KEY ENGINEERING GROUP LTD.
ENVIRONMENTAL • CIVIL/GEOTECH • COMPLIANCE

W66 N215 Commerce Court
Cedarburg, Wisconsin 53012
(414) 375-4750
(800) 645-7365
Fax (414) 375-9680

July 23, 1998

Mr. Jim Schmidt
Southeast Region Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
2300 North Dr. Martin Luther King, Jr. Drive
Post Office Box 12436
Milwaukee, Wisconsin 53212

Reference: Results of Limited Site Investigation
Former Key Products
8627-8633 West Lynx Street
Milwaukee, Wisconsin
WDNR FID #241437790 ERP

KEY ENGINEERING GROUP, LTD.
File No. 0712007

Dear Mr. Schmidt:

The purpose of this letter is to provide the Wisconsin Department of Natural Resources (WDNR) with the results of the limited site investigation activities conducted at the above referenced site by Key Engineering Group, Ltd. (KEY). The location of the site is depicted on Figure 1. This letter has been prepared by KEY on behalf of Key Products, Inc.

Site Investigation Purpose, Objectives, and Scope

The purpose of the limited site investigation activities was to confirm or disclaim groundwater conditions previously reported for the site. The objectives of the site investigation were to determine the static groundwater table depth at the site and to evaluate whether groundwater contamination exists within the static groundwater zone.

The site investigation scope of work included the drilling of one (1) soil boring and the installation, development, and sampling of one (1) groundwater monitoring well in the vicinity of, and at a location likely down gradient from the former excavation area, where contaminated soils were removed.

Background Information

Key Products Inc. formerly leased the facility from Ms. Claudia Gehl, the site owner, at which time they manufactured custom metal removal equipment at the site for approximately 19 years. Key Products, Inc. vacated the site in September 1994.

Previous correspondence provided to KEY indicated that soil contamination was detected adjacent to the south side of the site building in an alley which dead ended adjacent to the site building and where a dumpster was stored. The contamination had apparently been confirmed on January 26, 1996 by the collection and analysis of a soil sample.

Based on the documentation provided to KEY, Materials Management & Training, Ltd. (MMTL) provided oversight for the excavation of approximately 226 tons of contaminated soil from the area adjacent to the south side of the building on May 23, 1996. The approximate extent of the excavation is depicted on Figure 2. The excavated soils were transported to Orchard Ridge Recycling and Disposal Facility (RDF), Menomonee Falls, Wisconsin, for landfill disposal. Soils were excavated to depths up to 12 feet below ground surface (bgs).

Mr. Michael Thompson of the WDNR issued Mr. Richard Meinburg a responsible party letter dated January 3, 1997, requesting investigation at the site to determine groundwater quality. The WDNR request was based on the volatile organic compounds (VOC) concentrations detected in site soils and groundwater depth data obtained from a WDNR case file for a nearby site (Hampton Plumbing, 8617 West Kaul Avenue). No groundwater had apparently been encountered during the excavation activities; however, the WDNR indicated that may have been attributable to the clayey soil at the site.

MMTL subsequently conducted additional sampling at the site on July 23, 1997, consisting of three (3) Geoprobe® soil borings (GP-1, GP-2, and GP-3). The soil borings were conducted adjacent to the northeast portion of the former excavation. A groundwater sample collected from the location of GP-3 was submitted for VOC analysis. The GP-3 groundwater sample analytical results indicated that tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride, cis-1,2-dichloroethene (DCE), benzene, and trimethylbenzenes (TMBs) were detected at concentrations exceeding their respective NR 140 groundwater quality standards; however, MMTL indicated that the groundwater sample collected from GP-3 was collected from perched water at approximately 5 feet bgs.

Limited Site Investigation Procedures

The site investigation consisted of one (1) soil boring (B-1), which was drilled east of the former excavation cavity (down gradient based on WDNR case file data for Hampton Plumbing). The soil boring was converted to a groundwater monitoring well (MW-1). The soil boring/monitoring well location is depicted on Figure 2.

The soil boring was drilled with a truck mounted drilling rig using hollow-stem, continuous flight augers. Soil samples were collected in accordance with ASTM D1586 *Standard Method for Penetration Test and Split-Barrel Sampling of Soil*. Soil samples were collected at 2½-foot intervals. The soil boring was drilled to a depth of 18.5 feet bgs. This depth was based on observations of soils encountered and, correspondingly, the anticipated depth to groundwater.

