ATTACHMENT 8

Review of Data Validation Reports
Technical Memorandum

URS

TECHNICAL MEMORANDUM

TO: **Don Gruber**

FROM: **Stacy Louie**

DATE: **02 November 2009**

SUBJECT: **Review of data validation reports for Cooper Drum Case No. 38516**

Validation was performed on 20 percent of the samples submitted and analyzed for organic, inorganic and water quality parameters during May 2009 by ICF International/Laboratory Data Consultants. A summary of the data quality are listed in the bullets below.

General

- Equipment and trip blanks and field duplicate samples were collected as required on the matrix;
- There are no rejected data; the "J" flagged data and "U" flagged data should be interpreted as estimated concentrations. All "U" flagged data should be considered not detected.
- Some metal, SVOC, and VOC results are reported between the CRDL and MDL; all of these results are "J" flagged, as required.
- The dilutions performed and resulting elevated reporting limits are valid and justified.

Metals – 9 Groundwater Samples

- The validation included samples MY4W05 through MY4W07; these samples were not included on the matrix.
- Blank contamination was indicated for mercury analysis and all detected results were flagged "U".

SVOCs – 2 Groundwater Samples

- No MS/MSD was performed due to lack of sample volume; matrix interference cannot be assessed.
- Benzo (k) fluoranthene did not meet the method requirements for the initial calibration. Two sample results associated with this calibration are flagged.
- Surrogate spike recoveries were below contract limits in one sample resulting in flagged data for benzaldehyde and phenol.
- 1,4-Dioxane results for samples Y4W26 through Y4W30, Y4W66, and Y4W67 are qualified for potential low bias due to missed holding times.

VOCs – 20 Groundwater Samples

- A significant number of results are qualified for VOCs.
- Method blank contamination was indicated for bromomethane in two samples and methylene chloride in seven samples. All results are flagged as required.
- All results from six samples are flagged for potential low bias due to missed holding times.
- Initial calibrations and/or continuing calibrations were not met for acetone in 10 field samples, 2-butanone in six field samples, Bromomethane in 13 field samples, o-xylene and styrene in six samples, and 1,2,3-tirchlorobenzene in six field samples. Some blanks were also affected. The results are "J" flagged.
- Surrogate spike (or DMCs) were recovered below contract limits in 19 field samples and some of their dilution and QC analyses. The samples were not reanalyzed and there is a potential for low bias or false negative results.
- Three analytes in Y4W57 exceeded the calibration range. The results are flagged and considered estimated results.
- The MS/MSD performed in Y4W45 indicated low responses for 1,1-DCE, benzene, and TCE; these results indicate a possible matrix interference.
- Results for two field duplicate pairs indicated poor precision for several analytes. These results were not flagged but should be considered estimated results.
- Dilutions were performed for samples where analytes exceeded the calibration range. The diluted result was much higher than the diluted result. The results obtained from the diluted analysis were reported for only those analytes that exceeded the calibration range in the undiluted sample. All other results were reported from the original analysis.

ATTACHMENT 9

Non-VOC Analytical Groundwater Data and TPH Analytical Data Sheets

Attachment 9
Non-VOC Analytical Groundwater Data

Location	MW-1						MW-2											
Date:	May-03	Jan-04	Nov-04	Aug-06	Mar-08	May-09	May-03	Dec-03	Feb-04	Apr-04	Jul-04	Nov-04	Apr-05	Nov-05	Mar-06	Aug-06	Mar-08	May-09
D.O. (mg/L)	1.17	0.17	1.73	0.41	0.25	0.98	0.06	0	0.05	0	1.63	2.48	0.36	0.31	3.94	0.42	0.3	1.05
ORP (mV)	445	-86	-124	-74.9	-275	-79.6	455	-132	-185	-208	-107	-335	-141	-357.2	-120	-145	-119	-155.3
Temp. (C)	23.4	22	22.81	22.43	21.81	22.46	21.9	22.1	22	22.7	22.9	23.3	22.3	21.9	19.8	23	21.98	21.5
pH	6.91	7.01	6.86	7.16	7.16	6.21	6.96	6.82	6.81	6.82	6.91	6.76	7.1	7.3	7.11	7.1	7.98	6.05
Ferrous Iron (mg/L)	0.5	0.6	0.6	0.6	1	0.6	1.8	1.9	1.7	2.1	NS	2	1.8	2.4	2	2	1.4	1.6
TOC (mg/L)		2.9	29	6.1				17	23	42	56	34	38	22		18		21
Sulfide (mg/L)	0	<1	<1				0	0.61	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
Alkalinity (mg/L)			1000	1000				1000	1100	1100	1100	1100	1000	1100	1100	1000	950	1000
Chloride (mg/L)	140	130	140	140			320	340	360	360	360	350	320	320	310	250	230	250
Nitrate (mg/L)	0	<0.1	<0.1	<0.1			0	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.1	<0.10
Sulfate (mg/L)	1600	1400	1300	1100			5800	5800	6400	5900	6100	5900	5100	5600	5400	5000	4900	4800
Hydroxide Alkalinity																		<10
Carbonate Alkalinity																		<10
Bicarbonate Alkalinity																		1000
Aluminum (µg/L)																		
Antimony (µg/L)																		
Arsenic (µg/L)																		
Barium (µg/L)																		
Cadmium (µg/L)																		
Calcium (mg/L)				182				360	370	360	370	379	410	320		337		
Chromium (µg/L)																		
Cobalt (µg/L)																		
Copper (µg/L)																		
Iron, Total (mg/L)				0.47				1.9	1.9	2	2	2.5	2	1.5		2.37		
Lead (µg/L)																		
Magnesium (mg/L)				104				460	460	470	470	470	400	440		369		
Manganese (mg/L)				1.78				5.7	5.5	5.6	5.6	5.4	5.4	4.8		5.04		
Mercury (µg/L)																		
Neryllium (µg/L)																		
Nickel (µg/L)																		
Potassium (mg/L)				5.51				16	16	16	16	16	14	15		20.7		
Selenium (µg/L)																		
Silver (µg/L)																		
Sodium (mg/L)				526				1900	1800	2000	1800	1900	1900	2000		1550		
Thallium (µg/L)																		
Vanadium (µg/L)																		
Zinc (µg/L)																		
Boron (µg/L)																		
Ethene (ng/L)	0	<1300	<200				0	860	1400	<10,000	880	680J	600	<1000	1100	3400	13000	12000
Ethane (ng/L)	0	<1200	<200				0	64	130	<10,000	<600	<200	<1100	<1100	<1100	<1100	<1100	<1100
Methane (ug/L)	7.2	9.9	8.7				31	68	75	41	34	470DL	5000	8900	12000	5900	9300	14000
TDS (mg/L)			3000					10000			10000	10000	9000	8700			7700	7900
TSS (mg/L)																		7 J
BOD (mg/L)								11										
Boron (mg/L)				1.04				0.49	0.52	0.49	0.51	0.56	0.53	0.52		0.645		
Hydrogen (nM)								2.3	NM	<31.5					1.7			
CO_2 (mg/L)								99	120	17	210	88	180	180	170			
Lactic acid (mg/L)								<25	<0.35	<0.1	<0.5	<0.5	<0.5	1.19	1.17			
Acetic acid (mg/L)								<1.0	<0.35	<0.1	3.81	5.19	1.07	0.915	1.19			
Propionic acid (mg/L)								<1.0	<0.35	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5			
Butyric acid (mg/L)								<1.0	<0.07	<0.1	<0.5	<0.5	<0.5	<0.5	0.47J			
Pyruvic acid (mg/L)								<10	<0.07	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5			
i-Pentanoic acid (mg/L)									<0.07	<0.1								
n-Pentanoic acid (mg/L)									<0.07	<0.1								
i-Hexanoic acid (mg/L)									<0.1	<0.1								
n-Hexanoic acid (mg/L)									<0.1	<0.1								
n-Heptanoic acid (mg/L)										<0.1								

Attachment 9
Non-VOC Analytical Groundwater Data

Location	MW-3						MW-4						MW-5					
Date:	May-03	Jan-04	Jul-04	Aug-06	Mar-08	May-09	May-03	Jan-04	Nov-04	Aug-06	Mar-08	May-09	May-03	Dec-03	Feb-04	Apr-04	Jul-04	Nov-04
D.O. (mg/L)	1.45	0.06	1.2	0.27	0.72	0.85	2.38	0.02	2.16	0.27	0.3	0.93	1.38	1.07	1.96	1.58	2.63	2.78
ORP (mV)	480	-97	-166	-187.2	35.8	-4	463	-109	-142	-113.4	-204	-73.1	496	93	200	163	-23	8
Temp. (C)	24.4	21.7	25.2	25.43	18.76	21.3	23	21.6	23.49	23.31	20.83	24.85	21.3	21.2	21.5	22	22.3	22.1
pH	7.03	7.23	7.03	7.42	7.19	6.17	6.82	6.87	6.94	7.2	7.01	6.91	7.07	7.38	7.38	7.4	7.09	7.26
Ferrous Iron (mg/L)	0	0	0.4	0	0.1	0	2.5	2.2	2.2	2.5	3.2	3.4	0	0	0	0	0	0
TOC (mg/L)		2		4.6				20	29	11				16	23	32	51	50
Sulfide (mg/L)	0	<1	<1				0	<1	<1				0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity (mg/L)			590	540					1000	1000				1200	1200	1100	1300	1300
Chloride (mg/L)	34	40	44	47			230	200	200	220			100	92	95	86	91	100
Nitrate (mg/L)	0	<0.1	<0.1	<0.1			0	<0.1	<0.1	<0.1			2.1	3.1	4.1	3.8	3.4	3.1
Sulfate (mg/L)	100	120	120	140			9600	9600	9300	8500			430	360	360	330	330	360
Hydroxide Alkalinity																		
Carbonate Alkalinity																		
Bicarbonate Alkalinity																		
Aluminum (µg/L)																		
Antimony (µg/L)																		
Arsenic (µg/L)																		
Barium (µg/L)																		
Cadmium (µg/L)																		
Calcium (mg/L)				49.8						383				34	34	32	32	33
Chromium (µg/L)																		
Cobalt (µg/L)																		
Copper (µg/L)																		
Iron, Total (mg/L)				0.367						2.99				<0.1	<0.1	<0.1	<0.1	<0.1
Lead (µg/L)																		
Magnesium (mg/L)				17.9						589				25	27	26	25	26
Manganese (mg/L)				0.606						6.29				0.66	0.44	0.44	0.45	0.7
Mercury (µg/L)																		
Neryllium (µg/L)																		
Nickel (µg/L)																		
Potassium (mg/L)				4.57						33.4				4.4	5.5	5	5	4.9
Selenium (µg/L)																		
Silver (µg/L)																		
Sodium (mg/L)				237						2310				6600	6000	680	650	660
Thallium (µg/L)																		
Vanadium (µg/L)																		
Zinc (µg/L)																		
Boron (µg/L)																		
Ethene (ng/L)	0	<1300					0	<1300	<200				0	140	86	<10000	<200	<600
Ethane (ng/L)	0	<1200					0	<1200	<200				0	31	24	<10000	<200	<600
Methane (ug/L)	14	1400					12	15	14				4.3	27	6	8	4.8	3
TDS (mg/L)			890						14000					2100			2100	2100
TSS (mg/L)																		
BOD (mg/L)														6				
Boron (mg/L)				5.06						0.534				1.5	1.7	1.5	1.6	1.6
Hydrogen (nM)														0.38	NM	<40		
CO_2 (mg/L)														58	61	7.73	79	150
Lactic acid (mg/L)														<25	<0.07	2.3	<0.1	<0.5
Acetic acid (mg/L)														<1.0	<0.07	<0.1	0.6	47.4
Propionic acid (mg/L)														<1.0	<0.07	<0.1	<0.1	<0.5
Butyric acid (mg/L)														<1.0	<0.07	<0.1	<0.5	<0.5
Pyruvic acid (mg/L)														<10	<0.07	<0.1	<0.1	<0.5
i-Pentanoic acid (mg/L)															<0.07	<0.1		
n-Pentanoic acid (mg/L)															<0.07	<0.1		
i-Hexanoic acid (mg/L)															<0.1	<0.1		
n-Hexanoic acid (mg/L)															<0.1	<0.1		
n-Heptanoic acid (mg/L)																<0.1		

Attachment 9
Non-VOC Analytical Groundwater Data

Location	MW-5 (cont.)					MW-8				MW-9B	MW-10						MW-12			
Date:	Apr-05	Nov-05	Aug-06	Mar-08	May-09	Jan-04	Aug-06	Mar-08	May-09	May-09	May-03	Jan-04	Nov-04	Aug-06	Mar-08	May-09	May-03	Jan-04	Mar-08	May-09
D.O. (mg/L)	2.09	1	2.25	0.48	1.29	0.73	0.76	0.93	1.5		0.12	0.01	1.71	0.22	0.56	1.03		0.29	0.31	0.65
ORP (mV)	80	-333.2	-3	-270	4.8	71	68.3	-79	19.1		552	-123	-229	-102.8	-144	-96.9		5	-18.8	21.2
Temp. (C)	21	21.12	22.5	21.2	23.42	23.9	23.78	22.61	25.1		22.6	22.4	23.37	23.84	22.11	22.78		23.8	22.64	25.98
pH	7.5	7.6	7.34	7.25	7.05	7.12	7.26	7.19	7.07		6.97	6.99	6.84	7.26	7.13	6.09		7.09	7.03	6.86
Ferrous Iron (mg/L)	0	0	0	0.4	0.3	0	0	0	0		2.3	2.4	2.8	2	1.8	3.2	0	0	0	0
TOC (mg/L)	40	32	20			<2						1.7	15					1.6		
Sulfide (mg/L)	<1.0	<1.0				<1					0	<1	<1				0	<1		
Alkalinity (mg/L)	1300	1400	1500										820							
Chloride (mg/L)	100	100	98			55					150	97	110				140	88		
Nitrate (mg/L)	3.7	0.51	0.88			1.2					0.16	0.05	<0.1				0.69	0.09		
Sulfate (mg/L)	350	300	340			230					3200	2300	3700				1100	330		
Hydroxide Alkalinity																				
Carbonate Alkalinity																				
Bicarbonate Alkalinity																				
Aluminum (µg/L)										153 J										
Antimony (µg/L)										<60										
Arsenic (µg/L)										6.8 J										
Barium (µg/L)										<200										
Cadmium (µg/L)										<5.0										
Calcium (mg/L)	36	36	43.2							736										
Chromium (µg/L)										<10										
Cobalt (µg/L)										<50										
Copper (µg/L)										<25										
Iron, Total (mg/L)	0.084J	<0.1	0.054J							2.49										
Lead (µg/L)										<10										
Magnesium (mg/L)	26	23	29.4							243										
Manganese (mg/L)	2.2	0.4	1.69							5.3										
Mercury (µg/L)										<0.20										
Neryllium (µg/L)										<5.0										
Nickel (µg/L)										<40										
Potassium (mg/L)	4.7	5.2	5.77							12.4										
Selenium (µg/L)										<35										
Silver (µg/L)										<10										
Sodium (mg/L)	740	810	713							903										
Thallium (µg/L)										<25										
Vanadium (µg/L)										<50										
Zinc (µg/L)										<60										
Boron (µg/L)										2780										
Ethene (ng/L)	<1000	900J									0		<200				0			
Ethane (ng/L)	<1100	<1100									0		<200				0			
Methane (ug/L)	5.9	250									13		24				10			
TDS (mg/L)	2000	2100											5400							
TSS (mg/L)																				
BOD (mg/L)																				
Boron (mg/L)	1.5	1.4	2.04																	
Hydrogen (nM)																				
CO_2 (mg/L)	110	140																		
Lactic acid (mg/L)	<0.5	<0.5																		
Acetic acid (mg/L)	0.844	0.575																		
Propionic acid (mg/L)	<0.5	<0.5																		
Butyric acid (mg/L)	<0.5	<0.5																		
Pyruvic acid (mg/L)	<0.5	<0.5																		
i-Pentanoic acid (mg/L)																				
n-Pentanoic acid (mg/L)																				
i-Hexanoic acid (mg/L)																				
n-Hexanoic acid (mg/L)																				
n-Heptanoic acid (mg/L)																				

Attachment 9
Non-VOC Analytical Groundwater Data

Location	MW-14	MW-15						MW-15B	MW-16						MW-17					
Date:	May-09	May-03	Jan-04	Jul-04	Aug-06	Mar-08	May-09	May-09	May-03	Jan-04	Nov-04	Aug-06	Mar-08	May-09	May-03	Jan-04	Nov-04	Aug-06	Mar-08	May-09
D.O. (mg/L)	1.17	1.06	0.37	1.3	0.89	0.26	0.36	0.32	0.3	0.31	2.04	0.46	0.45	0.75	1.34	0.43	2.19	0.68	0.23	0.23
ORP (mV)	-14.2	607	-131	-60	-230.6	-410	-88.2	-91.3	368	-106	-207	-291	-344	-131.2	397	-139	-214	-309.9	-191	-62.1
Temp. (C)	22.43	22.2	22.4	23.1	22.9	22.74	25.31	23.64	22	22.2	22.25	22.4	21.8	21.5	21.6	22.6	23.38	23.25	21.95	26.02
pH	6.14	6.92	6.95	6.64	7.3	7.01	6.93	6.93	7.08	7.29	6.98	7.5	7.09	6.02	6.88	6.87	6.73	7.4	6.97	6.86
Ferrous Iron (mg/L)	0	3.4	2.6	2.3	3.1	2.8	3.7	2.6	0	0.1	0	0.2	0	0	5	3.6	2.3	4.2	4	4
TOC (mg/L)			10		6			8.8								5.3	17	8		
Sulfide (mg/L)		0	<1					<1	0						0	<1	<1			
Alkalinity (mg/L)				850	740			880									780	790		
Chloride (mg/L)		840	410	490	350			420	250						320	310	280	220		
Nitrate (mg/L)		0	<0.1	<0.1	<0.1			<0.10 J	0						0	<0.1	<0.1	<0.1		
Sulfate (mg/L)		2900	3200	2800	2100			2200	490						7000	7100	6600	6300		
Hydroxide Alkalinity								<10												
Carbonate Alkalinity								<10												
Bicarbonate Alkalinity								880												
Aluminum (µg/L)								<200												
Antimony (µg/L)								<60												
Arsenic (µg/L)								43.7												
Barium (µg/L)								<200												
Cadmium (µg/L)								<5.0												
Calcium (mg/L)					293			280										354		
Chromium (µg/L)								<10												
Cobalt (µg/L)								<50												
Copper (µg/L)								<25												
Iron, Total (mg/L)					3.63			2.68										6.77		
Lead (µg/L)								<10												
Magnesium (mg/L)					192			191										470		
Manganese (mg/L)					4.2													7.89		
Mercury (µg/L)								0.051 J												
Neryllium (µg/L)								<5.0												
Nickel (µg/L)								<40												
Potassium (mg/L)					14			10.7										23.8		
Selenium (µg/L)								<35												
Silver (µg/L)								<10												
Sodium (mg/L)					763			841										1870		
Thallium (µg/L)								<25												
Vanadium (µg/L)								<50												
Zinc (µg/L)								27.4 J												
Boron (µg/L)								631												
Ethene (ng/L)		0							0						0		<200			
Ethane (ng/L)		0							0						0		<200			
Methane (ug/L)		22							8.3						3.8		6.5			
TDS (mg/L)				5700				4600									11000			
TSS (mg/L)								22												
BOD (mg/L)																				
Boron (mg/L)					0.722													2.17		
Hydrogen (nM)																				
CO_2 (mg/L)																				
Lactic acid (mg/L)																				
Acetic acid (mg/L)																				
Propionic acid (mg/L)																				
Butyric acid (mg/L)																				
Pyruvic acid (mg/L)																				
i-Pentanoic acid (mg/L)																				
n-Pentanoic acid (mg/L)																				
i-Hexanoic acid (mg/L)																				
n-Hexanoic acid (mg/L)																				
n-Heptanoic acid (mg/L)																				

Attachment 9
Non-VOC Analytical Groundwater Data

Location	MW-18					MW-19						MW-20						
Date:	May-03	Jan-04	Aug-06	Mar-08	May-09	May-03	Jan-04	Jul-04	Aug-06	Mar-08	May-09	May-03	Dec-03	Feb-04	Apr-04	Jul-04	Nov-04	Apr-05
D.O. (mg/L)	0.63	0	0.23	0.3	2.11	0	0.3	2.43	0.22	0.2	0.33	0.21	0	0.21	0.79	1.47	1.84	0.24
ORP (mV)	390	-137	-151	-226	64	551	-136	-113	-149.9	-272	-113.6	501	-72	-82	-89	-135	-133	-49
Temp. (C)	21.3	21.4	23.24	21.1	22.61	22.1	22.5	27.2	23.7	22.53	25.34	22.4	21.8	21.8	28.4	23.9	23.2	22.4
pH	6.9	6.99	7.23	7.06	6.47	7.01	6.96	7.11	7.08	7	7.06	6.93	6.83	6.74	6.99	7.05	6.85	7.1
Ferrous Iron (mg/L)	2.1	2	0.6	1	0.8	3.4	2.2	2.3	3.5	3.4	4	1	0.9	1	1.1	1	1	1
TOC (mg/L)							8.9		6.4				7.1	14	26	32	18	25
Sulfide (mg/L)	0						<1	<1				0	0.57	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity (mg/L)								670	650				820	900	850	930	910	940
Chloride (mg/L)	560					250	230	240	200			440	410	420	430	410	440	470
Nitrate (mg/L)	0					0	<0.1	<0.1	<0.1			0	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10
Sulfate (mg/L)	2200					2800	2700	2600	2900			2500	2300	2400	2300	2300	2500	2700
Hydroxide Alkalinity																		
Carbonate Alkalinity																		
Bicarbonate Alkalinity																		
Aluminum (µg/L)											125 J							
Antimony (µg/L)											<60							
Arsenic (µg/L)											53.2							
Barium (µg/L)											<200							
Cadmium (µg/L)											<5.0							
Calcium (mg/L)									462		490		530	570	600	490	590	610
Chromium (µg/L)											<10							
Cobalt (µg/L)											<50							
Copper (µg/L)											<25							
Iron, Total (mg/L)									4.66		4.75		0.71	0.83	0.72	0.64	0.92	0.77
Lead (µg/L)											<10							
Magnesium (mg/L)									197		206		220	240	240	210	240	230
Manganese (mg/L)									4.08		4.3		3.7	3.9	3.9	3.5	3.9	4.2
Mercury (µg/L)											<0.20							
Neryllium (µg/L)											<5.0							
Nickel (µg/L)											<40							
Potassium (mg/L)									13.6		11.3		11	12	12	10	12	12
Selenium (µg/L)											<35							
Silver (µg/L)											<10							
Sodium (mg/L)									726		913		550	520	580	530	610	710
Thallium (µg/L)											<25							
Vanadium (µg/L)											<50							
Zinc (µg/L)											<60							
Boron (µg/L)											7270							
Ethene (ng/L)	0					0						0	340	540	<10000	<600	<200	<1000
Ethane (ng/L)	0					0						0	33	76	<10000	<600	<200	<1100
Methane (ug/L)	20					24						23	33	49	39	28	29	31
TDS (mg/L)								4900					4900			5200	5100	5100
TSS (mg/L)																		
BOD (mg/L)													<2					
Boron (mg/L)									5.08				0.69	0.73	0.65	0.64	0.74	0.72
Hydrogen (nM)													1.4	NM	<40			
CO_2 (mg/L)													0.55	110	16.2	150	140	150
Lactic acid (mg/L)													<25	<0.07	<0.1	<0.1	<0.5	<0.5
Acetic acid (mg/L)													<1.0	0.043	<0.1	0.733	38.7	0.857
Propionic acid (mg/L)													<1.0	<0.07	<0.1	<0.1	<0.5	<0.5
Butyric acid (mg/L)													<1.0	<0.07	<0.1	<0.5	<0.5	<0.5
Pyruvic acid (mg/L)													<10	<0.07	<0.1	<0.1	<0.5	<0.5
i-Pentanoic acid (mg/L)														<0.07	<0.1			
n-Pentanoic acid (mg/L)														<0.07	<0.1			
i-Hexanoic acid (mg/L)														<0.1	<0.1			
n-Hexanoic acid (mg/L)														<0.1	<0.1			
n-Heptanoic acid (mg/L)																		

