Kathy_Kissick@URSCorp.com

09/19/02 05:47 PM

To: Patricia Murrow/ARTD/R7/USEPA/US@EPA
cc: JClearykc@aol.com, bchaney@harcroschem.com, Matthew_Wilson@URSCorp.com
Subject: June 2002 Groundwater Sampling Results - Harcros Chemicals Inc.

Pat:

I checked my files quickly and didn't find record of a previous transmittal of the June 2002 groundwater sampling results. Therefore I'm forwarding the validated results via this email. If you need a hard copy please don't hesitate to contact me. Also, as we discussed, a summary of the VOC detections is included in the table describing the rationale for the proposed monitoring well network.

Kathy

(See attached file: June2002Results(validated).xls)

June2002Results(validated).

R00403176
RCRA RECORDS CENTER

FINAL ANALYTICAL RESULTS
VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-26S			MW-27S			MW-27D			MW-28S			MW-29S			MW-30S		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)																		
Ethylbenzene	ND		100	ND		250	ND		1	ND		1	ND		1	ND		40
1,2-Dichloroethane	ND		100	ND		250	ND		1	ND		1	ND		1	ND		40
Toluene	ND		100	ND		250	ND		1	ND		1	ND		1	ND		40
Chlorobenzene	25	J	100	ND		250	ND		1	ND		1	0.95	J	1	36	J	40
Tetrachloroethene	ND		100	440		250	ND		1	ND		1	ND		1	47		40
Xylenes (total)	ND		200	ND		500	ND		2	ND		2	ND		2	ND		80
cis-1,2-Dichloroethene	4,900		100	2,900		250	0.36	J	1	ND		1	0.49	J	1	1,400		40
trans-1,2-Dichloroethene	48	J	50	ND		120	ND		0.5	ND		0.5	ND		0.5	19	J	20
1,2-Dichloroethene (total)	4,900		100	2,900		250	ND		1	ND		1	0.62	J	1	1,400		40
Carbon tetrachloride	ND		100	ND		250	ND		1	ND		1	ND		1	ND		40
Acetone	ND		1,000	ND		2,500	ND		10	ND		10	ND		10	ND		400
Chloroform	ND		100	ND		250	ND		1	ND		1	ND		1	29	J	40
Benzene	28	J	100	ND		250	ND		1	ND		1	ND		1	42		40
1,1,1-Trichloroethane	ND		100	ND		250	ND		1	ND		1.0	ND		1	ND		40
Chloromethane	ND		200	ND		500	ND		2	ND		2	ND		2	ND		80
Vinyl chloride	1,600		100	82	J	250	ND		1	ND		1	2.6		1	1,300		40
Methylene chloride	ND		100	ND		250	ND		1	ND		1	ND		1	ND		40
1,1-Dichloroethane	ND		100	ND		250	ND		1	ND		1	ND		1	14	J	40
1,1-Dichloroethene	ND		100	ND		250	ND		1	ND		1	ND		1	ND		40
Trichloroethene	ND		100	9,800		250	ND		1	ND		1	ND		1	60		40

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-31S			MW-32S			MW-232S			MW-33S			MW-34D			MW-37S		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)																		
Ethylbenzene	ND		1	ND		1	ND		1	ND		1	ND		33	ND		4
1,2-Dichloroethane	ND		1	ND		1	ND		1	ND		1	ND		33	ND		4
Toluene	ND		1	ND		1	ND		1	ND		1	ND		33	ND		4
Chlorobenzene	ND		1	ND		1	ND		1	ND		1	ND		33	ND		4
Tetrachloroethene	ND		1	ND		1	ND		1	ND		1	ND		33	93		4
Xylenes (total)	ND		2	ND		2	ND		2	ND		2	ND		67	ND		8
cis-1,2-Dichloroethene	12		1	4.7		1	4.7		1	3.2		1	500		33	6.3		4
trans-1,2-Dichloroethene	0.37	J	0.5	ND		0.5	ND		0.5	ND		0.5	12	J	17	ND		2
1,2-Dichloroethene (total)	13		1	4.7		1	4.7		1	3.3		1	510		33	7.1		4
Carbon tetrachloride	ND		1	ND		1	ND		1	ND		1	ND		33	ND		4
Acetone	ND		10	ND		10	ND		10	ND		10	140	J	330	ND		40
Chloroform	ND		1	ND		1	ND		1	ND		1	ND		33	ND		4
Benzene	ND		1	ND		1	ND		1	ND		1	11	J	33	ND		4
1,1,1-Trichloroethane	ND		1	ND		1	ND		1	ND		1	ND		33	ND		4
Chloromethane	ND		2	ND		2	ND		2	ND		2	ND		67	ND		8
Vinyl chloride	0.34	J	1	ND		1	ND		1	ND		1	300		33	ND		4
Methylene chloride	ND		1	ND		1	ND		1	ND		1	ND		33	ND		4
1,1-Dichloroethane	0.66	J	1	ND		1	ND		1	ND		1	10	J	33	ND		4
1,1-Dichloroethene	ND		1	ND		1	ND		1	ND		1	ND		33	ND		4
Trichloroethene	ND		1	ND		1	ND		1	ND		1	ND		33	50		4

