Dichloroethene	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	Ethyl Benzene	10	U
100-42-5	Styrene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TRIPBLANK

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8519LP Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22896

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00808.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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
1330-20-7	m&p-Xylenes	10	U
95-47-6	o-Xylene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-9ID

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8541ASP Site: NYDEC Location: NY Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O23025

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00810.D

Level: (low/med) Date Received: 5/25/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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	UJ
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	trans-1,2-Dichloroethene	10	U
156-59-4	cis-1,2-Dichloroethene	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	33	
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	Ethyl Benzene	10	U
100-42-5	Styrene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-9ID

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8541ASP Site: NYDEC Location: NY Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O23025

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00810.D

Level: (low/med) Date Received: 5/25/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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
1330-20-7	m&p-Xylenes	10	U
95-47-6	o-Xylene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-9D

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8541ASP Site: NYDEC Location: NY Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O23026

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00811.D

Level: (low/med) Date Received: 5/25/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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	3.1	J
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U J
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	trans-1,2-Dichloroethene	2.2	J
156-59-4	cis-1,2-Dichloroethene	460	E
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	1200	E
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	
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	Ethyl Benzene	10	U
100-42-5	Styrene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-9D

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8541ASP Site: NYDEC Location: NY Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O23026

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00811.D

Level: (low/med) Date Received: 5/25/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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
1330-20-7	m&p-Xylenes	1.3	J
95-47-6	o-Xylene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-9DDL

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8541ASP Site: NYDEC Location: NY Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O23026DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00824.D

Level: (low/med) Date Received: 5/25/00

% Moisture: not dec. 100 Date Analyzed: 6/1/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 100.0

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

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1000	UD
74-83-9	Bromomethane	1000	UD
75-01-4	Vinyl Chloride	1000	UD
75-00-3	Chloroethane	1000	UD
75-09-2	Methylene Chloride	1000	UD
67-64-1	Acetone	1000	UDJ
75-15-0	Carbon Disulfide	1000	UD
75-35-4	1,1-Dichloroethene	1000	UD
75-34-3	1,1-Dichloroethane	1000	UD
156-60-5	trans-1,2-Dichloroethene	1000	UD
156-59-4	cis-1,2-Dichloroethene	750	JD
67-66-3	Chloroform	1000	UD
107-06-2	1,2-Dichloroethane	1000	UD
78-93-3	2-Butanone	1000	UDJ
71-55-6	1,1,1-Trichloroethane	1000	UD
56-23-5	Carbon Tetrachloride	1000	UD
75-27-4	Bromodichloromethane	1000	UD
78-87-5	1,2-Dichloropropane	1000	UD
10061-01-5	cis-1,3-Dichloropropene	1000	UD
79-01-6	Trichloroethene	5300	D
124-48-1	Dibromochloromethane	1000	UD
79-00-5	1,1,2-Trichloroethane	1000	UD
71-43-2	Benzene	1000	UD
10061-02-6	trans-1,3-Dichloropropene	1000	UD
75-25-2	Bromoform	1000	UD
108-10-1	4-Methyl-2-Pentanone	1000	UDJ
591-78-6	2-Hexanone	1000	UDJ
127-18-4	Tetrachloroethene	1000	UD
79-34-5	1,1,2,2-Tetrachloroethane	1000	UD
108-88-3	Toluene	1000	UD
108-90-7	Chlorobenzene	1000	UD
100-41-4	Ethyl Benzene	1000	UD
100-42-5	Styrene	1000	UD

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-9DDL

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8541ASP Site: NYDEC Location: NY Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O23026DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00824.D

Level: (low/med) Date Received: 5/25/00

% Moisture: not dec. 100 Date Analyzed: 6/1/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 100.0

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

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
1330-20-7	m&p-Xylenes	1000	UD
95-47-6	o-Xylene	1000	UD

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

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Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8541ASP Site: NYDEC Location: NY Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O23027

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00807.D

Level: (low/med) Date Received: 5/25/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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	trans-1,2-Dichloroethene	10	U
156-59-4	cis-1,2-Dichloroethene	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	Ethyl Benzene	10	U
100-42-5	Styrene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TRIP BLANK