Attachment 9
Non-VOC Analytical Groundwater Data

Location	MW-20 (cont)													MW-20B				
Date:	Jul-05	Jul-05	Aug-05	Sep-05	Sep-05	Oct-05	Nov-05	Jan-06	Mar-06	Jun-06	Aug-06	Mar-08	May-09	Jul-05	Jul-05	Aug-05	Sep-05	Sep-05
D.O. (mg/L)	0.12	0.54	7.59 (13)	11.11	7.24	10.2	1.6	1.99	3.66	1.52	1	0.95	0.61	0.11	0.32	0.08 (2.36)	0.25	0.37
ORP (mV)	38.6	-32.4	34 (203)	81.8	170	41.4	18.8	36.8	167	62.1	-291	75.3	70	-77.7	-117.3	-89.3 (-29.1)	-62.4	-1.1
Temp. (C)	24.17	23.44	22.96	22.96	22.73	22.2	22.48	22.11	22.03	22.45	24.68	22.11	24.53	23.12	22.67	22.97(20.24)	22.62	23.37
pH	7.15	7.3	7.93	7.15	7.4	7.5	7.43	7.3	7.44	7.23	7.8	6.92	6.43	7.13	7.16	7.7	7.29	7.1
Ferrous Iron (mg/L)	1	0	0	0	0	0	0	0	0	0	0	0	0	3.1	3.6	3.4	3.6	4
TOC (mg/L)	18	25	14	13	11	11	7.1	12		9.8	7			12	26	7.9	7	6.8
Sulfide (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0			<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity (mg/L)	870	850	780	690	670	640	770	700	600	930	590			780	750	750	720	690
Chloride (mg/L)	390	390	440	430	420	340	310	320	310	250	400			190	170	160	150	140
Nitrate (mg/L)	<0.10	<0.10	0.33	3.5	4.1	6.8	3.5A3	5.6	12	0.14	8.2			<0.10	<0.10	<0.10	<0.10	<0.10
Sulfate (mg/L)	2500	2400	2100	2200	2200	1900	1900	1900	1900	1800	2400			5400	5400	5500	4900	5000
Hydroxide Alkalinity																		
Carbonate Alkalinity																		
Bicarbonate Alkalinity																		
Aluminum (µg/L)	81.9	60	58.7J	34.5J	25.4J	424		<200		119J			1790	53.2	<200	94.9J	38.6J	39.6J
Antimony (µg/L)	0.5	0.95	<1.0J	0.99J	1.2J	<10		0.74J		1.6J			<60	0.5	0.8	0.47J	0.23J	1.2J
Arsenic (µg/L)	79.4	69.4	59.6	48.1	35.4	27.9		16		11.3			533	44.4	49.1	48.1	49.2	38.4
Barium (µg/L)	251	220	105	71.3	214	133		70.5		146J			<200	138	179	201	65.8	17.4
Cadmium (µg/L)	<1.0	<1.0	<1.0	<1.0	0.36J	<5.0		0.43J		1.5J			2.5 J	<1.0	<10	J1.0	<1.0	<1.0
Calcium (mg/L)	457	446	449	496	446	382	327	345	342	293	459		185	400	405	391	433	427
Chromium (µg/L)	2.1	<2.0	1.5J	<2.0	0.74J	3.7		1.3J		1.3J			4.1 J	1.1	0.98	1.6J	<2.0	6.3J
Cobalt (µg/L)	0.81	0.94	0.98J	0.77J	0.81J	<5.0		0.54J		1.3J			<50	0.99	<10	0.89J	0.72J	0.54J
Copper (µg/L)	6.7	10.9	10.8	15.7	13.4	10.9		12.2		30.6			<25	15.8	14	15.2	16	17.1
Iron, Total (mg/L)	0.589	0.092	0.0731J	<0.1	<0.1	0.408	<0.1	<0.1	<0.1	<0.1	2.74		2.36	4.34	4.75	4.53	4.52	4.37
Lead (µg/L)	0.13	0.18	0.14J	<1.0	<1.0	<0.5		0.29J		51			<10	0.04	0.04	0.03J	<1.0	<1.0
Magnesium (mg/L)	180	183	192	208	193	159	152	143	148	144	242		198	367	370	353	381	388
Manganese (mg/L)	3.12	2.31	1.05	4.27	0.958	0.838	0.307	0.669	4.57	1.36	0.915		2.98	6.07	6.51	6.12	7.03	7.09
Mercury (µg/L)	0.11	<0.2	<0.2	<0.2	<0.2	<0.2		<0.2		<0.2			0.066 J	0.21	0.022	<0.2	<0.2	<0.2
Neryllium (µg/L)													<5.0					
Nickel (µg/L)	22.5	24.6	32.7	13.7	25.1	24.3		15		26.8			<40	7.9	7.9	8.3	2.1	1.9
Potassium (mg/L)	17	16	14.1	17.1	14.7	15.1	17	16.8	16.9	16.9	15.9		8.85	21.5	19.7	17.4	21.6	20
Selenium (µg/L)	12	11.4	20.6	23.4	35.6	51.2		28.8		7.0J			<35	15.4	11.7	10.5	3.2J	3.8J
Silver (µg/L)	<10	<1.0	<1.0	<1.0	<1.0	<5.0		<1.0		<4.0			<10	<1.0	<1.0	<1.0	<1.0	<1.0
Sodium (mg/L)	978	971	771	659	652	570	790	645	631	745	481		948	700	1850	1700	1530	1530
Thallium (µg/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0		<1.0		<4.0			<25	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium (µg/L)	<10	12.1	7.1	3.7	9.5	8		12.5		15.3			60.6	<1.0	0.63	0.49J	<1.0	0.56J
Zinc (µg/L)	95.5	10.4	13.3	56.5	70.5	29.4		9		33.7			<60	34.3	146	108	13.8	144
Boron (µg/L)													1930					
Ethene (ng/L)							<1000				<1000							
Ethane (ng/L)							<1100				<1100							
Methane (ug/L)							40				31							
TDS (mg/L)							4000											
TSS (mg/L)																		
BOD (mg/L)																		
Boron (mg/L)																		
Hydrogen (nM)																		
CO_2 (mg/L)							72											
Lactic acid (mg/L)							<0.5		NA									
Acetic acid (mg/L)							<0.5		NA									
Propionic acid (mg/L)							<0.5		NA									
Butyric acid (mg/L)							<0.5		NA									
Pyruvic acid (mg/L)							<0.5		NA									
i-Pentanoic acid (mg/L)																		
n-Pentanoic acid (mg/L)																		
i-Hexanoic acid (mg/L)																		
n-Hexanoic acid (mg/L)																		
n-Heptanoic acid (mg/L)																		

Attachment 9
Non-VOC Analytical Groundwater Data

Location	MW-20B (cont.)								MW-21										
Date:	Oct-05	Nov-05	Jan-06	Mar-06	Jun-06	Aug-06	Mar-08	May-09	Dec-03	Feb-04	Apr-04	Jul-04	Nov-04	Apr-05	Nov-05	Mar-06	Aug-06	Mar-08	May-09
D.O. (mg/L)	0.19	0.25	0.14	0.3	0.16	0.6	0.41	1	0	0.26	0.02	1.26	2.04	0.05	0.58	0.26	0.14	0.29	0.77
ORP (mV)	-3.1	-187.1	-164.8	-110.3	-136.3	-381.6	-113	47.2	-72	-127	-308	-74	-129	-133	-357.9	-121	-137	-224	60
Temp. (C)	21.9	22.1	21.98	22.72	22.57	23.24	21.89	23.06	22.2	22.1	23.6	24	23.1	21.2	21.79	20.48	22.85	21.78	22.13
pH	7.3	7.38	7.1	7.26	7.15	8.4	6.96	6.42	6.95	6.8	6.99	6.66	6.83	7.1	7.44	7.05	6.9	6.94	7.38
Ferrous Iron (mg/L)	3.4	2.8	2.4	3		2.2	3	2.2	1	2	1.1	1.1	1.2	1.5	2	1.8	2.2	1.8	2.4
TOC (mg/L)	6.7	5.2	6.3		6.4	5.9			13	56	37	45	30	31	8.8		15		16
Sulfide (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0				<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.85J	<1.0	<1
Alkalinity (mg/L)	680	690	710	740	770	840			1100	1100	1100	1100	1100	1100	920	1200	1200	1200	1100
Chloride (mg/L)	130	130	130	120	110	110			220	230	230	250	260	220	200	220	200	180	170
Nitrate (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.1			<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.1	<0.10
Sulfate (mg/L)	5100	4700	5400	4900	5000	4600			4900	4400	4500	4400	4400	3600	2000	3900	3700	3800	3900
Hydroxide Alkalinity																			<10
Carbonate Alkalinity																			<10
Bicarbonate Alkalinity																			1100
Aluminum (µg/L)	51.1J	38.1	<200	<200	<200			109 J											
Antimony (µg/L)	<20	0.27J	0.12J	0.59J	<20			<60											
Arsenic (µg/L)	0.0397	0.0372	0.0285	0.0114	0.0274			7.0 J											
Barium (µg/L)	151	134	163	70	18.9J			73.4 J											
Cadmium (µg/L)	<10	<5.0	<1.0	<0.17J	<10			<5.0											
Calcium (mg/L)	390	390	382	367	347	301		534	410	400	380	380	370	350	200		292		
Chromium (µg/L)	<20	<10	0.79J	4.5	<20			<10											
Cobalt (µg/L)	<10	0.26J	0.25J	0.48J	<10			<50											
Copper (µg/L)	4.8J	5.4J	4.2	14.4	10.2J			<25											
Iron, Total (mg/L)	3.89	3.63	3.39	3.16	2.91	3.04		0.159	1.3	2.2	0.79	1.3	2.5	1.4	1.4		2.27		
Lead (µg/L)	<10	<5.0	<1.0	0.14J	<10			<10											
Magnesium (mg/L)	356	361	355	342	323	329		280	310	320	320	310	310	280	170		277		
Manganese (mg/L)	6.07	2.54	4.26	0.0427	3.69	3.58		2.54	5.1	5.6	5.3	5.1	5	4.9	2.9		4.81		
Mercury (µg/L)	<0.2	<0.2	<0.2	<0.2	<0.2			0.064 J											
Neryllium (µg/L)								<5.0											
Nickel (µg/L)	<10	1.8J	1.4J	10.3	6.1J			22.5 J											
Potassium (mg/L)	21.6	23	20.3	22	26.1	20.7		14	15	16	16	16	16	14	10		18.8		
Selenium (µg/L)	<5.0	4.7J	1.1J	33	5.1J			<35											
Silver (µg/L)	<1.0	<5.0	<1.0	<1.0	<1.0			<10											
Sodium (mg/L)	1470	1610	1530	1550	1590	1420		670	1400	1300	1500	1400	1400	1400	1000		1260		
Thallium (µg/L)	<1.0	<5.0	<1.0	<1.0	<1.0			<25											
Vanadium (µg/L)	<10	0.45J	0.37J	11.9	0.48J			<50											
Zinc (µg/L)	17.8J	17.8J	2.1	5.8	<20			<60											
Boron (µg/L)								632											
Ethene (ng/L)									360	490	<8000	<600	890J	1200	500J	6100	12000	7700	5000
Ethane (ng/L)									43	48	<8000	<600	<200	<1100	<1100	<1100	<1100	<1100	<1100
Methane (ug/L)									24	38	34	25	27	1900	1400	1800	1600	3300	4800
TDS (mg/L)									770			7800	7400	6600	4000			6700	6700
TSS (mg/L)																			6 J
BOD (mg/L)									2.7										
Boron (mg/L)						0.517			0.59	0.65	0.57	0.65	0.69	0.72	0.93		0.98		
Hydrogen (nM)									1.6	NM	<40					1.6			
CO_2 (mg/L)									120	180	16.8	180	240	210	210	190			
Lactic acid (mg/L)									<25	<7.0	<0.1	0.36J	<0.5	<0.5	<0.5	<0.5			
Acetic acid (mg/L)									<1.0	103	<0.1	1.11	14.4	<0.5	0.383J	0.575			
Propionic acid (mg/L)									<1.0	<7.0	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5			
Butyric acid (mg/L)									<1.0	<7.0	<0.1	<0.5	<0.5	<0.5	<0.5	0.32J			
Pyruvic acid (mg/L)									<10	<7.0	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5			
i-Pentanoic acid (mg/L)										<7.0	<0.1								
n-Pentanoic acid (mg/L)										<7.0	<0.1								
i-Hexanoic acid (mg/L)										<0.1	<0.1								
n-Hexanoic acid (mg/L)										<0.1	<0.1								
n-Heptanoic acid (mg/L)											<0.1								

Attachment 9
Non-VOC Analytical Groundwater Data

Location	MW-22					MW-23					MW-23B	MW-24				
Date:	Jan-04	Nov-04	Aug-06	Mar-08	May-09	Jan-04	Nov-04	Aug-06	Mar-08	May-09	May-09	Jan-04	Nov-04	Aug-06	Mar-08	May-09
D.O. (mg/L)	0.47	1.7	0.27	0.25	0.7	0.22	2.56	0.73	0.31	0.5	0.38	0.42	1.56	0.3	0.39	5/17/2009
ORP (mV)	-118	-182	-112.2	-355	-139.9	-132	-275	-282.2	-98	-102.2	-95.4	-133	-165	-134.8	-199	0.32
Temp. (C)	23.3	23.26	23.33	23.01	24.33	22.4	24.73	22.79	22.43	23.66	23.79	22.9	23.17	23.93	22.5	-129.2
pH	7.02	6.94	7.15	7.17	6.28	6.86	6.75	7.2	6.96	6.97	7.15	6.9	6.71	7.1	6.79	25.09
Ferrous Iron (mg/L)	1.6	1.2	2.8	3	3.4	3.2	4.2	5.2	2.9	4.5	1.4	2.8	2.2	3		6.9
TOC (mg/L)	<2	30	10			8.9	15	7.9			2.2	<2	17	6.4		4
Sulfide (mg/L)	<1	<1				<1	<1				<1	<1	<1			
Alkalinity (mg/L)		960	970				830	810			330		640	580		
Chloride (mg/L)	490	380	450			300	260	230			320	240	220	260		
Nitrate (mg/L)	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1			<0.10	<0.1	<0.1	<0.1		
Sulfate (mg/L)	2700	2400	3000			7200	6800	6600			1100	2300	2200	1800		
Hydroxide Alkalinity											<10					
Carbonate Alkalinity											<10					
Bicarbonate Alkalinity											330					
Aluminum (µg/L)										170 J	106 J					75 UJ
Antimony (µg/L)										<60	<60					<60
Arsenic (µg/L)										61.6	<10					72.2
Barium (µg/L)										<200	107 J					<200
Cadmium (µg/L)										1.3 J	<5.0					1.2 J
Calcium (mg/L)								341		325	372			434		458
Chromium (µg/L)										<10	<10					<10
Cobalt (µg/L)										<50	<50					<50
Copper (µg/L)										<25	<25					<25
Iron, Total (mg/L)								6.82		4.9	0.644			4.07		5.23
Lead (µg/L)										<10	<10					<10
Magnesium (mg/L)								439		382	93.2			175		199
Manganese (mg/L)								7.55		6.12	2.92			4.13		4.63
Mercury (µg/L)										<0.20	<0.20					<0.20
Neryllium (µg/L)										<5.0	<5.0					<5.0
Nickel (µg/L)										<40	<40					<40
Potassium (mg/L)								24.2		13.7	6.13			8.21		8.99
Selenium (µg/L)										<35	<35					35 UJ
Silver (µg/L)										<10	<10					<10
Sodium (mg/L)								1818		1540	153			339		452
Thallium (µg/L)										<25	<25					<25
Vanadium (µg/L)										<50	<50					<50
Zinc (µg/L)										<60	<60					25 J
Boron (µg/L)										2140	238					702
Ethene (ng/L)	<1300	<200					<200				<1000	<1300	<200			
Ethane (ng/L)	<1200	<200					<200				<1100	<1200	<200			
Methane (ug/L)	67	1800					6.4				16	26	61			
TDS (mg/L)		5100					11000				2300		4200			
TSS (mg/L)											110					
BOD (mg/L)																
Boron (mg/L)								3.3						0.611		
Hydrogen (nM)																
CO_2 (mg/L)																
Lactic acid (mg/L)																
Acetic acid (mg/L)																
Propionic acid (mg/L)																
Butyric acid (mg/L)																
Pyruvic acid (mg/L)																
i-Pentanoic acid (mg/L)																
n-Pentanoic acid (mg/L)																
i-Hexanoic acid (mg/L)																
n-Hexanoic acid (mg/L)																
n-Heptanoic acid (mg/L)																

Attachment 9
Non-VOC Analytical Groundwater Data

Location	MW-25					MW-25B		MW-26					MW-27				
Date:	Jan-04	Jul-04	Aug-06	Mar-08	May-09	Mar-08	May-09	Jan-04	Nov-04	Aug-06	Mar-08	May-09	Jan-04	Jul-04	Aug-06	Mar-08	May-09
D.O. (mg/L)	0.21	1.13	0.49	0.31	5/17/2009	0.88	1.29	0.25	1.74	0.36	0.44	0.81	0.51	1.05	0.3	0.74	0.9
ORP (mV)	-145	-91	-336.7	-372	0.25	-211	-85.1	-70	-127	-354.6	-247	-55.2	-134	-187	-117.8	-94	-103.1
Temp. (C)	23.2	23	23.52	22.57	-137.4	22.22	22.01	22.7	22.54	22.7	21.52	21.99	22.7	23.6	23.1	22.96	22.36
pH	7.22	6.69	7.7	7.04	24.59	7.02	6	7.25	6.93	7.9	7.14	5.99	6.88	6.75	7.04	6.91	5.99
Ferrous Iron (mg/L)	3.9	3.2	3.8	3.6	6.97	3.6	3.7		0	0.2	0.4	0.4	3	2.8	3	3.8	4.8
TOC (mg/L)	<2		6.1	5.2	3.2	6.1							<2		6.7	5.3	
Sulfide (mg/L)	0.97			<1.0		<1.0							<1	<1		<1.0	
Alkalinity (mg/L)		780	690	760		670								670	590	640	
Chloride (mg/L)	590	480	310	260		360							240	240	250	220	
Nitrate (mg/L)	<0.1	<0.1	<0.1	<0.1		<0.1							<0.1	<0.1	<0.1	<0.1	
Sulfate (mg/L)	3000	2900	2300	1800		2700							2300	2200	2300	2000	
Hydroxide Alkalinity																	
Carbonate Alkalinity																	
Bicarbonate Alkalinity																	
Aluminum (µg/L)					63.7 UJ		62.7 UJ										146 J
Antimony (µg/L)					<60		<60										<60
Arsenic (µg/L)					39.8		25.6										61.2
Barium (µg/L)					<200		<200										<200
Cadmium (µg/L)					<5.0		<5.0										<5.0
Calcium (mg/L)			345	300	347	320	300								528	510	535
Chromium (µg/L)					<10		<10										<10
Cobalt (µg/L)					<50		<50										<50
Copper (µg/L)					<25		<25										<25
Iron, Total (mg/L)			4.46	3.6	3.64	3.8	3.43								4.64	3.5	4.51
Lead (µg/L)					<10		<10										<10
Magnesium (mg/L)			167	140	170	170	169								210	160	189
Manganese (mg/L)			4.04	3.1	3.71	3.4	3.49								4.99	3.9	4.45
Mercury (µg/L)					<0.20		<0.20										<0.20
Neryllium (µg/L)					<5.0		<5.0										<5.0
Nickel (µg/L)					<40		<40										<40
Potassium (mg/L)			11.3	7.2	9.24	9.2	12.3								9	6.7	7.85
Selenium (µg/L)					35 UJ		35 UJ										<35
Silver (µg/L)					<10		<10										<10
Sodium (mg/L)			741	610	602	910	648								381	370	400
Thallium (µg/L)					<25		<25										<25
Vanadium (µg/L)					<50		<50										<50
Zinc (µg/L)					<60		<60										77.7
Boron (µg/L)					1000		714										515
Ethene (ng/L)	<1300			<1000		<1000							<1300			<1000	
Ethane (ng/L)	<1200			<1100		<1100							<1200			<1100	
Methane (ug/L)	21			5500		330							31			1600	
TDS (mg/L)		5800		3700		4800								4200		3400	
TSS (mg/L)																	
BOD (mg/L)																	
Boron (mg/L)			0.632	0.64		0.46									0.432	0.37	
Hydrogen (nM)																	
CO_2 (mg/L)																	
Lactic acid (mg/L)																	
Acetic acid (mg/L)																	
Propionic acid (mg/L)																	
Butyric acid (mg/L)																	
Pyruvic acid (mg/L)																	
i-Pentanoic acid (mg/L)																	
n-Pentanoic acid (mg/L)																	
i-Hexanoic acid (mg/L)																	
n-Hexanoic acid (mg/L)																	
n-Heptanoic acid (mg/L)																	