Soil samples were classified in the field in accordance with ASTM D2488 *Description of Soils (Visual-Manual Procedure)*. This description included color, Unified Soil Classification System (USCS) classification, soil moisture, plasticity, density or consistency, and olfactory observations. Each soil sample was also field screened for the presence of volatile organic compounds with a photoionization detector (PID). No collected soil samples were submitted for laboratory analysis.

Soil boring and sampling information, soil classifications, and the field screening results were documented on a soil boring log. The completed boring log is provided as Attachment 1.

The groundwater monitoring well was installed in accordance with NR 141 of the Wisconsin Administrative Code. The well was constructed using 2-inch diameter polyvinyl chloride (PVC) riser and screen. The well was constructed using a 10-foot long factory cut PVC screen, which was placed from approximately 18 to 8 feet bgs. The filter pack, filter pack seal, annular space seal, and protective cover materials and placement met the NR 141 specifications. The well was completed with a steel flush mounted

protective cover sealed in concrete. The monitoring well construction and development forms are provided as Attachment 1.

The well was developed by purging the well with a 2-inch diameter Teflon® bailer until the well went dry. The well was purged dry a total of four (4) times. Following purging and groundwater recovery, the well was sampled using the same 2-inch diameter Teflon® bailer that was used for purging. The groundwater sample was submitted under standard chain of custody procedures to Great Lakes Analytical for analysis of VOCs. The groundwater sample was submitted to the laboratory along with a trip blank and field blank. The trip blank was handled with the collected groundwater sample and was utilized to evaluated potential contamination of the sample by outside influences. The trip blank was prepared in the field and used to evaluate the effectiveness of decontamination procedures.

Soil boring cuttings and purged groundwater were contained in 55-gallon labeled drums and stored adjacent to the south side of the building. A total of two (2) drums containing soil and one (1) drum containing groundwater were generated and are stored on site.

Site Investigation Results

Soil conditions encountered at the location of B-1 generally consisted of approximately 3.5 feet of fill material comprised of medium stiff silty clay with gravel. Apparent native dark brown to brown stiff to very stiff silty clay was generally encountered to a depth of approximately 10.5 feet bgs. Gray stiff silty clay was encountered to 18 feet bgs, the maximum depth sampled. All of the soils encountered were moist (no perched water was encountered). No groundwater was observed within the well immediately following completion of the well installation.

Soil sample field screening results indicated PID readings of above background (greater than 1 instrument unit (i.u.)) for soil samples collected from 1 to 11 feet bgs (28 to 114 i.u.). The PID readings generally decreased with depth. Soil sample field screening results are included on the attached boring logs.

Groundwater was measured at 11.92 feet below the top of the PVC riser (approximately 6-inches bgs) prior to developing the well on December 31, 1997 (eight (8) days following well installation).

The groundwater sample analytical results are summarized on Table 1. The Great Lakes Analytical laboratory report and chain of custody documentation are provided as Attachment 2. Groundwater sample analytical results indicated that concentrations of PCE (4,100 micrograms per liter (µg/l)), TCE (120 µg/l), cis-1,2-DCE (610 µg/l), and vinyl chloride (15 µg/l) were detected at concentrations exceeding their respective NR 140 enforcement standards (ES).

Conclusions

Based on the results of the site investigation activities, the water level measured in the monitoring well is representative of the site static groundwater zone, and subsequently, the collected groundwater sample analytical data is representative of site groundwater quality (not perched water quality). Groundwater sample analytical results indicate that on-site groundwater quality is impacted by chlorinated VOCs at concentrations several orders of magnitude greater than NR 140 ESs.

Mr. Meinburg subsequently researched chemicals used by Key Products, Inc. during the years of operation at the site. Mr. Meinburg indicated to KEY that there were no indications that chemicals containing chlorinated solvents (VOCs) were used by Key Products, Inc. while occupying the site. Mr. Meinburg also interviewed several Key Products, Inc. employees regarding the utilization of chlorinated solvents at the site. The interviewed employees apparently had no knowledge of chlorinated solvent usage at the site. Additionally, Mr. Meinburg indicated that the chlorinated VOC contamination detected in site soil and

What about the spill of waste paint & solvent related materials in 11/8/96?

What key vacate size in '94?

groundwater could be attributable to an auto repair center located adjacent to the site to the south, which is also owned by Ms. Claudia Gale.