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No.: L8541ASP Site: NYDEC Location: NY Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O23027

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00807.D

Level: (low/med) Date Received: 5/25/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (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
1330-20-7	m&p-Xylenes	10	U
95-47-6	o-Xylene	10	U

APPENDIX B

DATA SUMMARY FORMS

TENTATIVELY IDENTIFIED COMPOUNDS

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-8I

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L851 Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22888

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00812.D

Level: (low/med) _____ Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 4 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.65	26	~~J~~ R
2. 1634-04-4	Propane, 2-methoxy-2-methyl-	3.65	36	J N
3. 541-73-1	Benzene, 1,3-dichloro-	18.72	41	J N
4. 106-46-7	Benzene, 1,4-dichloro-	19.63	440	J N
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-10D

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L851 Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22889

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00813.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW-10DDL

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L851 Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22889DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00825.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 6/1/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 100.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.65	1700	~~J~~ R
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TICs

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-11D

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L851 Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22890

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00814.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-11DDL

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L851 Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22890DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00826.D

Level: (low/med) _____ Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 6/1/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 100.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.65	1600	~~J~~ R
2.				
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TICs

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-6I

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L851 Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22891

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00815.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.64	19	~~J~~ R
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TICs

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
FB052400_FIELDBLA

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L851 Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22894

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00809.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

TICS

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.65	30	JN
2.				
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4.				
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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW-6R

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L851 Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22895

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00816.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.65	27	~~J~~ R
2. 1634-04-4	Propane, 2-methoxy-2-methyl-	3.66	18	JN
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

TRIPBLANK

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L851 Site: N/A Location: N/A Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O22896

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00808.D

Level: (low/med) Date Received: 5/24/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.65	35	JN
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-9ID

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L854 Site: NYDEC Location: NY Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O23025

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00810.D

Level: (low/med) Date Received: 5/25/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 3 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.65	28	~~JN~~ R
2.	Methyl tert-Butyl Ether	3.66	8.6	JN
3.	1,2-Dichlorobenzene	19.63	8.6	JN
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW-9D

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L854 Site: NYDEC Location: NY Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O23026

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00811.D

Level: (low/med) Date Received: 5/25/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.65	28	~~JN~~ R
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW-9DDL

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L854 Site: NYDEC Location: NY Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O23026DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00824.D

Level: (low/med) Date Received: 5/25/00

% Moisture: not dec. 100 Date Analyzed: 6/1/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 100.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.65	2100	~~JN~~ R
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TICs

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

TRIP BLANK

Lab Name: CHEMTECH Contract: CAMP DRESSER & MCKEE

Project No. L854 Site: NYDEC Location: NY Group: 5970-VOA

Matrix: (soil/water) WATER Lab Sample ID: O23027

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N00807.D

Level: (low/med) Date Received: 5/25/00

% Moisture: not dec. 100 Date Analyzed: 5/31/00

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	2.63	37	J N
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APPENDIX C

DATA QUALIFIERS

ORGANIC DATA QUALIFIERS

U - Indicates that the compound was analyzed for, but not detected at or above the Contract Required Quantitation Limit (CRQL), or the compound is not detected due to qualification through the method or field blank.

J - The associated numerical value is an estimated quantity.

JN - Tentatively identified with approximated concentrations (Volatile and Semi-Volatile Organics). Presumptively present at an approximated quantity (Pesticides/PCBs).

UJ - The compound was analyzed for, but not detected. The sample quantitation limit is an estimated quantity due to variance from quality control limits.

C - Applies to Pesticide results where the identification has been confirmed by GC/MS.

E - Reported value is estimated due to quantitation above the calibration range.

D - Reported result taken from diluted sample analysis.

A - Aldol condensation product.

R - Reported value is unusable and rejected due to variance from quality control limits.

NA - Not Analyzed.

