ENVIRONMENTAL & REGULATORY SERVICES
PECFA
P.O. Box 8044
Madison, Wisconsin 53708-8044
TDD: (608) 264-8777
Fax #: (608) 267-1381
www.commerce.state.wi.us
Tommy G. Thompson, Governor
Brenda J. Blanchard, Secretary

Wisconsin
Department of Commerce

September 25, 2000

Mr. Mark Redmond
Redmond Commercial Development Corp.
W228 N727 Westmond Dr. #A
Waukesha, WI 53186

Subject: **Conditional Case Closure**
Waldo's
2676 – 2678 Wauwatosa Avenue, Milwaukee

COMMERCE # 53213-1137-78
BRRTS # 03-41-003599

Dear Mr. Redmond:

On September 25, 2000, the above-named site was reviewed for closure by Wisconsin Department of Commerce PECFA Site Review staff in response to the closure request prepared by your consultant, Sigma Environmental Services. The tanks in review are the three former 4,000 gallon unleaded gasoline tanks and the possible fourth drain oil underground storage tank documented to have been located on the site in the *Report of a Remedial Investigation and Remedial Alternatives Analysis* submitted on July 25, 1996 by Sigma Environmental Services.

It is understood that piping from the UST system leading to the USTs was found and removed, however the USTs in question were not located but are believed to have been removed from the site prior to recent remedial activities. Residual soil and groundwater contamination remains present on site based on *Case Summary and Close Out Request* report dated July 13, 2000.

Using the standards established in NR 700, and the risk criteria of Comm 46.05(2), the Department has determined that this site does not pose a significant threat to the environment and human health and no further investigation or remedial action is necessary. However, due to the presence of groundwater contamination from MW-4 above NR 140 enforcement standards for benzene and 1,2 4-trimethylbenzene, a deed restriction for soil contamination and groundwater use restriction are part of site closure based on the residual soil contamination left on site from the UST excavations.

The following items are necessary and must be submitted to Commerce to satisfy the conditions of closure:

- The completion and signing of the enclosed soil and groundwater use deed restriction.
- All monitoring wells must be abandoned and the appropriate forms sent to the undersigned including MW-1, MW-1R, MW-2, MW-3R, MW-4 through MW-8 and all ORC injection points (72 points) according to NR 141.25(4).

If, in the future, site conditions indicate that any contamination that remains poses a threat, the need for further remediation would be determined and required if necessary. If subsequent information indicates a need to reopen this case, any original claim under the PECFA fund would also reopen and you may apply for assistance to the extent of remaining eligibility.

It is important to realize that if the land use conditions change in the future and the contaminated soil is disturbed, appropriate measures must be implemented to assure any residual contamination is managed following all applicable State of Wisconsin regulations and standards.

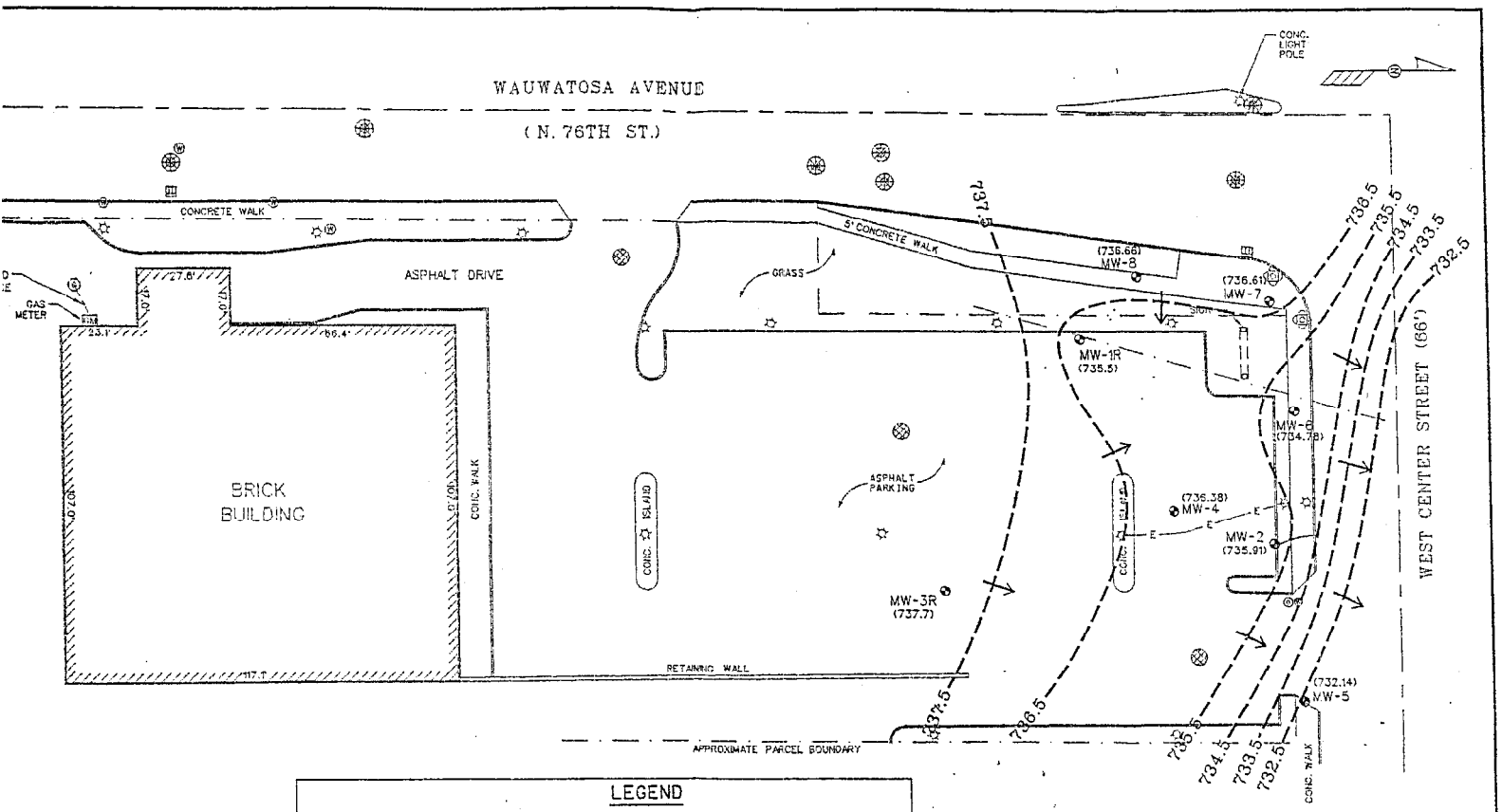
Thank you for your efforts in the protection of the environment. If you have any additional questions, please call me at 608-261-5401.