Attachment 9
Non-VOC Analytical Groundwater Data

Location	MW-28					MW-29A		MW-29				
Date:	Jan-04	Nov-04	Aug-06	Mar-08	May-09	Mar-08	May-09	Jan-04	Nov-04	Aug-06	Mar-08	May-09
D.O. (mg/L)	0.23	1.79	0.2	0.75	0.88	0.29	0.18	0	1.89	0.45	0.27	0.25
ORP (mV)	-120	-161	-136.7	-76	-116.1	-100	-87.6	-158	-170	-291.1	-103	-149.1
Temp. (C)	22.3	22.68	23.51	22.54	22.23	23	25.61	22.2	23.65	22.96	22.77	24.81
pH	6.9	6.75	7.04	6.88	5.99	6.91	6.92	6.87	6.79	7.3	7	7.06
Ferrous Iron (mg/L)	2.3	2.1	1.8	3.8	3.4	1	1	3.1	4	5.1	3	4
TOC (mg/L)		15	6.7	6.7			3.1	<2	14	8.6	6.3	
Sulfide (mg/L)		<1		<1.0			<1	<1	<1		<1.0	
Alkalinity (mg/L)		590	430	360			840		590	700	720	
Chloride (mg/L)		420	270	660			72	350	320	500	410	
Nitrate (mg/L)		<0.1	<0.1	<0.1			<0.10	<0.1	<0.1	<0.1	<0.1	
Sulfate (mg/L)		4500	2700	3800			770	4400	4400	3300	2500	
Hydroxide Alkalinity							<10					
Carbonate Alkalinity							<10					
Bicarbonate Alkalinity							840					
Aluminum (µg/L)					171 J		106 J					115 J
Antimony (µg/L)					<60		<60					<60
Arsenic (µg/L)					<10		49					22.1
Barium (µg/L)					66.7 J		77.1 J					<20
Cadmium (µg/L)					<5.0		<5.0					<5.0
Calcium (mg/L)			516	730	873		391			478	420	416
Chromium (µg/L)					<10		<10					<10
Cobalt (µg/L)					<50		<50					<50
Copper (µg/L)					<25		<25					<25
Iron, Total (mg/L)			2.57	2.5	3.85		0.711			11.2	4.1	4.58
Lead (µg/L)					<10		<10					<10
Magnesium (mg/L)			172	200	249		120			266	180	201
Manganese (mg/L)			4.57	5.2	6.31		3.17			5.95	4.2	4.49
Mercury (µg/L)					<0.20		<0.20					<0.20
Neryllium (µg/L)					<5.0		<5.0					<5.0
Nickel (µg/L)					<40		<40					<40
Potassium (mg/L)			10.5	10	12		6.07			14.6	9.2	9.69
Selenium (µg/L)					<35		<35					<35
Silver (µg/L)					<10		<10					<10
Sodium (mg/L)			474	870	813		148			886	760	970
Thallium (µg/L)					<25		<25					<25
Vanadium (µg/L)					<50		<50					<50
Zinc (µg/L)					<60		<60					<60
Boron (µg/L)					344		234					828
Ethene (ng/L)		<200		<1000			<1000	<1300	<200		<1000	
Ethane (ng/L)		<200		<1100			<1100	<1200	<200		<1100	
Methane (ug/L)		22		390			13	20	24		58	
TDS (mg/L)		6200		6600			2200		6200		4900	
TSS (mg/L)							10					
BOD (mg/L)												
Boron (mg/L)			0.245	0.31						1.07	0.83	
Hydrogen (nM)												
CO_2 (mg/L)												
Lactic acid (mg/L)												
Acetic acid (mg/L)												
Propionic acid (mg/L)												
Butyric acid (mg/L)												
Pyruvic acid (mg/L)												
i-Pentanoic acid (mg/L)												
n-Pentanoic acid (mg/L)												
i-Hexanoic acid (mg/L)												
n-Hexanoic acid (mg/L)												
n-Heptanoic acid (mg/L)												

Attachment 9
Non-VOC Analytical Groundwater Data

Location	MW-30				MW-31A		MW-31						MW-31B		MW-32				
Date:	Jan-04	Jul-04	Aug-06	May-09	Mar-08	May-09	Mar-08	Jan-04	Jul-04	Aug-06	Mar-08	May-09	Mar-08	May-09	Jan-04	Nov-04	Aug-06	Mar-08	May-09
D.O. (mg/L)	0.1	1.13	0.48		0.3		0.6	0.15	1.12	0.45	1.1	0.27	0.73	0.55	0.44	1.6	0.39	1.21	0.59
ORP (mV)	-96	-148	-290.2		-100		-54	-145	-121	-330.6	-93	-110.1	-107	-110.4	-35	-115	-356.3	-188	-67.4
Temp. (C)	22.3	24	22.56		22.62		23.98	22.8	24.8	23.85	22.5	25.36	22.7	24.26	22.5	22.73	22.98	21.9	22.97
pH	6.95	6.77	7.3		6.99		6.88	6.94	6.81	7.6	6.94	6.96	6.93	6.02	7.08	6.81	7.8	7.22	6.02
Ferrous Iron (mg/L)	0.9	1.9	2.9		0.8		1	2	2.1	4.1	4	4	3.6	5.2	0		0.3	0.3	0
TOC (mg/L)			6.7		5.4		5.7	<2		6.1	5.4		6.2						
Sulfide (mg/L)		<1		1.29	<1.0	101	<1.0	<1	<1		<1.0		<1.0						
Alkalinity (mg/L)		570	570	-43.9	590	-66	980		640	610	700		650						
Chloride (mg/L)		350	320	21.66	30	27.25	96	260	310	390	290		240						
Nitrate (mg/L)		<0.1	<0.1	5.92	<0.1	6.91	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1						
Sulfate (mg/L)		3300	3500		3700	0.6	1200	1500	1700	3300	3200		4200						
Hydroxide Alkalinity																			
Carbonate Alkalinity																			
Bicarbonate Alkalinity																			
Aluminum (µg/L)				154 J		58 UJ						81 UJ		98.5 UJ					
Antimony (µg/L)				<60		<60						<60		<60					
Arsenic (µg/L)				5.4 J		67.7						50.4		34.8					
Barium (µg/L)				59.1 J		<200						64.6 J		<200					
Cadmium (µg/L)				<5.0		1.4 J						<5.0		<5.0					
Calcium (mg/L)			686	738	710	284	320			666	620	571	690	650					
Chromium (µg/L)				<10		<10						<10		<10					
Cobalt (µg/L)				<50		<50						<50		<50					
Copper (µg/L)				<25		<25						<25		<25					
Iron, Total (mg/L)			2.57	2.61	2.2	0.717	0.82			5.43	3.7	4.33	4.3	5.69					
Lead (µg/L)				<10		<10						<10		<10					
Magnesium (mg/L)			235	255	210	105	110			260	210	238	230	295					
Manganese (mg/L)			5.23	5.6	4.7	2.03	2.1			5.86	4.8	5.34	5.1	6.59					
Mercury (µg/L)				<0.20		<0.20						<0.20		<0.20					
Neryllium (µg/L)				<5.0		<5.0						<5.0		<50					
Nickel (µg/L)				<40		<40						<40		<40					
Potassium (mg/L)			16.2	12.9	11	9.61	8.6			13.6	9.1	12.5	11	14.9					
Selenium (µg/L)				<35		35 UJ						35 UJ		35 UJ					
Silver (µg/L)				<10		<10						<10		<10					
Sodium (mg/L)			731	889	780	338	330			675	740	954	1000	1130					
Thallium (µg/L)				<25		<25						<25		<25					
Vanadium (µg/L)				<50		<50						<50		<50					
Zinc (µg/L)				<60		287.7 J						25.3 J		95.4					
Boron (µg/L)				2890		314						1660		5300					
Ethene (ng/L)					<1000		<1000				<1000		<1000						
Ethane (ng/L)					600		<1100				<1100		900						
Methane (ug/L)					26		21				37		24						
TDS (mg/L)		5800			6400		2600		3600		5600		7000						
TSS (mg/L)																			
BOD (mg/L)																			
Boron (mg/L)			2.67		2.4		0.25			2.53	1.8		3.6						
Hydrogen (nM)																			
CO_2 (mg/L)																			
Lactic acid (mg/L)																			
Acetic acid (mg/L)																			
Propionic acid (mg/L)																			
Butyric acid (mg/L)																			
Pyruvic acid (mg/L)																			
i-Pentanoic acid (mg/L)																			
n-Pentanoic acid (mg/L)																			
i-Hexanoic acid (mg/L)																			
n-Hexanoic acid (mg/L)																			
n-Heptanoic acid (mg/L)																			

Attachment 9

Non-VOC Analytical Groundwater Data

Location	MW-33A														MW-33B			
Date:	Jul-05	Jul-05	Aug-05	Sep-05	Sep-05	Oct-05	Nov-05	Jan-06	Mar-06	Apr-06	Jun-06	Aug-06	Mar-08	May-09	Jul-05	Jul-05	Aug-05	Sep-05
D.O. (mg/L)	0.16	0.88	2.59 (15.34)	1.23	1.2	1.02	0.62	1.18	7.47	11.1	1.96	0.43	1.47		0.45	0.33	0.10 (1.80)	0.4
ORP (mV)	-30.8	-86.9	16.9 (84.9)	4.7	130.7	32.2	-241.4	-107.6	37.2	179.1	36.6	-374	-66		-71.4	-121.4	-58.4 (5.0)	-78.1
Temp. (C)	24.15	22.99	22.7 (21.04)	23.09	22.18	22.3	22.22	22.12	23.11	21.18	21.09	24.03	20.59		24.29	22.64	22.63 (20.32)	22.63
pH	7.14	7.16	7.58	7.92	6.9	7.2	7.38	7.1	7.23	5.7	7.4	8.3	7.11		7.1	7.15	7.75	8.32
Ferrous Iron (mg/L)	0.6	0.8	0.4	0	0	0.3	0	0	0	NM	0	0	0		2.8	2.5	4	4
TOC (mg/L)	35	41	12	11	10	9.3	9	12		5	8.6	6.5			13	29	7.8	7.7
Sulfide (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0					<1.0	<1.0	<1.0	<1.0
Alkalinity (mg/L)	900	870	860	850	800	750	790	620	560	530	770	600			800	800	840	810
Chloride (mg/L)	120	110	110	120	100	98	96	100	96	94	92	94			210	190	180	190
Nitrate (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.6	0.62	1.9	1.3	0.35			<0.10	<0.10	<0.10	<0.10
Sulfate (mg/L)	1700	1600	1700	1800	1600	1500	1500	2100	2400	2500	2000	2800			5300	5100	4800	4800
Hydroxide Alkalinity																		
Carbonate Alkalinity																		
Bicarbonate Alkalinity																		
Aluminum (µg/L)	58	<200	<200	364	16.1 J	32.5 J	385 J	<200	<200		27.6J			61.9 J	72.3	48.6	217	52.2
Antimony (µg/L)	0.58	<2	0.5J	1.9J	0.26J	0.87J	1.7J	0.6J	0.31J	0.37J	0.57J			<60	0.46	<0.4	<2.0	<0.75J
Arsenic (µg/L)	51.5	75.7000	67.6	48.8	91.1	105	62	62.8	27.3	35.5	29.6			17.2	44.3	57.4	30.4	56.9
Barium (µg/L)	193	121	118	77.9	129	155	229	42.5	38.6J	62.4	26.5J			<200	145	111	112	135
Cadmium (µg/L)	<1.0	<1.0	<1.0	0.21J	<1.0	<5.0	0.2J	0.090J	0.090J	0.1J	0.44J			<5.0	<1.0	<1.0	<1.0	<2.0
Calcium (mg/L)	317	417	438	462	448	413	388	508	474		319	378		244	381	393	350	422
Chromium (µg/L)	0.33	0.98	1.3J	<2.0	0.62J	<10	0.56J	0.41J	0.25J	2.1	<8.0			4.4 J	0.38	<1.5	0.72J	<4.0
Cobalt (µg/L)	2.2	2.2	2.4	0.86J	2.2	2.0J	1.4J	1.2J	0.75J	1.2	0.8J			<50	<1.0	<0.91	0.46J	0.52J
Copper (µg/L)	<1.0	3	3.6J	15.5	4.7	3.1J	9.4	2.5	8.3	11.4	20.6			<25	15.3	13.8	6.1	15.6
Iron, Total (mg/L)	0.25	0.399	0.204	0.396	0.0932J	0.0676J	<0.10	<0.10	<0.100		<0.10	5.76		1.96	3.78	4.86	4.97	5.46
Lead (µg/L)	0.7	0.35J	0.53J	<1.0	0.47J	1.0J	<3.0	0.27J	0.17J	0.84J	<4.0			<10	<1.0	<0.04	0.23J	<2.0
Magnesium (mg/L)	114	139	148	153	151	140	132	161	162		133	195		229	362	377	331	392
Manganese (mg/L)	1.95	2.51	2.57	1.07	2.96	2.58	1.4	2.47	1.84	1.57	0.0549	0.851		4.72	5.72	6.17	3.11	6.37
Mercury (µg/L)	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			0.053 J	0.12	<0.2	<0.2	<0.2
Neryllium (µg/L)														<5.0				
Nickel (µg/L)	64.5	69.6	73.9	27.7	63.3	50	41.2	28.4	14.7	11.1	18.7			<40	7.6	8	4.2	2.7
Potassium (mg/L)	12.6	9.87	9.5	10.6	9.41	10.5	12.2	10.1	11.5J		16.2	19.3		11.3	21	19.2	16.6	21.2
Selenium (µg/L)	9.4	8.3	7.8J	39.1	3.3J	4.6J	5.3J	5.7	6.5	7.8	24.4			<35	15.6	11.7	4.4J	2.4
Silver (µg/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<3.0	<1.0	<1.0	<1.0	<4.0			<10	<1.0	<1.0	<1.0	<2.0
Sodium (mg/L)	630	496	460	406	395	382	460	415	448		608	657		1180	1800	1860	1670	1610
Thallium (µg/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<3.0	<1.0	<1.0	<1.0	<4.0			<25	<1.0	<1.0	<1.0	<2.0
Vanadium (µg/L)	0.45	<0.34	0.35	8.3	2.2	<0.5	24.7	3.1	5.7	19.1	28.5			<50	<1.0	<0.48	0.55J	<2.0
Zinc (µg/L)	38	10.4	18.6	108	13.4	21	183	1.5J	2.4	8.1	5.8J			<60	29	18.3	10.5	26.8
Boron (µg/L)														521				
Ethene (ng/L)												<1000						
Ethane (ng/L)												<1100						
Methane (ug/L)												11						
TDS (mg/L)																		
TSS (mg/L)																		
BOD (mg/L)																		
Boron (mg/L)												0.552						
Hydrogen (nM)																		
CO_2 (mg/L)																		
Lactic acid (mg/L)																		
Acetic acid (mg/L)																		
Propionic acid (mg/L)																		
Butyric acid (mg/L)																		
Pyruvic acid (mg/L)																		
i-Pentanoic acid (mg/L)																		
n-Pentanoic acid (mg/L)																		
i-Hexanoic acid (mg/L)																		
n-Hexanoic acid (mg/L)																		
n-Heptanoic acid (mg/L)																		

Attachment 9

Non-VOC Analytical Groundwater Data

Location	MW-33B (cont.)										MW-34		MW-35		MW-36		MW-36B	MW-37	
Date:	Sep-05	Oct-05	Nov-05	Jan-06	Mar-06	Apr-06	Jun-06	Aug-06	Mar-08	May-09	Mar-08	May-09	Mar-08	May-09	Mar-08	May-09	May-09	Mar-08	May-09
D.O. (mg/L)	6.6	0.14	0.45	0.12	0.24	0.32	0.11	0.8	0.3	0.45	0.29	0.28	0.42	0.69	0.47	0.9		0.42	0.97
ORP (mV)	87.2	-0.4	-323.1	-169.7	-110.3	-98.8	-147.4	-323.4	-101	-22.1	-400	-76.4	-305	-149.3	-218	-120.3		-300	-148.8
Temp. (C)	21.52	21.6	22.23	21.56	22.35	21.4	22.03	23.45	22.32	25.64	23.34	25.74	22.34	22.3	23	26.6		22.21	23.77
pH	7	7.2	7.39	7	7.13	6.5	7.11	8.1	6.98	6.96	7.02	6.98	7.01	5.95	7.07	6.98		7.09	6
Ferrous Iron (mg/L)	2.7	4	4.3	4.4	4	2.5	3.2	1.9	3.6	3	1.2	0.4	2.6	5.2	1.5			2	4.2
TOC (mg/L)	8	7.4	7.1	8.2		8	7.3	5.6			4.3		10		5.4			41	
Sulfide (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0				<1		<1		<1			0.77	
Alkalinity (mg/L)	800	800	790	760	770	740	750	710			1000		640		570			640	
Chloride (mg/L)	190	200	200	200	150	170	170	130			54		220		270			460	
Nitrate (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.1	<0.10	<0.10	<0.1			<0.1		<0.1		<0.1			<0.1	
Sulfate (mg/L)	4900	4900	4800	5300	4500	4700	4900	4600			920		3300		1700			3300	
Hydroxide Alkalinity																			
Carbonate Alkalinity																			
Bicarbonate Alkalinity																			
Aluminum (µg/L)	42.2J	55J	46.1J	<200	<200		<200			<200		<200		91.1 UJ		78.9 UJ	<200		72.1 UJ
Antimony (µg/L)	0.94J	<20	0.76J	0.07J	<2.0	0.16J	<20			<60		<60		<60		<60	<60		<60
Arsenic (µg/L)	59	59.6	57.4	56.7	60.1	65.8	51.9			28.5		85.5		34.4		47.8	<10		<10
Barium (µg/L)	144	145	19.8	23.9	23.9	33	21J			<200		<200		<200		<200	<200		<200
Cadmium (µg/L)	<2.0	<10	<5.0	<1.0	<1.0	<1.0	<10			<5.0		1.5 J		<5.0		<5.0	<5.0		<5.0
Calcium (mg/L)	405	371	356	390	370		354	291		201	210	166	580	579	360	383	<5	570	559
Chromium (µg/L)	<4.0	<20	0.37J	2.6	0.62J	0.35J	<20			<10		<10		<10		<10	<10		<10
Cobalt (µg/L)	0.46J	<10	0.27J	0.30J	0.30J	0.30J	<10			<50		<50		<50		<50	<50		<50
Copper (µg/L)	13.9	8.8J	5.8J	4.7	19.9	2.0J	9.3J			<25		<25		<25		<25	<25		<25
Iron, Total (mg/L)	5.42	5.06	4.98	5.42	5.22		4.69	4.51		2.88	0.79	0.431	3.3	4.44	2.1	3.92	<0.1	1.8	3.58
Lead (µg/L)	<2.0	<10	<5.0	<1.0	0.09J	0.23J	<10			<10		<10		<10		<10	<10		<10
Magnesium (mg/L)	393	367	355	376	355		338	312		208	69	59.6	190	221	140	171	<5	150	201
Manganese (mg/L)	7.34	6.34	2.86	7.45	6.37	6.8	5.5	5.62		2.62	1.4	1.23	3.9	4.66	2.8	3.88	<0015	3.2	4.79
Mercury (µg/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			0.054 J		<0.20		<0.20		<0.20	<0.20		<0.20
Neryllium (µg/L)										<5.0		<5.0		<5.0		<5.0	<5.0		<5.0
Nickel (µg/L)	1.9J	<10	2.4J	2.1	1.8	1.4	5.2J			<40		<40		<40		<40	<40		<40
Potassium (mg/L)	18.8	20.7	21.6	19.2	20.4		24.2	18.3		10.6	7.7	7.9	9.6	12.3	12	9.72	<5	15	12.5
Selenium (µg/L)	4.2J	<50	3.8J	1.4J	2.6J	2.5J	4.2J			<35		<35		35 UJ		35 UJ	35 UJ		35 UJ
Silver (µg/L)	<2.0	<10	<5.0	<1.0	<1.0	<1.0	<10			<10		<10		<10		<10	<10		<10
Sodium (mg/L)	1550	1530	1600	1540	1510		1550	1390		1200	490	389	830	833	440	538	<5	980	799
Thallium (µg/L)	<2.0	<10	<5.0	<1.0	<1.0	<1.0	<10			<25		<25		<25		<25	<25		<25
Vanadium (µg/L)	<2.0	<10	0.53J	0.44J	0.53J	0.57J	0.54J			<50		<50		<50		<50	<50		<50
Zinc (µg/L)	94.9	52.1	13.2	21	35	5.2	5.3J			<60		32.5 J		<60		<60	<60		<60
Boron (µg/L)										588		336		4730		809	6.1 J		1010
Ethene (ng/L)											<1000		<1000		<1000			<1000	
Ethane (ng/L)											<1100		700		<1100			<1100	
Methane (ug/L)											43		33		980			26	
TDS (mg/L)											2400		5600		3500			5800	
TSS (mg/L)																			
BOD (mg/L)																			
Boron (mg/L)								0.76			0.26		3.4		0.47			0.68	
Hydrogen (nM)																			
CO_2 (mg/L)																			
Lactic acid (mg/L)																			
Acetic acid (mg/L)																			
Propionic acid (mg/L)																			
Butyric acid (mg/L)																			
Pyruvic acid (mg/L)																			
i-Pentanoic acid (mg/L)																			
n-Pentanoic acid (mg/L)																			
i-Hexanoic acid (mg/L)																			
n-Hexanoic acid (mg/L)																			
n-Heptanoic acid (mg/L)																			

