



THE MEMPHIS DEPOT TENNESSEE

ADMINISTRATIVE RECORD COVER SHEET

AR File Number 217



DEFENSE LOGISTICS AGENCY
 DEFENSE DISTRIBUTION DEPOT MEMPHIS
 2163 AIRWAYS BOULEVARD
 MEMPHIS, TENNESSEE 38114-5210

File: 541.460.17
 C.G. 217



IN REPLY
 REFER TO

DDMT-DE

MAR 4 1997

Mr. Akil AL-Chokhachi
 City of Memphis
 Division of Public Works
 2303 North Second Street
 Memphis, Tennessee 38127-7500

Dear Mr. Al-Chokhachi:

Defense Distribution Depot Memphis, Tennessee (DDMT), is submitting for your review the groundwater contaminant concentrations that you asked about during a telephone conference with Mr. Shawn Phillips of my office on February 24, 1997.

DDMT would like to meet with you on March 14, 1997 to discuss the project. The design contractor, CH2M Hill, will be at this meeting to answer all your questions concerning the treatment process for our proposed groundwater remedial system. Please let Mr. Phillips know if this date is agreeable to you. Mr. Phillips will contact you this week about an exact meeting time.

We have forwarded a copy of this data to Mr. Dann Spariosu, U.S. Environmental Protection Agency Region IV, and Mr. Jordan English, Tennessee Department Environment and Conservation, who are our oversight regulatory authorities.

Please contact Mr. Phillips at 775-6372 if you have any other questions.

Sincerely,

G.L. Kaden
 G.L. KADEN, R.E.M.

Chief
 Environmental Protection and Safety Office

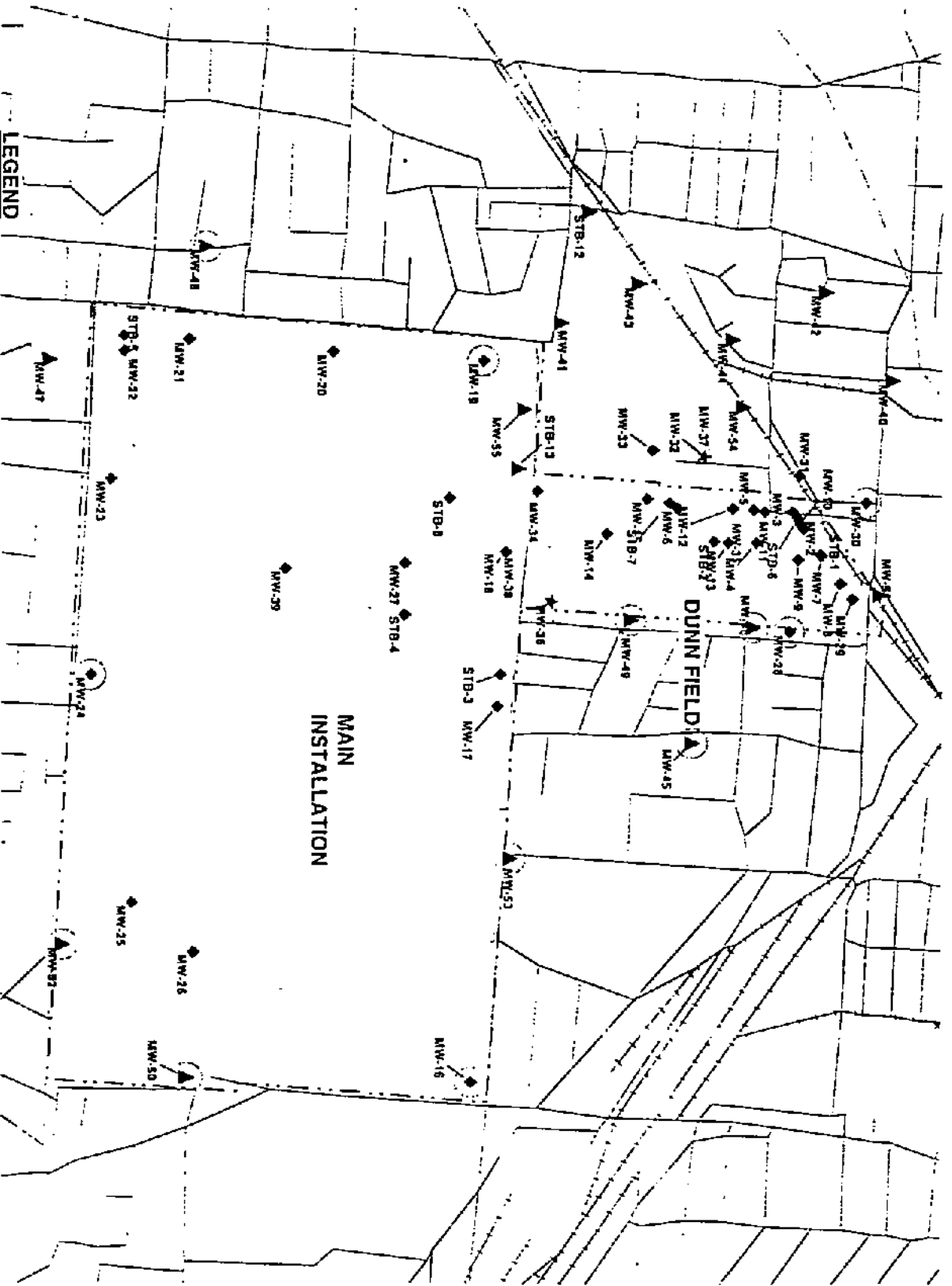
Enclosure

cc (w/out encl):