APPENDIX D

CASE NARRATIVES

CHEMTECH

CASE NARRATIVE

CAMP Dresser & MCKEE
Project Name: # NYDEC/Swievlier
Project # 0897-22804-TK9.GWS
Chemtech Project # L8519ASP

A. Number of Samples and Date of Receipt
5 Aqueous , Field Blank, A Trip Blank plus MS/MSD were delivered to the laboratory intact on 05/24/00.

B. Parameters
Test requested was Volatile Organics. This data package contains results for Volatile Organics.

C. Analytical Techniques:
Samples were analyzed for Volatile Organics according Method CLP Methodology. The analyses were performed on instruments VOA5, using GC column RTX624 which is 75 meters, 0.53mm ID, 3.0mm df (crossbond 6% cyanopropylphenyl-94%) dimethylpolysiloxane. The Purge Trap was supplied by Supelco, VO CARB 3000, Tekmar 3000.

D. QA/ QC Samples:
The Surrogate Recoveries for each sample are found in Form II-A. Initial Calibration of Single Component Analytes results are found on Form 6 D & E. The Matrix Spike and Matrix Spike Duplicate were analyzed and are reported on Form 3F.

System Monitoring Compound recoveries were acceptable. MS/MSD recoveries and RPDs met requirements. Internal Standard Areas and Retention Times met criteria. Calibrations met requirements. Blank analyses did not indicate the presence of contamination.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature Mildred V. Reyes Name: Mildred V. Reyes

Date: 6/6/00 Title: QA/QC

CHEMTECH 205 Campus Plaza 1 • Edison, NJ 08837 Phone: 732.225.4111 Fax: 732.225.4110

COVER PAGE

Lab Name: Chemtech Consulting Group
Lab Code: CHEM Project No.: L8519ASP

Client: CAMP DRESSER & MCKEE
Project Name: NYDEC/SWIEVLIER

Client Sample No.	Lab Sample ID
MW-8I	22888
MW-10D	22889
MW-11D	22890
MW-6I	22891
MW-6IMS	22892
MW-6IMSD	22893
FB052400(FIELDBLANK)	22894
MW-6R	22895
TRIPBLANK	22896

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designed, as verified by the following signature.

Signature: Mildred V. Reyes Name: MILDRED V.REYES

Date : 6/6/00 Title: QA/QC

CHEMTECH

CASE NARRATIVE

CAMP Dresser & MCKEE
Project Name: # NYDEC/Swievlier
Project # 0897-22804-TK9.GWS
Chemtech Project # L8541ASP

A. Number of Samples and Date of Receipt

5 Aqueous , Field Blank, A Trip Blank plus MS/MSD were delivered to the laboratory intact on 05/~~24~~25/00.

B. Parameters

Test requested was Volatile Organics. This data package contains results for Volatile Organics.

C. Analytical Techniques:

Samples were analyzed for Volatile Organics according Method CLP Methodology. The analyses were performed on instruments VOA5, using GC column RTX624 which is 75 meters, 0.53mm ID, 3.0mm df (crossbond 6% cyanopropylphenyl-94%) dimethylpolysiloxane. The Purge Trap was supplied by Supelco, VO CARB 3000, Tekmar 3000.

D. QA/ QC Samples:

The Surrogate Recoveries for each sample are found in Form II-A. Initial Calibration of Single Component Analytes results are found on Form 6 D & E. The Matrix Spike and Matrix Spike Duplicate were analyzed and are reported on Form 3F.

System Monitoring Compound recoveries were acceptable. MS/MSD recoveries and RPDs met requirements. Internal Standard Areas and Retention Times met criteria. Calibrations met requirements. Blank analyses did not indicate the presence of contamination.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature Mildred V. Reyes Name: Mildred V. Reyes

Date: 6/7/00 Title: QA/QC

CHEMTECH 205 Campus Plaza 1 • Edison, NJ 08837 Phone: 732.225.4111 Fax: 732.225.4110

COVER PAGE

Lab Name: Chemtech Consulting Group Client: CAMP DRESSER & MCKEE
Lab Code: CHEM Project No.: L8541ASP Project Name: NYDEC/SWIEVLIER

Client Sample No.	Lab Sample ID
MW-9ID	23025
MW-9D	23026
TRIPBLANK	23027

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designed, as verified by the following signature.