Attachment 9

Non-VOC Analytical Groundwater Data

Location	MW-38		MW-39		MW-39A	MW-40		MW-41		MW-42	MW-43	MW-44	MW-45	MW-46	MW-47	MW-48	MW-49	MW-50	MW-51	MW-52
Date:	Mar-08	May-09	Mar-08	May-09	May-09	Mar-08	May-09	Mar-08	May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09
D.O. (mg/L)	0.95	2.55	1.5	0.26		1.38	0.7	0.34	0.69	0.62	0.28	0.72	1.24	0.25	1.76	2.65	0.25	0.4	1.01	2.71
ORP (mV)	-54	-100	-117	-120.7		-125	-157.7	-290	-94.7	-89.8	-116	-160.2	-142.3	-135.8	-241	-202.6	-136.5	-185.1	-193.8	-111.8
Temp. (C)	23.53	23.55	22.51	26.04		22.01	23.13	22.83	25.23	25.31	25.47	22.25	22.81	24.59	23.23	22.72	26.02	24.18	22.7	24.97
pH	6.8	5.92	6.98	6.88		6.95	5.99	7	6.87	5.99	6.96	6.04	6.14	7.01	6.17	5.97	7	7.16	5.89	6.83
Ferrous Iron (mg/L)	0.4	0.8	2	3.8		3.8	3	3.2	4.5	1	1.9	4	1.6	1.5	0.6	1	1.6	1.2	0.9	1
TOC (mg/L)	3.4		6.3			14		18		4.4	5.6	7.1	2.8	5.5	22	7	6.7	21	19	11
Sulfide (mg/L)	0.54		<1			<1		<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Alkalinity (mg/L)	880		590			590		590		740	660	690	550	1000	670	580	790	640	470	720
Chloride (mg/L)	67		500			290		590		36	200	190	400	89	99	360	210	210	710	230
Nitrate (mg/L)	<0.1		<0.1			<0.1		<0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sulfate (mg/L)	580		2100			3400		4400		210	2300	4300	810	570	650	1000	2400	1300	1500	1500
Hydroxide Alkalinity										<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Carbonate Alkalinity										58	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bicarbonate Alkalinity										680	660	690	550	1000	670	580	790	640	470	720
Aluminum (µg/L)		<200		67.5 UJ	71.0 UJ		92.3 UJ		175 J	<200	132 J	155 J	95.8 J	73.2 J	<200	101 J	109 J	80.3 J	129 J	115 J
Antimony (µg/L)		<60		<60	<60		<60		<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Arsenic (µg/L)		81.7		36.2	35.3		33.9		44.2	55.4	34.8	30.9	23.8	51.7	19.9	15.9	72.5	17.7	9.7 J	13.4
Barium (µg/L)		65.8 J		60.9 J	59.1 J		60.6 J		<200	77.4 J	109 J	68.1 J	65.3 J	<200	68.4 J	62.9 J	90.8 J	71.9 J	105 J	105 J
Cadmium (µg/L)		1.4 J		<5.0	<5.0		<5.0		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Calcium (mg/L)	220	219	560	640		640	612	780	765	156	496	608	347	153	160	357	448	369	541	350
Chromium (µg/L)		<10		<10	<10		<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Cobalt (µg/L)		<50		<50	<50		<50		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Copper (µg/L)		<25		<25	<25		<25		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Iron, Total (mg/L)	0.39	0.45	2.1	4.32	4.34	3.5	5.6	4.2	8.5	0.26	1.74	4.8	1.48	0.739	0.375	0.887	1.26	0.71	0.695	0.747
Lead (µg/L)		<10		<10	<10		<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Magnesium (mg/L)	75	80.1	170	222	214	220	248	260	339	55.4	194	299	121	53.2	52.8	127	183	83.7	170	125
Manganese (mg/L)	1.5	1.8	3.9	5.3	5.11	5	6.11	6	8.17	1.01	4.02	5.9	2.24	1.17	1.68	2.58	4.04	2.54	3.57	3.06
Mercury (µg/L)		<0.20		<0.20	<0.20		<0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Neryllium (µg/L)		<5.0		<5.0	<5.0		<5.0		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nickel (µg/L)		<40		<40	<40		<40		<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
Potassium (mg/L)	6.9	8.56	9.9	11	10.6	13	13.3	14	12.5	5.88	9.04	13.3	5.36	9.78	9.09	6.67	13.9	8.69	11	14.9
Selenium (µg/L)		35 UJ		35 UJ	35 UJ		<35		<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
Silver (µg/L)		<10		<10	<10		<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sodium (mg/L)	290	315	570	582	566	820	947	1000	995	170	589	1180	223	496	364	284	764	452	480	488
Thallium (µg/L)		<25		<25	<25		<25		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Vanadium (µg/L)		<50		<50	<50		<50		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Zinc (µg/L)		<60		<60	<60		<60		27.8 J	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60
Boron (µg/L)		324		2320	2250		4340		1480	280	2880	4690	1460	1050	4500	819	1240	2760	1310	818
Ethene (ng/L)	<1000		<1000			<1000		<1000		600 J	<1000	<1000	<1000	<1000	1500	<1000		600 J	<1000	1100
Ethane (ng/L)	<1100		<1100			900		<1100		<1100	600 J	<1100	800 J	<1100	1200	<1100		700 J	1400	900 J
Methane (ug/L)	33		47			34		14		42	34	20	38	26	44	32		53	33	700
TDS (mg/L)	1800		4400			6000		7600		1100	4300	7100	2300	1900	1800	2600	4500	2800	3800	3300
TSS (mg/L)										490	21	10	110	<10	450	20	<10	<10	14	5 J
BOD (mg/L)																				
Boron (mg/L)	0.25		1.8			3.3		0.81												
Hydrogen (nM)																				
CO_2 (mg/L)																				
Lactic acid (mg/L)																				
Acetic acid (mg/L)																				
Propionic acid (mg/L)																				
Butyric acid (mg/L)																				
Pyruvic acid (mg/L)																				
i-Pentanoic acid (mg/L)																				
n-Pentanoic acid (mg/L)																				
i-Hexanoic acid (mg/L)																				
n-Hexanoic acid (mg/L)																				
n-Heptanoic acid (mg/L)																				

Attachment 9

Non-VOC Analytical Groundwater Data

Location	MW-53	MW-54	MW-55	MW-56	EW-1														
Date:	May-09	May-09	May-09	May-09	May-03	Dec-03	Feb-04	Apr-04	Jul-04	Nov-04	Apr-05	Jul-05	Jul-05	Aug-05	Sep-05	Sep-05	Oct-05	Nov-05	Jan-06
D.O. (mg/L)	1.11	1.03	2.42	0.22	0	0.03	0	0	1.51	1.86	0	0.14	0.25	1.69 (4.03)	5.46	8.8	10.86	0.57	5.22
ORP (mV)	-219.5	-186.4	-175.7	-102.7	469	-159	-139	-149	-112	-175	-130	-86.8	-122.7	15.6 (26.1)	17.2	78.5	32.7	-277.8	-71.9
Temp. (C)	22.25	22.56	23.41	25.12	21.6	21.2	21.8	21.9	22.9	22.7	21.6	24.82	24.76	24.04 (20.79)	24.53	25.49	22.4	22.77	22.49
pH	6.24	5.87	5.94	6.97	7.01	7.04	6.88	6.89	7.06	6.94	7.2	7.34	7.28	7.7	8.06	7.4	7.5	7.46	7.2
Ferrous Iron (mg/L)	1.2	4	0.6	1	1.3	2	2	2.1	1.9	2	2.2	0.6	2.1	0	0	0	0	0	0
TOC (mg/L)	43	12		3		4.5	14	27	31	26	26	24	40	16	13	13	12	8.1	14
Sulfide (mg/L)	<1	<1		<1	0	0.66	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity (mg/L)	680	650		590		970	1000	1000	1000	1000	960	1000	950	900	910	820	800	790	780
Chloride (mg/L)	370	330		110	120	87	88	86	87	94	100	81	72	78	85	80	77	100	87
Nitrate (mg/L)	<0.10	<0.10		<0.10	0	<0.10	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.07J	0.89A3	2.3
Sulfate (mg/L)	2400	3900		490	2800	1800	1700	1600	1700	1900	2400	1900	1900	1900	1800	1900	2000	3200	2200
Hydroxide Alkalinity	<10	<10		<10															
Carbonate Alkalinity	<10	<10		<10															
Bicarbonate Alkalinity	680	650		590															
Aluminum (µg/L)	105 J	160 J		62.3 J								56	<200	<200	26.2J	35.1J	43.4J		<200
Antimony (µg/L)	<60	<60		<60								0.38	0.46	<1.0	1.5J	0.7J	1.8J		0.49J
Arsenic (µg/L)	26.8	6.8 J		23.8								64.2	71.3	21.9	45.2	24.1	18.1		14.6
Barium (µg/L)	90.1 J	90 J		73.3 J								96.3	131	90.1	280	160	16.8		26.3
Cadmium (µg/L)	<5.0	<5.0		<5.0								<1.0	<1.0	<1.0	<1.0	J1.0	<5.0		0.15J
Calcium (mg/L)	376	624		217		270	270	290	310	330	360	331	317	288	343	319	297	364	321
Chromium (µg/L)	<10	<10		<10								0.34	0.79	0.38J	<2.0	0.5J	<10		1.7J
Cobalt (µg/L)	<50	<50		<50								1.1	1.4	0.91J	1.8	1.4	<5.0		1.2
Copper (µg/L)	<25	<25		<25								4	6.3	3.5	16.7	22.8	23.8		21.3
Iron, Total (mg/L)	0.955	31.7		0.595		3	2.3	2.3	2.2	2.1	2.6	2.52	1.71	13.6	<0.1	<0.1	<0.1	0.133	<0.10
Lead (µg/L)	<10	<10		<10								0.17	0.22	0.62J	0.71J	0.53J	<5.0		0.65J
Magnesium (mg/L)	110	275		56.1		130	120	120	130	140	180	137	136	127	154	155	155	255	158
Manganese (mg/L)	3.91	6.09		1.76		2.4	2.1	2.2	2.3	2.4	3.3	2.41	2	0.623	1.31	0.777	0.362J	1.94	0.428
Mercury (µg/L)	<0.20	0.20U		<0.20								0.044	<0.2	<0.20	<0.2	<0.2	<0.2		<0.2
Neryllium (µg/L)	<5.0	<5.0		<5.0															
Nickel (µg/L)	<40	<40		<40								47.3	57.8	32.2	62.2	56.9	<46.1		48.4
Potassium (mg/L)	15.7	13.4		5.72		11	12	12	11	12	12	12.6	12.4	13.5	15.2	13.7	16.7	21.3	14.9
Selenium (µg/L)	<35	<35		<35								10.5	8.8	6	23.8J	32	45.9		55.8
Silver (µg/L)	<10	<10		<10								<1.0	<1.0	<1.0	<1.0	<1.0	<5.0		<1.0
Sodium (mg/L)	1000	405		197		730	610	630	610	620	870	801	768	671	637	665	679	1100	683
Thallium (µg/L)	<25	<25		<25								<1.0	<1.0	<1.0	<1.0	<1.0	<5.0		<1.0
Vanadium (µg/L)	<50	<50		<50								<1.0	0.34	3.7	9.1	13.8	14.8		16.7
Zinc (µg/L)	<60	<60		<60								8.2	12.7	12.6	130	17.3	91.5		2.5
Boron (µg/L)	1420	3620		273															
Ethene (ng/L)	800 J	<1000		700 J	0	170	320	<10,000	<600	<200	<1100							<1000	
Ethane (ng/L)	<1100	600 J		<1100	0	64	150	<10,000	<600	<200	<1000							<1100	
Methane (ug/L)	85	26		8.2	10	14	29	20	18	21	22							5.1	
TDS (mg/L)	4800	6500		1400		3800			3700	3700	4500							5100	
TSS (mg/L)	59	200		<10															
BOD (mg/L)						<2													
Boron (mg/L)						0.66	0.71	0.6	0.61	0.7	0.65								
Hydrogen (nM)						1.9	NM	<40											
CO_2 (mg/L)						97	110	14.5	33	130	160							94	
Lactic acid (mg/L)						<25	<0.35	<0.1	<2.0	<0.5	<0.5							<0.5	
Acetic acid (mg/L)						<1.0	<0.35	<0.1	12.9	42.7	0.73							0.295J	
Propionic acid (mg/L)						<1.0	0.05	<0.1	<2.0	<0.5	<0.5							<0.5	
Butyric acid (mg/L)						<1.0	<0.07	<0.1	<2.0	<0.5	<0.5							<0.5	
Pyruvic acid (mg/L)						<10	<0.07	<0.1	<2.0	<0.5	<0.5							<0.5	
i-Pentanoic acid (mg/L)							<0.07	<0.1											
n-Pentanoic acid (mg/L)							<0.07	0.1											
i-Hexanoic acid (mg/L)							<0.1	<0.1											
n-Hexanoic acid (mg/L)							<0.1	<0.1											
n-Heptanoic acid (mg/L)								1.6											

Attachment 9

Non-VOC Analytical Groundwater Data

Location	EW-1 (cont.)						EW-1 (85 ft)										
Date:	Mar-06	Apr-06	Jun-06	Aug-06	Mar-08	May-09	Jul-05	Jul-05	Aug-05	Sep-05	Sep-05	Oct-05	Nov-05	Jan-06	Mar-06	Apr-06	Jun-06
D.O. (mg/L)	5.21	7.06	13.64(DHP)	1.16	0.28	0.39	0.31	0.33	0.16 (0.82)	0.58	0.4	0.23	0.45	0.48	0.22	0.48	0.16
ORP (mV)	20.7	59.9	253(DHP)	-295	-110	-32	-79.5	-127	-55.4 (-13.0)	-85.5	21.2	6.1	-310.6	-125.7	-79.6	12.8	-72.4
Temp. (C)	22.41	22.09	21.06(DHP)	23.11	22.16	24.86	22.93	22.5	22.0 (20.15)	22.62	23.1	21.7	21.91	21.75	21.59	21.41	21.86
pH	7.29	6.7	7.56(DHP)	8.4	7.07	6.61	7.23	7.19	7.83	8.16	7	7.2	7.37	7	7.11	6.6	7.08
Ferrous Iron (mg/L)	0	0	0	0	2.8	2.4	4.2	4	NR	4.8	5.5	4	3.4	2.6	2.2	0	1.8
TOC (mg/L)		9.9	6.9	9.7			15	27	8	7.9	8.8	7.6	8.5	11		7.8	8.3
Sulfide (mg/L)	<1.0	<1.0	<1.0	<1.0			<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity (mg/L)	760	730	820	910			810	800	840	810	780	800	780	790	790	810	750
Chloride (mg/L)	87	83	99	76			180	160	160	180	180	170	230	160	160	130	210
Nitrate (mg/L)	2.5	3.2	0.41	1.2			<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.71	<0.1
Sulfate (mg/L)	1900	2000	4100	1900			4800	4700	4800	4800	5400	4400	5400	5000	4700	4600	5500
Hydroxide Alkalinity																	
Carbonate Alkalinity																	
Bicarbonate Alkalinity																	
Aluminum (µg/L)			<200				75	<200	<20	36.6J	45.4J	50.9J	44.5J	<200	<200		<200
Antimony (µg/L)		<0.97J	<20				0.42	0.44	<1.0	0.46J	0.33J	<20	<10	0.4J	0.18J	5.2	<20
Arsenic (µg/L)		17.1	15.7				72.3	72	65	60.9	51.3	41.5	54.2	23.2	19.7	18	22.3
Barium (µg/L)		34.2	34.3J				128	80	62	85.7	85.1	93.8J	82.2	40.7	30.6	36.8	26.7J
Cadmium (µg/L)		0.06J	<10				<100	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	0.09J	<1.0	<1.0	<10
Calcium (mg/L)	299		376	283			367	354	315	386	386	354	394	391	369		380
Chromium (µg/L)		0.23J	<20				0.39	0.77	0.5J	<4.0	0.44J	<20	<10	1.5J	0.35J	0.22J	<20
Cobalt (µg/L)		<10	<10				0.43	0.69	0.34J	0.58J	0.81J	<10	<5.0	1.1	0.82J	3.3	1.4J
Copper (µg/L)		20.5	15.3J				19.5	16.5	5.7	15.8	15.9	6.2J	4.9J	6.5	16	6.2	10.8J
Iron, Total (mg/L)	<0.1		67J	<0.1			5.41	4.7	4.64	5.08	4.48	3.2	6.27	1.17	0.796		1.36
Lead (µg/L)		0.66J	<10				0.04	0.03	0.07J	<2.0	<1.0	<10	<5.0	<1.0	<1.0	0.12J	<100
Magnesium (mg/L)	151		290	148			360	314	298	385	380	347	448	352	333		399
Manganese (mg/L)	0.361	0.293	2.05	0.067			5.79	5.18	2.77	6.25	6.73	5.42	3.41	4.74	4.93	4.8	5.05
Mercury (µg/L)		<0.2	<0.2				0.23	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Neryllium (µg/L)																	
Nickel (µg/L)		47.6	12.1				7.8	12.2	6	3.8	7.4	7.6J	2.5J	6.8	7.1	11.6	7.8J
Potassium (mg/L)	15.8		26.9	16.2			16.2	17.2	15.2	20.3	18.1	19.9	23.6	20.1	20.2		28.9
Selenium (µg/L)		54.8	12.9J				15.1	10.9	4	3.1J	7.6	7.4J	5.7J	6.6	7.2	13.8	6.6J
Silver (µg/L)		<1.0	<10				<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0
Sodium (mg/L)	599		1290	665			1710	1630	1410	1530	1460	1350	1740	1360	1370		15550
Thallium (µg/L)		<1.0	<10				<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<1.0	<1.0	0.08J	<10
Vanadium (µg/L)		16.8	12.2				0.39	0.63	0.51J	<2.0	4.4	<10	1.4J	11.2	7	17.1	5.9J
Zinc (µg/L)		4.9	11.2J				39.6	12.3	7.9	6.3	8.6	<20	65.7	2.3	3.3	7.6	8.3J
Boron (µg/L)																	
Ethene (ng/L)				<1000													
Ethane (ng/L)				<1100													
Methane (ug/L)				5													
TDS (mg/L)																	
TSS (mg/L)																	
BOD (mg/L)																	
Boron (mg/L)				0.74													
Hydrogen (nM)																	
CO_2 (mg/L)																	
Lactic acid (mg/L)	NA																
Acetic acid (mg/L)	NA																
Propionic acid (mg/L)	NA																
Butyric acid (mg/L)	NA																
Pyruvic acid (mg/L)	NA																
i-Pentanoic acid (mg/L)																	
n-Pentanoic acid (mg/L)																	
i-Hexanoic acid (mg/L)																	
n-Hexanoic acid (mg/L)																	
n-Heptanoic acid (mg/L)																	

Attachment 9

Non-VOC Analytical Groundwater Data

Location	EW-2												EW-3		SVE-1	SVE-2
Date:	May-03	Dec-03	Feb-04	Apr-04	Jul-04	Nov-04	Apr-04	Nov-05	Mar-06	Aug-06	Mar-08	May-09	5-May-2009	6-May-2009	May-09	May-09
D.O. (mg/L)	0	0	0.01	0	1.9	1.06	0.37	0.25	0.4	0.1	0.16	0.73			1.01	
ORP (mV)	375	-181	-356	-382	-254	-405	-328	-404.1	-280.3	-275	-253	-173.6			-135.9	
Temp. (C)	21.2	21.4	22.2	21.9	24.1	22.04	22.2	21.6	20.33	26.6	22.07	25.04			22.49	
pH	7.08	7.13	6.93	6.88	7.13	6.75	7.1	7.47	7.23	7.15	7.15	7.15			6.84	
Ferrous Iron (mg/L)	2.2	2.1	0	0	0	0	0	0	0	0	0	0.1			0.8	
TOC (mg/L)		24	60	86 (96)	79(87)	61 (69)	76(82)	51		62		51				
Sulfide (mg/L)	0	<1.0	7.4	14 (2.9)	14 (16)	18 (12)	4.9(7.5)	12	7.9	8.2	3.2	0.51 J	<1	<1		
Alkalinity (mg/L)		1300	1500	1700(1800)	1900(1800)	1900(1900)	1900(1900)	1900	1800	1900	1900	1700	620	600	2100	1200
Chloride (mg/L)	230	220	220	250 (250)	250(260)	250 (260)	240(260)	270	230	210	170	160	380	400	300	150
Nitrate (mg/L)	0	<0.1	<0.1	<0.1 (<0.1)	<0.1	<0.1 (<0.1)	<0.10(<0.10)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sulfate (mg/L)	2900	3000	2400	2700(2700)	2600 (2700)	2400(2400)	2100(2300)	1800	1400	1200	700	680	2600	2600	17	2400
Hydroxide Alkalinity												<10	<10	<10	<10	<10
Carbonate Alkalinity												120 J	<10	<10	<10	75
Bicarbonate Alkalinity												1600	620	600	2100	1100
Aluminum (µg/L)													88.7 J	124 J	93.6 J	
Antimony (µg/L)													<60	<60	<60	
Arsenic (µg/L)													21	18.1	68.3	
Barium (µg/L)													60 J	60 J	127 J	
Cadmium (µg/L)													<5.0	<5.0	<5.0	
Calcium (mg/L)		210	220	250 (240)	240 (250)	240(230)	230(230)	160		128			458	533	55.5	
Chromium (µg/L)													<10	<10	<10	
Cobalt (µg/L)													<50	<50	<50	
Copper (µg/L)													<25	<25	<25	
Iron, Total (mg/L)		2.7	0.36	0.097(0.093)	0.079(0.082)	0.15 (0.17)	0.19(0.19)	0.076		0.23			4.03	4.28	0.672	
Lead (µg/L)													<10	<10	<10	
Magnesium (mg/L)		190	190	250(240)	240(250)	230(230)	200(200)	170		121			184	199	43.3	
Manganese (mg/L)		2.9	2.8	3.1 (3.1)	3.0(3.0)	2.8 (2.8)	2.9(2.8)	2.2		1.92			4.34	4.48	1.42	
Mercury (µg/L)													0.053 J	0.051 J	0.051 J	
Neryllium (µg/L)													<5.0	<5.0	<5.0	
Nickel (µg/L)													<40	<40	51.4	
Potassium (mg/L)		11	13	15 (14)	1.4 (1.5)	1.5 (1.5)	13(13)	12		13			9.22	9.11	4.85 J	
Selenium (µg/L)													<35	<35	<35	
Silver (µg/L)													<10	<10	<10	
Sodium (mg/L)		1200	1100	1400(1400)	1300(1300)	1300(1300)	1300(1300)	1300		936			622	655	928	
Thallium (µg/L)													<25	<25	<25	
Vanadium (µg/L)													<50	<50	<50	
Zinc (µg/L)													195	261	<60	
Boron (µg/L)													989	959	1610	
Ethene (ng/L)	0	560	840	<8000	10000	7800(7600)	18000(20000)	21000	88000	34000	28000	28000				
Ethane (ng/L)	0	71	96	<8000	<600	<200(<200)	<1100(<1100)	<1100	<1100	<1100	<1100	<1100				
Methane (ug/L)	4	21	14	33	71	150DL(160DL)	9300(10000)	3300	9700	13000	20000	15000				
TDS (mg/L)		5500			6100(6100)	5800(5200)	5200(5100)	4500			3200	3100	5000	5000	3400	4700
TSS (mg/L)												8 J	8 J	11	15	<10
BOD (mg/L)		11														
Boron (mg/L)		1.1	1.2	1.1 (1.1)	1.1 (1.2)	1.3(1.3)	1.3(1.3)	1.4		1.5						
Hydrogen (nM)		2	NM	<25					1.9							
CO_2 (mg/L)		110	170	24.8	240	230(310)	350(320)	210	240							
Lactic acid (mg/L)		<25	<7.0	<0.1	0.674	<0.5 (<0.5)	<0.5 (<0.5)	1.54	<0.5							
Acetic acid (mg/L)		<1.0	68.8	<0.1	1.02	41.4(2.4J)	1.11(1.08)	1.24	1.09							
Propionic acid (mg/L)		<1.0	<7.0	<0.1	<0.1	<0.5(<0.5)	<0.5(<0.5)	<0.5	<0.5							
Butyric acid (mg/L)		<1.0	<7.0	0.2	0.195J	<0.5(<0.5)	<0.5(<0.5)	<0.5	0.51							
Pyruvic acid (mg/L)		<10	<7.0	<0.1	<0.1	<0.5(<0.5)	<0.5(<0.5)	<0.5	<0.5							
i-Pentanoic acid (mg/L)			<7.0	<0.1												
n-Pentanoic acid (mg/L)			<7.0	0.1												
i-Hexanoic acid (mg/L)			<0.1	<0.1												
n-Hexanoic acid (mg/L)			<0.1	<0.1												
n-Heptanoic acid (mg/L)				0.1												