Sincerely,

Shawn A Wenzel
Hydrogeologist
PECFA Site Review Section

Enclosures: Draft Deed Restriction

Cc: Sandra Del Pizzo, Sigma Environmental Services & Architects
Electronic file



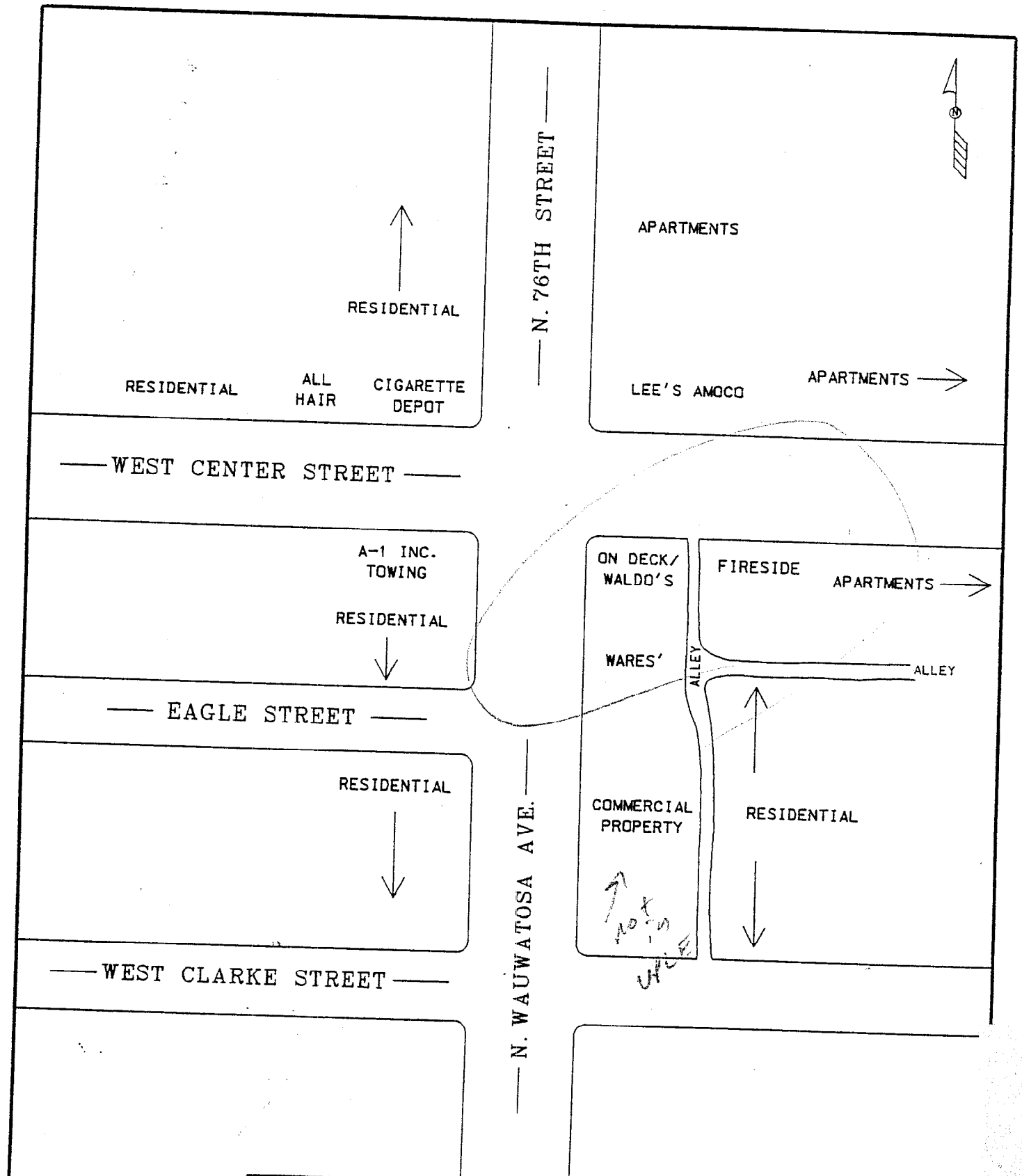
LEGEND

- GROUNDWATER CONTOUR LINE. CONTOUR INTERVAL = 0.10'
- ( ) = STATIC GROUNDWATER LEVEL (MAY 2000)
- → = GROUNDWATER FLOW DIRECTION
- = MONITORING WELL LOCATION
- = WATER VALVE LOCATION
- = GAS VALVE LOCATION
- = LIGHT POLE LOCATION
- = MANHOLE LOCATION
- = ROUND CATCH BASIN LOCATION
- = SQUARE CATCH BASIN LOCATION
- = STOP LIGHT LOCATION

0 15 30 60

BASED ON SURVEY PERFORMED ON 7-10-97. BY LAND INFORMATION SERVICES. INC.
TORING WELLS MW-1R. MW-3. MW-5 AND MW-6 NOT INCLUDED IN CONTOURING.