CEHNC, Julian Savage
 CH2M Hill, Greg Underberg
 DDRE-ASCE-WP, Mike Dobbs

N
SCALE:
1 in = 1/4 mi

- LEGEND**
- ▲ ALLUVIAL AQUIFER WELL/BOREHOLE (INSTALLED 1996)
 - ◆ PREVIOUS INSTALLED WELL/BOREHOLE
 - ✦ MEMPHIS SAND WELL
 - BACKGROUND WELL



GROUNDWATER MONITORING WELL LOCATIONS

DEFENSE DEPOT, MEMPHIS TENNESSEE



DDMT GROUNDWATER RECOVERY SYSTEM
ANALYTICAL DATA I M RECOVERY WELLS
Sampled in February, 1996.

Page 1 of 12

PARAMETER	UNITS	MMW02	MMW03	MMW04	MMW05	MMW06	MMW07	MMW08	MMW09	MMW10	MMW11	MMW12
Inorganic												
ARSENIC	UG/L	.68 U	.68 U	.68 U	.68 U	.68 U	1.2 J	.68 U	.68 U	.81 U	.68 U	1.4 U
LEAD	UG/L	9.9 =	1.8 J	9.4 =	1.4 U	5.2 =	1.4 U	6.7 =	18.4 =	3.5 =	1.4 U	24.4 =
SELENIUM	UG/L	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	6.9 U
THALLIUM	UG/L	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U
ALUMINUM	UG/L	601 J	718 J	252 J	127 U	1120 J	679 J	3610 J	5210 J	730 =	115 U	20500 =
ANTIMONY	UG/L	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U
BARIUM	UG/L	3.7 J	.19 U	1.1 U	.15 U	.25 U	.67 J	.39 U	.96 U	.15 U	.15 U	2.9 J
BERYLLIUM	UG/L	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
CADMIUM	UG/L	2.2 U	9.9 J	2.2 U	2.2 U	21.9 =	7.4 U	26.4 =	12.4 U	10.8 =	2.2 U	63 =
CALCIUM	UG/L	32.5 =	2 U	2.8 J	2 U	2 U	2.2 U	2 U	33.9 =	14.2 U	2 U	105 =
CHROMIUM, TOTAL	UG/L	3810 J			160 U	4250 =	3270 J	12600 J		1450 =		
COBALT	UG/L				10400 =		8300 =			10300 =		
COPPER	UG/L	7.7 U	10.4 J	7.7 U	6.3 U	23.2 =	23.2 =		20.5 =			
IRON	UG/L				7.7 U	25.3 J	10.3 U	16 J	7.7 U	8.7 J	7.7 U	46 =
MAGNESIUM	UG/L				1110 J		767 U			767 U		
MANGANESE	UG/L				2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
NICKEL	UG/L	2.2 U	2.2 U	2.2 U	48300 J		21700 J			25600 J		
POTASSIUM	UG/L	53.1 U	18 U	10.8 U	2 U	2 U	29 J			1.7 J		
SILICON	UG/L	84 =	07 U	07 U	4.3 U	21.6 U	18.1 U	19.3 U	38.8 U	23.6 U	5.6 U	132 =
SILVER	UG/L				12 U	33 U	07 U	07 U	09 U	07 U	07 U	17 J
SODIUM	UG/L											
VANADIUM	UG/L											
ZINC	UG/L											
MERCURY	UG/L											
Pesticides/PCBs												
ALDRIN	UG/L				.05 U		.05 U			.05 U		
ALPHA BHC (ALPHA)	UG/L				.05 U		.05 U			.05 U		
ALPHA ENDOSULFAN	UG/L				.05 U		.05 U			.05 U		
ALPHA-CHLORDANE	UG/L				.05 U		.05 U			.05 U		
BETA BHC (BETA HEXACHLORO CYCLOHEXANE)	UG/L				.05 U		.05 U			.05 U		
BETA ENDOSULFAN	UG/L				1 U		1 U			1 U		
DICACHLOROBIPHENYL	UG/L				77 =		110 =			97 =		
DELTA BHC (DELTA)	UG/L				.05 U		.05 U			.05 U		
DELDRIIN	UG/L				1 U		1 U			1 U		
ENDOSULFAN SULFATE	UG/L				1 U		1 U			1 U		
ENDRIIN	UG/L				1 U		1 U			1 U		
ENDRIIN ALDEHYDE	UG/L				1 U		1 U			1 U		
ENDRIIN KETONE	UG/L				1 U		1 U			1 U		
GAMMA BHC (LINDANE)	UG/L				.05 U		.05 U			.05 U		
GAMMA-CHLORDANE	UG/L				.05 U		.05 U			.05 U		
HEPTACHLOR	UG/L				.05 U		.05 U			.05 U		

U = undetected, UJ = undetected (estimated detection limit), J = estimated below detection limit, "=" = detected value

DDMT GROUNDWATER RECOVERY SYSTEM
ANALYTICAL DATA F M RECOVERY WELLS
Sampled in February, 1996.