Based on the fact that Key Products, Inc. remediated soils impacted with contaminants presumably associated with the site operations, the apparent lack of chlorinated VOCs at the site during the occupancy of Key Products, Inc., and the presence of a suspected contaminant source in the immediate vicinity of the site, it is the opinion of Key Products, Inc. that the former Key Products, Inc. operations were not the source of chlorinated VOC contamination detected in site groundwater. Therefore, it is the opinion of Key Products, Inc. that Key Products, Inc. should not be responsible for further investigation or any remedial action of the residual site contaminants.

Please call the undersigned if you have any questions regarding this letter.

Sincerely,

KEY ENGINEERING GROUP, LTD.

Curtis M. Hoffart, CHMM
Staff Scientist

Kenneth W. Wein, CHMM
Vice President

CMH/kar

cc: Mr. Richard Meinburg, Key Products, Inc.
Mr. Don Gallo, Michael Best & Friedrich

Attachments

H:\PROJECTS\1997\0712007\LETTERS\072398.LTR

TABLE 1

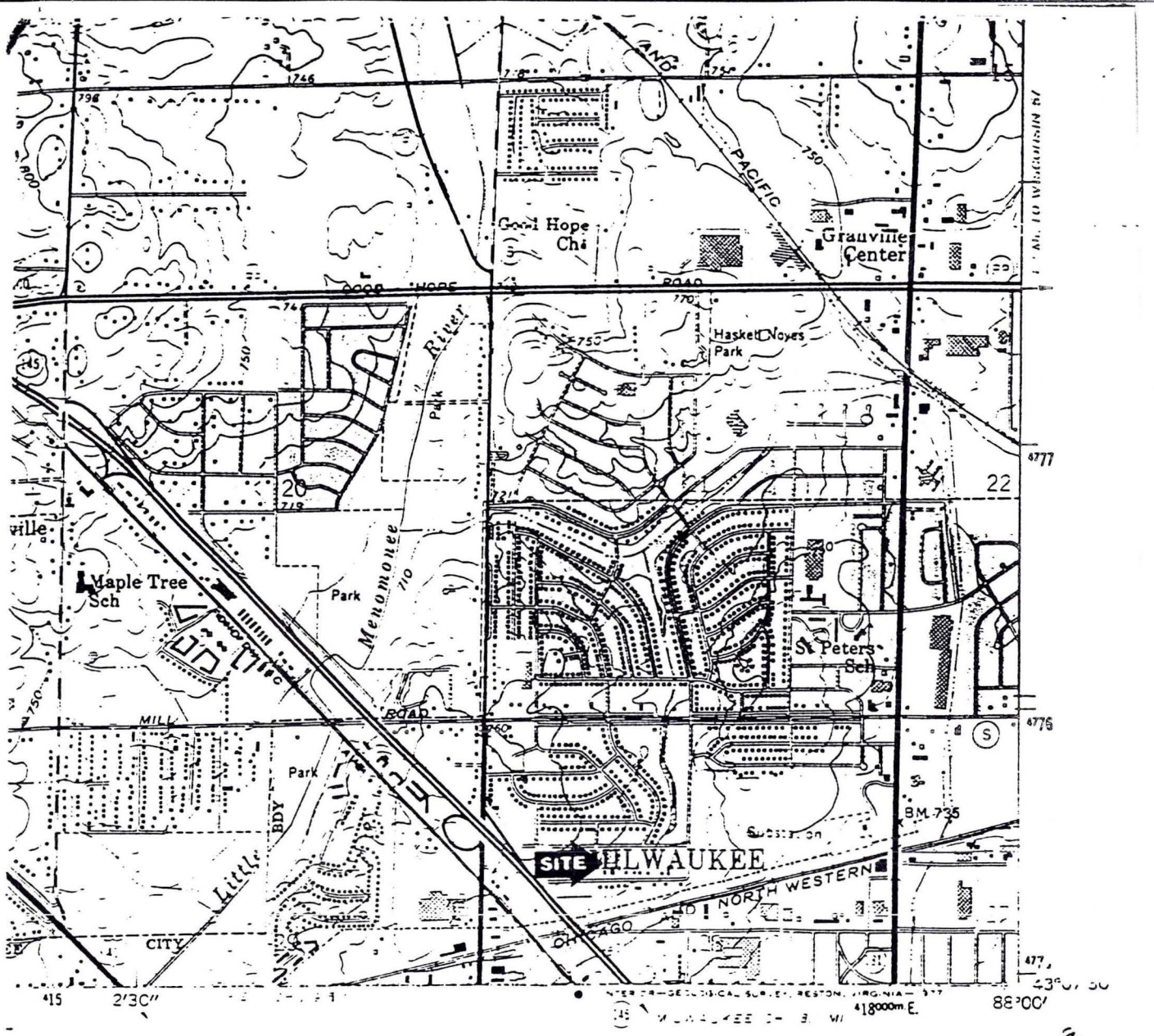
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS

FORMER KEY PRODUCTS

8627 - 8633 West Lynx Avenue
Milwaukee, Wisconsin

	MW-1	ES	PAL
Date Collected	12/31/97		
Detected VOCs (ug/l)			
cis-1,2-Dichloroethene	**610**	70	7
trans-1,2-Dichloroethene	3.9	100	20
Tetrachloroethene	**4,100**	5	0.5
Trichloroethene	**120**	5	0.5
Vinyl Chloride	**15**	0.2	0.002

Notes:
Concentrations in bold exceed NR 140 enforcement standard
ES - NR 140 enforcement standard
PAL - NR 140 preventive action limit
ug/l - micrograms per liter
VOCs - volatile organic compounds



0 1000 2000

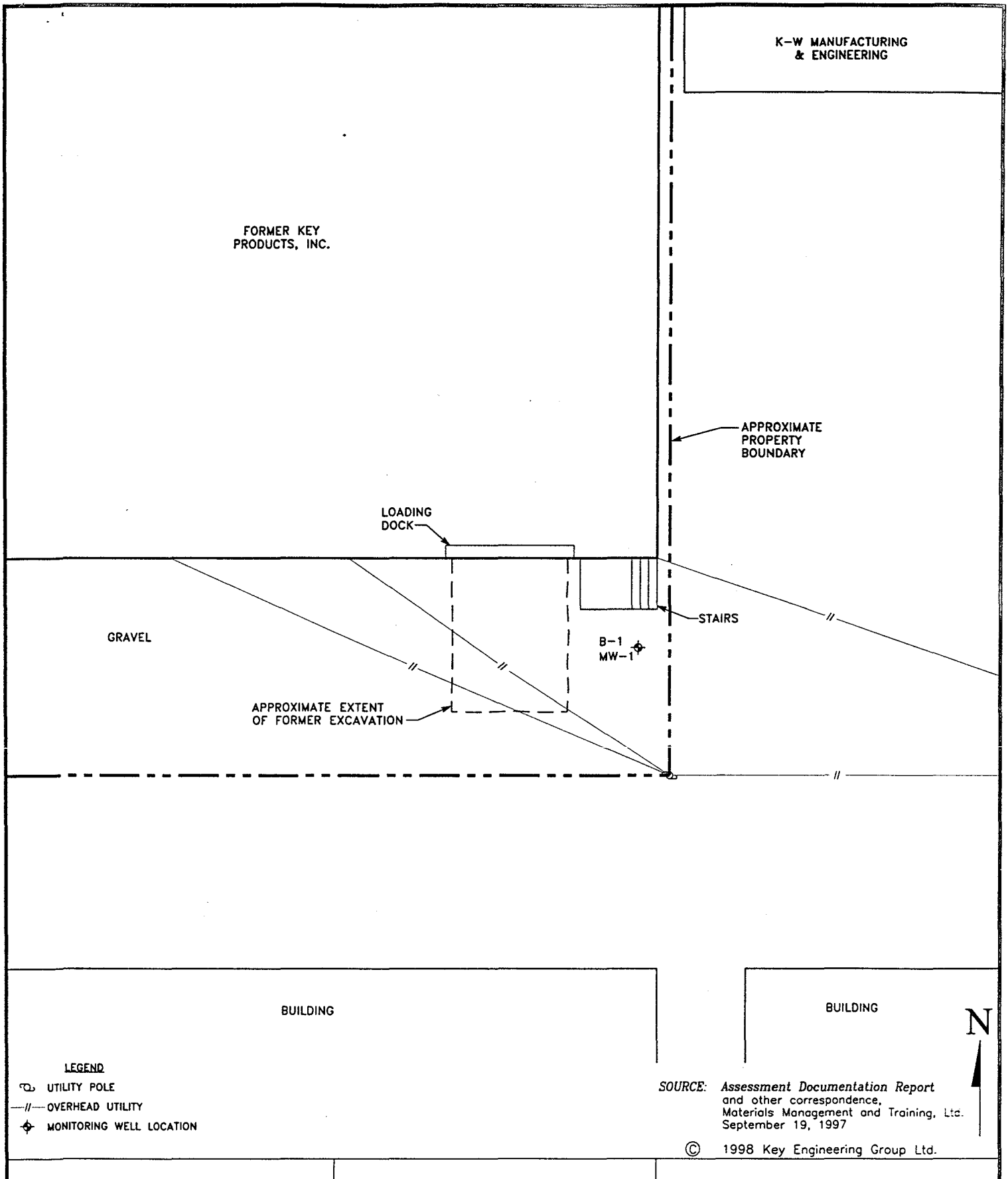
SCALE: 1"=2000'