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-37D			MW-38S			MW-39S			MW-40D			MW-41D			MW-241D		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)																		
Ethylbenzene	ND		1	ND		40	ND		1	ND		1	ND		3.3	ND		4
1,2-Dichloroethane	ND		1	ND		40	ND		1	ND		1	ND		3.3	ND		4
Toluene	ND		1	ND		40	ND		1	ND		1	ND		3.3	ND		4
Chlorobenzene	ND		1	ND		40	ND		1	0.39	J	1	5.2		3.3	5.0		4
Tetrachloroethene	ND		1	1,400		40	1.1		1	16		1	5.5		3.3	6.3		4
Xylenes (total)	ND		2	ND		80	ND		2	ND		2	ND		6.7	ND		8
cis-1,2-Dichloroethene	ND		1	110		40	ND		1	3.3		1	150		3.3	140		4
trans-1,2-Dichloroethene	ND		0.5	ND		20	ND		0.5	ND		0.5	3.5		1.7	3.5		2
1,2-Dichloroethene (total)	ND		1	110		40	ND		1	3.5		1	150		3.3	140		4
Carbon tetrachloride	ND		1	ND		40	ND		1	ND		1	ND		3.3	ND		4
Acetone	ND		10	ND		400	3.1	J	10	ND		10	ND		33	ND		40
Chloroform	ND		1	ND		40	ND		1	ND		1	ND		3.3	ND		4
Benzene	ND		1	ND		40	ND		1	ND		1	3.3		3.3	3.3	J	4
1,1,1-Trichloroethane	ND		1	ND		40	0.50	J	1	ND		1	ND		3.3	ND		4
Chloromethane	ND		2	ND		80	ND		2	ND		2	ND		6.7	ND		8
Vinyl chloride	ND		1	ND		40	ND		1	ND		1	84		3.3	87		4
Methylene chloride	ND		1	ND		40	ND		1	ND		1	ND		3.3	ND		4
1,1-Dichloroethane	ND		1	ND		40	0.47	J	1	0.82	J	1	11		3.3	11		4
1,1-Dichloroethene	ND		1	ND		40	ND		1	ND		1	1.1	J	3.3	1.6	J	4
Trichloroethene	ND		1	360		40	4.7		1	14		1	13		3.3	13		4