Page 2 of 12

PARAMETER	MW13	MW14	MW15	MW28	MW29	MW30	MW31	MW32	MW33	MW35	MW45	MW46
Inorganic												
ARSENIC	.68 U	.9 J	.68 U	.68 U	.68 U	.68 U	.81 J	.68 U	.68 U	.68 U	.68 U	.68 U
LEAD	2.3 J	19.3 =	2.6 J	1.4 U	1.4 U	1.4 U	1.4 U	1.5 J	2.3 U	8.4 =	2.3 U	2.3 U
SELENIUM	2.3 U	2.3 U	2.3 U	4.6 U	2.3 U	2.3 U	2.3 U	2.3 U	6.9 U	2.3 U	2.3 U	2.3 U
THALLIUM	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U	.86 U
ALUMINUM	1270 J	22600 J	210 J	287 J	768 J	166 U	47.6 U	213 U	73.4 U	13850 =	586 J	103 U
ANTIMONY	10.9 U	10.9 U	10.9 U	19.7 U	10.9 U	11.8 U	10.9 U	16.1 U	10.9 U	10.9 U	17.2 J	10.9 U
BARIUM		312 =	70.5 J	47.6 J		116 J		53.3 J	124 J	127 J	99.3 J	
BERYLLIUM	.18 U	2.9 J	.53 J	.21 J	.15 U	.15 U	.15 U	.15 U	.15 U	.15 U	.15 U	.15 U
CADMIUM	.18 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
CALCIUM		16900 =	14300 =	14000 =	22900 =	22900 =	57400 =	8910 =	13100 =	34700 =	117400 =	
CHROMIUM, TOTAL	12.5 U	42.6 =	2.2 U	2.2 U	4 U	2.2 U	2.2 U	2.2 U	2.2 U	23.4 =	4.9 U	4.6 U
COBALT		61.9 =	4 U	6.1 U	1.8 U	1.8 U	2 U	3 U	1.7 U	11.7 J	9.5 J	8.5 U
COPPER	3.2 U	36 =	75 =	4.4 J	2 U	2 U	2 U	2 U	2 U	5.8 U	3.8 J	2 U
IRON	5370 =	96100 J	271 U	598 J	340 U	12000 =	329 U	147 U	16200 =	19500 =	12280 J	648 =
MAGNESIUM		8970 =	6280 =	6470 =				13300 =	4750 J	6700 =	19500 =	8660 =
MANGANESE		1400 =	52.2 =	75.6 =	3.2 U	3.2 U	5.2 U	5.2 U	142 =	326 =	7.7 U	228 =
NICKEL	12.6 U	25.3 J	7.7 U	7.7 U	7.7 U	7.7 U	8.6 J	7.7 U	13 J	7.7 U	7.7 U	7.7 U
POTASSIUM		2470 J	1900 J	767 U	767 U	767 U	1280 J	767 U	1170 J	849 J	858 J	
SILICON							19500 =					
SILVER	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
SODIUM		16200 =	11600 U	15000 U		17000 U	19900 J	24100 U	17600 J	20300 U	27400 U	
VANADIUM		101 =	8.2 J	5.1 J		1.6 U	1.6 U	1.6 U	12 J	14.8 J	1.6 U	
ZINC	19.8 U	100 =	232 U	178 U	13.5 U	12.9 U	4.4 U	13.5 U	9.8 U	29.6 U	12.2 U	54.9 U
MERCURY	.07 U	.46 U	.37 U	.14 U	.07 U	.07 U	.07 U	.07 U	.07 U	.07 U	.07 U	.07 U
Pesticides/PCBs												
ALDRIN		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
ALPHA BHC (ALPHA)		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
ALPHA ENDOSULFAN		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
ALPHA-CHLORDANE		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
BETA ENDOSULFAN		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
DECACHLOROBIPHENYL		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
DELTA BHC (DELTA)		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
DIELDRIN		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
ENDOSULFAN SULFATE		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
ENDRIN		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
ENDRIN ALDEHYDE		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
ENDRIN KETONE		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
GAMMA BHC (LINDANE)		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
GAMMA-CHLORDANE		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
HEPTACHLOR		.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U

U = undetected, UJ = undetected (estimated detection limit), J = estimated below detection limit, "=" = detected value

DDMT GROUNDWATER RECOVERY SYSTEM ANALYTICAL DATA - M RECOVERY WELLS

Sampled in February, 1996.

PARAMETER	MMW49A	MMW51A	MMW54A
ARSENIC	.68 U	.68 U	11 U
LEAD	2.6 J	2.3 U	1.4 U
SELENIUM	2.3 U	2.3 U	2.3 U
THALLIUM	86 U	86 U	86 U
ALUMINUM	86.2 U	153 U	173 U
ANTIMONY	10.9 U	10.9 U	10.9 U
BARIUM	96.4 J	86.4 J	106 J
BERYLLIUM	15 U	15 U	15 U
CADMIUM	1.8 U	1.8 U	1.8 U
CALCIUM	16500 =	21600 =	14900 =
CHROMIUM, TOTAL	3 U	2.2 U	2.2 U
COBALT	1.5 U	6.9 U	3.9 J
COPPER	2 U	2 U	2.7 U
IRON	328 U	322 U	4660 =
MAGNESIUM	8140 =	10500 =	7440 =
MANGANESE	57.6 =	112 =	445 =
NICKEL	7.7 U	7.7 U	7.7 U
POTASSIUM	1260 J	946 J	767 U
SILICON	2.2 U	2.2 U	2.2 U
SILVER	14600 U	19100 U	18400 J
SODIUM	1.6 U	1.6 U	1.6 U
VANADIUM	15 U	15.2 U	7 U
ZINC	.07 U	.07 U	.07 U
MERCURY	.05 U	.05 U	.05 U
ALDRIN	.05 U	.05 U	.05 U
ALPHA BHC (ALPHA)	.05 U	.05 U	.05 U
ALPHA ENDOSULFAN	.05 U	.05 U	.05 U
ALPHA-CHLORDANE	.05 U	.05 U	.05 U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	.05 U	.05 U	.05 U
BETA ENDOSULFAN	1 U	1 U	1 U
DECACHLOROBIPHENYL	86 =	100 =	104 =
DELTA BHC (DELTA)	.05 U	.05 U	.05 U
DIELDRIN	1 U	1 U	1 U
ENDOSULFAN SULFATE	1 U	1 U	1 U
ENDRIN	1 U	1 U	1 U
ENDRIN ALDEHYDE	1 U	1 U	1 U
ENDRIN KETONE	1 U	1 U	1 U
GAMMA BHC (LINDANE)	.05 U	.05 U	.05 U
GAMMA-CHLORDANE	.05 U	.05 U	.05 U
HEPTACHLOR	.05 U	.05 U	.05 U