Signature: Mildred V. Reyes Name: MILDRED V. REYES

Date : 6/7/00 Title: QA/QC

APPENDIX E

CHAIN-OF-CUSTODY FORMS

CHEMTECH
CHAIN OF CUSTODY RECORD

Please check one:

☐ 110 Route 4, Englewood, NJ 07631, (201) 567-6868, Fax (201) 567-1333

☐ 205 Campus Plaza 1, Edison, NJ 08837, (732) 225-4111, Fax (732) 225-4110

☐ 515 Route 9 South, Barnegat, NJ 08005, (609) 698-0199, Fax (609) 698-0910

CHEMTECH JOB NO.: L8519

CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: CAMP DRESSER + McKee

ADDRESS: RARITAN PLAZA ONE

CITY: EDISON STATE: NJ ZIP: 08818

ATTENTION: BRIAN FARELLY

PHONE: (732) 225-7000 FAX: (732) 225-7851

PROJECT INFORMATION

PROJECT NAME: NYDEC/SWICKLER

PROJECT NO.: 0897-22804-TK9.GWS

PROJECT MANAGER: BRIAN FARELLY

LOCATION: NANUET N.Y.

PHONE: FAX:

BILLING INFORMATION

BILL TO: SAME AS CLIENT PO #:

ADDRESS:

CITY: STATE: ZIP:

ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: _____ DAYS *

HARD COPY: _____ DAYS *

EDD: _____ DAYS *

* TO BE APPROVED BY CHEMTECH

** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY ☐ USEPA CLP

☐ RESULTS + QC ☐ NYS ASP "B"

☐ NJ REDUCED ☐ NYS ASP "A"

☐ ~~NJ CLP~~ NYSDEC ☐ EDD

☐ ~~EDD FORMAT~~ SUPERFUND CATAGORY REPORTING

ANALYSIS

1 JOAT TO METHOD 95-1

2 3 4 5 6 7 8 9

CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1. 22888	MW-8I	AQ		X	5/24/00	1145	2	X									
2. 89	MW-10D					1225	2	X									
3. 90	MW-11D					1235	2	X									
4. 91	MW-6I					1315	2	X									
5. 92	MW-6I MS					1320	2	X									
6. 93	MW-6I MSD					1325	2	X									
7. 94	FB052400 (FIELD BK.)						2	X									
8. 95	MW-6R						2	X									

2002

Specify Preservative: A – HCl, B – HNO, C – H_2SO_4, D – NaO, E – ICE, F – Othe

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. [signature]	5/24/00 1600	1 Sunny Patel
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:
2.		2.
RELINQUISHED BY:	DATE/TIME: 1600 5/24/00	RECEIVED FOR LAB BY:
3.		3. Sunny Patel

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☐ Temp. of Cooler _____

Comments:

Page _____ of _____

Shipment Complete: Yes _____ No _____

CHEMTECH

CHAIN OF CUSTODY RECORD

☐ 110 Route 4
Englewood, NJ 07631
(201) 567-6868
Fax (201) 567-1333

☐ 205 Campus Plaza 1
Edison, NJ 08837
(732) 225-4111
Fax (732) 225-4110

☐ 515 Route 9 South
Barnegat, NJ 08005
(609) 698-0199
Fax (609) 698-0910

CHEMTECH JOB NO.: 18519 A2

CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: CAMP DRESSER + McKEE

ADDRESS: RARITAN PLAZA ONE

CITY: EDISON STATE: N.J ZIP: 08818

ATTENTION: BRIAN FARELLY

PHONE: (732) 225-7000 FAX: (732) 225-7851

PROJECT INFORMATION

PROJECT NAME: NYDEC/SWIEVIEN

PROJECT NO.: 0897-22804-TK9.6WS

PROJECT MANAGER: BRIAN FARELLY

LOCATION: NANUET N.Y

PHONE: FAX:

BILLING INFORMATION

BILL TO: SAME PO #:

ADDRESS: AS CLIENT

CITY: STATE: ZIP:

ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: _____ DAYS *

HARD COPY: _____ DAYS *

EDD: _____ DAYS *

* TO BE APPROVED BY CHEMTECH

(NORMAL TURNAROUND TIME - 14 DAYS)

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY ☐ USEPA CLP

☐ RESULTS + QC ☐ NYS ASP "B"

☐ NJ REDUCED NYDEC ☐ NYS ASP "A"

☐ NJ CLP SUPERFUND ☐ EDD

☐ EDD FORMAT: CATAGORY REPORTING

ANALYSIS

VOA + 10 METHOD 95-1

CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1. 22896	TRIP BLANK	AQ		X	5/24/00	—	2	X									
2.																	
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	

← Specify Preservatives
A – HCl B – HNO_3
C – H_2SO_4 D – NaOH
E – ICE F – Other

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. [signature]	5/24/00 1600	1. Sunny Patel
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:
2.		2.
RELINQUISHED BY:	DATE/TIME:	RECEIVED FOR LAB BY:
3.	5/24/00 1600	3. Sunny Patel

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☐ Temp. of Cooler _____

Comments:

Page _____ of _____ Shipment Complete: Yes _____ No _____

Ver. 9-99

WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY PINK – SAMPLER COPY

CHEMTECH

CHAIN OF CUSTODY RECORD

☐ 110 Route 4
Englewood, NJ 07631
(201) 567-6868
Fax (201) 567-1333

☐ 205 Campus Plaza 1
Edison, NJ 08837
(732) 225-4111
Fax (732) 225-4110

☐ 515 Route 9 South
Barnegat, NJ 08005
(609) 698-0199
Fax (609) 698-0910

CHEMTECH JOB NO.: L8541AS

CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: CAMP DRESSER & McKEE

ADDRESS: RARITAN PLAZA ONE

CITY: EDISON STATE: NJ ZIP: 08818

ATTENTION: BRIAN FARELLY

PHONE: (732) 225-7000 FAX: (732) 225-7851

PROJECT INFORMATION

PROJECT NAME: NYDEC/SNIEVLICA

PROJECT NO.: 0897-22804-TK9, GWS

PROJECT MANAGER: BRIAN FARELLY

LOCATION: NANUET N.Y.

PHONE: FAX:

BILLING INFORMATION

BILL TO: SAME AS CLIENT PO #:

ADDRESS:

CITY: STATE: ZIP:

ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: DAYS *

HARD COPY: DAYS *

EDD: DAYS *

* TO BE APPROVED BY CHEMTECH

(* NORMAL TURNAROUND TIME - 14 DAYS)

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY ☐ USEPA CLP

☐ RESULTS + QC ☐ NYS ASP "B"

☐ NJ REDUCED NYDEC ☐ NYS ASP "A"

☐ ~~NJ CLP~~ SUPERFUND ☐ EDD

☐ ~~EDD FORMAT~~: CATEGORY ACCORTING

ANALYSIS

1 VOC + 10 METHOD 95-1

2 3 4 5 6 7 8 9

CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
123025	MW-9ID	AQ		X	5/25/00	1120	2	X									
2. 26	MW-9D	↓		X	↓	1230	2	X									
3. 27	TRIP BLANK	↓		X	↓	—	2	X									
4.																	
5.																	
6.																	
7.																	
8.																	

← Specify Preservatives
A – HCl B – HNO_3
C – H_2SO_4 D – NaOH
E – ICE F – Other

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

	DATE/TIME	RECEIVED BY
1. RELINQUISHED BY SAMPLER: Norm Krom	5/25/00 1600	1.
2. RELINQUISHED BY:	DATE/TIME:	2. RECEIVED BY:
3. RELINQUISHED BY:	DATE/TIME: 5/25/00 1600	3. RECEIVED FOR LAB BY: Sunny Patel

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☐ Temp. of Cooler 2+

Comments:

Page 1 of 1

Shipment Complete: Yes ____ No ____

Ver. 9-99

WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY PINK – SAMPLER COPY