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-22D			MW-23S			MW-24S			MW-224S			MW-25S			MW-25D		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)																		
Ethylbenzene	ND		2	69.0		2	930		40	880		40	ND		50	ND		1
1,2-Dichloroethane	ND		2	ND		1	ND		40	ND		40	ND		50	ND		1
Toluene	ND		2	0.76	J	1	ND		40	ND		40	ND		50	ND		1
Chlorobenzene	ND		2	0.68	J	1	ND		40	ND		40	140		50	ND		1
Tetrachloroethene	1.3	J	2	ND		1	ND		40	ND		40	ND		50	ND		1
Xylenes (total)	ND		4	3.6		2	1,400		80	1,300		80	ND		100	ND		2
cis-1,2-Dichloroethene	67		2	6.8		1	ND		40	ND		40	240		50	4.2		1
trans-1,2-Dichloroethene	1.1		1	0.31	J	0.5	ND		20	ND		20	ND		25	ND		0.5
1,2-Dichloroethene (total)	68		2	7.1		1	ND		40	ND		40	240		50	4.2		1
Carbon tetrachloride	ND		2	ND		1	ND		40	ND		40	ND		50	ND		1
Acetone	ND		20	ND		10	ND		400	ND		400	ND		500	ND		10
Chloroform	ND		2	ND		1	ND		40	ND		40	ND		50	ND		1
Benzene	2.1		2	5.3		1	24	J	40	22	J	40	140		50	ND		1
1,1,1-Trichloroethane	ND		2	ND		1	ND		40	ND		40	ND		50	ND		1
Chloromethane	ND		4	ND		2	ND		80	ND		80	ND		100	ND		2
Vinyl chloride	42		2	67		2	41		40	35	J	40	1,500		50	1.6		1
Methylene chloride	ND		2	ND		1	ND		40	ND		40	ND		50	ND		1
1,1-Dichloroethane	5.2		2	7.4		1	ND		40	ND		40	24	J	50	ND		1
1,1-Dichloroethene	1.2	J	2	ND		1	ND		40	ND		40	ND		50	ND		1
Trichloroethene	4.1		2	ND		1	ND		40	ND		40	ND		50	ND		1

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-5			MW-5D			MW-6			MW-7			MW-9S			MW-9D		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)																		
Ethylbenzene	ND		40	ND		40	ND		4	ND		1	ND		1	ND		1
1,2-Dichloroethane	ND		40	ND		40	ND		4	ND		1	ND		1	ND		1
Toluene	ND		40	ND		40	ND		4	0.39	J	1	ND		1	ND		1
Chlorobenzene	16	J	40	13	J	40	ND		4	6.1		1	ND		1	ND		1
Tetrachloroethene	ND		40	ND		40	ND		4	17		1	ND		1	60		1
Xylenes (total)	ND		80	ND		80	ND		8	1.2	J	2	ND		2	ND		2
cis-1,2-Dichloroethene	240		40	1,000		40	150		4	1.2		1	4.9		1	3.8		1
trans-1,2-Dichloroethene	ND		20	11	J	20	2.0		2	0.31	J	0.5	ND		0.5	ND		0.5
1,2-Dichloroethene (total)	240		40	1,000		40	150		4	1.5		1	4.9		1	4.0		1
Carbon tetrachloride	ND		40	ND		40	ND		4	ND		1	ND		1	ND		1
Acetone	ND		400	ND		400	ND		40	ND		10	ND		10	ND		10
Chloroform	ND		40	ND		40	ND		4	ND		1	ND		1	ND		1
Benzene	36	J	40	54		40	8.8		4	3.8		1	ND		1	ND		1
1,1,1-Trichloroethane	ND		40	ND		40	ND		4	ND		1	ND		1	ND		1
Chloromethane	ND		80	ND		80	ND		8	ND		2	ND		2	ND		2
Vinyl chloride	1,200		40	1,600		40	190		4	170		5	ND		1	ND		1
Methylene chloride	ND		40	ND		40	ND		4	ND		1	ND		1	ND		1
1,1-Dichloroethane	31	J	40	15	J	40	5.2		4	2.5		1	0.61	J	1	ND		1
1,1-Dichloroethene	ND		40	ND		40	ND		4	ND		1	ND		1	ND		1
Trichloroethene	ND		40	26	J	40	2.7	J	4	2		1	0.49	J	1	23		1