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street Building 201
Richmond, CA 94804

Subject: **Analytical Testing Results - Project R09S70**
SDG: 09135B

From: **Brenda Bettencourt, Director**
EPA Region 9 Laboratory
MTS-2

To: **Eric Yunker**
California Site Cleanup Section 3
SFD-7-3

Attached are the results from the analysis of samples from the **Cooper Drum May / June 2009 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Don Gruber, URS Corporation

Analyses included in this report:

Extractable Petroleum Hydrocarbons by GC/FID

United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Eric Yunker	**California Site Cleanup Section 3**	**SDG:** 09135B
Project Number: R09S70	**75 Hawthorne Street**	**Reported:** 05/28/09 10:14
Project: Cooper Drum May / June 2009 Sampling	**San Francisco CA, 94105**	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
37797	0905027-01	Water	05/13/09 11:58	05/15/09 10:00
37805	0905027-05	Water	05/12/09 15:00	05/15/09 10:00
37806	0905027-06	Water	05/13/09 15:00	05/15/09 10:00

United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Eric Yunker	**California Site Cleanup Section 3**	**SDG:** 09135B
Project Number: R09S70	**75 Hawthorne Street**	**Reported:** 05/28/09 10:14
Project: Cooper Drum May / June 2009 Sampling	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0905027-01									**Water - Sampled: 05/13/09 11:58**
Sample ID: 37797									
						Extractable Petroleum Hydrocarbons by EPA Method 8015B			
TPH as Diesel		860	F1	140	ug/L	B9E0109	05/18/09	05/20/09	8015B/SOP385
TPH as Motor Oil		1,400		570	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*98.8*		70 %	*70-130%*	"	"	"	
Lab ID: 0905027-05									**Water - Sampled: 05/12/09 15:00**
Sample ID: 37805									
						Extractable Petroleum Hydrocarbons by EPA Method 8015B			
TPH as Diesel	RE1	24,000	F1, J, Q10	1,400	ug/L	B9E0109	05/18/09	05/20/09	8015B/SOP385
TPH as Motor Oil		18,000		1,100	"	"	"	05/21/09	8015B/SOP385
Surrogate: Hexacosane		*107*		75 %	*70-130%*	"	"	"	
Lab ID: 0905027-06									**Water - Sampled: 05/13/09 15:00**
Sample ID: 37806									
						Extractable Petroleum Hydrocarbons by EPA Method 8015B			
TPH as Diesel		410	B1, F1	140	ug/L	B9E0109	05/18/09	05/20/09	8015B/SOP385
TPH as Motor Oil		480	C1, J	570	"	"	"	"	8015B/SOP385
Surrogate: Hexacosane		*102*		72 %	*70-130%*	"	"	"	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B9E0109 - 3520B CLLE - TPH - Extractable										**Prepared: 05/18/09 Analyzed: 05/20/09**
								Extractable Petroleum Hydrocarbons by EPA Method 8015B - Quality Control		
Blank (B9E0109-BLK1)										
TPH as Diesel	110	J, B1	150	ug/L						
TPH as Motor Oil	ND	U	600	"						
Surrogate: Hexacosane	*121*			"	*150*		81	*70-130*		
LCS (B9E0109-BS1)										
TPH as Diesel	1,360		150	ug/L	1500		91	70-130		
Surrogate: Hexacosane	*131*			"	*150*		87	*70-130*		
Matrix Spike (B9E0109-MS1)		**Source: 0905027-05**								
TPH as Diesel	21,200		2,900	ug/L	2870	26,500	NR	70-130		
Surrogate: Hexacosane	*181*			"	*287*		63	*70-130*		
Matrix Spike Dup (B9E0109-MSD1)		**Source: 0905027-05**								
TPH as Diesel	25,600		2,800	ug/L	2830	26,500	NR	70-130	19	25
Surrogate: Hexacosane	*210*			"	*283*		74	*70-130*		

United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Eric Yunker	**California Site Cleanup Section 3**	**SDG:** 09135B
Project Number: R09S70	**75 Hawthorne Street**	**Reported:** 05/28/09 10:14
Project: Cooper Drum May / June 2009 Sampling	**San Francisco CA, 94105**	

Qualifiers and Comments

Q10 The analyte concentration in the unfortified sample is significantly greater than the concentration spiked into the matrix spike and matrix spike duplicate. The reported spike recovery is not a meaningful measure of the dataset's analytical accuracy.

J The reported result for this analyte should be considered an estimated value.

F1 The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

C1 The reported concentration for this analyte is below the quantitation limit.

B1 The concentration of this analyte found in this sample was less than five times the concentration found in the associated method blank.

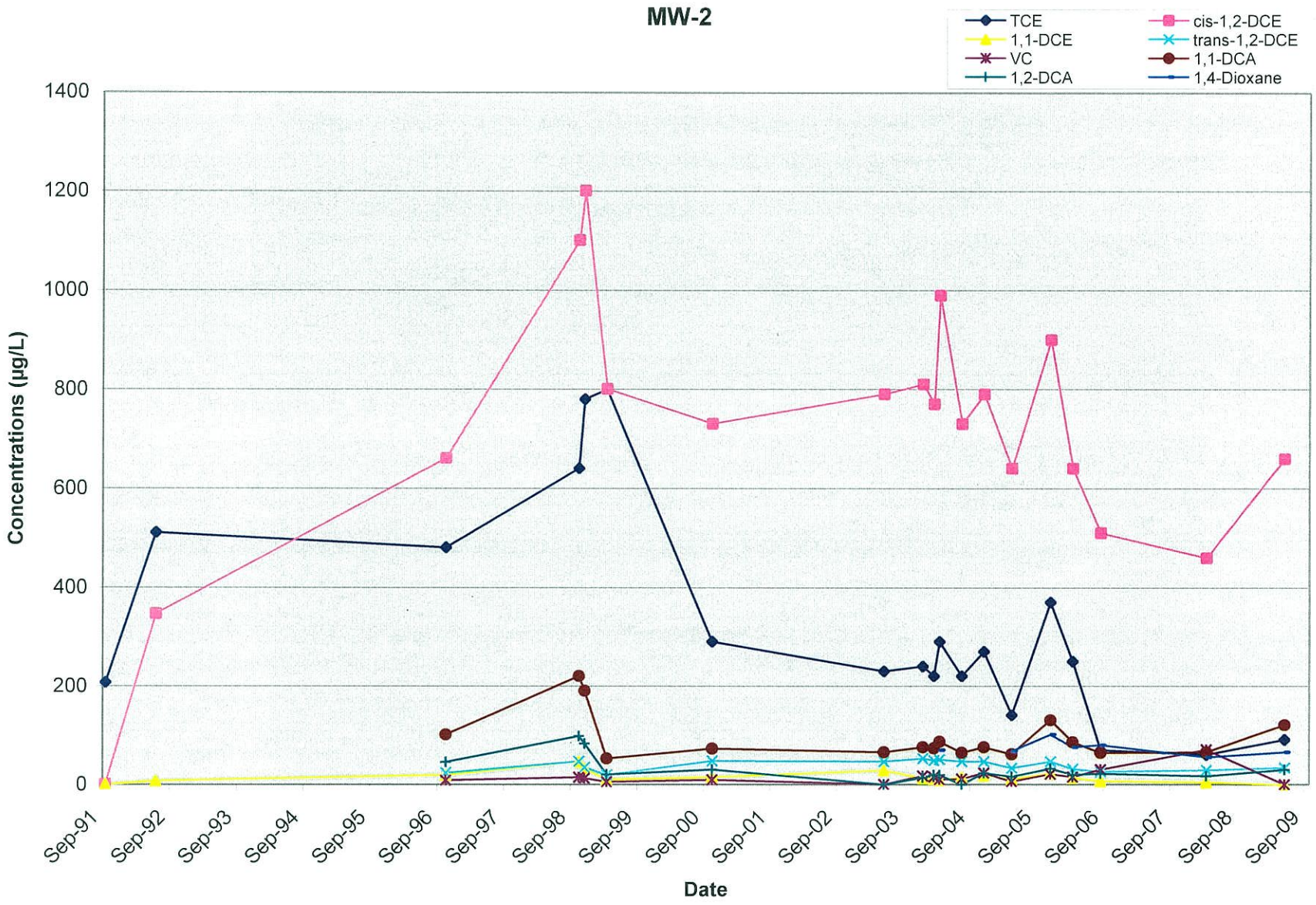
U Not Detected

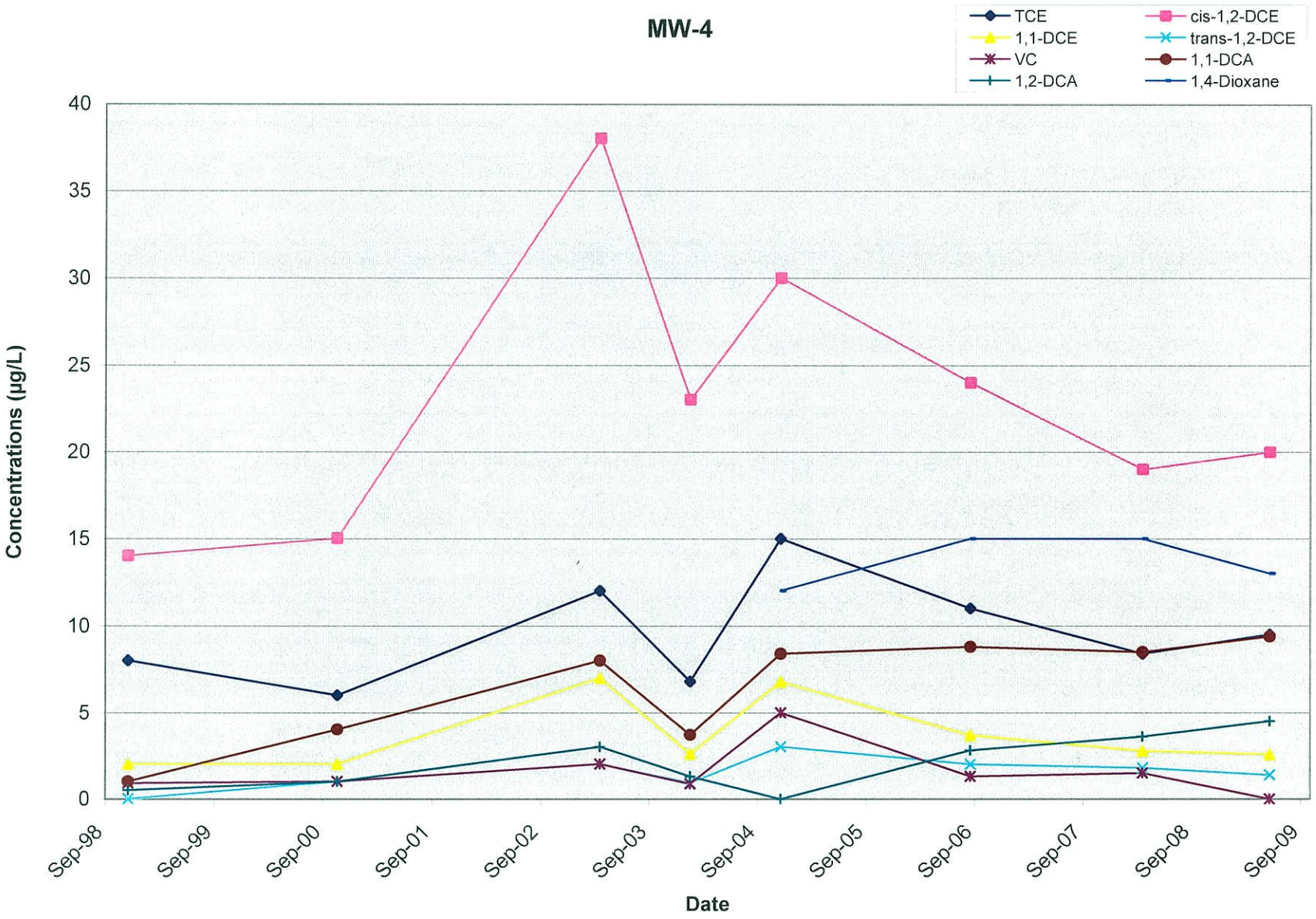
NR Not Reported

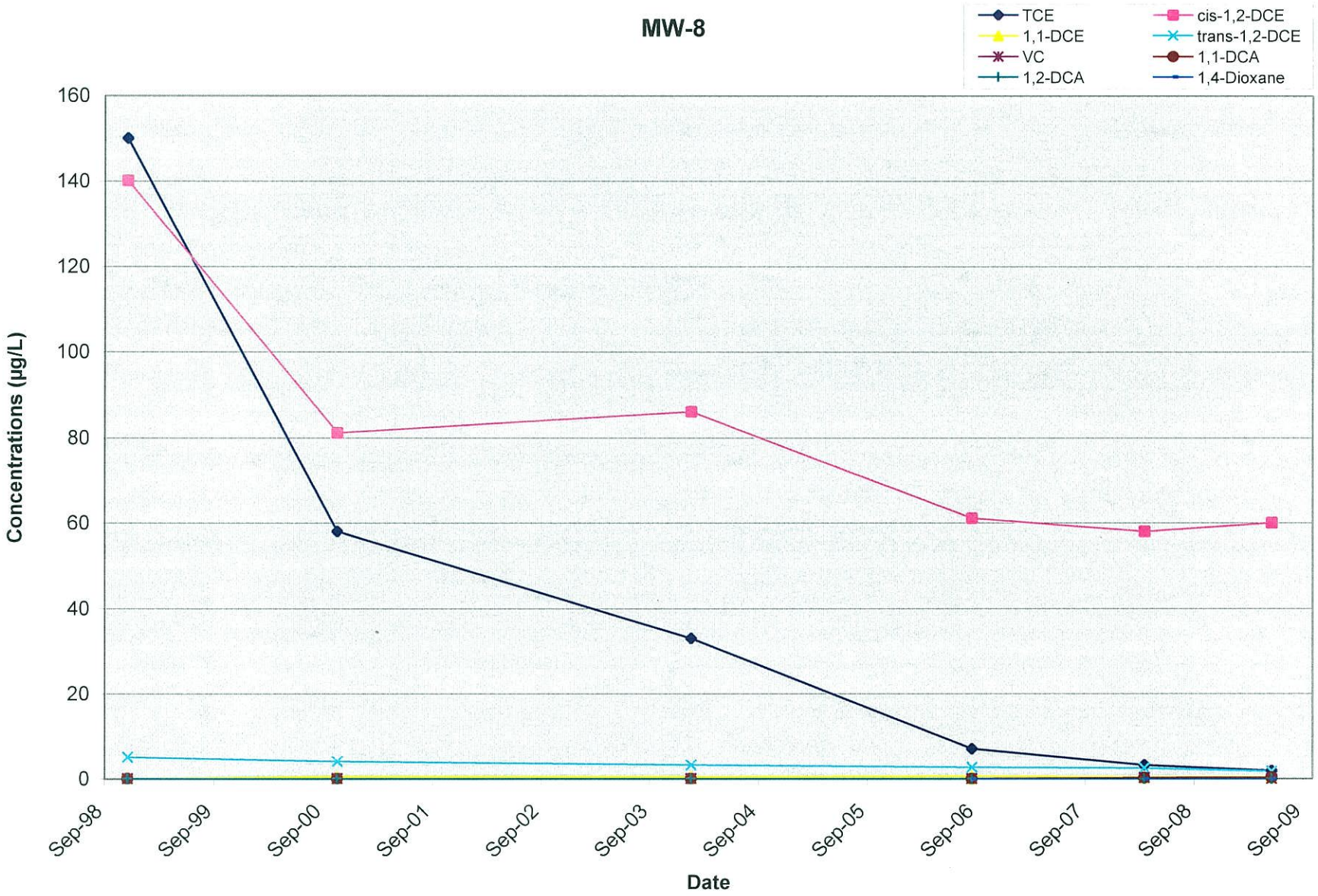
RE1, RE2, etc: Result is from a sample re-analysis.