DRN. BY:	S.L.G.	DATE:	07/23/98
DSN. BY:	C.M.H.	FILE NO.:	0712007
CHK. BY:	C.M.H.	DWG. NO.:	07120071
REV. BY:	G.L.J.	SHEET NO.:	1

KEY ENGINEERING GROUP LTD.

FIGURE 1
SITE LOCATION MAP

FORMER KEY PRODUCTS, INC.
8627-8633 WEST LYNX AVENUE
MILWAUKEE, WISCONSIN



LEGEND

- UTILITY POLE
- //— OVERHEAD UTILITY
- MONITORING WELL LOCATION

SOURCE: *Assessment Documentation Report* and other correspondence, Materials Management and Training, Ltd. September 19, 1997

0 5 10

SCALE: 1"=10'

DRN. BY:	S.L.G.	DATE:	07/23/98
DSN. BY:	C.M.H.	FILE NO.:	0712007
CHK. BY:	C.M.H.	DWG. NO.:	07120072
REV. BY:	G.L.J.	SHEET NO.:	2

KEY ENGINEERING GROUP LTD.

FIGURE 2
SITE LAYOUT

FORMER KEY PRODUCTS, INC.
8627-8633 WEST LYNX AVENUE
MILWAUKEE, WISCONSIN

ATTACHMENT 1

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Key Products, Inc.		B-1

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Giles Engineering Associates, Inc.	12/23/97	12/23/97	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
— — —	— — — — — —	MW-1	Feet	Feet	8.25 Inches

Boring Location
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 28 T 8 N,R 21 E
Lat o ' "
Long o ' "

Local Grid Location (If applicable)
☐ N ☐ E
Feet ☐ S Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
Milwaukee	41	Milwaukee

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	Pocket Penetrometer
			0	GRAVEL SURFACE										
1	16	3 3 5 3	1 2 3	Dark brown, medium stiff SILTY CLAY w/fine and coarse Gravel (FILL)	CL			114	8	Moist				
2	14	2 4 6 5	4 5	Dark brown, stiff SILTY CLAY w/fine and coarse Gravel - gray/green	CL			111	11	Moist				
3	6	5 10 13 10	6 7 8	Brown, very stiff SILTY CLAY w/fine to coarse Gravel, trace of fine Sand	CL			52	23	Moist				
4		9 10 14 9	9 10	-gray				28	23	Moist				
5	18	3 4	11 12	Gray, stiff SILTY CLAY w/fine to coarse Gravel	CL			<1	10	Moist				

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Rachel Ann

Firm: KEY ENGINEERING GROUP, LTD.
W66 N215 Commerce Court Cedarburg, WI 53012
Tel: (414)375-4750 Fax: (414)375-9680

This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A 7-91

Boring Number B-1 Use only as an attachment to Form 4400-122. Page 2 of 2

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plastic Limit	Soil Properties: P 200	Pocket Penetrometer
		5	13											
6	18	5 2 3 4 5	14 15					<1	9	Moist				
7		3 4 4 5	16 17 18					<1	9	Moist				
				Blind drill										

End of boring @ 18.5 ft.
* Sample submitted for analysis

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: Former Key Products, Inc.	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: MW-1
Facility License, Permit or Monitoring Number:	Grid Origin Location: Lat. ° ' " Long. ° ' " or St. Plane _____ ft. N, _____ ft. E.	Wis. Unique Well Number / DNR Well Number:
Type of Well: Water Table Observation Well ☒11; Piezometer ☐12	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 28, T. 8 N, R. 21 ☒E. ☐W.	Date Well Installed: 12/23/97
Distance Well Is From Waste/Source Boundary: ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☐ Downgradient n ☐ Not Known	Well Installed By: (Person's Name and Firm) Rachel Ames; Key Environmental
Is Well A Point of Enforcement Std. Application? ☐ Yes ☐ No		