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-10			MW-17SA			MW-17D			MW-18S			MW-19S			MW-219S		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)																		
Ethylbenzene	ND		1	ND		1	ND		1	970		200	ND		5	ND		6.7
1,2-Dichloroethane	ND		1	ND		1	ND		1	ND		200	ND		5	ND		6.7
Toluene	ND		1	ND		1	ND		1	77	J	200	ND		5	ND		6.7
Chlorobenzene	ND		1	ND		1	ND		1	ND		200	ND		5	ND		6.7
Tetrachloroethene	ND		1	ND		1	ND		1	ND		200	15		5	16		6.7
Xylenes (total)	ND		2	ND		2	ND		2	5,900		400	ND		10	ND		13
cis-1,2-Dichloroethene	ND		1	15		1	17		1	ND		200	200		5	200		6.7
trans-1,2-Dichloroethene	ND		0.5	ND		0.5	1.6		0.5	ND		100	ND		2.5	ND		3.3
1,2-Dichloroethene (total)	ND		1	16		1	19		1	ND		200	200		5	200		6.7
Carbon tetrachloride	ND		1	ND		1	ND		1	ND		200	ND		5	ND		6.7
Acetone	ND		10	ND		10	ND		10	ND		2,000	ND		50	ND		67
Chloroform	ND		1	ND		1	ND		1	ND		200	ND		5	ND		6.7
Benzene	ND		1	ND		1	0.62	J	1	ND		200	ND		5	ND		6.7
1,1,1-Trichloroethane	ND		1	ND		1	ND		1	ND		200	ND		5	ND		6.7
Chloromethane	ND		2	ND		2	ND		2	ND		400	ND		10	ND		13
Vinyl chloride	ND		1	3.60		1	7.2		1	87	J	200	1.4	J	5	ND		6.7
Methylene chloride	ND		1	ND		1	ND		1	ND		200	ND		5	ND		6.7
1,1-Dichloroethane	ND		1	ND		1	1.2		1	ND		200	ND		5	ND		6.7
1,1-Dichloroethene	ND		1	ND		1	ND		1	ND		200	ND		5	ND		6.7
Trichloroethene	0.42	J	1	ND		1	ND		1	ND		200	24		5	26		6.7

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-19D			MW-20S			MW-20D			MW-21S			MW-221S			MW-22S		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)																		
Ethylbenzene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		20
1,2-Dichloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		20
Toluene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		20
Chlorobenzene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		20
Tetrachloroethene	ND		1	0.32	J	1	57		1	1.9		1	1.7		1	29		20
Xylenes (total)	ND		2	ND		2	ND		2	ND		2	ND		2	ND		40
cis-1,2-Dichloroethene	ND		1	ND		1	3.7		1	ND		1	ND		1	730		20
trans-1,2-Dichloroethene	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		10
1,2-Dichloroethene (total)	ND		1	ND		1	3.7		1	ND		1	ND		1	730		20
Carbon tetrachloride	ND		1	0.37	J	1	ND		1	ND		1	ND		1	ND		20
Acetone	ND		10	ND		10	ND		10	ND		10	ND		10	ND		200
Chloroform	ND		1	0.96	J	1	ND		1	ND		1	ND		1	ND		20
Benzene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		20
1,1,1-Trichloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	44		20
Chloromethane	ND		2	ND		2	ND		2	ND		2	ND		2	ND		40
Vinyl chloride	ND		1	ND		1	ND		1	ND		1	ND		1	170		20
Methylene chloride	ND		1	ND		1	ND		1	ND		1	ND		1	ND		20
1,1-Dichloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	160		20
1,1-Dichloroethene	ND		1	ND		1	ND		1	ND		1	ND		1	31		20
Trichloroethene	ND		1	0.42	J	1	11		1	0.33	J	1	0.32	J	1	40		20