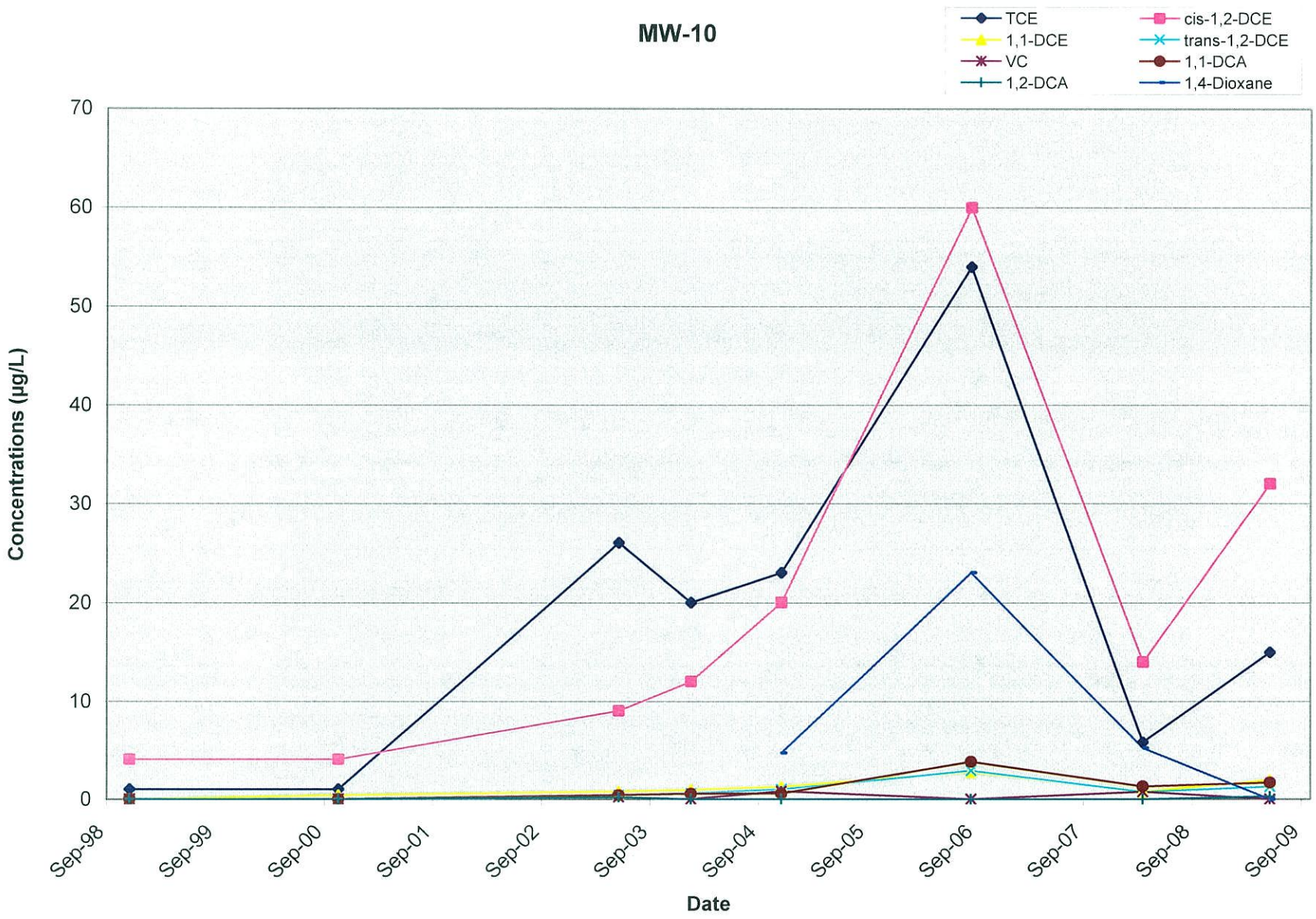
ATTACHMENT 10

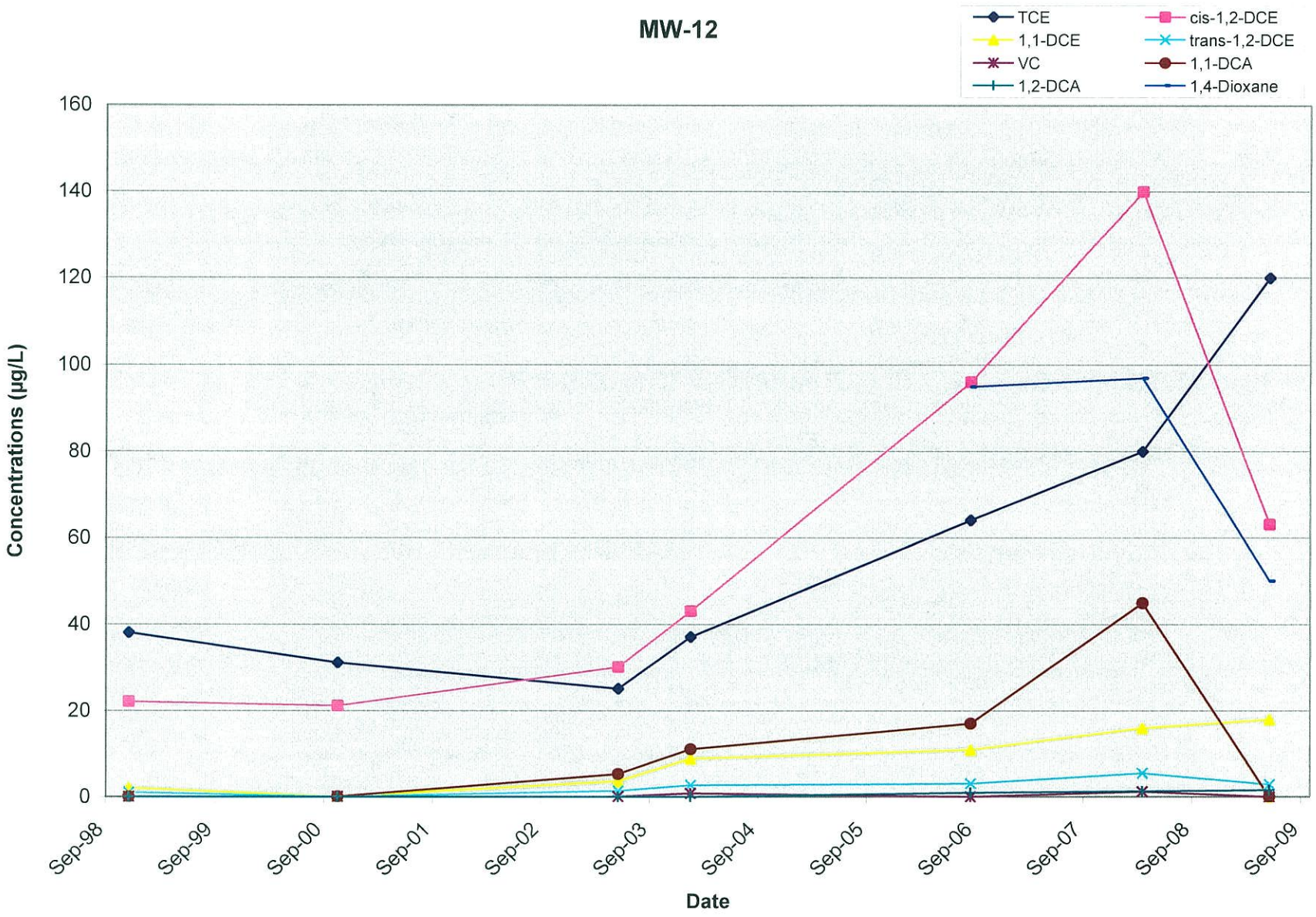
Monitor Well Concentration Charts

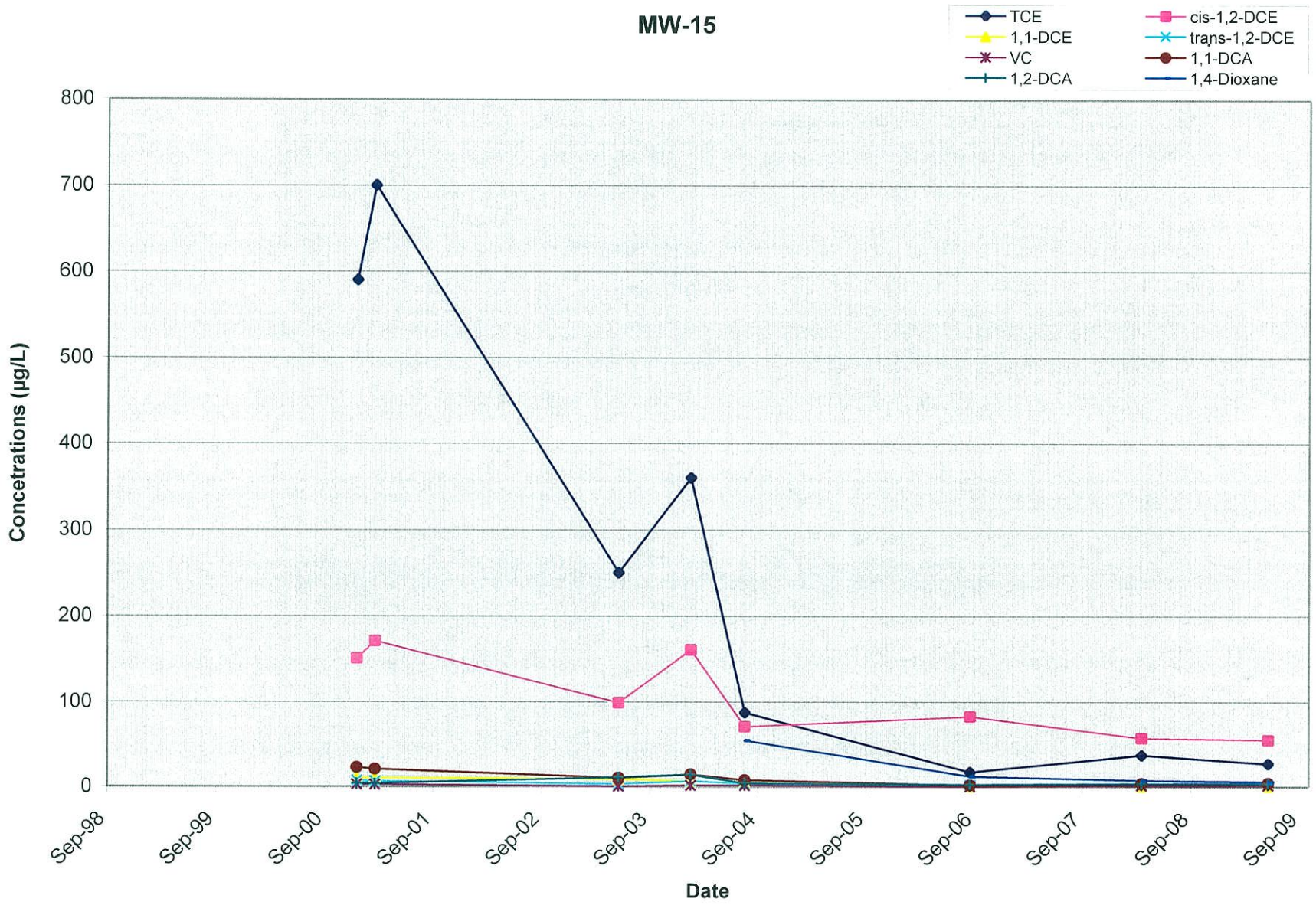

MW-2
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
1400
1200
1000
800
600
400
200
0
Sep-91
Sep-92
Sep-93
Sep-94
Sep-95
Sep-96
Sep-97
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

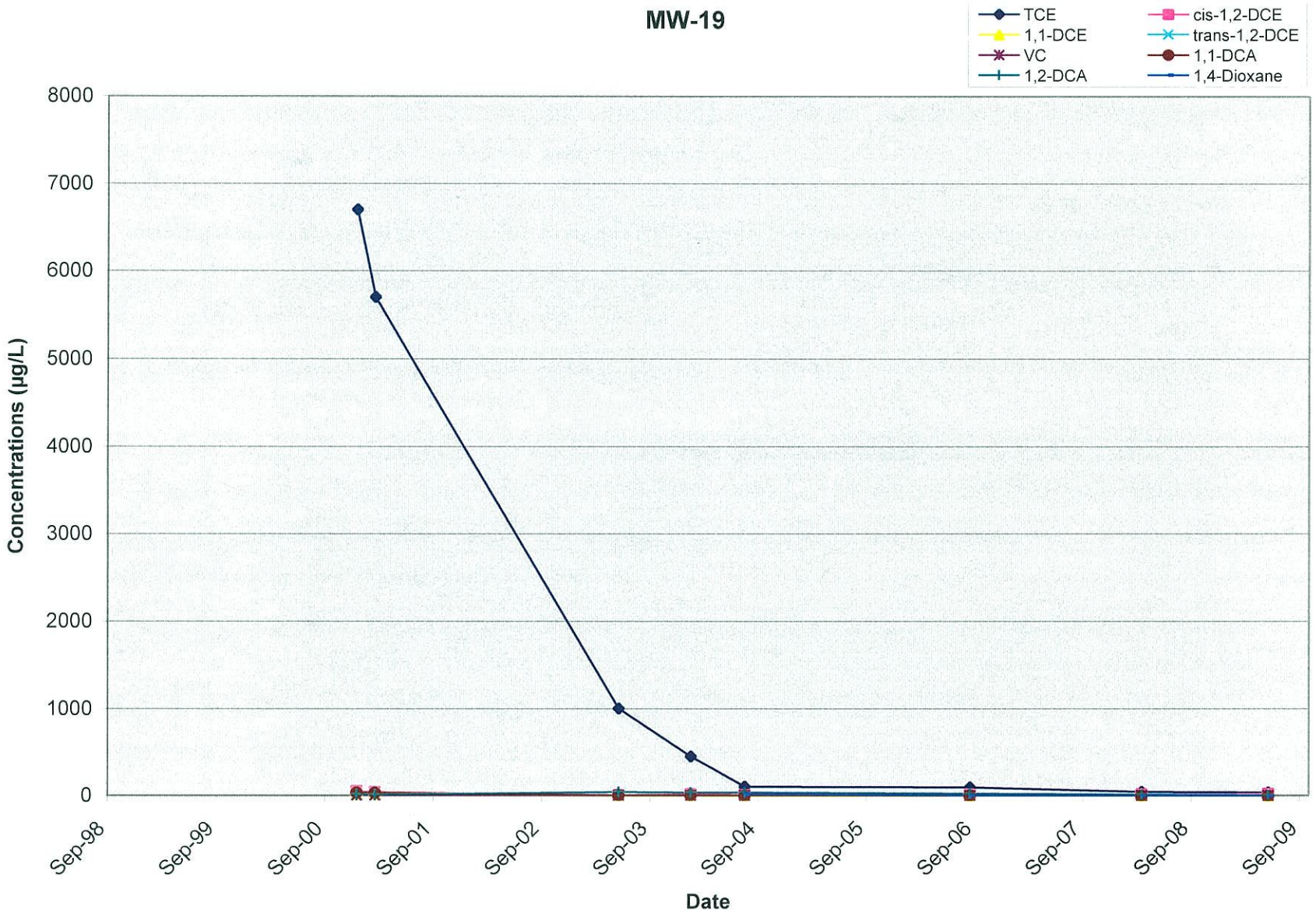

MW-4
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
40
35
30
25
20
15
10
5
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

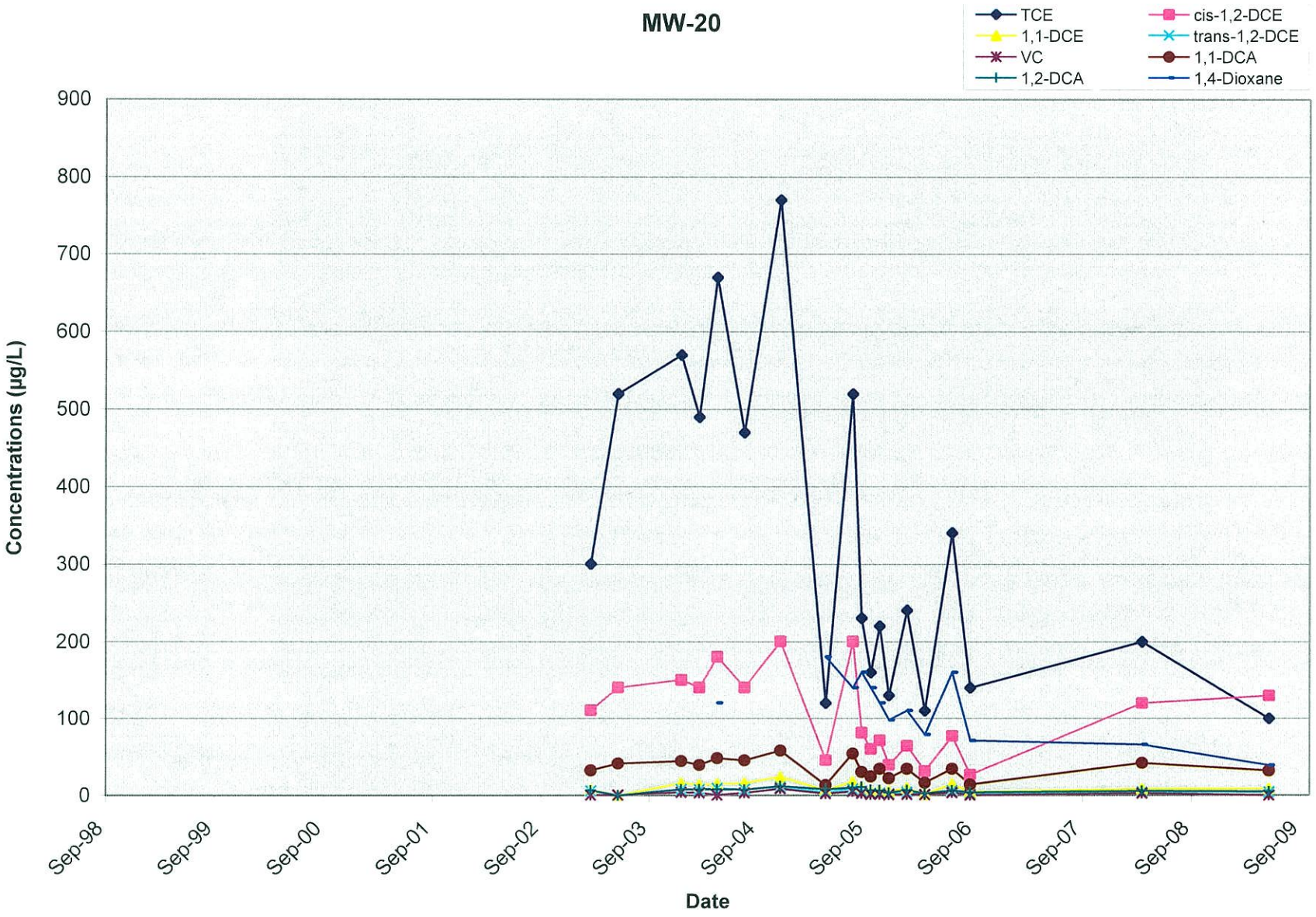

MW-8
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
160
140
120
100
80
60
40
20
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

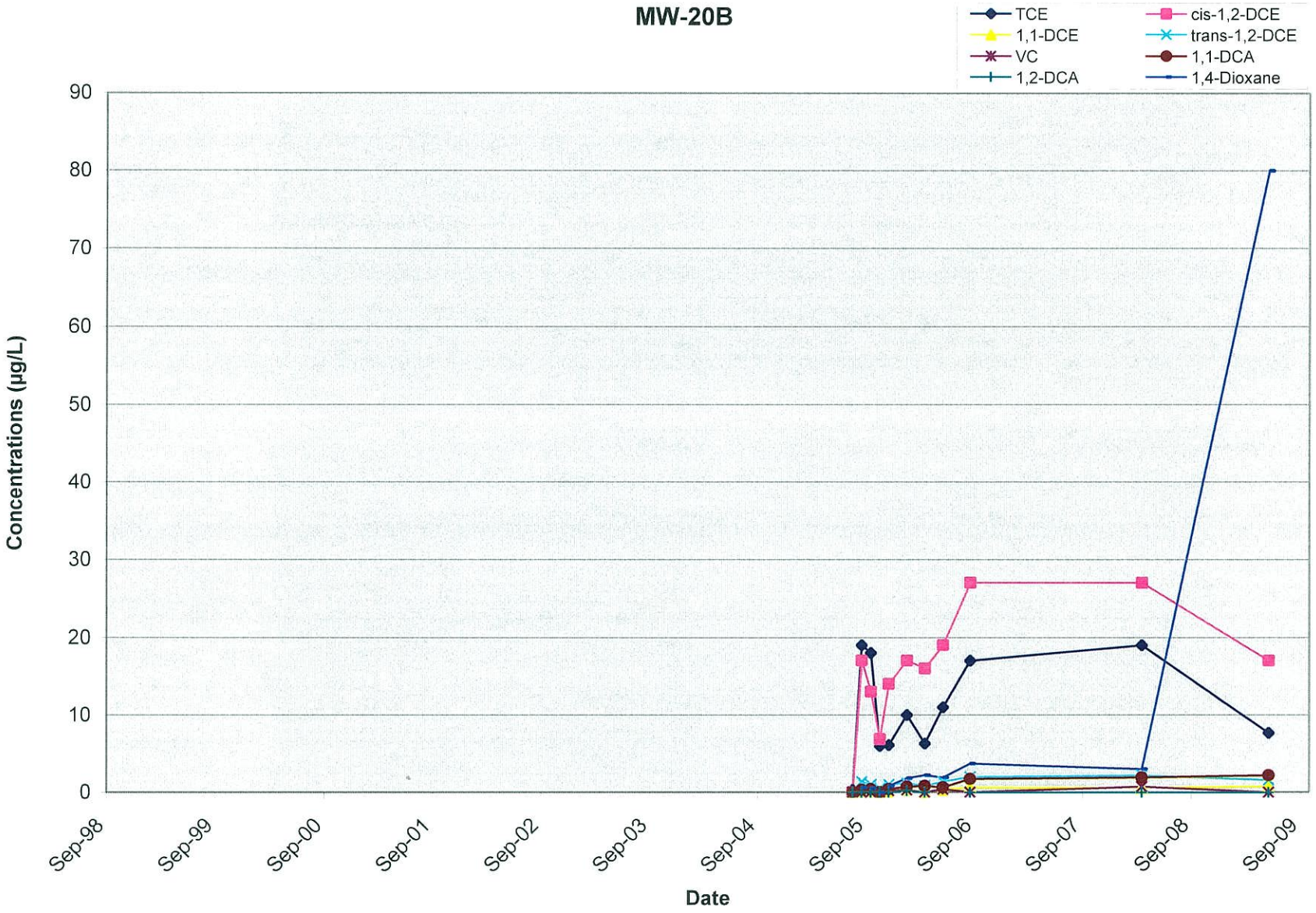

MW-10
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
70
60
50
40
30
20
10
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

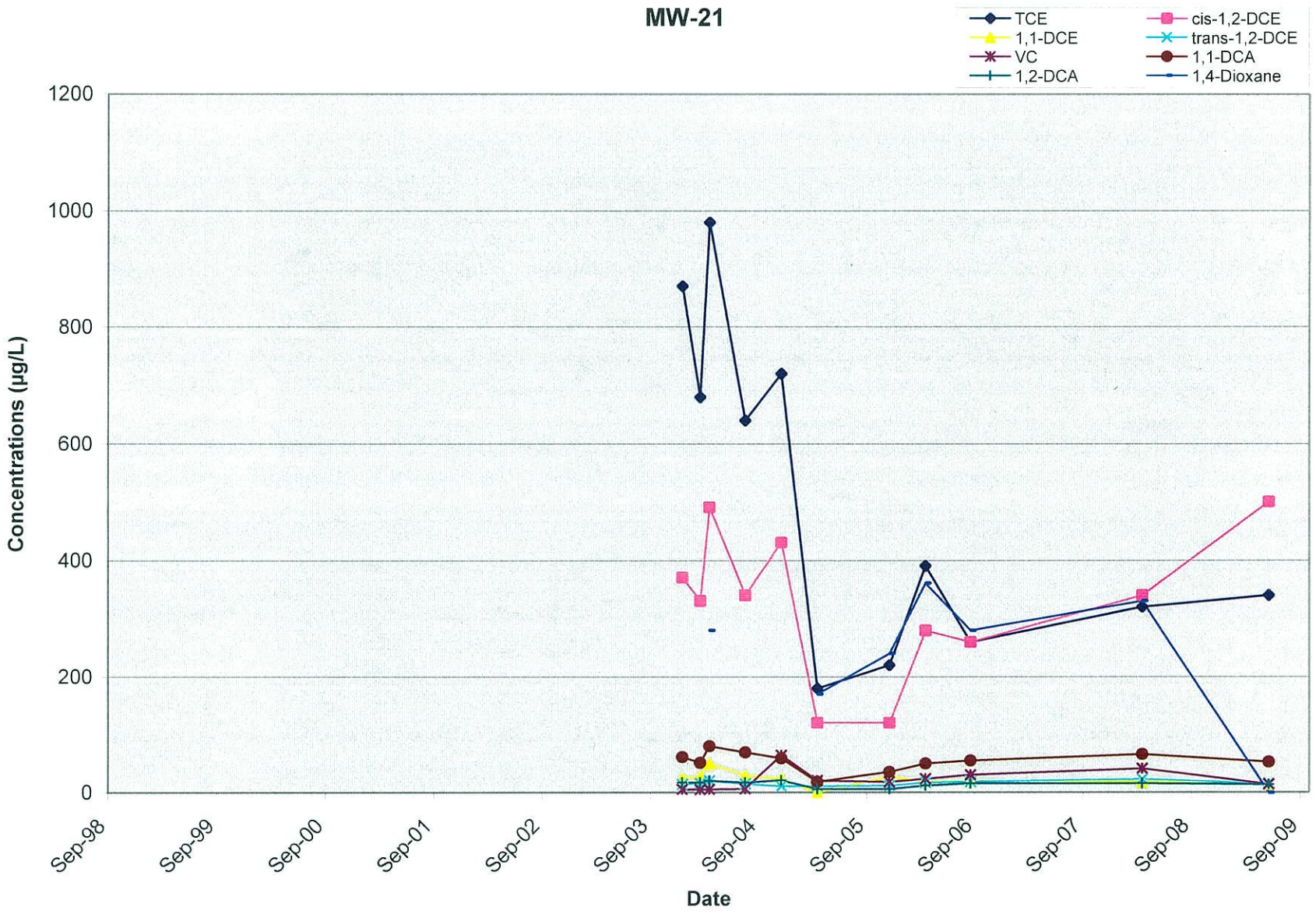

MW-12
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
160
140
120
100
80
60
40
20
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