REDMOND COMMERCIAL DEVELOPMENT CORPORATION WAUWATOSA AVE. & CENTER ST.. WAUWATOSA. WI			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 7-12-00	DR. BY: BEB	DR.# 3192-023	SCALE: 1" = 30'
GROUNDWATER CONTOUR MAP (MAY 2000)			FIGURE 7



MRED ASSOCIATES WAUWATOSA, WISCONSIN			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 7-17-96	DR. BY: TMM	DR.# 3512-002	SCALE: NOT TO SCALE
SITE AREA MAP			FIGURE 2

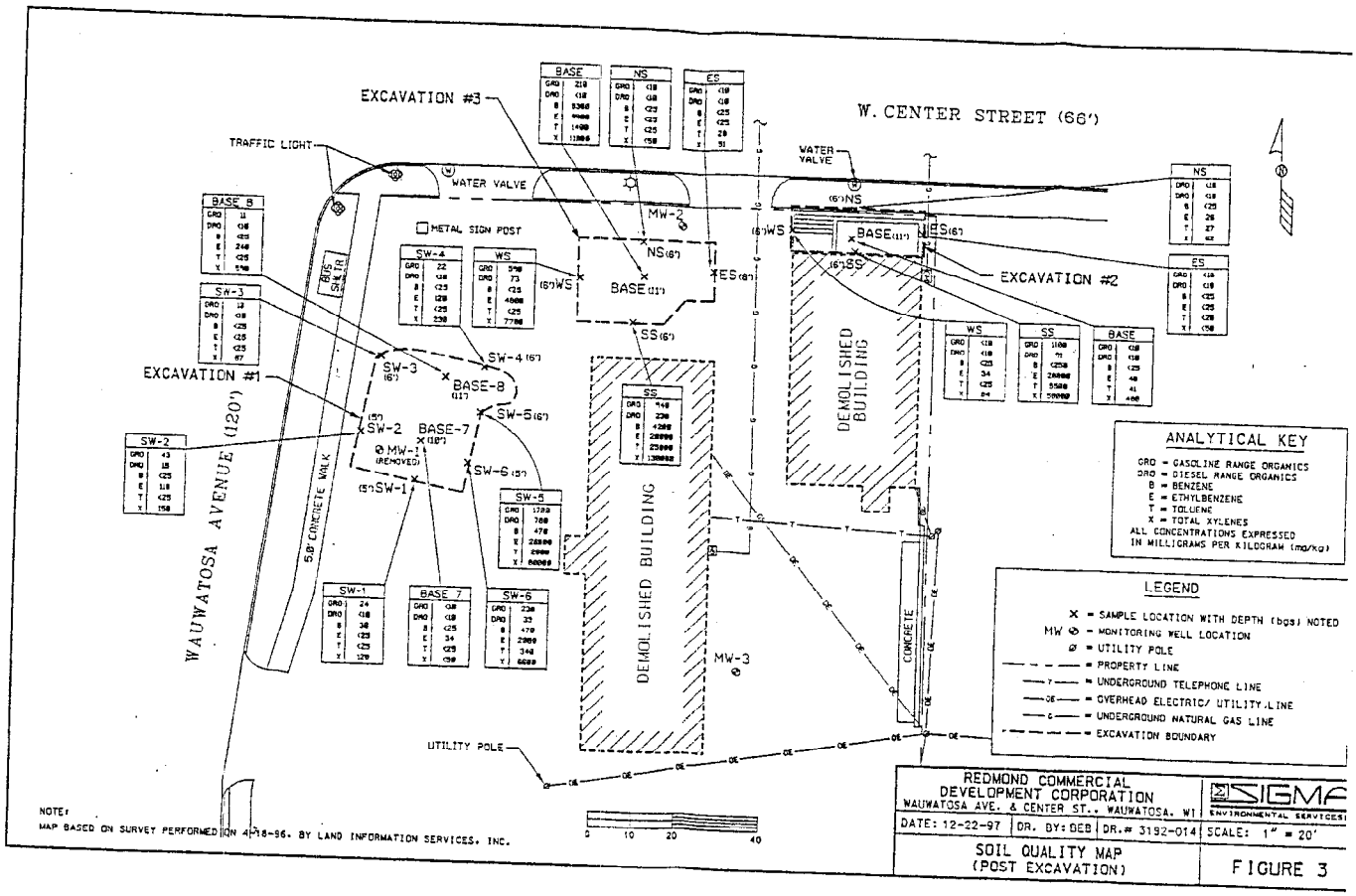

W. CENTER STREET (66')
WAUWATOSA AVENUE (120')
EXCAVATION #1
EXCAVATION #2
EXCAVATION #3
TRAFFIC LIGHT
WATER VALVE
METAL SIGN POST
BUS SHELTER
5' CONCRETE WALK
DEMOLISHED BUILDING
CONCRETE
UTILITY POLE
MW-1 (REMOVED)
MW-2
MW-3
BASE-7
BASE-8
SW-1
SW-2
SW-3
SW-4
SW-5
SW-6
ANALYTICAL KEY
GRO = GASOLINE RANGE ORGANICS
DRO = DIESEL RANGE ORGANICS
B = BENZENE
E = ETHYLBENZENE
T = TOLUENE
X = TOTAL XYLENES
ALL CONCENTRATIONS EXPRESSED IN MILLIGRAMS PER KILOGRAM (mg/kg)
LEGEND
X = SAMPLE LOCATION WITH DEPTH (bgs) NOTED
MW = MONITORING WELL LOCATION
= UTILITY POLE
= PROPERTY LINE
= UNDERGROUND TELEPHONE LINE
= OVERHEAD ELECTRIC/ UTILITY LINE
= UNDERGROUND NATURAL GAS LINE
= EXCAVATION BOUNDARY
NOTE:
MAP BASED ON SURVEY PERFORMED ON 4-18-96, BY LAND INFORMATION SERVICES, INC.
0 10 20 40
REDMOND COMMERCIAL DEVELOPMENT CORPORATION
WAUWATOSA AVE. & CENTER ST., WAUWATOSA, WI
SIGMA ENVIRONMENTAL SERVICES
DATE: 12-22-97
DR. BY: DEB
DR.# 3192-014
SCALE: 1" = 20'
SOIL QUALITY MAP (POST EXCAVATION)
FIGURE 3

Table 2
Groundwater Quality
Redmond Commercial Development Corp.
Wauwatosa Avenue and Center Street
Wauwatosa, Wisconsin