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

12. USC classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

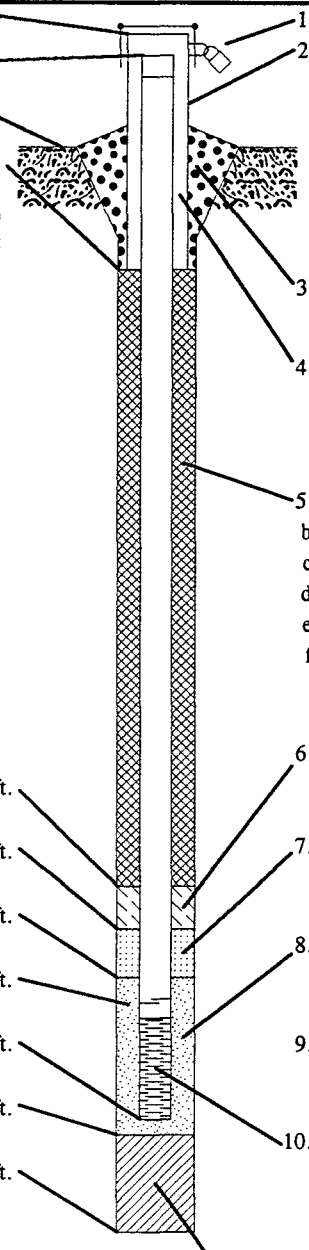
14. Drilling method used: Rotary ☐50; Hollow Stem Auger ☒41; _____ Other ☐

15. Drilling fluid used: Water ☐02 Air ☐01; Drilling Mud ☐03 None ☒99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis):

E. Bentonite seal, top _____ ft. MSL or 1.0 ft.
F. Fine sand, top _____ ft. MSL or 5.0 ft.
G. Filter pack, top _____ ft. MSL or 6.0 ft.
H. Screen joint, top _____ ft. MSL or 8.0 ft.
I. Well bottom _____ ft. MSL or 18.0 ft.
J. Filter pack, bottom _____ ft. MSL or 18.5 ft.
K. Borehole, bottom _____ ft. MSL or 18.5 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 10.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04; _____ Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; _____ Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐; _____ Other ☐
5. Annular space seal: a. Granular Bentonite ☐ 33
b. _____ Lbs/gal mud weight . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☒ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite pellets ☐ 32
c. Cetco Puregold-2.5 bags Other ☐
7. Fine sand material: Manufacturer, product name and mesh size
a. Red Flint #45-55
b. Volume added .5 bag ft^3
8. Filter pack material: Manufacturer, product name and mesh size
a. Red Flint #30
b. Volume added 8 bags ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; _____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 11; Continuous slot ☐ 01; _____ Other ☐
b. Manufacturer Dietrich
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 14; _____ Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Rachel Ames
Firm: KEY ENGINEERING GROUP, LTD.
W66 N215 Commerce Court Cedarburg, WI 53012
Tel: (414) 375-4750
Fax: (414) 375-9680

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 4-90

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

Facility/Project Name	County	Well Name
Former Key Products, Inc.	Milwaukee	MW-1

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
	41		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☒	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed, and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
other _____	☐	

3. Time spent developing well 60 min.

4. Depth of well (from top of well casing) 17.60 ft.

5. Inside diameter of well 2.00 in.

6. Volume of water in filter pack and well casing 5.50 gal.

7. Volume of water removed from well 11.00 gal.

8. Volume of water added (if any) -- gal.

9. Source of water added N/A

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	11.92 ft.	16.31 ft.
Date	b.	12/31/97	12/31/97
Time	c.	10:50 ☒ a.m. ☐ p.m.	11:50 ☒ a.m. ☐ p.m.
12. Sediment in well bottom		1.00 inches	0.50 inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15	Clear ☐ 20 Turbid ☒ 25
(Describe)		Brownish silt	
14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Additional comments on development:
Purged dry 4 times

Well developed by: Person's Name and Firm

Name: Josh Babiasz

Firm: Key Environmental

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: [signature]

Print Initials: CAH

Firm: KEY ENGINEERING GROUP, LTD.

NOTE: Shaded areas are for DNR use only. See instructions for more information including a list of county codes.