U = undetected, UJ = undetected (estimated detection limit), J = estimated below detection limit, "=" = detected value

DDMT GROUNDWATER RECOVERY SYSTEM
ANALYTICAL DATA 1 M RECOVERY WELLS
Sampled in February, 1996.

217

6

PEST/PCB (CONT'D)

PARAMETER	UNITS	MMW02R	MMW03R	MMW04R	MMW05R	MMW06R	MMW07R	MMW08R	MMW09R	MMW10	MMW11	MMW12
HEPACHLOR EPOXIDE	UG/L				.05 U					.05 U		
MEHOXYCHLOR	UG/L				.5 U					.5 U		
p,p'-DDD	UG/L				1 U					1 U		
p,p'-DDE	UG/L				1 U					1 U		
p,p'-DDT	UG/L				1 U					1 U		
PCB-1016 (AROCHLOR 1016)	UG/L				1 U					1 U		
PCB-1221 (AROCHLOR 1221)	UG/L				2 U					2 U		
PCB-1232 (AROCHLOR 1232)	UG/L				1 U					1 U		
PCB-1242 (AROCHLOR 1242)	UG/L				1 U					1 U		
PCB-1248 (AROCHLOR 1248)	UG/L				1 U					1 U		
PCB-1254 (AROCHLOR 1254)	UG/L				1 U					1 U		
PCB-1260 (AROCHLOR 1260)	UG/L				1 U					1 U		
TOXAPHENE	UG/L				5 U					5 U		
Semi-volatile Organic Compounds												
1,2,4-TRICHLORO BENZENE	UG/L				10 U					10 U		
1,2-DICHLORO BENZENE	UG/L				10 U					10 U		
1,3-DICHLORO BENZENE	UG/L				10 U					10 U		
1,4-DICHLORO BENZENE	UG/L				10 U					10 U		
2,2-OXYBIS(1-CHLORO)PROPANE	UG/L				10 U					10 U		
2,4,5-TRICHLORO PHENOL	UG/L				25 U					25 U		
2,4,6-TRIBROMOPHENOL	UG/L				86 =					74 =		
2,4,6-TRICHLORO PHENOL	UG/L				10 U					10 U		
2,4-DICHLORO PHENOL	UG/L				10 U					10 U		
2,4-DIMETHYL PHENOL	UG/L				10 U					10 U		
2,4-DINITRO PHENOL	UG/L				25 U					25 U		
2,6-DINITRO TOLUENE	UG/L				10 U					10 U		
2,6-DINITRO TOLUENE	UG/L				10 U					10 U		
2-CHLORONAPHTHALENE	UG/L				10 U					10 U		
2-CHLOROPHENOL	UG/L				10 U					10 U		
2-METHYLNAPHTHALENE	UG/L				10 U					10 U		
2-METHYLPHENOL (o-CRESOL)	UG/L				10 U					10 U		
2-NITROANILINE	UG/L				25 U					25 U		
2-NITROPHENOL	UG/L				10 U					10 U		
3,3-DICHLORO BENZIDINE	UG/L				10 U					10 U		
3-NITROANILINE	UG/L				10 U					10 U		
4,6-DINITRO-2-METHYLPHENOL	UG/L				25 U					25 U		
4-BROMOPHENYL PHENYL ETHER	UG/L				25 U					25 U		
4-CHLORO-3-METHYLPHENOL	UG/L				10 U					10 U		
4-CHLOROANILINE	UG/L				10 U					10 U		
4-CHLOROPHENYL PHENYL ETHER	UG/L				10 U					10 U		
4-METHYLPHENOL (p-CRESOL)	UG/L				10 U					10 U		
4-NITROANILINE	UG/L				25 U					25 U		

U = undetected, U = undetected (estimated detection limit), J = estimated below detection limit, "=" = detected value

Sampled in February, 1996.