Parameter	Standard	MW-6 06/18/97	MW-6 10/15/97	MW-6 02/05/98	MW-6 05/11/98	MW-6 07/14/98	MW-6 10/20/98	MW-7 06/18/97	MW-7 10/15/97	MW-7 02/05/98	MW-7 05/11/98	MW-7 07/14/98	MW-7 10/20/98	MW-7 02/19/99	MW-7 10/13/99	MW-7 04/17/00	MW-8 06/18/97	MW-8 10/15/97	MW-8 02/05/98	MW-8 05/11/98	MW-8 07/14/98	MW-8 10/20/98	MW-8 02/19/99	MW-8 10/13/99	MW-8 04/17/00
GRO	---	<50	<50	*****	*****	*****	*****	4200	1300	*****	*****	*****	*****	*****	*****	*****	4700	1900	*****	*****	*****	*****	*****	*****	*****
DRO	---	370	190	*****	*****	*****	*****	1100	670	*****	*****	*****	*****	*****	*****	*****	2300	1400	*****	*****	*****	*****	*****	*****	*****
Benzene	5	<0.16	<0.16	<0.21	<0.32	<0.32	<0.32	[illegible]	3.6	[illegible]	[illegible]	2.1	2.3	2.3	<0.25	[illegible]	[illegible]	[illegible]	2.6	[illegible]	2.7	0.79*	[illegible]	0.44*
Ethylbenzene	700	<0.29	0.29	<0.68	0.45*	<0.34	<0.34	270	29	63	130	79	53	42	37	<0.12	350	62	64	50	86	52	34	40	0.88
Toluene	343/1000	<0.36	2	<1.5	0.41*	<0.35	<0.35	13	3.2	4.1	8.6	6.7	5.1	4.3	2.4	<0.22	4	1.8	6.1	3.1	1.2	5.2	0.49*	<0.35	<0.22
Total Xylenes	620/100000	<1.15	<1.15	<1.8	<1	<1	<1	195	20	54	90	47	43	37	4*	<0.74	146	26.6	27	9.2	7.4	10	10	14	<0.74
1,2,4-Trimethylbenzene	480	<0.30	<0.30	<1	0.5*	<0.35	<0.35	120	11	37	55	23	15	14	25	<0.24	200	29	34	14	7	9.4	17	20	0.4*
1,3,5-Trimethylbenzene	480	0.34	<0.34	<0.86	<0.64	<0.54	<0.64	27	1.1	5.7	3.6	<0.64	1.5*	1.6*	4.7	<0.25	48	5.3	5.1	0.81*	<0.64	1.4*	2.5	3.6	<0.26
1,2-Dichloroethane	5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	[illegible]	*****	*****	*****	*****	*****	*****	*****	*****
MTBE	60	0.35	<0.20	<0.21	<0.31	<0.31*	<0.31	34	7.7	<0.2*	<0.31	<0.31	<0.31	<0.31	<0.31	<0.53	10	3.4	<0.2*	<0.31	<0.31	<0.31	<0.31	<0.31	<0.53
Acenaphthene	---	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.38	1.6	*****	*****	*****	<0.17	*****	*****	*****	0.4*	1.4	<0.042	*****	*****	<0.17
Anthracene	3000	*****	*****	*****	*****	*****	*****	*****	*****	*****	<0.037	<0.037	*****	*****	*****	<0.01	*****	*****	*****	<0.037	<0.037	<0.037	*****	*****	<0.01
Acenaphthylene	---	*****	*****	*****	*****	*****	*****									<1									<1
Benzo(a)pyrene	0.2	*****	*****	*****	*****	*****	*****	*****	*****	*****	<0.07	<0.07	*****	*****	*****	<0.1	*****	*****	*****	<0.37	<0.07	<0.07	*****	*****	<0.1
Benzo(b)fluoranthene	0.2	*****	*****	*****	*****	*****	*****	*****	*****	*****	<0.1	<0.1	*****	*****	*****	<0.065	*****	*****	*****	<0.1	<0.1	<0.1	*****	*****	<0.065
Benzo(k)fluoranthene	---	*****	*****	*****	*****	*****	*****	*****	*****	*****	<0.043	<0.043	*****	*****	*****	<0.01	*****	*****	*****	<0.043	<0.043	<0.043	*****	*****	<0.01
Fluorene	400	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.2	1.2	*****	*****	*****	<0.33	*****	*****	*****	1.3	1.4	<0.14	*****	*****	<0.33
1-methylnaphthalene	---	*****	*****	*****	*****	*****	*****	*****	*****	*****	3.2	2.2	*****	*****	*****	<0.21	*****	*****	*****	2.2	2.6	0.9	*****	*****	<0.21
2-methylnaphthalene	---	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.1	<0.083	*****	*****	*****	<0.2	*****	*****	*****	0.47	<0.083	0.13*	*****	*****	<0.2
Naphthalene	40	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.1	0.77	*****	*****	*****	<0.22	*****	*****	*****	3.4	2.6	<0.046	*****	*****	<0.22