ATTACHMENT 2

GREAT LAKES ANALYTICAL

CHAIN OF CUSTODY REPORT

Buffalo Grove, IL 60089-4505
(847) 808-7766
FAX (847) 808-7772

Brookfield, WI 53501
(414) 798-1030
FAX (414) 798-1066

Client: KEY ENVIRONMENTAL SERV. | Bill To: STATE | TAT: (5 DAY) 4 DAY 3 DAY 2 DAY 1 DAY < 24 HRS.

Address: W66N215 COMMERCE CT | Address: | DATE RESULTS NEEDED: 1-9-98

CEDARBURG WI 53012 | TEMPERATURE UPON RECEIPT: ON ICE

Report to: CURT HUFFAKER Phone #: (414) 375-4790 Fax #: | State & Program: WI LUST | Phone #: ( ) Fax #: ( ) | AIR BILL NO

Project: FORMER KEY PRODUCTS

Sampler: JJB 071200 TRI

PO/Quote #: G-381

	FIELD ID, LOCATION	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	PRESERVATIVES	NO. CONTAINERS	TYPE CONTAINERS	VOCs	SAMPLE CONTROL: CRACKED/BROKEN	SAMPLE CONTROL: IMPROPERLY SEALED	SAMPLE CONTROL: GOOD CONDITION	LABORATORY ID NUMBER
1	MW-1	12/3/97	1190	GW	HCl	4	40mL	X			✓	8010114
2	FB FIELD BLANK	12/3/97	1130	DI	HCl	2	40mL	X			✓	8010115
3	TB TRIP BLANK	12/3/97	1185	DI	HCl	2	40mL	X			✓	8010116
4												
5												
6												
7												
8												
9												
10												

RELINQUISHED: 12/3/97 | RECEIVED: 12/4/97 | RELINQUISHED: 12/12/97 1210 | RECEIVED: K. Kuell 1-2-98

RELINQUISHED | RECEIVED | RELINQUISHED | RECEIVED

COMMENTS:

PAGE OF

JG958198

GREAT LAKES ANALYTIC 8478087772 01/09 '98 14:46 NO.370 08/19

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc.	Client Project ID:	Former Key Products, 0712007RI	Sampled:	Dec 31, 1997
W66 N215 Commerce Ct	Sample Descript:	Water: MW-1	Received:	Jan 2, 1998
Cedarburg, WI 53012	Analysis Method:	EPA 5030/8021		
Attention: Curt Hoffart	Lab Number:	801-0114	Analyzed:	Jan 7, 1998
			Reported:	Jan 9, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Bromobenzene	0.50	N.D.
Bromodichloromethane	0.50	N.D.
n-Butylbenzene	0.50	N.D.
sec-Butylbenzene	0.50	N.D.
tert-Butylbenzene	0.50	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	0.50	N.D.
Chloroform	0.14	N.D.
Chloromethane	0.60	N.D.
2-Chlorotoluene	0.50	N.D.
4-Chlorotoluene	0.50	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dibromo-3-chloropropane	0.39	N.D.
1,2-Dibromoethane	0.38	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Dichlorodifluoromethane	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	610
trans-1,2-Dichloroethene	0.50	3.9
1,2-Dichloropropane	0.50	N.D.
1,3-Dichloropropane	0.50	N.D.
2,2-Dichloropropane	0.50	N.D.
Di-Isopropyl-Ether	5.0	N.D.
Ethyl Benzene	0.50	N.D.
Hexachlorobutadiene	5.0	N.D.
Isopropylbenzene	0.50	N.D.
p-Isopropyltoluene	0.50	N.D.
Methylene chloride	0.53	N.D.
Methyl-tert-Butylether	0.20	N.D.