PARAMETER		MW13	MW14	MW15	MW28	MW29	MW30	MW31	MW32	MW33	MW35	MW45	MW46
HEPACHLOR EPOXIDE		05 U		05 U		05 U					05 U	05 U	05 U
MEIHOXYCHLOR		5 U		5 U		5 U					5 U	5 U	5 U
p,p'-DDD		1 U		1 U		1 U					1 U	1 U	1 U
p,p'-DDE		1 U		1 U		1 U					1 U	1 U	1 U
p,p'-DDT		1 U		1 U		1 U					1 U	1 U	1 U
PCB-1016 (AROCHELOR 1016)		1 U		1 U		1 U					1 U	1 U	1 U
PCB-1221 (AROCHELOR 1221)		2 U		2 U		2 U					2 U	2 U	2 U
PCB-1232 (AROCHELOR 1232)		1 U		1 U		1 U					1 U	1 U	1 U
PCB-1242 (AROCHELOR 1242)		1 U		1 U		1 U					1 U	1 U	1 U
PCB-1248 (AROCHELOR 1248)		1 U		1 U		1 U					1 U	1 U	1 U
PCB-1254 (AROCHELOR 1254)		1 U		1 U		1 U					1 U	1 U	1 U
PCB-1260 (AROCHELOR 1260)		1 U		1 U		1 U					1 U	1 U	1 U
TOXAPHENE		5 U		5 U		5 U					5 U	5 U	5 U
Semi-volatile Organic Compounds													
1,2,4-TRICHLORO BENZENE		10 U		10 U		10 U					10 U	10 U	10 U
1,2-DICHLORO BENZENE		10 U		10 U		10 U					10 U	10 U	10 U
1,3-DICHLORO BENZENE		10 U		10 U		10 U					10 U	10 U	10 U
1,4-DICHLORO BENZENE		10 U		10 U		10 U					10 U	10 U	10 U
2,2'-OXYBIS(1-CHLORO)PROPANE		10 U		10 U		10 U					10 U	10 U	10 U
2,4,5-TRICHLORO PHENOL		25 U		25 U		25 U					25 U	25 U	25 U
2,4,6-TRIBROMO PHENOL		90 =		69 =		72 =		75 =		102 =		86 =	82 =
2,4,6-TRICHLORO PHENOL		10 U		10 U		10 U		10 U		10 U		10 U	10 U
2,4-DICHLORO PHENOL		10 U		10 U		10 U		10 U		10 U		10 U	10 U
2,4-DIMETHYL PHENOL		10 U		10 U		10 U		10 U		10 U		10 U	10 U
2,4-DINITRO PHENOL		25 U		25 U		25 U		25 U		25 U		25 U	25 U
2,4-DINITRO TOLUENE		10 U		10 U		10 U		10 U		10 U		10 U	10 U
2,6-DINITRO TOLUENE		10 U		10 U		10 U		10 U		10 U		10 U	10 U
2-CHLORO NAPHTHALENE		10 U		10 U		10 U		10 U		10 U		10 U	10 U
2-CHLORO PHENOL		10 U		10 U		10 U		10 U		10 U		10 U	10 U
2-METHYL NAPHTHALENE		10 U		10 U		10 U		10 U		10 U		10 U	10 U
2-METHYL PHENOL (o-CRESOL)		10 U		10 U		10 U		10 U		10 U		10 U	10 U
2-NITRO ANILINE		25 U		25 U		25 U		25 U		25 U		25 U	25 U
2-NITRO PHENOL		10 U		10 U		10 U		10 U		10 U		10 U	10 U
3,3'-DICHLORO BENZIDINE		10 U		10 U		10 U		10 U		10 U		10 U	10 U
3-NITRO ANILINE		25 U		25 U		25 U		25 U		25 U		25 U	25 U
4,6-DINITRO-2-METHYL PHENOL		25 U		25 U		25 U		25 U		25 U		25 U	25 U
4-BROMO PHENYL PHENYL ETHER		10 U		10 U		10 U		10 U		10 U		10 U	10 U
4-CHLORO-3-METHYL PHENOL		10 U		10 U		10 U		10 U		10 U		10 U	10 U
4-CHLORO ANILINE		10 U		10 U		10 U		10 U		10 U		10 U	10 U
4-CHLORO PHENYL PHENYL ETHER		10 U		10 U		10 U		10 U		10 U		10 U	10 U
4-METHYL PHENOL (p-CRESOL)		10 U		10 U		10 U		10 U		10 U		10 U	10 U
4-NITRO ANILINE		25 U		25 U		25 U		25 U		25 U		25 U	25 U

U = undetected, UJ = undetected (estimated detection limit), J = estimated below detection limit, "=" = detected value

DDMT GROUNDWATER RECOVERY SYSTEM
ANALYTICAL DATA F M RECOVERY WELLS
Sampled in February, 1996.

217 8 PESTICIDES/PCB (CONT'D)