Phenanthrene	---	*****	*****	*****	*****	*****	*****	*****	*****	*****	<0.054	<0.054	*****	*****	*****	<0.037	*****	*****	*****	<0.054	<0.054	<0.054	*****	*****	<0.037
Pyrene	250	*****	*****	*****	*****	*****	*****	*****	*****	*****	<0.074	<0.074	*****	*****	*****	<0.059	*****	*****	*****	<0.074	<0.074	<0.074	*****	*****	<0.059
Fluoranthene																									
	Units																								
Heterotrophic Plate Count	cfu/L	*****	*****	*****	*****	*****	*****	*****	*****	248000000	92000000	*****	*****	*****	*****	*****	*****	*****	400000000	36000000	*****	*****	*****	*****	*****
Hydrocarbon Degraders	cfu/L	*****	*****	*****	*****	*****	*****	*****	*****	1050000	5000	*****	*****	*****	*****	*****	*****	*****	48000000	50000	*****	*****	*****	*****	*****
Percent Degraders	%	*****	*****	*****	*****	*****	*****	*****	*****	0.4	0.01	*****	*****	*****	*****	*****	*****	*****	1.2	0.1	*****	*****	*****	*****	*****
Alkalinity	mg/L	*****	*****	*****	*****	*****	*****	*****	*****	515	537	*****	*****	*****	*****	*****	*****	*****	481	498	*****	*****	*****	*****	*****
Total Kjeldahl Nitrogen	mg/L	*****	*****	*****	*****	*****	*****	*****	*****	0.73	*****	*****	*****	*****	*****	*****	*****	*****	1.09	*****	*****	*****	*****	*****	*****
Nitrogen, Ammonia	mg/L	*****	*****	*****	*****	*****	*****	*****	*****	<0.1	*****	*****	*****	*****	*****	*****	*****	*****	<0.1	*****	*****	*****	*****	*****	*****
Total Organic Nitrogen	mg/L	*****	*****	*****	*****	*****	*****	*****	*****	0.73	*****	*****	*****	*****	*****	*****	*****	*****	1.09	*****	*****	*****	*****	*****	*****
Manganese, Dissolved	µg/L	*****	*****	*****	*****	*****	*****	*****	*****	56.3	44*	660	498	*****	146	125	*****	*****	2020	2030	1820	1670	*****	1300	2150
Nitrate - Nitrogen	mg/L	220	<25	*****	*****	*****	*****	<16	120	<0.14	<0.14	<0.14	<0.14	*****	<0.14	<0.080	40	<28	<0.14	<0.14	0.18	0.2	*****	<0.14	<0.080
Phosphorus, Total	mg/L	*****	*****	*****	*****	*****	*****	*****	*****	0.31	*****	*****	*****	*****	*****	*****	*****	*****	0.14	*****	*****	*****	*****	*****	*****
Total Organic Carbon	mg/L	*****	*****	*****	*****	*****	*****	*****	*****	7	<3.0	*****	*****	*****	*****	*****	*****	*****	7	<3.0	*****	*****	*****	*****	*****
Methane	µg/L	*****	*****	*****	*****	*****	*****	*****	*****	1300	2400	*****	*****	*****	*****	*****	*****	*****	3100	1200	*****	*****	*****	*****	*****
Sulfate	mg/L	21	24	*****	*****	*****	*****	*****	*****	57.9	10.7	10.5	33	*****	30	44	29	19	11.4	21.5	27.3	9.3	*****	12	13.1
Field Parameters																									
Ferrous Iron	mg/L	0	0	0	0	0	0	0	0	0	0.077	0	0	0	0	0	0.2	0	1.4	2	1.5	1.4	2.2	1.4	*
Dissolved Oxygen	mg/L	5.81	0.21	0.37	0.94	0.18	0.34	1.72	0.23	0.32	0.37	0.28	0.43	0.27	1.43	0.9	1.5	0.32	0.24	0.4	0.31	0.38	0.25	0.22	0.4
Redox	µv	159.7	47.7	311.6	186.5	49.7	208.9	175.1	44.3	270.6	208.2	60.1	113.6	18	81.9	359.4	180.2	39.7	96.7	17.2	20.1	84.3	-7.1	58	368.4
pH	---	7.3	8.1	6.3	6.9	6.8	7.2	7.3	8	6.3	6.8	7.1	7.1	7	7.5	7	7.1	7.7	5.7	7.3	7.1	7.2	7	7	7
Conductivity	µS	1342	1464	*****	1113	1314		1642	1564	*****	1127	4310		*****	*****	*****	1456	1428	*****	1207	1212	*****	*****	*****	*****
Temperature	celsius	14.5	17.5	9.7	9.9	15.1	18.4	13.3	16.4	9.8	10.4	14.8	18.8	9.6	17.4	9.8	12.2	15	9.9	9.8	14.2	16.9	9.3	16.9	9.9