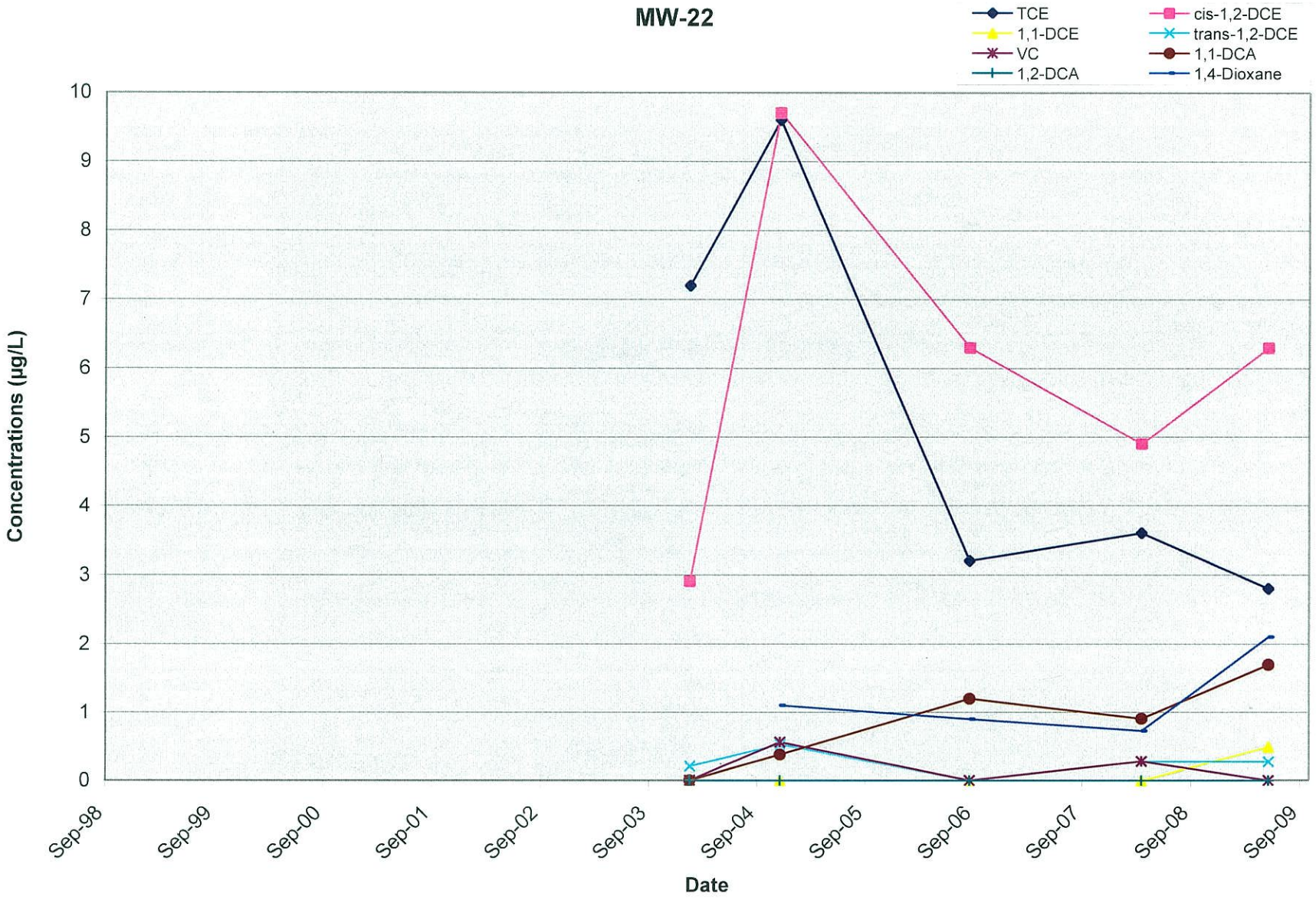

MW-15
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concetrations (µg/L)
800
700
600
500
400
300
200
100
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

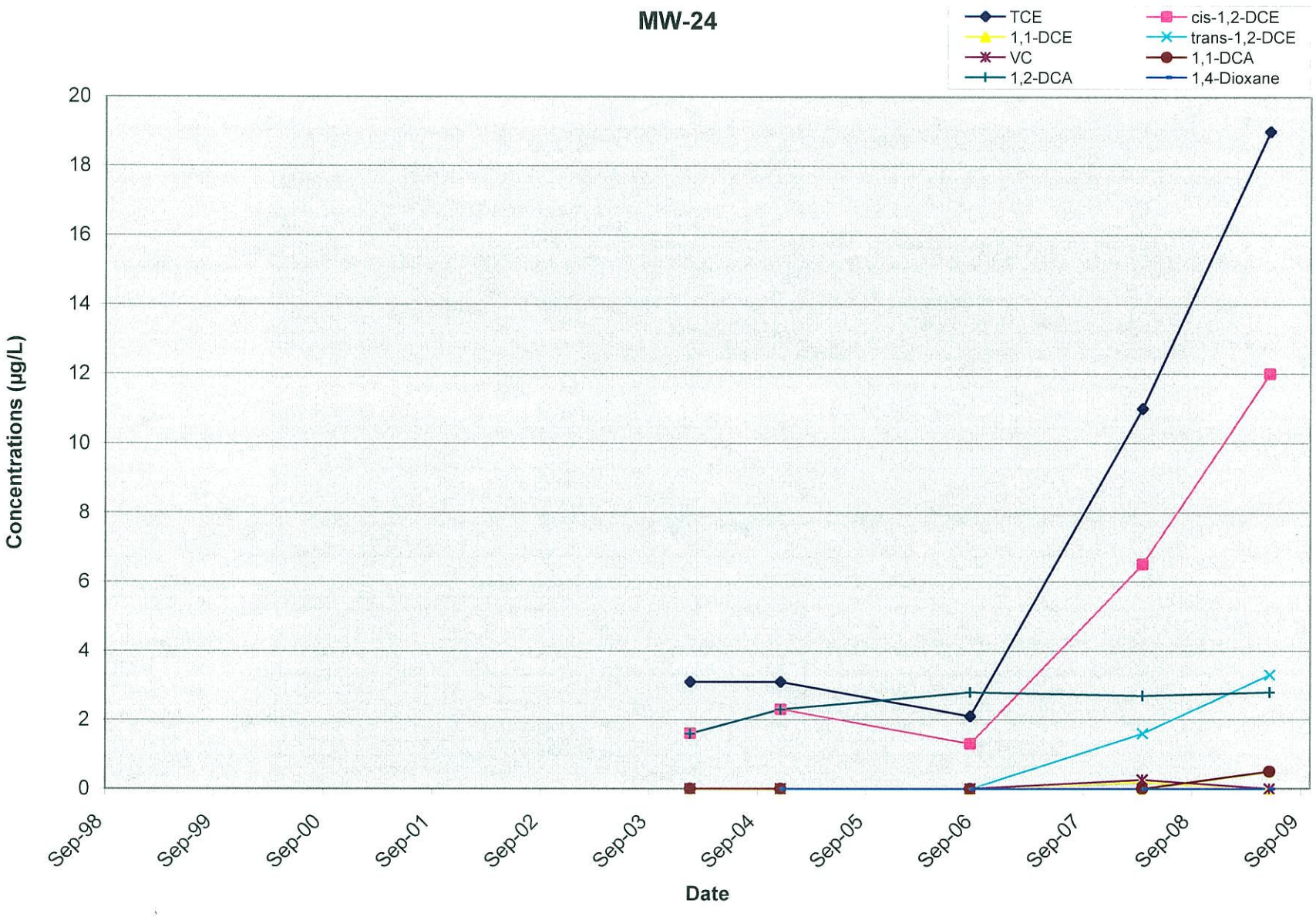

MW-19
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

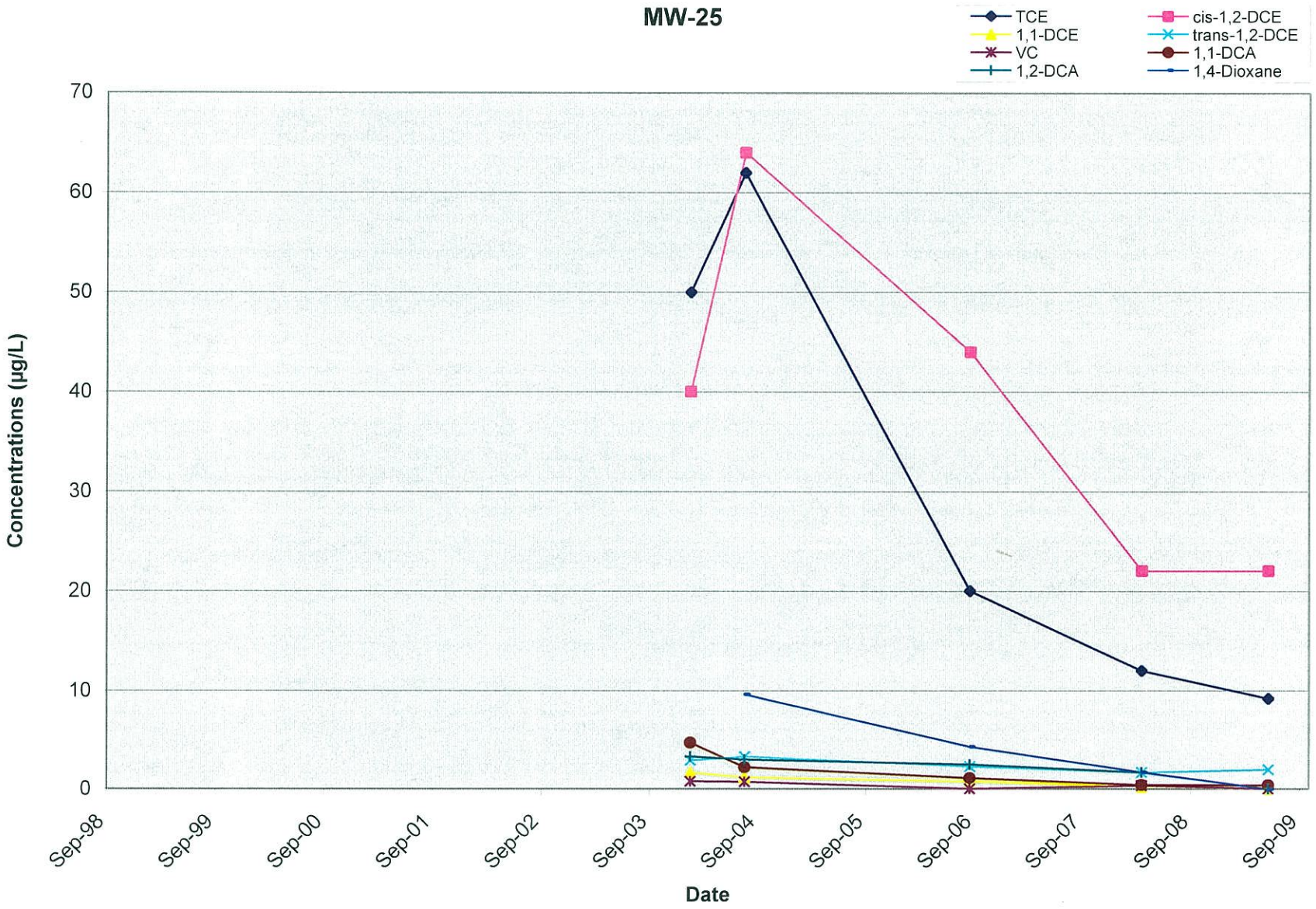

MW-20
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
900
800
700
600
500
400
300
200
100
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

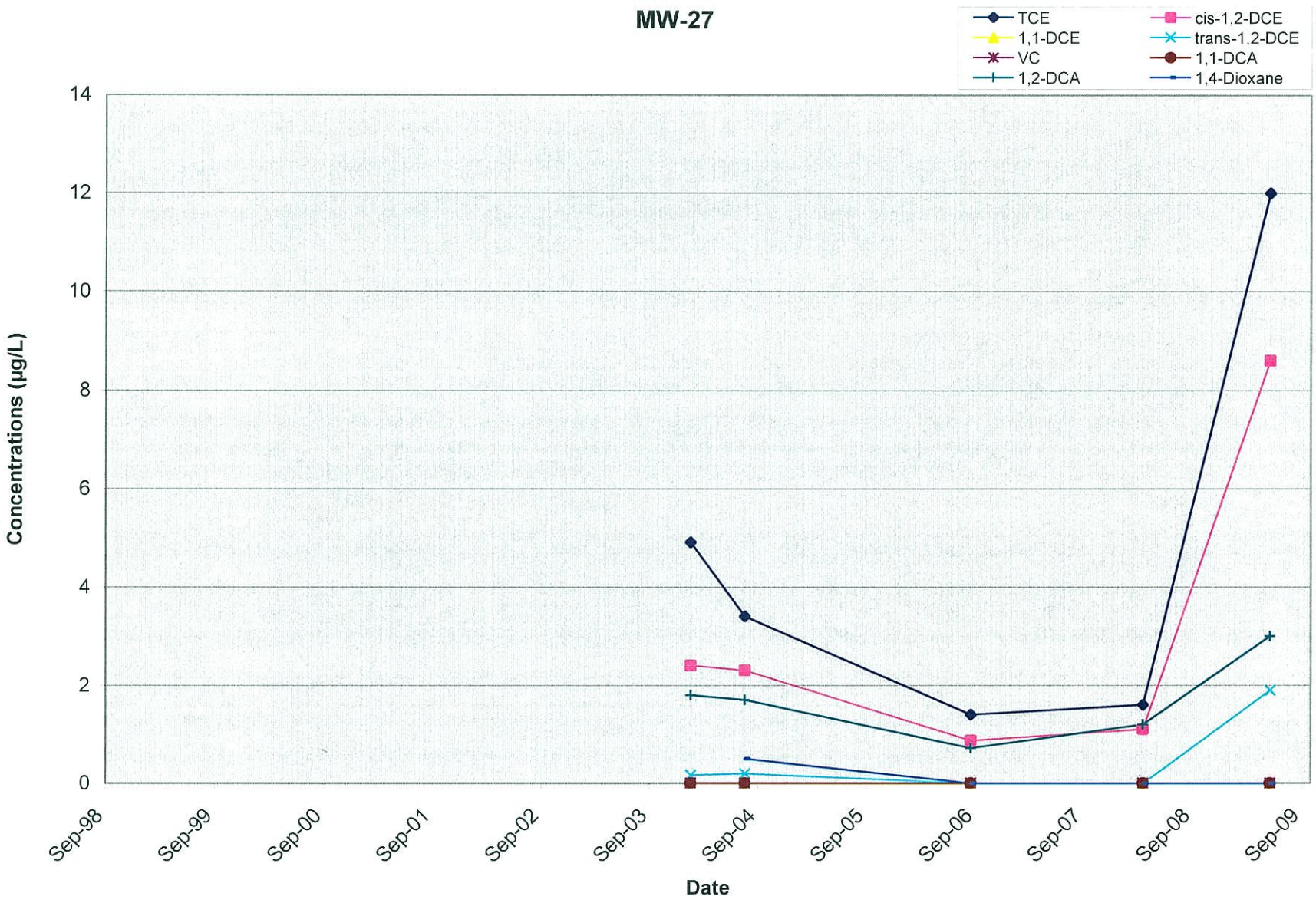

MW-20B
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
90
80
70
60
50
40
30
20
10
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

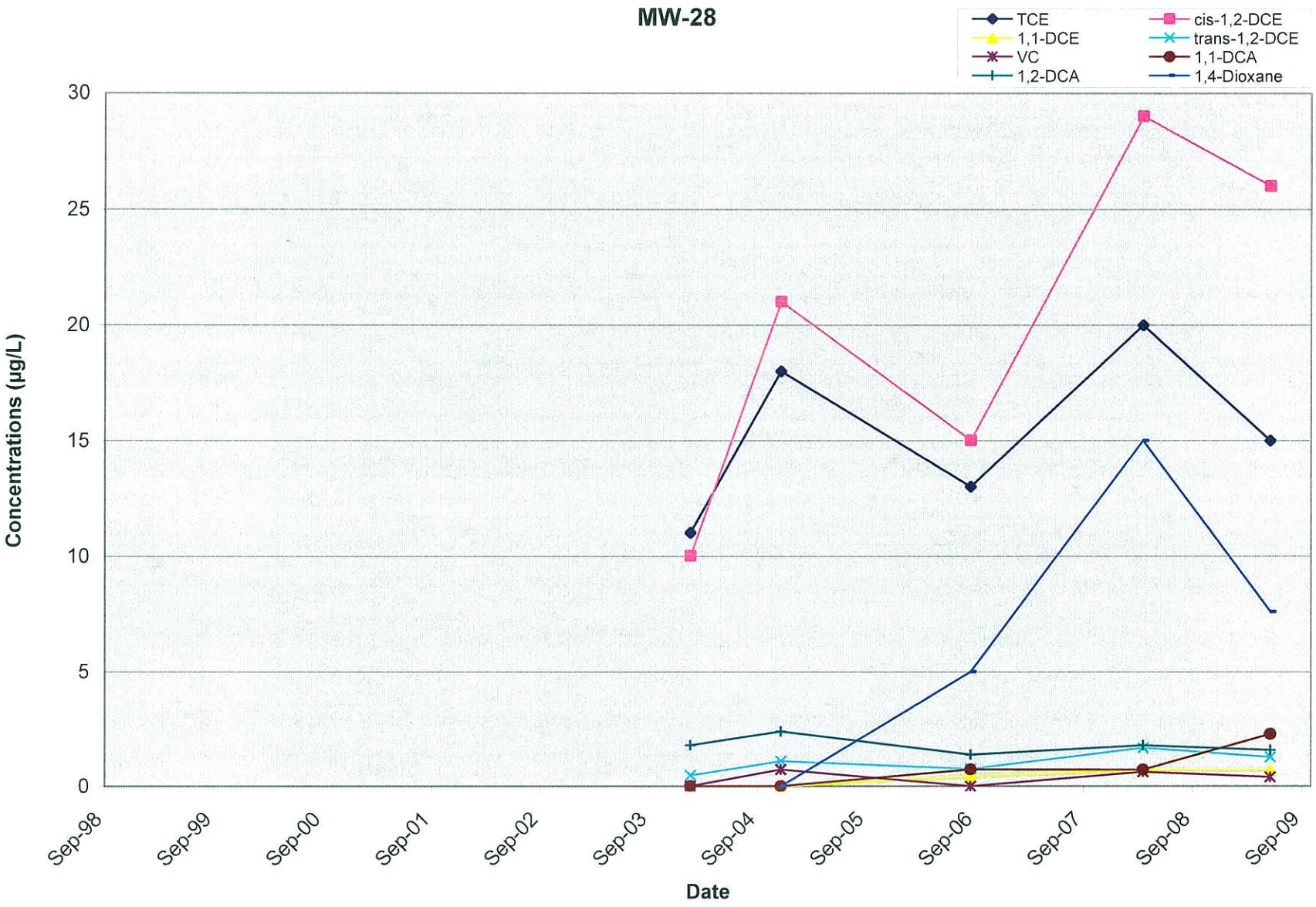

MW-21
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
1200
1000
800
600
400
200
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

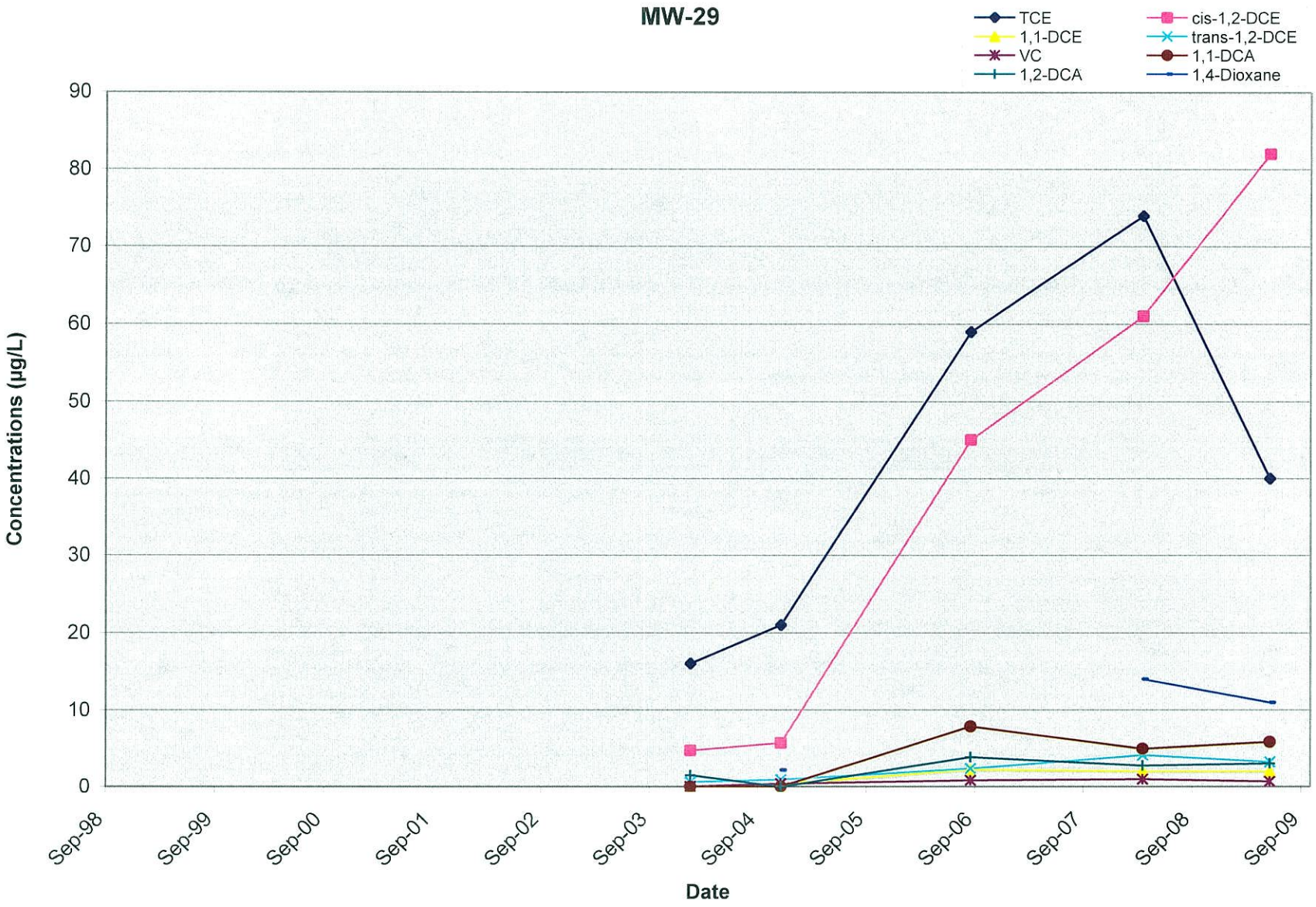

MW-22
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
0
1
2
3
4
5
6
7
8
9
10
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