PARAMETER	MW49	MW51	MW54
HEPTACHLOR EPOXIDE	05 U	05 U	05 U
METHOXYCHLOR	5 U	5 U	5 U
p,p'-DDD	1 U	1 U	1 U
p,p'-DDE	1 U	1 U	1 U
p,p'-DDT	1 U	1 U	1 U
PCB-1016 (AROCHEOR 1016)	1 U	1 U	1 U
PCB-1221 (AROCHEOR 1221)	2 U	2 U	2 U
PCB-1232 (AROCHEOR 1232)	1 U	1 U	1 U
PCB-1242 (AROCHEOR 1242)	1 U	1 U	1 U
PCB-1248 (AROCHEOR 1248)	1 U	1 U	1 U
PCB-1254 (AROCHEOR 1254)	1 U	1 U	1 U
PCB-1260 (AROCHEOR 1260)	1 U	1 U	1 U
IOXAPHENE	5 U	5 U	5 U
14-17 Semivolatile Organic Compounds			
1,2,4-TRICHLOROBENZENE	10 U	10 U	10 U
1,2-DICHLOROBENZENE	10 U	10 U	10 U
1,3-DICHLOROBENZENE	10 U	10 U	10 U
1,4-DICHLOROBENZENE	10 U	10 U	10 U
2,2'-OXYBIS(1-CHLORO)PROPANE	10 U	10 U	10 U
2,4,5-TRICHLOROPHENOL	25 U	25 U	25 U
2,4,6-TRIBROMOPHENOL	52 =	52 =	75 =
2,4,6-TRICHLOROPHENOL	10 U	10 U	10 U
2,4-DICHLOROPHENOL	10 U	10 U	10 U
2,4-DIMETHYLPHENOL	10 U	10 U	10 U
2,4-DINITROPHENOL	25 U	25 U	25 U
2,6-DINITROTOLENE	10 U	10 U	10 U
2,6-DINITROTOLENE	10 U	10 U	10 U
2-CHLORONAPHTHALENE	10 U	10 U	10 U
2-CHLOROPHENOL	10 U	10 U	10 U
2-METHYLNAPHTHALENE	10 U	10 U	10 U
2-METHYLPHENOL (o-CRESOL)	10 U	10 U	10 U
2-NITROANILINE	25 U	25 U	25 U
2-NITROPHENOL	10 U	10 U	10 U
3,3-DICHLOROBENZIDINE	10 U	10 U	10 U
3-NITROANILINE	25 U	25 U	25 U
4,6-DINITRO-2-METHYLPHENOL	25 U	25 U	25 U
4-BROMOPHENYL PHENYL ETHER	10 U	10 U	10 U
4-CHLORO-3-METHYLPHENOL	10 U	10 U	10 U
4-CHLOROANILINE	10 U	10 U	10 U
4-CHLOROPHENYL PHENYL ETHER	10 U	10 U	10 U
4-METHYLPHENOL (p-CRESOL)	10 U	10 U	10 U
4-NITROANILINE	25 U	25 U	25 U

U = undetected, UJ = undetected (estimated detection limit), J = estimated below detection limit, "=" = detected value

DDMT GROUNDWATER RECOVERY SYSTEM
ANALYTICAL DATA F. M RECOVERY WELLS
Sampled in February, 1996.

Page 7 of 12

PARAMETER	UNITS	MW02	MW03	MW04	MW05	MW06	MW07	MW08	MW09	MW10	MW11	MW12
4-NITROPHENOL	UG/L				25 U	25 U	25 U			25 U		
ACENAPHTHENE	UG/L				10 U	10 U	10 U			10 U		
ACENAPHTHYLENE	UG/L				10 U	10 U	10 U			10 U		
ANTHRACENE	UG/L				10 U	10 U	10 U			10 U		
BENZO(a)ANTHRACENE	UG/L				10 U	10 U	10 U			10 U		
BENZO(b)PYRENE	UG/L				10 U	10 U	10 U			10 U		
BENZO(a,h)PERYLENE	UG/L				10 U	10 U	10 U			10 U		
BENZOK(f)FLUORANTHENE	UG/L				10 U	10 U	10 U			10 U		
BENZYL BUTYL PHTHALATE	UG/L				10 U	10 U	10 U			10 U		
BIS(2-CHLOROETHOXY) METHANE	UG/L				10 U	10 U	10 U			10 U		
BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL	UG/L				10 U	10 U	10 U			10 U		
BIS(2-ETHYLEXYL) PHTHALATE	UG/L				10 U	10 U	10 U			10 U		
CARBAZOLE	UG/L				10 U	10 U	10 U			10 U		
CHRYSENE	UG/L				10 U	10 U	10 U			10 U		
DI-n-BUTYL PHTHALATE	UG/L				10 U	10 U	10 U			10 U		
DI-n-OCYLPHTHALATE	UG/L				10 U	10 U	10 U			10 U		
DIBENZ(a,h)ANTHRACENE	UG/L				10 U	10 U	10 U			10 U		
DIBENZOFURAN	UG/L				10 U	10 U	10 U			10 U		
DIETHYL PHTHALATE	UG/L				10 U	10 U	10 U			10 U		
DIMETHYL PHTHALATE	UG/L				10 U	10 U	10 U			10 U		
FLUORANTHENE	UG/L				10 U	10 U	10 U			10 U		
FLUORENE	UG/L				10 U	10 U	10 U			10 U		
HEXACHLOROBENZENE	UG/L				10 U	10 U	10 U			10 U		
HEXACHLOROCYCLOPENTADIENE	UG/L				10 U	10 U	10 U			10 U		
HEXACHLOROCYCLOPENTADIENE	UG/L				10 U	10 U	10 U			10 U		
HEXACHLOROCYCLOPENTADIENE	UG/L				10 U	10 U	10 U			10 U		
INDENO(1,2,3-c,d)PYRENE	UG/L				10 U	10 U	10 U			10 U		
ISOPHORONE	UG/L				10 U	10 U	10 U			10 U		
N-NITROSODI-n-PROPYLAMINE	UG/L				10 U	10 U	10 U			10 U		
N-NITROSODIPHENYLAMINE	UG/L				10 U	10 U	10 U			10 U		
NAPHTHALENE	UG/L				10 U	10 U	10 U			10 U		
NITROBENZENE	UG/L				10 U	10 U	10 U			10 U		
PENTACHLOROPHENOL	UG/L				5 U	5 U	5 U			5 U		
PHENANTHRENE	UG/L				10 U	10 U	10 U			10 U		
PHENOL	UG/L				10 U	10 U	10 U			10 U		
PYRENE	UG/L				10 U	10 U	10 U			10 U		
1,1,1-TRICHLOROETHANE	UG/L	10 U	10 U	10 U	10 U	10 U	2 J	2 J	10 U	3 J	10 U	50 U
1,1,2,2-TETRACHLOROETHANE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	12 =	4 J	130 =
1,1,2-TRICHLOROETHANE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
1,1-DICHLOROETHANE	UG/L	10 U	10 U	10 U	10 U	10 U	2 J	2 J	10 U	2 J	10 U	50 U