Notes: All laboratory analytical results reported in micrograms per liter (µg/L) except as noted

GRO - Gasoline Range Organics
DRO - Diesel Range Organics

* - Exceedance of NR 140 Groundwater Quality Enforcement Standard
* - Analyted detected between LOD and LOQ
***** - Not Tested

Groundwater Quality Enforcement Standards for Toluene and Total Xylenes revised as of May 2000
Monitoring wells MW-1 and MW-3 removed during excavating (11/98) or grading activities; well is replaced in June,1997

Table 2
Groundwater Quality
Redmond Commercial Development Corp.
Wauwatosa Avenue and Center Street
Wauwatosa, Wisconsin

Parameter	Standard	MW-3 (3R) 02/29/96	06/18/97	10/15/97	02/05/98	05/11/98	07/14/98	10/20/98	MW-4 06/18/97	10/15/97	02/23/98	05/11/98	07/14/98	10/20/98	02/19/99	10/13/99	04/17/00	MW-5 06/18/97	10/15/97	02/05/98	05/11/98	07/14/98	10/20/98
GRO	---	<50	<50	<50	*****	*****	*****	*****	16000	5200	*****	*****	*****	*****	*****	*****	*****	<50	<50	*****	*****	*****	*****
DRO	---	449	240	130	*****	*****	*****	*****	6700	4300	*****	*****	*****	*****	*****	*****	*****	450	160	*****	*****	*****	*****
Benzene	5	<0.2	<0.16	<0.16	<0.21	<0.32	<0.32	<0.32	[illegible]	[illegible]	[illegible]	[illegible]	<0.32	57	[illegible]	[illegible]	[illegible]	<0.16	<0.16	<0.21	<0.32	<0.32	<0.32
Ethylbenzene	700	<1.0	<0.29	<0.29	<0.68	<0.34	<0.34	<0.34	570	130	110	210	<0.34	45	240	380	180	<0.29	<0.29	<0.68	<0.34	<0.34	<0.34
Toluene	343/1000	<2.0	<0.36	<0.36	<1.5	<0.35	<0.35	<0.35	140	50	31	35	<0.35	10	180	110	51	<0.36	<0.36	<1.5	<0.35	<0.35	<0.35
Total Xylenes	620/100000	<1.0	<1.15	<1.15	<1.8	<1	<1	<1	3100	880	640	[illegible]	<1	220	1500	1700	477	<1.15	<1.15	<1.8	<1	<1	<1
1,2,4-Trimethylbenzene	480	<1.0	<0.30	<0.30	<1	0.35*	<0.35	<0.35	1200	2800	260	500	<0.35	100	1910	1200	[illegible]	0.56	<0.30	<1	<0.35	<0.35	<0.35
1,3,5-Trimethylbenzene	480	<1.0	<0.34	<0.34	<0.86	<0.64	<0.64	<0.64	340	43*	72	120	<0.64	23	68	200	4.6*	<0.34	<0.34	<0.86	<0.64	<0.64	<0.64
1,2-Dichloroethane	5	<0.5	*****	*****	*****	*****	*****	*****	*****	*****	[illegible]	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
MTBE	60	<2	<0.20	<0.20	<0.21	<0.31	<0.31	<0.31	21	28	<1.[illegible]	<6.2	<0.31	<0.31	4.5*	<3.1	<5.3	<0.20	<0.20	<0.21	<0.31	<0.31	<0.31
Acenaphthene	---	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.4	<0.042	<0.042	0.34	0.78	<0.17	*****	*****	*****	*****	*****	*****
Anthracene	3000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.1*	<0.037	<0.037	0.09*	<0.037	<0.01	*****	*****	*****	*****	*****	*****
Acenapthylene																	10						
Benzo(a)pyrene	0.2	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	<0.07	<0.07	<0.07	<0.07	<0.07	<0.1	*****	*****	*****	*****	*****	*****
Benzo(b)fluoranthene	0.2	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	<0.1	<0.1	<0.1	[illegible]	<0.1	<0.065	*****	*****	*****	*****	*****	*****
Benzo(k)fluoranthene	---	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	<0.043	<0.043	<0.043	0.09*	<0.043	0.053	*****	*****	*****	*****	*****	*****
Fluorene	400	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.9	<0.14	<0.14	0.8	<0.14	<0.33	*****	*****	*****	*****	*****	*****