GREAT LAKES ANALYTICAL

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Key Environmental Services, Inc.	Client Project ID:	Former Key Products, 0712007RI	Sampled:	Dec 31, 1997
W66 N215 Commerce Ct	Sample Descript:	Water: MW-1	Received:	Jan 2, 1998
Cedarburg, WI 53012	Analysis Method:	EPA 5030/8021		
Attention: Curt Hoffart	Lab Number:	801-0114	Analyzed:	Jan 7, 1998
			Reported:	Jan 9, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	8.0	N.D.
n-Propylbenzene	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.35	N.D.
Tetrachloroethene	0.50	4,100
Toluene	0.50	N.D.
1,2,3-Trichlorobenzene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.16	N.D.
Trichloroethene	0.50	120
Trichlorofluoromethane	0.50	N.D.
1,2,4-Trimethylbenzene	1.0	N.D.
1,3,5-Trimethylbenzene	1.0	N.D.
Vinyl chloride	0.17	15
Total Xylenes	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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Key Environmental Services, Inc.	Client Project ID:	Former Key Products, 0712007RI	Sampled:	Dec 31, 1997
W66 N215 Commerce Ct	Sample Descript:	Water: Field Blank	Received:	Jan 2, 1998
Cedarburg, WI 53012	Analysis Method:	EPA 5030/8021		
Attention: Curt Hoffart	Lab Number:	801-0115	Analyzed:	Jan 7, 1998
			Reported:	Jan 9, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Bromobenzene	0.50	N.D.
Bromodichloromethane	0.50	N.D.
n-Butylbenzene	0.50	N.D.
sec-Butylbenzene	0.50	N.D.
tert-Butylbenzene	0.50	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	0.50	N.D.
Chloroform	0.14	N.D.
Chloromethane	0.60	N.D.
2-Chlorotoluene	0.50	N.D.
4-Chlorotoluene	0.50	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dibromo-3-chloropropane	0.39	N.D.
1,2-Dibromoethane	0.38	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Dichlorodifluoromethane	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
1,3-Dichloropropane	0.50	N.D.
2,2-Dichloropropane	0.50	N.D.
Di-Isopropyl-Ether	5.0	N.D.
Ethyl Benzene	0.50	N.D.
Hexachlorobutadiene	5.0	N.D.
Isopropylbenzene	0.50	N.D.
p-Isopropyltoluene	0.50	N.D.
Methylene chloride	0.53	N.D.
Methyl-tert-Butylether	0.20	N.D.

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W66 N215 Commerce Ct	Sample Descript:	Water: Field Blank	Received:	Jan 2, 1998
Cedarburg, WI 53012	Analysis Method:	EPA 5030/8021		
Attention: Curt Hoffart	Lab Number:	801-0115	Analyzed:	Jan 7, 1998
			Reported:	Jan 9, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	8.0	N.D.
n-Propylbenzene	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.35	N.D.
Tetrachloroethene	0.50	N.D.
Toluene	0.50	0.65
1,2,3-Trichlorobenzene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.16	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
1,2,4-Trimethylbenzene	1.0	N.D.
1,3,5-Trimethylbenzene	1.0	N.D.
Vinyl chloride	0.17	N.D.
Total Xylenes	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

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Key Environmental Services, Inc.	Client Project ID:	Former Key Products, 0712007RI	Sampled:	Dec 31, 1997
W66 N215 Commerce Ct	Sample Descript:	Water: Trip Blank	Received:	Jan 2, 1998
Cedarburg, WI 53012	Analysis Method:	EPA 5030/8021		
Attention: Curt Hoffart	Lab Number:	801-0116	Analyzed:	Jan 7, 1998
			Reported:	Jan 9, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Bromobenzene	0.50	N.D.
Bromodichloromethane	0.50	N.D.
n-Butylbenzene	0.50	N.D.
sec-Butylbenzene	0.50	N.D.
tert-Butylbenzene	0.50	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	0.50	N.D.
Chloroform	0.14	N.D.
Chloromethane	0.60	N.D.
2-Chlorotoluene	0.50	N.D.
4-Chlorotoluene	0.50	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dibromo-3-chloropropane	0.39	N.D.
1,2-Dibromoethane	0.38	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Dichlorodifluoromethane	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
1,3-Dichloropropane	0.50	N.D.
2,2-Dichloropropane	0.50	N.D.
DI-Isopropyl-Ether	5.0	N.D.
Ethyl Benzene	0.50	N.D.
Hexachlorobutadiene	5.0	N.D.
Isopropylbenzene	0.50	N.D.
p-Isopropyltoluene	0.50	N.D.
Methylene chloride	0.53	N.D.
Methyl-tert-Butylether	0.20	N.D.

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VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	8.0	N.D.
n-Propylbenzene	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.35	N.D.
Tetrachloroethene	0.50	N.D.
Toluene	0.50	N.D.
1,2,3-Trichlorobenzene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.16	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
1,2,4-Trimethylbenzene	1.0	N.D.
1,3,5-Trimethylbenzene	1.0	N.D.
Vinyl chloride	0.17	N.D.
Total Xylenes	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley
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8010114.KEY <6>