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-42S			MW-42D			MW-43D			MW-44D			MW-45D			TMW-1		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)																		
Ethylbenzene	ND		1	ND		6.7	ND		1	ND		1	ND		1	ND		1
1,2-Dichloroethane	ND		1	ND		6.7	ND		1	ND		1	ND		1	ND		1
Toluene	ND		1	ND		6.7	ND		1	ND		1	ND		1	ND		1
Chlorobenzene	ND		1	2.5	J	6.7	1.8		1	ND		1	ND		1	ND		1
Tetrachloroethene	ND		1	ND		6.7	ND		1	ND		1	ND		1	ND		1
Xylenes (total)	ND		2	ND		13	ND		2	ND		2	ND		2	ND		2
cis-1,2-Dichloroethene	0.85	J	1	180		6.7	9.3		1	2.2		1	21		1	ND		1
trans-1,2-Dichloroethene	ND		0.5	3.5		3.3	0.62		0.5	ND		0.5	0.47	J	0.5	ND		0.5
1,2-Dichloroethene (total)	0.97	J	1	180		6.7	9.9		1	2.2		1	22		1	ND		1
Carbon tetrachloride	ND		1	ND		6.7	ND		1	ND		1	ND		1	ND		1
Acetone	ND		10	ND		67	ND		10	ND		10	ND		10	ND		10
Chloroform	ND		1	ND		6.7	ND		1	ND		1	ND		1	ND		1
Benzene	ND		1	2	J	6.7	ND		1	ND		1	ND		1	ND		1
1,1,1-Trichloroethane	ND		1	ND		6.7	ND		1	ND		1	ND		1	ND		1
Chloromethane	ND		2	ND		13	ND		2	ND		2	ND		2	ND		2
Vinyl chloride	0.30	J	1	220		6.7	19		1	ND		1	ND		1	ND		1
Methylene chloride	ND		1	ND		6.7	ND		1	ND		1	ND		1	ND		1
1,1-Dichloroethane	0.53	J	1	25		6.7	5.8		1	ND		1	1.4		1	ND		1
1,1-Dichloroethene	ND		1	3.4	J	6.7	0.48	J	1	ND		1	ND		1	ND		1
Trichloroethene	0.37	J	1	3.5	J	6.7	0.55	J	1	ND		1	ND		1	ND		1

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	TMW-2			TMW-4			RGW-1S			RGW-1D			TB-052902			TB-053002		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)																		
Ethylbenzene	ND		1	ND		1	16		5	ND		1	ND		1	ND		1
1,2-Dichloroethane	ND		1	ND		1	ND		5	ND		1	ND		1	ND		1
Toluene	ND		1	ND		1	3.3	J	5	ND		1	ND		1	ND		1
Chlorobenzene	ND		1	ND		1	11		5	ND		1	ND		1	ND		1
Tetrachloroethene	ND		1	ND		1	ND		5	ND		1	ND		1	ND		1
Xylenes (total)	ND		2	ND		2	48		10	ND		2	ND		2	ND		2
cis-1,2-Dichloroethene	1.5		1	ND		1	15		5	15		1	ND		1	ND		1
trans-1,2-Dichloroethene	ND		0.5	ND		0.5	ND		2.5	ND		0.5	ND		0.5	ND		0.5
1,2-Dichloroethene (total)	1.5		1	ND		1	15		5	15		1	ND		1	ND		1
Carbon tetrachloride	ND		1	ND		1	ND		5	ND		1	ND		1	ND		1
Acetone	ND		10	ND		10	110		50	ND		10	ND		10	ND		10
Chloroform	ND		1	ND		1	ND		5	ND		1	ND		1	ND		1
Benzene	ND		1	ND		1	5.3		5	0.74	J	1	ND		1	ND		1
1,1,1-Trichloroethane	ND		1	ND		1	ND		5	ND		1	ND		1	ND		1
Chloromethane	ND		2	ND		2	ND		10	ND		2	ND		2	ND		2
Vinyl chloride	ND		1	ND		1	230		5	24		1	ND		1	ND		1
Methylene chloride	ND		1	ND		1	ND		5	ND		1	ND		1	ND		1
1,1-Dichloroethane	ND		1	ND		1	2	J	5	0.7	J	1	ND		1	ND		1
1,1-Dichloroethene	ND		1	ND		1	ND		5	ND		1	ND		1	ND		1
Trichloroethene	ND		1	ND		1	ND		5	ND		1	ND		1	ND		1

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	TB-060402			TB-060602			TB-061002			TB-061102		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)												
Ethylbenzene	ND		1	ND		1	ND		1	ND		1
1,2-Dichloroethane	ND		1	ND		1	ND		1	ND		1
Toluene	ND		1	ND		1	ND		1	ND		1
Chlorobenzene	ND		1	ND		1	ND		1	ND		1
Tetrachloroethene	ND		1	ND		1	ND		1	ND		1
Xylenes (total)	ND		2	ND		2	ND		2	ND		2
cis-1,2-Dichloroethene	ND		1	ND		1	ND		1	ND		1
trans-1,2-Dichloroethene	ND		0.5	ND		0.5	ND		0.5	ND		0.5
1,2-Dichloroethene (total)	ND		1	ND		1	ND		1	ND		1
Carbon tetrachloride	ND		1	ND		1	ND		1	ND		1
Acetone	ND		10	3.5	J	10	4.2	J	10	3.8	J	10
Chloroform	ND		1	ND		1	0.86	J	1	0.51	J	1
Benzene	ND		1	ND		1	ND		1	ND		1
1,1,1-Trichloroethane	ND		1	ND		1	ND		1	ND		1
Chloromethane	ND		2	ND		2	ND		2	ND		2
Vinyl chloride	ND		1	ND		1	ND		1	ND		1
Methylene chloride	ND		1	ND		1	ND		1	ND		1
1,1-Dichloroethane	ND		1	ND		1	ND		1	ND		1
1,1-Dichloroethene	ND		1	ND		1	ND		1	ND		1
Trichloroethene	ND		1	ND		1	ND		1	ND		1