1-methylnaphthalene	---	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	35	<0.047	30	6.2	32	8.7	*****	*****	*****	*****	*****	*****
2-methylnaphthalene	---	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	39	<0.063	41	10.8	29	6	*****	*****	*****	*****	*****	*****
Naphthalene	40	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	90	<0.046	75	33	37	23	*****	*****	*****	*****	*****	*****
Phenanthrene	---	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	<0.054	<0.054	0.21	0.26	0.19*	0.12*	*****	*****	*****	*****	*****	*****
Pyrene	250	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	<0.074	<0.074	<0.074	<0.074	<0.074	0.21	*****	*****	*****	*****	*****	*****
Fluoranthene	---	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	<0.25	<0.25	1.4	<0.25	1	<0.36	*****	*****	*****	*****	*****	*****
	Units																						
Heterotrophic Plate Count	cfu/L	*****	*****	*****	*****	*****	*****	*****	*****	*****	530000000	480000000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Hydrocarbon Degraders	cfu/L	*****	*****	*****	*****	*****	*****	*****	*****	*****	7200000	100000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Percent Degraders	%	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.1	0.02	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Alkalinity	mg/L	*****	*****	*****	*****	*****	*****	*****	*****	*****	91	152	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Total Kjeldahl Nitrogen	mg/L	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Nitrogen, Ammonia	mg/L	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Total Organic Nitrogen	mg/L	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Manganese, Dissolved	µg/L	*****	*****	*****	*****	*****	*****	*****	*****	*****	587	555	12.4	131	*****	291	853	*****	*****	*****	*****	*****	*****
Nitrate, Nitrogen	mg/L	*****	87	<26	*****	*****	*****	*****	21	<26	<0.14	<0.14	0.17	<0.14	*****	<0.14	<0.080	32	230	*****	*****	*****	*****
Phosphorus, Total	mg/L	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Total Organic Carbon	mg/L	*****	*****	*****	*****	*****	*****	*****	*****	*****	13.9	12.4	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Methane	µg/L	*****	*****	*****	*****	*****	*****	*****	*****	*****	1700	820	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Sulfate	mg/L	*****	130	82	*****	*****	*****	*****	*****	28	146	69.4	20.7	4	*****	6.68	131	110	260	*****	*****	*****	*****
Field Parameters																							
Ferrous Iron	mg/L	*****	0	0	0	0	0	0	0.8	0	0.9	1.2	2	0	5	0	3.8	0	0	0	0	0	0.6
Dissolved Oxygen	mg/L	*****	1.81	0.31	0.41	0.78	0.28	0.36	0.65	0.29	0.89	0.23	0.18	0.37	0.25	0.29	0.7	6.51	0.28	0.35	0.28	0.19	0.35
Redox	µV	*****	98.9	35.7	285.3	89.7	31.6	232.4	97.2	19.7	-13.9	39.7	20.1	227.1	-98.2	73.4	140.3	144.7	23.2	322.1	131.5	20.6	196
pH	---	7.2	6.8	8.1	6	7.1	7	7.1	6.8	7.5	6.8	6.8	6.8	7.2	7.1	7	7	6.9	7.5	6	7.1	7.2	7.4
Conductivity	µS	1283	1205	12760	*****	1010	14.81		1923	1410	*****	917	13810		*****	*****	*****	398	6740	**	1013	6310	
Temperature	celsius	4.8	16.3	19	6.6	10.7	15.6	19.4	18.6	20.2	11.4	10.8	15.6	18.2	8.7	18.8	10.4	15.3	20.1	7.7	11.4	15.1	17.7