U = undetected, UJ = undetected (estimated detection limit), J = estimated below detection limit, "=" = detected value

SEMI-VOLATILES (CONT'D)

217

6

U = undetected, UJ = undetected (estimated below detection limit), J = estimated below detection limit, "—" = detected value

217 11

SEMI-VOLATILES (CONT'D)

PARAMETER	MW49	MW51	MW54
4-NITROPHENOL	25 U	25 U	25 U
ACENAPHTHENE	10 U	10 U	10 U
ACENAPHTHYLENE	10 U	10 U	10 U
ANTHRACENE	10 U	10 U	10 U
BENZO(a)ANTHRACENE	10 U	10 U	10 U
BENZO(b)PYRENE	10 U	10 U	10 U
BENZO(b)FLUORANTHENE	10 U	10 U	10 U
BENZO(g,h,i)PERYLENE	10 U	10 U	10 U
BENZO(k)FLUORANTHENE	10 U	10 U	10 U
BENZYL BUTYL PHTHALATE	10 U	10 U	10 U
bis(2-CHLOROETHOXY) METHANE	10 U	10 U	10 U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL	10 U	10 U	10 U
bis(2-ETHYLHEXYL) PHTHALATE	10 U	10 U	10 U
CARBAZOLE	10 U	10 U	10 U
CHRYSENE	10 U	10 U	10 U
Di-n-BUTYL PHTHALATE	10 U	10 U	10 U
Di-n-OCTYLPHTHALATE	10 U	10 U	10 U
DIBENZO(a,h)ANTHRACENE	10 U	10 U	5 U
DIBENZOFURAN	10 U	10 U	10 U
DIETHYL PHTHALATE	10 U	10 U	10 U
DIMETHYL PHTHALATE	10 U	10 U	10 U
FLUORANTHENE	10 U	10 U	10 U
FLUORENE	10 U	10 U	10 U
HEXACHLOROBENZENE	10 U	10 U	10 U
HEXACHLOROBUTADIENE	10 U	10 U	10 U
HEXACHLOROCYCLOPENTADIENE	10 U	10 U	10 U
HEXACHLOROETHANE	10 U	10 U	10 U
INDENO(1,2,3-c,d)PYRENE	10 U	10 U	10 U
ISOPHORONE	10 U	10 U	10 U
N-NITROSODI-n-PROPYLAMINE	10 U	10 U	10 U
N-NITROSODIPHENYLAMINE	10 U	10 U	10 U
NAPHTHALENE	10 U	10 U	10 U
NITROBENZENE	10 U	10 U	10 U
PENTACHLOROPHENOL	5 U	5 U	5 U
PHENANTHRENE	10 U	10 U	10 U
PHENOL	10 U	10 U	10 U
PYRENE	10 U	10 U	10 U
1,1,1-TRICHLOROETHANE	10 U	10 U	10 U
1,1,2,2-TETRACHLOROETHANE	10 U	10 U	10 U
1,1,2-TRICHLOROETHANE	10 U	10 U	10 U
1,1-DICHLOROETHANE	10 U	10 U	10 U

U = undetected, UJ = undetected (estimated detection limit), J = estimated below detection limit, * = detected value

DDMT GROUNDWATER RECOVERY SYSTEM
ANALYTICAL DATA: M RECOVERY WELLS
Sampled in February, 1996.

PARAMETER	UNITS	MW02	MW03	MW04	MW05	MW06	MW07	MW08	MW09	MW10	MW11	MW12
1,1-DICHLOROETHENE	UG/L	7 J	14 =	10 U	10 U	10 U	10 U	10 U	1 J	48 =	10 U	50 U
1,2-DICHLOROETHANE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 J	10 U	10 U	50 U
1,2-DICHLOROPROPANE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
2-HEXANONE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
ACETONE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
BENZENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
BROMODICHLOROMETHANE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
BROMOFORM	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
BROMOMETHANE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
CARBON DISULFIDE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
CARBON TETRACHLORIDE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
CHLOROBENZENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
CHLOROETHANE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
CHLOROFORM	UG/L	8 J	7 J	10 U	5 J	10 =	8 J	10 U	2 J	14 =	2 J	50 U
CHLOROMETHANE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
cis-1,3-DICHLOROPROPENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
DIBROMOCHLOROMETHANE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
ETHYLBENZENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
METHYL ETHYL KETONE (2-BUTANONE)	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
METHYLENE CHLORIDE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
STYRENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
TETRACHLOROETHYLENE (PCE)	UG/L	22 =	24 =	12 =	96 =	10 U	10 U	10 U	10 U	10 U	10 U	12 J
TOLUENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
total xylenes	UG/L	10 =	2 J	10 U	2 J	200 =	10 U	10 U	10 U	10 U	10 U	55 =
trans-1,3-DICHLOROPROPENE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
TRICHLOROETHYLENE (TCE)	UG/L	26 =	13 =	10 U	14 =	130 =	26 =	14 =	2 J	280 R	46 =	650 =
VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Other Parameters												
CHLORIDE (AS CL)	MG/L	16.2 =			224 =		118.3 =					
FLUORIDE	MG/L		2 U			2 U						
NITROGEN, AMMONIA (AS N)	MG/L											
NITROGEN, NITRATE (AS N)	MG/L		3.07 =			4.01 =			2.25 =			
NITROGEN, NITRATE-NITRITE	MG/L											
SULFATE (AS SO4)	MG/L		45.9 =		11.2 =				44 =			