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	TB-061202			TB-061302			TB-061402		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)									
Ethylbenzene	ND		1	ND		1	ND		1
1,2-Dichloroethane	ND		1	ND		1	ND		1
Toluene	ND		1	ND		1	ND		1
Chlorobenzene	ND		1	ND		1	ND		1
Tetrachloroethene	ND		1	ND		1	ND		1
Xylenes (total)	ND		2	ND		2	ND		2
cis-1,2-Dichloroethene	ND		1	ND		1	ND		1
trans-1,2-Dichloroethene	ND		0.5	ND		0.5	ND		0.5
1,2-Dichloroethene (total)	ND		1	ND		1	ND		1
Carbon tetrachloride	ND		1	ND		1	ND		1
Acetone	5.4	J	10	ND		10	6.7	J	10
Chloroform	0.41	J	1	ND		1	ND		1
Benzene	ND		1	ND		1	ND		1
1,1,1-Trichloroethane	ND		1	ND		1	ND		1
Chloromethane	ND		2	ND		2	ND		2
Vinyl chloride	ND		1	ND		1	ND		1
Methylene chloride	ND		1	ND		1	1.3		1
1,1-Dichloroethane	ND		1	ND		1	ND		1
1,1-Dichloroethene	ND		1	ND		1	ND		1
Trichloroethene	ND		1	ND		1	ND		1

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
SI VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-1S			MW-2			MW-2D			MW-3			MW-203			MW-11B		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)																		
Ethylbenzene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Styrene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
cis-1,3-Dichloropropene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
trans-1,3-Dichloropropene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
1,2-Dichloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Vinyl acetate	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
4-Methyl-2-pentanone	8.0		5	ND		5	ND		5	ND		5	ND		5	ND		5
Toluene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Chlorobenzene	ND		1	ND		1	ND		1	ND		1	ND		1	1.9		1
2-Chloroethyl vinyl ether	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
Dibromochloromethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Tetrachloroethene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Xylenes (total)	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
cis-1,2-Dichloroethene	ND		1	ND		1	1.1		1	0.37	J	1	0.37	J	1	ND		1
trans-1,2-Dichloroethene	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
1,2-Dichloroethene (total)	ND		1	ND		1	1.1		1	ND		1	ND		1	ND		1
Carbon tetrachloride	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
2-Hexanone	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Acetone	3.5	J	10	ND		10	ND		10	ND		10	ND		10	ND		10
Chloroform	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Benzene	ND		1	ND		1	ND		1	ND		1	ND		1	5.8		1
1,1,1-Trichloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Bromomethane	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
Chloromethane	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
Chloroethane	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
Vinyl chloride	ND		1	0.43	J	1	ND		1	0.29	J	1	0.31	J	1	12		1
Methylene chloride	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Carbon disulfide	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Bromoform	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Bromodichloromethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
1,1-Dichloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
1,1-Dichloroethene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
1,2-Dichloropropane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
2-Butanone (MEK)	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
1,1,2-Trichloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Trichloroethene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
1,1,2,2-Tetrachloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution
i:\c2001007\Groundwater Monitoring\March2002\June2002Results(validated).xls 9/20/02 2:44 PM