Notes: All laboratory analytical results reported in micrograms per liter (µg/L) except as noted

GRO - Gasoline Range Organics
DRO - Diesel Range Organics

* - Exceedance of NR 140 Groundwater Quality Enforcement Standard
* - Analyted detected between LOD and LOQ
***** - Not Tested

Groundwater Quality Enforcement Standards for Toluene and Total Xylenes revised as of May 2000
Monitoring wells MW-1 and MW-3 removed during excavating (11/96) or grading activities; wells replaced in June,1997

Table 2
Groundwater Quality
Redmond Commercial Development Corp.
Wauwatosa Avenue and Center Street
Wauwatosa, Wisconsin

Parameter	Standard	MW-1 (1R) 02/29/96	09/05/96	06/18/97	10/15/97	02/05/98	05/11/98	07/14/98	10/20/98	MW-2 02/29/96	12/19/96	06/18/97	10/15/97	02/05/98	05/11/98	07/14/98	10/20/98	02/19/99	10/13/99	04/17/00
GRO	---	4780	3500	<50	<50	-----	-----	-----	-----	697	840	790	330	-----	-----	-----	-----	-----	-----	-----
DRO	---	5790	2300	670	650	-----	-----	-----	-----	854	280	290	260	-----	-----	-----	-----	-----	-----	-----
Benzene	5	[redacted]	[redacted]	<0.16	0.42	<0.21	<0.32	<0.32	<0.32	[redacted]	11	[redacted]	1.7	3.6	9.9	<0.32	[redacted]	4.0	2.4	0.36*
Ethylbenzene	700	565	420	<0.29	<0.29	<0.68	<0.34	<0.34	<0.34	15	43	37	28	21	27	<0.34	17	34	12	0.24*
Toluene	343/1000	<20	14	<0.36	<0.36	<1.5	<0.35	<0.35	<0.35	<10	4.9	7.1	1.9	1.8	2.6	<0.35	6.4	3.6	<0.35	<0.22
Total Xylenes	620/10000	[redacted]	420	<1.15	<1.16	<1.8	<1	<1	<1	58.2	21.1	56.2	<1.61	1.6	21	<1	44	28	6.4	0.58*
1,2,4-Trimethylbenzene	480	16	150	<0.30	0.36	<1	<0.35	<0.35	<0.35	8.6	31	23	7.2	2.4	6.6	<0.35	7.5	9.4	1.4	<0.24
1,3,5-Trimethylbenzene	480	99.7	42	<0.34	<0.34	<0.86	<0.64	<0.64	<0.64	5.72	<1.2	1.9	<0.34	<0.86	0.91*	<0.64	1.9*	1.4*	<0.64	<0.26
1,2-Dichloroethane	5	<5.0	-----	-----	-----	-----	-----	-----	-----	<2.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
MTBE	60	270	<16	<0.20	<0.20	<0.21	<0.3*	<0.31	<0.31	<10	<0.98	9.2	7.4	<0.21	<0.31	<0.31	<0.31	<0.31	<0.31	<0.53
Acenaphthene	---	-----	-----	-----	-----	-----	0.16	<0.042	<0.042	-----	-----	-----	-----	-----	-----	-----	<0.042	-----	-----	<0.17
Anthracene	3000	-----	-----	-----	-----	-----	0.13	<0.037	0.093*	-----	-----	-----	-----	-----	-----	-----	<0.037	-----	-----	<0.01
Acenapthylene																				
Benzo(a)pyrene	0.2	-----	-----	-----	-----	-----	0.39	<0.07	<0.07	-----	-----	-----	-----	-----	-----	-----	<0.07	-----	-----	<0.1
Benzo(b)Fluoranthene	0.2	-----	-----	-----	-----	-----	0.27*	<0.1	<0.1	-----	-----	-----	-----	-----	-----	-----	<0.1	-----	-----	<0.065
Benzo(k)fluoranthene	---	-----	-----	-----	-----	-----	0.1*	<0.043	0.067*	-----	-----	-----	-----	-----	-----	-----	<0.043	-----	-----	<0.01
Fluoranthene	400	-----	-----	-----	-----	-----	<0.14	<0.14	<0.14	-----	-----	-----	-----	-----	-----	-----	<0.14	-----	-----	<0.03
1-methylnaphthalene	---	-----	-----	-----	-----	-----	0.1*	<0.047	<0.047	-----	-----	-----	-----	-----	-----	-----	<0.047	-----	-----	<0.21
2-methylnaphthalene	---	-----	-----	-----	-----	-----	0.12*	<0.063	<0.063	-----	-----	-----	-----	-----	-----	-----	<0.063	-----	-----	<0.2
Naphtalene	40	-----	-----	-----	-----	-----	0.19	<0.046	<0.046	-----	-----	-----	-----	-----	-----	-----	<0.046	-----	-----	<0.22
Phenanthrene	---	-----	-----	-----	-----	-----	0.3	<0.054	0.18*	-----	-----	-----	-----	-----	-----	-----	0.14*	-----	-----	<0.037
Pyrene	250	-----	-----	-----	-----	-----	0.35	<0.074	0.2*	-----	-----	-----	-----	-----	-----	-----	<0.074	-----	-----	<0.059
	Units																			
Heterotrophic Plate Count	cfu/L	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	440000000	240000000	-----	-----	-----	-----	-----
Hydrocarbon Degraders	cfu/L	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	21000000	70000	-----	-----	-----	-----	-----
Percent Degraders	%	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	4.8	0.03	-----	-----	-----	-----	-----
Alkalinity	mg/L	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	536	425	-----	-----	-----	-----	-----
Total Kjeldahl Nitrogen	mg/L	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	0.75	-----	-----	-----	-----	-----	-----
Nitrogen, Ammonia	mg/L	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	<0.1	-----	-----	-----	-----	-----	-----
Total Organic Nitrogen	mg/L	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	0.75	-----	-----	-----	-----	-----	-----
Manganese, Dissolved	µg/L	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	847	687	121	579	-----	496	709
Nitrate, Nitrogen	mg/L	-----	-----	170	<26	-----	-----	-----	-----	-----	<0.20	180	<26	<0.14	<0.14	<0.14	<0.14	-----	<0.14	0.129
Phosphorus, Total	mg/L	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	0.22	-----	-----	-----	-----	-----	-----
Total Organic Carbon	mg/L	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	5	8.8	-----	-----	-----	-----	-----
Methane	ug/L	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	410	430	-----	-----	-----	-----	-----
Sulfate	mg/L	-----	-----	400	470	-----	-----	-----	-----	-----	25	62	70	81.5	53.2	54.4	14.5	-----	60.5	76.7
Field Parameters																				
Ferrous Iron	mg/L	-----	-----	0	0	0	0	0	0	-----	72	0.8	0	0	0.178	0	0	1	0	1.4
Dissolved Oxygen	mg/L	-----	-----	1.25	0.42	0.43	0.35	0.21	0.44	-----	0.45	0.78	0.42	0.44	0.19	0.62	0.3	0.74	1.23	0.5
Redox	µv	-----	-----	110.7	55.2	389.4	128.3	42.1	240.3	-----	254.4	-----	32.7	252.2	150.3	46.7	142.1	-8	169.7	264.4
pH	---	6.5	-----	7	8.1	6.3	7.1	7.4	7	6.5	7.2	7.1	7.3	8.1	7.1	6.8	7.3	7	7	7
Conductivity	µS	1905	-----	2170	1689	-----	987	1461		1920	-----	1423	2970	-----	972	2810		-----	-----	-----
Temperature	celsius	6.3	-----	16.5	18.8	8.2	10.2	15.1	18.3	6.7	10.1	16.8	18.7	7.3	10	14.9	18.9	7.6	18.6	9.7

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