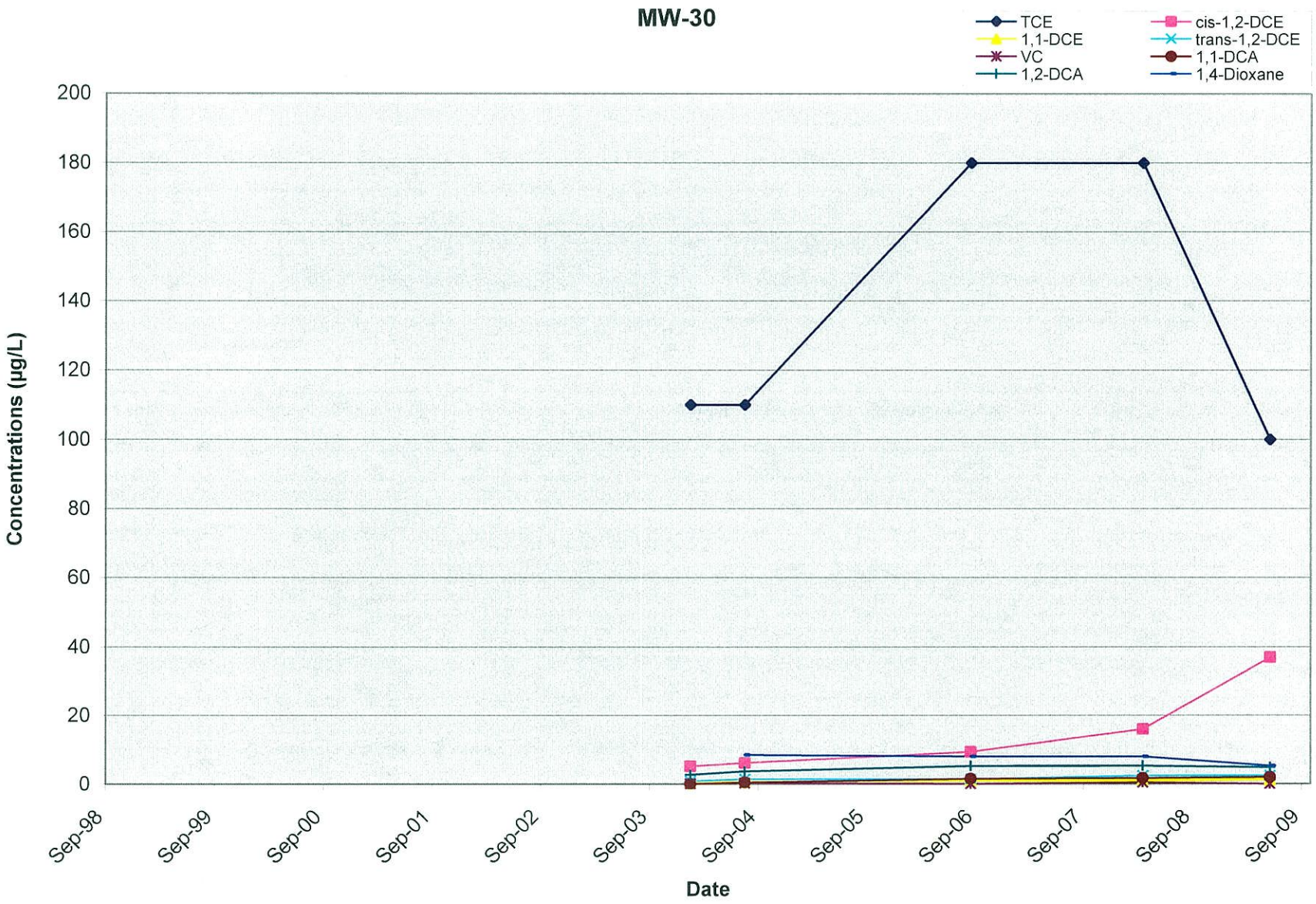

MW-24
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
0
2
4
6
8
10
12
14
16
18
20
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

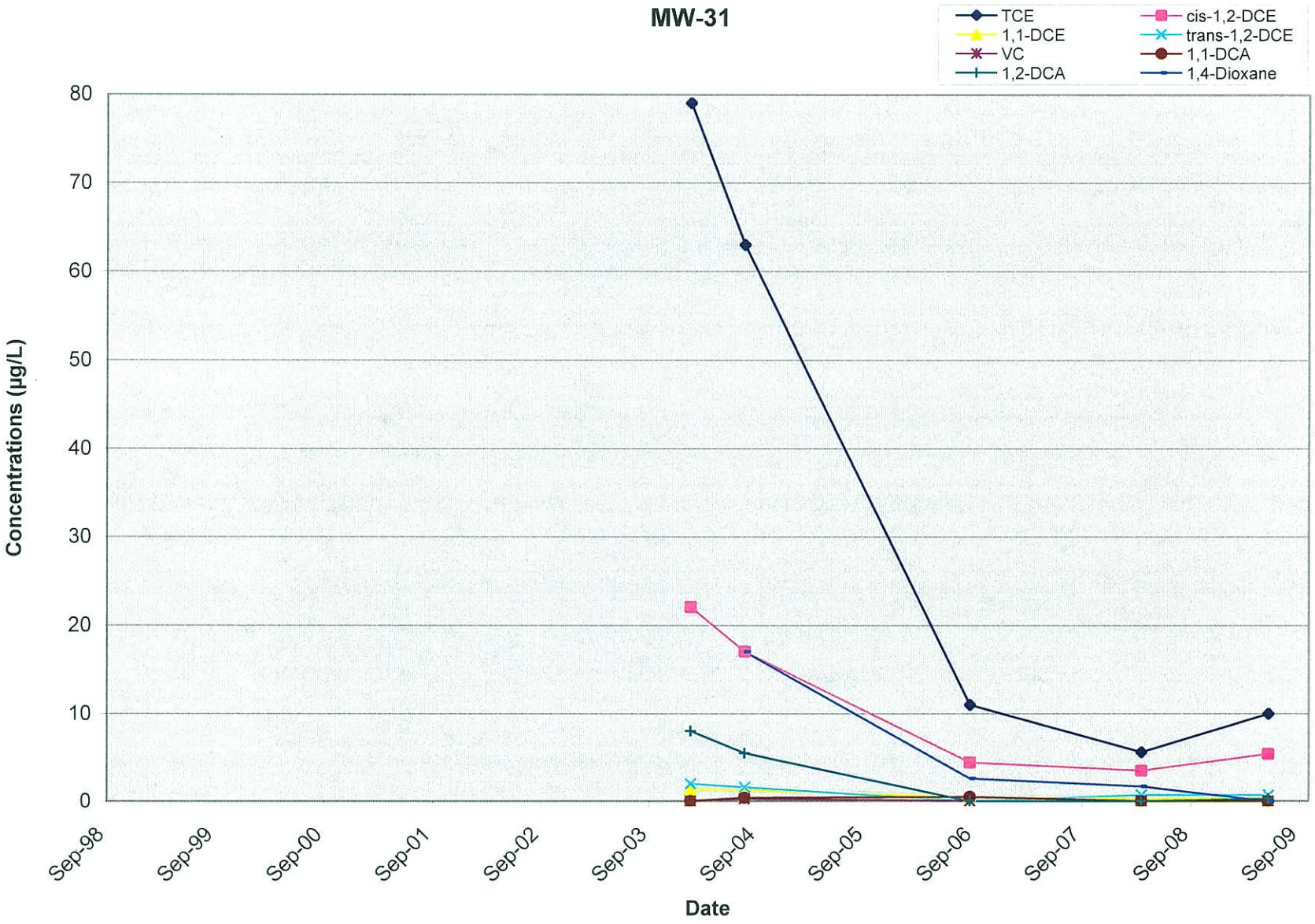

MW-25
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
70
60
50
40
30
20
10
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

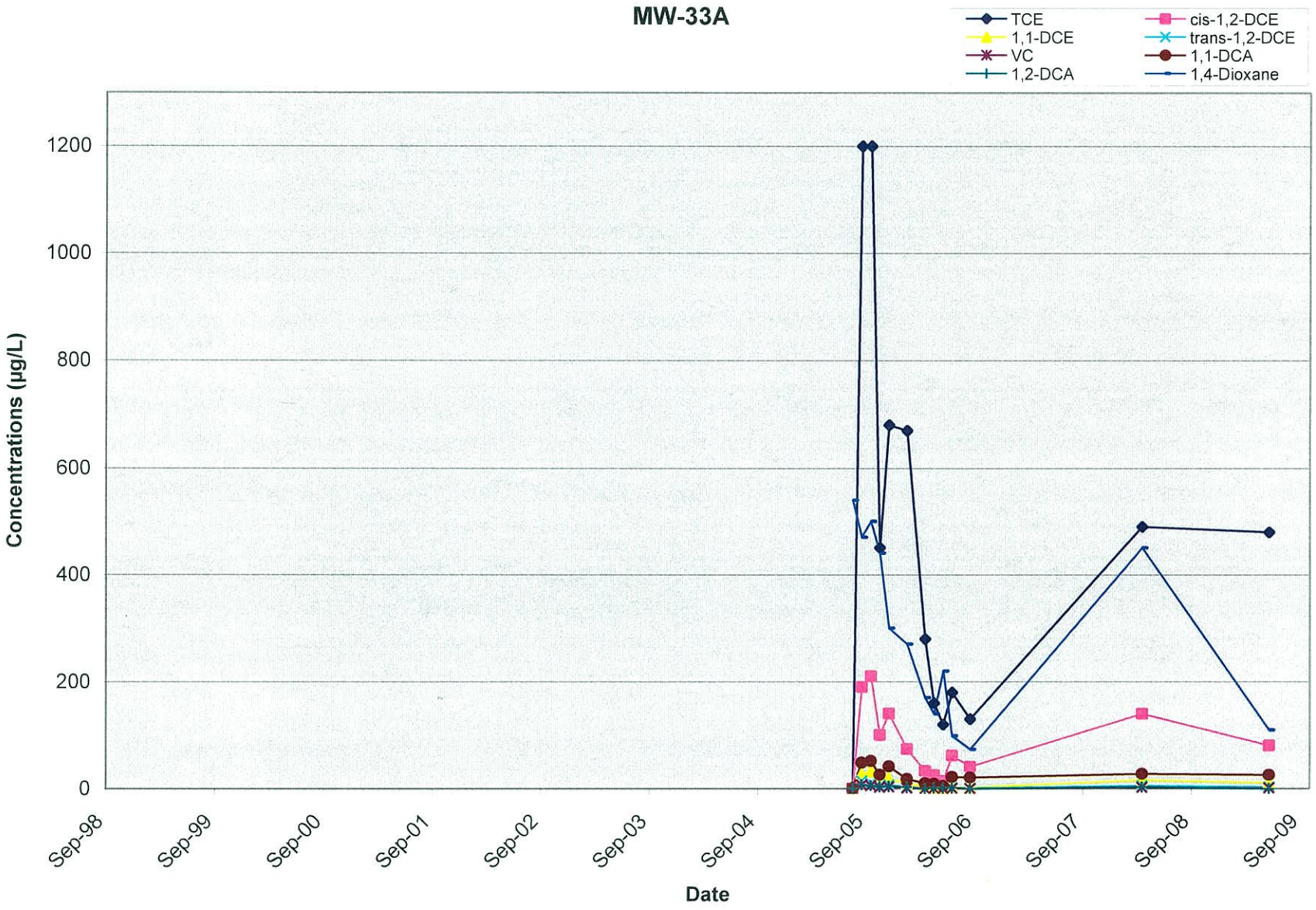

MW-27
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
0
2
4
6
8
10
12
14
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

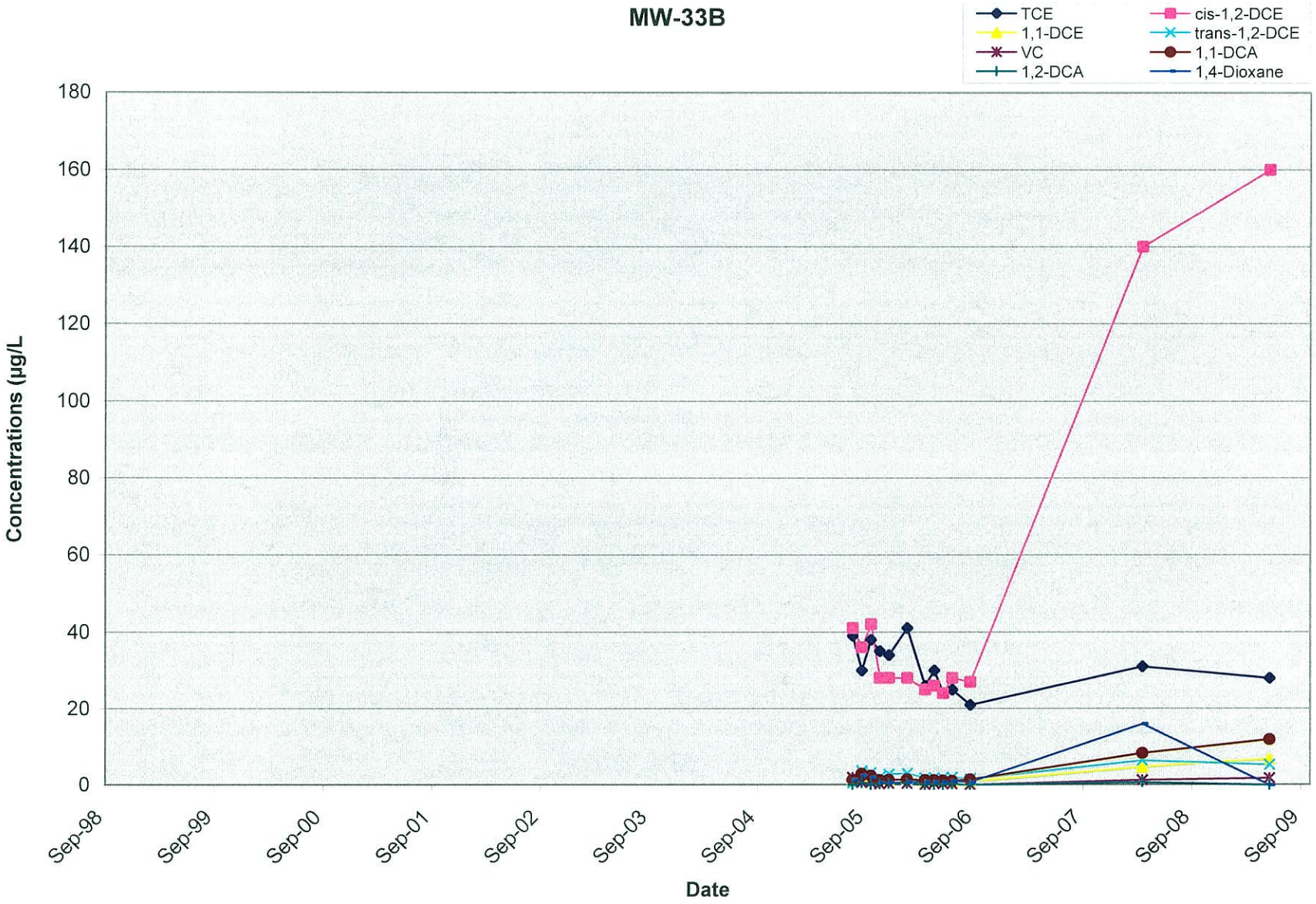

MW-28
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
30
25
20
15
10
5
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

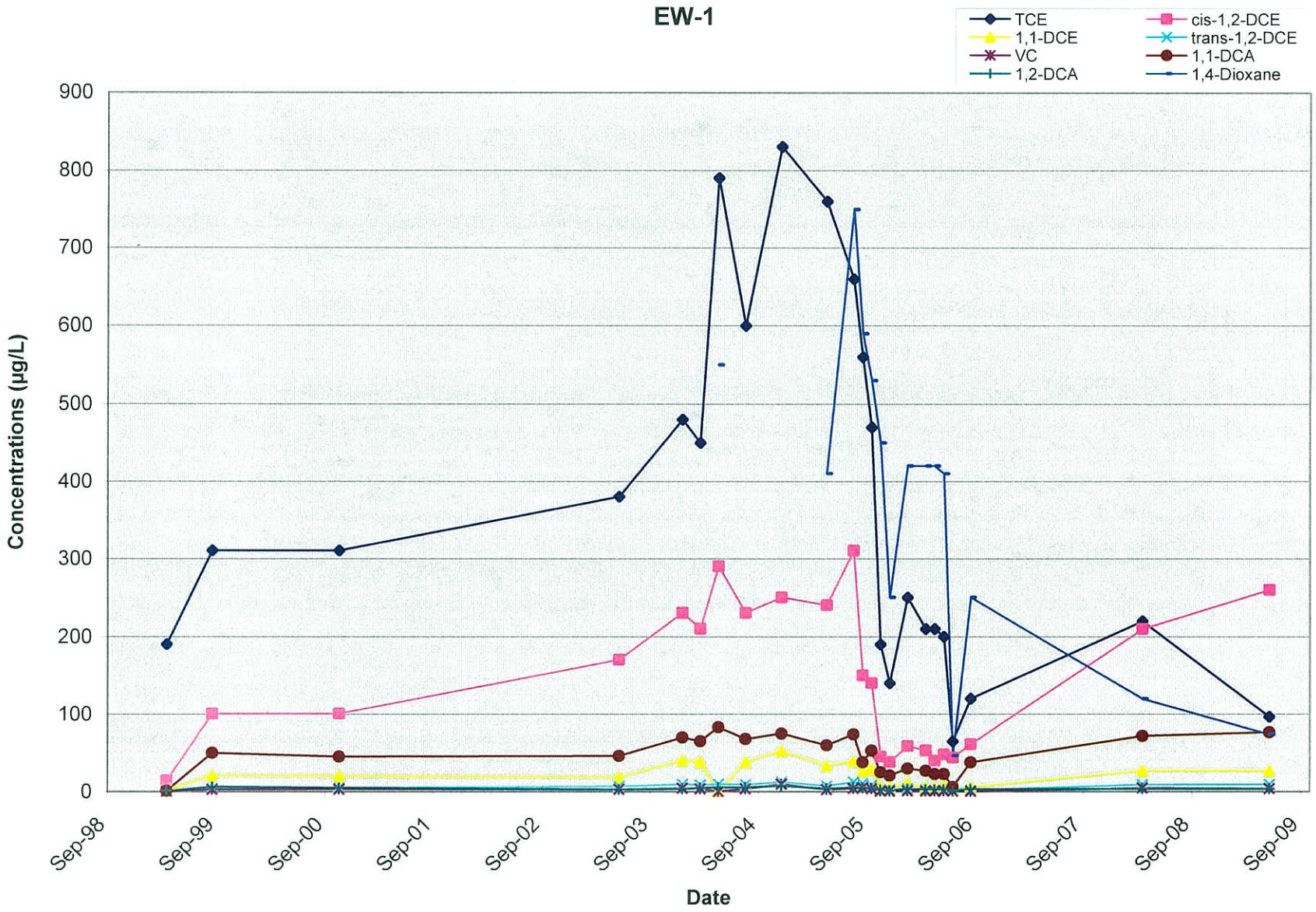

MW-29
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
90
80
70
60
50
40
30
20
10
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

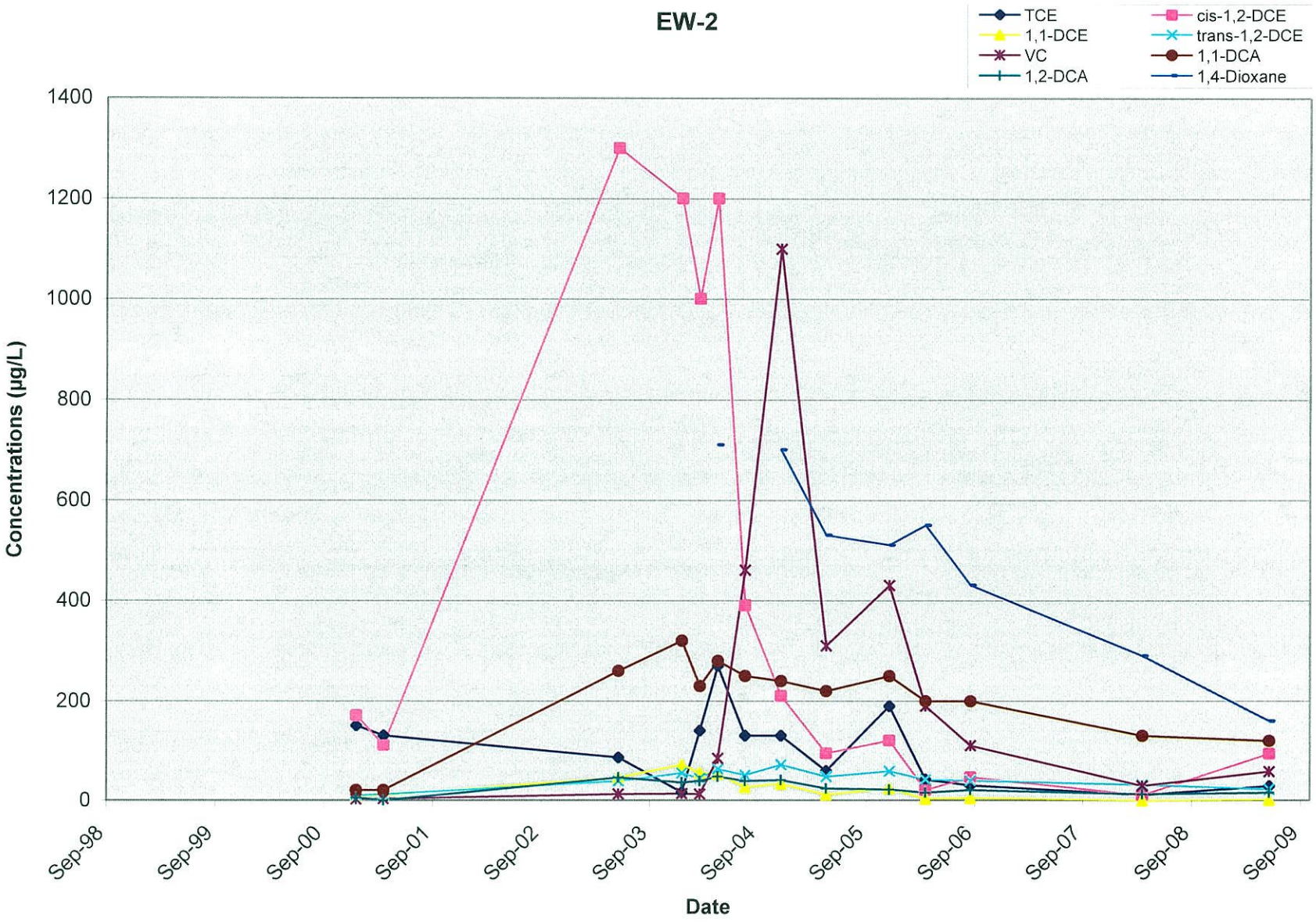

MW-30
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
200
180
160
140
120
100
80
60
40
20
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date


MW-31
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
80
70
60
50
40
30
20
10
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date


MW-33A
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
1200
1000
800
600
400
200
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date


MW-33B
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L
180
160
140
120
100
80
60
40
20
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date


EW-1
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
900
800
700
600
500
400
300
200
100
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date


EW-2
TCE
cis-1,2-DCE
1,1-DCE
trans-1,2-DCE
VC
1,1-DCA
1,2-DCA
1,4-Dioxane
Concentrations (µg/L)
1400
1200
1000
800
600
400
200
0
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date