FINAL ANALYTICAL RESULTS
SI VOCS
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-11D			MW-12			MW-14			MW-35S			TB-060102			TB-053102B		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Volatile Organics (µg/L)																		
Ethylbenzene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Styrene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
cis-1,3-Dichloropropene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
trans-1,3-Dichloropropene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
1,2-Dichloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Vinyl acetate	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
4-Methyl-2-pentanone	ND		5	2.0	J	5	ND		5	ND		5	ND		5	ND		5
Toluene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Chlorobenzene	ND		1	2		1	ND		1	0.55	J	1	ND		1	ND		1
2-Chloroethyl vinyl ether	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
Dibromochloromethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Tetrachloroethene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Xylenes (total)	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
cis-1,2-Dichloroethene	0.98	J	1	1.2		1	ND		1	ND		1	ND		1	ND		1
trans-1,2-Dichloroethene	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
1,2-Dichloroethene (total)	0.98	J	1	1.2		1	ND		1	ND		1	ND		1	ND		1
Carbon tetrachloride	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
2-Hexanone	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
Acetone	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10
Chloroform	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Benzene	ND		1	11		1	ND		1	6.7		1	ND		1	ND		1
1,1,1-Trichloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Bromomethane	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
Chloromethane	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
Chloroethane	ND		2	ND		2	ND		2	ND		2	ND		2	ND		2
Vinyl chloride	1		1	13		1	ND		1	28		1	ND		1	ND		1
Methylene chloride	ND		1	ND		1	ND		1	ND		1	ND		1	1.4		1
Carbon disulfide	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Bromoform	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Bromodichloromethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
1,1-Dichloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
1,1-Dichloroethene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
1,2-Dichloropropane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
2-Butanone (MEK)	ND		5	ND		5	ND		5	ND		5	ND		5	ND		5
1,1,2-Trichloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
Trichloroethene	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1
1,1,2,2-Tetrachloroethane	ND		1	ND		1	ND		1	ND		1	ND		1	ND		1

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution
i:\c2001007\Groundwater Monitoring\March2002\June2002Results(validated).xls 9/20/02 2:44 PM

FINAL ANALYTICAL RESULTS
SI METALS, SVOCS, PESTICIDES, AND HERBICIDES
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-1S			MW-2			MW-2D			MW-3			MW-203		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Dissolved Metals (mg/L)															
Lead-DISS	ND		3	ND		3	ND		3	ND		3	ND		3
Arsenic-DISS	44.2		10	3.9	B	10	ND		10	5.8	B	10	6.1	B	10
Barium-DISS	418		10	136		10	306		10	171		10	172		10
Cadmium-DISS	0.44	B	5	ND		5	ND		5	ND		5	ND		5
Selenium-DISS	ND		5	ND		5	ND		5	ND		5	ND		5
Chromium-DISS	ND		10	ND		10	ND		10	ND		10	ND		10
Mercury-DISS	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Silver-DISS	ND		10	ND		10	ND		10	ND		10	ND		10
Total Metals (mg/L)															
Lead	ND		3	ND		3	ND		3	ND		3	ND		3
Arsenic	40.8		10	ND		10	5.0	B	10	4.3	B	10.0	5.4	B	10.0
Barium	364		10	139		10	307		10	173		10	157		10
Cadmium	ND		5	ND		5	ND		5	ND		5	ND		5
Selenium	ND		5	ND		5	ND		5	ND		5	ND		5
Chromium	ND		10	ND		10	ND		10	ND		10	ND		10
Mercury	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Silver	ND		10	ND		10	ND		10	ND		10	ND		10
Organochlorine Pesticides (µg/L)															
Heptachlor epoxide	ND	R	0.05	ND	R	0.05	ND	R	0.05	ND		0.05	ND		0.05
Hexachlorobenzene	ND	R	0.05	ND	R	0.05	ND	R	0.05	ND		0.05	ND		0.05
Toxaphene	ND	R	2	ND	R	2	ND	R	2	ND		2	ND		2
Herbicides (µg/L)															
2,4,5-TP (Silvex)	0.65	J	1.00	ND		1.00	ND		1.00	ND		1	ND		1
2,4,5-T	ND		1.00	ND		1.00	ND		1.00	ND		1	ND		1
2,4-D	ND		4	ND		4	ND		4	ND		4	ND		4
Semivolatile Organic Compounds (µg/L)															
bis(2-Ethylhexyl)phthalate	ND		6.0	ND		6.0	ND		6.0	ND		6.0	ND		6.0

Notes:

(1) UJ = Not detected with an estimated quantitation limit

(2) J; J = estimated concentration for first and second analyses

(3) R = Rejected due to poor LCDS recoveries in initial analyses and re-extraction out of holding time for re-analyses

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
SI METALS, SVOCS, PESTICIDES, AND HERBICIDES
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-11B			MW-11D			MW-12			MW-14			MW-35S		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Dissolved Metals (µg/L)															
Lead-DISS	ND		3	ND		3	ND		3	3.6		3	ND		3
Arsenic-DISS	22		10	7.5	B	10	142		10	ND		10	11.7		10
Barium-DISS	246		10	326		10	269		10	287		10	475		10
Cadmium-DISS	ND		5	ND		5	ND		5	3.8	B	5	ND		5
Selenium-DISS	ND		5	ND		5	ND		5	42		5	ND		5
Chromium-DISS	0.84	B	10	ND		10	0.84	B	10	ND		10	ND		10
Mercury-DISS	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Silver-DISS	ND		10	ND		10	ND		10	ND		10	ND		10
Total Metals (µg/L)															
Lead	ND		3	ND		3	ND		3	3.0		3	ND		3
Arsenic	18		10	ND		10	142		10	7.5	B	10	7.2	B	10
Barium	245		10	348		10	270		10	312		10	468		10
Cadmium	ND		5	ND		5	ND		5	4.10	B	5	ND		5
Selenium	ND		5	ND		5	ND		5	46		5	ND		5
Chromium	ND		10	ND		10	1.0	B	10	ND		10	0.74	B	10
Mercury	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Silver	ND		10	ND		10	ND		10	ND		10	ND		10
Organochlorine Pesticides (µg/L)															
Heptachlor epoxide	ND	R	0.05	ND	R	0.05	ND	R	0.05	ND	R	0.05	ND	R	0.05
Hexachlorobenzene	ND	R	0.05	ND	R	0.05	ND	R	0.05	ND	R	0.05	ND	R	0.05
Toxaphene	ND	R	2	ND	R	2	ND	R	2	ND	R	2	ND	R	2
Herbicides (µg/L)															
2,4,5-TP (Silvex)	ND		1.00	ND		1.00	0.14	J COL	1.00	0.12	J	1.00	0.13	J	1.00
2,4,5-T	ND		1.00	ND		1.00	ND		1.00	ND		1.00	ND		1.00
2,4-D	ND		4	ND		4	ND		4	ND		4	ND		4
Semivolatile Organic Compounds (µg/L)															
bis(2-Ethylhexyl)phthalate	ND		6.0	ND		6.0	ND		6.0	ND		1.0	ND		6.0

Notes:
(1) UJ = Not detected with an estimated quantitation limit
(2) J; J = estimated concentration for first and second analyses
(3) R = Rejected due to poor LCDS recoveries in initial analyses and re-extraction out of holding time for re-analyses

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution

FINAL ANALYTICAL RESULTS
TOC AND TSS
JUNE 2002
HARCROS, KANSAS CITY, KS

	MW-5			MW-5D			MW-9D			MW-22S			MW-22D			MW-25S			MW-30S		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Water Quality Parameters (mg/L)																					
Total Organic Carbon	13.3	J	1	8.6	J	1	1.8	J	1	5.4	J	1	4.1	J	1	26	J	1	11.2	J	1

	MW-31S			MW-34D			MW-37D			MW-40D			MW-41D			MW-42D			MW-45D		
	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit	Result	Note	Rep. Limit
Total Organic Carbon	2.2	J	1	4.4	J	1	NA			1.7	J	1	4.0	J	1	3.8	J	1	2.4	J	1
Total Dissolved Solids	8.0		4	NA			46		4	4.8		4	NA			NA			NA		

ND =Not Detected at or above RL
J = Estimated result less than RL
Q = Elevated Reporting limit
B = Method Blank contamination
D = Result obtained from dilution
i:\c2001007\Groundwater Monitoring\March2002\June2002Results(validated).xls 9/20/02 2:45 PM