U = undetected, UU = undetected (estimated detection limit), J = estimated below detection limit, "=" = detected value

VOC's (CONT'D)

217 12

DDMT GROUNDWATER RECOVERY SYSTEM
ANALYTICAL DATA FROM RECOVERY WELLS
Sampled in February, 1996.

PARAMETER	MW13	MW14	MW15	MW28	MW29	MW30	MW31	MW32	MW33	MW35	MW45	MW46
1,1-DICHLOROETHYLENE	10U	10U	10U	10U	10U	27U	10U	10U	10U	200U	2U	10U
1,2-DICHLOROETHYLENE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
1,2-DICHLOROPROPANE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
2-HEXANONE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
ACETONE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
BENZENE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
BROMODICHLOROMETHANE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
BROMOFORM	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
BROMOMETHANE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
CARBON DISULFIDE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
CARBON TETRACHLORIDE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
CHLOROBENZENE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
CHLOROETHANE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
CHLOROFORM	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
CHLOROMETHANE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
cis-1,3-DICHLOROPROPENE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
DIBROMOCHLOROMETHANE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
ETHYLBENZENE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
METHYL ETHYL KETONE (2-BUTANONE)	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
METHYL ISOBUTYL KETONE (4-METHYL-2-METHYLENE CHLORIDE)	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
STYRENE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
TETRACHLOROETHYLENE (PCE)	5J	10U	10U	10U	10U	32U	10U	10U	10U	200U	10U	10U
TOLUENE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
TOTAL 1,2-DICHLOROETHYLENE	10U	10U	10U	10U	10U	10U	760U	87U	10U	160U	10U	10U
Tolci Xylenes	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
trans-1,3-DICHLOROPROPENE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
TRICHLOROETHYLENE (TCE)	2J	10U	10U	10U	10U	13U	1000R	68U	10U	1900U	10U	10U
VINYL CHLORIDE	10U	10U	10U	10U	10U	10U	50U	10U	10U	200U	10U	10U
Other Parameters	111.7 =	10.1 =								127 =		
CHLORIDE (AS CL)										1U		
FLUORIDE										2U		
NITROGEN, AMMONIA (AS N)										3.97 =		
NITROGEN, NITRATE (AS N)										3.97 =		
NITROGEN, NITRATE-NITRITE										17.4 =		
SULFATE (AS SO4)	21.6 =	23.7 =										

U = undetected, UJ = undetected (estimated detection limit), J = estimated below detection limit, "=" = detected value

DDMT GROUNDWAT RECOVERY SYSTEM
ANALYTICAL DATA FROM RECOVERY WELLS
Sampled in February, 1996.

VOC's (K&D) 217 14

PARAMETER	10 MW498	10 MW512	10 MW547
1,1-DICHLOROETHENE	10U	4J	10U
1,2-DICHLOROETHANE	10U	10U	10U
1,2-DICHLOROPROPANE	10U	10U	10U
2-HEXANONE	10U	10U	10U
ACETONE	10U	10U	10U
BENZENE	10U	10U	10U
BROMODICHLOROMETHANE	10U	10U	10U
BROMOFORM	10U	10U	10U
BROMOMETHANE	10U	10U	10U
CARBON DISULFIDE	10U	10U	10U
CARBON TETRACHLORIDE	10U	10U	10U
CHLOROBENZENE	10U	10U	10U
CHLOROETHANE	10U	10U	10U
CHLOROFORM	10U	10U	10U
CHLOROMETHANE	10U	10U	10U
cis-1,3-DICHLOROPROPENE	10U	10U	10U
DIBROMOCHLOROMETHANE	10U	10U	10U
ETHYLBENZENE	10U	10U	10U
METHYL ETHYL KETONE (2-BUTANONE)	10U	10U	10U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	10U	10U	10U
METHYLENE CHLORIDE	10U	10U	10U
STYRENE	10U	10U	10U
TETRACHLOROETHYLENE (PCE)	10U	2J	10U
TOLUENE	10U	10U	10U
TOTAL 1,2-DICHLOROETHENE	10U	10U	10U
Total Xylenes	10U	10U	10U
trans-1,3-DICHLOROPROPENE	10U	10U	10U
TRICHLOROETHYLENE (TCE)	10U	5J	17 =
VINYL CHLORIDE	10U	10U	10U
Other Parameters			
CHLORIDE (AS CL)			
FLUORIDE			
NITROGEN, AMMONIA (AS N)			
NITROGEN, NITRATE (AS N)			
NITROGEN, NITRATE-NITRITE			
SULFATE (AS SO4)			

U = undetected, UJ = undetected (estimated detection limit), J = estimated below detection limit, "=" = detected value

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE